Panasonic®
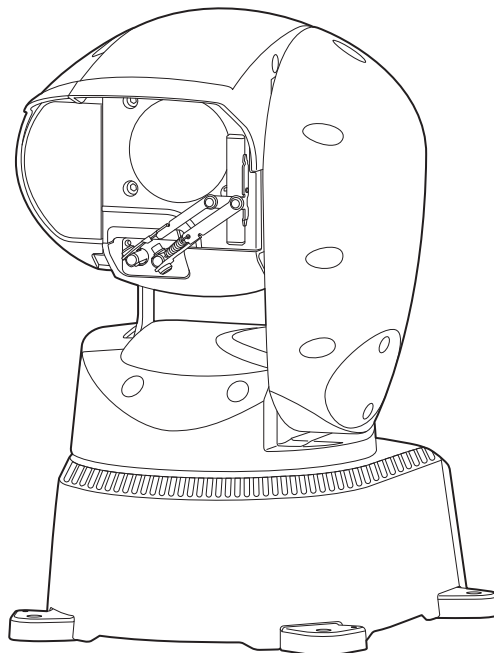
Operating Instructions

Excerpted Version

Installation Instructions provided

4K Integrated Camera

Model No. AW-UR100

HEVC Advance™
Covered by patents at patentlist.accessadvance.com

ENGLISH **Excerpted Version**	Before using this product, be sure to read "Read this first!" (pages 4, 19 to 22). This manual contains information excerpted from the Operating Instructions and the Installation Instructions. For more information, please visit the Panasonic website **(https://pro-av.panasonic.net/manual/en/index.html)**, and refer to the Operating Instruction (PDF).
FRANÇAIS	Avant d'utiliser cet appareil, assurez-vous de lire la section « Lire ces informations en premier ! » (pages 4, 23, 24). Pour de plus amples informations, visiter le site Web de Panasonic **(https://pro-av.panasonic.net/manual/en/index.html)** et consulter le mode d'emploi (PDF).
ESPAÑOL	Antes de usar este producto, asegúrese de leer "Lea esto primero!" (páginas 4, 25, 26). Si desea obtener más información, visite el sitio web de Panasonic **(https://pro-av.panasonic.net/manual/en/index.html)** y consulte las instrucciones de funcionamiento (PDF).
DEUTSCH	Bitte lesen Sie sorgfältig die „Bitte lesen Sie zuerst diesen Hinweis!" vor der Nutzung dieses Produkts. (Seiten 5, 27, 28). Weitere Informationen finden Sie auf der Panasonic-Webseite **(https://pro-av.panasonic.net/manual/en/index.html)** und in der Bedienungsanleitung (PDF).
ITALIANO	Prima di utilizzare il prodotto, assicurarsi di leggere "Leggere prima quanto segue!" (pagine 5, 29, 30). Per maggiori informazioni, per favore visitare il sito web Panasonic **(https://pro-av.panasonic.net/manual/en/index.html)**, e fare riferimento alle istruzioni per l'uso (PDF).

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

GJ

ENGLISH

български	Посетете следния уебсайт относно информация за безопасността и важни уведомления за продукта.
Hrvatski	Za sigurnosne informacije i važne obavijesti o proizvodu posjetite sljedeću internetsku stranicu.
Čeština	Na následujícím webu najdete bezpečnostní informace a důležité poznámky k tomuto produktu.
Dansk	Besøg følgende webside for sikkerhedsinformation og vigtige bemærkninger vedrørende produktet.
Nederlands	Ga naar de volgende website voor veiligheidsinformatie en belangrijke meldingen over het product.
Eesti	Toodet puudutava ohutusteabe ja oluliste märkuste saamiseks külastage järgmist veebilehte.
Suomi	Käy seuraavalla verkkosivulla saadaksesi turvallisuustietoja ja tärkeitä tietoja liittyen laitteeseen.
Ελληνικά	Για πληροφορίες σχετικά με θέματα ασφάλειας και σημαντικές ειδοποιήσεις που αφορούν το προϊόν σας, επισκεφτείτε τον ιστότοπο που ακολουθεί.
Magyar	A termékkel kapcsolatos biztonsági információkért és fontos értesítésekért látogasson el az alábbi weboldalra.
Latviešu	Lai iegūtu informāciju par drošību un skatītu svarīgus paziņojumus par šo produktu, apmeklējiet tālāk norādīto tīmekļa vietni.
Lietuvių	Jei reikia saugos informacijos ir svarbių pranešimų apie gaminį, apsilankykite toliau nurodytoje svetainėje.
Polski	Informacje o bezpieczeństwie i ważne informacje o produkcie znajdują się w poniższej witrynie internetowej.
Português	Consulte o seguinte website para as informações de segurança e importantes notificações sobre o produto.
Română	Vizitați următoarea pagină web pentru informații de securitate și notificări importante cu privire la produs.
Slovensky	Pre bezpečnostné informácie a dôležité oznámenia súvisiace s produktom navštívte túto webovú stránku.
Slovenščina	Za varnostne informacije in pomembna obvestila v zvezi z izdelkom obiščite naslednje spletno mesto.
Svenska	Besök följande webbplats för säkerhetsinformation och viktiga meddelanden om produkten.

https://pro-av.panasonic.net/manual/en/index.html

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It is expressly prohibited to distribute, copy, disassemble, reverse compile, modify, reverse engineer, or export in violation of export laws the software provided with the unit.

■ Abbreviations

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-RP150G	**AW-RP150**
AW-RP60G	**AW-RP60**

■ 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 only available with Microsoft Edge (IE mode) are indicated with the `Microsoft Edge (I.E. Mode)` symbol.
- The screenshots are used in accordance with the guidelines of Microsoft Corporation.

Contents

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:
To reduce the risk of fire or electric shock, install making sure that the mounting screws do not come in contact with electrical wiring within the wall.

☐ indicates safety information.

Lire ces informations en premier !

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

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

ATTENTION:
Pour réduire les risques d'incendie ou d'électrocution, faire l'installation en s'assurant que les vis de montage n'entrent pas en contact avec un fil électrique présent dans le mur.

☐ Informations concernant la sécurité.

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:
Para reducir el riesgo de incendio o descarga eléctrica, instálelo asegurándose de que los tornillos de montaje no entren en contacto con el cableado eléctrico dentro de la pared.

☐ indica información de seguridad.

Bitte lesen Sie zuerst diesen Hinweis!

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

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

VORSICHT:
Zur Reduzierung der Gefahr von Brand und elektrischem Schlag bei der Installation sicherstellen, dass die Befestigungsschrauben nicht mit in der Wand verlegten elektrischen Leitungen in Berührung kommen.

☐ ist die Sicherheitsinformation.

Leggere prima quanto segue!

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

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

PRECAUZIONE:
Per ridurre il rischio di incendio o di folgorazione, installare accertandosi che le viti di montaggio non vengano a contatto con i cablaggi elettrici all'interno del muro.

☐ sono le informazioni sulla sicurezza.

Installation precautions

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

To installation personnel

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

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

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

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

■ **This unit is a stand-alone (desktop) device that supports installation outdoors.**
This unit is not designed to be used in vehicles.
If the unit will be subjected to extreme vibration, take measures to reduce the vibration before use.

■ **Use the unit with an installation where the unit is suspended from an overhead surface or with a stand-alone installation.**
Do not use the unit on its side or tilted at an angle.

<NOTE>
• Be absolutely sure to use the supplied mounting bolts (M8) for the unit.
Do not use wood screws, nails, etc.
In the case of a concrete ceiling, secure the unit using anchor bolts (for M8) or AY plug bolts (for M8).
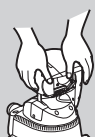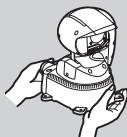**Recommended clamping torque**
  M8: 11.76 N·m {120 kgf·cm}
• The withdrawal strength of the mounting location for each screw must be at least 1764 N {180 kgf}.
• Do not hold the camera head while undertaking the installation work. Doing so may cause malfunctioning.

Desktop installation   **Hanging installation**

■ **Concerning the installation location**
Consult the dealer about the installation area and then select a strong ceiling, floor, or other area for the installation area.
• Mount the unit to a ceiling or floor that is strong enough (one made of concrete).
• Mount the camera unit to a part of the main structure of the building or a part that is sufficiently strong.
• Do not mount the unit on a plaster board or a wooden section because they are too weak. If the unit is unavoidably mounted on such a section, the section shall be sufficiently reinforced.

■ **Concerning waterproofing and dustproofing**
When installed correctly, the unit complies with IP65 waterproof and dustproof performance standards.
Be sure to perform wiring and other installation procedures according to the instructions in this document.

■ **Do not install or use the unit in the following kinds of locations.**
• Locations where a chemical agent is used such as a swimming pool
• Locations subject to moisture or oil smoke such as a kitchen
• Locations that have a specific environment that is subject to an inflammable atmosphere or solvents
• Locations where radiation, X-ray, intense radio wave, or strong magnetism is produced
• Locations where seawater will directly splash on the unit and locations where corrosive gas is generated such as volcanic regions and spa areas
• Locations where the temperature is not within the specified range (→ page 59)
• Locations subject to vibrations, such as on vehicles or above product lines (This unit is not designed to be used in vehicles.)
• Locations subject to sudden changes in temperature, such as near the outdoor unit of an air conditioner (The inside of the front glass may steam up or condensation may form on it.)

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

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

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

■ **What to avoid to ensure that the unit will perform stably over a prolonged period**
• Using the unit for a prolonged period in a location with high temperature and humidity levels will cause its parts to deteriorate and shorten its service life.
• Ensure that a cooling unit or heating unit will not blow any air directly toward the installation location.

Installation precautions (continued)

■ Be absolutely sure to use the supplied bolts to install the camera.

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

■ Concerning humidity

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

■ Heater and defroster

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

■ Protection from lightning

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

■ Before installation, always disconnect the DC connector

When installing, always use the supplied components.
Do not disassemble or modify the wall mount adaptor.

■ Tightening up the mounting screws

• Tighten up the screws and bolts securely to the degree that is appropriate for each of the materials used in the mounting location and structures.
• After tightening up the screws and bolts, check that there is no unsteadiness and that the parts have been tightened securely.
• Use the specified tools and tighten the screws firmly.
• Tighten up the screws using the specified torque driver. Do not use electrical drivers or impact drivers.

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

■ When installing, transferring or disposing of the unit, be absolutely sure to hold it by its pedestal area.

Problems may result if the camera head is held or rotated.

■ Do not attach a filter, extender or other parts to the unit.

■ Power switch

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

■ Grounding

Before operating the unit, check that SIGNAL GND has been securely grounded.

■ If there is a possibility of noise interference

Either wire the cables so that the power cable (ceiling light cord) of AC 100 V(AC 220 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++ (IEEE802.3bt standard) compatible hub or power supply device.[1]

■ Make sure installed screws do not touch any wiring inside the ceiling.

■ Preventing injuries and interference during operation

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

[1] Make sure it complies with the safety standards IEC 60950-1 or IEC 62368-1. If you are uncertain on whether or not it complies with the safety standards, please contact the manufacturer of the switching hub or power supplying device.
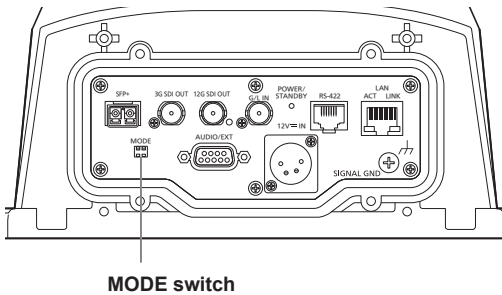
Before installation

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.

MODE switch settings

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

MODE switch

Switch positions		Function
1		Starts normally. The unit should usually be started with this setting.
2		Resets the user authentication settings and host authentication settings when connected to a network.
3		Resets the unit to the state it was in when you purchased it.
4		These are the positions for maintenance. Do not use the unit while the switches are in these positions.

How to install and connect the unit

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

Performing the installation surface work

Perform the work to weld bolts to or drive anchors into the installation surface.
This section describes the case of driving in anchors and fixing with screws.
The dimensions of the installation parts (positions and hole diameter) are shown below.

When fixing the camera directly to the installation surface

Unit: mm (inch)

Camera front ◄

176 (6-15/16)

230 (9-1/16)

179.7 (7-1/16)

4 - ø 9.0 (ø 11/32)
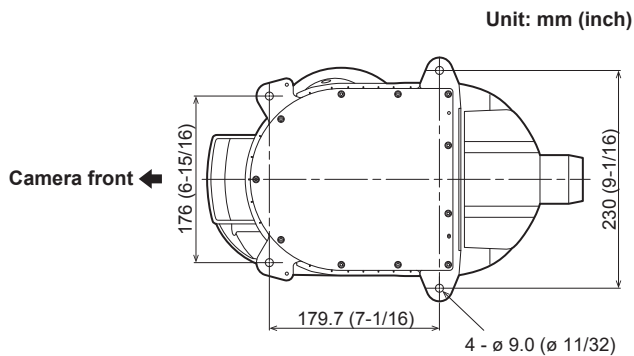
Image of AW-UR100 viewed from the bottom

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

Mounting the camera to the installation surface

When fixing directly to the installation surface

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

Unit mounting bolt x4 (supplied accessory)
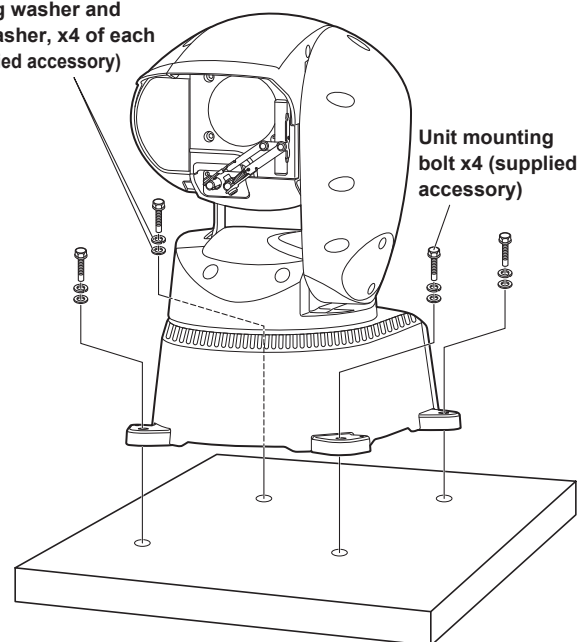
<IMPORTANT>
- Pass the cables through the bottom wiring hole or side wiring hole before putting the camera down on the installation surface.
  Recommended clamping torque for mounting unit:
  11.76 N·m {120 kgf·cm}
  Minimum withdrawal strength of unit mounting bolts or mount bracket mounting screws:
  1764 N {180 kgf} per bolt

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

How to install and connect the unit (continued)

Example of attaching the washer nozzle

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

Washer nozzle mount bracket
(supplied accessory)

Fixing the washer nozzle mount bracket

Camera front

Washer nozzle

Unit mounting
bolt x4 (supplied
accessory)

Washer nozzle mount bracket
(supplied accessory)

Washer hose
(procure separately)

<NOTE>
• Attach the washer nozzle mount bracket to the side of the camera.
• Perform an installation operation check and then adjust the orientation
  of the washer nozzle and check that water flows onto the front glass.
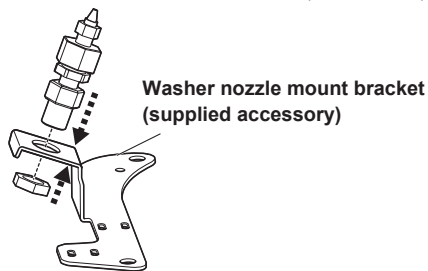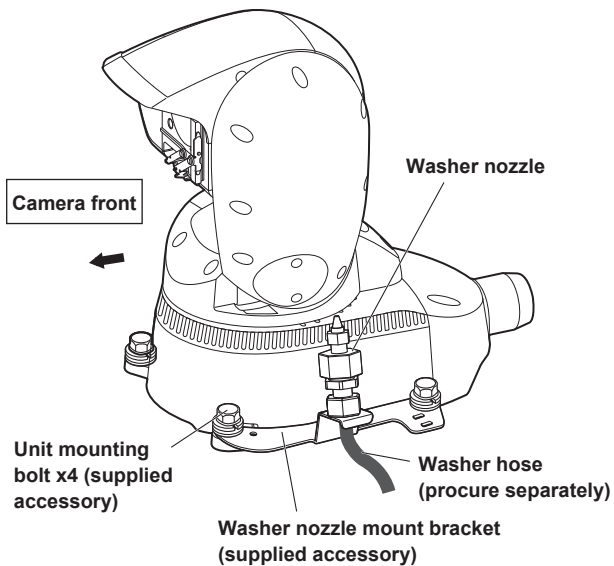• To control the washer, connect pin number 1 and pin number 6 of the
  washer control output terminal (page 38) to the washer unit and
  then perform control from the camera menu or controller.
• The washer fluid is not sprayed until the washer hose is filled with
  washer fluid.
• If the limiter is set more inward than the position to be washed with the
  washer fluid, the washer will not operate.
• To use the washer function, set [Washer] to [Yes] in the OSD or web
  screen.
  The camera head will move to the position of the washer nozzle,
  washer fluid will be sprayed for a specific duration, and the camera
  head will return to the original position.
  The wiper also operates momentarily during cleaning.
• The washer position changes depending on whether the installation
  method is stand-alone or suspended.
  Before installing the unit, verify that the camera head moves to the
  washer nozzle position and confirm that the washer function operates
  properly.
  For details, consult your dealer.

Fixing the drop-prevention wire

Fix the drop-prevention wire to a part of the main structure of the
building or a part that is sufficiently strong (minimum withdrawal strength
of 1764 N {180 kgf} or more).
Separately procure M6 mounting bolts suitable for the material of the
installation location.

Drop-preventation wire
mounting screw (M4) (with
hexagonal socket, for unit)
(supplied accessory)
Recommended clamping
torque : 1.5 N·m

Drop-prevention wire
mounting bolt (M6)
(procure separately)
Recommended claming
torque : 5.2 N·m

Drop-prevention wire
(supplied accessory)
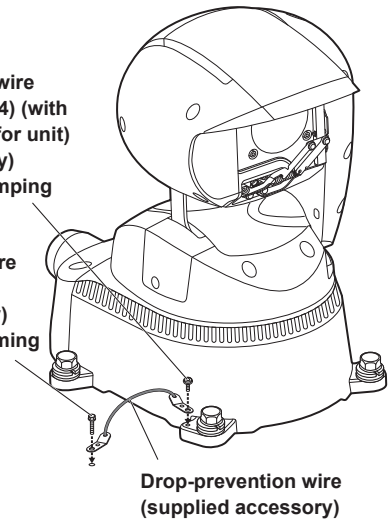
<IMPORTANT>
• Attach the drop-prevention wire so the unit will not hit anybody
  nearby in the event that it becomes detached.

How to install and connect the unit (continued)

Attaching the cable cover

Pass each of the cables (control cable, optional washer cable, etc.) to be connected to the unit through the supplied cable cover.
Connect each of the cables to the respective connector at the rear of the unit. (Refer to "Connections" (→ pages 12 to 17))
Connect the cable cover to the connector section at the rear of the unit and fix it in place with the four screws.

<IMPORTANT>
• Securely tighten the four screws for attaching the cable cover to the specified torque.
  Otherwise, water entering inside will cause the unit to fail or fall.
  Recommended clamping torque:
  0.5 N·m {5.1 kgf·cm}

Separately sold flexible conduit

Cables

Cable cover

Wrap self-adhesive tape around

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

Separately sold flexible conduit (recommended product)
Part no.:
   Panasonic PV flexible conduit, nominal diameter
   DMW128N (Panasonic PV flexible conduit)

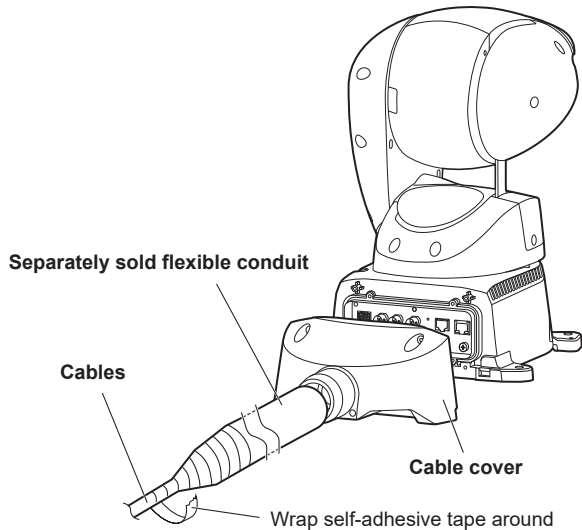**<NOTE>**
• Use weatherproof cables for outdoor wiring.
• If a cable protection tube will not be used, after passing the cables through the cable cover opening, fill the opening with sealing putty and then wrap self-adhesive tape around.

Cables

Cable cover

Sealing putty

Wrap self-adhesive tape around
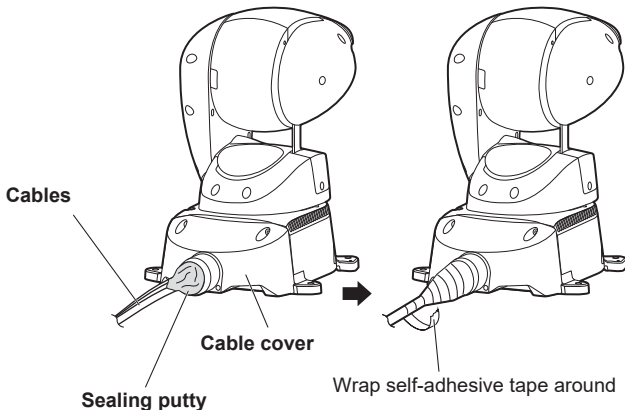
Suspended installation

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

Changing the rotation range (suspended installation)

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

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

Camera head

Reinforcement arm cover
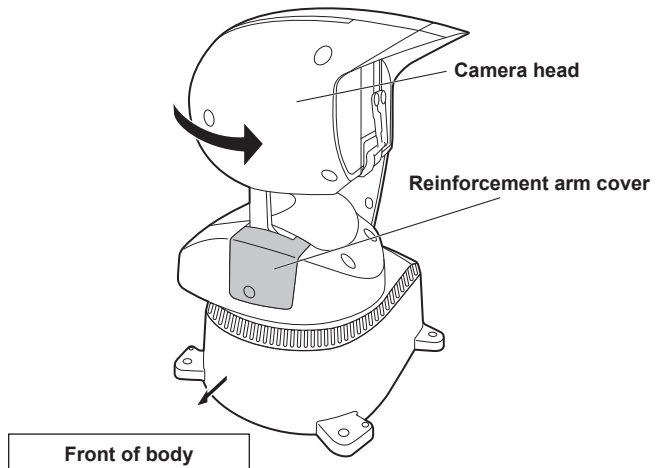
Front of body

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

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

Reinforcement arm cover

Screw A (M4 with hexagon socket head)

(10)
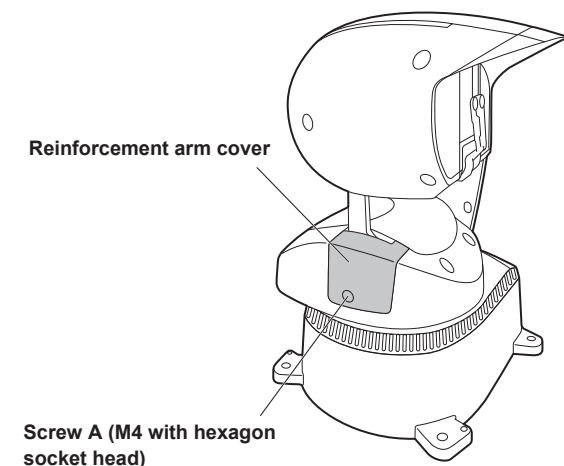
How to install and connect the unit (continued)

3. **Remove the two pin fixing screws to enable changing of the positioning of the pins at the mechanism endpoint.**

Positions of pins for stand-alone installation

Pins at mechanism end point

Pin fixing screws (M2 with hexagon socket heads)

4. **Position the pins at the mechanism end point as shown in the figure, and reattach the pin fixing screws.**

Positions of pins for suspended installation

Pins at mechanism end point

Pin fixing screws (M2 with hexagon socket heads)
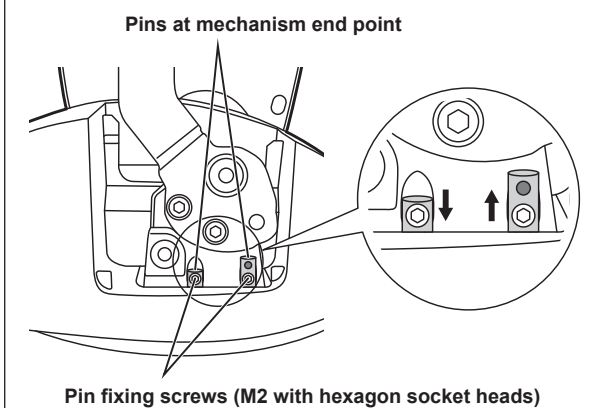
5. **Rotate the camera head 180 degrees in the direction of the arrow so that the top and bottom of the camera head are reversed and then attach the reinforcement arm cover to the body.**

Camera head

Reinforcement arm cover
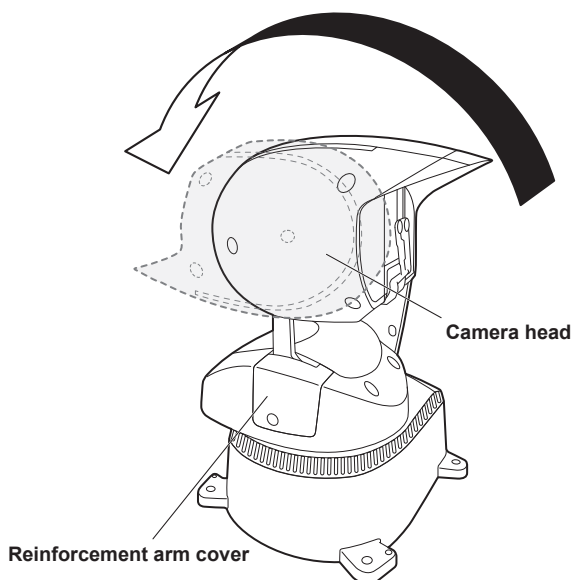
6. **Install the unit suspended.**

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

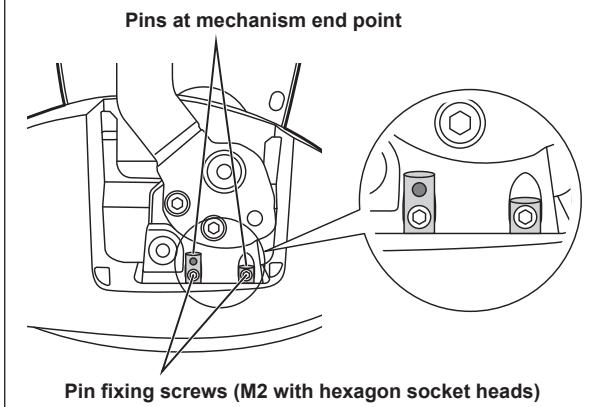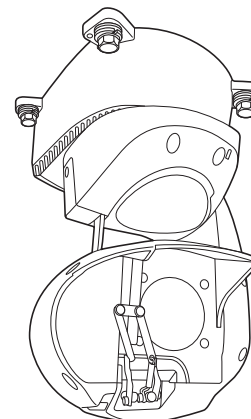- The rotation range is now switched to 180 degrees so rotation 175 degrees left and right is possible when the unit is in a suspended installation state.
- To return to the stand-alone installation state, perform the work with the procedure in reverse to switch over the pins at the mechanism end point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

<NOTE>
- Configurations are set for stand-alone installation under the factory settings.
  Be sure to perform the following when using the suspended installation method.
  1) Change the pins at mechanism end point
  2) Set [Install Position] to [Hanging] in the camera menu Operating Instructions (PDF) → "Camera menu items" → "Pan/Tilt 1/2 screen" → "Install Position", "Web screen operations" → "Basic screen [Basic]" → "System screen [System]" → "Pan/Tilt" → "Install Position".
  3) Restart the unit (disconnect the power supply to the unit before connecting it again)
  Perform operations similar to the above for stand-alone installation when switching back from a suspended installation to a stand-alone installation.
- Selecting the wrong setting for [Install Position] may result in contact at the edges of the movement range and malfunction.

(11)

Connections

Connecting an NDI|HX compatible switcher

AW-UR100

AW-UR100

External DC power supply

LAN cable

Switching hub

NDI|HX compatible switcher AV-HLC100

External DC power supply

Remote Camera Controller AW-RP150

Monitor

Monitor

(12)
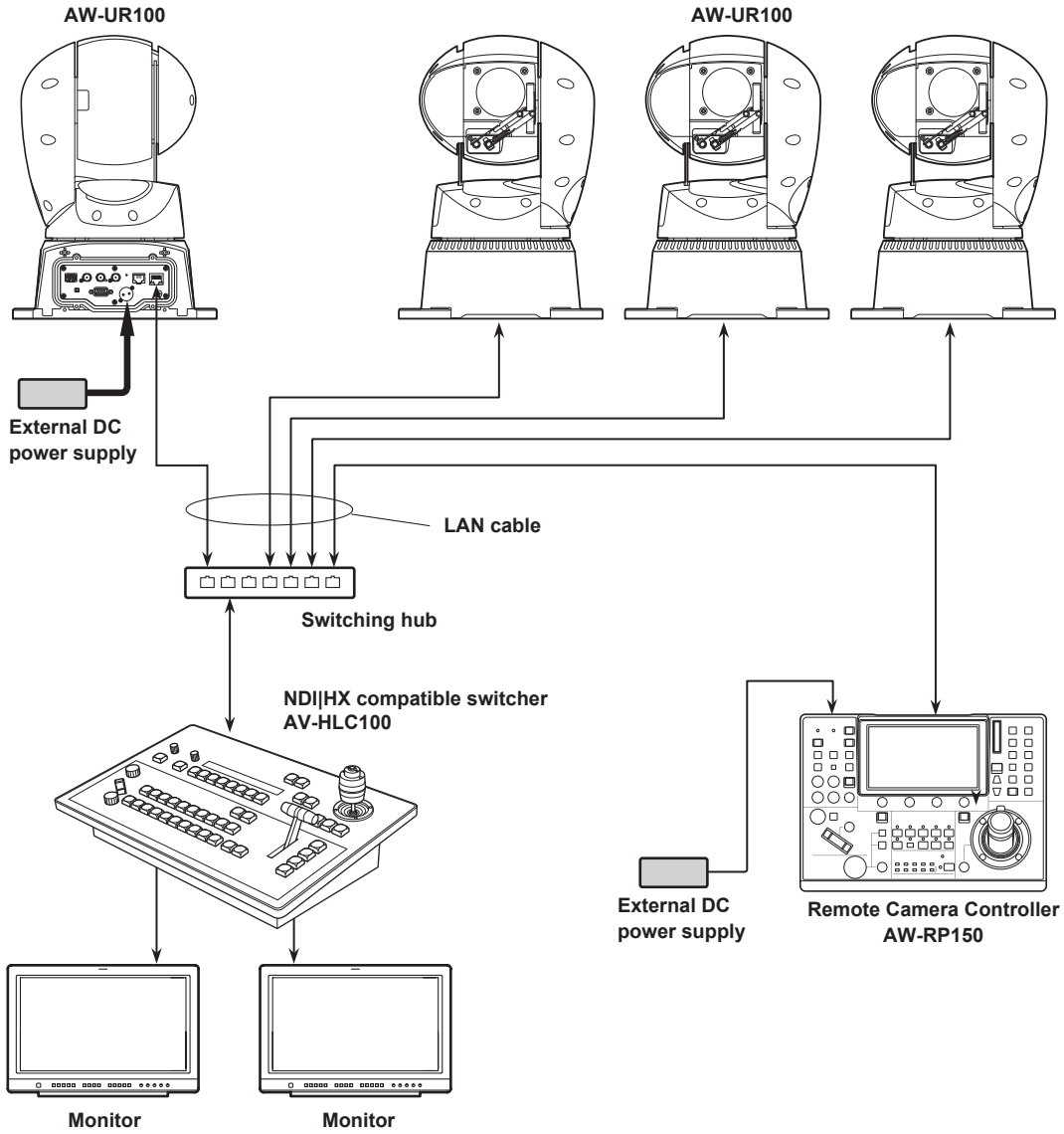
Connections (continued)

Connections with a controller (AW-RP150)

■ **Example of connection for the function for cropping 4K images to HD images**

AW-UR100

AW-UR100

External DC
power supply

3G SDI OUT

Monitor

12G SDI OUT

LAN cable
(Straight cable or cross
cable)
Max. 100 m (328 ft)

SDI IN

LAN cable
(Straight cable or cross cable)
Max. 100 m (328 ft)

3G SDI
ACTIVE THRU OUT

Monitor

External DC
power supply

Remote camera controller
AW-RP150
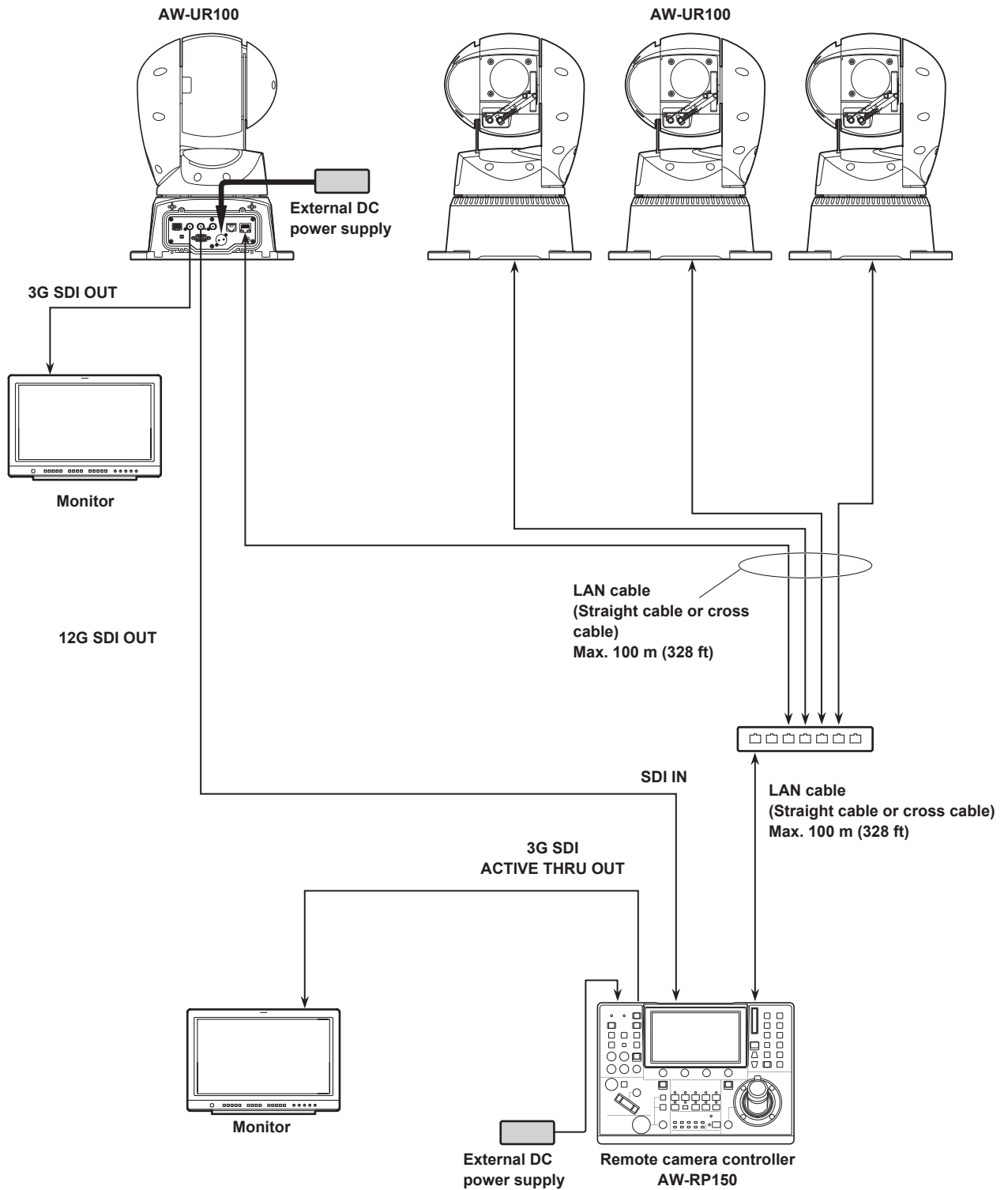
• Use a category 5e cable for the LAN cable.
• 4K images cannot be used when Crop operations or output is to be performed.

Connections (continued)

System example 1 (Serial control)

AW-UR100   **AW-UR100**

**External DC
power supply**

**RS-422
connector**

**Genlock signal
generator**

**Pan-tilt head and camera
control signal (LAN straight
cable)**

SDI video signal

Monitor 1   **Monitor 2**

Monitor   **Monitor**

System TALLY

**Accessory
AC adaptor**

**Live Switcher
AV-UHS500**

**External DC
power supply**

**Remote Camera Controller
AW-RP150**

(14)
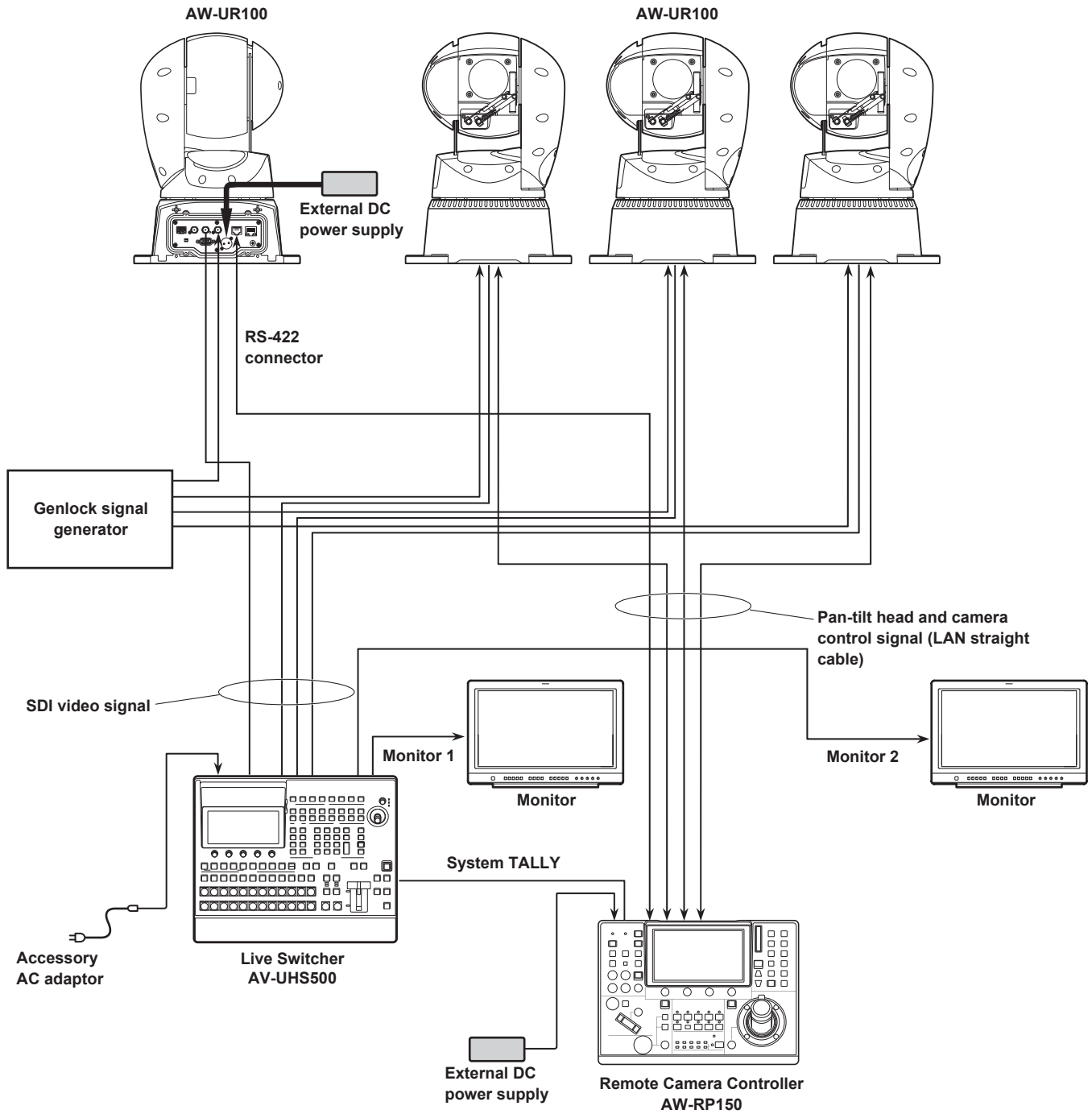
Connections (continued)

System example 2 (IP control)

AW-UR100

AW-UR100

External DC power supply

LAN connector

Genlock signal generator

SDI video signal

LAN cable

Monitor 2

Monitor 1

Switching hub

LAN cable

Accessory AC adaptor

Live Switcher AV-UHS500

Monitor

Monitor

External DC power supply

Remote Camera Controller AW-RP150

(15)
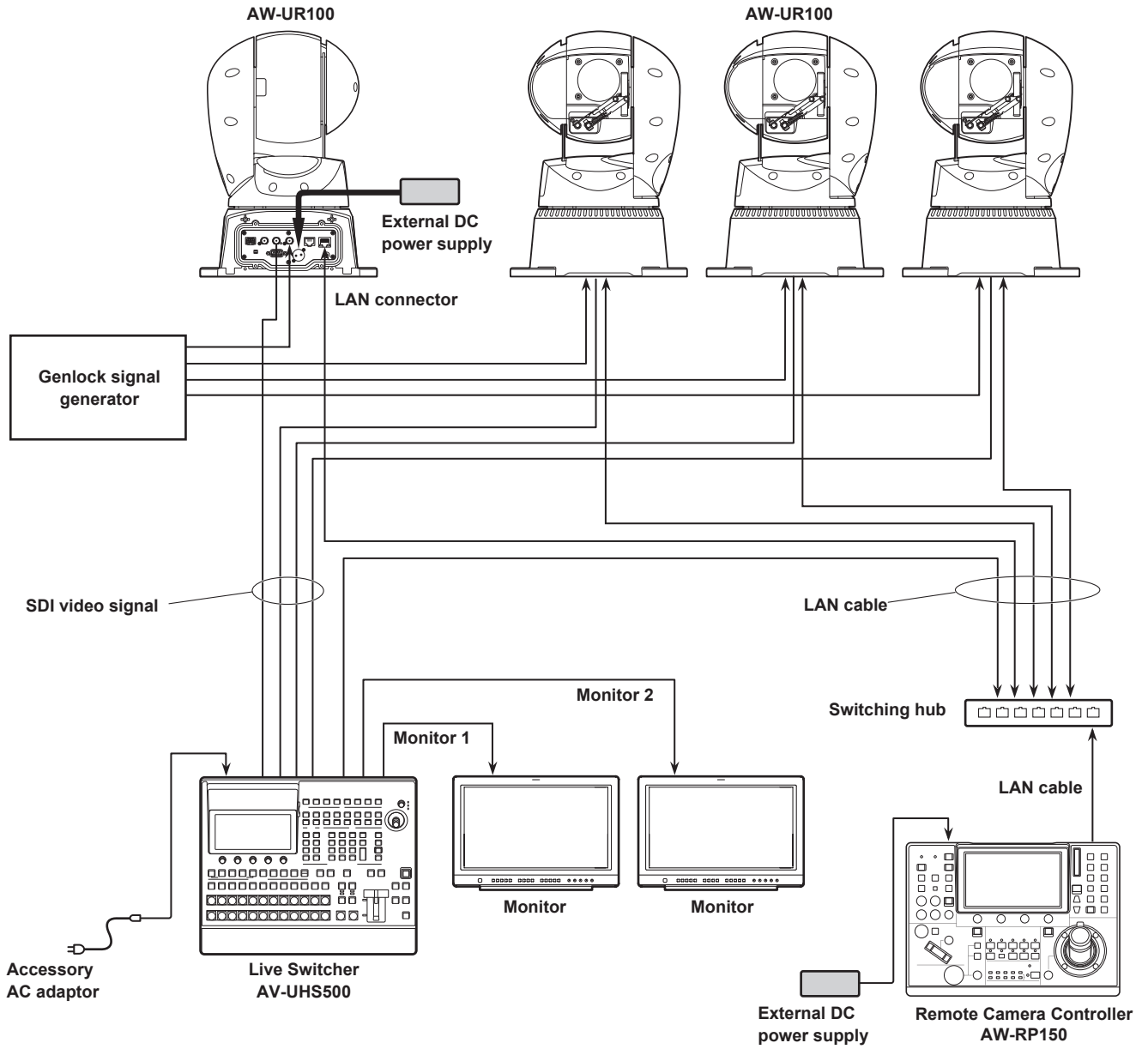
Connections (continued)

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

AW-UR100   AW-UR100

LAN connector

LAN cable

PoE++ compatible switching hub or PoE++ injector

LAN cable

Mobile terminal

Wireless access point

Personal computer

System example 4 (NDI)

AW-UR100   AW-UR100

LAN connector

LAN cable

PoE++ compatible switching hub or PoE++ injector

Switcher of NewTek, Inc

Personal computer
(Studio monitor provided by NewTek, Inc)
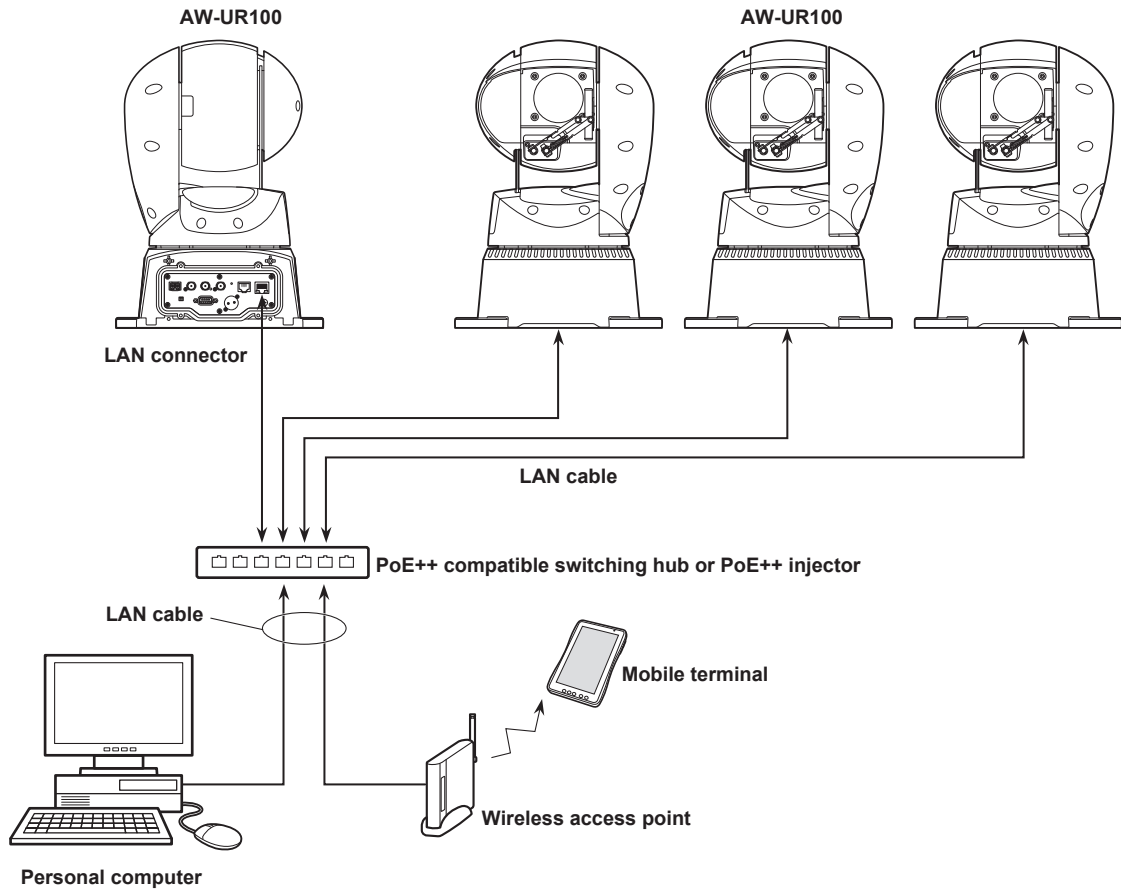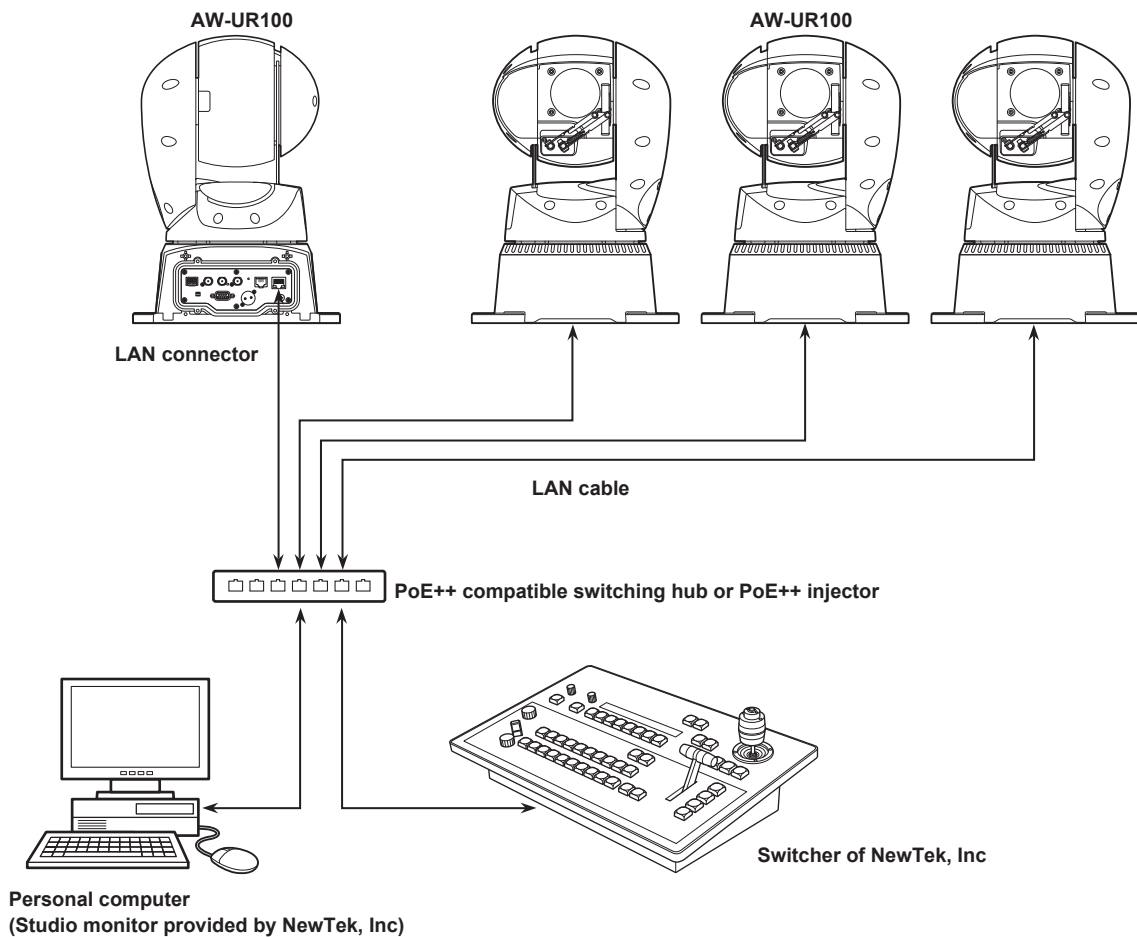
Connections (continued)

System example 5 (Fiber)

AW-UR100

External DC power supply

SFP+ connector

Fiber/12G SDI converter

12G SDI monitor
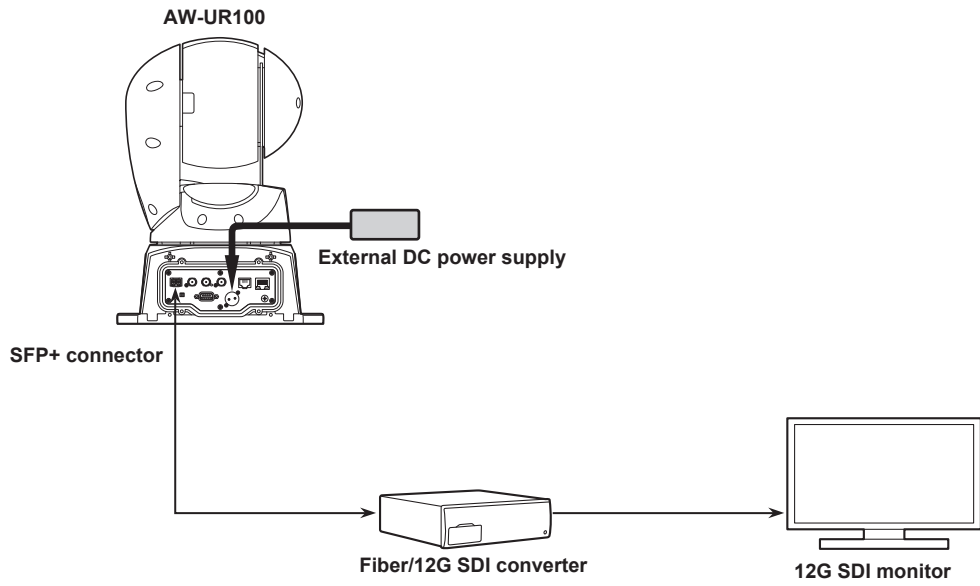
• Use an SFP+ optical transceiver whose operation is guaranteed. For details, visit the Panasonic website.

(17)

Appearance

Unit: mm (inch)

258 (10-5/32)

295.6 (11-5/8)

285.6 (11-1/4)

367 (14-7/16)

112 (4-13/32)

∅ 51 (∅ 2)

364.8 (14-3/8)

392 (15-7/16)

176 (6-15/16)

230 (9-1/16)

179.7 (7-1/16)

4 × ∅ 9 (∅ 11/32)

Read this first!

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

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

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

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

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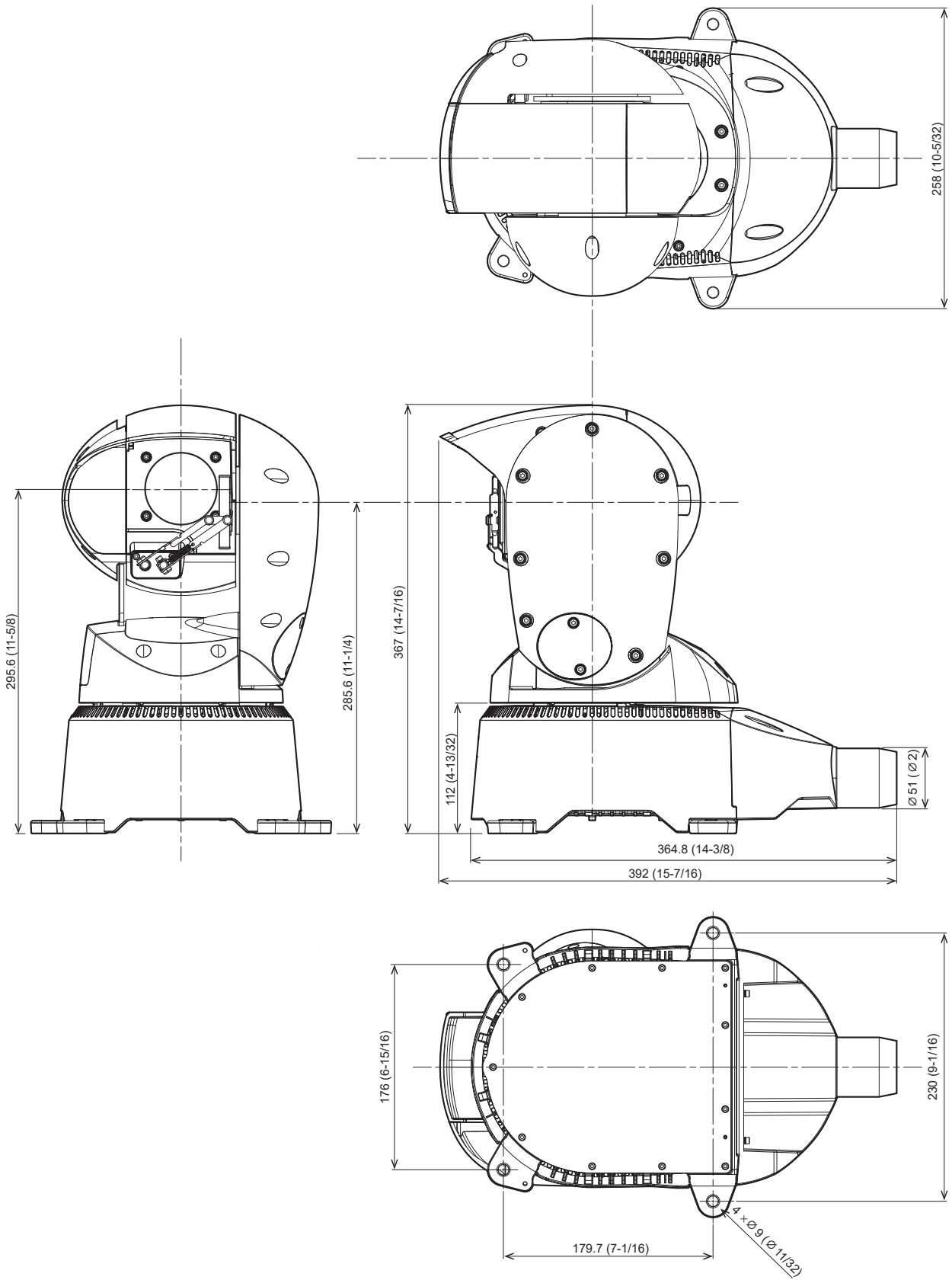 electric shock or fire hazard due to overheating, ensure that curtains and any other materials do not obstruct the ventilation.

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

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

CAUTION:
To reduce the risk of fire or electric shock caused by damage to the power supply cord, do not squeeze, bend, or pull the power supply cord when using the apparatus.

indicates safety information.

FCC NOTICE (USA)

Supplier's Declaration of Conformity
Model Number: AW-UR100
Trade Name: Panasonic
Responsible Party: Panasonic Corporation of North America
Two Riverfront Plaza, Newark, NJ 07102
Support contact: 1-800-524-1448

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.

FCC Note:
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.

Warning:
To assure continued FCC emission limit compliance, the user must use only shielded interface cables when connecting to external units. Also, any unauthorized changes or modifications to this equipment could void the user's authority to operate it.

indicates safety information.

NOTIFICATION (Canada)

CAN ICES-003 (A)/NMB-003(A)

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

=== DC

EMC NOTICE FOR THE PURCHASER/USER OF THE APPARATUS

1. Pre-requisite conditions to achieving compliance with the above standards
<1> Peripheral equipment to be connected to the apparatus and special connecting cables
• The purchaser/user is urged to use only equipment which has been recommended by us as peripheral equipment to be connected to the apparatus.
• The purchaser/user is urged to use only the connecting cables described below.
<2> For the connecting cables, use shielded cables which suit the intended purpose of the apparatus.
• Video signal connecting cables
Use double shielded coaxial cables, which are designed for 75-ohm type high-frequency applications, for SDI (Serial Digital Interface).
Coaxial cables, which are designed for 75-ohm type high-frequency applications, are recommended for analog video signals.
• Audio signal connecting cables
If your apparatus supports AES/EBU serial digital audio signals, use cables designed for AES/EBU.
Use shielded cables, which provide quality performance for high-frequency transmission applications, for analog audio signals.
• Other connecting cables (IEEE1394, USB)
Use double shielded cables, which provide quality performance for high-frequency applications, as connecting cables.
• When connecting to the DVI signal terminal, use a cable with a ferrite core.
• If your apparatus is supplied with ferrite core(s), they must be attached on cable(s) following instructions in this manual.

2. Performance level
The performance level of the apparatus is equivalent to or better than the performance level required by these standards.
However, the apparatus may be adversely affected by interference if it is being used in an EMC environment, such as an area where strong electromagnetic fields are generated (by the presence of signal transmission towers, cellular phones, etc.). In order to minimize the adverse effects of the interference on the apparatus in cases like this, it is recommended that the following steps be taken with the apparatus being affected and with its operating environment:
1. Place the apparatus at a distance from the source of the interference.
2. Change the direction of the apparatus.
3. Change the connection method used for the apparatus.
4. Connect the apparatus to another power outlet where the power is not shared by any other appliances.

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

Disposal of Old Equipment
Only for European Union and countries with recycling systems
This symbol on the products, packaging, and/or accompanying documents means that used electrical and electronic products must not be mixed with general household waste.
For proper treatment, recovery and recycling of old products, please take them to applicable collection points in accordance with your national legislation.
By disposing of them correctly, you will help to save valuable resources and prevent any potential negative effects on human health and the environment. For more information about collection and recycling, please contact your local municipality, dealer or supplier.
Penalties may be applicable for incorrect disposal of this waste, in accordance with national legislation.

Manufactured by:
Panasonic Connect Co., Ltd.
4-1-62 Minoshima, Hakata-ku, Fukuoka 812-8531, Japan
Importer:
Panasonic Connect Europe GmbH
Hagenauer Strasse 43, 65203 Wiesbaden, Germany
Authorized Representative in EU:
Panasonic Connect Europe GmbH
Panasonic Testing Centre
Winsbergring 15, 22525 Hamburg, Germany

Importer for UK:
Panasonic Connect UK,
a branch of Panasonic Connect Europe GmbH,
Maxis 2, Western Road, Bracknell, Berkshire, RG12 1RT

UK CA

Інформація для покупця

Виробник:	Panasonic Connect Co., Ltd.	Панасонік Коннект Ко., Лтд.
Адреса виробника:	Fukuoka, Japan	Фукуока Японія
Країна походження:	China	Китай

Імпортер:	ТОВ "ПАНАСОНІК УКРАЇНА ЛТД"
Адреса імпортера:	вул. Васильківська, буд. 30, м. Київ 03022, Україна

Примітки:

Термін служби виробу	7 років

Дата виготовлення може бути визначена за допомогою комбінації літер та цифр серійного номера, розташованого на продукті.

Приклад: **X   X   XXXXXXX**

Рік: остання цифра року (7 – 2017, 8 – 2018,…0 – 2020)

Місяць: A – Січень, B – Лютий… L – Грудень

Lire ces informations en premier !

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

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

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

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

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

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

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

ATTENTION:
Pour réduire les risques d'incendie ou d'électrocution qui pourraient être causés par un cordon d'alimentation endommagé, ne pas écraser, plier ou tirer sur ce dernier lors de l'utilisation de l'appareillage.

☐ Informations concernant la sécurité.

NOTIFICATION (Canada)
CAN ICES-003 (A)/NMB-003(A)

(23)

NOTE D'INFORMATION SUR LA CEM POUR L'ACHETEUR/UTILISATEUR DE L'APPAREIL

1. Conditions requises pour obtenir la conformité aux normes ci-dessus

   <1> Equipements périphériques à connecter à l'appareil et câbles de connexion spéciaux

   • L'acheteur/utilisateur est invité à utiliser uniquement des équipements recommandés par notre société comme équipements périphériques à connecter à l'appareil.

   • L'acheteur/utilisateur est invité à n'utiliser que les câbles de connexion décrits ci-dessous.

   <2> Pour les câbles de connexion, utilisez des câbles blindés appropriés à l'utilisation de l'appareil.

   • Câbles de connexion signal vidéo

   Utilisez des câbles coaxiaux blindés, conçus pour des applications à haute fréquence du type 75 ohms, pour la SDI (Serial Digital Interface).

   Les câbles coaxiaux, conçus pour des applications à haute fréquence du type 75 ohms, sont conseillés pour les signaux vidéo analogiques.

   • Câbles de connexion signal audio

   Si votre appareil prend en charge les signaux audio numériques série AES/EBU, utilisez des câbles conçus pour AES/EBU.

   Utilisez des câbles blindés, qui assure des performances de qualité pour les applications de transmission haute fréquence, pour les signaux audio analogiques.

   • Autres câbles de connexion (IEEE1394, USB)

   Utilisez des câbles blindés, qui assurent des performances de qualité pour les applications haute fréquence, comme des câbles de connexion.

   • Lors du raccordement à la borne de signal DVI, utilisez un câble avec un noyau de ferrite.

   • Si votre appareil est fourni avec un ou plusieurs tore(s) magnétique(s), ils doivent être fixés sur le(s) câble(s) selon les instructions figurant dans la présent manuel.

2. Niveau de performance

Le niveau de performance de l'appareil est équivalent ou supérieur au niveau de performance requis par les normes en question.

Cependant, l'appareil pourrait être affecté de façon négative par des interférences s'il est utilisé dans un environnement CEM, tel qu'une zone où de forts champs électromagnétiques sont générés (par la présence de pylônes de transmission, téléphones portables etc.). Pour réduire au minimum les effets négatifs des interférences sur l'appareil dans des cas de ce genre, il est conseillé d'adopter les mesures suivantes en ce qui concerne l'appareil concerné et son environnement de fonctionnement:

   1. Placez l'appareil à une certaine distance de la sources des interférences.

   2. Changez la direction de l'appareil.

   3. Changez la méthode de connexion utilisée pour l'appareil.

   4. Connectez l'appareil à une autre prise électrique sur laquelle l'alimentation n'est partagée par aucun autre appareil.

Les symboles présents sur ce produit (y compris sur les accessoires) signifient les choses suivantes.

=== CC

Lea esto primero!

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

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

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

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

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

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

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

PRECAUCIÓN:
Para reducir el riesgo de incendio o descarga eléctrica causado por daños en el cable de alimentación, no apriete, doble o tire del cable de alimentación cuando utilice el aparato.

indica información de seguridad.

(25)

AVISO SOBRE CEM PARA EL COMPRADOR/USUARIO DEL APARATO

1. Condiciones previas para conseguir la conformidad con las normas mencionadas

   <1> Equipo periférico por conectar al aparato y cables de conexión especiales

   - Se recomienda que el comprador/usuario utilice solo equipos recomendados por nosotros como equipos periféricos que se pueden conectar al aparato.
   - Se recomienda que el comprador/usuario utilice solo los cables de conexión descritos más abajo.

   <2> Para los cables de conexión, utilizar cables apantallados que se ajusten al destino del aparato.

   - Cables de conexión de señales de vídeo
   Utilizar cables coaxiales apantallados dobles, diseñados para aplicaciones de alta frecuencia del tipo de 75 ohm, para SDI (Interfaz digital en serie).
   Cables coaxiales, diseñados para aplicaciones de alta frecuencia del tipo de 75 ohm, están recomendados para señales de vídeo analógicas.
   - Cables de conexión de señales de audio
   Si el aparato es compatible con las señales de audio digitales en serie AES/EBU, utilizar cables diseñados para AES/EBU.
   Utilizar cables apantallados, que proporcionan un rendimiento de calidad para aplicaciones de transmisión en alta frecuencia, para señales de audio analógicas.
   - Otros cables de conexión (IEEE1394, USB)
   Utilizar cables apantallados, que proporcionan un rendimiento de calidad para aplicaciones de transmisión en alta frecuencia, como cables de conexión.
   - Para conectar el terminal de señales DVI, utilice un cable con un núcleo de ferrita.
   - Si el aparato está equipado con núcleo(s) de ferrita, tiene que conectarse al cable(s) siguiendo las instrucciones contenidas en este manual.

2. Nivel de rendimiento

El nivel de rendimiento del aparato es equivalente a o mejor respecto al nivel de rendimiento requerido por estas normas.

Sin embargo, el aparato puede quedar perjudicado por las interferencias si se está utilizando en un ambiente CEM, como una zona donde haya fuertes campos electromagnéticos (generados por la presencia de torres de transmisión de señales, teléfonos móviles, etc.). Para minimizar los efectos negativos de la interferencia en el aparato en casos como éste, se recomienda llevar a cabo las siguientes operaciones en el aparato afectado y en su ambiente de funcionamiento.

   1. Colocar el aparato a cierta distancia de la fuente de la interferencia:
   2. Cambiar de dirección el aparato.
   3. Cambiar el método de conexión utilizado para el aparato.
   4. Conectar el aparato a otra toma de corriente que no comparta su energía con otros dispositivos.

Los símbolos en este producto (incluidos los accesorios) representan lo siguiente.

===	CC

Bitte lesen Sie zuerst diesen Hinweis!

WARNUNG:

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

WARNUNG:

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

WARNUNG:

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

VORSICHT:

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

VORSICHT:

Ein unbehinderter zugang zum Netzstecker des Netzkabels muss jederzeit gewährleistet sein.
Die Steckdose (Netzsteckdose) sollte in der nähe des Gerätes installiert werden und leicht zugänglich sein.
Um dieses Gerät vollständig vom Nets zu trennen, den Netzstecker aus der Netzsteckdose ziehen.

VORSICHT:

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

VORSICHT:

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

VORSICHT:

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

☐ ist die Sicherheitsinformation.

Bitte lesen Sie zuerst diesen Hinweis! (Fortsetzung)

EMV-HINWEIS FÜR DEN KÄUFER/ANWENDER DES GERÄTS

1. Erforderliche Bedingungen zur Einhaltung der oben genannten Standards
  <1> An das Gerät angeschlossene Geräte und spezielle Verbindungskabel
   • Der Käufer/Anwender sollte nur Geräte verwenden, die von uns als Zusatzgeräte für den Anschluss an das Gerät empfohlen wurden.
   • Der Käufer/Anwender sollte nur die unten aufgeführten Verbindungskabel verwenden.
  <2> Für den Anschluss abgeschirmte Kabel verwenden, die dem Gerätezweck entsprechen
   • Videokabel
    Für SDI (Serial Digital Interface) doppelt abgeschirmte 75-Ohm HF-Koaxialkabel verwenden.
    Für analoge Videosignale werden 75-Ohm HF-Koaxialkabel empfohlen.
   • Audiokabel
    Verwenden Sie Kabel für AES/EBU, wenn Ihr Gerät serielle digitale AES/EBU-Audiosignale unterstützt.
    Verwenden Sie für analoge Audiosignale abgeschirmte Kabel für hochwertige HF-Übertragungen.
   • Weitere Kabel (IEEE1394, USB)
    Verwenden Sie abgeschirmte Kabel für hochwertige HF-Anwendungen.
   • Für die Verbindung zum DVI-Signalanschluss muss ein Kabel mit Ferritkern verwendet werden.
   • Wird Ihr Gerät mit Ferritkernen geliefert, müssen diese an den Kabeln befestigt werden, siehe Angaben in dieser Anleitung.

2. Leistungsniveau
  Das Leistungsniveau des Geräts entspricht oder übersteigt das von diesen Standards verlangte Leistungsniveau.
  Das Gerät kann aber durch Nutzung in einer EMV-Umgebung, wie Bereichen mit starken elektromagnetischen Feldern (durch Sendemasten, Mobiltelefone etc.) störend beeinflusst werden.
  Um in diesen Situationen die störenden Einflüsse auf das Gerät zu minimieren wird empfohlen, folgende Schritte für betroffene Geräte und Betriebsumgebungen durchzuführen:
   1. Positionieren Sie das Gerät von der Störquelle entfernt.
   2. Ändern Sie die Geräterichtung.
   3. Ändern Sie die Anschlussmethode des Geräts.
   4. Schließen Sie das Gerät an eine andere Stromverbindung, die mit keinen weiteren Geräten geteilt wird.

Entsorgung von Altgeräten
Nur für die Europäische Union und Länder mit Recyclingsystemen
Dieses Symbol, auf den Produkten, der Verpackung und/oder den Begleitdokumenten, bedeutet, dass gebrauchte elektrische und elektronische Produkte nicht in den allgemeinen Hausmüll gegeben werden dürfen.
Bitte führen Sie alte Produkte zur Behandlung, Aufarbeitung bzw. zum Recycling gemäß den gesetzlichen Bestimmungen den zuständigen Sammelpunkten zu.
Indem Sie diese Produkte ordnungsgemäß entsorgen, helfen Sie dabei, wertvolle Ressourcen zu schützen und eventuelle negative Auswirkungen auf die menschliche Gesundheit und die Umwelt zu vermeiden. Für mehr Informationen zu Sammlung und Recycling, wenden Sie sich bitte an Ihren örtlichen Abfallentsorgungsdienstleister, Händler oder Zulieferer.
Gemäß Landesvorschriften können wegen nicht ordnungsgemäßer Entsorgung dieses Abfalls Strafgelder verhängt werden.

Die Symbole an diesem Produkt (einschließlich Zubehör) haben die folgenden Bedeutungen.

===	Gleichstrom

Leggere prima quanto segue!

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

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

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

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

PRECAUZIONE:
La spina del cavo di alimentazione deve essere sempre a portata di mano.
La presa c.a. (pressa di rete) deve essere installata vicino all'apparecchio ed essere facilmente accessibile.
Per isolare completamente questo prodotto dalla fonte di alimentazione, staccare la spina del cavo di alimentazione dalla presa di corrente.

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

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

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

☐ sono le informazioni sulla sicurezza.

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AVVISO EMC PER L'ACQUIRENTE/UTENTE DELL'APPARATO

1. Prerequisiti essenziali per la conformità agli standard sopra menzionati
  <1> Periferiche da collegare all'apparato e cavi di collegamento speciali
- Si raccomanda all'acquirente/utente di collegare l'apparato esclusivamente con periferiche da noi approvate.
- Si raccomanda all'acquirente/utente di utilizzare esclusivamente i cavi di collegamento descritti in basso.

  <2> Per i cavi di collegamento, utilizzare cavi schermati idonei per l'utilizzo previsto per l'apparato.
- Cavi di collegamento per segnali video
  Utilizzare cavi coassiali con doppia schermatura, progettati per applicazioni in alta frequenza da 75-ohm, per SDI (interfaccia digitale seriale).
  Per i segnali video analogici sono consigliati cavi coassiali, progettati per applicazioni in alta frequenza da 75-ohm.
- Cavi di collegamento per segnali audio
  Se l'apparato dell'utente supporta i segnali audio digitali seriali AES/EBU, utilizzare i cavi progettati per segnali AES/EBU.
  Per i segnali audio analogici, utilizzare cavi schermati che garantiscono prestazioni di qualità per le applicazioni di trasmissione ad alta frequenza.
- Altri cavi di collegamento (IEEE1394, USB)
  Come cavi di collegamento, utilizzare cavi schermati che garantiscono prestazioni di qualità per le applicazioni ad alta frequenza.
- Per la connessione al terminale del segnale DVI utilizzare un cavo dotato di anello in ferrite.
- Se l'apparato dell'utente dispone di anima/e in ferrite, questa deve essere attaccata al cavo o ai cavi come indicato nelle istruzioni che seguono nel presente manuale.

2. Livello di prestazioni
Il livello di prestazioni dell'apparato è equivalente o superiore al livello di prestazioni richiesto da questi standard.
Tuttavia, l'apparato potrebbe essere disturbato da interferenze esterne qualora venga utilizzato in un ambiente EMC, come nel caso di un'area con forti campi elettromagnetici (generati dalla presenza di torri per la trasmissione di segnali, telefoni cellulari, ecc.). In casi simili, al fine di minimizzare il disturbo di tali interferenze sull'apparato, si consiglia di intervenire sull'apparato e sul suo ambiente operativo adottando le misure indicate di seguito:
1. Posizionare l'apparato lontano dalla fonte dell'interferenza.
2. Cambiare la direzione dell'apparato.
3. Cambiare il metodo di collegamento utilizzato per l'apparato.
4. Collegare l'apparato a un'altra presa sul muro che non sia condivisa con altri apparecchi.

Smaltimento di vecchie apparecchiature
Solo per Unione Europea e Nazioni con sistemi di raccolta e smaltimento
Questo simbolo sui prodotti, sull'imballaggio e/o sulle documentazioni o manuali accompagnanti i prodotti indica che i prodotti elettrici, elettronici non devono essere buttati nei rifiuti domestici generici.
Per un trattamento adeguato, recupero e riciclaggio di vecchi prodotti vi invitiamo a portarli negli appositi punti di raccolta secondo la legislazione vigente nel vostro paese.
Con uno smaltimento corretto, contribuirete a salvare importanti risorse e ad evitare i potenziali effetti negativi sulla salute umana e sull'ambiente. Per ulteriori informazioni su raccolta e riciclaggio, vi invitiamo a contattare il vostro comune, rivenditore o fornitore.
Lo smaltimento non corretto di questi rifiuti potrebbe comportare sanzioni in accordo con la legislazione nazionale.

I simboli su questo prodotto (compresi gli accessori) rappresentano quanto segue.

===	DC

Read this first!

Note on grounding

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

to ground connector on wall outlet, ground bar, etc.

Ground connector
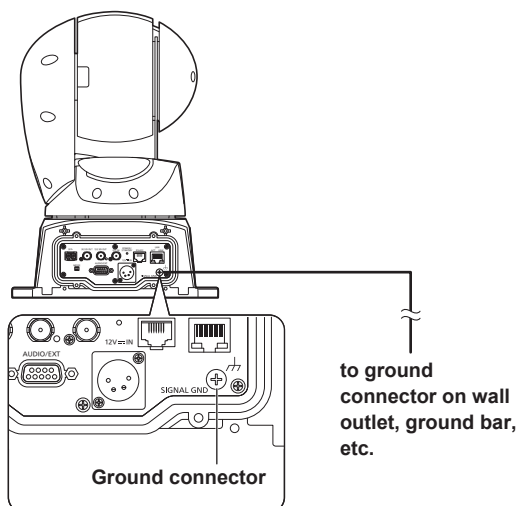
Before use

Overview

• This product is an all-in-one pan-tilt head remote camera that supports 4K/12G-SDI and is also compatible with 4K/60p format.

• Equipped with an optical 24x zoom lens and 4K-compatible 1/2.5 type MOS sensor, it is possible to shoot high-quality images with a high degree of realism with the horizontal resolution of 1500 lines.
With its built-in image-shake correction and night mode functions, the unit can shoot in a wide range of environments.

• This product is compatible with High Bandwidth NDI (hereafter, NDI) and NDI|HX version 2 technology of NewTek, Inc.
The problem of IP transmission delay and image degradation of NDI|HX will be resolved with High Bandwidth NDI.

• The unit supports transmission of video to NewTek High Bandwidth NDI and NDI|HX 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.

• With a variety of 4K interfaces, there are individual outputs for HD and SDI, so the unit can be used flexibly in a wide range of situations as a 4K-compatible remote camera.

• Connection with a Panasonic camera controller is also possible via Panasonic's proprietary serial communication format.

• The unit comes standard with various functions essential for an outdoor shooting environment.

• Intelligent functions (auto adjustment)	• Defroster
	• Vibration correction function
• Wiper	• Washer control
• Heater	

Computer requirements

CPU	7th Generation Intel® Core™ (Kaby Lake or later) recommended
Memory	**For Windows:** 4 GB or more **For Mac:** 4 GB or more
Network function	100BASE-T/TX or 1000BASE-T, RJ-45 connector
Image display	Resolution: 1920 × 1080 pixels or more Color generation: True Color 24-bit or more
Supported operating systems and web browsers	**For Windows:** Microsoft® Windows® 10 Microsoft Edge Google Chrome
	For Mac: macOS 13 macOS 12 macOS 11 Safari Google Chrome
	For iPhone, iPad: iOS iPadOS Safari
	For Android: Android OS Google Chrome
Other	Adobe® Reader® (for viewing the operating instructions available on the website)

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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.
- For the latest information on compatible operating systems and web browsers, visit the support desk at the following website.

  https://pro-av.panasonic.net/en/

Disclaimer of warranty

IN NO EVENT SHALL Panasonic Connect Co., Ltd. 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. Panasonic does not accept any responsibility for damage of this type.

- 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.
- To avoid passwords that can be guessed easily by third parties, set a password of at least 8 characters in length, including at least 3 different types of characters, such as upper case, lower case, numbers, and symbols.
- 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 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.

  [4K format]
  2160/59.94p, 2160/50p, 2160/29.97p*[1], 2160/25p*[1], 2160/24p*[1], 2160/23.98p*[1]

  [HD format]
  1080/59.94p, 1080/50p, 1080/29.97p*[1], 1080/29.97PsF, 1080/25p*[1], 1080/25PsF, 1080/23.98p*[2], 1080/24p*[1], 1080/23.98p*[1], 1080/23.98PsF, 1080/59.94i, 1080/50i, 720/59.94p, 720/50p

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

■ 1/2.5-type 4K MOS sensor and high-performance 24x zoom lens featured

- The latest 1/2.5-type 4K MOS 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 24x zoom lens, the unit comes with a 10x digital zoom to achieve high-quality images that overflow with ambiance. Zoom up to 36x is possible (up to 28x in 4K mode) while maintaining the picture quality with the use of iZoom.
- 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 180°/s
- Wide rotational angles with a panning range of ±175° and a tilting range from –30° to 210°
- 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 4K 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.

■ 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-RP150, AW-RP60).
  The unit can also be used together with the cameras and pan-tilt head unit systems currently available from Panasonic Connect Co., Ltd. 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 controllers in order to support the unit. For details on upgrading, visit the support page on the following website.
  https://pro-av.panasonic.net/en/
  The maximum distances between the units and controller is 1000 meters (3280 ft). (when serial control is exercised)
  Use of an external device or some other means must be provided separately in order to extend the video signal connections.

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

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

■ Flexible camera layout enabled by simple connection

- IP control allows outstanding connectivity.
  <NOTE>
  - This unit is a stand-alone (desktop) device with support for outdoor use.
    Please note that it cannot be used in a vehicle.

■ While including a 4K-compatible or different kinds of interface, the unit still has the same installation footprint as previous models

- The unit maintains the compact installation footprint of previous models.

■ Easy connections and settings courtesy of IP control

- Up to two hundred units can be operated by IP connection from a Panasonic controller (AW-RP150, AW-RP60).
  (The maximum length of the LAN cables is 100 meters (328 ft).)
- Network connection with AW-RP150 or AW-RP60 requires setup of an initial account. (→ page 49)
  When an initial account is not set up, AW-RP150 or AW-RP60 can detect but cannot control this unit.

■ PoE++ *[3] 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 (IEEE 802.3bt compliant)*[4].
  Software authentication (LLDP) is also supported, but it may be necessary to make settings on the network device (IEEE P802.3bt compliant)*[4].
  <NOTE>
- If the external DC power supply and a PoE++ power supply are connected simultaneously, the external DC power supply will have priority. If the external DC power supply is disconnected while both power supplies are connected, the unit will restart automatically, and the image will be interrupted.
- Use a Category 5e cable or higher when using a PoE++ power supply. The maximum length of the cable between the power supply unit and the unit is 100 meters (328 ft). Using a cable that is lower than Category 5e may result in reduced power supply capabilities.
  *[3] Power over Ethernet Plus Plus. Referred to as "PoE++" in this manual.
  *[4] For details on PoE++ power supply devices for which operation has been verified, consult your local dealer.
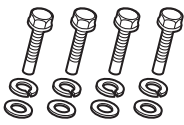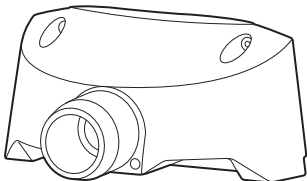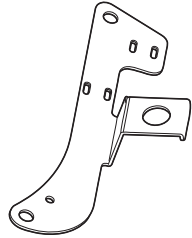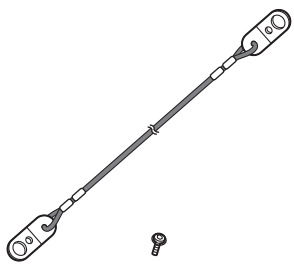
Accessories

Check that the following accessories are present and accounted for.
• After removing the product from its container, dispose of the packing materials in an appropriate manner.

Hexagonal bolt **M8 × 25 mm (4)** **M8 washer (4)** **M8 spring washer (4)**	**Cable cover (1)**	**Washer nozzle mount bracket (1)**	**Drop-prevention wire (1)** **Drop-prevention wire mounting screw (with hexagonal socket, for unit)** **M4 × 10 mm (1)**

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.

Bright subject

Blooming
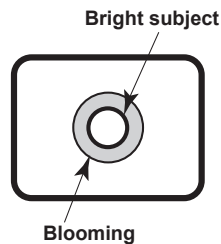
■ What happens with high-brightness subjects

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

• In the [Scene] such as the camera menu, the initial settings on some items has been set to auto, 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 1.2 meters (3.9 ft), the subject may shift out of focus at the Wide end.)
If zooming is performed to the Tele end after having adjusted the focus at the Wide end, out-of-focusing may occur.

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

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

■ The unit comes with the safe mode.

The safe mode is function designed to protect the unit from damage. For further details, refer to Operating Instructions (PDF) → "Safe mode".

■ Operating temperature range

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

■ Color bars

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

■ Concerning the IP video frame rates

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

■ H.264/H.265 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.
(i) Recording of image information in compliance with the AVC standard (hereafter, "AVC videos")
(ii) 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 IEEE 802.3bt.
Use a compatible Ethernet hub and PoE++ injector to use a PoE++ power supply.
Software authentication (LLDP) complies with IEEE P802.3bt, but it may be necessary to make settings on the network device.
For details on Ethernet hubs and PoE++ injectors for which operations have been verified, consult your local dealer.

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

This unit is not equipped with a power switch.
Turn off the DC power supply or PoE++ power supply device before connecting or disconnecting cables.

■ Handle the unit carefully.

Do not drop the unit or subject it to strong impact or vibration.
Failure to obey may cause the unit to malfunction.

■ When the unit is not in use

Turn off the unit's power when it is not in use.
When the unit is no longer to be used, make sure to remove the camera and mount bracket rather than leaving them in place.

■ Do not touch the optical system parts.

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

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

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

■ Personal computer used

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

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Operating precautions (continued)

■ Concerning the IP address setting

Do not run the Easy IP Setup Software on a multiple number of personal computers for a single camera and set the IP address at the same time.

Otherwise, you will be unable to complete the proper procedure and set the IP address correctly.

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

Failure to obey may cause the unit to malfunction.

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

Do not put your fingers or body close to the unit while it is in operation. Doing so may result in injury or cause the unit to malfunction.

Furthermore, if the unit hits a person or obstacle, during the panning or tilting operation, the unit will enter into the safe mode.

For further details, refer to the Operating Instructions (PDF)→ "Safe mode".

■ About the camera head

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

■ Maintenance

Turn off the unit's power before proceeding with maintenance. Failure to obey may result in injuries.

Wipe the surfaces using a soft dry cloth. Avoid all contact with benzine, paint thinners and other volatile substances, and avoid using these substances. Otherwise, the body may become discolored.

■ Do not turn the camera head by hand.

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

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

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

■ About the dehumidifying element

The unit incorporates a dehumidifying element to maintain a low humidity level inside the camera.

Condensation may form and dehumidification may take a while depending on conditions such as the temperature, humidity, and weather.

■ About cleaning the front glass

If the front glass becomes dirty, remove the dirt with lens cleaning paper (paper used to clean cameras and glasses) or the like.

The front glass may be scratched if sand, etc. is adhered to it during cleaning. If the lens is very dirty, we recommend washing it with water.

Do not touch the glass surface or its screws when using the defroster.

As the defroster heats the glass surface, it can become very hot.

■ About the lens/pan-tilt head

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

■ About consumables

The following parts are consumables. Replace them using the lifespans as a guide.

The lifespans may vary depending on the operating environment and operating conditions.

The lifespans are a guide for when the unit is used at 35 °C (95 °F).

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

Contact your dealer regarding replacements.

■ Disposal of the unit

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

■ Hold the bottom surface with both hands for picking up this unit.

If you hold the lens part or the sides, it will put a load strain on the motor and cause a malfunction.

■ Moving the unit

• When carrying the unit, take care not to apply strong shocks or drop it.
• Remove connection cables when moving the unit.
• Turn off the system power when moving the unit.
• Wrap the unit in cushioning material, etc., when moving the unit so that impacts do not damage it.
• Treat the unit carefully so that vibrations or impacts do not damage it.

■ 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.
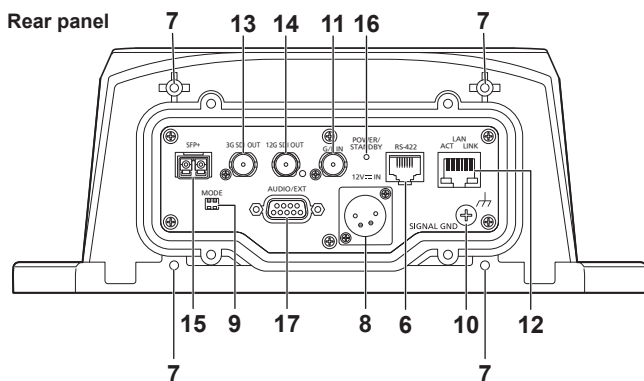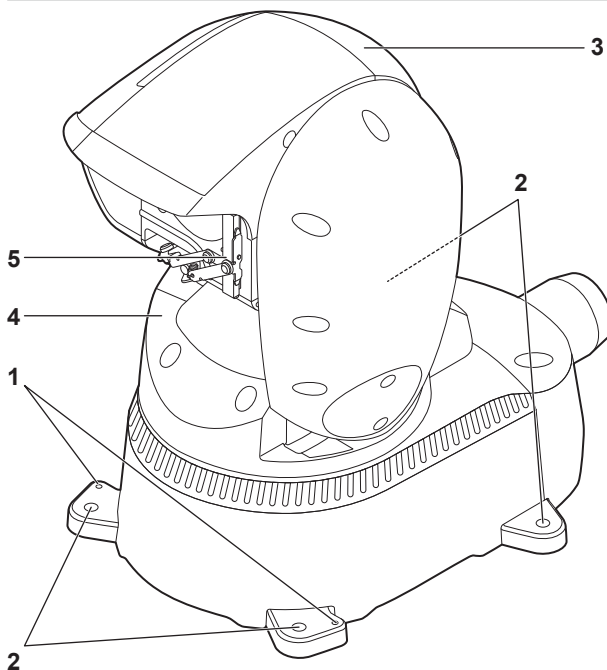
This product includes BSD Licensed software.

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

https://pro-av.panasonic.net/en/

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

# Parts and their functions

Camera unit

Rear panel

1. Drop-prevention wire attachment hole
Use the screw provided to fix the drop-prevention wire.

2. Hole for securing the camera pedestal
Four places in the camera pedestal.

3. Camera head
This rotates in the up and down direction.

4. Pan head
This rotates in the right and left direction.

5. Wiper
Moves left and right to clear the lens.

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

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

*[1] Use an STP (shielded twisted pair) cable.
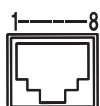
Pin No.	Signal	Pin No.	Signal
1	GND	5	TXD+
2	—	6	RXD+
3	RXD–	7	—
4	TXD–	8	—

<NOTE>
• Do not connect PoE cable to the RS-422 port.

7. Hole used to secure cable cover
Use screws to secure the cable cover.

8. DC IN connector <12V===IN> (XLR connector)
Input 10.8 V (12 V–10%) to 24 V (21.8 V+10%) DC.
<NOTE>
• Use a DC cable with the following lengths.
 For 12 V input: Max. 3 m (9.84 ft) (when using an AWG16 cable)
 For 21.8 V input: Max. 20 m (65.62 ft) (when using an AWG16 cable)

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

  Total power consumption ÷ voltage

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

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

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

9. MODE switches <MODE>
Perform switch settings before turning the unit on.

Function		Factory settings
SW1	Switches for initialization (Refer to the explanations in "Initialization 1" and "Initialization 2")	OFF
SW2		OFF

Initialization 1
• Reset the user authentication settings and host authentication settings for network connection.
 (This will delete all the registered user information (IDs/passwords) and host information (IP addresses).)
• With the service switches set as shown below, turn on the power of the unit.
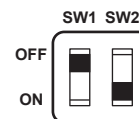
<NOTE>
• When initialization is complete, the status display lamp on the back of the unit blinks green. Set the service switches back to their original positions (SW1 and SW2 both OFF), then restart the unit.

(37)

Parts and their functions (continued)

Initialization 2
- The unit is reset to the state it was in at the time of purchase. (All camera menu setting values and network setting values are reset.)
- With the service switches set as shown below, turn on the power of the unit.
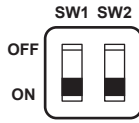
SW1 SW2

OFF

ON

<NOTE>
- When initialization is complete, the status display lamp on the back of the unit blinks green. Set the service switches back to their original positions (SW1 and SW2 both OFF), then restart the unit.

10.Ground connector <SIGNAL GND>
Connects to the ground connector on a wall outlet, ground bar, etc. for grounding. (→ page 31)

11.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.

Frequency: 59.94 Hz, 29.97 Hz

| Format	External sync signal input format		
	Tri-level sync	BBS	
2160/59.94p	—	1080/59.94i	480/59.94i
2160/29.97p	1080/29.97p 1080/29.97PsF		
1080/59.94p	—		
1080/59.94i	—		
1080/29.97p	1080/29.97p 1080/29.97PsF		
1080/29.97PsF	1080/29.97p 1080/29.97PsF		
1080/23.98p over 59.94i	—		
720/59.94p	720/59.94p	—	

Frequency: 50 Hz, 25 Hz

Format	External sync signal input format		
	Tri-level sync	BBS	
2160/50p	—	1080/50i	576/50i
2160/25p	1080/25p 1080/25PsF		
1080/50p	—		
1080/50i	—		
1080/25p	1080/25p 1080/25PsF		
1080/25PsF	1080/25p 1080/25PsF		
720/50p	720/50p	—	

Frequency: 24 Hz

Format	External sync signal input format
	Tri-level sync
2160/24p	1080/24p
1080/24p	1080/24PsF

Frequency: 23.98 Hz

Format	External sync signal input format
	Tri-level sync
2160/23.98p	1080/23.98p
1080/23.98p	1080/23.98PsF
1080/23.98PsF	

12.LAN connector for IP control <LAN LINK/ACT>
This LAN connector (RJ-45) is connected when exercising IP control over the unit from an external device. Use a LAN cable (category 5e or above, max STP 100 m (328 ft)) for connection.

13.3G SDI OUT connector <3G SDI OUT>
This is an SDI video signal output connector. Depending upon the output signal format, 3G-SDI or 1.5G-SDI signals are output.

14.12G SDI OUT connector <12G SDI OUT>
This is an SDI video signal output connector. Depending upon the output signal format, 12G-SDI, 6G-SDI, 3G-SDI or 1.5G-SDI signals are output.

15.SPF connector <SPF+>
This is the connector for the SFP+ optical fiber module. By connecting the optional fiber module, it is possible to output signals converted to optical signals from SDI signals. Select the fiber module that suits the signal band[1] for each format.

[1]
- 4K (59.94p, 50p): 12G
- 4K (other than 59.94p, 50p): 6G
- HD (59.94p, 50p): 3G
- HD (other than 59.94p, 50p): 1.5G

<NOTE>
- This unit does not support input by optical signals.

16.Status display lamp <POWER/STANDBY>
This lights in the following way depending on the status of the unit.
Orange: When the standby status is established
Green: When the power is on
Red: When trouble has occurred in the unit

17.Microphone/Line input terminal/Washer control output terminal ＜AUDIO/EXT＞

Microphone/Line input terminal <AUDIO_IN(1/2)>
Terminal for input of external audio (microphone/line).
Change the menu settings to suit the level of the connected device.
Power supply for MIC can be turned ON/OFF with menu settings.

Washer control output terminal <Washer_HOT/COLD>
Relay output terminal for washer control.

AUDIO/EXT

6 7 8 9
1 2 3 4 5

Pin No.	Signal
1	Washer_COLD
2	NC
3	AUDIO_IN_1_GND
4	AUDIO_IN_1_COLD
5	AUDIO_IN_1_HOT
6	Washer_HOT
7	AUDIO_IN_2_GND
8	AUDIO_IN_2_COLD
9	AUDIO_IN_2_HOT
JEY-9S-1A3F(LF)(SN) Manufactured by J.S.T. Mfg. Co., Ltd. or equivalent	

Parts and their functions (continued)

■ Output conditions for each video format

Frequency	System Format	12G SDI OUT/SPF	3G SDI OUT	NDI
59.94Hz	2160/59.94p	2160/59.94p[1] 1080/59.94p[2]	1080/59.94p[2] 1080/59.94i[2]	2160/59.94p[3]
	2160/29.97p	2160/29.97p[4] 1080/29.97p	1080/29.97p	2160/29.97p[5]
	1080/59.94p	1080/59.94p	1080/59.94p 1080/59.94i	1080/59.94p
	1080/59.94i	1080/59.94i	1080/59.94i	1080/59.94p
	1080/29.97p	1080/29.97p	1080/29.97p	1080/29.97p
	1080/29.97PsF	1080/29.97PsF	1080/29.97PsF	1080/29.97p
	1080/23.98p over 59.94i	1080/23.98p over 59.94i	1080/23.98p over 59.94i	1080/59.94p
	720/59.94p	720/59.94p	720/59.94p	720/59.94p
50Hz	2160/50p	2160/50p[6] 1080/50p[7]	1080/50p[7] 1080/50i[7]	2160/50p[8]
	2160/25p	2160/25p[9] 1080/25p	1080/25p	2160/25p[10]
	1080/50p	1080/50p	1080/50p 1080/50i	1080/50p
	1080/50i	1080/50i	1080/50i	1080/50p
	1080/25p	1080/25p	1080/25p	1080/25p
	1080/25PsF	1080/25PsF	1080/25PsF	1080/25p
	720/50p	720/50p	720/50p	720/50p
24Hz	2160/24p	2160/24p[11] 1080/24p	1080/24p	2160/24p[12]
	1080/24p	1080/24p	1080/24p	1080/24p
23.98Hz	2160/23.98p	2160/23.98p[13] 1080/23.98p	1080/23.98p	2160/23.98p[14]
	1080/23.98p	1080/23.98p	1080/23.98p	1080/23.98p
	1080/23.98PsF	1080/23.98PsF	1080/23.98PsF	1080/23.98p

[1] When [UHD Crop] is [Crop(1080)] or [Crop(720)], 2160/59.94p cannot be selected.

[2] When [UHD Crop] is [Crop(720)], output is 720/59.94p.

[3] When [UHD Crop] is [Crop(1080)], output is 1080/59.94p and when [UHD Crop] is [Crop(720)], output is 720/59.94p.

[4] When [UHD Crop] is [Crop(1080)], 2160/29.97p cannot be selected.

[5] When [UHD Crop] is [Crop(1080)], output is 1080/29.97p.

[6] When [UHD Crop] is [Crop(1080)] or [Crop(720)], 2160/50p cannot be selected.

[7] When [UHD Crop] is [Crop(720)], output is 720/50p.

[8] When [UHD Crop] is [Crop(1080)], output is 1080/50p and when [UHD Crop] is [Crop(720)], output is 720/50p.

[9] When [UHD Crop] is [Crop(1080)], 2160/25p cannot be selected.

[10] When [UHD Crop] is [Crop(1080)], output is 1080/25p.

[11] When [UHD Crop] is [Crop(1080)], 2160/24p cannot be selected.

[12] When [UHD Crop] is [Crop(1080)], output is 1080/24p.

[13] When [UHD Crop] is [Crop(1080)], 2160/23.98p cannot be selected.

[14] When [UHD Crop] is [Crop(1080)], output is 1080/23.98p.

Parts and their functions (continued)

■ IP video transmission output (multi-channel display)

• **When "Streaming mode" is set to "H.265"**

Settings			H.265(1)	H.265(2)	H.264(1)	H.264(2)	H.264(3)	H.264(4)	JPEG(1)	JPEG(2)	JPEG(3)
Resolution			1920×1080 1280×720	1920×1080 1280×720 640×360	—	—	—	—	1920×1080 1280×720 640×360 320×180	640×360 320×180	640×360 320×180
Frame rate	**System frequency 59.94Hz**		60fps 30fps	60fps 30fps	—	—	—	—	30fps 15fps 5fps 1fps	30fps 15fps 5fps 1fps	30fps 15fps 5fps 1fps
	System frequency 50Hz		50fps 25fps	50fps 25fps	—	—	—	—	25fps 12.5fps 5fps 1fps	25fps 12.5fps 5fps 1fps	25fps 12.5fps 5fps 1fps
	System frequency 29.97Hz		30fps	30fps	—	—	—	—	30fps 15fps 5fps 1fps	30fps 15fps 5fps 1fps	30fps 15fps 5fps 1fps
	System frequency 25Hz		25fps	25fps	—	—	—	—	25fps 12.5fps 5fps 1fps	25fps 12.5fps 5fps 1fps	25fps 12.5fps 5fps 1fps
	System frequency 24/23.98Hz		24fps	24fps	—	—	—	—	24fps 12fps 4fps 1fps	24fps 12fps 4fps 1fps	24fps 12fps 4fps 1fps

• The H.265 transmission mode (Transmission priority) cannot be selected.
• When the system frequency is 24/23.98Hz, the resolution for H.265(1) and H.265(2) is limited to 1920×1080.
• You cannot make settings above the resolution and frame rate set by the system format.

• **When "Streaming mode" is set to "H.265 (UHD)"**

Settings			H.265(1)	H.265(2)	H.264(1)	H.264(2)	H.264(3)	H.264(4)	JPEG(1)	JPEG(2)	JPEG(3)
Resolution			3840×2160	—	—	—	—	—	1920×1080 1280×720 640×360 320×180	640×360 320×180	640×360 320×180
Frame rate	**System frequency 59.94Hz**		30fps	—	—	—	—	—	30fps 15fps 5fps 1fps	30fps 15fps 5fps 1fps	30fps 15fps 5fps 1fps
	System frequency 50Hz		25fps	—	—	—	—	—	25fps 12.5fps 5fps 1fps	25fps 12.5fps 5fps 1fps	25fps 12.5fps 5fps 1fps
	System frequency 29.97Hz		30fps	—	—	—	—	—	30fps 15fps 5fps 1fps	30fps 15fps 5fps 1fps	30fps 15fps 5fps 1fps
	System frequency 25Hz		25fps	—	—	—	—	—	25fps 12.5fps 5fps 1fps	25fps 12.5fps 5fps 1fps	25fps 12.5fps 5fps 1fps
	System frequency 24/23.98Hz		24fps	—	—	—	—	—	24fps 12fps 4fps 1fps	24fps 12fps 4fps 1fps	24fps 12fps 4fps 1fps

• The H.265(UHD) transmission mode (Transmission priority) cannot be selected.

Parts and their functions (continued)

• **When "Streaming mode" is set to "H.264"**

Settings			H.265(1)	H.265(2)	H.264(1)	H.264(2)	H.264(3)	H.264(4)	JPEG(1)	JPEG(2)	JPEG(3)
Resolution			—	—	1920×1080 1280×720 640×360 320×180	1920×1080 1280×720 640×360 320×180	1280×720 640×360 320×180	1280×720 640×360 320×180	1920×1080 1280×720 640×360 320×180	640×360 320×180	640×360 320×180
Frame rate	**System frequency 59.94Hz**		—	—	60fps 30fps 15fps 5fps	60fps 30fps 15fps 5fps	30fps 15fps 5fps	30fps 15fps 5fps	30fps 15fps 5fps 1fps	30fps 15fps 5fps 1fps	30fps 15fps 5fps 1fps
	System frequency 50Hz		—	—	50fps 25fps 12.5fps 5fps	50fps 25fps 12.5fps 5fps	25fps 12.5fps 5fps	25fps 12.5fps 5fps	25fps 12.5fps 5fps 1fps	25fps 12.5fps 5fps 1fps	25fps 12.5fps 5fps 1fps
	System frequency 29.97Hz		—	—	30fps 15fps 5fps	30fps 15fps 5fps	30fps 15fps 5fps	30fps 15fps 5fps	30fps 15fps 5fps 1fps	30fps 15fps 5fps 1fps	30fps 15fps 5fps 1fps
	System frequency 25Hz		—	—	25fps 12.5fps 5fps	25fps 12.5fps 5fps	25fps 12.5fps 5fps	25fps 12.5fps 5fps	25fps 12.5fps 5fps 1fps	25fps 12.5fps 5fps 1fps	25fps 12.5fps 5fps 1fps
	System frequency 24/23.98Hz		—	—	24fps	24fps	—	—	24fps 12fps 4fps 1fps	24fps 12fps 4fps 1fps	24fps 12fps 4fps 1fps

• The available options for the H.264 transmission mode (Transmission priority) are limited to 30fps or lower (excluding 24fps).
• When the system frequency is 24/23.98Hz, the resolution for H.264(1) and H.264(2) is limited to 1920×1080.
• You cannot make settings above the resolution and frame rate set by the system format.

• **When "Streaming mode" is set to "H.264 (UHD)"**

Settings			H.265(1)	H.265(2)	H.264(1)	H.264(2)	H.264(3)	H.264(4)	JPEG(1)	JPEG(2)	JPEG(3)
Resolution			—	—	3840×2160	—	—	—	1920×1080 1280×720 640×360 320×180	640×360 320×180	640×360 320×180
Frame rate	**System frequency 59.94Hz**		—	—	60fps 30fps	—	—	—	30fps 15fps 5fps 1fps	30fps 15fps 5fps 1fps	30fps 15fps 5fps 1fps
	System frequency 50Hz		—	—	50fps 25fps	—	—	—	25fps 12.5fps 5fps 1fps	25fps 12.5fps 5fps 1fps	25fps 12.5fps 5fps 1fps
	System frequency 29.97Hz		—	—	30fps	—	—	—	30fps 15fps 5fps 1fps	30fps 15fps 5fps 1fps	30fps 15fps 5fps 1fps
	System frequency 25Hz		—	—	25fps	—	—	—	25fps 12.5fps 5fps 1fps	25fps 12.5fps 5fps 1fps	25fps 12.5fps 5fps 1fps
	System frequency 24/23.98Hz		—	—	24fps	—	—	—	24fps 12fps 4fps 1fps	24fps 12fps 4fps 1fps	24fps 12fps 4fps 1fps

• The H.264(UHD) transmission mode (Transmission priority) cannot be selected.

Parts and their functions (continued)

• **When "Streaming mode" is set to "JPEG (UHD)"**

Settings		H.265(1)	H.265(2)	H.264(1)	H.264(2)	H.264(3)	H.264(4)	JPEG(1)	JPEG(2)	JPEG(3)
Resolution		—	—	1920×1080 1280×720 640×360 320×180	1920×1080 1280×720 640×360 320×180	1280×720 640×360 320×180	1280×720 640×360 320×180	3840×2160	—	—
Frame rate	System frequency 59.94Hz	—	—	60fps 30fps 15fps 5fps	60fps 30fps 15fps 5fps	30fps 15fps 5fps	30fps 15fps 5fps	5fps 1fps	—	—
	System frequency 50Hz	—	—	50fps 25fps 12.5fps 5fps	50fps 25fps 12.5fps 5fps	25fps 12.5fps 5fps	25fps 12.5fps 5fps	5fps 1fps	—	—
	System frequency 29.97Hz	—	—	30fps 15fps 5fps	30fps 15fps 5fps	30fps 15fps 5fps	30fps 15fps 5fps	5fps 1fps	—	—
	System frequency 25Hz	—	—	25fps 12.5fps 5fps	25fps 12.5fps 5fps	25fps 12.5fps 5fps	25fps 12.5fps 5fps	5fps 1fps	—	—
	System frequency 24/23.98Hz	—	—	24fps	24fps	—	—	4fps 1fps	—	—

• The available options for the H.264 transmission mode (Transmission priority) are limited to 30fps or lower (excluding 24fps).
• When the system frequency is 24/23.98Hz, the resolution for H.264(1) and H.264(2) is limited to 1920×1080.

• **When "Streaming mode" is set to "RTMP"**

Settings		H.265(1)	H.265(2)	H.264(1)	H.264(2)	H.264(3)	H.264(4)	JPEG(1)	JPEG(2)	JPEG(3)
Resolution		—	—	1920×1080 1280×720	—	—	—	1920×1080 1280×720 640×360 320×180	640×360 320×180	640×360 320×180
Frame rate	System frequency 59.94Hz	—	—	60fps 30fps 15fps 5fps	—	—	—	30fps 15fps 5fps 1fps	30fps 15fps 5fps 1fps	30fps 15fps 5fps 1fps
	System frequency 50Hz	—	—	50fps 25fps 12.5fps 5fps	—	—	—	25fps 12.5fps 5fps 1fps	25fps 12.5fps 5fps 1fps	25fps 12.5fps 5fps 1fps
	System frequency 29.97Hz	—	—	30fps 15fps 5fps	—	—	—	30fps 15fps 5fps 1fps	30fps 15fps 5fps 1fps	30fps 15fps 5fps 1fps
	System frequency 25Hz	—	—	25fps 12.5fps 5fps	—	—	—	25fps 12.5fps 5fps 1fps	25fps 12.5fps 5fps 1fps	25fps 12.5fps 5fps 1fps
	System frequency 24/23.98Hz	—	—	24fps	—	—	—	24fps 12fps 4fps 1fps	24fps 12fps 4fps 1fps	24fps 12fps 4fps 1fps

• The RTMP transmission mode (Transmission priority) cannot be selected.
• When the system frequency is 24/23.98Hz, the resolution for H.264(1) and H.264(2) is limited to 1920×1080.
• You cannot make settings above the resolution and frame rate set by the system format.

Parts and their functions (continued)

• When "Streaming mode" is set to "RTMP(UHD)"

Settings		H.265(1)	H.265(2)	H.264(1)	H.264(2)	H.264(3)	H.264(4)	JPEG(1)	JPEG(2)	JPEG(3)
Resolution		—	—	3840×2160	—	—	—	1920×1080 1280×720 640×360 320×180	640×360 320×180	640×360 320×180
Frame rate	System frequency 59.94Hz	—	—	60fps 30fps	—	—	—	30fps 15fps 5fps 1fps	30fps 15fps 5fps 1fps	30fps 15fps 5fps 1fps
	System frequency 50Hz	—	—	50fps 25fps	—	—	—	25fps 12.5fps 5fps 1fps	25fps 12.5fps 5fps 1fps	25fps 12.5fps 5fps 1fps
	System frequency 29.97Hz	—	—	30fps	—	—	—	30fps 15fps 5fps 1fps	30fps 15fps 5fps 1fps	30fps 15fps 5fps 1fps
	System frequency 25Hz	—	—	25fps	—	—	—	25fps 12.5fps 5fps 1fps	25fps 12.5fps 5fps 1fps	25fps 12.5fps 5fps 1fps
	System frequency 24/23.98Hz	—	—	24fps	—	—	—	24fps 12fps 4fps 1fps	24fps 12fps 4fps 1fps	24fps 12fps 4fps 1fps

• The RTMP(UHD) transmission mode (Transmission priority) cannot be selected.

• When "Streaming mode" is set to "SRT(H.265)"

Settings		H.265(1)	H.265(2)	H.264(1)	H.264(2)	H.264(3)	H.264(4)	JPEG(1)	JPEG(2)	JPEG(3)
Resolution		1920×1080 1280×720	—	—	—	—	—	1920×1080 1280×720 640×360 320×180	640×360 320×180	640×360 320×180
Frame rate	System frequency 59.94Hz	60fps 30fps	—	—	—	—	—	30fps 15fps 5fps 1fps	30fps 15fps 5fps 1fps	30fps 15fps 5fps 1fps
	System frequency 50Hz	50fps 25fps	—	—	—	—	—	25fps 12.5fps 5fps 1fps	25fps 12.5fps 5fps 1fps	25fps 12.5fps 5fps 1fps
	System frequency 29.97Hz	30fps	—	—	—	—	—	30fps 15fps 5fps 1fps	30fps 15fps 5fps 1fps	30fps 15fps 5fps 1fps
	System frequency 25Hz	25fps	—	—	—	—	—	25fps 12.5fps 5fps 1fps	25fps 12.5fps 5fps 1fps	25fps 12.5fps 5fps 1fps
	System frequency 24/23.98Hz	—	—	—	—	—	—	—	—	—

• The SRT(H.265) transmission mode (Transmission priority) cannot be selected.
• It is not possible to select SRT(H.265) mode when the system frequency is 24/23.98Hz.
• You cannot make settings above the resolution and frame rate set by the system format.

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Parts and their functions (continued)

• **When "Streaming mode" is set to "SRT(H.265 UHD)"**

Settings		H.265(1)	H.265(2)	H.264(1)	H.264(2)	H.264(3)	H.264(4)	JPEG(1)	JPEG(2)	JPEG(3)
Resolution		3840×2160	—	—	—	—	—	1920×1080 1280×720 640×360 320×180	640×360 320×180	640×360 320×180
Frame rate	System frequency 59.94Hz	30fps	—	—	—	—	—	30fps 15fps 5fps 1fps	30fps 15fps 5fps 1fps	30fps 15fps 5fps 1fps
	System frequency 50Hz	25fps	—	—	—	—	—	25fps 12.5fps 5fps 1fps	25fps 12.5fps 5fps 1fps	25fps 12.5fps 5fps 1fps
	System frequency 29.97Hz	30fps	—	—	—	—	—	30fps 15fps 5fps 1fps	30fps 15fps 5fps 1fps	30fps 15fps 5fps 1fps
	System frequency 25Hz	25fps	—	—	—	—	—	25fps 12.5fps 5fps 1fps	25fps 12.5fps 5fps 1fps	25fps 12.5fps 5fps 1fps
	System frequency 24/23.98Hz	—	—	—	—	—	—	—	—	—

• The SRT(H.265 UHD) transmission mode (Transmission priority) cannot be selected.
• It is not possible to select SRT(H.265 UHD) mode when the system frequency is 24/23.98Hz.

• **When "Streaming mode" is set to "SRT(H.264)"**

Settings		H.265(1)	H.265(2)	H.264(1)	H.264(2)	H.264(3)	H.264(4)	JPEG(1)	JPEG(2)	JPEG(3)
Resolution		—	—	1920×1080 1280×720	—	—	—	1920×1080 1280×720 640×360 320×180	640×360 320×180	640×360 320×180
Frame rate	System frequency 59.94Hz	—	—	60fps 30fps 15fps 5fps	—	—	—	30fps 15fps 5fps 1fps	30fps 15fps 5fps 1fps	30fps 15fps 5fps 1fps
	System frequency 50Hz	—	—	50fps 25fps 12.5fps 5fps	—	—	—	25fps 12.5fps 5fps 1fps	25fps 12.5fps 5fps 1fps	25fps 12.5fps 5fps 1fps
	System frequency 29.97Hz	—	—	30fps 15fps 5fps	—	—	—	30fps 15fps 5fps 1fps	30fps 15fps 5fps 1fps	30fps 15fps 5fps 1fps
	System frequency 25Hz	—	—	25fps 12.5fps 5fps	—	—	—	25fps 12.5fps 5fps 1fps	25fps 12.5fps 5fps 1fps	25fps 12.5fps 5fps 1fps
	System frequency 24/23.98Hz	—	—	—	—	—	—	—	—	—

• The SRT (H.264) transmission mode (Transmission priority) cannot be selected.
• It is not possible to select SRT(H.264) mode when the system frequency is 24/23.98Hz.
• You cannot make settings above the resolution and frame rate set by the system format.

Parts and their functions (continued)

• **When "Streaming mode" is set to "SRT(H.264 UHD)"**

Settings		H.265(1)	H.265(2)	H.264(1)	H.264(2)	H.264(3)	H.264(4)	JPEG(1)	JPEG(2)	JPEG(3)
Resolution		—	—	3840×2160	—	—	—	1920×1080 1280×720 640×360 320×180	640×360 320×180	640×360 320×180
Frame rate	System frequency 59.94Hz	—	—	60fps 30fps	—	—	—	30fps 15fps 5fps 1fps	30fps 15fps 5fps 1fps	30fps 15fps 5fps 1fps
	System frequency 50Hz	—	—	50fps 25fps	—	—	—	25fps 12.5fps 5fps 1fps	25fps 12.5fps 5fps 1fps	25fps 12.5fps 5fps 1fps
	System frequency 29.97Hz	—	—	30fps	—	—	—	30fps 15fps 5fps 1fps	30fps 15fps 5fps 1fps	30fps 15fps 5fps 1fps
	System frequency 25Hz	—	—	25fps	—	—	—	25fps 12.5fps 5fps 1fps	25fps 12.5fps 5fps 1fps	25fps 12.5fps 5fps 1fps
	System frequency 24/23.98Hz	—	—	—	—	—	—	—	—	—

• The SRT(H.264 UHD) transmission mode (Transmission priority) cannot be selected.
• It is not possible to select SRT(H.264 UHD) mode when the system frequency is 24/23.98Hz.

• **When "Streaming mode" is set to "NDI|HX V2"**

Settings		NDI|HX	JPEG(1)
Resolution		1920×1080 1280×720	1280×720 640×360 320×180
Frame rate	System frequency 59.94Hz	60fps 30fps 15fps 5fps	30fps 15fps 5fps 1fps
	System frequency 50Hz	50fps 25fps 12.5fps 5fps	25fps 12.5fps 5fps 1fps
	System frequency 29.97Hz	30fps 15fps 5fps	30fps 15fps 5fps 1fps
	System frequency 25Hz	25fps 12.5fps 5fps	25fps 12.5fps 5fps 1fps

• It is not possible to select NDI|HX V2 mode when the system frequency is 24/23.98Hz.
• The transmission mode (Transmission priority) cannot be selected.
• You cannot make settings above the resolution and frame rate set by the system format.

Parts and their functions (continued)

• **When "Streaming mode" is set to "High bandwidth NDI"**

Settings		H.265(1)	H.265(2)	H.264(1)	H.264(2)	H.264(3)	H.264(4)	JPEG(1)	JPEG(2)	JPEG(3)
Resolution		—	—	—	—	—	—	1920×1080 1280×720 640×360 320×180	—	—
Frame rate	System frequency 59.94Hz	—	—	—	—	—	—	30fps 15fps 5fps 1fps	—	—
	System frequency 50Hz	—	—	—	—	—	—	25fps 12.5fps 5fps 1fps	—	—
	System frequency 29.97Hz	—	—	—	—	—	—	30fps 15fps 5fps 1fps	—	—
	System frequency 25Hz	—	—	—	—	—	—	25fps 12.5fps 5fps 1fps	—	—
	System frequency 24/23.98Hz	—	—	—	—	—	—	24fps 12fps 4fps 1fps	—	—

• You cannot make settings above the resolution and frame rate set by the system format.

• **When "Streaming mode" is set to "MPEG2-TS over UDP"**

Settings		H.265(1)	H.265(2)	H.264(1)	H.264(2)	H.264(3)	H.264(4)	JPEG(1)	JPEG(2)	JPEG(3)
Resolution		—	—	1920×1080 1280×720	—	—	—	1920×1080 1280×720 640×360 320×180	640×360 320×180	640×360 320×180
Frame rate	System frequency 59.94Hz	—	—	60fps 30fps 15fps 5fps	—	—	—	30fps 15fps 5fps 1fps	30fps 15fps 5fps 1fps	30fps 15fps 5fps 1fps
	System frequency 50Hz	—	—	50fps 25fps 12.5fps 5fps	—	—	—	25fps 12.5fps 5fps 1fps	25fps 12.5fps 5fps 1fps	25fps 12.5fps 5fps 1fps
	System frequency 29.97Hz	—	—	30fps 15fps 5fps	—	—	—	30fps 15fps 5fps 1fps	30fps 15fps 5fps 1fps	30fps 15fps 5fps 1fps
	System frequency 25Hz	—	—	25fps 12.5fps 5fps	—	—	—	25fps 12.5fps 5fps 1fps	25fps 12.5fps 5fps 1fps	25fps 12.5fps 5fps 1fps
	System frequency 24/23.98Hz	—	—	—	—	—	—	—	—	—

• The transmission mode (Transmission priority) cannot be selected.
• It is not possible to select MPEG2-TS over UDP mode when the system frequency is 24/23.98Hz.
• You cannot make settings above the resolution and frame rate set by the system format.

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.
  https://pro-av.panasonic.net/en/

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. (Operating Instructions (PDF) → "Web screen configurations" → "Network setup screen [Network]")
**<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 remote camera controller AW-RP150 or AW-RP60 at the same time. The IP address settings may no longer be recognized as a result.
• To enhance the security of the Easy IP Setup Software, it will not be possible to make network settings for the target camera once about 20 minutes or more have elapsed after turning the power of the camera on. (Operating Instructions (PDF) → "Web screen configurations" → "Network setup screen [Network]" → "Common (to IPv6/IPv4)" → "Easy IP Setup accommodate period")
• 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.
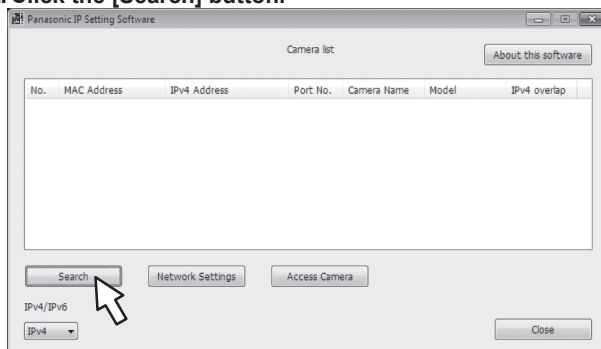
3. Click the MAC address/IPv4 address of the camera to be set, and click the [Network Settings] button.
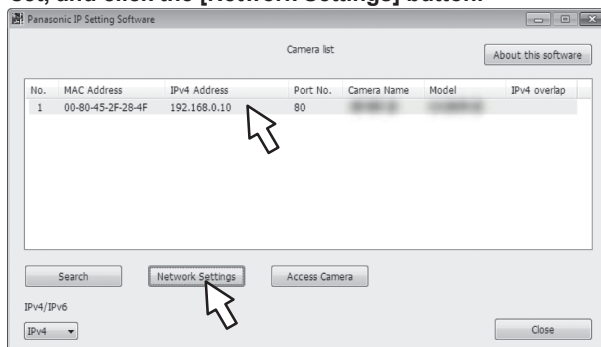
<NOTE>
• When a DHCP server is being used, the IP address allocated to the unit can be checked by clicking the [Search] button of the Easy IP Setup Software.
• If the same IP address is used for any additional cameras, the numbers of the additional cameras will be displayed in the [IPv4 overlap] column of the cameras concerned.

• When the [Access Camera] button is clicked, the Live screen of the selected camera is displayed.
• This unit supports an IPv4/IPv6 switching function.

4. Input the network items, and click the [Save] button.
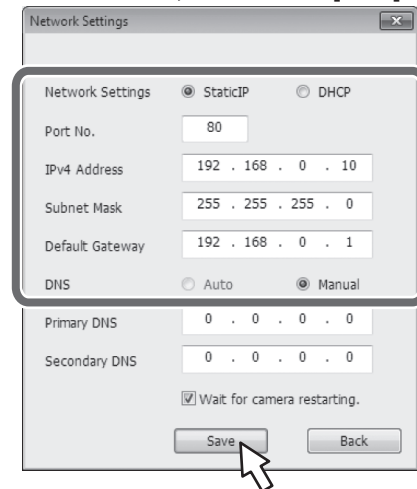
<NOTE>
• When a DHCP server is being used, [DNS] of the Easy IP Setup Software can be set to [Auto].
• After the [Save] button is clicked, it takes about 1 minute for the settings in the unit to be completed. If the AC adaptor or LAN cable is disconnected before the settings are completed, the settings 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.

Use the Easy IP Setup Software Version.2 to establish the unit's settings

The settings related to the unit's network can be established using the Easy IP Setup Software Version.2.
You can obtain Easy IP Setup Software Version.2 (EasyIPSetupV2.exe) by downloading it from the following website.
  https://pro-av.panasonic.net/en/

If the settings cannot be established using the Easy IP Setup Software Version.2, select the settings separately for the unit and personal computer on the Network setup screen [Network] of the setting menu. (Operating Instructions (PDF) → "Web screen configurations" → "Network setup screen [Network]")
<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 Version.2 programs at the same time for a single camera.
  Similarly, do not perform the "Auto IP setting" operation of the remote camera controller AW-RP150 or AW-RP60 at the same time. The IP address settings may no longer be recognized as a result.
• To enhance the security of the Easy IP Setup Software Version.2, it will not be possible to make network settings for the target camera once about 20 minutes or more have elapsed after turning the power of the camera on. (Operating Instructions (PDF) → "Web screen configurations" → "Network setup screen [Network]" → "Common (to IPv6/IPv4)" → "Easy IP Setup accommodate period")
• The Easy IP Setup Software Version.2 cannot be used from a different subnet via a router.
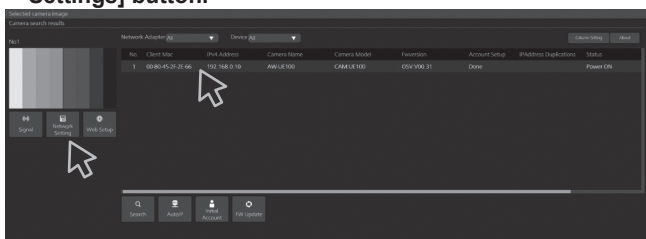
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■ Network Settings

1. Start the Easy IP Setup Software Version.2.

2. Click the [Search] button.
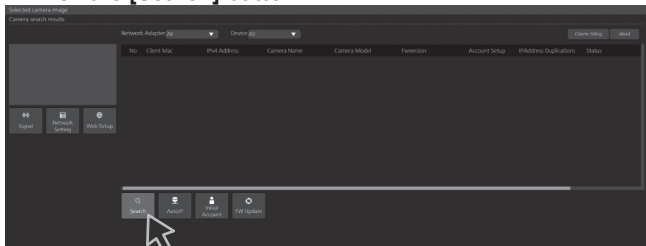
3. Click the camera to be set, and click the [Network Settings] button.

<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 Version.2.
- 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 supports an IPv4/IPv6 switching function.

4. Input the network items, and click the [OK] button.
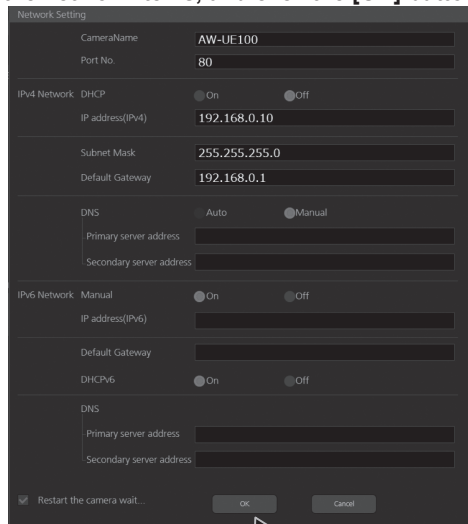
■ Automatically assigning IP addresses

1. Start the Easy IP Setup Software Version.2.

2. Click the [Auto IP] button.
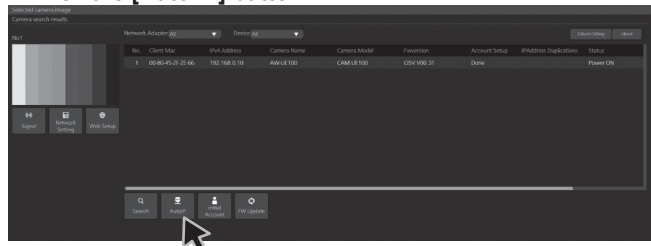
<NOTE>
- Care must be taken when this function is used because network settings made manually are overwritten as the IP addresses for the remote cameras connected within the same network are automatically assigned.

■ Updating the firmware

1. Start the Easy IP Setup Software Version.2.

2. Click the [FW Update] button.
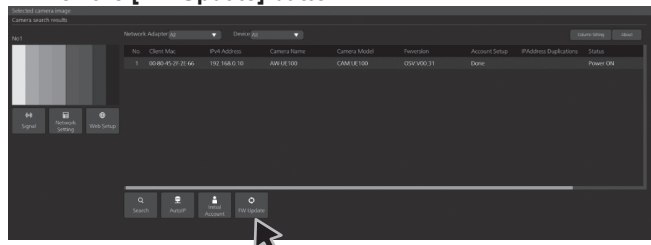
3. From the displayed list, select the terminal for which you want to update the firmware, then press the [OK] button.

■ Registering user accounts

1. Start the Easy IP Setup Software Version.2.

2. Click the [Initial Account] button.
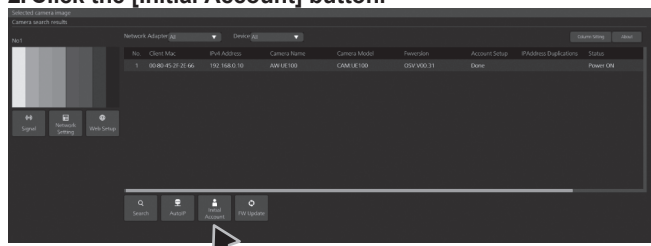
3. Select the camera for which you want to register a user, enter the account name and password, and then press the [OK] button.

■ Selecting the network interface

1. Start the Easy IP Setup Software Version.2.

2. From the Network Adaptor pull-down menu, select the network adaptor that will detect the camera.

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Network settings (continued)

Setting the initial account

1. Set the initial account.

In the initial state, the initial account setting screen is displayed when the web screen is displayed.

Set a user name and password. (Operating Instructions (PDF) → "Displaying the web screen" → "Displaying the web screen using a personal computer")

<NOTE>
- Do not set character strings that can be easily guessed by third parties.
- Change the password at regular intervals.
- The password must use at least 3 of the following 4 character types and be 8 characters or longer.
  Alphabet upper cases
  Alphabet lower cases
  Numerals
  Symbols (! # $ % ' ( ) + * , - . / ? @ [ ] ^ _ ` ~)
- When a password is set that does not adhere to the above policy, take responsibility for use of the device with due consideration for the security risks in the installation environment, etc.
- A warning is displayed if the set password goes against the recommended setting policy. When changing the password, click the [Back] button and set the password again.
  When continuing with the setting with full understanding of the security risks, click [Continue] to complete the setting.
- If you forget the account information that was set, use the switches for initialization of service switches to reset the user information used for connecting to the network. (→ page 37)
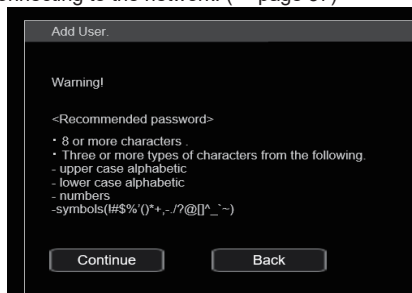
2. Completing registration of the initial account

After completing registration of the initial account, the following registration completed screen is displayed.

The live screen [Live] is automatically displayed after about 10 seconds elapse after the completed screen is displayed.

If the live screen [Live] is not displayed after 10 seconds elapse, manually move to the live screen [Live] by clicking the "please click here" link.

This completes the process of registering the initial account.
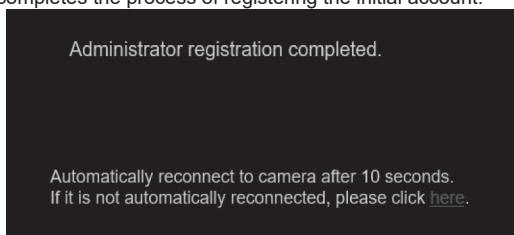
<NOTE>
- Network connection with AW-RP150 or AW-RP60 requires setup of an initial account.
  When an initial account is not set up, AW-RP150 or AW-RP60 can detect but cannot control this unit.

Installing the plug-in viewer software

To view IP images from the unit on Microsoft Edge (IE mode), 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.
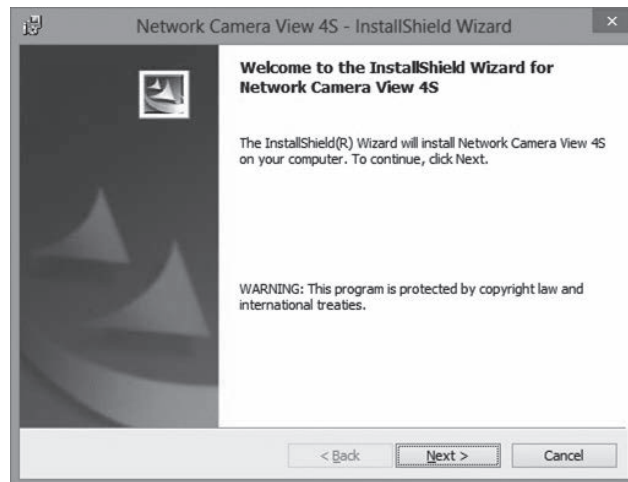
<NOTE>
- [Automatic installation of viewer software] is set to [On] at the time of purchase, allowing you to install directly from the unit. If a message appears in the web browser's information bar, see page 58.
- When you display the Live screen [Live] on the personal computer for the first time, the installation screen for the plug-in viewer software (ActiveX) appears. Follow the instructions on the screen to perform installation. (only when using Microsoft Edge (IE mode))
- 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 Operating Instructions (PDF) → "Web screen configurations" → "Maintenance screen [Maintenance]" → "Product information screen [Product info.]". 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".

How to turn the power on and off

Turning the power on

When using an AW-RP150 or AW-RP60
For details, refer to the operating instructions for the controller.

When using a commercially available controller
For details, refer to the operating instructions for the controller.

Turning the power off

When using an AW-RP150 or AW-RP60
For details, refer to the operating instructions for the controller.

When using a commercially available controller
For details, refer to the operating instructions for the controller.

Troubleshooting

■ Operation

Symptom	Cause and solution	Reference pages
No power	• **Is the power plug connected properly?**	– – –
	• **Is the LAN cable connected securely to the LAN connector for IP control <LAN LINK/ACT>?**	page 38
	• **Is the network cable for the PoE++ (IEEE 802.3bt compliant) compatible power supply device and the unit connected properly?**	page 16
	• **Power may not be supplied if the total power limit is exceeded on power supply devices that allow connections to multiple PoE++ terminals.** → For details, refer to the operating instructions for the PoE++ power supply device.	– – –
	• **If the unit is connected to the controller, has it been connected properly?** → For details, refer to the operating instructions for the controller.	page 13
Cannot operate	• **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.	page 50
	• **The safe mode function may have been activated.**	Operating Instructions (PDF) → "Safe mode"
	• **Have the limiter functions been set?**	Operating Instructions (PDF) → "Limiters" to "Setting/releasing the limiters"
	• **Has the unit you want to operate been selected properly?**	Operating Instructions (PDF) → "Selecting the units"
Cannot operate using the controller	• **Is the unit connected to the controller properly?** → For details, refer to the operating instructions for the controller.	page 13
	• **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. https://pro-av.panasonic.net/en/	– – –
The unit turns in the opposite direction to the one operated	• **Has the stand-alone (Desktop) installation setting been selected correctly?**	Operating Instructions (PDF) → "Camera menu items" → "Pan/Tilt 1/2 screen" → "Install Position" Operating Instructions (PDF) → "Web screen configurations" → "Basic screen [Basic]" → "System screen [System]" → "Pan/Tilt" → "Install Position"
	• **The reversal setting may have been established at the controller if the unit is connected to the controller.** → For details, refer to the operating instructions for the controller.	– – –

Troubleshooting (continued)

Symptom	Cause and solution	Reference pages
Cannot access from a web browser	• **Has a LAN cable of category 5e or above been connected to the LAN connector for IP control <LAN LINK/ACT>?**	pages 14 to 17
	• **Is the [LINK] LED of the LAN connector for IP control lit?** → 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 14 to 17
	• **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.	page 50
	• **Has a valid IP address been set in the unit?**	Operating Instructions (PDF) → "Web screen configurations" → "User management screen [User mng.]" → "Host authentication screen [Host auth.]" → "Add host" → "IP address"

	• **Has the wrong IP address been accessed?**
	→ 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:
	• Reboot the unit, and within 20 minutes change the IP address using the Easy IP Setup Software.
	
	For Mac:
	Using the macOS 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.
		– – –

	• **Are you accessing via "http://" while the HTTPS function is enabled?** → Perform access via "https://" when using the HTTPS function. Entry of the port number is also required.	Operating Instructions (PDF) → "Web screen configurations" → "Network setup screen [Network]" → "Setting the Connection Method"
	• **Is the same IP address setting being used by another unit?** → Check out the IP addresses of the unit, access devices (personal computer, controller, etc.) and any other cameras.	Operating Instructions (PDF) → "Camera menu items" → "IP Network screen" → "IP Address"
	• **Does the subnet mask setting match the network subnet of the connection destination?** → Check out the subnet mask settings of the unit and access devices, and then consult with the network administrator.	Operating Instructions (PDF) → "Camera menu items" → "IP Network screen" → "Subnet Mask"
	• **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)** → 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.	– – –
	• **Has the wrong default gateway been set for the unit? (When the unit and personal computer are connected to different subnets)** → Check out the default gateway that has been set for the unit, and then consult with the network administrator.	Operating Instructions (PDF) → "Camera menu items" → "IP Network screen" → "Default Gateway"

Troubleshooting (continued)

Symptom	Cause and solution	Reference pages
The settings on the web setting screen [Setup] are not updated or displayed properly	**For Windows:** • **Press the [F5] key on the keyboard of the personal computer 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.**	– – –
	• **Perform the following to delete the temporary Internet files.** **For Windows:** ① Select […] - [History] in Microsoft Edge. ② Select […] - [Clear browsing data]. ③ Select the [Browsing history], [Download history], [Cookies and other site data], and [Cached images and files] checkboxes and click [Clear now]. **For Mac:** ① Select [Develop] - [Empty Cache] in Safari. ② Click [Empty] in the [Are you sure you want to empty the cache?] pop-up screen.	– – –
	• **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:** • **Are pop-up windows blocked?** → Perform the following. ① In Microsoft Edge, select [...]-[Settings] ② Select [Cookies and site permissions] ③ Select [Pop-ups and redirects] ④ Turn off [Block(recommended)]	– – –
The authentication screen appears repeatedly	• **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.	Operating Instructions (PDF) → "Web screen configurations" → "User management screen [User mng.]" → "User authentication screen [User auth.]" → "Add user" → "User name" "Password" "Retype password"
	• **Has the method for user authentication been changed?** → If you change the [User auth.] - [Authentication] setting, close the web browser and initiate access again.	Operating Instructions (PDF) → "Web screen configurations" → "User management screen [User mng.]" → "User authentication screen [User auth.]" → "Mode" → "Authentication"
Screens displays take a while to appear	• **Is access being performed in HTTPS mode?** **Screen displays may take a while to appear in HTTPS mode due to signal processing.**	– – –
	• **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.	– – –
	• **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.	– – –

Troubleshooting (continued)

■ Video

Symptom	Cause and solution	Reference pages
No pictures are displayed or the pictures are disturbed	• **Has the unit been connected properly to the other connected devices?**	pages 12 to 17
	• **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?**	Operating Instructions (PDF) → "Selecting the units"
	• **Has the image signal setting been selected correctly?**	Operating Instructions (PDF) → "Camera menu items" → "System 1/2 screen" → "Format" Operating Instructions (PDF) → "Web screen configurations" → "Basic screen [Basic]" → "System screen [System]" → "Format"
	• **Are external sync signals that are supported by the video signal format which has been set being input?**	page 38
The picture is flipped vertically	• **Has the stand-alone (Desktop) installation setting been selected correctly?**	Operating Instructions (PDF) → "Camera menu items" → "Pan/Tilt 1/2 screen" → "Install Position" Operating Instructions (PDF) → "Web screen configurations" → "Basic screen [Basic]" → "System screen [System]" → "Pan/Tilt" → "Install Position"
Multiple color bands (color bars) are displayed	• **Switch to the camera picture.**	Operating Instructions (PDF) → "What to do when encountering problems in the basic shooting operations"
The menu screen is displayed	• **Exit the camera menu.**	Operating Instructions (PDF) → "Basic setup operations"
No auto focusing	• **Is the focus set to manual?** → Auto focusing is initiated as soon as the focus is set to auto.	Operating Instructions (PDF) → "What to do when encountering problems in the basic shooting operations"
	• **In some situations, it may be hard to focus at the auto setting.** → In cases like this, select the manual setting, and focus manually.	Operating Instructions (PDF) → "Manual shooting" → "Manually adjusting the focus"
The subject is not brought into focus during zooming when the manual setting is used for the focus	• **Was the focus adjusted at the Tele end?** → First adjust the focus at the Tele end where the focusing accuracy is higher, and then proceed with the zooming.	– – –
	• **Under some operating conditions, it may be hard to bring subjects into focus.** → In such cases, use the focus at the auto setting.	Operating Instructions (PDF) → "What to do when encountering problems in the basic shooting operations"
Focusing is not possible in night mode	• **Are you shooting with visible light?** → The focus position is different due to the difference in refractive index between visible light and infrared light. Wavelengths near 850 nm are assumed for infrared light in night mode on this unit. Perform manual adjustment if necessary.	Operating Instructions (PDF) → "Manual shooting" → "Manually adjusting the focus"
1080/29.97PsF images appear jerky	• **This is normal operation.** → In the PsF (Progressive segmented Frame) format, an identical image is captured to fields 1 and 2 in order to output the same image as progressive. Therefore, the image will appear slightly jerky.	– – –
1080/25PsF images appear jerky	• **This is normal operation.** → In the PsF (Progressive segmented Frame) format, an identical image is captured to fields 1 and 2 in order to output the same image as progressive. Therefore, the image will appear slightly jerky.	– – –
Something is wrong with the coloring of the pictures	• **Activate the ATW (Auto tracking white adjustment) function.**	Operating Instructions (PDF) → "White balance adjustment" → "Auto tracking white adjustment (ATW)"
	• **In some situations, the proper colors may not be reproduced using the ATW function.** → In cases like this, proceed with the white balance adjustment.	Operating Instructions (PDF) → "White balance adjustment"
The pictures are too light or too dark	• **Either select the auto setting for the iris or select the manual setting and adjust the iris manually.**	Operating Instructions (PDF) → "Manual shooting" → "Manually adjusting the iris"
	• **The pictures may be dark if the analog video signal cables are too long because this will cause signal attenuation.**	– – –

Troubleshooting (continued)

Symptom	Cause and solution	Reference pages
Images are in black and white	• **Is the unit in night mode?** → In night mode, output will be in black and white.	Operating Instructions (PDF) → "Camera menu items" → "Brightness 2/2 screen" → "Day/Night" Operating Instructions (PDF) → "Web screen configurations" → "Image screen [Image/Audio]" → "Image adjust screen [Image adjust]" → "Brightness" → "Day/Night"
Auto white balance adjustment (AWB) is not possible	• **Is the unit in night mode?** → Auto white balance adjustment (AWB) is not possible in night mode.	Operating Instructions (PDF) → "Camera menu items" → "Brightness 2/2 screen" → "Day/Night" Operating Instructions (PDF) → "Web screen configurations" → "Image screen [Image/Audio]" → "Image adjust screen [Image adjust]" → "Brightness" → "Day/Night"
The screen is too bright in night mode **The iris does not operate in night mode**	• **The aperture is set to open in night mode to prevent video voyeurism. Adjust the brightness at the light source.**	Operating Instructions (PDF) → "Manual shooting" The iris does not operate in → "Manually adjusting the iris"
The subjects appear distorted	• **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	• **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	• **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	• **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	• **The following causes are possible.** - 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. 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.	page 31

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Troubleshooting (continued)

■ IP images

Symptom	Cause and solution	Reference pages
Images are not displayed	**For Windows:** • **Is the plug-in viewer software installed?** → Install the plug-in viewer software.	page 49
The images are blurry	• **Is the focus properly adjusted?** → Check the focus adjustment.	− − −
Images are not updated	• **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, 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.	− − −
The images do not update or display properly	• **Perform the following to delete the temporary Internet files.** **For Windows:** ① Select […] - [History] in Microsoft Edge. ② Select […] - [Clear browsing data]. ③ Select the [Browsing history], [Download history], [Cookies and other site data], and [Cached images and files] checkboxes and click [Clear now]. **For Mac:** ① Select [Develop] - [Empty Cache] in Safari. ② Click [Empty] in the [Are you sure you want to empty the cache?] pop-up screen.	− − −
	• **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	• **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".**	− − −
	• **Has the camera been connected to a personal computer via a router (via the Internet, for example)?** → If UDP port transfer has not been set correctly, H.264 images cannot be displayed. H.264 can be transferred by HTTP when [Internet mode(Over HTTP)] is set to [On]. • **Has UDP communication been blocked by security software or a firewall?** → If [Internet mode(Over HTTP)] is [Off], H.264 is transferred by UDP. → Change the settings in the security software and firewall, and change the settings to permit communications with your web browser.	Operating Instructions (PDF) → "Web screen configurations" → "Image screen [Image/Audio]" → "IP video settings screen [Video over IP]" → "H.264" → "Internet mode(Over HTTP)"
The images are distorted	• **The images may be distorted if the transmission path is congested and proper transmission is not possible.** → Consult your network administrator.	− − −
	• **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.	− − −

Troubleshooting (continued)

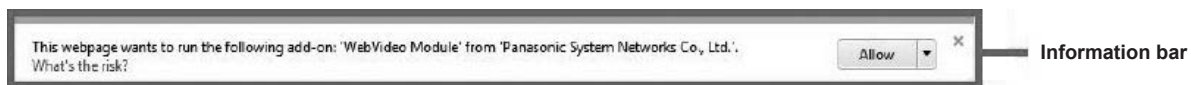| Symptom	Cause and solution	Reference pages
When multiple web browsers are running to display H.264 images, images from multiple cameras appear sequentially in a single web browser	**For Windows:** • **This may occur depending on the combination of the personal computer's display adaptor and the driver.** → If this occurs, update the first display adaptor to the latest version. If this does not resolve the problem, adjust the hardware accelerator function as follows. This section describes the procedure for Windows 10 as an example. Changing the settings may not be possible, depending on your environment. ① Right-click on the desktop, and select [Display settings] from the menu. ② Click [Advanced display settings]. ③ Select the [Troubleshooting] tab, and click [Change Settings]. ④ Change to [Hardware acceleration] setting to [disable] at the far left, and click [OK].	– – –
Audio is not output for NDI|HX-compatible switchers	• **[Audio] may be set to [Off] in the [Audio] audio setting screen.** → Reset the setting to [On].	Operating Instructions (PDF) → "Web screen configurations" → "Image screen [Image/Audio]" → "Audio setting screen [Audio]" → "Audio" → "Audio"
Images stop in applications that support High bandwidth NDI	• **When a personal computer and this unit are connected via a commercially available USB LAN conversion adaptor, the images may stop due to network problems on the personal computer side.** → If this phenomena occurs, firstly disable the network adaptor that is connecting the personal computer to this unit, then change [Streaming mode] in [Video over IP] to [H.264]. After this, re-enable the network adaptor that you disabled and the images will be output when you change the [Streaming mode] to [High bandwidth NDI].	Operating Instructions (PDF) → "Web screen configurations" → "Image screen [Image/Audio]" → "IP video settings screen [Video over IP]" → "Streaming mode"

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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.

Symptom	Cause and solution	Reference pages
Frame dropping is observed in images	• **The personal computer may be lacking in performance.** → Check the requirements for the personal computer environment.	page 31
	• **This phenomenon may be improved by pressing the button for switching real time updating to disable the web browser real time updating function.**	Operating Instructions (PDF) → "Web screen configurations" → "Live screen [Live]" → "Button for switching real time updating"

For Windows:

The "information bar" described in the following explanations refers to the message bars that appear in Microsoft Edge.
The information bar appears at the bottom of Microsoft Edge.

This webpage wants to run the following add-on: 'WebVideo Module' from 'Panasonic System Networks Co., Ltd.'. What's the risk? [Allow ▼] × ——— **Information bar**

Symptom	Cause and solution	Reference pages
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.'."	• **Select [Allow].**	– – –
The following message appears in the information bar. "This website wants to install the following add-on: 'nwcv4SSetup.exe' from 'Panasonic System Networks Co., Ltd.'."	• **Select [Install]. When the security warning window appears, click the [Install] button.**	– – –
The IP images do not match the display frames	• **Images may not appear correctly if their DPI settings are 120 DPI or higher.** → Right-click on the desktop of the personal computer, click [Display settings] - [Change the size of text, apps, and other items], and select [100% (Recommended)].	– – –
	• **Images may not appear correctly if the zoom level is set to anything other than 100% in Microsoft Edge.** → Go to […] - [Zoom] in Microsoft Edge and click [-] and [+] to set to [100%].	– – –

Specifications

For details on specifications, visit the Panasonic website (https://pro-av.panasonic.net/manual/en/index.html) and refer to the Operating Instructions.

> **Power requirements:**
>   12 V to 21.8 V DC === (10.8 V to 24.0 V)
>   42 V to 57 V DC === (PoE++ power supply)
> **Current consumption:**
>   5.5 A to 3.1 A (DC IN connector)
>   1.2 A (PoE++ power supply)

[ ] indicates safety information.

■ GENERAL

Ambient operating temperature:
–15 °C to 45 °C (5 °F to 113 °F)
• Preheating required when –5 °C (23 °F) or lower (1 hour)

Ambient operating humidity:
10% to 100% (no condensation)

Storage temperature:
–20 °C to 55 °C (–4 °F to 131 °F)

Mass: Approx. 9.0 kg (19.84 lb)

Dimensions (W × H × D):
258.0 mm×367.0 mm×392.0 mm
(10-5/32 inches × 14-7/16 inches × 15-7/16 inches)
(including protrusions, cable cover)

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

=== DC

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