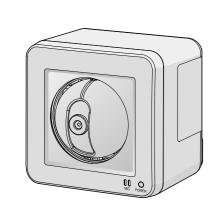
# **Panasonic**

## **Installation Guide**

**Network Camera** 

### Model No. WV-SW174W/WV-SW174WE



For U.S. and Canada:

Panasonic System Communications

For Europe and other countries: **Panasonic Corporation** http://panasonic.net

Importer's name and address to follow EU rules:

Company of North America, Unit of Panasonic Corporation of North America www.panasonic.com/business/ For customer support, call 1.800.528.6747

Panasonic Testing Centre Panasonic Marketing Europe GmbH Three Panasonic Way, Secaucus, New Jersey 07094 U.S.A Winsbergring 15, 22525 Hamburg F.R.Germany

Panasonic Canada Inc. 5770 Ambler Drive, Mississauga, Ontario, L4W 2T3 Canada (905)624-5010

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Cs0112-0 **PGQX1100ZA** Printed in China

carefully and save this manual for future use.

Before attempting to connect or operate this product, please read these instructions

The model number is abbreviated in some descriptions in this manual.

- To prevent injury, this apparatus must be securely attached to the floor/wall/ceiling in accordance with the installation instructions.
- The mains plug or an appliance coupler shall remain readily operable. The installation shall be carried out in accordance with all applicable installation 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.dtsc.ca.gov/hazardouswaste/perchlorate/

For U.S. and Canada: WV-SW174W For Europe and other countries: WV-SW174WE

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

For Canada

For U.S.A

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. 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. WV-SW174W: Operating near 2.4 GHz electrical appliances may cause interference. Move away from the electrical appliances.

## **CAUTION:**

- Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
- FCC RF Exposure Warning: WV-SW174W: To comply with FCC RF exposure requirements in uncontrolled environment: - This equipment must be installed and operated in accordance with provided instructions and a minimum 20 cm {8 inches} spacing must be provided between antenna and all person's body

This transmitter must not be co-located or operated in conjunction with any other antenna or transmitter

(excluding extremities of hands, wrist and feet) during wireless modes of operation.

MEDICAL: WV-SW174W: Consult the manufacturer of any personal medical devices, such as pacemakers, to determine if they are adequately shielded from external RF (radio frequency) energy. (The unit operates in the frequency range of 2.412 GHz to 2.462 GHz, and the power output level is 0.1 watts.) Do not use the unit in health care facilities if any regulations posted in the area instruct you not to do so. Hospitals or health care facilities may be using equipment that could be sensitive to external RF (radio frequency) energy.

#### 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.

For Europe 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 á la norme spécifiée 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

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For European Union (EU) (WV-SW174WE) Panasonic System Networks Co., Ltd., declares that this equipment is in compliance with the essential requirements and other relevant provisions of Radio & Telecommunications Terminal Equipment (R&TTE) Directive 1999/5/EC.

Declarations of Conformity for the relevant Panasonic products described in this manual are available for download by visiting:

#### http://www.doc.panasonic.de Contact:

Panasonic Services Europe a Division of Panasonic Marketing Europe GmbH Panasonic Testing Centre

Winsbergring 15, 22525 Hamgurg, F.R. Germany

### **C€1731①**

AT	BE	BG	CY	CZ	DK
EE	FI	FR*	DE	GR	HU
IE	IT	LV	LT	LU	MT
NL	PL	PT	RO	SK	SI
ES	SE	GB	IS	H	NO
СН	HR	MK	TR		

\*Outdoor use limited to 10 mW eirp within the band 2454-2483.5 MHz

## Important safety instructions

- Keep these instructions.
- Heed all warnings.
- Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- 6) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat. Protect the power cord from being walked on or pinched particularly at plugs, convenience
- receptacles, and the point where they exit from the apparatus. Only use attachments/accessories specified by the manufacturer.
- Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use

caution when moving the cart/apparatus combination to avoid injury 10) Unplug this apparatus during lightning storms or when unused for long periods of time.

11) 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

For U.S.A

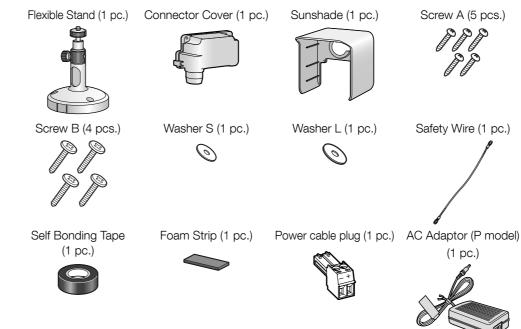
- This unit complies with waterproof and is able to install outdoors. (IEC 60529 compliant IP55)
- A total of 3 outputs, comprising of 2 H.264 outputs and 1 JPEG output, can be provided.
- Wireless LAN function (IEEE802.11 n/g/b) It is possible to monitor camera images and configure camera settings over a wireless network.
- 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.
- WPS (Wi-Fi Protected Setup) function WPS enables the camera to automatically obtain the connection configuration information and the security configuration information of the wireless router. WPS can be configured by pressing the WIRELESS button (WPS indicator) (PBC method) or entering an 8 digit pin code (Pin code

## Standard accessories

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



\*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.

Installation Guide (this document) ...... (1 pc.)

Configure the settings of the camera (leaflet)... (1 pc.)

. (1 pc.)

. (1 pc.)

. (1 pc.)

Warranty card (P model)

CD-ROM\*1

Code label\*2

Extension Cord

# Option

AC Cord (P model)

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

[Locally procured] a PC (used to view settings and images)

Monitor output:

Audio output:

Dimensions:

Camera

Image sensor:

Effective pixels:

Scanning area:

Scanning system:

Minimum illumination:

Wide dynamic range:

Adaptive black stretch:

Auto slow shutter:

White balance:

Video analytics

Face detection:

Privacy zone:

Lens

Zoom ratio:

Focal length:

Focus range:

Panning range:

Panning speed:

Tilting range:

Tilting speed:

Map shot:

Self return:

Wireless

Transmission system:

Antenna:

Day & Night (electrical):

Digital noise reduction:

Camera title on screen:

Digital (electronic) zoom:

Maximum aperture ratio:

Angular field of view:

Panning/tilting platform

Number of the preset positions: 64

Face WDR:

Gain (AGC):

ELC

Mass:

Finish:

EXT I/O terminal cable:

Microphone/Line input:

Dustproof/ Waterproof:

• a LAN cable (CAT-5 straight cable) 12 V DC power supply (E model)

a router, or a wireless router

- Caution: Only connect 12 V DC power supply.

#### About the user manuals

There are 3 sets of operating instructions for the WV-SW174W (P model), WV-SW174WE (E model) as follows. Installation Guide: Explains how to install and connect devices.

• Configure the settings of the camera (leaflet): Explains how to 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-SW174W" or "SW174W" shown in the instructions and illustrations used in these operating

instructions indicates the WV-SW174W, WV-SW174WE. The screens used in these operating instructions show the cases of P models.

# System requirements for a PC

Refer to "Configure the settings of the camera" (leaflet) for information about the system requirements for a PC.

For microphone input Applicable microphone: Plug-in power type

For line input Input level: Approx. -10 dBV

Supply voltage: 3.3 V ±0.5 V

Main body: 370 g {0.82 lbs}

1/4 type MOS image sensor

Color: 0.6 lx {0.06 footcandle}

BW: 0.5 lx {0.05 footcandle}

On (Low)/ On (Mid)/ On (High)/ Off

(Maximum exposure time): ELC(1/100 s), ELC(1/120 s), ELC(1/250 s), ELC(1/500 s),

On/Off (with the XML notification setting)

Gray/Off (up to 2 zones available)

Extra zoom: 2x (at VGA resolution)

Horizontal: 85°, Vertical: 68°

-47.5° - +47.5°

Preset map-shot

1 x 1 (Diversity)

DSSS system

8x (Max 16x combined with Extra Zoom at VGA)

\* Converted value

On/Off

On/Off

Light control mode setting: Indoor scene (50 Hz/60 Hz)/ELC

Off/Auto

High/Low

Video motion detection (VMD alarm): On/Off, (available at each preset)

1: 2.2

ATW1/ ATW2/ AWC

0.038 lx {0.0038 footcandle}

0.031 lx {0.0031 footcandle}

Approx. 1.3 megapixels

Progressive

Main body : PC/ABS resin, silver

Dome section: Clear polycarbonate resin

VBS: 1.0 V [p-p]/75  $\Omega$ , composite, ø3.5 mm mini jack

ø3.5 mm stereo mini jack (monaural output)

Output impedance: Approx. 560  $\Omega$ , Line level

ALARM IN 1, ALARM IN 2/ ALARM OUT, ALARM IN 3/ AUX OUT, GND, 12 V DC

ø3.5 mm monaural mini jack, Input impedance: Approx. 2.2 k $\Omega$ 

\* Only when installation work specified in this book is properly per-

formed and appropriate waterproof treatment is performed

100 mm (W) x 100 mm (H) x 84 mm (D) {3-15/16 inches (W) x

3-15/16 inches (H) x 3-5/16 inches (D)} (excluding projection)

3.52 mm (H) × 2.64 mm (V) {1/8 inches (H) × 3/32 inches (V)}

(F2.2, Auto slow shutter: Off (1/30 s), Gain: On (High))

(F2.2, Auto slow shutter: max. 16/30 s, Gain: On (High))\*

(F2.2, Auto slow shutter: Off (1/30 s), Gain: On (High))

(F2.2, Auto slow shutter: max. 16/30 s, Gain: On (High))\*

ELC(1/30 s), ELC(3/100 s), ELC(3/120 s), ELC(2/100 s), ELC(2/120 s),

ELC(1/1000 s), ELC(1/2000 s), ELC(1/4000 s), ELC(1/10000 s)

Up to 20 characters (alphanumeric characters, marks), On/Off

Manual: Approx. 5 °/s - 80 °/s, Preset: Up to approx. 80 °/s

Manual: Approx. 5 °/s - 80 °/s, Preset: Up to approx. 80 °/s

10 s/ 20 s/ 30 s/ 1 min/ 2 min/ 3 min/ 5 min/ 10 min/ 20 min/ 30 min/ 60 min

SISO (Single Input/Single Output)-OFDM system, OFDM system,

Off (1/30 s), Max. 2/30 s, Max. 4/30 s, Max. 6/30 s, Max. 10/30 s,

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- (6) 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
- (7) LOSS OF REGISTERED DATA CAUSED BY ANY FAILURE.

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## **Network security**

- 1 Leakage or theft of information through this unit
- 3 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-spyware program, etc.).
- information, including image data, authentication information (user names and passwords), alarm
- E-mail information, FTP server information and DDNS server information. After the unit is accessed by the administrator, make sure to close the browser.
- Do not install the camera in locations where the camera or the cables can be destroyed or dam-
- aged by persons with malicious intent.

# **Troubleshooting**

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.

Power is not turned on.

Wireless hardware

• Is the 12 V DC power cable plug (accessory) firmly inserted into the 12 V DC power terminals of the camera? → Confirm the power plug is firmly inserted. Be sure to use the power cord plug provided with this product.

PBC method (push button method), PIN method (PIN code method)

Cause/solution

## Precautions

Consult the dealer for the inspections.

- **!** WARNING
- · 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
- 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.
- 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.
- 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.

Loosening of mounting screws or bolts may cause a fall of the product resulting in injury.

- 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. • Fully insert the power plug into the power outlet. Failure to observe this may cause electric shock or heat generation resulting in a fire.
- Do not use damaged plugs or unstable power outlets. • Always disconnect the power cable by holding the power plug. Failure to observe this may cause damage to the cord and fire or electric shock.
- Periodically remove dust or other materials from the power plug. A fire may be caused if dust or other materials accumulate on the plug and become moist from humidity. • Perform all electrical wiring in accordance with the relevant electrical
- installation and wiring precautions and regulations. Incorrect electrical wiring may cause fire or electrical shock. Have all electrical wiring performed by a licensed electrician.
- Perform the specified waterproofing when connecting the power cable and power plug. Failure to observe this may cause fire or electric shock.
- Disconnect the power plug and wipe the plug with a dry cloth to remove dust. • Turn the power off when wiring 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 may occur. Use only a dedicated power plug (polarized type).
- If other power plugs are used, the voltage and positive/negative polarities may differ and this may cause fire or electric shock. • Do not overload the power outlet or wiring above the specified levels.
- Overloading by having many connections on one power outlet may cause heat generation resulting in a fire. Do not damage the power cable or power plug.

Do not damage, fabricate, twist, stretch, bundle, or forcibly bend the power cable or power plug. Do not

place heavy objects on the power cable or power plug. Keep the power cable and power plug away from

heat sources. Using a damaged power cable or power plug may cause electric shock, short circuit, or fire. Do not damage internal wiring or plumbing when opening holes in ceiling or

walls for installation or wiring, fixing power cables or performing any other

Failure to observe this may cause earth leakage, electric shock, or fire. Protect the power cable and power plug from becoming pinched in doorways or windows. Using damaged power cables and power plugs may cause a short circuit resulting in fire or electric shock.

installations.

process of work).

- Do not use the power cables for other products. Failure to observe this may cause fire or electric shock. • Do not strike or give a strong shock to this product.
- Failure to observe this may cause fire or injury. Do not rub the edges of metal parts with your hand.
- Failure to observe this may cause injury. Do not touch this product or the connected cables during thunder (even in the

Failure to observe this may cause electric shock.

 Do not insert/remove the power plug with wet hands. Failure to observe this may cause electric shock

Stop using the unit and contact an authorized service center.

- Unplug this unit from power supply if it emits smoke, an abnormal smell or makes unusual noise, has been dropped or is damaged in any way. These conditions can cause fire or electric shock.
- Do not place containers or other objects that contain water or other liquids on top of the unit. Fire or electrical shock may be caused if water or other liquids enter inside the unit.
- If water or other liquids enter inside the unit, immediately disconnect the power cable and contact an authorized service center
  - **!**\ CAUTION
- Turn the power off when cleaning this product. Failure to observe this may cause injury. Disconnect the power cable when not using the unit for extended periods of
- time or when performing maintenance. Failure to observe this may cause earth leakage or electric shock.

This product has no power switch.

When turning off the power, disconnect the power supply from the 12 V DC power supply. To keep on using with stable performance

Do not touch the lens cover with your bare hands. A dirty lens cover causes deterioration of picture quality.

About the PC monitor

cause trouble.

Displaying the same image on a monitor for a long time may damage the monitor. It is recommend-

This product will be inoperable for around 2 minutes after the restart just as when the power is turned on. Product disposal/transfer

Data saved on this product or a storage device used with this product may lead to personal

Cleaning this product body Be sure to turn off the power before cleaning. Failure to observe this may cause injury. Do not use strong abrasive detergent when cleaning this product. Otherwise, it may cause discoloration. When the dirt is hard to remove, use a damp cloth and wipe the dirty areas. Then, wipe with a dry

Image transmission interval may become slow depending on the network environment, PC performance, shooting subject, access number, etc.

About the MOS image sensor • When continuously shooting a bright light source such as a spotlight, the color filter of the MOS image sensor may have deteriorated and it may cause discoloration. Even when changing the

the shooting area may look to be bending askew.

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SEE HTTP://WWW.MPEGLA.COM

Flickering Due to the influence of lighting, flickering may sometimes happen. In this case, select "Indoor scene" for "Light control mode". Select "Indoor scene(50 Hz)" or "Indoor scene(60 Hz)" in accor-

Under extremely strong lighting, flickering may happen even when "Indoor scene" is selected for

"Light control mode". When the brightness (illuminance) level on the screen is set to a relatively low level with the [Brightness] buttons, flickering may frequently happen. In such cases, either of the following can reduce flickering. Moderate the illumination intensities of objects by changing the camera direction.

When "Indoor scene" is selected for "Light control mode", the tone of the brighter parts on the screen may be deteriorated than the case when "ELC" is selected. Color blurring on detailed drawing patterns

When there are detailed drawing patterns on images, color blurring may happen over these parts.

If a lens and pan/tilt head are not performed for a long period of time, the grease coating inside

these parts may become sticky. That may obstruct the parts from moving. To prevent this, move

Lifetime is just an indication when using the camera at +20 °C {68 °F}. • Panning motor, tilting motor, flat cable for tilting: Approx. 3.7 million operations. Lens and pan/tilt head

#### Specifications Basic

Power source:

Power consumption

the lens or pan/tilt head periodically.

(Only use the Panasonic AC adapter) 12 V DC: 510 mA

# Precautions for use

Do not expose this camera to direct heat sources such as a heater.

Do not use this camera in hot and humid conditions for a long time. Failure to observe this causes component degradation resulting in life shortening of this product.

Handle this camera with care. Do not drop this camera, nor apply shock or vibration to this camera. Failure to observe this may

ed to use a screen-saver. When an error is detected, this product will restart automatically.

information leakage. When it is necessary to dispose or give this product to someone, even when

for repair, make sure that there is no data on this product.

cloth to remove any moisture. Transmission interval

The code labels (accessory) are required at inquiry for trouble. Use caution not to lose these labels. It is recommended to paste one of the labels onto the CD-ROM case.

fixed shooting direction after continuously shooting a spotlight for a certain period, the discolor-• When shooting fast-moving subjects or performing panning/tilting operations, objects crossing AVC Patent Portfolio License

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dance with the power supply frequency in your locality. Refer to the Operating Instructions (included

in the CD-ROM) for further information about the setting.

• Set the brightness (illuminance) level on the screen to a brighter level with the [Brightness] buttons. White-out on images caused by the effect of light control mode

Consumable parts The following are consumables: Replace them in accordance with their lives. Their lives vary depending on use environment and conditions.

WV-SW174W: AC Adaptor INPUT: 100-120 V AC 50 Hz/60 Hz

Ambient operating temperature:	-20 °C to +50 °C {-4 °F to 122 °F}
Ambient operating humidity:	Less than 90 % (no condensation)

### Corresponding to outdoor use H.264 and JPEG triple encoding

Communication standard: International standard IEEE802.11 n/IEEE802.11 g/ IEEE802.11 b compliant **WV-SW174W**: IEEE802.11 n/g/b 2.412 GHz - 2.462 GHz (1 – 11ch) Frequency range/ Channel (center frequency): WV-SW174WE: IEEE802.11 n/g/b 2.412 GHz - 2.472 GHz (1 – 13ch)

LED: Wireless (wireless status display) Interface: Network Network: 10BASE-T/100BASE-TX, RJ45 connector Resolution: Aspect ratio: 4:3 JPEG 1280x960/ VGA (640x480)/ QVGA (320x240) max.30 fps Aspect ratio: 16:9 H.264 1280x720/ 640x360/ 320x180 max.30 fps JPEG 1280x720/640x360/320x180 max.30 fps Image compression H.264 Image quality: Low/ Normal/ Fine method: Transmission type: Unicast/Multicast Bit rate: Constant bit rate/ Best effort: 4096 kbps/ 8192 kbps

Frame rate: Image quality: 0 SUPER FINE/ 1 FINE/ 2/ 3/ 4/ 5 NORMAL/ 6/7/8/9 LOW (10 steps: 0-9) Transmission type: PULL/PUSH 0.1 fps - 30 fps (JPEG frame rate will be restricted when displaying Transmission interval: both JPEG and H.264/ images.) G.726 (ADPCM) 32 kbps/ 16 kbps G.711 64 kbps method:

DHCP, DNS, DDNS, NTP, SNMP, UPnP, IGMP, ICMP, ARP Maximum concurrent 14 (Depends on network conditions) access number: FTP client: Alarm image transmission, FTP periodic transmission Multi-screen: Up to 16 camera images can be displayed simultaneously on a multiscreen. (Including the camera itself)

Mobile terminal compatibility: iPad, iPhone, iPod touch (iOS 4.2.1 or later) (As of January, 2012) \*4 Android<sup>™</sup> mobile terminals \*1 The actual line speed may be different depending on the network environment and the wireless

devices connected. \*2 Depending on the wireless access point (wireless router) used, connections may not be possible between the camera and the wireless.

When connecting with 802.11n, select WPA-PSK(AES) or WPA2-PSK(AES) for security. \*3 Transmission for 2 streams can be individually set in the same compression method. \*4 For further information about compatible devices, refer to our website (http://panasonic.net/pss/security/support/info.html).

Information for Users on Collection and Disposal of Old Equipment and used Batteries These symbols on the products, packaging, and/or accompanying documents mean

> ronment which could otherwise arise from inappropriate waste handling. For more information about collection and recycling of old products and batteries,

please contact your local municipality, your waste disposal service or the point of sale

Penalties may be applicable for incorrect disposal of this waste, in accordance with national legislation. For business users in the European Union If you wish to discard electrical and electronic equipment, please contact your dealer



or supplier for further information.

Note for the battery symbol (bottom two symbol examples): complies with the requirement set by the Directive for the chemical involved.

FOR THE CASES, INCLUDING BUT NOT LIMITED TO BELOW:

(1) ANY DAMAGE AND LOSS, INCLUDING WITHOUT LIMITATION, DIRECT OR INDIRECT, SPECIAL,

(3) ALL MALFUNCTIONS OR TROUBLES FROM UNAUTHORIZED DISASSEMBLE, REPAIR OR

(4) INCONVENIENCE OR ANY LOSS ARISING WHEN IMAGES ARE NOT DISPLAYED, DUE TO OUT OF THE SYSTEM COMBINED BY THE DEVICES OF THIRD PARTY;

REASON, BECOMES PUBLIC OR IS USED FOR ANY PURPOSE;

# Trademarks and registered trademarks

Adobe, Acrobat Reader, and Reader are either registered trademarks or trademarks of Adobe

As you will use this unit connected to a network, your attention is called to the following security risks. ② Use of this unit for illegal operations by persons with malicious intent

 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

Change the administrator password periodically.

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



Data transfer rate: IEEE802.11 n: 6.5 – 72.2 Mbps/ IEEE802.11 g: 6 – 54 Mbps IEEE802.11 b: 1 – 11 Mbps Access method: Infrastructure mode Authentication method: Open System Security: WPA/WPA2-PSK (TKIP/AES) \*2 WEP (64 bit/128 bit) WPS:

WIRELESS button (for setting up WPS with the PBC method) H.264 1280x960/ VGA (640x480)/ QVGA (320x240) max.30 fps

> 64 kbps/ 128 kbps/ 256 kbps/ 384 kbps/ 512 kbps/ 768 kbps/ 1024 kbps/ 1536 kbps/ 2048 kbps/ 3072 kbps/ 1 fps/ 3 fps/ 5 fps/ 7.5 fps/ 10 fps/ 12 fps/ 15 fps/ 20 fps/ 30 fps

Audio compression Bandwidth control: Unlimited/ 64 kbps/ 128 kbps/ 256 kbps/ 384 kbps/ 512 kbps/ 768 kbps/ 1024 kbps/ 2048 kbps/ 4096 kbps/ 8192 kbps IPv6: TCP/IP, UDP/IP, HTTP, HTTPS, RTP, FTP, SMTP, DNS, NTP, Protocol: SNMP, DHCPv6, MLD, ICMP, ARP IPv4: TCP/IP, UDP/IP, HTTP, HTTPS, RTSP, RTP, RTP/RTCP, FTP, SMTP,

Cellular phone JPEG image, panning/tilting/zoom control, AUX control (by access compatibility:

 Optional accessories User License Accessory (For H.264) BB-HCA8A (P model) BB-HCA8CE (E model, Korea\*) \* Required in Korea

> For proper treatment, recovery and recycling of old products and used batteries, please take them to applicable collection points, in accordance with your national legislation and the Directives 2002/96/EC and 2006/66/EC. By disposing of these products and batteries correctly, you will help to save valuable resources and prevent any potential negative effects on human health and the envi-

that used electrical and electronic products and batteries should not be mixed with

where you purchased the items.



[Information on Disposal in other Countries outside the European Union] These symbols are only valid in the European Union. If you wish to discard these items, please contact your local authorities or dealer and ask for the correct method Cd

This symbol might be used in combination with a chemical symbol. In this case it

# Check the installing place

#### **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
- 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

#### 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 °C to +50 °C {-4 °F 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 Screw B (accessory). 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.

- 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 tight-
- 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 {66.09 lbf} or more.

#### 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.

#### 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.

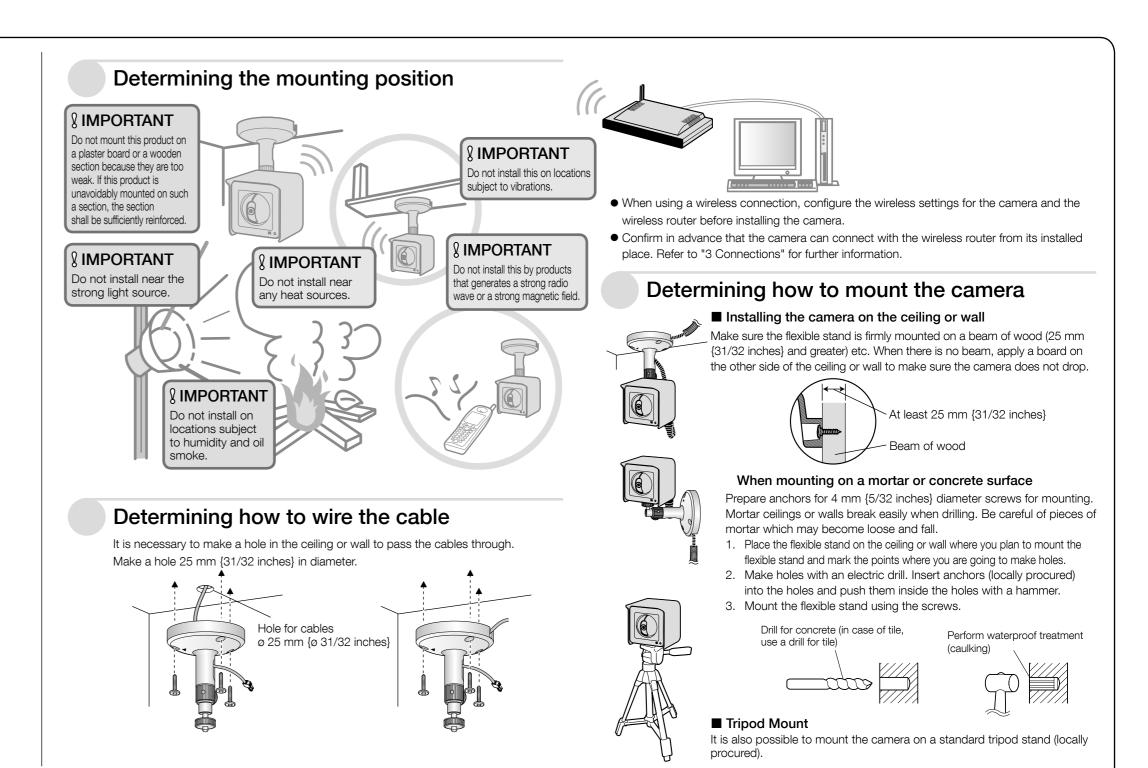
#### Router

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. When connecting the camera to a wireless LAN, it is recommended to select the enhanced encryption "WPA2-PSK (AES)" or "WPA-PSK (AES)" for the wireless router's encryption settings.

#### Time & date setting

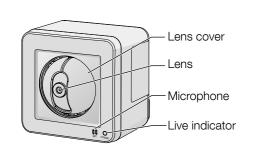
Radio disturbance

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.

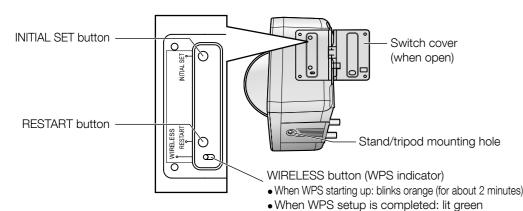


# Major operating controls

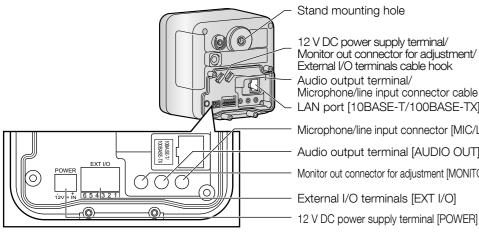
<Front view>



#### <Side and bottom view>



#### <Rear view>



12 V DC power supply terminal/ Monitor out connector for adjustment/ External I/O terminals cable hook Audio output terminal/ Microphone/line input connector cable hook LAN port [10BASE-T/100BASE-TX]

Audio output terminal [AUDIO OUT] External I/O terminals [EXT I/O]

#### External I/O terminals

Pin	Function		
6	DC power output Power output voltage 12 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 • When WPS starting up: blinks orange (for about 2 minutes) 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.

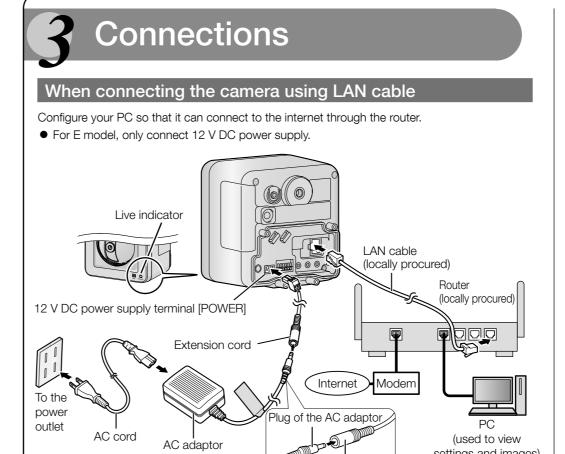
#### **§ IMPORTANT**

• 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. Microphone/line input connector [MIC/LINE IN] 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.

#### Monitor out connector for adjustment [MONITOR OUT] About the live indicator and the WIRELESS button (WPS indicator) Refer to "Configure the basic settings [Basic]" of the Operating Instructions (included in the CD-ROM) for further information.



Connect the LAN cable (locally procured) to the LAN port of the camera and the LAN jack of the router.

When connecting the camera using a wireless LAN, do not plug the LAN cable into the LAN port. Refer to "When connecting the camera using a wireless LAN" for further information.

Connect the extension cord to the power cord plug. Refer to "Connecting the power cord plug".

A steel door

Connect the plug of the AC adaptor to the extension cord. Fully insert the plug of the AC adaptor into the jack of the extension cord.

#### Insert the power cord plug into the 12 V DC power supply terminal on the rear of the camera.

Connect the AC cord to the AC adaptor, then plug the AC cord into the power outlet.

The lens will pan and tilt when the camera is turned on (the operating sound can be heard). When the network setting is completed, the live indicator stops blinking green and lights green. After connecting the camera, refer to "Configure the settings of the camera" (leaf-

let) and perform the camera settings.

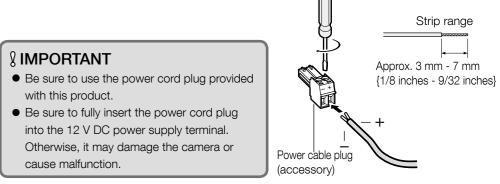
#### Connect the power cord plug

Loosen the screw of the power cord plug (accessory).

Connect the cable of the 12 V DC power supply to the power cord 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.



## **!** WARNING

 Adequate waterproof treatment is required for the AC adaptor, the AC cord, and the extension cord. (The AC adaptor and the AC adaptor cord are not Failure to observe this may cause fire or electric shock.

Never touch wet AC adaptors or AC cords. Consult the dealer for repair.

## When connecting the camera using a wireless LAN

Use the camera's WIRELESS button (WPS indicator) to automatically perform wireless settings. Turn on the camera without connecting the LAN cable to enable the

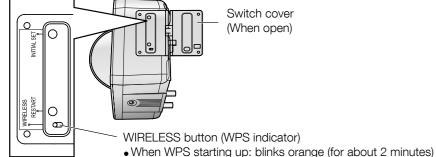
After the initial pan/tilt operations are performed, the live indicator stops blinking orange and lights orange. The live indicator lights orange and the camera starts up in wireless LAN mode about 90 seconds after the camera was turned on. Select ON for the WPS function (Push-button method (PBC)) on the

wireless router. (For more information, refer to the operating instructions included with your wireless router.) Press and hold down the WIRELESS button for a second or more

• The camera and the wireless router automatically start performing wireless settings. Settings may take up to 2 minutes to be performed.

 When the automatic wireless settings have successfully completed, the camera restarts about 5 seconds after the WIRELESS button stops blinking orange and lights green. • During its reboot, when the wireless connection have been successfully completed

about 90 seconds after the WIRELESS button has gone off, the WIRELESS button lights green again. The wireless settings are updated.



until the WIRELESS indicator blinks orange.

• If about 2 minutes pass after the WIRELESS button starts blinking and the wireless connection is not completed, the WIRELESS button will blink red for about 10 seconds and then go off. If this happens the wireless settings have failed. Check the wireless router's settings and connection procedures, and then try performing the settings again. • If the WPS settings fail to automatically configure, check the settings of the wireless router and

• When WPS setup is completed: lit green

the camera. • If you want to turn off the WIRELESS button and live indicator's green light, select "Off" for the "Indicator" on the [Basic] tab of the "Basic" page

# **IMPORTANT**

 WPS function is unavailable when the wireless router is set to shared key authentication. • When the wireless router or other devices are set to use the ESS-ID stealth function

(hidden SSID), the WPS function is unavailable. During the configuration of WPS setting, another wireless device may be temporarily

caused interference by the wireless router • If the wireless router is configured to use the MAC address filtering feature, the WPS

function may be unavailable. Check the settings of the wireless router. • If the settings for the WPS function are performed when no wireless device to be connected to the wireless network, etc. the configuration will be automatically cancelled after 2 minutes. (Check the wireless router in use before configuration.) • When there are multiple wireless routers on the same network which have the WPS func-

After connecting the camera, refer to "Configure the settings of the camera" (leaflet) and perform the camera settings.

• Confirm the status of the wireless connection on the [Status] tab of the "Wireless" page.

tion on (Registrars), the WPS function may not be able to configure automatically.

Do not use this product in the following areas or locations.

(It may cause interference to radio communications or malfunction.) • Indoor areas that have specified radio stations or mobile communications equipment

About the range of use for wireless communication

 Locations near microwave ovens or Bluetooth devices • Indoors areas that use antitheft devices or 2.4 GHz frequency devices such as POS sys-

Change the installation location of the camera when there are materials or objects such as the following between the camera and a wireless router. (When there are materials or objects that are difficult for radio waves to pass through in the installation area, wireless transmission may fail or the transmission speed may become slower.) (When there are materials or objects that reflect radio waves in the installation area, wireless

reflected radio waves.)

• A wall with an insulation material that contains aluminum foil A wall made of concrete, stone or brick

Several walls separated by open space

transmission may fail or the transmission speed may become slower due to interference from

 A wall made of tin A steel shelf

Fireproof glass

When two or more radio routers and radio interference exist, radio may become being hard to be connected or transmission speed may become remarkably slow. In that case, it may be necessary to change the channel of a radio router or to rearrange wireless applications.

## 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.

Single core, twisted

## **IMPORTANT**

• Do not connect 2 wires or more directly to a terminal. When it is necessary to connect 2

• 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 IN2, 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"

• 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

# A reinforced concrete wall

settings and images)

(locally procured)

Specification of cable (wire): 22 AWG - 28 AWG

Approx. 9 mm - 10 mm {11/32 inches - 13/32 inches}

Strip range

At least 25 mm

{31/32 inches}

or more wires, use a splitter.

page. Refer to the Operating Instructions (included in the CD-ROM) for further information.

 ALARM OUT, AUX OUT Output specification: Open collector output (maximum applied voltage: 20 V DC) : 4 V - 5 V DC by internal pull-up : Output voltage 1 V DC or less (maximum drive current: 50 mA) Microphone/line input connector · Audio output terminal

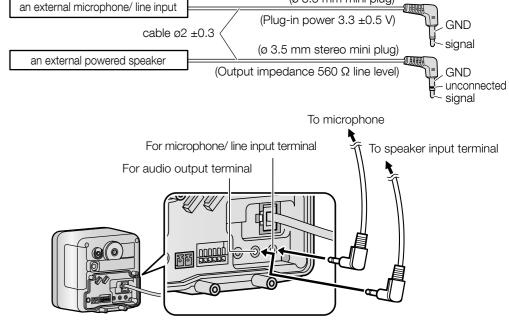
Open or 4 V - 5 V DC

• ALARM IN1, ALARM IN2, ALARM IN3

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. (ø 3.5 mm mini plug)

Input specification : No-voltage make contact input (4 V - 5 V DC, internally pulled up)

Make contact with GND (required drive current: 1 mA or more)



## Monitor out connector for adjustment

Connect a monaural mini plug (ø3.5 mm) (only for checking if images are displayed on the monitor). Recommended plug: L type

## **∏IMPORTANT**

• The monitor out connector for adjustment is provided only for checking the adjustment of the angular field of view on the video monitor when installing the camera or when servicing. It is not provided for recording/monitoring use.

#### Black bands may appear at the top and bottom or right and left of the screen. (That does not affect the adjustment because the angular field of view is not changed.)

# Mounting the Camera

Before installing the camera, check that the camera settings have been completed. Refer to "Configure the settings of the camera" (leaflet). Remove the tab on the flexible

stand (accessory). Then pass the

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

cables through the notch.

(Recommended tightening torque of the connector cover: 0.6 N·m {0.44 lbf·ft})

by fastening screw A (accessory).

cover (accessory), and then connect

all cables. Attach the connector cover

Connect all necessary cables, AC adaptor, LAN, audio/video, etc.

Monitor out connector for

External I/O terminals cable hook



the tab on the

flexible stand

Screw hole

Connector cover

Screw A

accessory

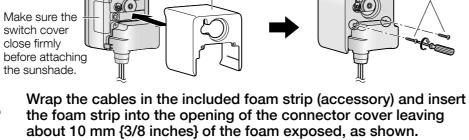
(accessory

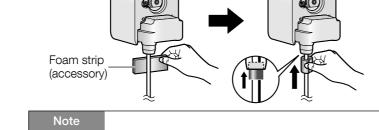
Audio output terminal/

Microphone/line input

connector cable hook

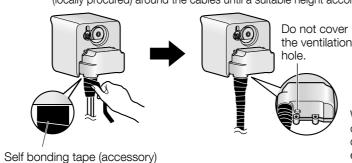
Attach the sunshade (accessory) by fastening screw A. (Recommended tightening torque of the sunshade: 0.6 N·m (0.44 lbf·ft))





Adequate waterproof treatment is required for the cables when installing the camera

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



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

position of the stand.

signal collision with external signals.

Make sure the live indicator is always in the lower right corner when you mount. Place the flexible stand on the ceiling or wall, and determine the mounting

Make sure the flexible stand is firmly mounted on

Installing the camera on the ceiling or wall

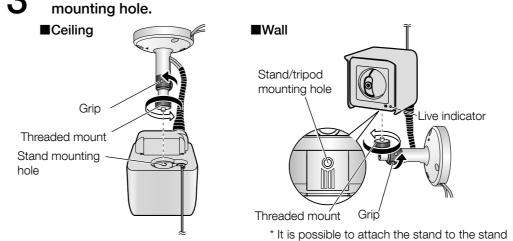
Beam of wood a beam of wood (25 mm {31/32 inches} and greater) etc. When there is no beam, apply a board on the other side of the ceiling or wall to make sure the camera does not drop. Secure the safety wire (accessory) to the camera using screw A



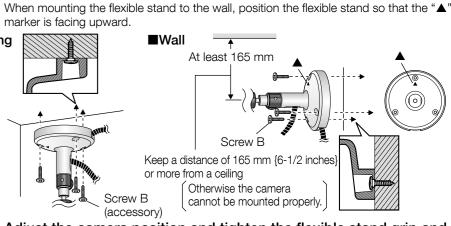
Attach the camera by screwing the threaded mount into the stand

Safety wire (accessory

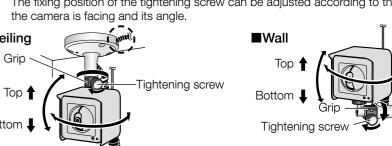
mounting hole, the rear of the camera.



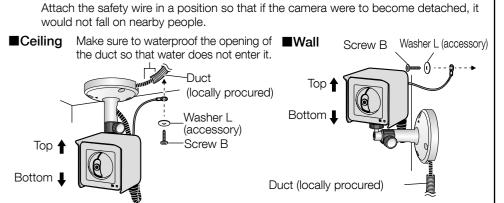
Mount the flexible stand firmly to the ceiling or wall with screw B (accessory).



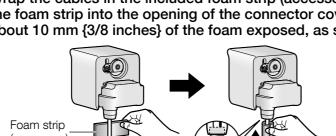
Adjust the camera position and tighten the flexible stand grip and the tightening screw firmly. The fixing position of the tightening screw can be adjusted according to the direction



: Confirm that the cords have been waterproofed and that the portion of the cord protruding from the flexible stand is wrapped in self bonding tape, as shown. 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).







outdoors. Failure to observe this may cause water leakage resulting in malfunction.

(locally procured) around the cables until a suitable height according to the height of the tripod.

