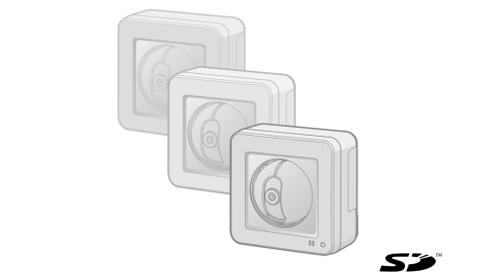


Panasonic

Installation Guide

Network Camera

Model No. **WV-SW175/WV-SW172**
WV-SW175E/WV-SW172E



For U.S. and Canada:

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Company of North America,
Unit of Panasonic Corporation of North America
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PGQX1099YA Cs1011-1121
Printed in China

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Panasonic Corporation
http://panasonic.net
Importer's name and address to follow EU rules:
Panasonic Testing Centre
Panasonic Marketing Europa GmbH
Wiesberginger 15, 22525 Hamburg FR.Germany

WARNING:

- To prevent injury, this apparatus must be securely attached to the floor/wall/ceiling in accordance with the installation instructions.
- The installation shall be carried out in accordance with all applicable electrical rules.
- The connections should comply with local electrical code.

This product contains a CR Coin Cell Lithium Battery which contains Perchlorate Material - special handling may apply. See www.dtscc.ca.gov/hazardouswaste/perchlorate/

For U.S. and Canada: WV-SW175/WV-SW172
For Europe and other countries: WV-SW175E/WV-SW172E

This Class A digital apparatus complies with Canadian ICES-003.

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.

FCC Caution: To assure continued compliance, (example - use only shielded interface cables when connecting to computer or peripheral devices). Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

The model number and serial number of this product may be found on the surface of the unit. You should note the model number and serial number of this unit in the space provided and retain this book as a permanent record of your purchase to aid identification in the event of theft.

We declare under our sole responsibility that the product to which this declaration relates is in conformity with the standard or other normative document following the provisions of Directive 2004/108/EC.

Wir erklären in alleiniger Verantwortung, daß das Produkt, auf das sich diese Erklärung bezieht, mit der folgenden Norm oder normativen Dokument übereinstimmt. Gemäß den Bestimmungen der Richtlinie 2004/108/EC.

Nous déclarons sous notre propre responsabilité que le produit auquel se réfère la présente déclaration est conforme à la norme spécifique ou à tout autre document normatif conformément aux dispositions de la directive 2004/108/CE.

Nosotros declaramos bajo nuestra única responsabilidad que el producto a que hace referencia esta declaración está conforme con la norma u otro documento normativo siguiendo las estipulaciones de la directiva 2004/108/CE.

Noi dichiariamo sotto nostra esclusiva responsabilità che il prodotto a cui si riferisce la presente dichiarazione risulta conforme al seguente standard o altro documento normativo conforme alle disposizioni della direttiva 2004/108/CE.

ViJ vjklären als enige aansprakelijke, dat het product waarop deze verklaring betrekking heeft, voldoet aan de volgende norm of ander normatief document, overeenkomstig de bepalingen van Richtlijn 2004/108/CE.

Vi erklærer os eneansvarlige for, at dette produkt, som denne deklaration omhandler, er i overensstemmelse med standard eller andre normative dokumenter i følgebestemmelserne i direktiv 2004/108/EC.

Vi deklarerer härmed vårt fulla ansvar for att den produkt till vilken denna deklaration hänvisar är i överensstämmelse med standarddokument eller annat normativt dokument som framställs i direktiv 2004/108/EC.

Ilmoittamme yksinomaisesti vastuullamme, että tuote, jota tämä ilmoitus koskee, noudattaa seuraavaa standardia tai muuta ohjeellista asiakirjaa, jotka noudattavat direktiivin 2004/108/EC sääntöjä.

Vi erklærer oss alene ansvarlige for at produktet som denne erklæringen gjelder for, er i overensstemmelse med følgende norm eller andre normgivende dokumenter som følger bestemmelsene i direktiv 2004/108/EC.

Important safety instructions

- Read these instructions.
- Keep these instructions.
- Heed all warnings.
- Follow all instructions.
- Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- Only use attachments/accessories specified by the manufacturer.
- Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
- Unplug this apparatus during lightning storms or when unused for long periods of time.
- Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

Main functions

- Corresponding to outdoor use**
This unit complies with waterproof and is able to install outdoors. (JIS C0920 compliant IP55)
- H.264 and JPEG triple encoding**
A total of 3 outputs, comprising of 2 H.264 outputs and 1 JPEG output, can be provided.
- Power over Ethernet function**
When connecting with a PoE (Power over Ethernet) device, power will be supplied by simply connecting a LAN cable. (IEEE802.3af compliant)
- Adaptive darkness correction mode**
Corrects the blacked-out parts of dark areas of objects that have different illumination intensities.
- Panning/tilting function and preset position function**
A single camera provides wide area monitoring.
- Interactive communication with audio**
By using the audio output connector and the microphone in connector, receiving audio from the cameras on a PC and transmitting audio from the PC to the cameras is available.
- SDHC/SD memory card slot equipped**
It is possible to save H.264 videos and JPEG images on the SDHC/SD memory card manually at an arm occasion, during the period of the schedule, or on a web browser. It is also possible to save JPEG images at a network failure occurrence. (Download is possible.)

Standard accessories

Confirm the following items are included in the camera's packaging.

Main Unit (1 pc.)	Flexible Stand (1 pc.)	Connector Cover (1 pc.)	Sunshade (1 pc.)
			
Screw A (5 pcs.)	Screw B (4 pcs.)	Washer S (1 pc.)	Washer L (1 pc.)
			
Safety Wire (1 pc.)	Self Bonding Tape (1 pc.)	Foam Strip (1 pc.)	Power cable plug (1 pc.)
			
		Installation Guide (this document)	(1 pc.)
		Warranty card (P model)	(1 pc.)
		CD-ROM ¹⁾	(1 pc.)
		Code label ²⁾	(1 pc.)

¹⁾ The CD-ROM contains the operating instructions and different kinds of tool software programs.

²⁾ This label may be required for network management. The network administrator shall retain the code label.

Precautions for Installation

Panasonic assumes no responsibility for injuries or property damage resulting from failures arising out of improper installation or operation inconsistent with this documentation.

Installation area for this product

- Select an appropriate place for the installation area (such as a strong wall or ceiling) in your particular environment.
- Avoid installing the camera in locations where it can be exposed to direct sunlight or rain from all directions. Install the camera in an appropriate location such as on an exterior wall of a building.

Do not place this product in the following places:

- Locations where a chemical agent is used such as a swimming pool
- Locations subject to humidity, dust, steam and oil smoke
- Locations that have a specific environment that is subject to an inflammable atmosphere or solvents
- Locations where a radiation, an X-ray, a strong radio wave or a strong magnetic field is generated
- Locations where corrosive gas is produced, Locations where it may be damaged by briny air such as seashores
- Locations where the temperature is not within the specified range (-20° to +50°[-4° to +122°]F).
- Locations subject to vibrations (This product is not designed for on-vehicle use.)
- Locations subject to condensation as the result of severe changes in temperature

Be sure to remove this product if it is not in use.

Before installation

- When this camera is mounted on a wooden ceiling or a wall, use the wood screws (accessory, Screw B). Screws to be used for other materials are not provided. Prepare the screws according to the material, structure, strength and other factors of the mounting area and the total weight of objects to be mounted.
- Ensure that the mounting surface, anchor and screws are sufficiently strong.
- Do not mount this product on a plaster board or a wooden section because they are too weak. If this product is unavoidably mounted on such a section, the section shall be sufficiently reinforced.

Design and engineer the power supply system to turn on/off the power of this product. The product has no power switch. When installing the product, use a power supply device equipped with the ON-Off switch for servicing.

About the network connection

When connecting to a network using the network cable of this product, observe the following. When wiring for the network, design and engineer not to be affected by thunder.

Screw tightening

- The screws and bolts 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 or cause tightening excessively.
- When a screw is tightened, make the screw at a right angle to the surface. After tightening the screws or bolts, perform visual check to ensure tightening is enough and there is no backlash.

Procure fixing screws separately.

The screws that secure this product are not supplied. Prepare them according to the material and strength of the area where the product is to be installed. Required pull-out capacity of a single screw/bolt is 294 N (66.9 lbf) or more.

Fall prevention measures

When the external safety wire is connected, select a connection point resulting in that nothing will hit people after the stand is damaged.

Do not remove or loosen the internal camera screws.

Do not loosen the internal camera screws. Otherwise, water exposure may cause damage or malfunction of camera, or camera dropping may result in injury.

Radio disturbance

When this product is used near TV/radio antenna, strong electric field or magnetic field (near a motor, a transformer or a power line), images may be distorted and noise sound may be produced.

PoE (Power over Ethernet)

Use a PoE hub/device that is compliant with IEEE802.3af standard.

Router

When connecting this product to the Internet, use a broadband router with the port forwarding function (NAT, IP masquerade). Refer to the Operating Instructions (included in the CD-ROM) for further information about the port forwarding function.

Time & date setting

It is necessary to set the time & date before putting this product into operation. Refer to the Operating Instructions on the provided CD-ROM for descriptions of how to perform the settings.

Troubleshooting

Before asking for repairs, check the symptoms with the following table.

Contact your dealer if a problem cannot be solved even after checking and trying the solution in the table or a problem is not described below.

Symptom	Cause/solution
Power is not turned on.	<ul style="list-style-type: none">Are the PoE device and the network cable of the camera connected using a LAN cable? <ul style="list-style-type: none">→ Check whether the connection is appropriately established. Depending on the PoE device, the power supply will stop when the demanded power exceeds its total power limit for all PoE ports. <ul style="list-style-type: none">→ Refer to the operating instructions of the PoE device in use.

Option

You will need the following additional items to install and configure the camera.

[Locally procured]

- PoE device (When supplying the power using the PoE device)
- a PC (see the system requirements in the Important Information document)
- a router
- a LAN cable (CAT-5 straight cable)
- AC Adaptor (1 pc.)

About the user manuals

There are 2 sets of operating instructions for the WV-SW175, WV-SW172 (P model), WV-SW175E, WV-SW172E (E model) as follows.

- Installation Guide: Explains how to install and connect devices, as well as how to connect and configure the network.
- Operating Instructions (included in the CD-ROM): Explains how to perform the settings and how to operate this camera.

Adobe® Reader® is required to read these operating instructions on the provided CD-ROM.

When the Adobe® Reader® is not installed on the PC, download the latest Adobe Reader from the Adobe web site and install it.
*WV-SW175, WV-SW172¹⁾ or *SW175, SW172²⁾ shown in the instructions and illustrations used in these operating instructions indicates the WV-SW175, WV-SW172, WV-SW175E, WV-SW172E. The screens used in these operating instructions show the cases of P models.

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- ANY CLAIM OR ACTION FOR DAMAGES, BROUGHT BY ANY PERSON OR ORGANIZATION BEING A PHOTOGENIC SUBJECT, DUE TO VIOLATION OF PRIVACY WITH THE RESULT OF THAT SURVEILLANCE-CAMERA'S PICTURE, INCLUDING SAVED DATA, FOR SOME REASON, BECOMES PUBLIC OR IS USED FOR ANY PURPOSE;
- LOSS OF REGISTERED DATA CAUSED BY ANY FAILURE.

System requirements for a PC

CPU: Intel® Core™ 2 Duo 2.4 GHz or faster recommended
Memory: 512 MB or more (A minimum of 1 GB memory is required when using Microsoft® Windows® 7 or Microsoft® Windows Vista^{*)})

Network interface: 10BASE-T/100BASE-TX 1 port
Monitor: Image capture size: 1024 x768 pixels or more
Color: 24-bit True color or better

OS: Microsoft® Windows® 7
Microsoft® Windows Vista^{*}
Microsoft® Windows® XP SP3
Microsoft® Windows® XP SP3

Web browser: Windows® Internet Explorer® 9.0 (32-bit)
Windows® Internet Explorer® 8.0 (32-bit)
Windows® Internet Explorer® 7.0 (32-bit)
Microsoft® Internet Explorer® 6.0 SP3

CD-ROM drive
 (It is necessary to read the operating instructions and use the software on the provided CD-ROM.)

DirectX® 9.0c or later

Adobe Reader®
 (It is necessary to view PDF file on the provided CD-ROM.)

IMPORTANT

- When using a PC that does not meet the above requirements, displaying of images may become slower or the web browser may become inoperable.
- Microsoft Windows 7 Starter, Microsoft Windows Vista Starter and Microsoft Windows XP Professional 64-bit Edition are not supported.
- When using IPv6 for communication, use Microsoft Windows7 or Microsoft Windows Vista.

Note
<ul style="list-style-type: none">Refer to "Notes on Windows®/Internet Explorer® versions" (included in the CD-ROM) for further information about system requirements of a PC and precautions when using Microsoft Windows 7, Microsoft Windows Vista or Internet Explorer. If using Microsoft Windows XP, screen tearing* may occur when the shooting scene drastically changes (for example, while shooting fast-moving subjects) due to the GDI restrictions of the OS. <ul style="list-style-type: none">* A phenomenon in which portions of the screen are displayed out of alignment. For information on the operation verification of the supported operating systems and web browsers, refer to our website at http://panasonic.net/psr/security/support/index.html.

Basic	
Power source:	PoE (IEEE802.3af compliant), 12 V DC
Power consumption:	PoE: 130 mA (Class 2 device), 12 V DC: 430 mA
Ambient operating temperature:	-20 °C to +50 °C [-4 °F to 122 °F]
Ambient operating humidity:	Less than 90 % (no condensation)
Monitor output:	VBS: 1.0 V [p-p]/75 Ω, composite (BNC), ø3.5 mm mini jack
EXT I/O terminal cable:	ALARM IN 1, ALARM IN 2/ ALARM OUT, ALARM IN 3/ AUX OUT, GND, 12 V DC
Microphone/Line input:	ø3.5 mm monaural mini jack Input impedance: Approx. 2.2 kΩ
For microphone input:	Applicable microphone: Plug-in power type Supply voltage: 3.3 V ±0.5 V
For line input:	Input level: Approx. -10 dBV
Audio output:	ø3.5 mm stereo mini jack (monaural output) Output impedance: Approx. 560 Ω Line level
Dustproof/ Waterproof:	IP55 [*] [*] Only when installation work specified in this book is properly performed and appropriate waterproof treatment is performed
Dimensions:	100 mm (W) x 100 mm (H) x 74 mm (D) [3-47/50 inches (W) x 3-47/50 inches (H) x 2-3/25 inches (D)] (including projection)
Mass:	Main body: 350 g (0.77 lbs)
Finish:	Main body : PC/ABS resin, silver Dome section: Clear polycarbonate resin

Camera

Image sensor:	1/4 type MOS image sensor
Effective pixels:	Approx. 1.3 megapixels
Scanning area:	3.52 mm (H) x 2.64 mm (V) [7/50 inches (H) x 1/10 inches (V)]
Scanning system:	Progressive
Minimum illumination:	Color: 0.6 lx [0.06 footcandle] (F2.2, Auto slow shutter: Off (1/30 s), Gain: On (High)) 0.038 lx (0.0038 footcandle) (F2.2, Auto slow shutter: max. 16/30 s, Gain: On (High)) [*] BW: 0.5 lx [0.05 footcandle] (F2.2, Auto slow shutter: Off (1/30 s), Gain: On (High)) 0.031 lx (0.0031 footcandle) (F2.2, Auto slow shutter: max. 16/30 s, Gain: On (High)) [*] [*] Converted value

Wide dynamic range:	On/Off
Face WDR:	On/Off
Gain (AGC):	On (Low)/ On (Mid)/ On (High)/ Off
Adaptive black stretch:	On/Off
Light control mode setting:	Indoor scene (50Hz/60Hz)/ELC
ELC	ELC(1/30 s), ELC(3/100 s), ELC(3/120 s), ELC(2/100 s), ELC(2/120 s), (Maximum exposure time): ELC(1/100 s), ELC(1/120 s), ELC(1/250 s), ELC(1/500 s), ELC(1/1000 s), ELC(1/2000 s), ELC(1/4000 s), ELC(1/10000 s)
Auto slow shutter:	Off (1/30 s), Max. 2/30s, Max. 4/30s, Max. 6/30s, Max. 10/30s, Max. 16/30s
Day & Night (electrical):	Off/Auto
White balance:	ATW1/ ATW2/ AWC
Digital noise reduction:	High/Low

Video analytics	On/Off (with the XML notification setting)
Face detection:	
Privacy zones:	On/Off (up to 2 zones available)
Camera title on screen:	Up to 20 characters (alphanumeric characters, marks), On/Off
Video motion detector (MD alarm):	On/Off, (available at each preset)

Lens	
Zoom ratio:	Extra zoom: 2x (under VGA resolution)
Digital (electronic) zoom:	8x (Max 16x combined with Extra Optical Zoom under VGA)
Focal length:	1.95 mm
Maximum aperture ratio:	1: 2.2
Focus range:	∞ - 0.5 m
Angular field of view:	Horizontal: 85°, Vertical: 68°
Panning/tilting platform	
Panning range:	-47.5° - +47.5°
Panning speed:	Manual: Approx. 5 °/s - 80 °/s, Preset: Up to approx. 80 °/s
Tilting range:	-45° to +10°
Tilting speed:	Manual: Approx. 5 °/s - 80 °/s, Preset: Up to approx. 80 °/s
Number of the preset positions:	64
Map shot:	Preset map-shot
Self return:	10 s/ 20 s/ 30 s/ 1 min/ 2 min/ 3 min/ 5 min/ 10 min/ 20 min/ 30 min/ 60 min

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Network security

As you will use this unit connected to a network, your attention is called to the following security risks.

- Ⓛ Leakage or theft of information through this unit
 - Ⓜ Use of this unit for illegal operations by persons with malicious intent
 - Ⓝ Interference with or stoppage of this unit by persons with malicious intent
- It is your responsibility to take precautions such as those described below to protect yourself against the above network security risks.
- Use this unit in a network secured by a firewall, etc.
 - If this unit is connected to a network that includes PCs, make sure that the system is not infected by computer viruses or other malicious entities (using a regularly updated anti-virus program, anti-spware program, etc.).
 - Protect your network against unauthorized access by restricting users to those who log in with an authorized user name and password.
 - Apply measures such as user authentication to protect your network against leakage or theft of information, including image data, authentication information (user names and passwords), alarm mail information, FTP server information and DDNS server information.
 - After the unit is accessed by the administrator, make sure to close the browser.
 - Change the administrator password periodically.
 - Do not install the camera in locations where the camera or the cables can be destroyed or damaged by persons with malicious intent.

Precautions



- Refer installation work to the dealer.**
Installation work requires technique and experiences. Failure to observe this may cause fire, electric shock, injury, or damage to the product.
 - Be sure to consult the dealer.
- Stop the operation immediately when something is wrong with this product.**
When smoke goes up from the product, the smell of smoke comes from the product, or the exterior of the product has deteriorated, continued use will cause a fire or fall of the product resulting in injury, or damage to the product.
 - Turn the power off immediately and contact qualified service personnel for service.
- Select an installation area that can support the total weight.**
Selecting an inappropriate installation surface may cause this product to fall down or topple over, resulting in injury.
 - Installation work shall be started after sufficient reinforcement.
- Periodic inspections shall be conducted.**
Rust on the metal parts or screws may cause a fall of the product resulting in injury or accidents.
 - Consult the dealer for the inspections.
- The screws and bolts must be tightened to the specified torque.**
Failure to observe this may cause a drop resulting in injury or accidents.

- Do not install this product in locations subject to vibration.**
Loosening of mounting screws or bolts may cause a fall of the product resulting in injury.
- The measures of protection against a fall of this product shall be taken.**
Failure to observe this may cause a drop resulting in injury or accidents. Be sure to install the safety wire.
- Install this product in a location high enough to avoid people and objects from bumping the product.**
Failure to observe this may cause a drop resulting in injury or accidents.
- Turn the power off when do wiring of this product.**
Failure to observe this may cause electric shock. In addition, short circuit or wrong wiring may cause fire.
- Do not attempt to disassemble or modify this product.**
Failure to observe this may cause fire or electric shock. Consult the dealer for the repair or inspections.
- Do not insert any foreign objects.**
This could permanently damage this product. Turn the power off immediately and contact qualified service personnel for service.
- Do not use this product in an inflammable atmosphere.**
Failure to observe this may cause an explosion resulting in injury.
- Avoid installing this product in the locations where salt damage occurs or corrosive gas is produced.**
Otherwise, the mounting portions will deteriorate and accidents such as a fall of the product

1 Check the installing place

Determining the mounting position

IMPORTANT
Do not mount this product on a plaster board or a wooden section because they are too weak. If this product is unavoidably mounted on such a section, the section shall be sufficiently reinforced.

IMPORTANT
Do not install this on locations subject to vibrations.

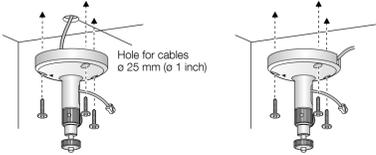
IMPORTANT
Do not install near any heat sources.

IMPORTANT
Do not install near products that generate a strong radio wave or a strong magnetic field.

IMPORTANT
Do not install on locations subject to humidity and oil smoke.

Determining how to wire the cable

It is necessary to make a hole in the ceiling or wall to pass the cables through. Make a hole 25 mm (31/32") in diameter.

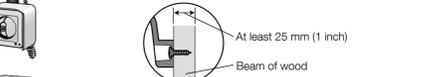


Determining the length of the cable

Confirm the distance from the camera's installation position to the computer and then prepare the necessary length of LAN cable (locally procured).

Determining how to mount the camera

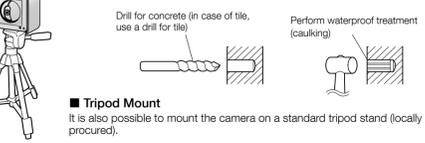
Installing the camera on the ceiling or wall
Make sure the flexible stand is firmly mounted on a beam of wood (25 mm [1 inch] and greater) etc. When there is no beam, apply a board on the other side of the ceiling or wall to make sure the camera does not drop.



When mounting on a mortar or concrete surface

Prepare anchors for 4 mm (3/16 inch) diameter screws for mounting. Mortar ceilings or walls break easily when drilling. Be careful of pieces of mortar which may become loose and fall.

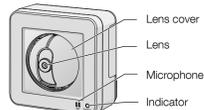
- Place the flexible stand on the ceiling or wall where you plan to mount the flexible stand and mark the points where you are going to make holes.
- Make holes with an electric drill. Insert anchors (locally procured) into the holes and push them inside the holes with a hammer.
- Mount the flexible stand using the screws.



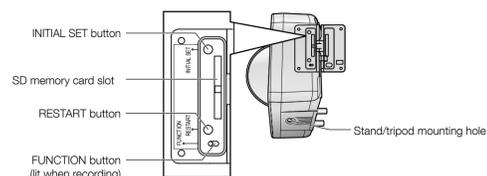
Tripod Mount
It is also possible to mount the camera on a standard tripod stand (locally procured).

2 Major operating controls

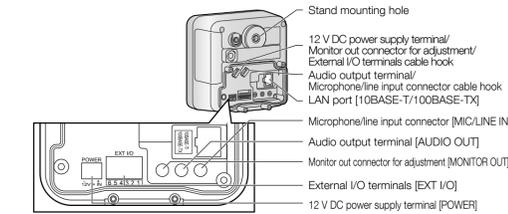
<Front view>



<Side and bottom view>



<Rear view>



External I/O terminals

Pin	Function
6	DC power output • Power output voltage 10.5 V - 13 V • Power output current 100 mA
5	GND
4	GND
3	EXT I/O terminal 3 (ALARM IN 3/ AUX OUT)
2	EXT I/O terminal 2 (ALARM IN 2/ ALARM OUT)
1	EXT I/O terminal 1 (ALARM IN 1)

About the [INITIAL SET] button

After turning off the power of the camera, turn on the power of the camera while holding down this button, and wait for around 5 seconds or more without releasing this button. Wait around 3 minute after releasing the button. The camera will start up and the settings including the network settings will be initialized. Before initializing the settings, it is recommended to write down the settings in advance. The initialization will be complete when the live indicator stops blinking orange and lights off. Note that the preset position settings and the CRT key (SSL encryption key) used for the HTTPS protocol will not be initialized.

IMPORTANT

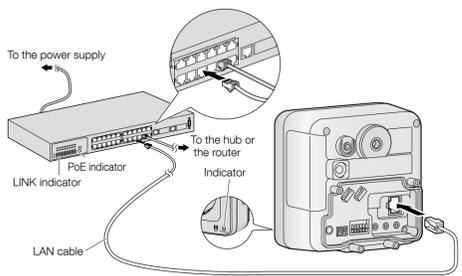
Do not turn off the power of the camera during the process of initialization. Otherwise, it may fail to initialize and may cause malfunction.

About the [RESTART] button

When the camera is on, you can also restart the camera by pressing the RESTART button. Press and hold the RESTART button for about one second with a pointed object. Restarting is completed when the camera's pan/tilt performs its initial movement.

3 Connections

When connecting the camera using PoE (Power over Ethernet)



Note

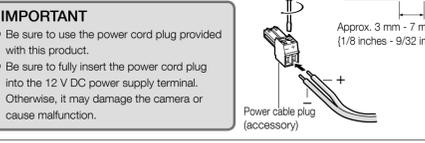
- If the indicator does not turn green, see "Troubleshooting" in the Operating Instructions on the provided CD-ROM.
- Refer to the operating instructions of the product in use about the operations of the PoE device.

IMPORTANT

- Use a 4-pair UTP/STP cable.
- Make sure that the PoE device in use is compliant with IEEE802.3af standard.
- For information on recommended PoE devices, refer to our website at (<http://panasonic.net/pss/security/support/info.html>).

When connecting the camera using 12 V DC power supply

- Loosen the screw of the power cord plug (accessory).
- Connect the cable of the 12 V DC power supply* to the power cord plug. Strip 3 mm to 7 mm (1/8 inches to 9/32 inches) from the end of the wire, and twist the stripped part of the wire sufficiently to avoid short circuit. Specification of cable (wire): 16 AWG - 24 AWG, Single core, twisted. Check whether the stripped part of the wire is not exposed and is securely connected.
- Tighten the screw of the power cord plug.
- Connect the power cord plug to the 12 V DC power supply terminal on the rear of the camera.



IMPORTANT

- Be sure to use the power cord plug provided with this product.
- Be sure to fully insert the power cord plug into the 12 V DC power supply terminal. Otherwise, it may damage the camera or cause malfunction.

WARNING

Adequate waterproof treatment is required for the AC adaptor* and the AC cord*. (The AC adaptor and the AC adaptor cord are not waterproof.) Failure to observe this may cause fire or electric shock. Never touch wet AC adaptors or AC cords. Consult the dealer for repair. * Only when receiving power from the AC adaptor.

External I/O terminals

Connect external devices to the EXT I/O terminal. When connecting an external device, remove 9 mm - 10 mm (11/32 inches - 13/32 inches) of the outer jacket of the cable and twist the cable core to prevent the short circuit first. Specification of cable (wire): 22 AWG - 28 AWG Single core, twisted. Strip range: Approx. 9 mm - 10 mm (11/32 inches - 13/32 inches).

IMPORTANT

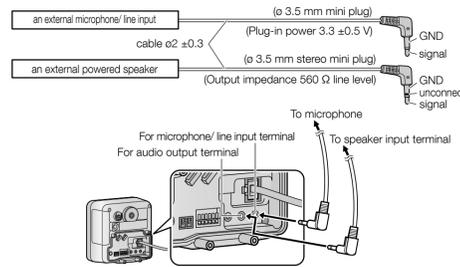
- Do not connect 2 wires or more directly to a terminal. When it is necessary to connect 2 or more wires, use a splitter.
- Input and output of the external I/O terminal 2 and 3 can be switched by configuring the setting. The default of EXT I/O terminal 2 is "ALARM IN 2" and of EXT I/O terminal 3 is "ALARM IN 3". It is possible to determine whether or not to receive input from EXT I/O terminal 2 and 3 (ALARM IN 2, 3) by selecting "Off", "Alarm input", "Alarm output" or "AUX output" for "Terminal alarm 2" or "Terminal alarm 3" on the [Alarm] tab on the "Alarm setup" page. Refer to the Operating Instructions (included in the CD-ROM) for further information.
- The default of EXT I/O terminals is "Off". When "Off" is selected, it is possible to connect external devices as well as the input setting.
- When using the EXT I/O terminals as the output terminals, ensure they do not cause signal collision with external signals.

<Ratings>

- ALARM IN 1, ALARM IN 2, ALARM IN 3**
Input specification : No-voltage make contact input (4 V - 5 V DC, internally pulled up)
ON : Open or 4 V - 5 V DC
OFF : Make contact with GND (required drive current: 1 mA or more)
- ALARM OUT, AUX OUT**
Output specification : Open collector output (maximum applied voltage: 20 V DC)
Open : 4 V - 5 V DC by internal pull-up
Close : Output voltage 1 V DC or less (maximum drive current: 50 mA)

Microphone/line input connector - Audio output terminal

You can connect an external microphone and external speaker to the camera to use the Listen and Talk features, respectively. The microphone cable should be no longer than 7 m (23 feet). If you use an external microphone, excessive cable length or a poor quality cable can cause degradation in audio quality.



Remove a SD memory card

- Close the slide cover on the side of the camera.
- Press the FUNCTION button. When the FUNCTION button is pressed, recording stops and the green light turns off. Confirm that the FUNCTION button green light has turned off before proceeding to step 3.
- Push the card slightly to eject it, then remove the card.
- Close the cover.

IMPORTANT

- Make sure that SD memory card recording has stopped and that the card is not being accessed before removing the card. (The FUNCTION button will light while images are being recorded to the card.) We recommend pressing the FUNCTION button to stop SD memory card recording before ejecting the card.
- If the SD memory card is removed while it is being recorded to or accessed, the card may become unreadable and may need to be formatted (i.e., erased) again before use.
- Make sure that the cover is completely closed after removing the SD memory card. If there is a gap between the cover and the camera, rain or other liquids may enter inside the camera and cause damage to the camera.

4 Configure the settings of the camera

Configuring the camera so that it can be accessed from a PC

If you are using firewall software on your PC, the Setup Program may not be able to find any cameras on your network. Configure the setting of the camera after temporarily invalidating the firewall software.

- Insert the provided CD-ROM into the CD-ROM drive of your PC
 - The License Agreement will be displayed. Read the Agreement and choose "1" accept the term in the license agreement, and click [OK].
 - The launcher window will be displayed. If the launcher window is not displayed, double click the "CDLauncher.exe" file on the CD-ROM.

Note

- Refer to "About the CD-ROM" in the Operating Instructions on the provided CD-ROM for further information about CDLauncher.



- Click the [Run] button next to [IP Setting Software]. "Panasonic IP Setting Software" page will be displayed. Click the [Network Settings] button after selecting the MAC address/IP address of the camera to be configured.
- Select the camera you want to configure, and click [Access Camera].

Note

- When cameras are displayed in [IP Setting Software] screen, click the camera with same MAC address as the MAC address printed on the camera that you want to configure.



- When the [Access Camera] button is clicked, live images of the selected camera will be displayed.



Note

- When no image is displayed on the "Live" page, refer to "Troubleshooting" in the Operating Instructions on the provided CD-ROM.
- It is possible to enhance the network security by encrypting the access to cameras using the HTTPS function. Refer to "Access the camera using the HTTPS protocol" in the Operating Instructions on the provided CD-ROM.
- Click the [Setup] button on the "Live" page, the user authentication window will be displayed. Enter the default user name and password as follows, and log in. User name: admin Password: 12345

5 Mounting the Camera

- Remove the tab on the flexible stand (accessory). Then pass the cables through the notch.

Note

When passing all cables through a duct (locally procured) for waterproofing (without removing the tab, wrap the cables to the shaft of the stand with tape or other materials (locally procured). In this case proceed to step 2.
- Pass the cables through the connector cover (accessory), and then connect all cables. Attach the connector cover by fastening screw A (accessory). Connect all necessary cables, AC adaptor, LAN, audio/video, etc.

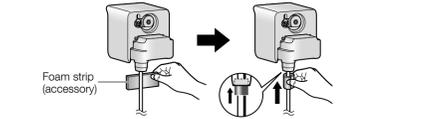
IMPORTANT

- When wiring LAN cables outside, make the LAN cable as short as possible. This product or the hub connected to this product may be affected by lightning or other weather conditions.
- When mounting the camera, make sure to wrap the AC adaptor cord (if used) and other cables (external microphone or speaker cable, video cable, etc.) around the hooks as shown to ensure secure connections.



- Attach the sunshade (accessory) by fastening screw A. Make sure the SD card cover close firmly before attaching the sunshade.

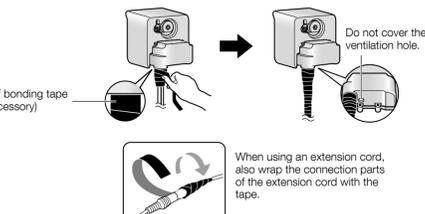
- Wrap the cables in the included foam strip (accessory) and insert the foam strip into the opening of the connector cover leaving about 10 mm (3/8 inches) of the foam exposed, as shown.



Note

Adequate waterproof treatment is required for the cables when installing the camera outdoors. Failure to observe this may cause water leakage resulting in malfunction.

- Wrap the first 20 cm (7 7/8 inches) of the cables (starting with the connector cover) using the included self bonding tape (accessory). Make sure to wrap the opening of the connector cover thoroughly (three or four times). Stretch the tape to twice its length when you wrap the cables. Overlap the tape when you wrap the cables. When mounting the camera on a tripod, make sure to wrap the self bonding tape (locally procured) around the cables until a suitable height according to the height of the tripod.

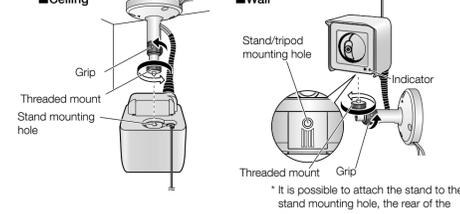


Installing the camera on the ceiling or wall
Adjust the camera to a suitable position/direction while confirming the images actually displayed on the computer screen.

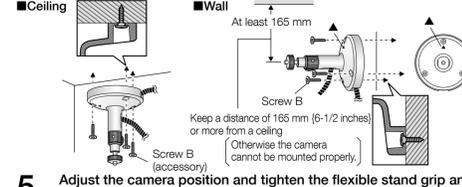
Note

Make sure the indicator is always in the lower right corner when you mount.

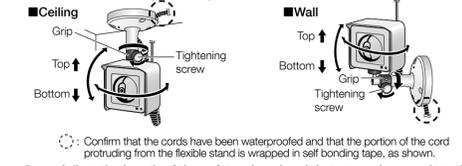
- Place the flexible stand on the ceiling or wall, and determine the mounting position of the stand. Make sure the flexible stand is firmly mounted on a beam of wood (25 mm [1 inch] and greater) etc. When there is no beam, apply a board on the other side of the ceiling or wall to make sure the camera does not drop.
- Secure the safety wire (accessory) to the camera using screw A (accessory) and washer S (accessory).
- Attach the camera by screwing the threaded mount into the stand mounting hole.



- Mount the flexible stand firmly to the ceiling or wall with screw B (accessory). When mounting the flexible stand to the wall, position the flexible stand so that the "▲" marker is facing upward.



- Adjust the camera position and tighten the flexible stand grip and the tightening screw firmly. The facing position of the tightening screw can be adjusted according to the direction the camera is facing and its angle.



- Adjust the length of the safety wire when it is taut, and secure it to the ceiling or wall using screw B (accessory) and washer L (accessory). Attach the safety wire in a position so that if the camera were to become detached, it would not fall on nearby people.



* Refer to our website (<http://panasonic.net/pcc/support/networkcam/support/info.html>) for further information about ducts and waterproofing.