

Panasonic[®]

Network Camera Installation Guide

Model No. **WV-NF284**





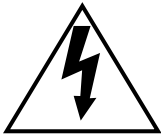
Before attempting to connect or operate this product,
please read these instructions carefully and save this manual for future use.

No model number suffix is shown in this manual.

WARNING:

- This apparatus must be earthed.
- To prevent fire or electric shock hazard, do not expose this apparatus to rain or moisture.
- The apparatus should not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, should be placed on the apparatus.
- All work related to the installation of this product should be made by qualified service personnel or system installers.
- The connections should comply with local electrical code.

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



SA 1965

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



SA 1966

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

For Canada

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

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.

The serial number of this product may be found on the surface of the unit.

You should note the 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. _____

Important Safety Instructions

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



- 13) Unplug this apparatus during lightning storms or when unused for long periods of time.
- 14) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

Limitation of Liability

THIS PUBLICATION IS PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR NON-INFRINGEMENT OF THE THIRD PARTY'S RIGHT.

THIS PUBLICATION COULD INCLUDE TECHNICAL INACCURACIES OR TYPOGRAPHICAL ERRORS. CHANGES ARE ADDED TO THE INFORMATION HEREIN, AT ANY TIME, FOR THE IMPROVEMENTS OF THIS PUBLICATION AND/OR THE CORRESPONDING PRODUCT (S).

Disclaimer of Warranty

IN NO EVENT SHALL MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD. BE LIABLE TO ANY PARTY OR ANY PERSON, EXCEPT FOR REPLACEMENT OR REASONABLE MAINTENANCE OF THE PRODUCT, FOR THE CASES, INCLUDING BUT NOT LIMITED TO BELOW:

- (1) ANY DAMAGE AND LOSS, INCLUDING WITHOUT LIMITATION, DIRECT OR INDIRECT, SPECIAL, CONSEQUENTIAL OR EXEMPLARY, ARISING OUT OF OR RELATING TO THE PRODUCT;
- (2) PERSONAL INJURY OR ANY DAMAGE CAUSED BY INAPPROPRIATE USE OR NEGLIGENT OPERATION OF THE USER;
- (3) UNAUTHORIZED DISASSEMBLE, REPAIR OR MODIFICATION OF THE PRODUCT BY THE USER;
- (4) INCONVENIENCE OR ANY LOSS ARISING WHEN IMAGES ARE NOT DISPLAYED, DUE TO ANY REASON OR CAUSE INCLUDING ANY FAILURE OR PROBLEM OF THE PRODUCT;

- (5) ANY PROBLEM, CONSEQUENTIAL INCONVENIENCE, OR LOSS OR DAMAGE, ARISING OUT OF THE SYSTEM COMBINED BY THE DEVICES OF THIRD PARTY;
- (6) ANY 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 THE PURPOSE OTHER THAN SURVEILLANCE;
- (7) LOSS OF REGISTERED DATA CAUSED BY ANY FAILURE.

Preface

The network camera WV-NF284 is designed to operate using a PC on a network (10BASE-T/100BASE-TX).

By connecting to a network (LAN) or the Internet, images and audio from the camera can be monitored on a PC via a network. *1

Features

3.6x Varifocal lens provides variation of the angular field of view when installing the camera.

Progressive scan CCD (Charge-Coupled Device)

1/4 inch progressive scan CCD with VGA resolution (640 x 480 pixels) achieves high-fidelity motion image scanning with high-resolution.

JPEG/MPEG-4 dual encode

MPEG-4 images can be monitored while recording JPEG images.

Power over Ethernet (IEEE802.3af compliant) function is featured

When connecting with a PoE (Power over Ethernet) device, power will be supplied by simply connecting a LAN cable.

Audio monitoring is available using the built-in microphone.

Audio captured by the built-in microphone can be monitored using a PC via a network.

Wall mounting and ceiling mounting are available.

The camera can be installed on a ceiling or a wall directly using the provided camera mount bracket. When using an optional ceiling mount bracket, embedded installation on a ceiling is available.

Motion detection function *2

This function detects a motion in a designated surveillance area and issue an alarm signal is featured.

SD memory card slot

The FTP backup function and recording of each log on an optional SD memory card are available using the featured SD memory card slot. *3

*1 It is necessary to configure the network settings of the PC and its network environment to monitor images and audio from the camera on the PC. It is also necessary that a web browser is installed on the PC.

*2 The motion detection function is not a dedicated function to prevent thefts, fires, etc. We assume no responsibility whatsoever for any damages resulting from the use of the motion detection function.

*3 Performance with this camera has been checked by using Panasonic's SD memory cards (64 MB, 128 MB, 256 MB, 512 MB 1 GB and 2 GB). If another SD memory card is used, this camera may not operate properly. (SD High Capacity (SDHC) card is not compatible with this camera.)

About These Operating Instructions

There are 2 sets of operating instructions for the WV-NF284 as follows.

- Installation Guide (book, these operating instructions)
- Network Operating Instructions (PDF)

The "Installation Guide" contains descriptions of how to install and connect this camera, and how to perform the required network settings. Refer to the "Network Operating Instructions (PDF)" on the provided CD-ROM for descriptions of how to perform the camera settings and how to operate this camera. Adobe® Reader is required to read the network operating instructions (PDF).

System Requirements for a PC

CPU:	Pentium® 4 2.4 GHz or faster
Memory:	512 MB or more
Network Interface:	10/100 Mbps Ethernet port x1
Audio Interface:	Sound card (when playing audio)
Monitor:	Resolution: 1 024 x 768 pixels or more Color: 24-bit True color or better
OS:	Microsoft® Windows® 2000 Professional SP4 *1 Microsoft® Windows® XP Home Edition SP2 Microsoft® Windows® XP Professional SP2
Web browser:	Microsoft® Internet Explorer® 6.0 SP2 *1 Microsoft® Internet Explorer® 6.0 SP1 only when using Windows® 2000 Professional SP4
Other:	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 read the operating instructions on the provided CD-ROM.

Notes:

- When using a PC that does not meet the above requirements, displaying of images may become slow or the web browser may become inoperable.
 - Audio will not be heard if a sound card is not installed on a PC. Audio may be interrupted depending on the network environment.
-

Trademarks and Registered Trademarks

- Microsoft, Windows, Internet Explorer, and DirectX are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.
- Intel and Pentium are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries.
- Adobe and Reader are either registered trademarks or trademarks of Adobe Systems Incorporated in the United States and/or other countries.
- SD logo is a trademark.
- Other names of companies and products contained in these operating instructions may be trademarks or registered trademarks of their respective owners.

Network Security

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

1. Leakage or theft of information through this product
2. Use of this product for illegal operations by persons with malicious intent
3. Interference with or stoppage of this product 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 product in a network secured by a firewall, etc.
- If this product 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.).
- 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.
- Do not install the camera in locations where the camera or the cables can be destroyed or damaged by persons with malicious intent.

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Precautions

Use this product for indoor use only.

Do not expose this product to direct sunlight for hours and do not install the product near a heater or an air conditioner. Otherwise, it may cause deformation, discoloration and malfunction. Keep this product away from water.

To continue using with stable performance

- Parts of this product may deteriorate and it may shorten lifetime of this product when using in locations subject to high temperatures and high humidity. Do not expose the product to direct heat such from a heater.
- Use this product at temperature within +5°C - +35°C (41°F - 95°F). (when using this product without turning the power off)

Handle the appliance with care.

Do not strike or shake, as this may damage this product. It may cause a malfunction.

About the PC monitor

When displaying the same image on the PC monitor for a long time, the PC monitor may be damaged. It is recommended to use a screen-saver.

When an error is detected, the camera will restart automatically.

This camera will restart when detecting an error caused by any reason. The camera will be inoperable for around 30 seconds after the restart just as when the power is turned on.

Cleaning the camera body

Turn the power off when cleaning of the camera. Use a dry cloth to clean the camera.

Do not use strong abrasive detergent when cleaning the camera body. When the dirt is hard to remove, use a mild detergent and wipe gently. Then, wipe off the remaining detergent with a dry cloth.

Otherwise, it may cause discoloration. When using a chemical cloth for cleaning, read the caution provided with the chemical cloth product.

Cleaning the lens

Use a lens cleaning paper (used to clean camera lenses or lenses of spectacles). When using solvent, use an alcohol solvent. Do not use a thinner or a glass cleaner.

SD memory card

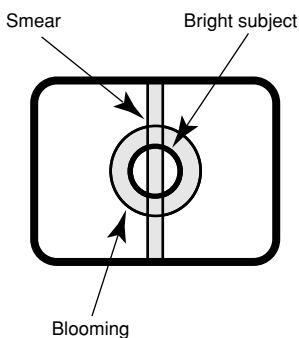
- When insert an SD memory card into the SD memory card slot, turn the power of the camera off. Otherwise, it may cause malfunction or damage data recorded on the SD memory card.
Refer to page 28 for descriptions of how to insert/remove an SD memory card.
- When using an unformatted SD memory card, format it using this camera.
Recorded data on the SD memory card will be deleted when formatted.
If using an unformatted SD memory card or using an SD card formatted with other device, the camera may not work properly or performance deterioration may be caused.
Refer to the network operating instructions (PDF) for descriptions of how to format an SD memory card.
- It is recommended to use Panasonic's SD memory cards (64 MB, 128 MB, 256 MB, 512 MB, 1 GB, and 2 GB) since they have tested and confirmed full compatibility with this camera.
If another SD memory card is used, the camera may not work properly or performance deterioration may be caused.

Discoloration on the CCD color filter

When continuously shooting a bright light source such as a spotlight, the color filter of the CCD may have deteriorated and it may cause discoloration. Even when changing the fixed shooting direction after continuously shooting a spotlight for a certain period, the discoloration may remain.

Do not aim the camera at strong light sources.

A light source such as a spot light causes a blooming (light bleeding) or a smear (vertical lines).



Indication label

Refer to the indication label placed on the surface of the unit as to the indications of equipment classification and power source, etc.

PoE (Power over Ethernet)

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

Router

When connecting the camera to the Internet, use a broadband router with the port forwarding function (NAT, IP masquerade). Refer to the Network Operating Instructions (PDF) for further information about the port forwarding function.

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

Radio interference

When the camera is used near a TV/radio antenna, or a strong electric field or magnetic field (such as near a motor or a transformer), images may be distorted and noise may be produced.

Installing place

Contact your dealer for assistance if you are unsure of an appropriate place in your particular environment.

Make sure that the installation area is strong enough to hold the camera, such as a concrete ceiling. When the installation area is not strong enough, reinforce and strengthen it or use an optional ceiling mount bracket (WV-Q167).

Avoid installing in the following locations.

- Locations where it may get wet from rain or water splash (not only outdoor)
- Locations where a chemical agent is used such as a swimming pool
- Locations subject to steam and oil smoke such as a kitchen
- Locations near flammable gas or vapor
- Locations where radiation or x-ray emissions are produced
- Locations subject to strong magnetic field or radio waves
- 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 -10°C - $+50^{\circ}\text{C}$ (14°F - 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 (In case of installing the camera in such locations, the dome cover may become foggy or condensation may be caused on the cover.)
- Locations with humid or dusty environment

Mounting screws

Only the fixing screws are provided to fix the camera with the provided camera mount bracket. It is necessary to procure screws or bolts to mount the camera. Prepare them according to the material and strength of the area where the camera is to be installed. The screws and bolts must be tightened with an appropriate tightening torque according to the material and strength of the installation area.

Refresh interval

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

Code labels

Retain these labels for future reference. The codes on the label will be requested when you contact the service station. It is recommended to paste one of the labels onto the CD-ROM case.

MPEG-4 Visual patent portfolio license

This product is licensed under the MPEG-4 Visual patent portfolio license for the personal and non-commercial use of a consumer for (i) encoding video in compliance with the MPEG-4 Visual Standard ("MPEG-4 Video") and/or (ii) decoding MPEG-4 Video that was encoded by a consumer engaged in a personal and non-commercial activity and/or was obtained from a video provider licensed by MPEG LA to provide MPEG-4 Video. No license is granted or shall be implied for any other use. Additional information including that relating to promotional, internal and commercial uses and licensing may be obtained from MPEG LA, LLC. See <http://www.mpegla.com>.

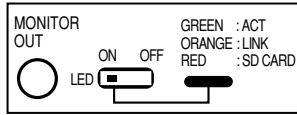
Distributing, copying, disassembling, reverse compiling, reverse engineering, and also exporting in violation of export laws of the software provided with this product, is expressively prohibited.

Be sure to install the safety wire.

Major Operating Controls and Their Functions

<Inside the dome cover>

Explanatory label



① LEDs (Indicators)
(Link indicator, Access indicator,
SD memory card error indicator)

② Indicators ON/OFF
switch

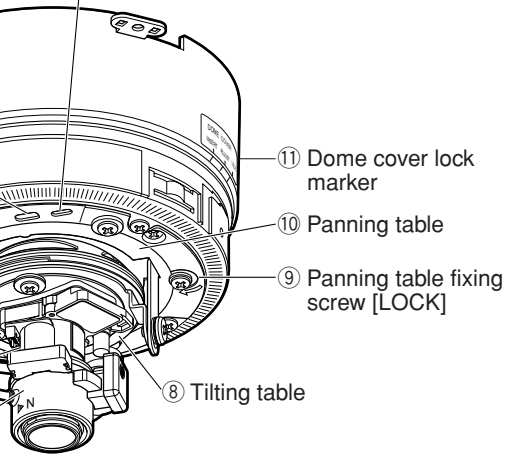
③ Monitor out connector
(for adjustment)

④ Image tilt adjustment
ring

⑤ SD memory card slot

⑥ Zoom ring

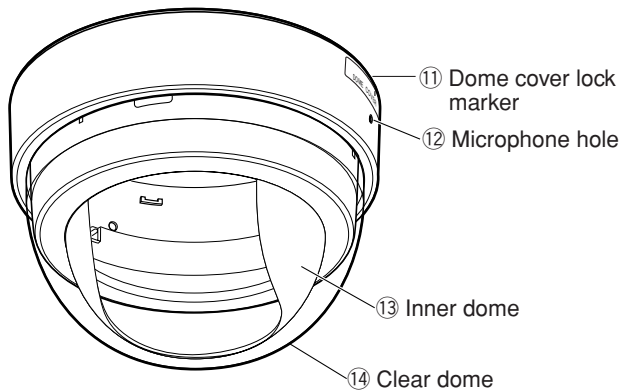
⑦ Focus ring



⑪ Dome cover lock
marker

⑩ Panning table

⑨ Panning table fixing
screw [LOCK]



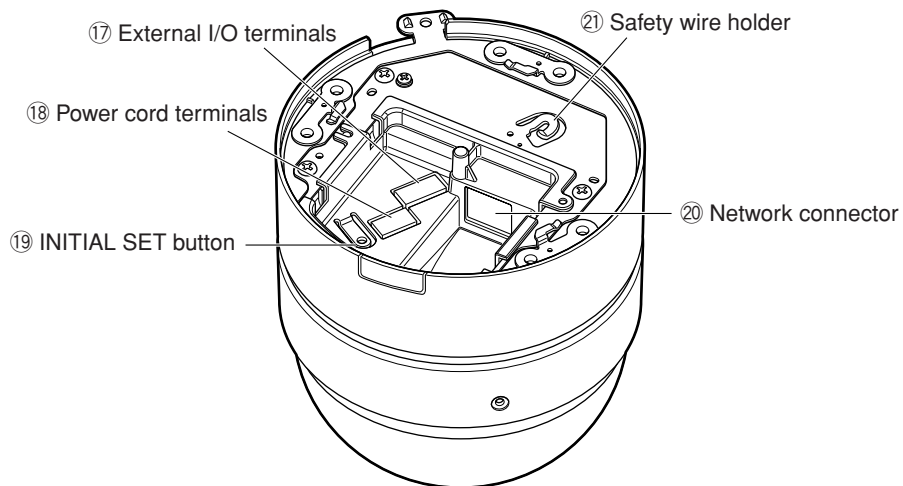
⑪ Dome cover lock
marker

⑫ Microphone hole

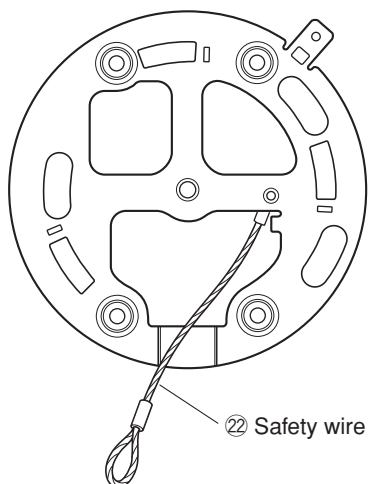
⑬ Inner dome

⑭ Clear dome

<Mounting side>



<Camera mount bracket (provided as a standard accessory)>



■ Inside the dome cover

① LEDs (Indicators)

- Access indicator (green)
Blinks when the camera is accessed.
- Link indicator (orange)
Lights when the communication with a network is established.
- SD memory card error indicator (red)
Lights when an error occurred in the SD memory card.

② Indicators ON/OFF switch

Select "ON" or "OFF" to determine whether or not to activate the link indicator and the access indicator.

Important:

Select "ON" for normal use.

When "ON" is selected, it is possible to turn on/off this switch using a PC via a network.

When it is necessary to turn off the indicators, turn off the indicators using a PC via a network (by selecting "OFF" for "Link/Access LED" of "Basic Setup" on the setup menu).

(Refer to the network operating instructions (PDF) for further information.)

③ Monitor out connector (for adjustment) (ø3.5mm mini jack)

This connector is provided only for checking the adjustment the angular field of view or the focus on the video monitor when installing the camera or when servicing. (☞ page 21)

④ Image tilt adjustment ring

Use this ring to correct image tilt. (☞ page 26)

⑤ SD memory card slot

Insert an SD memory card. (☞ page 28)

⑥ Zoom ring

Use this ring to adjust the angular field of view. (☞ page 27)

⑦ Focus ring

Use this ring to adjust the focus. (☞ page 27)

⑧ Tilting table

Rotate this table to adjust the tilting angle of the camera. (☞ page 26)

⑨ Panning table fixing screw [LOCK]

Fix the panning table with this screw after adjusting the panning angle of the camera. (☞ page 26)

⑩ Panning table

Rotate this table to adjust the panning angle of the camera. (☞ page 26)

■ Dome cover

Protect the camera head with this dome cover.

⑪ Dome cover lock marker

(☞ pages 18 - 20)

⑫ Microphone hole

This hole is for microphone input (audio capture). Do not block this hole. Otherwise, audio may become garbled.

⑬ Inner dome

⑭ Clear dome

Remove the cover film from the dome cover after the installation is complete. Do not touch the dome cover by hand directly after removing the cover film.

■ Mounting side

⑰ External I/O terminals

Connect an external device to these terminals. (☞ page 22)

⑱ Power cord terminals

Connect the power cord from a DC12 V or an AC 24 V power supply. (☞ page 21)

⑲ **INITIAL SET button**

Use this button to reset the settings of the camera to the default settings.

Turn off the power of the camera. Then, turn on the power of the camera while holding down this button and wait around 5 seconds without releasing this button. Wait around 30 seconds after releasing the button. The camera will restart and the settings including the network and the date/time settings will be initialized.

⑳ **Network connector**

Connect a LAN cable (category 5) to this connector. (☞ page 22)

㉑ **Safety wire holder**

Attach the safety wire fixed with the camera mount bracket to the holder. Make sure that the safety wire is securely hooked on the safety wire holder when adjusting or installing the camera.

(☞ page 18)

■ Camera mount bracket

㉒ **Safety wire**

Attach this wire to the safety wire holder of the camera. Make sure that the safety wire is securely hooked on the safety wire holder when adjusting or installing the camera. (☞ page 18)

Installations/Connections

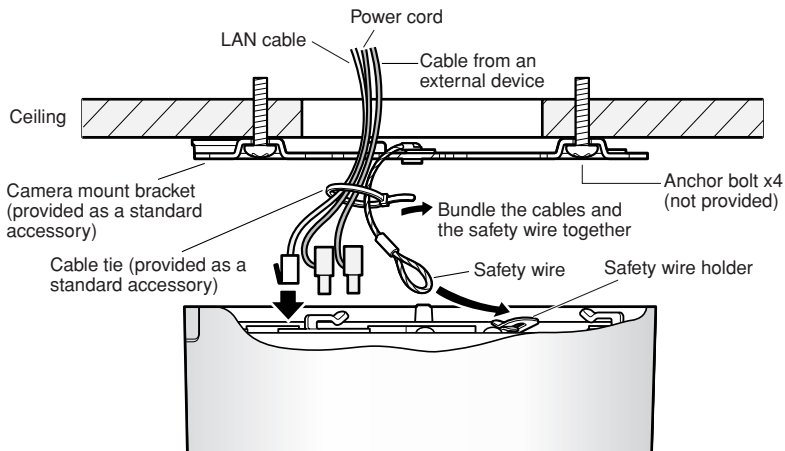
Cautions:

ONLY CONNECT THIS TO 12 V DC or 24 V AC CLASS 2 POWER SUPPLY.
Be sure to connect the grounding lead to the GND terminal.

Installation of the camera

Before starting the installation/connection, prepare the required devices and cables. Refer to the corresponding pages for further information.

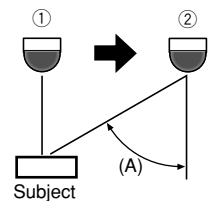
- 1 Make a hole in the ceiling and fix the camera mount bracket over it. (☞ page 17)
- 2 Line up the ends of the cables (power cord, LAN cable and cable from an external device) and the safety wire, and then bundle them using the provided cable tie. (☞ page 18)
- 3 Attach the safety wire to the safety wire holder of the camera. (☞ page 18)
- 4 Connect the power cord (from a DC 12 V or an AC 24 V power supply), a LAN cable (category 5 or better) and an external device. (☞ pages 21 - 23)
- 5 Mount the camera onto the camera mount bracket. (☞ page 18)
- 6 Adjust angle of the camera, angular field of view and focus. (☞ pages 26 and 27)



Note:

When the camera is installed just above the photogenic subject as ① in the illustration, it may be difficult to adjust angular field of view focusing around the subject.

To easily adjust angular field of view focusing around the subject, increase an angle (A) as ②.

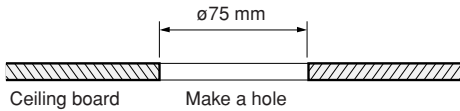


Installation of the camera mount bracket

Step 1

Make a hole in the ceiling.

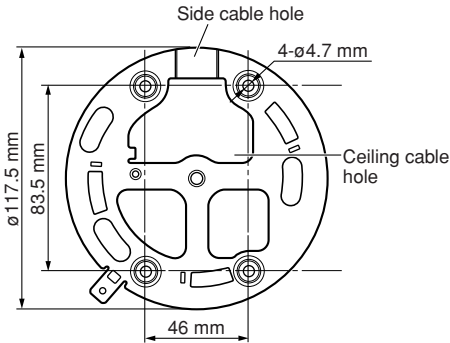
If the camera is directly mounted on a wall/ceiling, align the camera mounting position with the position of the hole through which the cables run and make the hole.



Note:

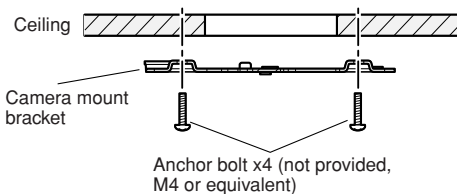
Mounting on a two-gang junction box (locally procured) is available since the screw holes of the provided camera mount bracket is also designed for mounting on it.

<Camera mount bracket>



Step 2

Fix the camera mount bracket.



Important:

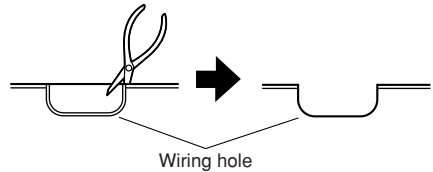
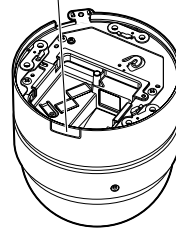
- Procure 4 mounting anchor bolts according to the material of the installation area. In this case, wood screws and nails should not be used.

Recommended tightening torque is as follows.

M4: 1.6 N·m {16 kgf·cm}

- Required pull-out capacity of a single bolt is 196 N {20 kgf} or more.
- If a ceiling board such as plaster board is too weak to support the total weight, the area shall be sufficiently reinforced.
- The protection sheet attached to the dome cover shall be peeled off after installation.

Remove the tab using a pliers, etc.



Note:

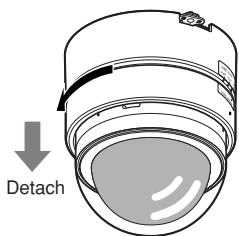
It is also possible to mount the camera on a ceiling or a wall without making a hole. To mount the camera without making a hole, it is necessary to remove the tab of the camera to open the wiring hole as shown in the illustration.

Installation of the camera

Before starting the installation, turn off the power of the devices including the camera and the PC or disconnect from the power supply.

Step 1

Detach the dome cover from the main body and remove the buffer (cushioning).

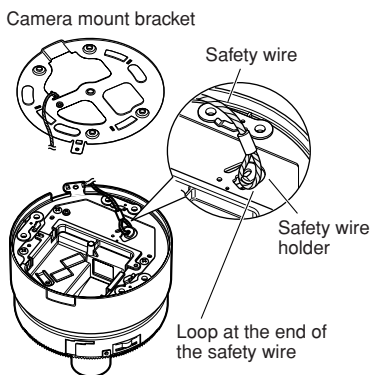


Step 2

Line up the ends of the cables (power cord, LAN cable and cable from an external device) and the safety wire, and then bundle them using the provided cable tie.

Step 3

Attach the safety wire fixed with the camera mount bracket to the camera. After attaching the safety wire to the camera, pull the safety wire and confirm that the loop at the end of the safety wire is securely hooked on the safety wire holder.



Important:

The safety wire is designed to support only the weight of the camera when the camera falls. Do not put an excessive weight that the safety wire cannot support.

Step 4

Connect the power cord plug, a LAN cable and the external I/O terminals plug. (See pages 21 - 23)

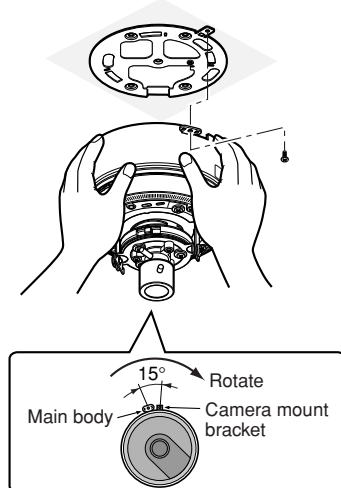
Step 5

Mount the camera onto the camera mount bracket. Press the camera onto the camera mount bracket until they fit closely and rotate the camera clockwise.

Step 6

Fix the camera and the camera mount bracket using the provided camera fixing screw (M3 x 6) (tightening torque: 0.59 N·m {6 kgf·cm}). After fixing with the camera fixing screw, check the following.

- The camera is placed on the level and mounted firmly.
- The camera is not mounted shakily.
- The main body cannot be rotated.



The mounting requirements are shown as follows.

Mounting place	Model	Recommended screw	Number of screws	Minimum pull-out strength of a single screw
Ceiling/wall	(Direct mounting)	M4 or equivalent	4 pcs.	196 N {20 kgf}
Ceiling	WV-Q167 (Approx. 285 g)	–	–	*

* Make sure that the installed mount bracket can support more than 5 times of the weight of the camera.

Step 7

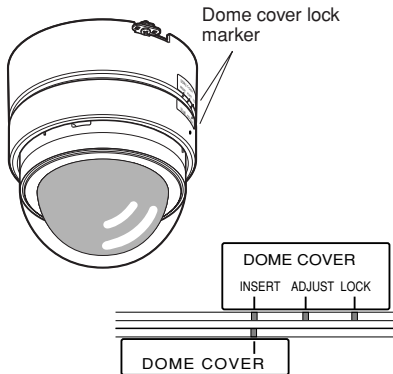
Turn on the power of the camera.

Step 8

Adjust angular field of view and focus.
(☞ pages 26 and 27)

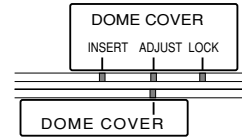
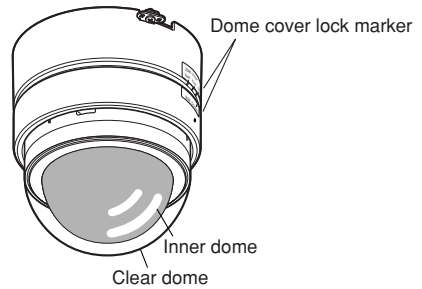
Step 9

Attach the dome cover to the main body.
Insert the dome cover into the camera body so that the "I" mark of the dome cover is aligned with the "INSERT" position.



Step 10

Adjust images using a video monitor.
Rotate the dome cover clockwise until the indication "I" reaches the position "ADJUST". Then, rotate the clear dome from side to side while monitoring images on the video monitor to find a place where images are displayed without vignetting.



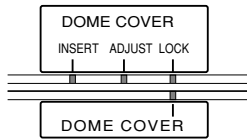
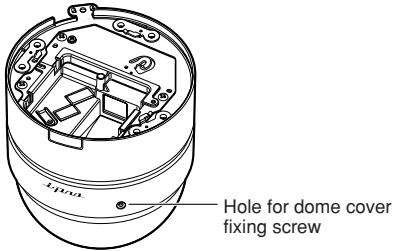
Important:

When adjusting images by accessing the inside the dome cover, make sure that the indication "I" is at the position "ADJUST". Otherwise, it may damage the camera and cause a malfunction.

Step 11

Rotate the dome cover to move the "I" indication to the "LOCK" position.

Fix the dome cover on the main body using the provided dome cover fixing screw (tapping screw, nominal diameter: $\varnothing 2.6$ mm) (tightening torque: 0.59 N·m { 6 kgf·cm}).



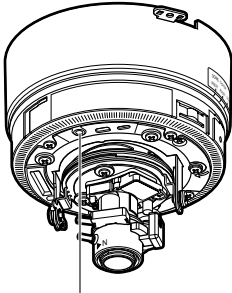
Important:

The hole for the dome cover fixing screw is located near the "i-Pro" logo. The hole located near the dome cover lock marker is the microphone hole. Do not screw onto this hole.

Connections

Step 1

Connect the monitor cable (provided as a standard accessory) between the monitor out connector inside the dome cover and the video in connector of the video monitor (only when adjusting angular field of view).



Monitor out connector (for adjustment)

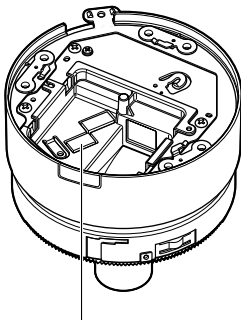
Important:

The monitor out connector 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.

Step 2

Connect a power cord from a power supply.



Power cord terminals

• When using AC 24 V/DC 12 V power supply

- Remove 3 mm – 7 mm of the outer jacket of the power cord from a DC 12 V or an AC 24 V power supply and twist the core of the power cord to prevent a short circuit.

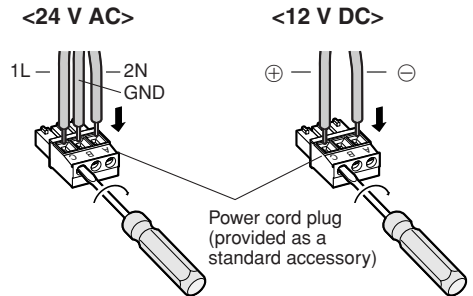


Approx. 3 mm - 7 mm

Specification of cable (wire):

AWG #16 - #28 Single core, twisted

- Loosen the screws of the provided power cord plug and insert the power cords into the power cord plug until the exposed core wires are completely hidden.
- Tighten the screws to fix the inserted power cords.
 - * Make sure that the exposed core wires are completely hidden after tightening the screws.



	24 V AC IN	12 V DC IN
A	2 N	⊖
B	GND	NC
C	1 L	⊕

- Insert the power cord plug to the power cord terminals on the mounting side of the camera.
 - * Make sure that the power cord plug is inserted to the power cord terminal firmly.

• When using PoE (Power over Ethernet: IEEE802.3af compliant)

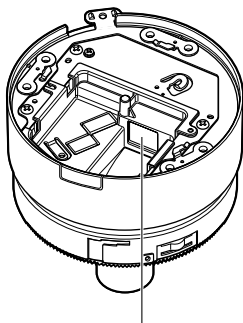
Connect a LAN cable (category 5 or better) between a PoE device (such as a PoE hub) and the network connector of the camera.

Important:

- Use all of 4 pairs (8 pins) of the LAN cable.
- The maximum cable length is 100 m.
- Make sure that the PoE device in use is compliant with IEEE802.3af standard.
- When connecting both the AC 24 V/DC 12 V power supply and the PoE device for power supply, PoE will be used for power supply.
- When disconnecting the LAN cable once, connect the cable again after 2 seconds or more from the disconnection. When the cable is connected before 2 seconds passed, the power may not be supplied from the PoE device.
- Refer to the provided slip (Recommended network devices for PoE (IEEE802.3af compliant) connection with the WV-NF284) for applicable PoE devices.

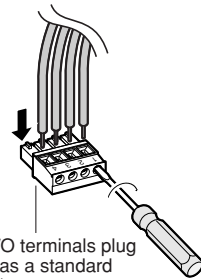
Step 3

Connect a LAN cable (category 5 or better) to the network connector on the mounting side of the camera.



Network connector

- ② Loosen the screws of the provided external I/O terminals plug and insert the cables from the external device into the external I/O terminals plug until the exposed core wires are completely hidden.



External I/O terminals plug
(provided as a standard
accessory)

Step 4

Connect an external device.

- ① Remove 3 mm – 7 mm of the outer jacket of the cable from the external device and twist the core of the power cord to prevent a short circuit.



Approx. 3 mm - 7 mm

Specification of cable (wire):

AWG #16 - #28 Single core, twisted

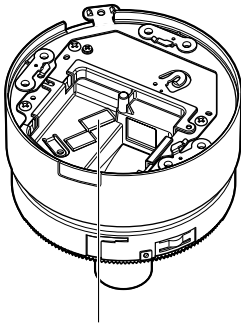
- ③ Tighten the screws to fix the inserted cables.
 - * Make sure that the exposed core wires are completely hidden after tightening the screws.

Important:

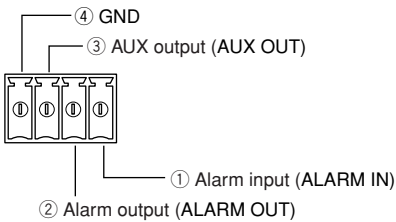
- Do not connect 2 wires or more directly to a terminal. When it is necessary to connect 2 wires or more, use a splitter.
 - Connect an external device with verifying that the ratings are within the specifications below.
-

④ Insert the external I/O terminals plug to the external I/O terminals on the mounting side of the camera firmly.

- * Make sure that the external I/O terminals plug is inserted to the external I/O terminals firmly.



External I/O terminals

<Ratings>

① ALARM IN
No-voltage make contact input (4-5 V DC pulled up)

OFF: Open or 4-5 V DC

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

② ALARM OUT, ③ AUX OUT

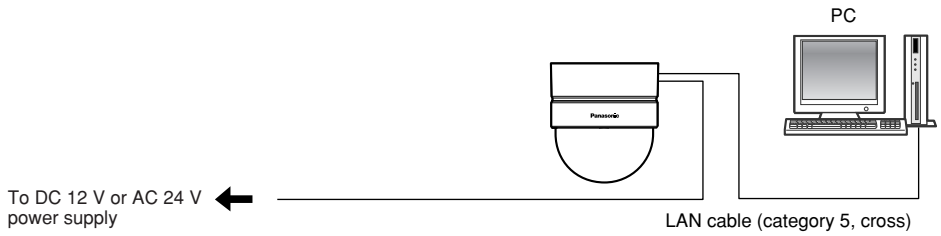
Open collector output (external max. applied voltage: 20 V DC)

OPEN: 4-5 V DC, internally pulled up

CLOSE: Output voltage of 1 V DC or less (100 mA or less)

[Connection example]

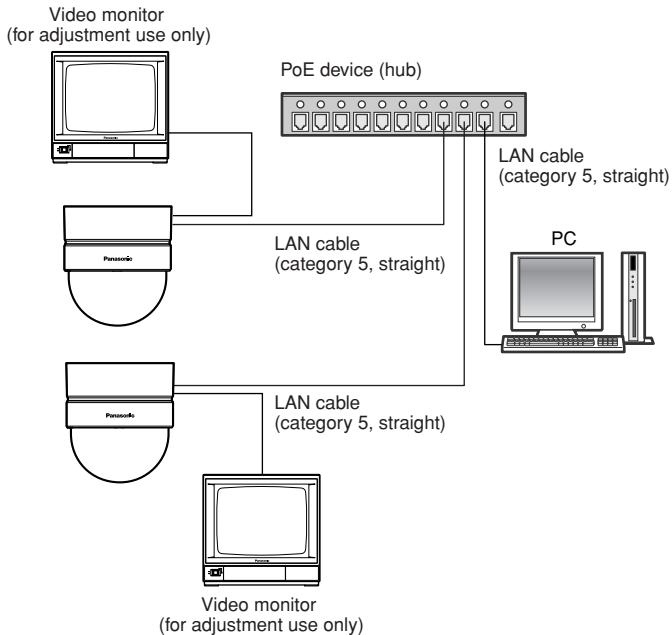
When connecting with a PC directly



<Required cable>

LAN cable (category 5, cross)

When connecting to a network using a PoE device (hub)



<Required hardware>

PoE device (hub)

<Required cable>

LAN cable (category 5, straight)

Important:

- The monitor out connector 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.
 - Power supply is required for each network camera. When using a PoE device (hub), AC24 V/DC 12 V power supply is unnecessary.
-

Adjustment of Shooting Direction

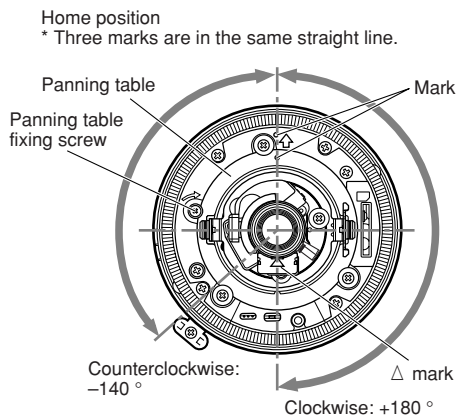
Determine the shooting direction by using the panning table, the tilting table and the image tilt adjustment ring.

Horizontal position adjustment (panning)

Loosen the panning table fixing screw and rotate the panning table to determine the horizontal position (available range: 320°).

The horizontal position can be adjusted by rotating the panning table clockwise (+180°) and counterclockwise (-140°).

After determining the horizontal position, fix the panning table with the panning table fixing screw.



Vertical position adjustment (tilting)

Rotate the tilting table to determine the vertical position (Available range: ±75°). View angle is variable. (The varifocal lens is featured.) Images will be displayed upside down when the tilting position is adjusted to the minus direction. In this case, rotate the panning table +180° to correct the upside down images.

<Angle ①>

Horizontal: 21° (TELE) - 73° (WIDE)

Vertical: 16° (TELE) - 54° (WIDE)

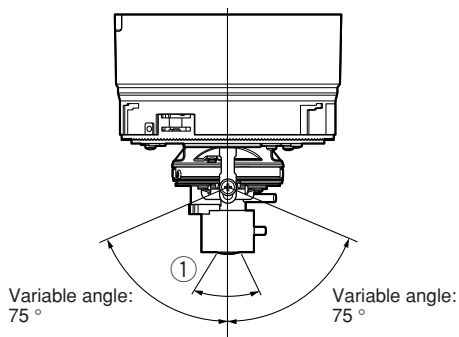
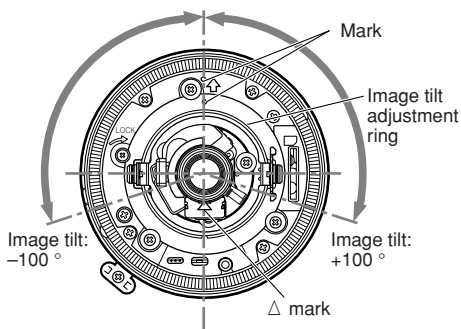


Image tilt adjustment

Adjust image tilt by rotating the Image tilt adjustment ring (Available range: ±100°).

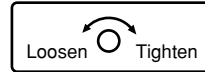
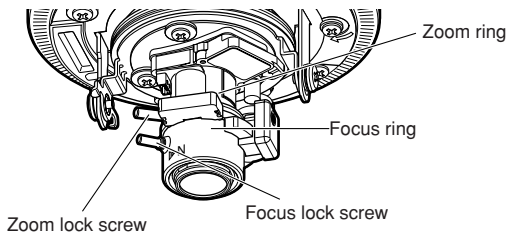
Note:

The closer the horizontal position to a level, the more the dome cover shade may appear in images.



Adjustment of Angular Field of View and Focus

Angular field of view and focus can be adjusted according to the distance between the camera and a subject. Adjust angular field of view and focus while determining the shooting direction.



Step 1

Loosen the zoom lock screw, and then rotate the zoom ring to adjust angular field of view according to the subject. When the angular field of view is determined, tighten the zoom lock screw.

Step 2

Loosen the focus lock screw, and then rotate the focus ring to adjust focus. When the subject is focused, tighten the focus lock screw.

Note:

When changing the angular field of view, adjust it again using the zoom ring and the focus ring.

Focus adjustment

When shooting an object using an ALC lens, the first adjusted focus may be out-of-focus depending on the focal depth of the lens in use. In this case, focus on a darker object with the aperture open to prevent out-of-focus.

Insert/Remove an SD Memory Card

How to insert an SD memory card

Important:

Check if the insertion direction of the SD memory card is correct before inserting it.

Step 1

Remove the dome cover fixing screw, and then detach the dome cover from the main body.

(☞ page 18)

Step 2

Insert an SD memory card into the SD memory card slot.

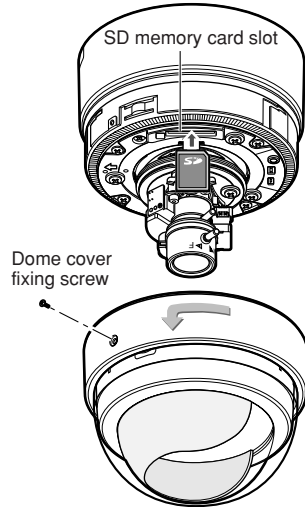
Step 3

Attach the dome cover.

(☞ page 19)

Step 4

Select "Use" for "SD memory card" on the [SD memory card] tab of "Basic Setup" on the setup menu. (☞ Network operating instructions (PDF))



How to remove the SD memory card

Important:

Before removing the SD memory card, select "Not use" for "SD memory card" on the [SD memory card] tab of "Basic Setup" on the setup menu first. (☞ Network operating instructions (PDF))

Step 1

Remove the dome cover fixing screw, and then detach the dome cover from the main body.

(☞ page 18)

Step 2

Remove the SD memory card after releasing the lock by pushing the SD memory card once.

Step 3

Attach the dome cover. (☞ page 19)

Configure the Network Settings

Install the software

Before installing the software, read the readme file on the provided CD-ROM first.

Software included on the provided CD-ROM

- Panasonic IP Setting Software
Configure the network settings of the camera. Refer to the following for further information.
- Viewer Software "Network Camera View3"
It is necessary to install the viewer software "Network Camera Viewer3" to display images on a PC. Double-click the "Setup.exe" icon on the provided CD-ROM and follow the instructions of the displayed install wizard to install the viewer software "Network Camera Viewer3".

Configure the network settings of the camera using the Panasonic IP setting software

It is possible to configure the network settings of the camera using the IP setting software on the provided CD-ROM.

When using multiple cameras, it is necessary to configure the network settings of each camera independently.

If the Panasonic IP setting software does not work, configure the network settings of the camera and the PC individually on the "Network setup" page of the setup menu. Refer to the network operating instructions (PDF) for further information.

Important:

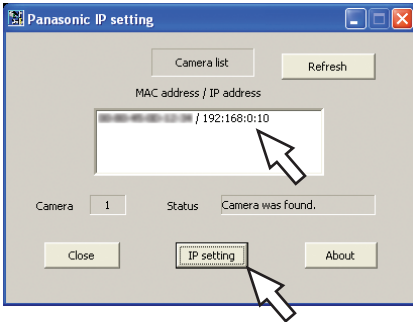
- When using Windows® XP SP2, the "Windows Security Alert" window may be displayed when starting the IP setting software.
In this case, click the "Unblock" button on the displayed "Windows Security Alert" window.
 - For the security enhancement, the MAC address/IP address of the camera to be configured will not be displayed when around 20 minutes have passed after turning on the power of the camera.
 - The Panasonic IP setting software is inoperable in other subnets via the same router.
-

Step 1

Start the Panasonic IP setting software.

Step 2

Click the [IP setting] button after selecting the MAC address/IP address of the camera to be configured.

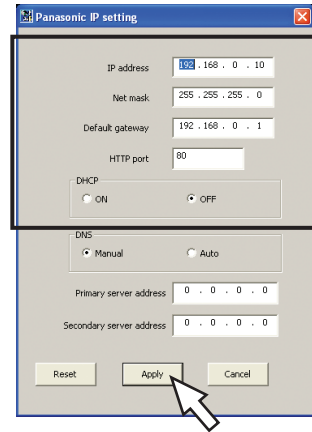


Note:

When using a DHCP server, the IP address assigned to the camera can be displayed by clicking the [Refresh] button of the IP setting software.

Step 3

Complete each network setup item and click the [Apply] button.



Note:

When using a DHCP server, it is possible to set "DNS" to "AUTO".

Important:

- It may take around 30 seconds to completely upload the settings of the camera after clicking the [Apply] button. The settings may be invalidated when the AC 24 V or DC 12 V power supply is cut or when the LAN cable is disconnected before completing the upload. In this case, configure the settings again.
- When using a firewall (including software), allow access to all UDP ports.

Troubleshooting

Before asking for repairs, check the symptoms on the following table.
Contact your dealer if a problem cannot be solved even after checking and trying the solution or if the problem is not described below.

Symptom	Cause/solution	Page
The power cannot be turned on.	<p>When using AC/DC power supply</p> <ul style="list-style-type: none">• Is AC 24 V or DC 12 V power supply connected to the power cord terminal? → Confirm the cable is firmly connected. <p>When using a PoE device for power supply</p> <ul style="list-style-type: none">• Are the PoE device and the network connector on the mounting side of the camera connected using a LAN cable (4-pair)? → Confirm the cable is firmly connected.• Depending on the PoE device, the power supply will stop when the demanded power exceeds its total power limit for all PoE ports. → Refer to the operating instructions of the PoE device in use.	21 - 22

Specifications

General specification

Power source	AC 24 V or DC 12 V, PoE (IEEE802.3af compliant)
Power consumption	AC 24 V 60 Hz: 4.0 W, DC 12 V: 350 mA, PoE: 4.0 W (Class 2 device)
Ambient temperature	-10 °C - +50 °C {14 °F - 122 °F}
Ambient humidity	90 % or less
Monitor output (only for adjustment)	VBS: 1.0 V [P-P]/75 Ω, composite, ø3.5 mm mini jack (monaural)
External I/O terminals	ALARM IN, ALARM OUT, AUX OUT (x1 each)
Audio	Captured by the built-in microphone
Dimensions	ø122 mm x 136 mm (H)
Weight	Approx. 640 g (including the camera mount bracket)

Camera

Image sensor	1/4 inch interline transfer CCD
Effective pixels	659 (H) x 494 (V)
Scanning area	3.59 mm (H) x 2.70 mm (V)
Scanning system	Progressive
Resolution	VGA: 640 x 480, QVGA: 320 x 240
Minimum illumination	1.5 lx (F1.4)
AGC	Always ON (fixed)
Electronic shutter	AUTO
Sensitivity up	OFF, x2AUTO, x4AUTO, x8AUTO, x16AUTO
White balance	AUTO/HOLD
Electronic Zoom	1x, 1.5x, 2x, 2.5x, 3x
VMD alarm	ON/OFF, 4 areas available
Aperture control	ALC (BLC ON/OFF)
ALC lens drive	DC drive
Lens type	3.6x variable focal lens
Focal length (f)	2.8 mm - 10 mm
Aperture ratio	1 : 1.3 (WIDE), 1 : 3.1 (TELE)
Angular field of view	Horizontal: 20.8 ° (TELE) – 73.5 ° (WIDE) Vertical: 15.6 ° (TELE) – 54.4 ° (WIDE)
Adjusting angle	Horizontal: 180 ° (clockwise), 140 ° (counterclockwise) Vertical: ±75 °, Image tilt adjustment range: ±100 °

Network

Network	10BASE-T/100BASE-TX, RJ45 connector
Resolution	VGA (640 x 480)/QVGA (320 x 240)
Image compression method	
MPEG-4	MPEG-4 Image quality: LOW/NORMAL/FINE Transmission type: UNICAST/MULTICAST
JPEG	JPEG 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
Refresh interval	0.1 fps - 30 fps (Frame rate of JPEG display will be limited when displaying JPEG and MPEG-4 simultaneously.)
Audio compression method	G.726 (ADPCM) 32 kbps/16 kbps
Bandwidth Control	64 kbps/128 kbps/256 kbps/512 kbps/1 024 kbps/ 2 048 kbps/4 096 kbps/Unlimited
Protocol	TCP/IP, UDP/IP, HTTP, RTP, FTP, SMTP, DHCP, DNS, DDNS, NTP, SNMP
OS	Microsoft® Windows® 2000 Professional SP4, Microsoft® Windows® XP Home Edition SP2, Microsoft® Windows® XP Professional SP2
Web browser	Microsoft® Internet Explorer® 6.0 SP2 * Microsoft® Internet Explorer® 6.0 SP1 only when using Windows® 2000 Professional SP4
Maximum access concurrent number	8 (Depends on network conditions)
FTP client	Alarm FTP image transmission, FTP periodic transmission (When the FTP periodic transmission is failed, backup on an optional SD memory card is available.)
Multi-screen	Images from 8 cameras (4 cameras x 2 groups) can be displayed simultaneously.
SD memory card (optional)	Manufactured by Panasonic (Performance with this camera has been checked.) Capacity: 64 MB, 128 MB, 256 MB, 512 MB, 1 GB, 2 GB * SD High Capacity (SDHC) card is not compatible with this camera.

Standard Accessories

CD-ROM*	1 pc.
Installation Guide (this book)	1 pc.
Warranty	1 set

The following is for the installation.

Power cord plug	1 pc.
External I/O terminals plug	1 pc.
Code Label	1 pc.
Camera mount bracket	1 pc.
Camera fixing screw (M3 x 6)	2 pcs. (incl. a spare screw)
Dome cover fixing screw (tapping screw, nominal diameter: $\varnothing 2.6$ mm)	2 pcs. (incl. a spare screw)
Monitor cable ($\varnothing 3.5$ mm mini plug (to the camera), BNC connector (to the video monitor))	1 pc.
Cable tie	2 pcs. (incl. a spare tie)

* The IP setting software, the viewer software and the network operating instructions (PDF) are included on the CD-ROM.

* Prepare four fixing screws (M4 or equivalent) to be used to mount the provided mount bracket according to the material of the area where the camera mount bracket is to be installed. Do not use wood screws and nails.

Options

Dome cover (smoke type)	WV-CF4S
Ceiling Mount Bracket	WV-Q167

Panasonic System Solutions Company,
Unit Company of Panasonic Corporation of North America

Security Systems

www.panasonic.com/security

For customer support, call 1.877.733.3689

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Zone Office

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Central: 1707 N. Randal Road, Elgin, IL 60123

Southern: 1225 Northbrook Parkway, Suwanee, GA 30024

Western: 6550 Katella Ave., Cypress, CA 90630

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