

Panasonic®

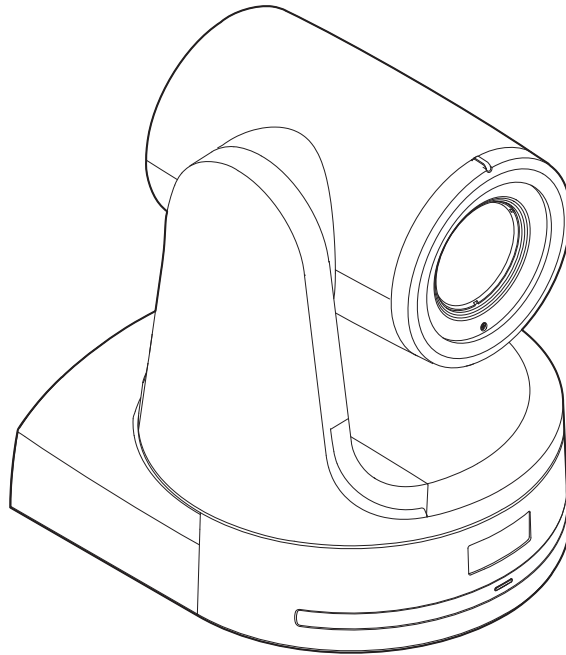
Operating Instructions

Excerpted Version

Installation Instructions provided

HD Integrated Camera

Model No. **AW-HN130WP**
Model No. **AW-HN130KP**



NDI|HX HDMI

ENGLISH
Excerpted Version

Before installing and using this product, be sure to read "Read this first!" (pages 4, 24 to 25).

This manual contains information excerpted from the Operating Instructions.

For more information, please visit the Panasonic website (<http://pro-av.panasonic.net/manual/en/index.html>), and refer to the Operating Instructions.

ESPAÑOL

Antes de instalar y usar este producto, asegúrese de leer "Lea esto primero!" (páginas 4, 26 a 27).

Si desea obtener más información, visite el sitio web de Panasonic (<http://pro-av.panasonic.net/manual/en/index.html>) y consulte las instrucciones de funcionamiento y las instrucciones de instalación.

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

PJ

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Printed in Japan

ENGLISH

DVQX1528ZA

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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".
- 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-HN130WP	AW-HN130
AW-HN130KP	
AW-HS50N	AW-HS50
AW-HS50E	
AW-RP50N	AW-RP50
AW-RP50E	
AW-RP120G	AW-RP120
AK-HRP200G	AK-HRP200

■ 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.

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Read this first!

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.

CAUTION:

This camera intended for use only with the Mount Bracket enclosed with the unit and Panasonic Direct Ceiling Mount Bracket, WV-Q105A.
Use with other apparatus is capable of resulting in instability causing possible injury.

 indicates safety information.

Lea esto primero!

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.

PRECAUCIÓN:

Esta cámara ha sido diseñada para ser utilizada solamente con la ménsula de montaje suministrada con la unidad y con la ménsula de montaje directo en el techo de Panasonic modelo WV-Q105A.
La utilización con otros aparatos puede causar inestabilidad y posibles lesiones.

 indica información de seguridad.

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 for indoor use only.

It cannot be used outdoors.

Avoid installation in a location where the unit will be exposed to direct sunlight for extended periods or near a cooling or heating appliance.

Otherwise, deformation, discoloration, malfunctioning and/or problems in operation may result. Operate the unit where it will not be splashed or sprayed by water.

■ 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>

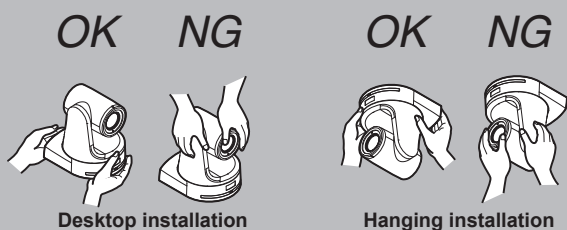
Be absolutely sure to use the four bracket mounting screws (M4) for mounting the mount bracket.

These are supplied with the unit. Do not use wood screws, nails, etc. In the case of a concrete ceiling, secure the unit using anchor bolts (for M4) or AY plug bolts (for M4).

Recommended clamping torque

M4 : 1.47 N · m {15 kgf · cm}

- The withdrawal strength of the mounting location for each screw must be at least 294 N {30 kgf}.
- When mounting the unit on a ceiling made of plasterboard, for instance, if it is not strong enough to support its weight, either reinforce the ceiling adequately or use the WV-Q105A direct ceiling mount bracket, which is sold separately.
- When using a mount bracket which is sold separately, read the handling instructions.
- Do not hold the camera head while undertaking the installation work. Doing so may cause malfunctioning.



■ Concerning the installation location

Install the unit in a stable location which will not be susceptible to shaking. If the unit is installed in a location which is susceptible to shaking, this will cause the unit's images to shake in turn.

Install the unit after conferring in detail with your dealer.

Install the unit on a ceiling that is strong enough (such as a concrete ceiling).

If the unit is to be installed on a ceiling which is not strong enough, reinforce the ceiling sufficiently first.

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

- On walls (where the unit would be installed sideways)
- In locations (including places such as under the eaves of a building) where the unit would be directly exposed to rain or water
- In locations such as kitchens where there are high concentrations of steam and grease
- In outdoor locations or hot places where the temperature will exceed 40 °C (104 °F)
- In cold locations where the temperature will drop below 0 °C (32 °F)
- In locations where the humidity will exceed 85 %
- In locations where chemicals are used such as near swimming pools
- At sea, in coastal areas or in locations where corrosive gases are emitted
- In locations where radiation, X-rays, or strong radio waves or magnetic fields are generated
- In locations where the unit would be subject to a great deal of vibration such as on board a vehicle or ship (this unit is not designed to be used in vehicles)
- In locations where the temperature is subject to sudden changes such as near the air outlet of an air conditioner or near a door which allows the outside air to come in

■ 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.

■ Be absolutely sure to use the supplied brackets and screws to install the camera.

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

AW-HN130 main unit	Mounting conditions					
	Applicable mount bracket			Mounting onto the ceiling		
Mass	Model No.	Mass	Mounting	Recommended screws	No. of screws	Minimum withdrawal strength (per screw)
Approx. 2.8 kg (6.17 lb) (Including mount bracket)	Direct mount (supplied accessory)	Approx. 0.3 kg (0.66 lb)	Hanging/Desktop	M4 screws (supplied accessory)	4	294 N (30 kgf) • Ensure that the mounting strength can support a weight that is at least five times the total mass of the equipment, including the camera's main unit.
	WV-Q105A (optional accessory)	Approx. 0.15 kg (0.33 lb)	For ceiling	M4 screws (supplied with the WV-Q105A)	4	

Installation precautions (continued)

■ Before installation, always disconnect the power plug

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.

For details on how to remove the unit, refer to "Removing the camera" (→ page 14).

■ 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, hood, extender or other parts to the unit.

■ Use the dedicated AC adaptor and power cable provided with the unit.

Connect the AC adaptor and power cable to the power inlet securely.

■ Installing the AC adaptor

- Do not place the adaptor directly onto a ceiling panel or other such surface.
Extreme danger is posed when water has collected on the surface as a result of leaking rain, for instance.
Secure the adaptor firmly to the bottom or other surface of a reinforcing member made of channel steel where dust and other foreign matter will not accumulate.
(→ page 12)
- Secure the adaptor firmly so that there will be no chance that it will fall off or fall down.
Secure it using a strength which can withstand the mass (approx. 0.3 kg (0.66 lb)) of the AC adaptor.

■ Install the accessory AC adaptor near the main power outlet, and position it in such a way that its power plug can be plugged into and unplugged from the outlet easily.

When connecting the AC adaptor to a power outlet on the ceiling or on any other surface where dust may collect, wipe off the dust on the power plug at periodic intervals as an anti-tracking measure.

■ Power switch

This unit does not have a power switch. The power turns on when its power plug is connected to a power outlet. When the power is turned on, the pan, tilt, zoom and focusing operations are performed.*1 Before proceeding with maintenance, be absolutely sure to disconnect the power plug from the power outlet.

- *1 The unit is set to Standby mode under factory default settings.
When turning the unit for the first time, release the unit from Standby mode.

For details, refer to the PDF page 22.

■ Connecting the power cable

Be absolutely sure to connect the power cable of the AC adaptor through a circuit breaker using one of the following methods.

- (1) Connect the power cable through a power control unit.
- (2) Connect the power cable to a circuit breaker in a power distribution panel with a contact distance of 3.0 mm (1/8 inches) or more.

Use a circuit breaker which is capable of shutting off all the poles of the main power supply with the exception of the protective ground conductor.

- (3) Install the AC adaptor near the power outlet, and connect it through the power plug.

■ 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 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.)

■ 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

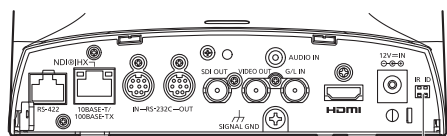
Use a PoE+ (IEEE802.3at) compatible hub or power supply device.

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.

IR ID switch settings

The IR ID switches are located on the connector panel of the unit.



IR ID switch

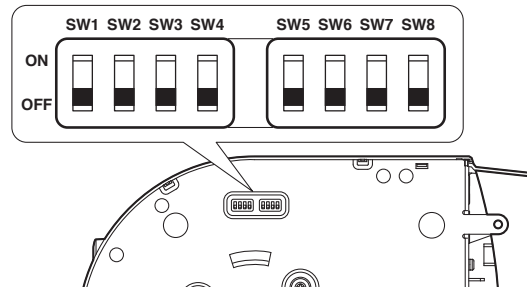
CAM1	CAM2	CAM3	CAM4
IR ID	IR ID	IR ID	IR ID

These are used to select the ID of the wireless remote control (optional accessory).

The IR ID switch settings “CAM1” to “CAM4” correspond to the <CAM1> to <CAM4> buttons on the wireless remote control.

Service switch settings

The service switches are located on the bottom of the unit.



Function		OFF	ON	Factory settings
SW1	Camera address setting (standard serial communication)	See descriptions for SW1 to SW3		OFF
SW2				OFF
SW3				OFF
SW4	Communication format	Panasonic proprietary serial communication	Standard serial communication	OFF
SW5	Always leave at OFF (used for factory adjustments)			OFF
SW6	Infrared output OFF	Disable	Enable	OFF
SW7	Communication baud rate	9600 bps	38400 bps	OFF
SW8	Communication connector	RS-422	RS-232C	OFF

<NOTE>

- Perform switch settings before turning the unit on.
- Cameras whose camera address setting switches are set to AUTO cannot coexist with cameras whose switches are set to 1 to 7.
- Manually setting multiple cameras to the same address will not allow you to control multiple cameras from a single controller simultaneously.

SW1 to SW3 (camera address setting switches)

Configure the camera address.

Set this to AUTO under normal circumstances. When cameras are set to AUTO, addresses will be assigned to the cameras automatically in response operation from the controller in the order in which the cameras were connected.

To manually configure the address, set the switches as follows.

Address	AUTO	1	2	3	4	5	6	7
SW1	OFF	ON	OFF	ON	OFF	ON	OFF	ON
SW2	OFF	ON	ON	OFF	OFF	ON	ON	OFF
SW3	OFF	ON	ON	ON	ON	OFF	OFF	OFF

SW4 (communication format selection switch)

Selects the communication format.

When this is set to ON, standard serial communication is enabled.

When this is set to OFF, Panasonic's proprietary serial communication is enabled.

SW5 (maintenance switch)

Fixed at OFF.

Do not change this switch setting.

SW6 (infrared output switch)

When this is set to ON, infrared output is enabled. The signal received via the remote control sensor is output from pins 7 and 8 of the <RS-232C IN> connector.

Signal output is disabled when this is set to OFF.

SW7 (communication baud rate switch)

When this is set to ON, the baud rate is 38400 bps.

When this is set to OFF, the baud rate is 9600 bps.

SW8 (communication connector switch)

When this is set to ON, the RS-232C is enabled.

When this is set to OFF, the RS-422 is enabled.

How to install and connect the unit

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

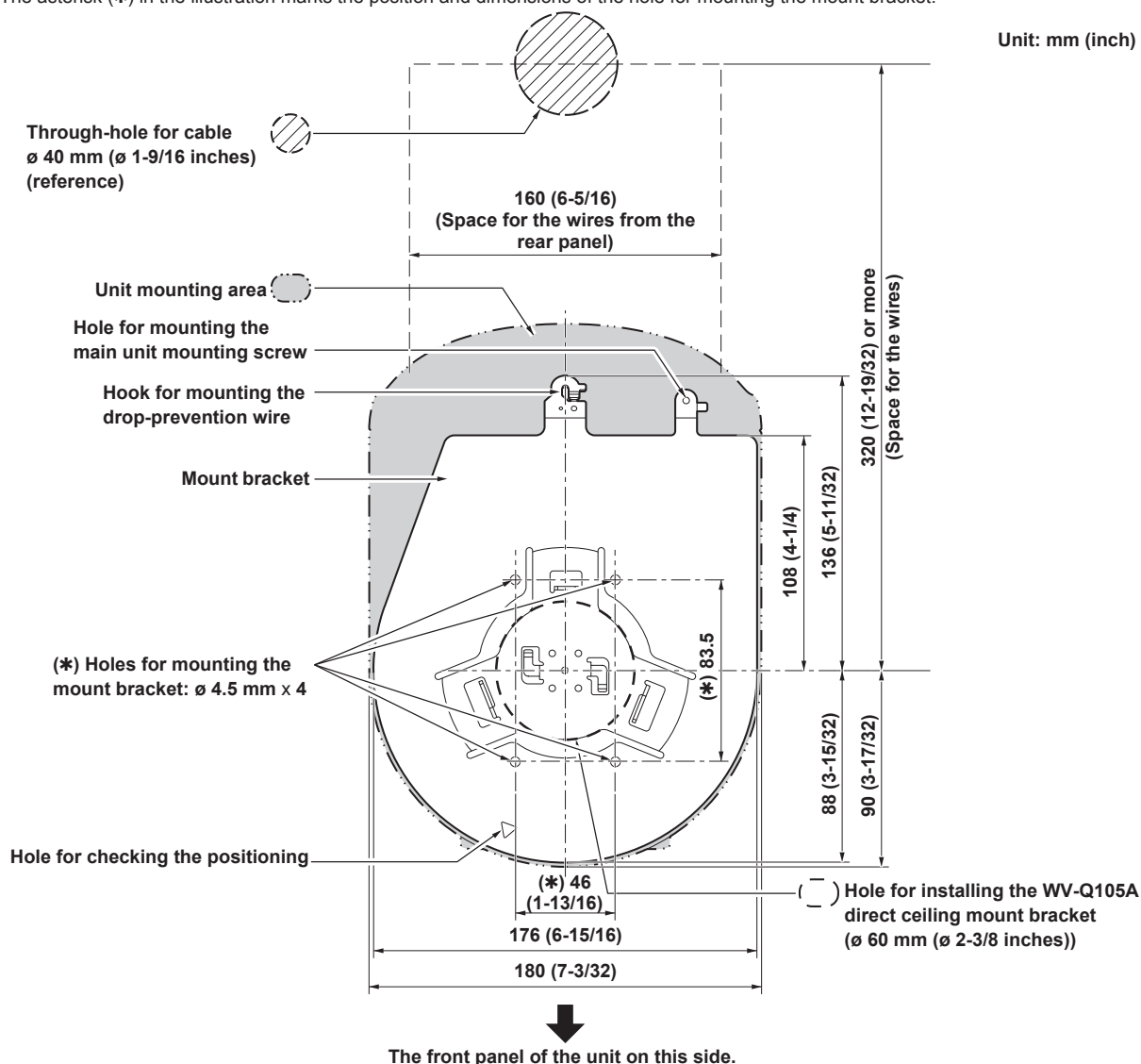
The procedure given here is for the kind of installation where the unit is suspended from an overhead surface, but the same steps are followed for a stand-alone installation.

If the ceiling panel is not strong enough to bear the unit's weight, use the kind of mount bracket that is supported by anchor bolts between the concrete ceiling and ceiling panel. The unit supports the WV-Q105A direct ceiling mount bracket which is used solely for combination cameras. Use this bracket to install the unit. (→ page 12)
 In a case like this, the holes (ø 60 mm (ø 2-3/8 inches)) for installing the direct ceiling mount bracket on the ceiling must be drilled in the ceiling panel.
 It is also recommended that you provide an inspection space or opening for access purposes in the area near where the equipment is installed in order to facilitate installation and the wiring connections work.
 For details on supplied accessories, refer to the page 32.

1. Check the mounting space.

- Refer to the illustration, and determine where the unit is to be installed and in which direction it should be mounted. Factor in the unit mounting area and include space for the wires extending from its rear panel.
- The asterisk (*) in the illustration marks the position and dimensions of the hole for mounting the mount bracket.

Unit: mm (inch)



<NOTE>

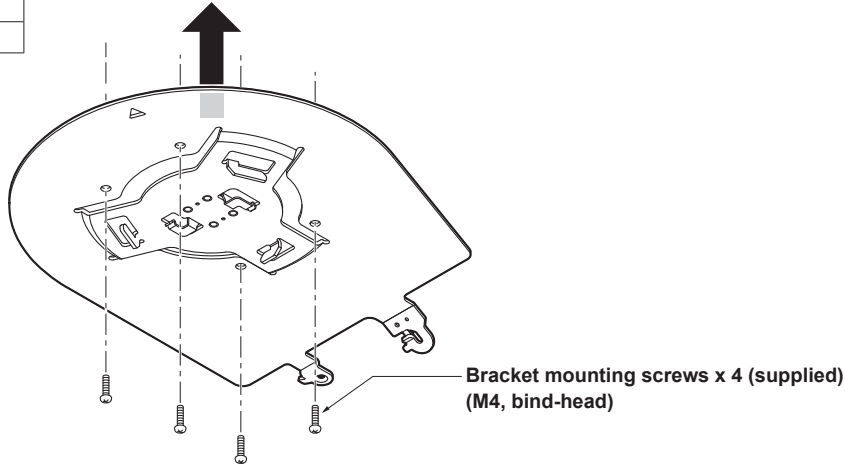
- Before proceeding to install and connect the main unit, connect the LAN cable, HDMI cable, RS-232C cable, AC adaptor cable and coaxial cables in the space above the ceiling panel, and then pass the cables through the cable holes.
- For a power outlet which is used on the ceiling, be absolutely sure to take measures to deal with the tracking that may be caused by the accumulation of dust and other foreign matter.

How to install and connect the unit (continued)

2. Mount the mount bracket onto the installation surface.

- Use the bracket mounting screws (M4, bind-head: 10 mm long) supplied with the unit.
- For proper clamping torque, securely attach the screws using the specified tools.

Screw diameter	Clamping torque
M4	1.47 N · m (15 kgf · cm)

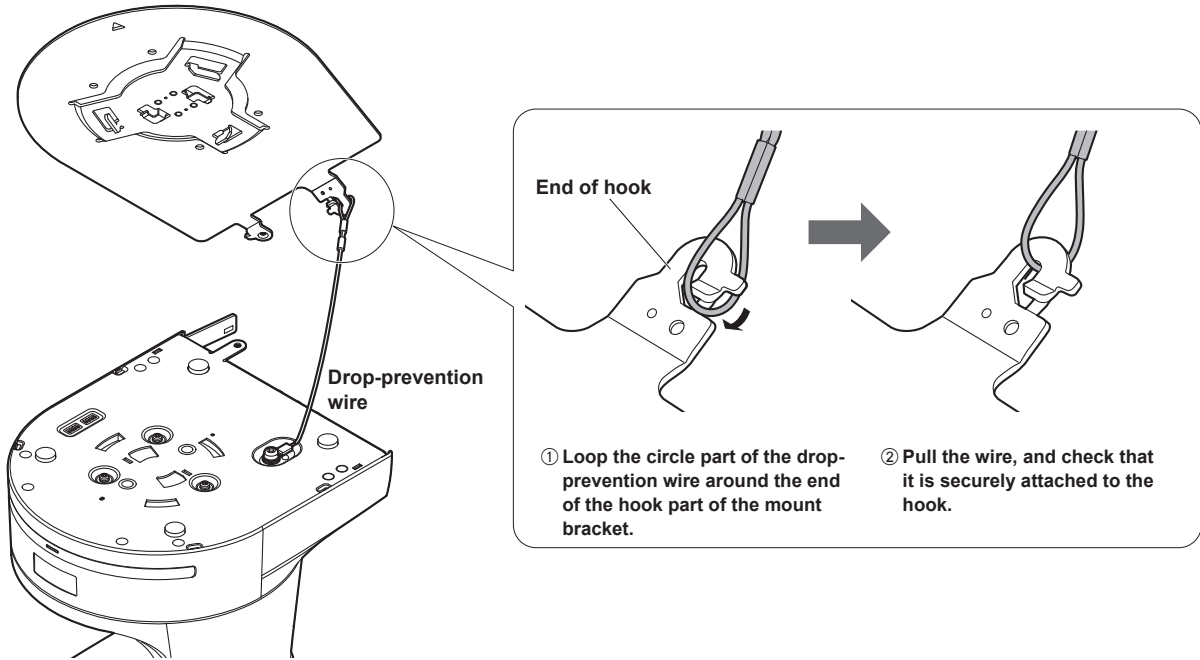


<NOTE>

- Use only the screws supplied with the unit. Do not use any other screws such as wood screws, nails, etc.

3. Attach the drop-prevention wire.

- Loop the circle part of the drop-prevention wire, which has been attached to the bottom panel of the unit, around the end of the hook part of the mount bracket.
- Pull the drop-prevention wire, and check that it has been attached securely to the hook.



<NOTE>

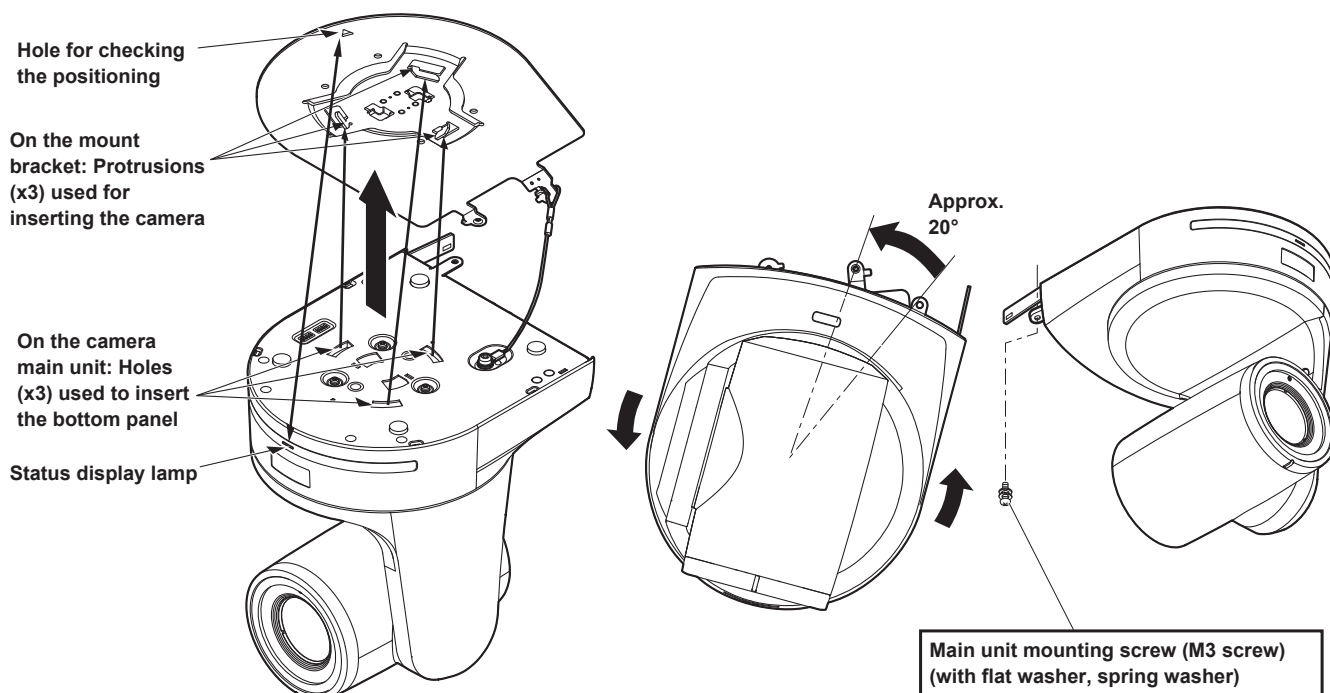
- Do not do this work while holding the camera head since doing so may result in malfunctioning of the unit.
- The drop-prevention wire is designed to be used for installation where the unit is suspended from an overhead surface so do not subject it to the weight of units other than the unit.

How to install and connect the unit (continued)

4. Mount the unit.

- Align the position of the hole for checking the positioning with the status display lamp.
- Align the holes on the camera main unit used to insert the bottom panel with the protrusions on the mount bracket used for inserting the camera, push the bracket and camera firmly together, and rotate the main unit by about 20 degrees in the direction of the arrow.
- Secure the mount bracket to the unit using the main unit mounting screw (M3) as supplied.
- Attach the mount bracket securely with the prescribed tool using the clamping torque below.
- Be absolutely sure to verify that none of the screws are loose.

Screw diameter	Clamping torque
M3	0.78 N · m (8 kgf · cm)



<NOTE>

- Do not do this work while holding the camera head since doing so may result in malfunctioning of the unit.
- Use only the screws supplied. Do not use any other screws.
- Check that the unit has been mounted securely with no tilting or wobbling.
- The unit must be secured without fail using the main unit mounting screw before any of the cables are connected.

5. Check the mounting.

Check out the following points.

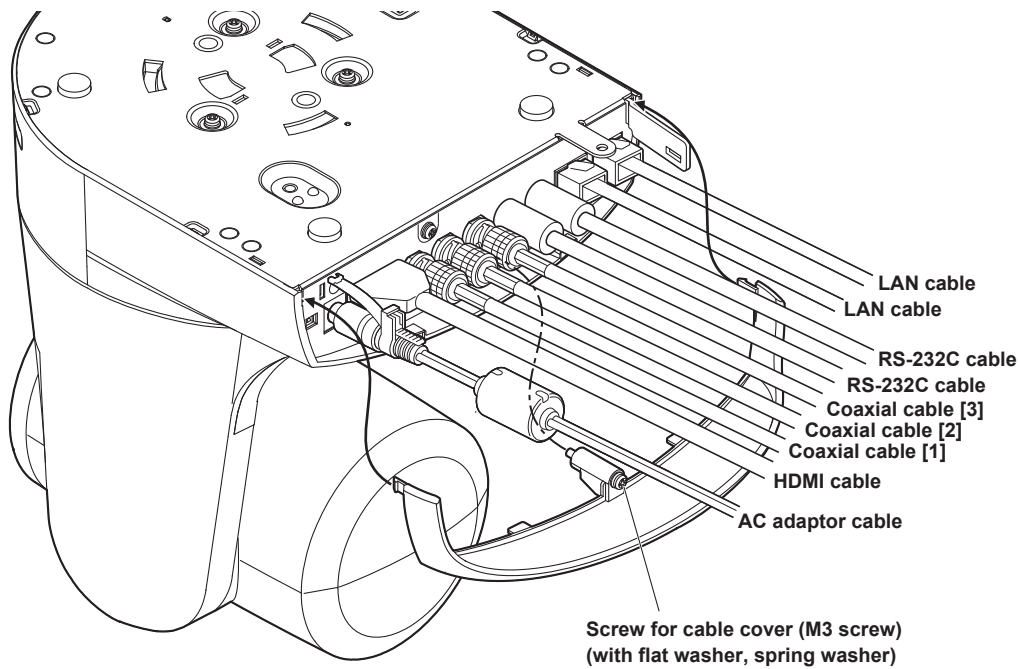
- The main unit mounting screw must be mounted securely.
- The unit must not tilt, and it must be mounted exactly.
- The unit must be securely installed.
- The unit pedestal part must not rotate even when an attempt is made to turn it.

How to install and connect the unit (continued)

6. Connect the rear panel connectors.

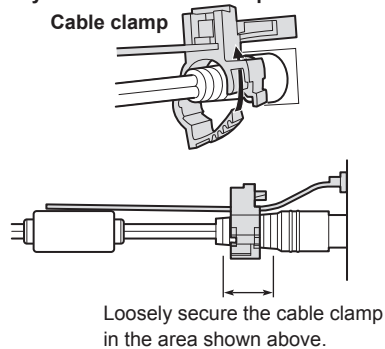
Anchor the AC adaptor cable in place using the cable clamp.

When three coaxial cables are to be connected, connect coaxial cable [2] first.

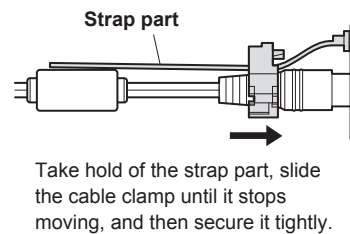


● How to secure the AC adaptor cable

① Loosely secure the cable clamp.



② Fasten the cable clamp.



7. Attach the cable cover.

- Fit the two tabs on the cable cover into the square mounting hole at either side of the rear panel.
- Secure the cable cover using the screw (M3 x 25 mm) provided.

Screw diameter	Clamping torque
M3	0.78 N · m (8 kgf · cm)

<NOTE>

- Engage the tabs on the cable cover so they fit into place perfectly, and check that the cover is not rickety.
- When attaching an anti-theft wire, do so after attaching the cable cover.

How to install and connect the unit (continued)

When using the WV-Q105A (optional accessory)

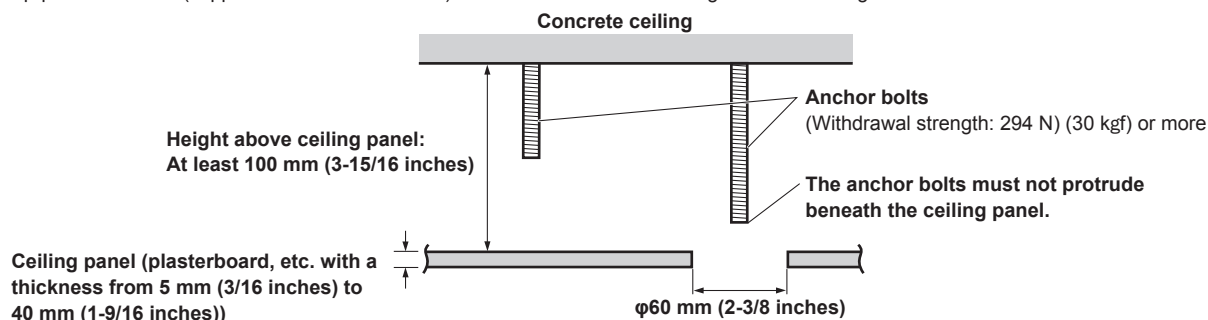
It is recommended that you provide an inspection opening or other such space for access purposes in the area near where the equipment is installed in order to facilitate installation and the wiring connections work.

Before mounting the mount bracket, check that the installation location is strong enough to withstand the total mass (approx. 3.1 kg (6.83 lb)) which will be exerted once the camera is mounted.

Use the mount bracket where the space between the ceiling panel and the concrete ceiling is at least 100 mm (3-15/16 inches) high.

The bracket can be mounted where the thickness of the ceiling panel ranges from 5 mm (3/16 inches) to 40 mm (1-9/16 inches).

The drop-prevention wire (supplied with the WV-Q105A) must be used when mounting the direct ceiling mount bracket.



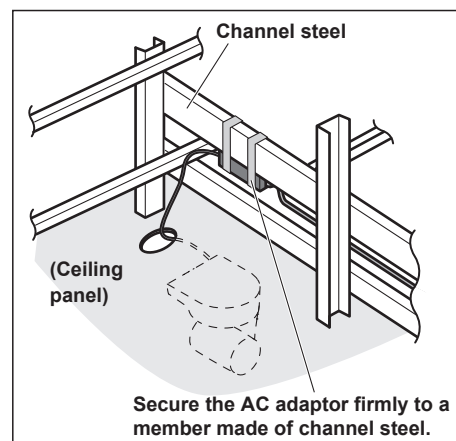
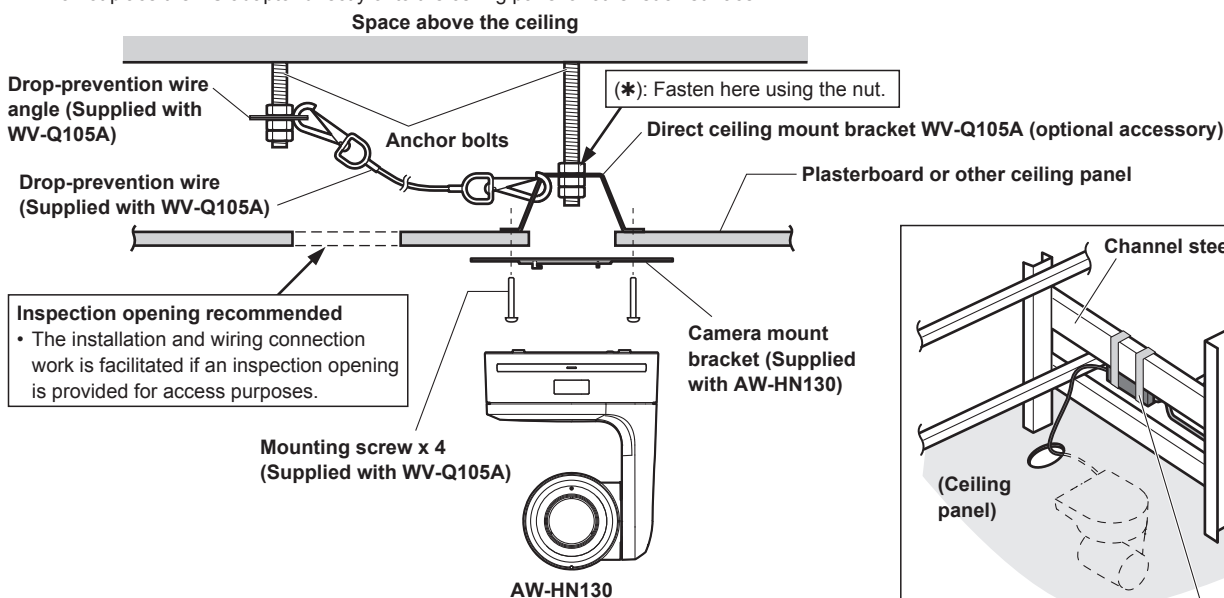
1. Refer to the Operating Instructions of the WV-Q105A direct ceiling mount bracket, and attach the WV-Q105A as well as the drop-prevention wire angle and drop-prevention wire supplied with the WV-Q105A to the anchor bolts.

Mounting the anchor bolts and direct ceiling mount bracket (*)

This job is facilitated if the direct ceiling mount bracket is loosely secured to the ceiling panel in one place, and the direct ceiling mount bracket and anchor bolts are vertically aligned before the nuts are tightened up.

2. First, remove the screws which were loosely fastened in step 1, and then align the camera mount bracket of the AW-HN130 with the screw holes in the WV-Q105A direct ceiling mount bracket and mount it in place.

- Use the mounting screws (the M4-L60 Phillips head screws with adhesive) supplied with the WV-Q105A as the mounting screws.
- Fasten the AC adaptor securely to the bottom or other surface of the reinforcing member made of channel steel where dust and other foreign matter will not accumulate.
- Do not place the AC adaptor directly onto the ceiling panel or other such surface.

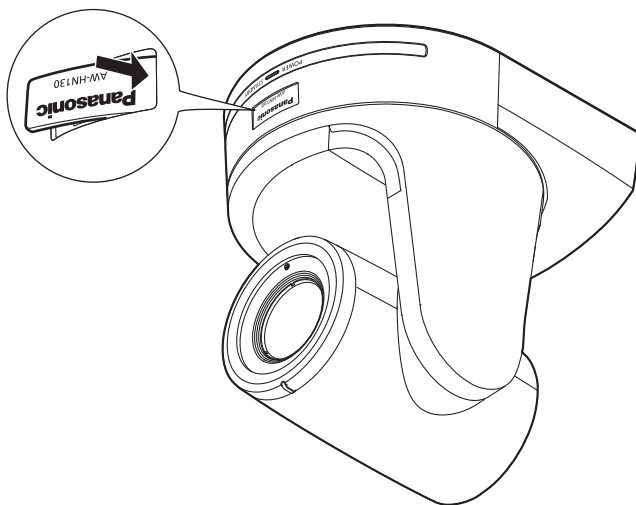


3. Install the AW-HN130 camera by following the procedure starting with step 3 on page 9.

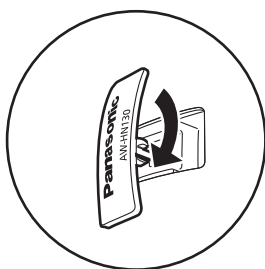
Changing the direction of the nameplate

When the unit is mounted on the ceiling, its nameplate will be upside down.
The direction of the unit's nameplate can be changed.

1. Push in the part indicated by the arrow, and pull out the nameplate.



2. Change the direction of the nameplate.



3. Push the nameplate back into place.



Removing the camera

1. Turn off the circuit breaker and power.

2. Remove the cable cover.

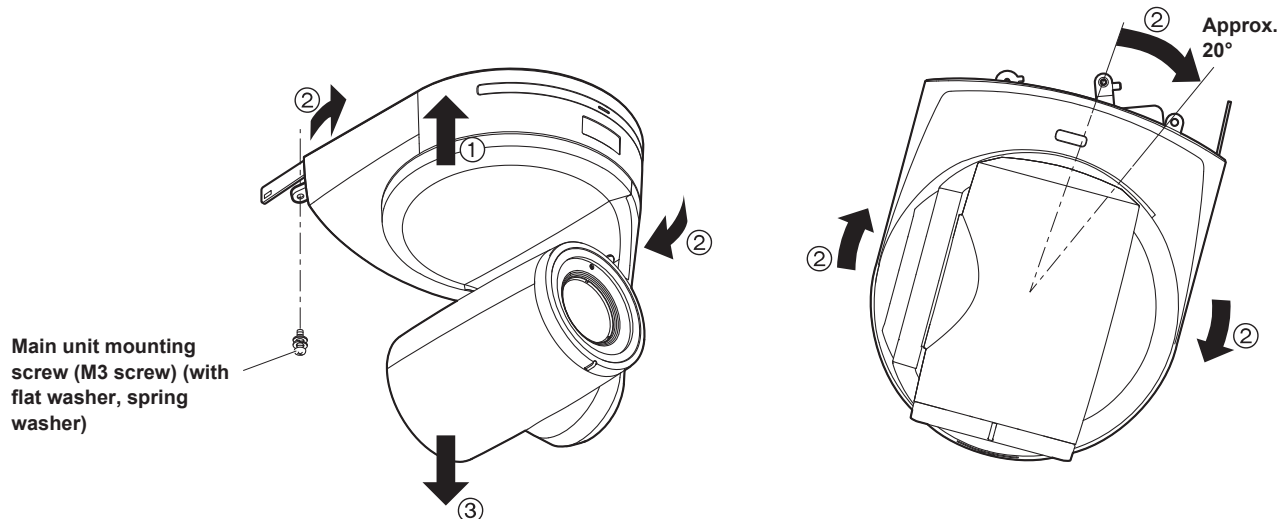
- Remove the screw (M3) for the cable cover used to secure the cover.
- Push the tab parts of the cover to disengage the cover.

3. Disconnect the cables.

Disconnect the power cable, video cable, and control cable, etc.

4. Remove the main unit mounting screw used to secure the unit and mount bracket.

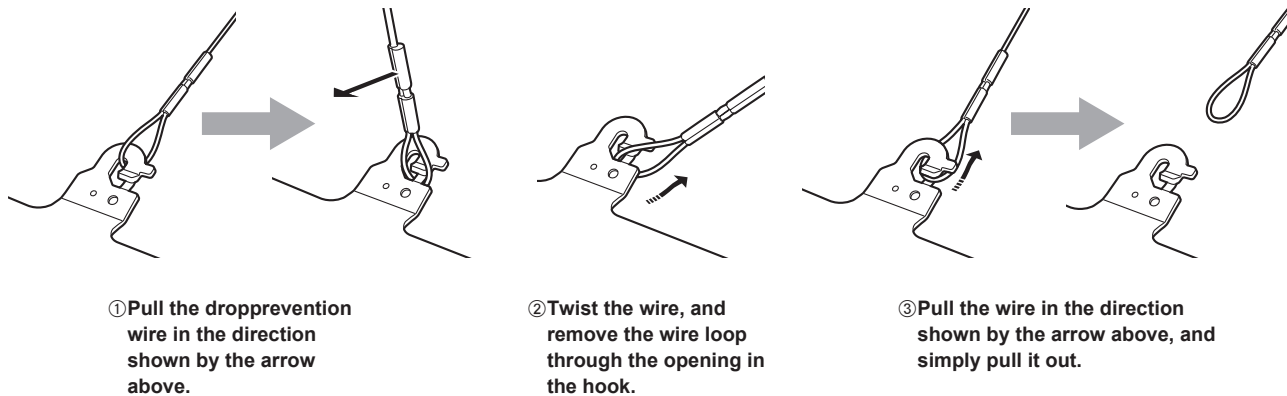
5. Push the unit (①). Turn it approximately 20 degrees away from the installed position (②), and remove it (③).



<NOTE>

- Do not do this work while holding the camera head since doing so may result in malfunctioning of the unit.

6. Disengage the drop-prevention wire from the mount bracket.



Stand-alone installation (when the mount bracket is going to be used)

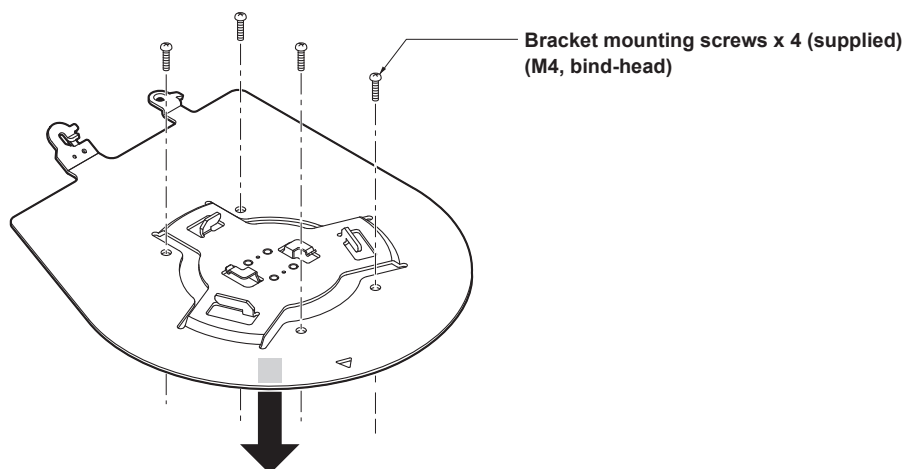
The same steps are followed as for the kind of installation where the unit is suspended from an overhead surface (→ pages 8 to 11).

1. Check the mounting space.

<NOTE>

- As with installing the unit suspended from an overhead surface, carefully check the space where the unit will be mounted, and then decide if it is appropriate to install the unit in that space.

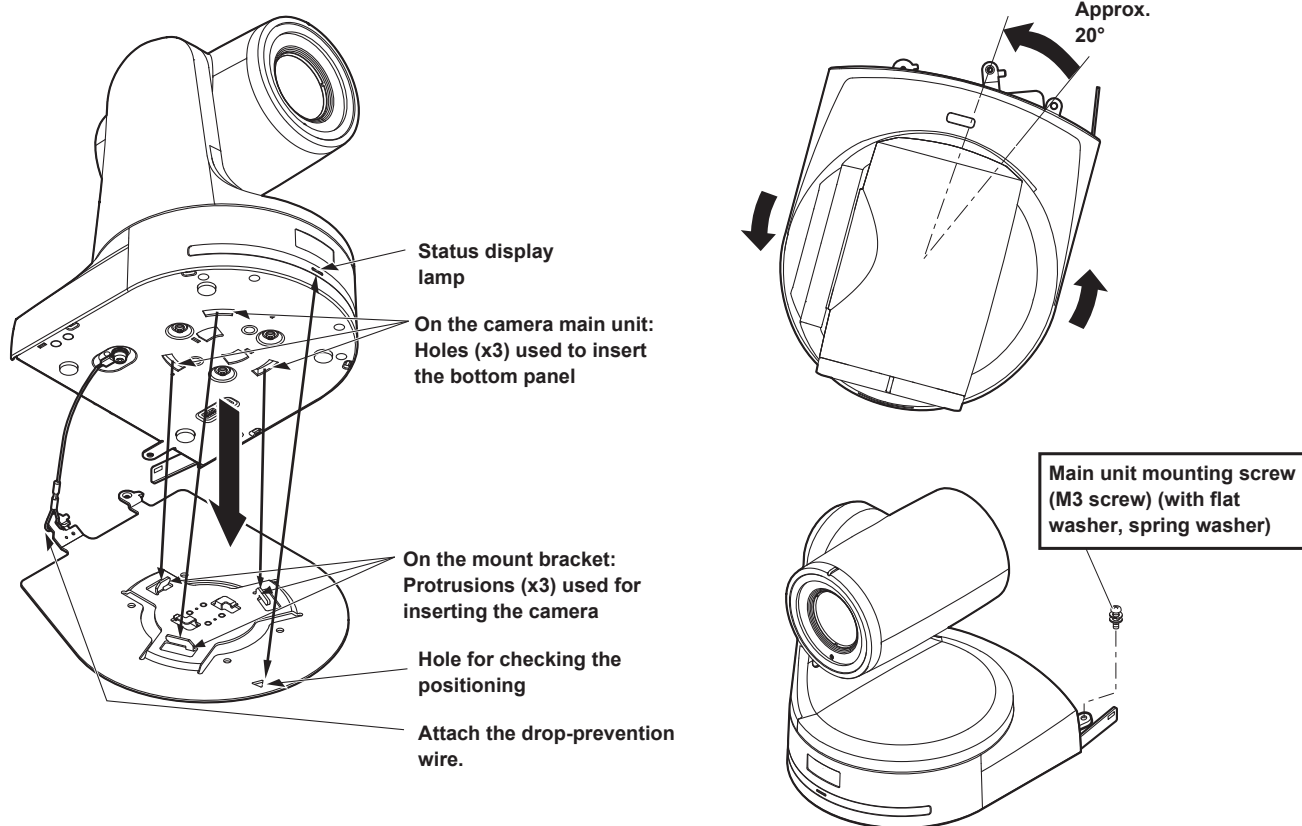
2. Mount the mount bracket onto the installation surface.



3. Attach the drop-prevention wire.

4. Mount the unit.

- Align the position of the hole for checking the positioning with the status display lamp.
- Align the holes on the camera main unit used to insert the bottom panel with the protrusions on the mount bracket used for inserting the camera, push the bracket and camera firmly together, and rotate the main unit by about 20 degrees in the direction of the arrow.
- Secure the mount bracket to the unit using the main unit mounting screw (M3) as supplied.

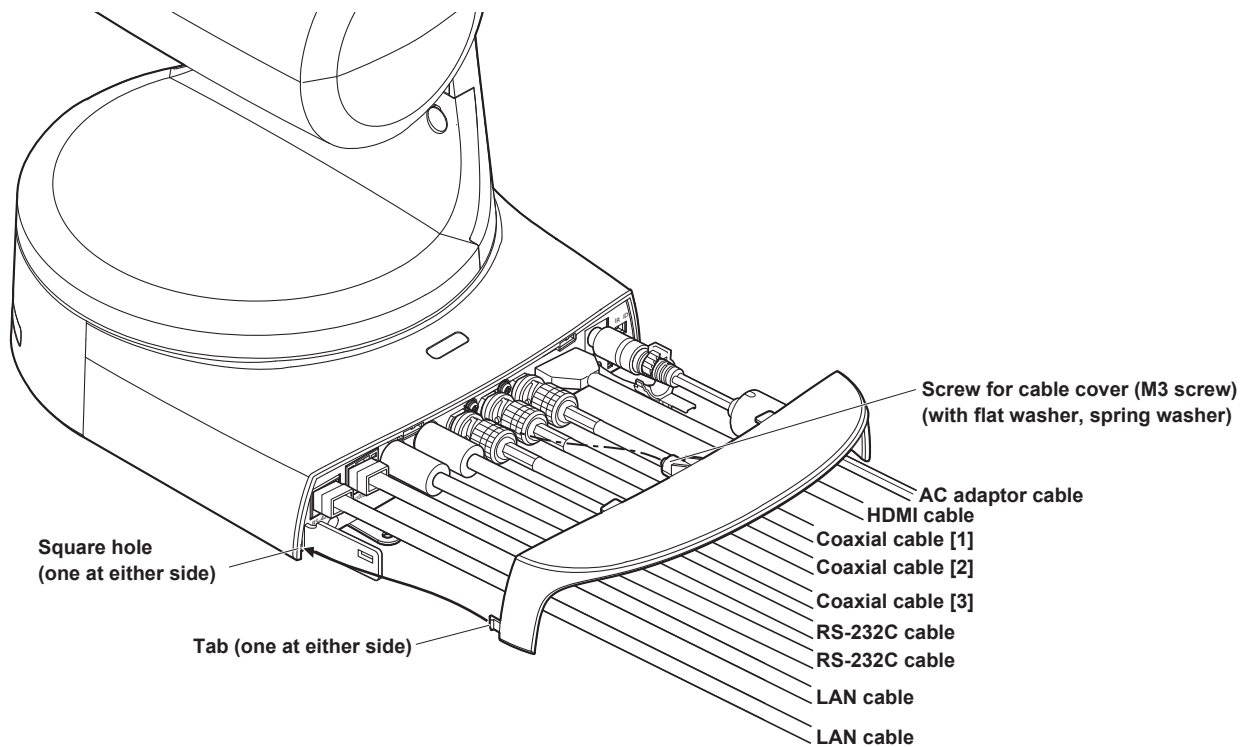


Stand-alone installation (when the mount bracket is going to be used) (continued)

5. Check the mounting.

6. Connect the rear panel connectors.

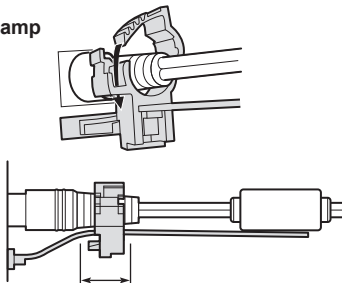
When three coaxial cables are to be connected, connect coaxial cable [2] first.



● How to secure the AC adaptor cable

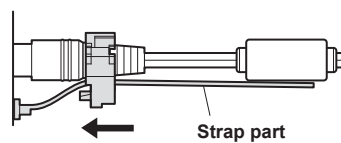
① Loosely secure the cable clamp.

Cable clamp



Loosely secure the cable clamp in the area shown above.

② Fasten the cable clamp.



Take hold of the strap part, slide the cable clamp until it stops moving, and then secure it tightly.

7. Attach the cable cover.

- Fit the two tabs on the cable cover into the square mounting hole at either side of the rear panel.
- Secure the cable cover using the screw (M3 x 25 mm) provided.

Screw diameter	Clamping torque
M3	0.78 N · m (8 kgf · cm)

<NOTE>

- Engage the tabs on the cable cover so they fit into place perfectly, and check that the cover is not rickety.
- When attaching an anti-theft wire, do so after attaching the cable cover.

Stand-alone installation (when the mount bracket is not going to be used)

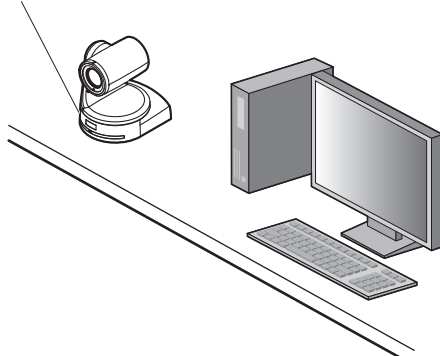
When installing the unit on a desktop

Place the unit flat on the surface.

<NOTE>

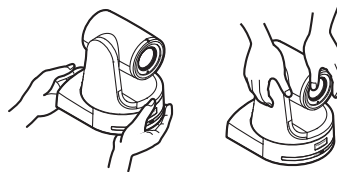
- Install the unit in a stable location which will not be susceptible to shaking. If the unit is installed in a location which is susceptible to shaking, this will cause the unit's images to shake in turn.
- Take care not to allow the unit to fall or otherwise be damaged during installation.
- When carrying the unit, do not hold it by its head.
- Do not take hold of the camera head or rotate it. Doing so may cause malfunctioning.
- Take care not to pull the connected cables. Doing so may cause the unit to fall and/or it may result in injury.

Ensure that the unit will not fall off.



OK

NG



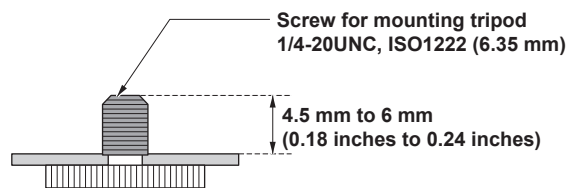
When mounting the unit on a tripod

Attach the tripod to the threaded holes for mounting the camera on the camera's bottom panel.

Place the tripod on a completely flat and level surface.

Tighten the screws by hand to mount the tripod securely.

Use screw for mounting the tripod that satisfy the following standard.

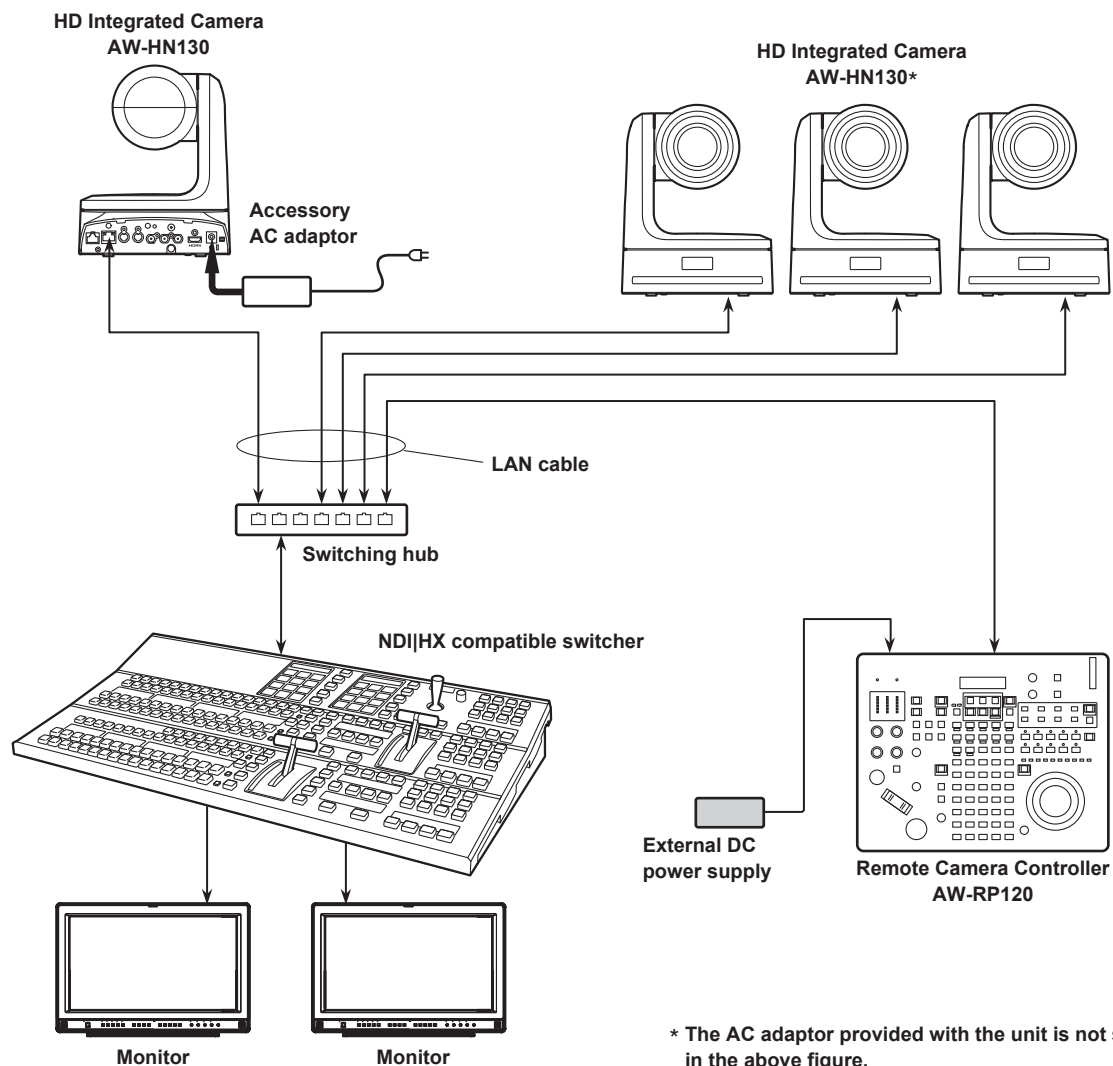


<NOTE>

- Do not install the unit where people will be passing back and forth.
- When using the unit mounted on a tripod, do not put the tripod high above the floor level.
- Mount the unit securely so there is no looseness. Looseness may cause the unit to fall off and/or result in injuries.
- When the unit is going to be used for a prolonged period of time, take steps to ensure that the unit will not topple or fall over and that it will not fall off or fall down. After using the unit, restore the installation location to its original state without delay.

Connections

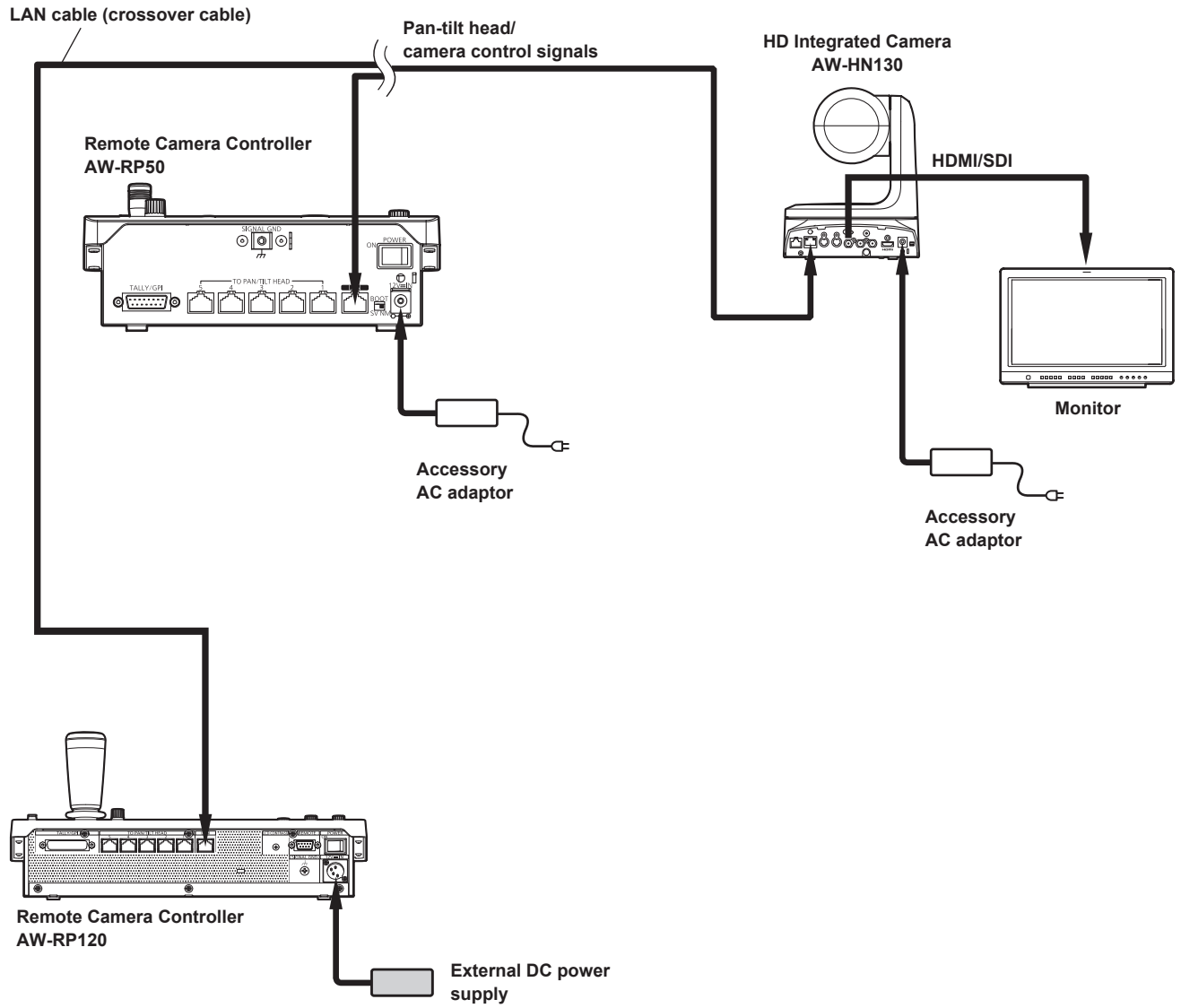
Connecting an NDI|HX compatible switcher



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

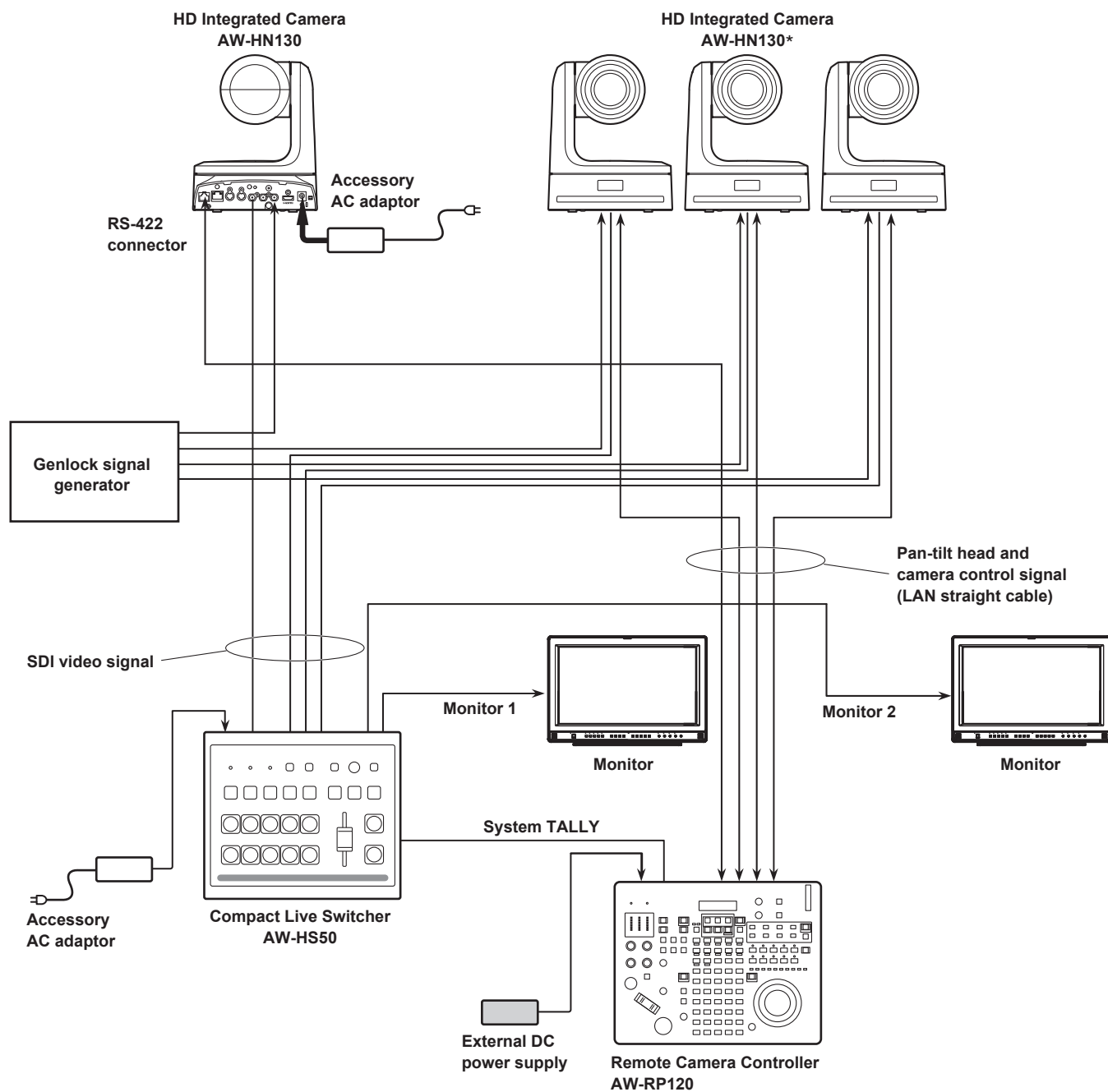
Connections (continued)

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



Connections (continued)

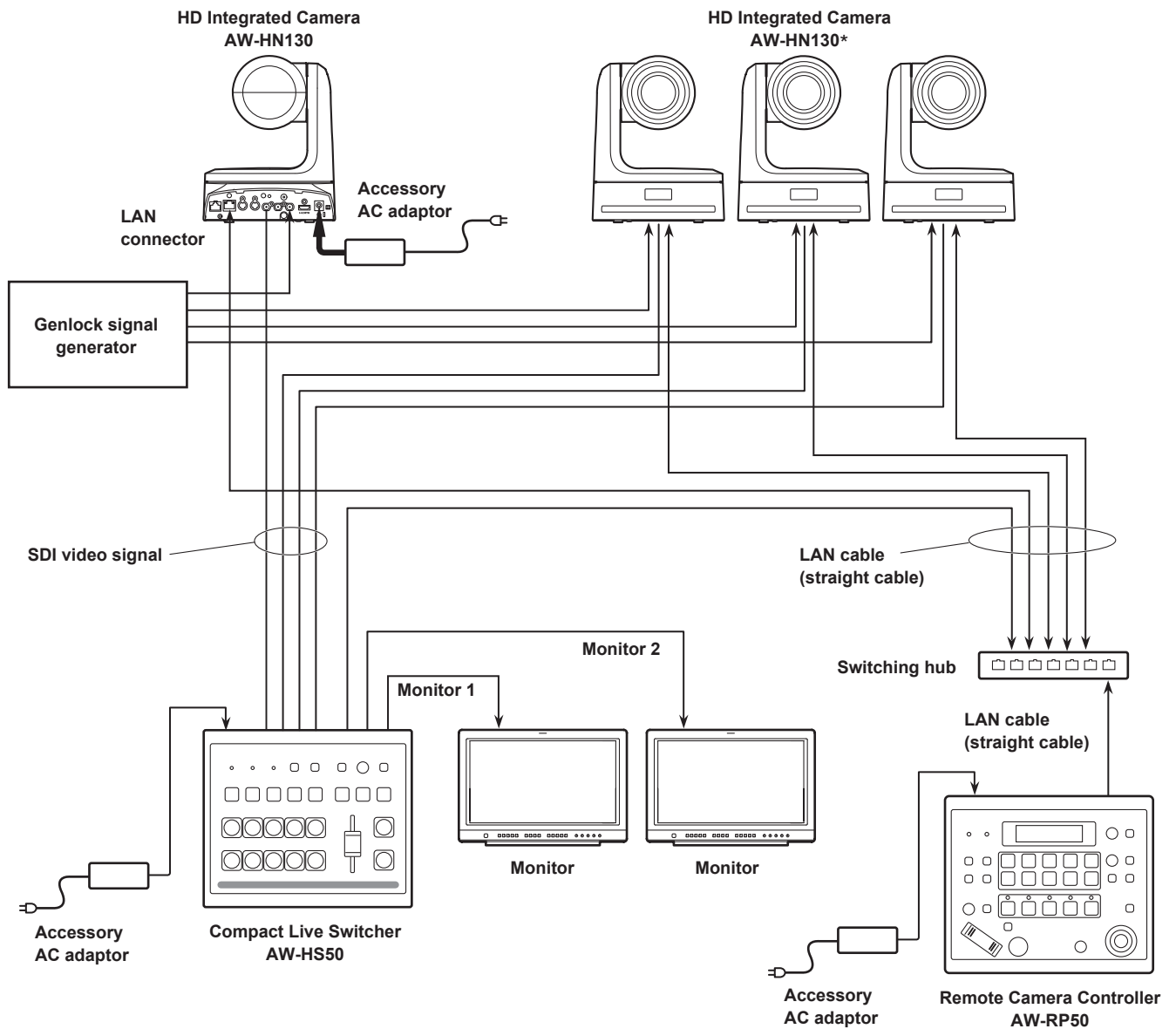
System example 1 (Serial control)



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

Connections (continued)

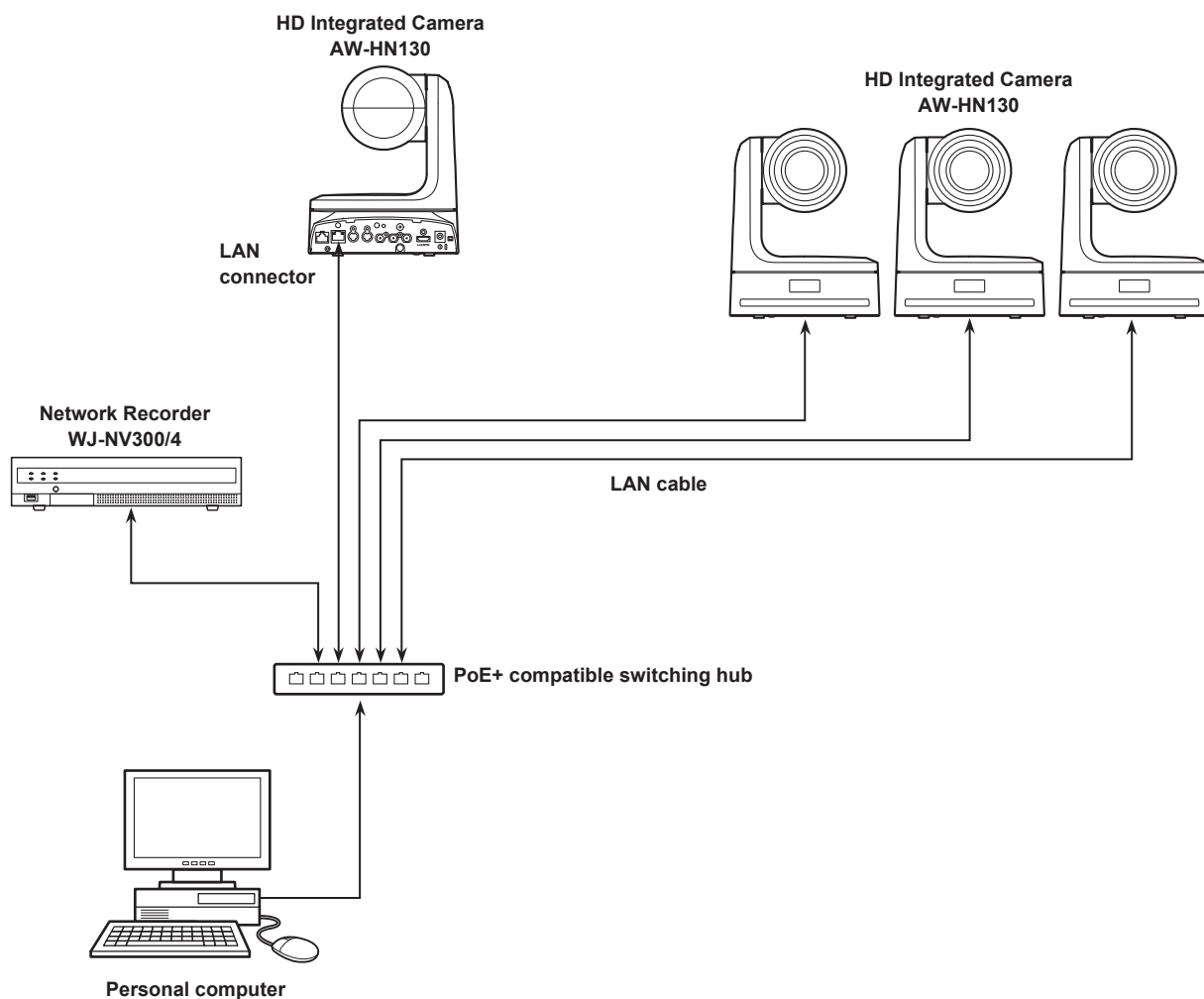
System example 2 (IP control)



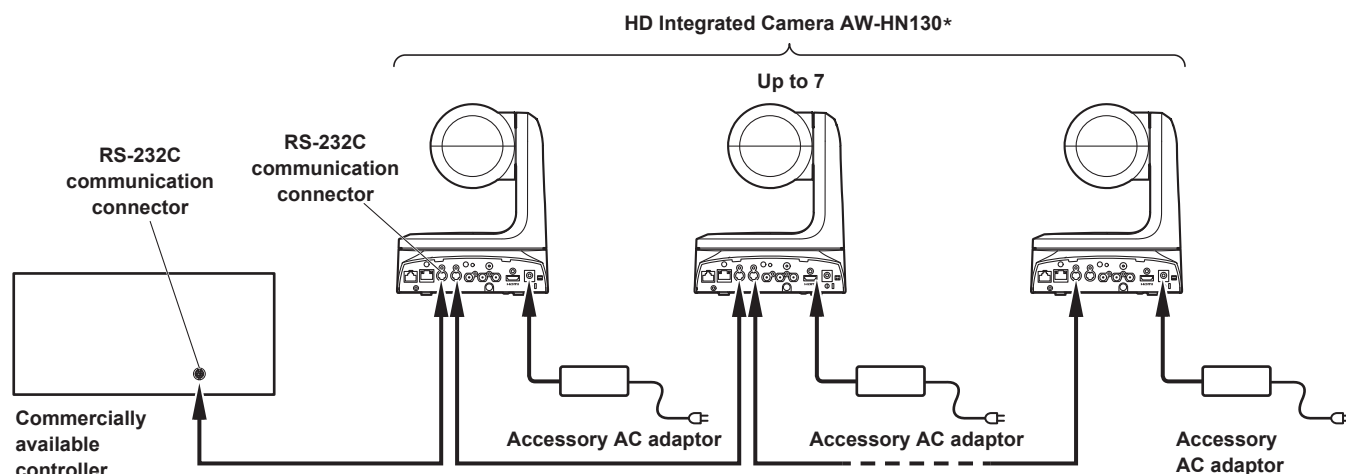
* The AC adaptor provided with the unit is not shown in the above figure.

Connections (continued)

System example 3 (IP image transmission, PoE+)



System example 4 (connection with commercially available controller, RS-232C daisy-chain connection)

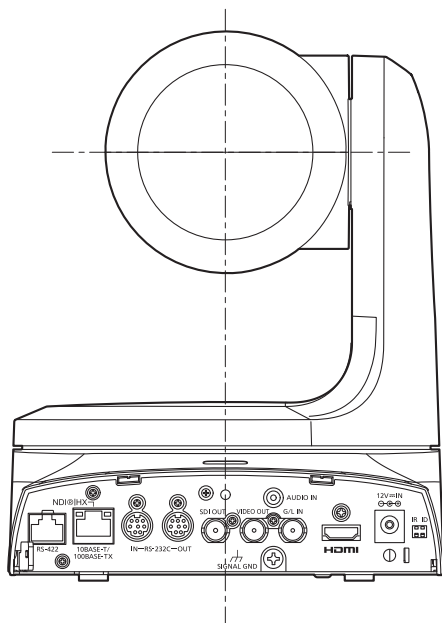
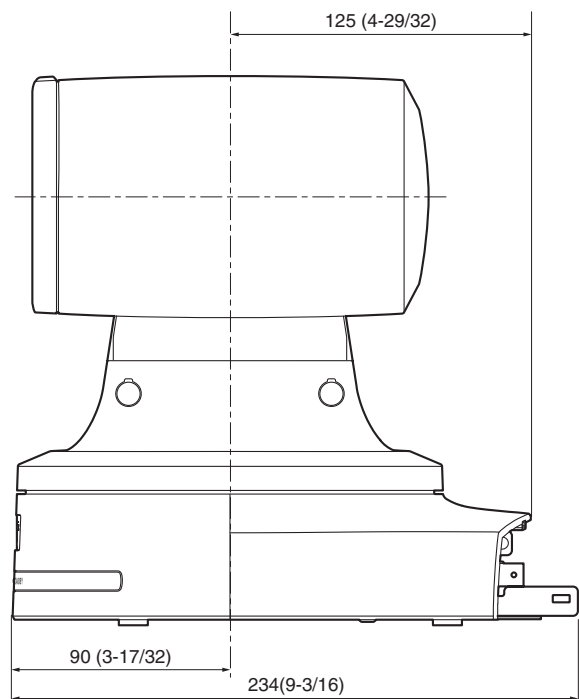
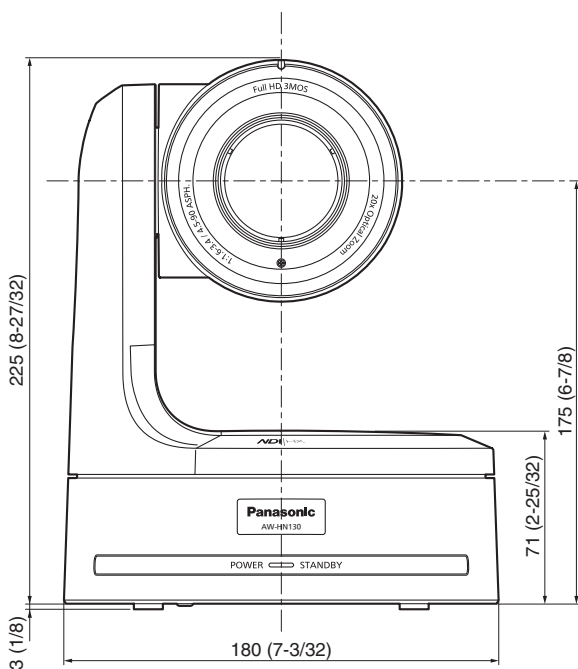
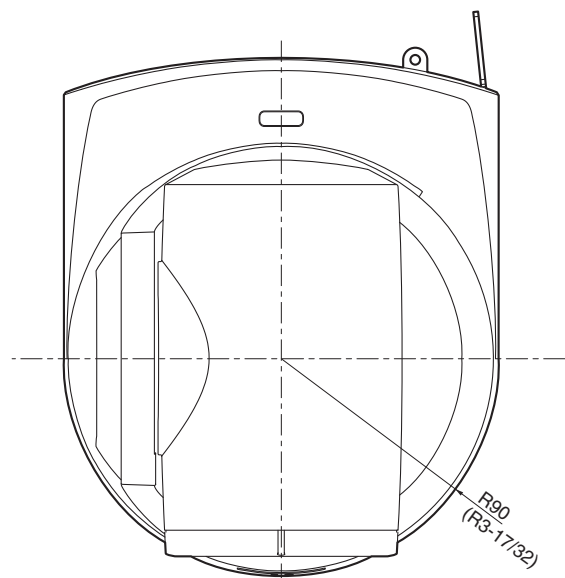


* You can connect up to seven cameras to the commercially available controller.

- Configure the service switches at the bottom of the unit.
For details on the service switches, see "Service switch settings" (→ page 7).
SW1 to SW3: Set the camera address to AUTO or 1 to 7.
(Set address numbers so that they do not duplicate each other.)
SW4: Enable standard serial communication (ON).
SW7: Set the baud rate to 9600 bps (OFF) or 38400 bps (ON) based on your commercially available controller.
SW8: Set the communication connector to RS-232C (ON).
- 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.

Appearance

Unit: mm (inch)





CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN



CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK).
NO USER SERVICEABLE PARTS INSIDE.
REFER TO SERVICING TO QUALIFIED SERVICE PERSONNEL.



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

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 main unit mounting screw, bracket mounting screws and drop-prevention wire mounting screw out of the reach of infants and small children.

CAUTION:

This apparatus can be operated at a voltage in the range of 100 – 240 V AC.
Voltages other than 120 V are not intended for U.S.A. and Canada.
Operation at a voltage other than 120 V AC may require the use of a different AC plug. Please contact either a local or foreign Panasonic authorized service center for assistance in selecting an alternate AC plug.

CAUTION:

The mains plug of the power supply cord shall remain readily operable.

The AC receptacle (mains socket outlet) shall be installed near the equipment and shall be easily accessible. To completely disconnect this equipment from the AC mains, disconnect the power cord plug from the AC receptacle.

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.

CAUTION:

Do not pick up and move the unit while the tripod is attached. The fitting may break under the weight of the tripod, which may result in injury.

CAUTION:

Naked flame sources, such as lighted candles, should not be placed on the apparatus.

 indicates safety information.

Read this first! (continued)

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.

IMPORTANT SAFETY INSTRUCTIONS

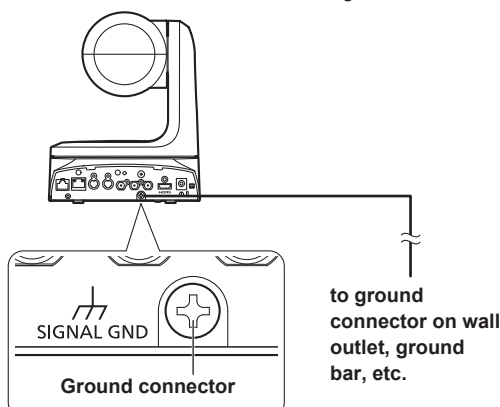
- 1) Read these instructions.
- 2) Keep these instructions.
- 3) Heed all warnings.
- 4) Follow all instructions.
- 5) Do not use this apparatus near water.
- 6) Clean only with dry cloth.
- 7) Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- 8) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- 9) Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- 10) Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- 11) Only use attachments/accessories specified by the manufacturer.
- 12) Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
- 13) Unplug this apparatus during lightning storms or when unused for long periods of time.
- 14) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.



S3125A

Note on grounding

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





AVISO
RIESGO DE DESCARGA
ELÉCTRICA
NO ABRIR



AVISO:

PARA REDUCIR EL RIESGO DE SUFRIR UNA DESCARGA ELÉCTRICA, NO RETIRE LA CUBIERTA (NI EL PANEL POSTERIOR).

EN EL INTERIOR NO HAY PIEZAS QUE DEBA REPARAR EL USUARIO.

SOLICITE LAS REPARACIONES AL PERSONAL DE SERVICIO CUALIFICADO.



El símbolo del rayo con punta de flecha, dentro de un triángulo equilátero, tiene la finalidad de avisar al usuario de la presencia de una “tensión peligrosa” sin aislar en el interior del producto que puede ser de suficiente magnitud como para constituir un riesgo de descarga eléctrica para las personas.



El signo de exclamación dentro de un triángulo equilátero tiene la finalidad de avisar al usuario de la presencia de instrucciones de funcionamiento y mantenimiento (servicio) importantes en el manual que acompaña al aparato.

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 tornillo de montaje de la unidad, los tornillos de montaje de la ménsula y el tornillo de montaje del cable para evitar caídas fuera del alcance de los niños y bebés.

PRECAUCIÓN:

Este aparato puede funcionar con una tensión de entre 100 – 240 V CA.

Las tensiones diferentes de 120 V no son adecuadas para los EE.UU. y Canadá.

El funcionamiento con una tensión diferente de 120 V CA puede requerir la utilización de una clavija de CA diferente. Póngase en contacto con un centro de servicio autorizado por Panasonic, bien sea local o del extranjero, para que le ayude en la selección de una clavija de CA alternativa.

PRECAUCIÓN:

El enchufe del cable de la alimentación deberá poder conectarse y desconectarse fácilmente.

La toma de ca (toma de la red) deberá estar cerca del equipo y a ella podrá accederse fácilmente.

Para desconectar completamente el equipo de la red, desconecte el cable de alimentación de la toma de red.

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.

PRECAUCIÓN:

No agarre ni mueva la unidad estando ésta colocada en el trípode.

El adaptador podría romperse debido al peso del trípode, lo que podría causarle lesiones.

PRECAUCIÓN:

No coloque encima del equipo llamas desnudas, como velas encendidas.

 indica información de seguridad.

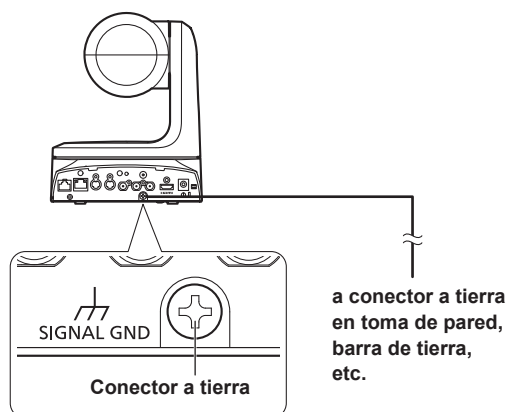
INSTRUCCIONES DE SEGURIDAD IMPORTANTES

- 1) Lea estas instrucciones.
- 2) Guarde estas instrucciones.
- 3) Preste atención a todas las advertencias.
- 4) Siga todas las instrucciones.
- 5) No utilice este aparato cerca del agua.
- 6) Limpie solamente con un paño seco.
- 7) No bloquee ninguna abertura de ventilación. Instale el aparato según las instrucciones del fabricante.
- 8) No instale el aparato cerca de fuentes de calor como, por ejemplo, radiadores, registros de calor, estufas y otros aparatos (incluyendo amplificadores) que produzcan calor.
- 9) No anule la función de seguridad de la clavija polarizada o del tipo con conexión a tierra. Una clavija polarizada tiene dos patillas, una más ancha que la otra. Una clavija del tipo con conexión a tierra tiene dos patillas y un tercer contacto de conexión a tierra. La patilla ancha o el tercer contacto se incluyen para su seguridad. Si la clavija suministrada no se puede conectar en su toma de corriente, consulte a un electricista para que le sustituya la toma de corriente obsoleta.
- 10) Proteja el cable de alimentación para que nadie lo pise ni quede pellizcado, particularmente en la clavija, receptáculo de conveniencia y en el punto por donde sale del aparato.
- 11) Utilice solamente los aditamentos/accesorios especificados por el fabricante.
- 12) Utilice el aparato sólo con el carrito, soporte, trípode, ménsula o mesa especificado por el fabricante, o vendido con el aparato. Cuando utilice un carrito, tenga cuidado al mover la combinación del carrito/aparato para evitar lesiones debidas a vuelcos.
- 13) Desenchufe este aparato de la toma de corriente durante las tormentas eléctricas o cuando no vaya a utilizarlo durante periodos largos de tiempo.
- 14) Solicite todos los trabajos de reparación al personal de servicio cualificado.
La reparación es necesaria cuando el aparato ha sido dañado de cualquier forma como, por ejemplo cuando está dañado el cable o la clavija de alimentación, se ha derramado líquido sobre el aparato o han entrado objetos en su interior, el aparato ha estado expuesto a la lluvia o a la humedad, no funciona normalmente o se ha caído al suelo.



Nota sobre la conexión a tierra

- Conecte a tierra la unidad mediante el conector a tierra <SIGNAL GND>.



Before use

Overview

- This unit is a 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.
- The unit supports transmission of video to NewTek NDI compatible software applications and hardware devices over a network.
- 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 is available in white (AW-HN130WP) or black (AW-HN130KP) to suit your intended application and environment.

Computer requirements

CPU	Intel® Core™ 2 DUO 2.4 GHz or more recommended
Memory	For Windows: 1 GB or more (2 GB or more for 64-bit editions of Microsoft® Windows® 8.1, Microsoft® Windows® 8, and Microsoft® Windows® 7) For Mac: 2 GB or more
Network function	10BASE-T or 100BASE-TX port × 1
Image display	Resolution: 1024 × 768 pixels or more Color generation: True Color 24-bit or more
Supported operating systems and web browsers	For Windows: 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
	For Mac: OS X 10.9 Safari 7.0.2 OS X 10.8 Safari 6.1.2 OS X 10.7 Safari 6.1.2
	For iPhone, iPad, iPod touch: iOS 7.1 Standard web browsers
	For Android: Android OS Standard web browsers
Other	Adobe® Reader® (for viewing the operating instructions available on the website)

*1 Use the desktop version of Internet Explorer. (Internet Explorer for Windows 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 Windows 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*¹, 1080/23.98p*², 1080/59.94i, 1080/29.97PsF*², 1080/23.98PsF, 720/59.94p, 480/59.94p (HDMI) or 480/59.94i (SDI), 1080/50p, 1080/25p*¹, 1080/50i, 1080/25PsF*³, 720/50p, 576/50p (HDMI), and 576/50i (SDI)

*¹ Native output

*² OVER 59.94i output (your monitor may recognize the signal as 59.94i).

*³ OVER 50i output (your monitor may recognize the signal as 50i).

In terms of the VIDEO OUT signals, 480/59.94i or 576/50i signals are output regardless of the format settings.

These signals can be used for monitoring purposes.

There is however a delay in the VIDEO OUT signal output by 120H (HD lines) when at 720p and by 90H (HD lines) for any other.

- With the SD format, either "Squeeze", "LetterBox" or "SideCut" can be selected.

■ 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 ambience.
- 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° to 210°
- Quiet operation with noise levels of NC35
- 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 up to seven cameras to a commercially available controller via RS-232C interface.

■ 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-RP120, AW-RP50 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 pan-tilt head, camera and lens

- By integrating the camera, lens and pan-tilt head into a single unit, it is now easier to construct systems.

■ Use of easy-to-operate wireless remote control (optional accessory) is possible

- A wireless remote control capable of operating up to four units can be used.
It can easily be used to set the various functions or switch between them while viewing the menu screens.

■ Flexible camera layout enabled by simple connection and installation

- This unit features excellent connectivity and installability thanks to the IP control; a lightweight main unit, and the turn-lock mechanism, which enables the user to install it on his or her own (only when used indoors).

<NOTE>

- Bear in mind that this unit is designed to be used indoors only: It cannot be used outdoors.

■ Increased functionality with the same compact size and weight of previous models

- A wide range of features have been added while maintaining the compact size, weight, and footprint of previous models of the unit.

■ Easy connections and settings courtesy of IP control

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

■ PoE+ *⁴ 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 (IEEE802.3at compliant)*⁵.

<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 AC adaptor and a PoE+ power supply are connected simultaneously, the AC adaptor will have priority. If the AC adaptor 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 (or via cross connection).

*⁴ Power over Ethernet Plus. Referred to as "PoE+" in this manual.

*⁵ For details on PoE+ power supply devices for which operation has been verified, consult your local dealer.

Controller supported

- AW-RP120
- AW-RP50
- 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	Not supported	Not supported
Tally	Supported	Supported

*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.

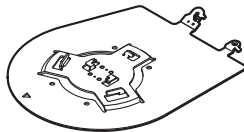

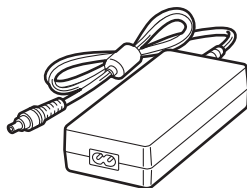
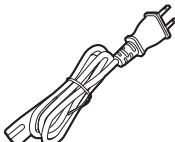
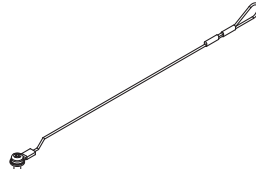
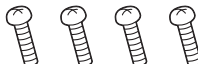
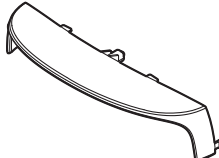
(If the value is configured locally on the device, the value will be applied.)

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

Accessories

Check that the following accessories are present and accounted for.

- After removing the product from its container, dispose of the power cable cap (if supplied) and packing materials in an appropriate manner.

Mount bracket for installation surface (Hanging / Desktop) (1) 	Main unit mounting screw (with flat washer, spring washer) M3×6 mm (1) 	AC adaptor (1) 
Power cable (1) 	Drop-prevention wire (1) Drop-prevention wire mounting screw (1) (comes attached to the unit) 	
Bracket mounting screws (bind-head) M4×10 mm (4) 	Cable cover (1) 	

Optional accessories

- Wireless remote controller AW-RM50G (Size “AA” dry battery x 2, obtained separately)
- Direct ceiling mount bracket WV-Q105A

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

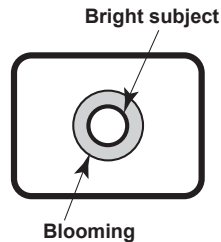
Using the unit for prolonged periods in locations where the temperature and humidity levels are high will cause its parts to deteriorate, resulting in a reduction of its service life.

(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.
- When using the ATW (auto tracking white adjustment) function under fluorescent lights, the white balance may vary.
- 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.

■ Operation of the lens when the power is turned on

When the unit's power is turned on, the zoom, focus and iris 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 0 °C (32 °F) or hot locations where the temperature rises above 40 °C (104 °F) since these temperatures downgrade the picture quality and adversely affect the internal parts.

■ Concerning the VIDEO OUT signal

The VIDEO OUT signal is provided in case the images are to be monitored.

■ Concerning the HDMI interface standard

This unit has been certified as HDMI-compatible, but on rare occasions images may not be displayed depending on the HDMI device which has been connected to the unit.

■ Color bars

- Color bars are used to adjust the color phase, and the widths and positions of these bars may differ from other models.
- The setting for the Down CONV. Mode item when color bars are displayed is fixed at "Squeeze".

■ 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 IEEE802.3at 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 12 V 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.

■ 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 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.

Operating precautions (continued)

■ 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.

■ Keep the unit away from water.

Avoid all direct contact with water. Failure to obey may cause the unit to malfunction.

■ 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 casing 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.

■ 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.

Wireless remote control (optional accessory)

This unit can be operated by remote control using a wireless remote control (model number: AW-RM50G) purchased separately. Check out the following points before using the wireless remote control.

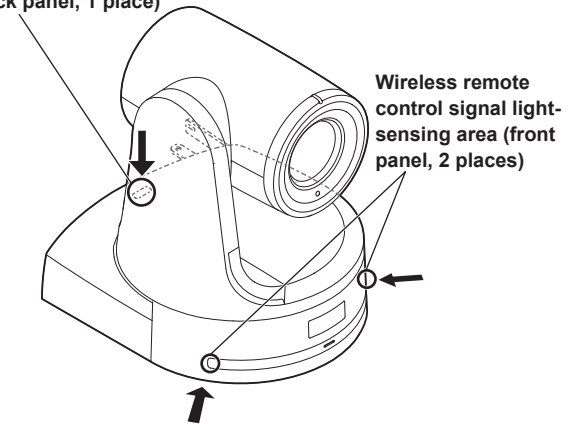
- Point the wireless remote control at the unit's wireless remote control signal light-sensing area (front panel or back panel), and operate it within a range of 10 meters (32.8 ft) from these areas.
- Refer to "Layout of wireless remote control signal light-sensing areas" on the right.
- The signal sensing distance is reduced if the angle at which the wireless remote control signals are sensed is increased.
The light-sensing sensitivity is reduced to about one-half when the wireless remote control is pointed at an angle of 40 degrees from each position in front of a wireless remote control signal light-sensing area (front panel or back panel).
If the remote control is operated from the behind the unit, it may be either difficult or impossible to perform the desired operations.
- If the unit is installed near fluorescent lights, plasma monitors or other such products or if the unit is exposed to sunlight, the effects of the light may make it impossible for the unit to be operated using the wireless remote control.
Be sure to follow the steps below for installation and use.
 - Take steps to ensure that the wireless remote control signal light-sensing area will not be exposed to the light from fluorescent lights, plasma monitors or other such products or from the sun.
 - Install the unit away from fluorescent lights, plasma monitors and other such products.
- For about 10 minutes even after the batteries have been removed from the wireless remote control, the selection of the operation to be performed (the <CAM1>, <CAM2>, <CAM3> or <CAM4> button which was pressed last) will remain stored in the memory.
When a longer period of time elapses, however, the selection is reset to the status established when the <CAM1> button was pressed.

<Layout of wireless remote control signal light-sensing areas>

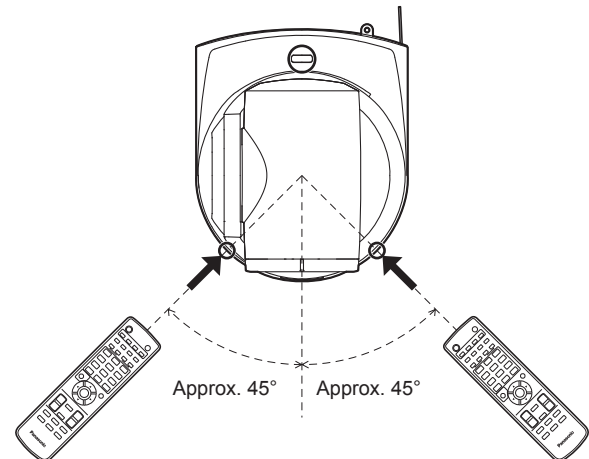
<NOTE>

- The arrows in the figure below show the light-sensing directions in which the wireless remote control signals travel.

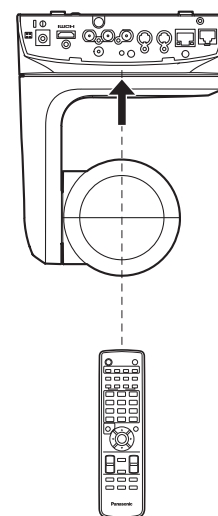
Wireless remote control signal light-sensing area (back panel, 1 place)



• Top view

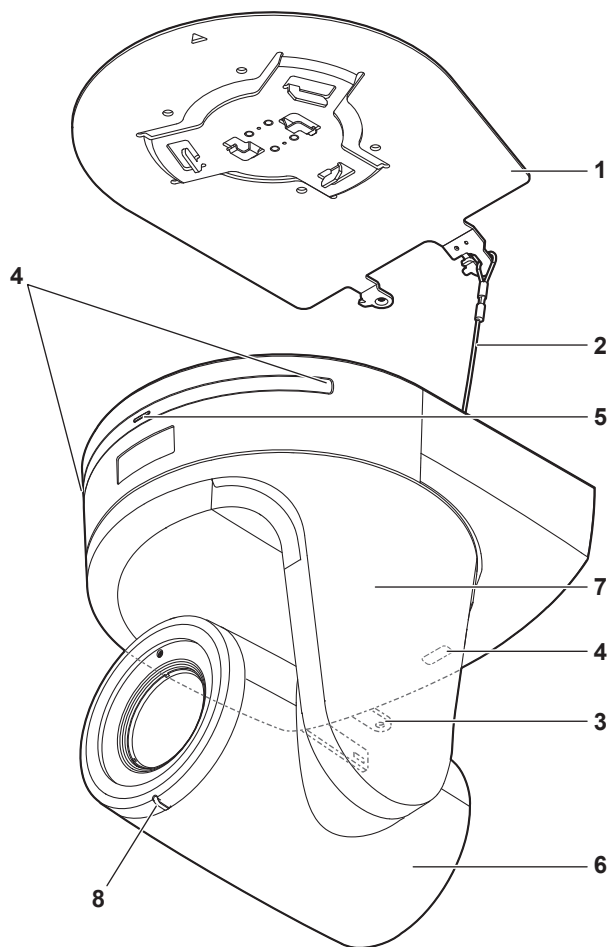


• Rear panel view

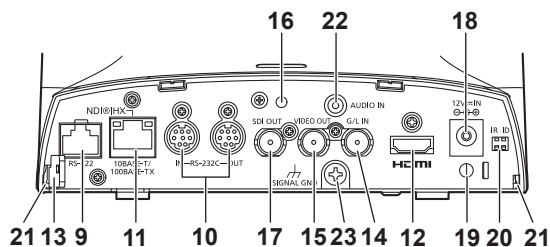


Parts and their functions

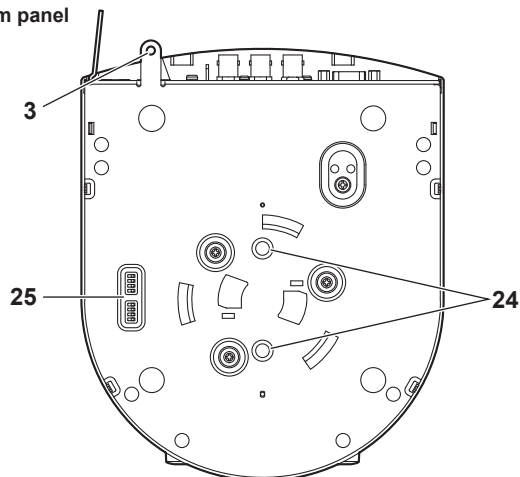
Camera unit



Rear panel



Bottom panel



1. Mount bracket for installation surface (supplied accessory)

Mount this bracket onto the installation surface, and then attach the camera main unit to the bracket.

2. Drop-prevention wire

This wire is screwed down to the bottom panel of the camera main unit. Loop the circle part of the wire around the hook of the mount bracket.

3. Hole for securing the camera pedestal

This hole is provided in the bottom panel of the camera pedestal.

4. Wireless remote control signal light-sensing area

The light-sensing area is provided in three places, on the front panel of the camera pedestal and at the top of the rear panel.

5. Status display lamp

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

Green and blinks twice:

When a signal matched by the remote control ID has been received from the wireless remote control (optional accessory) while the power is on

Orange and blinks twice:

When a signal not matched by the remote control ID has been received from the wireless remote control (optional accessory) while the power is on

6. Camera head

This rotates in the up and down direction.

7. Tilt head

This rotates in the right and left direction.

8. Tally lamp

This comes on or goes off in response to the control from the controller but only when "On" has been selected as the tally lamp use setting.

9. 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.

The tally lamp can be lit by shorting the TALLY signal (pin 2) with GND (pin 1).

<NOTE>

- Do not apply a voltage to the TALLY signal pin.

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.



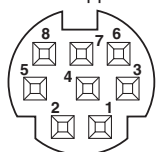
Pin No.	Signal	Pin No.	Signal
1	GND	5	TXD+
2	TALLY	6	RXD+
3	RXD-	7	—
4	TXD-	8	—

Parts and their functions (continued)

10.RS-232C connectors <RS-232C IN/OUT>

Connects to an RS-232C cable.

RS-232C IN/OUT
connector appearance



Mini Din 8-pin (JST)

RS-232C IN		RS-232C OUT	
Pin No.	Signal	Pin No.	Signal
1	DTR_IN	1	DTR_OUT
2	DSR_IN	2	DSR_OUT
3	TXD_IN	3	TXD_OUT
4	GND	4	GND
5	RXD_IN	5	RXD_OUT
6	GND	6	GND
7	IR OUT R	7	NC
8	IR OUT L	8	NC

<NOTE>

- Be aware that the polarities (+/-) of the serial data may be different depending on the specifications of the device to be connected.

11.LAN connector for IP control <NDI|HX>

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.

12.HDMI connector <HDMI>

This is the HDMI video output connector.

13.Anti-theft wire mounting hole

The anti-theft wire bracket (available from a hardware store) is attached here.

14.G/L IN connector <G/L IN>

This is the external sync signal input connector.

This unit supports BBS (Black Burst Sync) and tri-level synchronization.

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
480/59.94p(i)	480/59.94i	—
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
576/50p(i)	576/50i	—

<NOTE>

- Locking to a subcarrier is not possible with BBS.

15.VIDEO OUT connector <VIDEO OUT>

This is the output connector used for monitoring the camera's composite video signals. Use the monitor in the internal synchronization mode.

Provide a BNC coaxial cable as the connecting cable.

There is a delay in the VIDEO OUT signal output by 120H (HD lines) when at 720p and by 90H (HD lines) for any other.

16.Hole used to secure cable cover

Use the screw provided to secure the cable cover.

17.SDI OUT connector <SDI OUT>

This is the SDI video signal output connector.

18.DC IN connector <12V $\overline{\text{---}}$ IN $\ominus \oplus$ >

Connect the AC adaptor supplied with the unit to this connector to supply the DC 12 V voltage to the unit.

19.Cable clamp

This is used to hold the cable connection to the DC IN connector and prevent it from becoming disconnected.

20.IR ID switches <IR ID>

CAM1	CAM2	CAM3	CAM4
IR ID	IR ID	IR ID	IR ID

These are used to select the ID of the wireless remote control (optional accessory).

The IR ID switch settings "CAM1" to "CAM4" correspond to the <CAM1> to <CAM4> buttons on the wireless remote control.

21.Square holes (X2) for cable cover tabs

The tabs on the two sides of the cable cover are fitted into these holes.

22.AUDIO IN connector <AUDIO IN>

Inputs external audio (microphone, line).

23.Ground connector

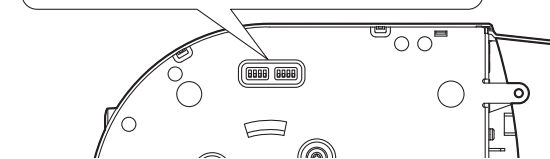
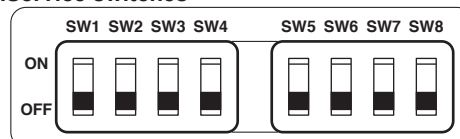
Connects to the ground connector on a wall outlet, ground bar, etc. for grounding. "Note on grounding" (→ page 25)

24.Tripod screw holes

(Screw: 1/4-20 UNC, ISO 1222 (6.35 mm))

Use these screw holes when securing the unit to a tripod, etc.

25.Service switches



Function		OFF	ON	Factory settings
SW1	Camera address setting (standard serial communication)	See descriptions for SW1 to SW3		OFF
SW2				OFF
SW3				OFF
SW4	Communication format	Panasonic proprietary serial communication	Standard serial communication	OFF
SW5	Always leave at OFF (used for factory adjustments)			OFF
SW6	Infrared output	Disable	Enable	OFF
SW7	Communication baud rate	9600 bps	38400 bps	OFF
SW8	Communication connector	RS-422	RS-232C	OFF

<NOTE>

- Perform switch settings before turning the unit on.
- Cameras whose camera address setting switches are set to AUTO cannot coexist with cameras whose switches are set to 1 to 7.
- Manually setting multiple cameras to the same address will not allow you to control multiple cameras from a single controller simultaneously.

Parts and their functions (continued)

Service switch settings

SW1 to SW3 (camera address setting switches)

Configure the camera address.

Set this to AUTO under normal circumstances. When cameras are set to AUTO, addresses will be assigned to the cameras automatically in response operation from the controller in the order in which the cameras were connected.

To manually configure the address, set the switches as follows.

Address	AUTO	1	2	3	4	5	6	7
SW1	OFF	ON	OFF	ON	OFF	ON	OFF	ON
SW2	OFF	ON	ON	OFF	OFF	ON	ON	OFF
SW3	OFF	ON	ON	ON	ON	OFF	OFF	OFF

SW4 (communication format selection switch)

Selects the communication format.

When this is set to ON, standard serial communication is enabled.

When this is set to OFF, Panasonic's proprietary serial communication is enabled.

SW5 (maintenance switch)

Fixed at OFF.

Do not change this switch setting.

SW6 (infrared output switch)

When this is set to ON, infrared output is enabled. The signal received via the remote control sensor is output from pins 7 and 8 of the <RS-232C IN> connector.

Signal output is disabled when this is set to OFF.

SW7 (communication baud rate switch)

When this is set to ON, the baud rate is 38400 bps.

When this is set to OFF, the baud rate is 9600 bps.

SW8 (communication connector switch)

When this is set to ON, the RS-232C is enabled.

When this is set to OFF, the RS-422 is enabled.

■ Simultaneous output conditions for each video format

● SDI/HDMI/VIDEO output

	Format	SDI output	HDMI output	VIDEO output*4
HD/SDI	1080/59.94p	✓	✓	✓
	1080/50p	✓	✓	✓
	1080/59.94i	✓	✓	✓
	1080/50i	✓	✓	✓
	1080/29.97PsF	✓*1		✓
	1080/25PsF	✓*2		✓
	1080/23.98PsF	✓		✓
	1080/29.97p*3	✓	✓	✓
	1080/25p*3	✓	✓	✓
	1080/23.98p	✓*1	✓	✓
	720/59.94p	✓	✓	✓
	720/50p	✓	✓	✓
SD/SDI	480/59.94p		✓	
	576/50p		✓	
	480/59.94i	✓		✓
	576/50i	✓		✓

*1 OVER 59.94i output (your monitor may recognize the signal as 59.94i).

*2 OVER 50i output (your monitor may recognize the signal as 50i).

*3 Native output

*4 480/59.94i and 576/50i is output to the VIDEO output regardless of the format setting.

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

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

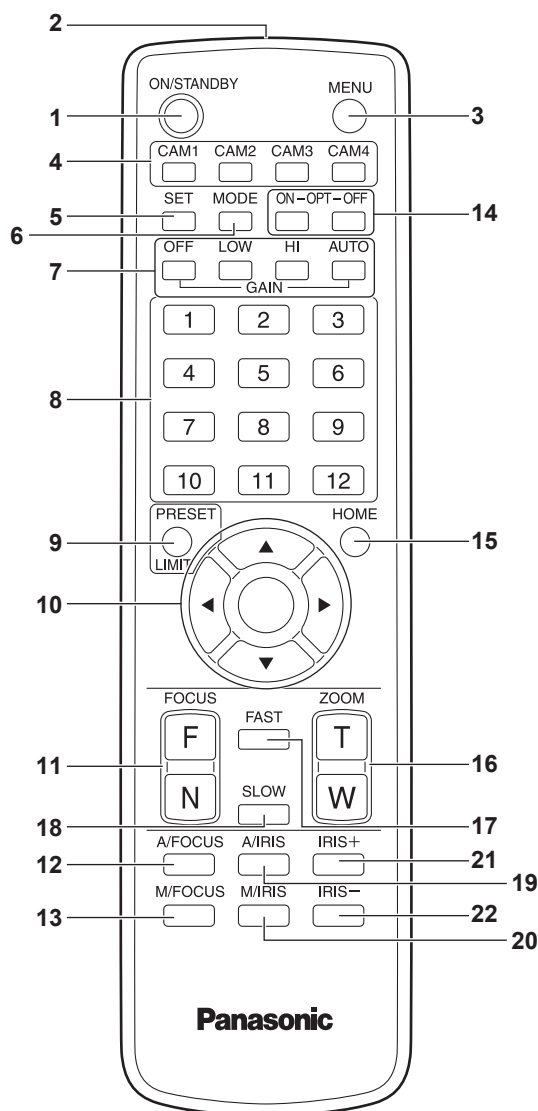
*2 50 fps only during H.264 transmission and 1920×1080 or 1280×720 resolution

Multi-channel display					
Setting	H.264 CH1	H.264 CH2	H.264 CH3/CH4	JPEG CH1/CH2/CH3*3	
Resolution	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	
Frame rate	59.94Hz	60fps	5 fps 15 fps 30 fps	5 fps 15 fps 30 fps	1 fps 2 fps 3 fps 5 fps 6 fps 10 fps 15 fps 30 fps
	50Hz	50 fps	5 fps 12.5 fps 25 fps	5 fps 12.5 fps 25 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.

Parts and their functions (continued)

Wireless remote control (not supplied)

**1. ON/STANDBY button <ON/STANDBY>**

Each time this is pressed for 2 seconds, operation switches between turning on the unit's power and establishing the standby status.

2. Signal transmission window**3. MENU button <MENU>**

Each time this is pressed for 2 seconds, operation switches between displaying the unit's camera menu and exiting the camera menu. When it is pressed quickly (for less than 2 seconds) while a camera menu is displayed, the setting change is canceled. Furthermore, the pan and tilt movement range limits (limiters) are set and released by operating the <PRESET/LIMIT> button and the pan/tilt buttons (<▲> <▼> <◀> <▶>). For details, refer to "Setting/releasing the limiters" (→ PDF page 107).

4. CAM1 to CAM4 buttons

<CAM1> <CAM2> <CAM3> <CAM4>

Selects a camera to be operated.

Once a button has been selected, the unit corresponding to the selected button can be operated.

5. SET button <SET>

If this button is held down for 2 seconds when the AWB A memory or AWB B memory has been selected for the white balance adjustment, the black balance and white balance are adjusted automatically and registered in the memory selected. When this button is pressed for under 2 seconds, only the white balance is adjusted automatically.

6. MODE button <MODE>

This is used to select the video signals which are output from the unit. Each time it is pressed, the signals are switched between the color bar signals and camera video signals.

<NOTE>

- The setting for the [Down CONV. Mode] item when color bars are displayed is fixed at [Squeeze].
- When [Audio] is set to [On] and the color bar is displayed, a test sound (1 kHz) is output. Be cautious of the volume on external devices.

7. GAIN button <OFF> <LOW> <HI> <AUTO>

These are used to set the gain.

The gain increase can be set in three steps using the <OFF>, <LOW> and <HI> buttons.

<LOW> is set to 9 dB, and <HI> is set to 18 dB.

When the <AUTO> button is pressed, the AGC function is activated, and the gain is adjusted automatically depending on the light quantity. The maximum gain of the AGC function can be set using the camera menu.

8. Preset memory call buttons <1> to <12>

These are used to call the information on the unit's directions and other settings, which have been registered in the unit's preset memories No.1 to No.12, and reproduce those settings. Settings in preset memories No.13 and above cannot be called from the wireless remote control.

9. PRESET/LIMIT button <PRESET/LIMIT>

This is used to register the settings in the preset memories or set or release the limiters.

When a preset memory call button is pressed while the <PRESET/LIMIT> button is held down, the information on the unit's current direction and other settings is registered in the call button. Preset memory call buttons <1> to <12> correspond to the unit's No.1 to No.12 preset memories.

Furthermore, the pan and tilt movement range limits (limiters) are set and released by operating the <PRESET/LIMIT> button, <MENU> button and the pan/tilt buttons (<▲> <▼> <◀> <▶>).

For details, refer to "Setting/releasing the limiters" (→ PDF page 107).

10. Pan-tilt buttons and menu operation buttons

<▲> <▼> <◀> <▶> <◯>

1) These are used to change the unit's direction.

The unit is tilted in the up/down direction using the <▲> and <▼> buttons and panned in the left/right direction using the <◀> and <▶> buttons.

The <◯> button does not work during tilting and panning.

When the <▲> or <▼> and <◀> or <▶> buttons are pressed at the same time, the unit moves diagonally.

2) The buttons are used for menu operations when the unit displays the camera menus.

Use the <▲>, <▼> (<◀>, <▶>) buttons to select the menu items. When a selected item has a sub-menu, the sub-menu will be displayed by pressing the <◯> button.

When the cursor is aligned with a particular item and the <◯> button is pressed on the setting menu at the bottom hierarchical level, the setting of the selected item blinks.

When the <◯> button is pressed after the setting has been changed using the <▲> and <▼> (<◀> and <▶>) buttons, the setting stops blinking, and the new setting is entered.

A setting for a regular menu item is reflected immediately if it is changed while it is still flashing.

If the <MENU> button is pressed quickly (for less than 2 seconds) while the setting is in the blinking status, the change will be canceled, and the setting selected prior to the change will be restored.

Parts and their functions (continued)

<NOTE>

- To prevent malfunctioning, there are a number of menu items ([Scene], [Format], [Down CONV. Mode] and [Frequency]) whose setting is not reflected immediately even if it is changed while it is still flashing.
It is reflected only after the <O> button has been pressed, causing the setting to stop flashing and the new setting to be entered.
- A confirmation screen appears before the settings of some menu items are to be entered.

11.FOCUS button <F> <N>

These are used to adjust the lens focus manually when the manual setting is established for the lens focus.
The focus is adjusted in the far using the <F> button and in the near using the <N> button.

12.A/FOCUS button <A/FOCUS>

This is used when automatically adjusting the lens focus.

13.M/FOCUS button <M/FOCUS>

This is used when manually adjusting the lens focus.
The FOCUS buttons (<F> and <N>) are used when performing the actual adjustment.

14.OPT button <ON> <OFF>

Turn night mode on/off.

<NOTE>

- In night mode, video output will be in black and white. In addition, the iris will be forcibly opened.
- White balance adjustment is not possible in night mode.
- ND filter switching is not possible in night mode.

15.HOME button <HOME>

When this is pressed for 2 seconds, the unit's direction (panning or tilting) returns to the reference position.

16.ZOOM button <T> <W>

These are used to adjust the lens zoom.
The zoom is adjusted in the wide-angle using the <W> button and in the telephoto using the <T> button.

17.FAST button <FAST>

This is used to change the movement speed at which the panning, tilting, zooming and focusing operations are performed to the high speed.

<NOTE>

- The operating speed for panning and tilting when the preset memory settings have been called can be changed using the "Preset Speed" item of the camera menu.

18.SLOW button <SLOW>

This is used to change the movement speed at which the panning, tilting, zooming and focusing operations are performed to the low speed.

19.A/IRIS button <A/IRIS>

This establishes the setting for adjusting the lens iris automatically in line with the light quantity.

20.M/IRIS button <M/IRIS>

This establishes the setting for adjusting the lens iris manually.
The <IRIS +> and <IRIS -> buttons are used when performing the actual adjustment.

21.IRIS + button <IRIS +>

This is used to adjust the lens iris in the opening direction.

22.IRIS - button <IRIS ->

This is used to adjust the lens iris in the closing direction.

Setting the remote control IDs

The wireless remote control (optional accessory) is capable of operating up to four units.

IDs are used to set which units are selected when the <CAM1>, <CAM2>, <CAM3> and <CAM4> buttons on the wireless remote control have been pressed.

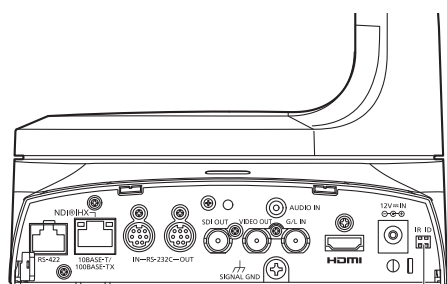
- When operating a multiple number of these units using wireless remote controls, set a different remote control ID for each control.
- When using one unit, set the remote control ID to “CAM1” unless the setting needs to be changed.

■ Setting procedure

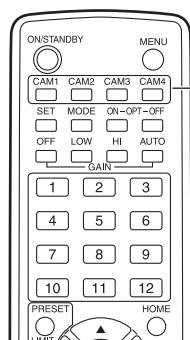
Operate the IR ID switches on the unit's rear panel, and select “CAM1”, “CAM2”, “CAM3” or “CAM4” as the remote control ID. (→ page 37)

The IR ID switch settings “CAM1” to “CAM4” correspond to the <CAM1> to <CAM4> buttons on the wireless remote control.

(The factory setting is “CAM1”.)



IR ID switches



<CAM1> to <CAM4> buttons

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.

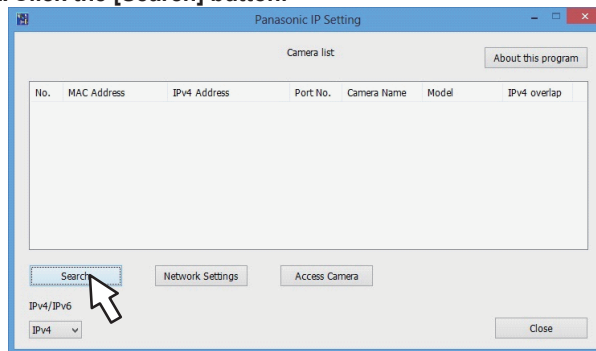
If the settings cannot be established using the Easy IP Setup Software, select the settings separately for the unit and personal computer on the Network setup screen [Network] of the setting menu. (→ PDF page 86)

<NOTE>

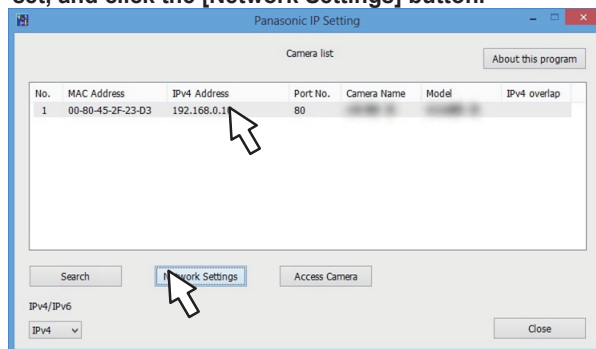
- If, after the network settings have been established, another device in the same network has the same IP address, the network operations will not be performed properly.
Set the IP address in such a way that it does not duplicate an existing IP address.
- Do not establish network settings from a multiple 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.
- Use Easy IP Setup Software ver. 4.25R00 or newer.

1. Start the Easy IP Setup Software.

2. Click the [Search] button.



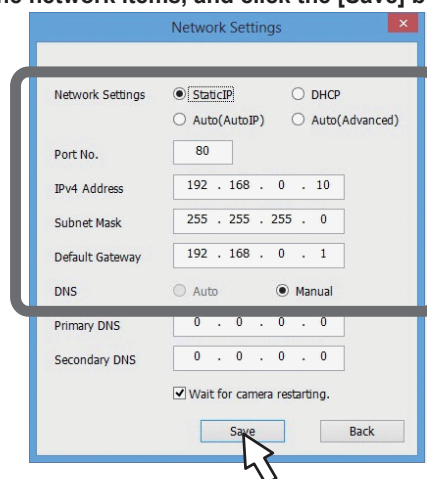
3. Click the MAC address/IPv4 address of the camera to be set, and click the [Network Settings] button.



<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 AC adaptor 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 98). 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".

User authentication

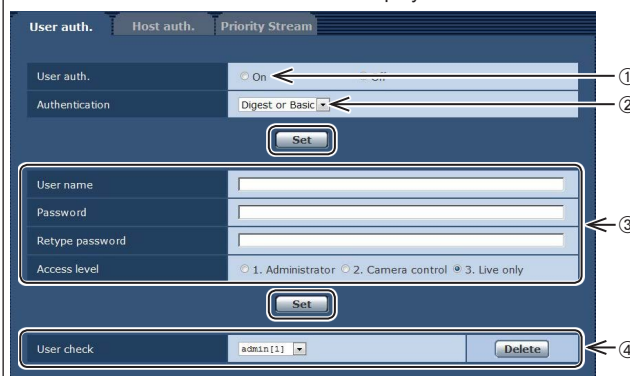
The unit can be configured to allow **access from the internet**. To prevent infringement of privacy and personality rights, information leaks, and other issues concerning **unauthorized access by third parties**, we recommend enabling the user authentication function upon installation. We also recommend using DIGEST authentication when connecting to a device that supports DIGEST authentication.

- The AW-RP50, AW-RP120, and AK-HRP200 support DIGEST authentication.

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 (When using a device that supports DIGEST authentication)
Select "Digest" for "Authentication".
⇒ Then click "Set" button.
 - ③ **Register a new user name and password**
* Select "1. Administrator" for the access level.
⇒ Then click "Set" button.
 - ④ **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"> Is the AC adaptor securely connected to the AC outlet? 	---
	<ul style="list-style-type: none"> If the power plug of the AC adaptor connected properly? 	---
	<ul style="list-style-type: none"> Is the LAN cable connected securely to the IP control LAN connector <NDI HX>? 	page 37
	<ul style="list-style-type: none"> Is the network cable for the PoE+ (IEEE802.at) compatible power supply device and the unit connected properly? 	page 22
	<ul style="list-style-type: none"> 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. 	---
	<ul style="list-style-type: none"> If the unit is connected to the controller, has it been connected properly? → Refer to the operating instructions for the controller. 	page 19
	<ul style="list-style-type: none"> When performing operations from a wireless remote control → Also refer to the "Cannot operate using the wireless remote control" item. 	---
Cannot operate (common to wireless remote control, controller)	<ul style="list-style-type: none"> Is the power on? → If the unit's status display lamp is off or lights up orange, it means that the unit's power is not on. 	PDF page 22
	<ul style="list-style-type: none"> The safe mode function may have been activated. 	PDF page 108
	<ul style="list-style-type: none"> Have the limiter functions been set? 	PDF pages 106 to 107
	<ul style="list-style-type: none"> Has the unit you want to operate been selected properly? 	PDF page 23
Cannot operate using the wireless remote control	<ul style="list-style-type: none"> Have the remote control's batteries run down or have the batteries been installed with their polarities reversed? → If the status display lamp does not blink even when the wireless remote control is operated near the wireless remote control signal light-sensing area, it means that the batteries have run down. Replace the batteries. 	---
	<ul style="list-style-type: none"> Have the IR ID switches been set correctly? 	page 37, page 41
	<ul style="list-style-type: none"> Is there a fluorescent light or plasma monitor near the unit and, if so, is the wireless remote control signal light-sensing area exposed to its light? 	page 35
Cannot operate using the controller	<ul style="list-style-type: none"> Is the unit connected to the controller properly? → Refer to the operating instructions for the controller. 	page 19
	<ul style="list-style-type: none"> The user authorization and host authorization must be set to OFF when the AW-RP120, AW-RP50 and AK-HRP200 remote camera controllers are connected in a network. 	PDF page 84 PDF page 85
	<ul style="list-style-type: none"> 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. http://pro-av.panasonic.net/ 	---
	<ul style="list-style-type: none"> When using an HTTPS connection, network connection with the AW-RP50, AW-RP120, and AK-HRP200 will be disabled. 	PDF page 90 PDF page 95
The unit turns in the opposite direction to the one operated	<ul style="list-style-type: none"> Has the stand-alone (Desktop) installation setting been selected correctly? 	PDF page 53 PDF page 81
	<ul style="list-style-type: none"> 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. 	---

Troubleshooting (continued)

Symptom	Cause and solution	Reference pages
Cannot access from a web browser	<ul style="list-style-type: none"> • Has a LAN cable of category 5 or above been connected to the LAN connector for IP control <ND HX>? 	pages 20 to 22
	<ul style="list-style-type: none"> • Is the [LINK] LED of the LAN connector for IP control lit? <ul style="list-style-type: none"> → 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. 	pages 20 to 22
	<ul style="list-style-type: none"> • Is the power on? <ul style="list-style-type: none"> → If the unit's status display lamp is off or lights up orange, it means that the unit's power is not on. 	PDF page 22
	<ul style="list-style-type: none"> • Has a valid IP address been set in the unit? 	PDF page 85
	<ul style="list-style-type: none"> • Has the wrong IP address been accessed? <ul style="list-style-type: none"> → Check the connections by following the steps below. For Windows: Using the Windows command prompt, execute > 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: <ul style="list-style-type: none"> • Reboot the unit, and within 20 minutes change the IP address using the Easy IP Setup Software. For Mac: Using the OS X terminal, execute > 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: <ul style="list-style-type: none"> • Reboot the unit, and within 20 minutes change the IP address using the Easy IP Setup Software. 	---
	<ul style="list-style-type: none"> • Are you accessing via "http://" while the HTTPS function is enabled? <ul style="list-style-type: none"> → Perform access via "https://" when using the HTTPS function. Entry of the port number is also required. 	PDF page 95
	<ul style="list-style-type: none"> • Is the same IP address setting being used by another unit? <ul style="list-style-type: none"> → Check out the IP addresses of the unit, access devices (personal computer, mobile terminal, controller, etc.) and any other cameras. 	PDF page 56
	<ul style="list-style-type: none"> • Does the subnet mask setting match the network subnet of the connection destination? <ul style="list-style-type: none"> → Check out the subnet mask settings of the unit and access devices, and then consult with the network administrator. 	PDF page 56
	<ul style="list-style-type: none"> • 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) <ul style="list-style-type: none"> → 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. 	---
	<ul style="list-style-type: none"> • Has the wrong default gateway been set for the unit? (When the unit and personal computer are connected to different subnets) <ul style="list-style-type: none"> → Check out the default gateway that has been set for the unit, and then consult with the network administrator. 	PDF page 56

Troubleshooting (continued)

Symptom	Cause and solution	Reference pages
The settings on the web setting screen [Setup] are not updated or displayed properly	For Windows: <ul style="list-style-type: none"> Press the [F5] key on the keyboard of the personal computer to request that the settings be acquired. For Mac: <ul style="list-style-type: none"> Press the [Command] + [R] key on the personal computer's keyboard to request that the settings be acquired. 	---
	<ul style="list-style-type: none"> Perform the following to delete the temporary Internet files. For Windows: <ol style="list-style-type: none"> Select [Tools] - [Internet Options] in Internet Explorer. Click the [General] tab, and click the [Delete] button under [Browsing history]. In the [Delete Browsing History] screen, select the [Temporary Internet Files] checkbox, and then click [Delete]. Click the [OK] button. For Mac: <ol style="list-style-type: none"> Select [Safari] - [Empty Cache] in Safari. Click [Empty] in the [Are you sure you want to empty the cache?] pop-up screen. 	---
	For Windows: <ul style="list-style-type: none"> 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 web setting screen. → Perform the following. <ol style="list-style-type: none"> Select [Tools] - [Internet Options] in Internet Explorer. Click the [General] tab, and click the [Settings] button under [Browsing history]. 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]. Click the [OK] button. 	---
	<ul style="list-style-type: none"> The unit's ports may be filtered by the firewall or other function of the anti-virus software. → Change the HTTP port number of the unit to a port number that will not be filtered.	---
It is not possible to download the setting files	For Windows: <ul style="list-style-type: none"> Has the file download function been disabled? → Perform the following. <ol style="list-style-type: none"> Select [Tools] - [Internet Options] in Internet Explorer. Click the [Security] tab, and click the [Custom level] button under [Security level for this zone]. In the [Security Settings] dialog box, select the [Enable] option for [File download]. For Internet Explorer 8 only: Select the [Enable] option for [Automatic prompting for the file downloads]. Click the [OK] button. Click the [OK] button. 	---
The tally lamps do not light	<ul style="list-style-type: none"> Is the [Tally] setting set to [Disable]? → If [Tally] is set to [Disable], the unit's tally lamp does not light. Change the setting to [Enable].	---
Status lamp does not light	<ul style="list-style-type: none"> Is the [Status Lamp] setting set to [Disable]? → If [Status Lamp] is set to [Disable], the status lamp does not light when this unit is working properly. Change the setting to [Enable].	PDF page 54 PDF page 82
Commands from the personal computer, external devices, and remote controller are unstable	<ul style="list-style-type: none"> Are two or more Android terminals connected? → Only one Android terminal can be connected to the unit.	---
The authentication screen appears repeatedly	<ul style="list-style-type: none"> Has the user name or password been changed? → 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.	PDF page 84 PDF page 85
	<ul style="list-style-type: none"> Has the method for user authentication been changed? → If you change the [User auth.] - [Authentication] setting, close the web browser and initiate access again.	PDF page 84

Troubleshooting (continued)

Symptom	Cause and solution	Reference pages
Screens displays take a while to appear	<ul style="list-style-type: none"> • Is access being performed in HTTPS mode? Screen displays may take a while to appear in HTTPS mode due to signal processing. 	---
	<ul style="list-style-type: none"> • Is the unit on the same local network and being accessed via proxy? → Configure the web browser settings so that access is not performed via proxy. 	---
	<ul style="list-style-type: none"> • Are multiple users accessing the unit's IP images at the same time? → 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. 	---
Cannot access the camera from a mobile terminal	<ul style="list-style-type: none"> • Is the URL correct? Has "/mobile" been entered at the end of the URL? → 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. 	PDF page 101
	<ul style="list-style-type: none"> • Is the HTTPS SSL encryption of the mobile terminal different from that of the unit? → Set [HTTPS] - [Connection] for the unit to [HTTP], and initiate access again. 	PDF page 90
	<ul style="list-style-type: none"> • Are you accessing via "http://" while using the HTTPS function? → When using the HTTPS function, access via "https://". Port number entry is also necessary. 	PDF page 104
The shortcut icon of the camera does not appear under [Network] on the personal computer	<ul style="list-style-type: none"> • Has the Windows UPnP component been added? → Add the Windows UPnP component to the personal computer you are using. 	PDF page 89

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 18 to 22
	• 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 51 PDF page 81
	• Are external sync signals that are supported by the video signal format which has been set being input?	page 37
The picture is flipped vertically	• Has the stand-alone (Desktop) installation setting been selected correctly?	PDF page 53 PDF page 81
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 34 to 42
It is difficult to view the menu screens	<ul style="list-style-type: none"> • Depending on the HDMI monitor you are using, you may experience one or more of the symptoms described below. These symptoms are especially noticeable when any of the SD formats is used: This is normal and not indicative of any trouble. • The resolution of the characters in the camera menu displays changes as the background image changes. • Depending on the edge enhancement setting established for the monitor, white lines appear in front of the black shadows of the camera menus. • Depending on the edge enhancement setting established for the monitor, the background colors may be superimposed onto the white parts of the camera menus. 	---
No auto focusing	<ul style="list-style-type: none"> • Is the focus set to manual? → Auto focusing is initiated as soon as the focus is set to auto. 	PDF page 26
	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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. 	---
	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Is the format set to 59.94p? → Configure the format setting. 	PDF page 53 PDF page 81
1080/50p images are not output	<ul style="list-style-type: none"> • Is the format set to 50p? → Configure the format setting. 	PDF page 53 PDF page 81
1080/29.97PsF images appear jerky	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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"> • Activate the ATW (Auto tracking white adjustment) function. 	PDF page 30
	<ul style="list-style-type: none"> • In some situations, the proper colors may not be reproduced using the ATW function. → In cases like this, proceed with the white balance adjustment. 	PDF pages 29 to 30
The pictures are too light or too dark	<ul style="list-style-type: none"> • Either select the auto setting for the iris or select the manual setting and adjust the iris manually. 	PDF page 27
	<ul style="list-style-type: none"> • The pictures may be dark if the analog video signal cables are too long because this will cause signal attenuation. 	---
Images are in black and white	<ul style="list-style-type: none"> • Is the unit in night mode? → In night mode, output will be in black and white. 	PDF page 45 PDF page 75
Auto white balance adjustment (AWB) is not possible	<ul style="list-style-type: none"> • Is the unit in night mode? → Auto white balance adjustment (AWB) is not possible in night mode. 	PDF page 45 PDF page 75
The screen is too bright in night mode	<ul style="list-style-type: none"> • The aperture is set to open in night mode to prevent video voyeurism. Adjust the brightness at the light source. 	PDF page 27
The iris does not operate in night mode.		
The subjects appear distorted	<ul style="list-style-type: none"> • 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. 	---
When the flash is fired during shooting, only the top or bottom of the screen becomes lighter	<ul style="list-style-type: none"> • 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. 	---
The brightness changes cyclically or the colors change, and horizontal stripes can be seen passing across the screen	<ul style="list-style-type: none"> • 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. 	---
When fine lines or cyclical patterns are shot, flickering is seen or coloring is added to them	<ul style="list-style-type: none"> • 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. 	---
Noise occurs in the audio input	<ul style="list-style-type: none"> • The following causes are possible. <ul style="list-style-type: none"> - The camera, switching hub, or peripheral devices are not grounded. - Power lines are running nearby. - Equipment generating strong electric or magnetic fields (e.g., television and radio antennas, air conditioning motors, power transformers) are located nearby. <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 25

Troubleshooting (continued)

■ IP images

Symptom	Cause and solution	Reference pages
Images are not displayed	For Windows: <ul style="list-style-type: none"> • Is the plug-in viewer software installed? → Install the plug-in viewer software. 	page 43
	For Windows: <ul style="list-style-type: none"> • 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]. → Perform the following. <ol style="list-style-type: none"> ① Select [Tools] - [Internet Options] in Internet Explorer. ② Click the [General] tab, and click the [Settings] button under [Browsing history]. 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]. ④ Click the [OK] button. 	---
The images are blurry	<ul style="list-style-type: none"> • Is the focus properly adjusted? → Check the focus adjustment. 	---
Images are not updated	<ul style="list-style-type: none"> • The images may not be updated and other problems may occur depending on your web browser and its version. • The images may stop depending on the network congestion, the level of access to the unit, etc. • If the IP video settings of the unit were changed, the image display may stop temporarily. → Check the level of access to the unit, including the multi screen display, and stop any unnecessary access. Afterward, check the following. For Windows: Press the [F5] key on the personal computer's keyboard to request that the settings be acquired. For Mac: Press the [Command] + [R] key on the personal computer's keyboard to request that the settings be acquired. For mobile terminals: Refresh the screen by pressing the [Refresh] button on the web browser, for example, to request that the settings be acquired. 	---
The images do not update or display properly	<ul style="list-style-type: none"> • Perform the following to delete the temporary Internet files. For Windows: <ol style="list-style-type: none"> ① Select [Tools] - [Internet Options] in Internet Explorer. ② Click the [General] tab, and click the [Delete] button under [Browsing history]. ③ In the [Delete Browsing History] screen, select the [Temporary Internet Files] checkbox, and then click [Delete]. ④ Click the [OK] button. For Mac: <ol style="list-style-type: none"> ① Select [Safari] - [Empty Cache] in Safari. ② Click [Empty] in the [Are you sure you want to empty the cache?] pop-up screen. 	---
	<ul style="list-style-type: none"> • Reconfigure Wi-Fi settings as follows. For mobile terminals (iOS): Execute [Reset Network Settings] in [Settings] icon - [General] - [Reset], and configure new Wi-Fi settings. 	---
	<ul style="list-style-type: none"> • The unit's ports may be filtered by the firewall or other function of the anti-virus software. → Change the HTTP port number of the unit to a port number that will not be filtered. 	---
H.264 images are not displayed	<ul style="list-style-type: none"> • 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". 	---
	<ul style="list-style-type: none"> • Is the camera connected to the personal computer via the Internet? → Set [Internet Mode] to [On]. 	PDF page 70

Troubleshooting (continued)

Symptom	Cause and solution	Reference pages
The images are distorted	<ul style="list-style-type: none"> The images may be distorted if the transmission path is congested and proper transmission is not possible. → Consult your network administrator. 	---
	<ul style="list-style-type: none"> The images may be distorted if video packet shuffling occurs on the transmission path. → Switching to an identical Internet service provider for both the camera and the personal computer may prevent this problem. Consult your network administrator. 	---
The images darken when the mobile terminal is not operated for a certain period	<ul style="list-style-type: none"> Is the power-saving mode of the mobile terminal enabled? → Disable the power-saving mode of the mobile terminal to allow the images to be displayed indefinitely. 	---
When multiple web browsers are running to display H.264 images, images from multiple cameras appear sequentially in a single web browser.	<p>For Windows:</p> <ul style="list-style-type: none"> This may occur depending on the combination of the personal computer's display adapter and the driver. → If this occurs, update the first display adapter 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. ① Right-click on the desktop, and select [Screen Resolution] from the menu. ② Click [Advanced settings]. ③ Select the [Troubleshoot] tab, and click [Change setting]. 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].) ⑤ Change to [Hardware acceleration] setting to [None] at the far left, and click [OK]. 	---
Images are not displayed for NDI HX-compatible switchers.	<ul style="list-style-type: none"> The setting values in the [Video over IP] IP video settings tab may have been changed. → Set [Parameter Setting] > [Parameter] to [NDI HX] to reset the setting values in [Video over IP]. 	PDF pages 70 to 72
	<ul style="list-style-type: none"> The [RTSP] > [RTSP port] and [RTSP Request URL (1)] to [RTSP Request URL (4)] setting values in the [Advanced] advanced network setting screen may have been changed. → Reset the settings to their factory default values. 	PDF page 91
	<ul style="list-style-type: none"> [User auth.] may be set to [On] in the [User auth.] user authentication screen. → Reset the setting to [Off]. 	PDF page 84
Audio is not output for NDI HX-compatible switchers.	<ul style="list-style-type: none"> [Audio encoding format] may be set to [G.726] in the [Audio] audio tab. → Reset the setting to [AAC-LC(High quality)]. 	PDF page 73

Troubleshooting (continued)

Web screen

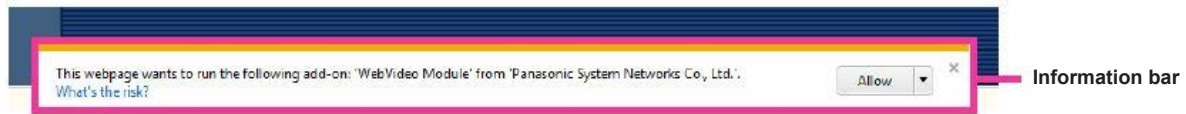
Depending on the OS installed on the personal computer, the following may occur. Follow the instructions below when the following has occurred. Performing the following solutions will not affect the operation of other applications.

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.



For Internet Explorer 8.0:


The information bar appears under the address bar 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"> Select [Allow]. 	---
For Internet Explorer 8.0: 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"> 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. 	---
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: 'nwc4SSetup.exe' from 'Panasonic System Networks Co.,Ltd.'."	<ul style="list-style-type: none"> Select [Install]. When the security warning window appears, click the [Install] button. 	---
For Internet Explorer 8.0: The following message appears in the information bar. "This site might require the following ActiveX control: 'nwc4SSetup.exe' from 'Panasonic System Networks Co.,Ltd.'. Click here to install..."	<ul style="list-style-type: none"> Click the information bar, and select [Install ActiveX control]. When the security warning window appears, click the [Install] button. 	---
An unnecessary status bar or scroll bar is displayed on the pop-up window	<ul style="list-style-type: none"> 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. 	---
The IP images do not match the display frames	<ul style="list-style-type: none"> Images may not appear correctly if their DPI settings are 120 DPI or higher. → 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)]. 	---
	<ul style="list-style-type: none"> Images may not appear correctly if the magnification level of Internet Explorer's zoom function is not set to 100%. → Select [View] - [Zoom] in the menu bar of Internet Explorer, and click [100%]. 	---
The layout of the screen is distorted, or some buttons on the screen do not operate	<ul style="list-style-type: none"> Select [Tools] - [Compatibility View Settings] in the menu bar of Internet Explorer, disable compatibility view for the unit. 	---

Specifications

Power requirements: 12 V DC === (AC adaptor supplied)
42 V - 57 V DC === (PoE+ power supply)
Current consumption: 1.8 A (AC adaptor supplied)
0.6 A (PoE+ power supply)

 indicates safety information.

■ GENERAL

Ambient operating temperature:
0 °C to 40 °C (32 °F to 104 °F)

Storage temperature:
-20 °C to 50 °C (-4 °F to 122 °F)

Allowable humidity ranges:
20 % to 90 % (no condensation)

Mass: Approx. 3.1 kg (6.83 lb) [Including mount bracket]

Dimensions (W x H x D):
180 mm x 228 mm x 234 mm
(7-3/32 inches x 9 inches x 9-3/16 inches)
(excluding protrusions, cable cover, direct ceiling
mount bracket)

Finish: AW-HN130WP: Pearl white
AW-HN130KP: Metallic black

Controller supported:
AW-RP120, AW-RP50, 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: DC 12 V IN,
G/L IN (BNC)
• BBS (Black Burst Sync), tri-level sync supported
• Locking to a color subcarrier is not possible with
BBS.
PoE+ (IEEE802.3at standard)

■ OUTPUT

Video output

HDMI: HDMI connector
• HDCP is not supported.
• Viera Link is not supported.

HD/SD SDI OUT: SMPTE424/SMPTE292/SMPTE259 standards 75 Ω
(BNC×1)

VIDEO OUT: NTSC/PAL
1.0 V [p-p]/75 Ω (BNC×1)

■ INPUT/OUTPUT

Input/Output connector

LAN: LAN connector for IP control (RJ-45)

RS-422: CONTROL IN RS-422A (RJ-45)

MIC/LINE input: φ3.5 mm stereo mini jack
Input impedance: High impedance
• During MIC input
Supported mic: Stereo mic (plug-in power,
on/off switching via menu)
• Supply voltage: 2.5 V ± 0.5 V
Mic input sensitivity: Approx. -40 dBV ± 3 dBV
(0 dB=1 V/Pa, 1 kHz)
• During LINE input
Input level: Approx. -10 dBV ± 3 dBV

■ FUNCTIONS AND PERFORMANCE

[Camera unit]

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

Lens: Motorized 20 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 %, F1.6, 36 dB)

Horizontal resolution:
1000 TV lines Typ (Center area)

Gain selection: Auto, 0 dB to 36 dB

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.

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

Synchro scan:
• 59.94 Hz:
60.15 Hz to 642.21 Hz
• 50 Hz:
50.15 Hz to 535.71 Hz

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

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

Specifications (continued)

Chroma amount variability:

OFF, -99 % to 40 %

Scene file: Scene1, Scene2, Scene3, Scene4

Output format: 1080/59.94p, 1080/29.97p*¹, 1080/23.98p*³, 1080/59.94i, 1080/29.97PsF*³, 1080/23.98PsF, 720/59.94p, 480/59.94p(i)*², 1080/50p, 1080/25p*¹, 1080/50i, 1080/25PsF*⁴, 720/50p, 576/50p(i)*²

*¹ Native output

*² A 'P' signal is output as HDMI output, an 'I' signal is output as SDI and an analog output for output formats of 480/59.94p(i) and 576/50p(i).

*³ OVER 59.94i output (your monitor may recognize the signal as 59.94i).

*⁴ OVER 50i output (your monitor may recognize the signal as 50i).

Synchronization system:

Internal/External synchronization (BBS/Tri-level sync)

[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:

IP connecting cable	<ul style="list-style-type: none"> When connecting through a hub: LAN cable*⁵ (category 5e or above, straight cable), max. 100 m (328 ft) When a hub is not used: LAN cable*⁵ (category 5 or above, crossover cable) max. 100 m (328 ft)
RP connecting cable	LAN cable* ⁵ (category 5 or above, straight cable), max. 1000 m (3280 ft) RS-422A, AW series protocol

*⁵ Use of an STP (shielded twisted pair) cable is recommended.

Pan/tilt operation speed:

0.08°/s to 60°/s

Panning range: ±175°

Tilting range: -30° to 210°

- Depending on the pan or tilt position, the camera may be reflected in the image.




Quietness: NC35 or less

AC adaptor

Input : 100 V - 240 V AC (⎓), 50 Hz/60 Hz, 1.2 A
Output : 12 V DC (—), 3.0 A, 36 W

 indicates safety information.

The symbols on this product (including the accessories) represent the following:

 AC
 DC
 Class II equipment (The construction of the product is double-insulated.)

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