Panasonic®

Installation Guide
Included Installation Instructions

Network Camera | For professional use only

microSDXC™

Model No. **WV-U2542LA** Outdoor use
WV-U2532LA Outdoor use

WV-U2542LA

About the user manuals
Product documentation is composed of the following documents.
- **Installation Guide (this document):** Provides information about "Precautions", "Precautions for installation" and the installation method.
- **Basic Information (in the following manual website):** Provides information about "Precautions for use" and "Detail specifications".
- **Operating Instructions (in the following manual website):** Explains how to perform the settings and how to operate this camera.
  https://security.panasonic.com/training_support/documentation_database/

"<Control No.: C****>" used in these documents should be used to search for information on our support website (https://security.panasonic.com/training_support/support/info/) and will guide you to the right information.

- Before attempting to connect or operate this product, please read these instructions carefully and save this manual for future use.
- microSDXC/ microSDHC/ microSD memory card is described as microSD memory card.
- The external appearance and other parts shown in this manual may differ from the actual product within the scope that will not interfere with normal use due to improvement of the product.

For U.S. and Canada:
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https://i-pro.com/

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CE

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* PGQX2467ZA *
avs0821-0
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— 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: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Supplier's Declaration of conformity
Trade name : Panasonic
Model No. : WV-U2542LA,
              WV-U2532LA
Responsible Party :
Panasonic Corporation of North America
Two Riverfront Plaza, Newark, New Jersey 07102-5490
Support Contact : 1-800-528-6747

— For U.S.A. —
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.
Model No.
Serial No.

For U.S.A.
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.

— For Canada —
CAN ICES-3(A)/NMB-3(A)

Méthode d'installation	Vis de fixation recommandée	La capacité de traction minimale requise
Montez directement la caméra sur la surface d'installation à l'aide de la plaque de fixation.	M4 × 16 mm {5/8 pouces} / 4 él.*	196 N {44 lbf}
Montez la caméra sur la surface d'installation à l'aide du support de base.		

* La longueur de la vis est un exemple lors de l'installation de la caméra au plafond ou sur un mur robuste d'une épaisseur de 20 mm {25/32 pouces} ou plus.

Caution:
- The network camera is only intended for a connection to an ethernet or PoE network without routing to the outside plant.
- This product has no power switch. Be sure to install disconnect devices such as a circuit breaker to shut down the main power of power supplying equipment to this product.
- Before attempting to connect or operate this product, please read these instructions carefully.

Notice:
- This product is not suitable for use in locations where children are likely to be present.
- Do not install this product in locations where ordinary persons can easily reach.
- This product is a professional equipment.
- For information about screws and other parts required for installation, refer to the corresponding section of this document.

▬▬▬ : Direct current symbol

Precautions

■ **Do not insert any foreign objects.**
Fire or electrical shock may be caused if water or any foreign objects, such as metal objects, enter inside the unit.
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 injury or accidents due to a fall of the product may occur.

■ **Do not strike or give a strong shock to this product.**
Failure to observe this may cause injury or fire.

■ **Keep microSD memory cards away from infants and children.**
Otherwise, they may swallow the cards by mistake.
In this case, consult a doctor immediately.

■ **Do not hang down from this product or use this product as a pedestal.**
Failure to observe this may cause injury or accidents.

■ **Do not install this product on a place that is greatly influenced by wind.**
Installation on a place where the wind speed is 60 m/s {approx. 134 mph} or more may cause a fall of the product resulting in injury or accidents.

■ **Do not sprinkle more water, exceeding the performance limit of waterproof with a high pressure cleaning machine, etc.**
Fire or electrical shock may be caused by immersion.

■ **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 install or clean the camera, or touch this product, the power cable or the connected cables during thunder storms.**
Failure to observe this may cause electric shock.

■ **Refer installation work to the dealer.**
Installation work requires technique and experience. 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.
In this case, 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 or accidents. 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 exclusively designed mount bracket shall be used.**
Failure to observe this may cause a drop resulting in injury or accidents.

Use the exclusively designed mount bracket for installation.

■ **The screws and bolts must be tightened to the specified torque.**
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.

■ **Install this product in a location high enough to avoid people and objects from bumping the product.**
Failure to observe this may cause 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 or accidents.

■ **Correctly perform all wiring.**
Short circuits in the wiring or incorrect wiring may cause fire or electrical shock.

■ **Install the product securely on a wall or a ceiling in accordance with the installation instructions.**
Failure to observe this may cause injury or accidents.

■ **Do not rub the edges of metal parts with your hand.**
Failure to observe this may cause injury.

■ **Do not touch the metal part of the bottom side of the product.**
The metal part of the bottom side may become hot while the product is in use. Direct skin contact with high-temperature parts of the product may cause burns.

■ **Turn the power off when cleaning this product.**
Failure to observe this may cause injury.

About notations
The following notations are used when describing the functions limited for specified models.
The functions without the notations are supported by all models.

U2542 The functions with this notation are available when using the model WV-U2542LA (4M pixel model).
U2532 The functions with this notation are available when using the model WV-U2532LA (Full HD model).

Open Source Software
- This product contains open source software licensed under GPL (GNU General Public License), LGPL (GNU Lesser General Public License), etc.
- Customers can duplicate, distribute and modify the source code of the software under license of GPL and/or LGPL.
- For details concerning licensing and source code of open source software, click "Click here for OSS information" on "Support" page of the setup menu of this product and read the displayed content.
- Please note that we shall not respond to any inquiries regarding the contents of the source code.

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Precautions for installation

Panasonic i-PRO Sensing Solutions Co., Ltd. assumes no responsibility for injuries or property damage resulting from failures arising out of improper installation or operation inconsistent with this documentation.

■ **In order to prevent injury, the product must be securely mounted to a wall or ceiling according to Installation Guide.**

■ **Installation area for this product**
Select an appropriate place for the installation area (such as a strong wall or ceiling) in your particular environment.
- Make sure that the installation area is strong enough to hold this product, such as a concrete ceiling.
- Install the camera in the foundation area of the architecture or where sufficient strength is assured.
- Do not mount the product on a plaster board or a wooden section because they are too weak. If the product is unavoidably mounted on such a section, the section shall be sufficiently reinforced.

■ **Install the product in areas that do not receive direct sunlight.**
When the product is installed in areas that receive direct sunlight, such as on external walls, use the optional *Sun Shade WV-QSR500-W or WV-Q7118*.

■ **Do not place this product in the following places**
- Locations where a chemical agent is used such as a swimming pool
- Locations subject to moisture or oil smoke such as a kitchen
- Locations that have a specific environment that is subject to an inflammable atmosphere or solvents
- Locations where a radiation, an X-ray, a strong radio wave or a strong magnetic field is generated
- Locations near coasts directly subjected to sea breezes, or locations subject to corrosive gases such as from hot springs, volcanic regions, etc.
- Locations where the temperature is not within the specified range

- Locations subject to vibrations, such as on vehicles, marine vessels, or above product lines (This product is not designed for on-vehicle use.)
- Locations subject to condensation as the result of severe changes in temperature
- Locations near rubber products (packing, rubber feet, etc.)

■ **Screw tightening**
Do not use an impact driver. Use of an impact driver may damage the screws or cause tightening excessively.

■ **About reflection of light from outside or IR light**
A ghost may appear on the screen depending on the incident angle of external light.
In the case of using the IR light, installation of a camera near a wall may cause reflection of infrared rays resulting in a part of the screen or the entire screen turning whitish.
- Refer to our support website <Control No.: C0109> for image examples and measures to take.

■ **Take notice of humidity**
Install this product when the humidity is low. If installation is performed when it is raining or in very humid conditions, the inside may be affected by humidity, causing mist-over inside the dome cover.

■ **Protection from lightning**
When cables are used outdoors, there is a chance that they may be affected by lightning. In such a case, install a lightning arrestor close to the camera, and make the length of the network cable between the camera and lightning arrestor as short as possible to prevent the camera from being affected by lightning.

■ **When noise disturbance may happen**
Noise may appear in video or audio near a strong electric field from a TV or radio antenna, motors and transformers, or a strong electric field/magnetic field from a power line (lamp line) of AC100 V or more. Conduct the power distribution work to keep 1 m {3-15/16 inches} away from them or conduct the electric conduit work using metal pipes. (Be sure to make ground connection of the metal pipes.)

■ **Make sure to remove this product if it will no longer be used.**

■ **This product has no power switch.**
When turning off the power, disconnect the power supply from the PoE device.

■ **About the battery**
A battery is installed inside the camera. Do not leave the battery exposed in environments of excessive heat as a result of sunlight or fire.

■ **Equipment classification and power source indication label**
Refer to the indication label on the bottom side of this unit for the equipment classification, power source, and other information.

Troubleshooting
Before requesting service, refer to "Troubleshooting" of Basic Information and Operating Instructions. Then, confirm the trouble.

Specifications*
*For further information, refer to the Basic Information.

Power source *1:	PoE (IEEE802.3af compliant)
Power consumption *1:	PoE DC 48 V : 150 mA/ Approx. 7.2 W (Class 0 device) U2542
	PoE DC 48 V : 140 mA/ Approx. 6.7 W (Class 0 device) U2532
Operating environment	
Ambient operating temperature:	–30 °C to +50 °C {–22 °F to +122 °F}
	(Power On range: –20 °C to +50 °C {–4 °F to +122 °F})
Ambient operating humidity:	10 % to 100 % (no condensation)
Storage environment	
Storage temperature:	–30 °C to +60 °C {–22 °F to +140 °F}
Storage humidity:	10 % to 95 % (no condensation)
Waterproof *2:	IP66 (IEC 60529), Type 4X (UL50E) NEMA 4X compliant
Shock resistance:	IK10 (IEC 62262)
Wind resistance:	Up to 40 m/s {approx. 89 mph}
Dimensions:	ø154 mm × 103 mm (H) {ø6-1/16 inches × 4-1/16 inches (H)} Dome radius 42 mm {1-21/32 inches}
Mass:	Approx. 1.0 kg {2.21 lbs}
Finish:	Main body : Aluminum die cast/ PC resin, i-PRO white
	Outer fixing screws : Stainless steel (Corrosion-resistant treatment)
	Dome cover : Polycarbonate resin, Clear
Others:	Tamper-resistant enclosure*3

*1 Refer to our support website <Control No.: C0106> for further information about Power source and Power consumption information.
*2 Only when installation work is properly performed according to the Installation Guide and appropriate waterproof treatment is performed.
*3 Component that has a structure on which the screws that are accessible after installation cannot be screwed or unscrewed using an ordinary screwdriver.

Optional accessories*1

Ceiling mount bracket:	WV-Q105A*2	Dome cover (with clear sight coating)	WV-CW7SN
Dome cover (Smoke type):	WV-CW7S	(Smoke type with clear sight coating)	
		Dome cover:	WV-CW7CN
		(Clear type with clear sight coating)	

	<i-PRO white brackets>*3	<Light gray brackets>*3	<Fine silver brackets>*3
Sun shade *4:	WV-QSR500-W	WV-Q7118	–
Base bracket:	WV-QJB501-W	WV-Q193	–
Ceiling mount bracket:	WV-QEM500-W	–	WV-Q169A
Ceiling mount bracket:	WV-QCL501-W	WV-Q178	WV-Q121B
Wall mount bracket:	WV-QWL501-W	WV-Q185	WV-Q122A
Mount bracket:	WV-QSR501-W	WV-Q186	WV-Q124
Pole mount bracket:	WV-QPL500-W	WV-Q182	WV-Q188
Corner mount bracket:	WV-QCN500-W	WV-Q183	WV-Q189
Attachment Pipe Bracket:	WV-QAT500-W	WV-Q179	WV-Q123A

*1 Refer to our support website <Control No.: C0501> for further information about optional accessories.
*2 This product can only be installed indoors when WV-Q105A is used to install it on the ceiling.
*3 Refer to our support website <Control No.: C0112> for further information about combinations of each bracket.
*4 When using Sun shade (WV-QSR500-W or WV-Q7118), Base bracket (WV-QJB501-W or WV-Q193) is required.

Standard accessories

Installation Guide (this document) .... 1 pc.	Code label*1.. 1 pc.	
IMPORTANT SAFETY INSTRUCTIONS........... 1 pc.		

*1 This label may be required for network management. Use caution not to lose this label.

The following parts are used during installation procedures.

Attachment plate .... 1 pc.	RJ45 waterproof connector cover .... 1 pc.	
Fixing screws for attachment plate	RJ45 waterproof connector cap .... 1 pc.	
(M4 × 8 mm {5/16 inches}).................. 5 pcs.	Bit (Hex wrench, screw	
(of them, 1 for spare)	size 6.35 mm {1/4 inches} T20) .... 1 pc.	
Template ....1 sheet	Attachment for the conduit .... 1 pc.	
Cable cover*2 .... 1 pc.	PAN table fixing screw .... 1 pc.	

*2 The cable cover is attached to the camera.

Other items that are needed (not included)
- Fixing screw

Installation method		Recommended screw*1	Minimum pull-out strength*2
Directly mount	: Directly mount the camera onto the ceiling or wall.	M4 × 16 mm {5/8 inches} *3 / 4pcs.	196 N {44 lbf}
		M4 × 16 mm {5/8 inches} *3 / 2pcs*4.	
Gangbox/ Junction box	: Mount the camera to a gangbox/ junction box.	M4 × 16 mm {5/8 inches} *3 / 4pcs.	196 N {44 lbf}
Base bracket	: Mount the camera using the WV-QJB501-W or WV-Q193.	M4 × 16 mm {5/8 inches} *3 / 4pcs.*5	196 N {44 lbf}
Mount the camera using the exclusively designed mount bracket (See "Optional accessories").		Refer to the operating instructions of each bracket.	

*1 Select screws according to the material of the location that the camera will be mounted to. In this case, wood screws and nails should not be used.
*2 For information about the minimum pull-out strength, refer to our support website <Control No.: C0120>.
*3 The screw length is an example when installing the camera on a robust installation surface with a thickness of 20 mm {25/32 inches} or more.
*4 When using the attachment for the conduit.
*5 2 pcs. when mounting WV-QJB501-W or WV-Q193 to a single-gang gangbox/ junction box

- RJ45 plug, Ethernet cable (category 5e or better, straight, all 4 pairs (8 pins))
- Tools

Parts and functions

<Whole unit>

WV-QJB501-W or WV-Q193 (option)

Attachment plate (accessory)
Camera
Azimuth adjustment ring
Enclosure

Fixing screws for attachment plate (accessory)

Dome cover

Conduit wiring connector
Attachment for the conduit (accessory)

PAN table
Camera fixing screw
TILT fixing screw

<Camera body>

Direction marker for installation (TOP⇧)
Symbol of the microSD
microSD slot

Waterproof rubber
PAN table fixing screw hole

▼ "Symbol
● Screen display down direction

Direction marker for installation (FRONT⇩)
● FRONT should face the camera front (the side of the Panasonic logo).

ACT indicator
LINK indicator
WIDE button
TELE button
INITIAL SET button

<Camera body (bottom side)>

Note:
● When running the cables to the side, remove the cable cover.

Cable cover

■Indicators

Note:
● Lighting/blinking LED can be turned off with the software settings at any time. (The initial state is lighting or blinking.) Refer to the Operating instructions, and set the LED to be solid off if necessary.

LINK indicator	
When the camera is able to communicate with the connected device	Lights orange

ACT indicator	
When data is being sent via the network camera	Blinks green (accessing)

■Buttons

●INITIAL SET button (Initializing)
Follow the steps below to initialize the network camera. Retry if the camera does not start up normally.

Turn off the power of the camera → Turn on the power of the camera while pressing the INITIAL SET button* → 15 seconds → Make sure to release the button → around 2 minutes → The camera will start up and the settings including the network settings will be initialized

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

●TELE button
Click the TELE button to adjust the zoom ratio to the "Tele" side.

●WIDE button
Click the WIDE button to adjust the zoom ratio to the "Wide" side.

Step1 Processing the installation surface

Common

● Attach the attachment plate (accessory) so that the marking (part number) faces toward the ceiling or wall to be installed.
● If open wiring is conducted, be sure to use conduits and run the cables inside the tubes to protect the cables from direct sunlight.

IMPORTANT:
● Installation work shall be such that there is no exposure to water into the architecture through the conduits having been joined.

Gangbox/ Junction box

[1] Install the gangbox/ junction box on the installation surface.
[2] Mount the attachment plate to the gangbox/ junction box.

Directly mount

[1] **Drill a hole in the installation surface. (4 screw holes / 1 cable access hole).**

Note:
● When installing on a wall, make a hole so as to face the "⇧TOP" mark of the template to the upper side.
● When installing on a ceiling, make a hole so as to face the "⇩FRONT" of the camera to the front side of the template (in the direction of Panasonic logo).
● When running the cable using the attachment for the conduit, it is unnecessary to make a cable access hole on the installation surface.
● When changing the camera angle by a 90° unit afterwards, drill through a 73 mm {2-7/8 inches} diameter hole in the center.

When using a conduit*

* When installing on a wall and laying a conduit in a direction other than the upper direction, use Base bracket (WV-QJB501-W or WV-Q193).
①Make two screw holes on the installation surface using the template (accessory) for fixation of the attachment for the conduit.
②Mount the attachment for the conduit with fixing screws (2 pcs.) (M4: locally procured).
Minimum pull-out strength: 196 N {44 lbf}

[2] **Install the attachment plate on the installation surface.**

46 mm {1-13/16 inches}
83.5 mm {3-9/32 inches}

Two-gangbox/ junction box

Attachment plate (accessory)

Fixing screws for attachment plate (4pcs) (M4: locally procured)

Cable access hole (ø25.4 mm {1 inch} or ø73 mm {2-7/8 inches})

Screw holes (2 places) for fixation of the attachment for the conduit

93 mm {3-21/32 inches}
116.5 mm {4-19/32 inches}

Holes for the fixing screws (4 places)

83.5 mm {3-9/32 inches}
46 mm {1-13/16 inches}

Conduit (19.4 mm {3/4 inches})

Attachment for the conduit

←FRONT

Attachment plate (accessory)

Fixing screws (M4: locally procured)

Base bracket

[1] **Make a hole on the installation surface using template B (accessory of WV-QJB501-W or WV-Q193). (Screw holes (4 places) / Cable access hole (1 place))**

No cable access hole is needed when using conduit

● Depending on the condition of the ceiling or the wall surface, six patterns of screw positions are available for fixation. Select a pattern from the following table and make holes.

	Vertical	Horizontal
A	85 mm {3-11/32 inches} (85.7 mm {3-3/8 inches})	85 mm {3-11/32 inches} (85.7 mm {3-3/8 inches})
B	138 mm {5-7/16 inches}	138 mm {5-7/16 inches}
C	83.5 mm {3-9/32 inches}	46 mm {1-13/16 inches}
D	63 mm {2-15/32 inches}	63 mm {2-15/32 inches}
E*		83.5 mm {3-9/32 inches}
F	70 mm {2-3/4 inches}	108.5 mm {4-9/32 inches}

* When mounting to a single-gangbox/ junction box, make holes in the dimension of E. Fix it with screws (2 pcs.)(M4: locally procured).
● Select either of the two cable access holes to proceed with the installation work.
● After mounting the attachment plate, the mounting direction of the camera can be adjusted in 90° increments.

When using a conduit

Remove the cap for the female thread for the conduit using a 5 mm hex wrench and attach the conduit.

The female thread for conduit is compliant with ANSI NPSM (parallel pipe threads) 3/4 or ISO 228-1 (parallel pipe threads) G3/4.

WV-QJB501-W or WV-Q193

Cap for the female thread for the conduit

Conduit

[2] **Install the WV-QJB501-W or WV-Q193 on the installation surface.**

[3] **Mount the attachment plate onto the WV-QJB501-W or WV-Q193.**

WV-QJB501-W or WV-Q193

Fixing screws (4pcs.) (M4: locally procured) Minimum pull-out strength: 196 N {44.06 lbf} (per 1 pc.)

Attachment plate (accessory)

Fixing screws for attachment plate (4pcs.) (M4×8 mm {5/16 inch}) (Accessory) Recommended tightening torque: 0.78 N·m {0.58 lbf-ft}

Step2 Making connections

IMPORTANT:
● Devices to which power can be supplied to this product are PoE hub and PoE supplying equipment.
● Turn off each system's power supply before making a connection.

RJ45 Network cable
RJ45 waterproof jack

External dimension: ø5 mm {ø3/16 inches} – ø6.5 mm {ø1/4 inches}

RJ45 plug (locally pocured)
RJ45 waterproof connector cover (accessory)
RJ45 waterproof connector cap (accessory)

Ethernet cable (category 5e or better, straight, 4 pairs (8 pins))

Less than 100 m {328 feet}

Wire and caulk
Insert the RJ45 connector.
Align " ▶ " with " ◁ " and then rotate until " ▶ " aligns with "⇔".
Tighten until no gap is present.

IMPORTANT:
● Do not install the camera where the RJ45 waterproof connector is exposed to constant rain or moisture.
● When removing the RJ45 waterproof connector, be sure to remove it with the reverse procedure of connection.
● When the Ethernet cable is disconnected once, reconnect the cable after around 2 seconds. When the cable is quickly reconnected, the power may not be supplied from the PoE device.

Step3 Mount the camera

[1] **Insert the attachment mounting screws (2 places) to the holes on the attachment plate and temporarily fix the camera by rotating it approx.15° clockwise.**

Nail of the attachment plate
Holes of the attachment plate (4 places)

①Align the nail of the attachment plate with the "OPEN" mark and then insert the camera.
②Rotate the camera approx.15° clockwise until the "LOCK" mark is aligned with the nail of the attachment plate.

Nail of the attachment plate
Attachment mounting screws

OPEN mark
LOCK mark

[2] **Loosen 4 enclosure fixing screws using the bit (accessory), and remove the enclosure from the camera.**

Installed auxiliary wire

Bit (accessory)
Enclosure fixing screws (4 places)

[3] **Secure the camera by tightening the camera fixing screw (red).**
Recommended tightening torque: 0.78 N·m {0.58 lbf-ft}

[4] **If necessary, insert a microSD memory card by referring to "Insert / remove a microSD memory card".**

Camera fixing screw (red)

IMPORTANT:
● Enclosure is fixed to the camera body by the installed auxiliary wire, so please do not remove it.

Step4 Adjustment

[1] **Turn on the camera.**
[2] **Connect to the network by following information described on our support website <Control No.: 0123>.**
[3] **Adjust the camera direction.**

①Loosen the TILT fixing screw.
②Adjust the horizontal (PAN) angle, vertical (TILT) angle, and azimuth (YAW) angle while watching the screen of the PC on the network.
Horizontal (PAN)angle : -170° to +190°
Vertical (TILT) angle : -30° to +85°
Azimuth(YAW) angle : ±100°

Note:
● When the camera is installed on a wall, the gradient viewed from the camera can be reversed by setting "Image rotation" to "180° (Upside-down)" in the setup menu. For information about configuring "Image rotation" in the setup menu, refer to the Operating Instructions.
● When using the camera at a vertical position angle of 75° or more (a position where the camera lens is nearly horizontal), part of the image may appear to be overlapped due to influence from the dome cover. To prevent overlapping, decrease the vertical position angle or adjust the zoom ratio.
● When adjusting the camera, do not touch IR LED sheets with your fingers.

③After adjusting the direction, fix the camera by tightening TILT fixing screw.
Recommended tightening torque: 0.59 N·m {0.44 lbf-ft}

[4] **Adjust the zoom ratio of the camera.**
Adjust the zoom ratio using the TELE button and the WIDE button while watching the screen.

Note:
● After approx. 3 seconds from releasing the TELE button or the WIDE button, the auto focus function will automatically be executed. Do not touch the camera during execution of the auto focus function.
● Attaching the enclosure may cause slight defocusing. In this case, execute the auto focus function from the setup menu after attaching the enclosure and removing the protection film.
● When the resolution is set to higher than 640×360, image quality may deteriorate depending on the zoom ratio. Refer to our support website <Control No.: C0124> for further information.

TILT fixing screw
Azimuth adjustment ring
Horizontal (PAN) angle
Azimuth (YAW) angle
Vertical (TILT) angle
IR LED sheets
PAN table
WIDE button
TELE button

[5] **Attach the enclosure and secure it by using a bit (accessory) to tighten the enclosure fixing screws (4 places).**

①Align the direction of the Panasonic logo with the direction marker for installation (FRONT⇩).
②Attach the enclosure while aligning the concave of the enclosure with the protrusion of the camera (2 places).
③Fix the enclosure by tightening the enclosure fixing screws (4 places) using the bit (accessory). Recommended tightening torque: 0.78 N·m {0.58 lbf-ft}

IMPORTANT:
● Make sure that the waterproof rubber is not detached from the groove.

Note:
● When installing the enclosure, align the enclosure fixing screw position in advance and install the enclosure straight onto the installation surface so that the direction of the camera does not change.
If the direction of the camera is changed, insert the PAN table fixing screw (accessory) into the PAN table fixing screw hole (Refer to "Parts and functions".) and then fix the direction of the camera by tightening the PAN table fixing screw.
Recommended tightening torque: 0.59 N·m {0.44 lbf-ft}

Direction marker for installation (FRONT⇩)
Waterproof rubber
Protrusion of the camera
Concave of the enclosure
Bit (accessory)
Enclosure
Enclosure fixing screws (4 places)
Dome cover

[6] **After complete installation, remove the protection film from the dome cover.**

Insert / remove a microSD memory card

■ Insert a microSD memory card

①Remove the enclosure from the camera.
②Insert the microSD memory card into the end of the microSD slot and confirm that a clicking sound is made.

Note:
● Back end of the microSD memory card does not protrude over the surface of the microSD slot (the same surface as the symbol of the microSD).

③Attach the enclosure to the camera again.

microSD memory card
Back end of the microSD memory card
Symbol of the microSD
microSD slot

■ Remove a microSD memory card

When removing a microSD memory card, reverse the procedure.
①Remove the enclosure from the camera.
②Remove the microSD memory card by pushing it into until a click sound is heard while holding the card with a finger to prevent it from popping out.
③Attach the enclosure to the camera again.

IMPORTANT:
● When removing a microSD memory card, make sure to set "SD memory card" to "Not use" on the [SD memory card] tab of the setup menu before removing the microSD memory card. After removing the memory card, set back the "SD memory card" to "Use". For information about the setup menu, refer to the Operating Instructions.

Note:
● When using a microSD memory card, format it using this product. Refer to the Operating Instructions for how to format a microSD memory card.
● Use the compatible microSD memory cards. Refer to our support website <Control No.: C0107> for latest information about the compatible microSD memory cards.