

Network Camera

Installation Manual

Before operating the unit, please read this manual thoroughly and retain it for future reference.



SNC-RX570N/RX570P DynaView SNC-RX550N/RX550P SNC-RX530N/RX530P

<http://www.sony.net/>

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Owner's Record

The model and serial numbers are located on the bottom. Record these numbers in the spaces provided below. Refer to these numbers whenever you call upon your Sony dealer regarding this product.

Model No. _____ Serial No. _____

WARNING

To reduce a risk of fire or electric shock, do not expose this product to rain or moisture.

To avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.

WARNING

This installation should be made by a qualified service person and should conform to all local codes.

WARNING

A readily accessible disconnect device shall be incorporated in the building installation wiring.

WARNING (for Installers only)

Instructions for installing the equipment on the ceiling: After the installation, ensure the connection is capable of supporting five times the weight of the equipment downwards.

CAUTION

The rating label is located on the bottom.

CAUTION for LAN port

For safety reason, do not connect the LAN port to any network devices that might have excessive voltage.

Power Supply

Caution for U.S.A. and Canada

The SNC-RX570N/RX550N/RX530N operates on 24V AC or 12V DC. The SNC-RX570N/RX550N/RX530N automatically detects the power.

Use a Class 2 power supply which is UL Listed (in the U.S.A.) or CSA-certified (in Canada).

Caution for other countries

The SNC-RX570N/RX550N/RX530N/RX550P/RX530P operates on 24V AC or 12V DC. The SNC-RX570N/RX550N/RX530N/RX550P/RX530P automatically detects the power.

Use a power supply rated 24 V AC or 12 V DC which meets the requirements for SELV (Safety Extra Low Voltage) and complies with Limited Power Source according to IEC 60950.

For customers in the U.S.A. (SNC-RX570N/RX550N/RX530N only)

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.

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.

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

All interface cables used to connect peripherals must be shielded in order to comply with the limits for a digital device pursuant to Subpart B or Part 15 of FCC Rules.

For customers in Canada (SNC-RX570N/RX550N/RX530N only)
This Class A digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

For the customers in Europe

The manufacturer of this product is Sony Corporation, 1-7-1 Konan, Minato-ku, Tokyo, Japan.
The Authorized Representative for EMC and product safety is Sony Deutschland GmbH, Hedelfinger Strasse 61, 70327 Stuttgart, Germany.
For any service or guarantee matters please refer to the addresses given in separate service or guarantee documents.

For the customers in Europe, Australia and New Zealand

WARNING

This is a Class A product. In a domestic environment, this product may cause radio interference in which case the user may be required to take adequate measures.

In the case that interference should occur, consult your nearest authorized Sony service facility.
This apparatus shall not be used in the residential area.

ATTENTION

The electromagnetic fields at specific frequencies may influence the picture of the unit.

For the customers in Taiwan only



廢電池請回收

Features

- Monitoring of a high-quality live image from the camera is possible. The maximum frame rate is 30 fps for SNC-RX570N/RX550N/RX530N and 25 fps for SNC-RX570P/RX550P/RX530P.
- Three video compression modes (video codecs) JPEG/MPEG4/H.264 are supported.
- Single codec mode and Dual codec mode are switchable.
- A high-speed (300° rotation/second) pan/tilt mechanism is equipped. This allows 360° endless panning and -90° to 0° tilting.
- Optical zoom of 36 magnifications (SNC-RX570N/P), 26 magnifications (SNC-RX550N/P) or 18 magnifications (SNC-RX530N/P), and digital zoom of 12 magnifications are provided.
- Inserting the optional wireless card enables wireless transmission of camera images.
- Up to 16 preset positions and 5 tour programs can be saved.
- Intelligent object detection function is provided.
- Up to 20 users can view an image from the camera at the same time.
- Date/time can be superimposed on the image.

Notes on Use

Data and security

- You should keep in mind that the images or audio you are monitoring may be protected by privacy and other legal rights, and the responsibility for making sure you are complying with applicable laws is yours alone.
- Access to the images and audio is protected only by a user name and the password you set up. No further authentication is provided nor should you presume that any other protective filtering is done by the service. Since the service is Internet-based, there is a risk that the image or audio you are monitoring can be viewed or used by a third-party via the network.
- SONY IS NOT RESPONSIBLE, AND ASSUMES ABSOLUTELY NO LIABILITY TO YOU OR ANYONE ELSE, FOR SERVICE INTERRUPTIONS OR DISCONTINUATIONS OR EVEN SERVICE CANCELLATION. THE SERVICE IS PROVIDED AS-IS, AND SONY DISCLAIMS AND EXCLUDES ALL WARRANTIES, EXPRESS OR IMPLIED, WITH RESPECT TO THE SERVICE INCLUDING, BUT NOT LIMITED TO, ANY OR ALL IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR THAT IT WILL OPERATE ERROR-FREE OR CONTINUOUSLY.
- Security configuration is essential for wireless LAN. Should a problem occur without setting security, or due to the limitation of the wireless LAN specifications, SONY shall not be liable for any damage.
- Always make a test recording, and verify that it was recorded successfully. SONY WILL NOT BE LIABLE FOR DAMAGES OF ANY KIND INCLUDING, BUT NOT LIMITED TO, COMPENSATION OR REIMBURSEMENT ON ACCOUNT OF FAILURE OF THIS UNIT OR ITS RECORDING MEDIA, EXTERNAL STORAGE SYSTEMS OR ANY OTHER MEDIA OR STORAGE SYSTEMS TO RECORD CONTENT OF ANY TYPE.
- Always verify that the unit is operating properly before use. SONY WILL NOT BE LIABLE FOR DAMAGES OF ANY KIND INCLUDING, BUT NOT LIMITED TO, COMPENSATION OR REIMBURSEMENT ON ACCOUNT OF THE LOSS OF PRESENT OR PROSPECTIVE PROFITS DUE TO FAILURE OF THIS UNIT, EITHER DURING THE WARRANTY PERIOD OR AFTER EXPIRATION OF THE WARRANTY, OR FOR ANY OTHER REASON WHATSOEVER.
- If you lose data by using this unit, SONY accepts no responsibility for restoration of the data.

Operating or storage location

Do not shoot an extremely bright object (an illumination, the sun, etc.). Also, avoid operating or storing the camera in the following locations, as these can be a cause of a malfunction.

- Extremely hot or cold places (Operating temperature: 0 °C to +50 °C [32 °F to 122 °F])
- Exposed to direct sunlight for a long time, or close to heating equipment (e.g., near heaters)
- Close to sources of strong magnetism
- Close to sources of powerful electromagnetic radiation, such as radios or TV transmitters
- Locations subject to strong vibration or shock

Ventilation

To prevent heat buildup, do not block air circulation around the camera.

Transportation

When transporting the camera, repack it as originally packed at the factory or in materials of equal quality.

Cleaning

- Use a blower to remove dust from the lens.
- Use a soft, dry cloth to clean the external surfaces of the camera. Stubborn stains can be removed using a soft cloth dampened with a small quantity of detergent solution, then wipe dry.
- Do not use volatile solvents such as alcohol, benzene or thinners as they may damage the surface finishes.

Note on laser beams

Laser beams may damage a CCD. You are cautioned that the surface of a CCD should not be exposed to laser beam radiation in an environment where a laser beam device is used.

Phenomena Specific to CCD Image Sensors

The following phenomena that may appear in images are specific to CCD (Charge Coupled Device) image sensors. They do not indicate malfunctions.

White flecks

Although the CCD image sensors are produced with high-precision technologies, fine white flecks may be generated on the screen in rare cases, caused by cosmic rays, etc.

This is related to the principle of CCD image sensors and is not a malfunction.

The white flecks especially tend to be seen in the following cases:

- when operating at a high environmental temperature
- when you have raised the gain (sensitivity)
- when using the slow shutter

Vertical smear

When an extremely bright object, such as a strong spotlight or flashlight, is being shot, vertical tails may be produced on the screen, or the image may be distorted.

Aliasing

When fine patterns, stripes, or lines are shot, they may appear jagged or flicker.

About a "Memory Stick"

Available types of "Memory Stick" for the unit

You can use "Memory Stick," "MagicGate Memory Stick" and "Memory Stick PRO" with the unit. However, because the unit does not support the MagicGate standards, data recorded with the unit is not subject to MagicGate copyright protection.

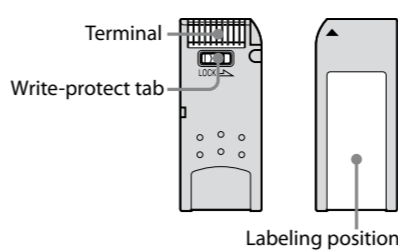
Note

The data recorded with this unit is not compatible with the other units, even if they support "Memory Stick."

What is MagicGate ?

MagicGate is copyright protection technology that uses encryption technology.

Before using a "Memory Stick"



- When you set the "Memory Stick" write-protect tab to "LOCK," data cannot be recorded, edited, or erased.
- Data may be damaged if:
 - You remove the "Memory Stick" or turn off the unit while it is reading or writing data.
 - You use the "Memory Stick" in a location subject to the effects of static electricity or electric noise.

Notes

- Do not attach any other material than the supplied label onto the label space.
- Attach the label so that it does not stick out beyond the labeling position.
- Carry and store the "Memory Stick" in its case.
- Prevent metallic objects or your finger from coming into contact with the metal parts of the connecting section.
- Do not strike, bend, or drop the "Memory Stick."
- Do not disassemble or modify the "Memory Stick."
- Do not allow the "Memory Stick" to get wet.
- Do not use or store the "Memory Stick" in a location that is:
 - extremely hot, such as in a car parked in the sun.
 - under direct sunlight.
 - very humid or subject to corrosive substances.

About the Supplied Manuals

Installation Manual (this document)

This Installation Manual describes the names and functions of parts and controls of the Network Camera, gives connection examples and explains how to set up the camera. Be sure to read the Installation Manual before operating.

User's Guide (stored in the CD-ROM)

The User's Guide describes how to set up the camera and how to control the camera via a Web browser. After installing and connecting the camera correctly, operate referring to this User's Guide.

Using the CD-ROM Manuals

The supplied CD-ROM disc includes the User's Guides for this unit (Japanese, English, French, German, Spanish, Italian and Chinese versions) in PDF format.

Preparations

The Adobe Reader Version 6.0 or higher must be installed on your computer in order to use the User's Guide stored in the CD-ROM disc.

Note

If Adobe Reader is not installed, it may be downloaded from the following URL: <http://www.adobe.com/>

Reading the manual in the CD-ROM

1 Insert the CD-ROM in your CD-ROM drive.

A cover page appears automatically in your Web browser. If it does not appear automatically in the Web browser, double-click on the index.htm file on the CD-ROM.

2 Select and click on the manual that you want to read.

This opens the PDF file of the manual. Clicking an item in the Table of Contents allows you jump to the relevant page.

Notes

- The files may not be displayed properly, depending on the version of Adobe Reader. In this case, install the latest version, which you can download from the URL mentioned in "Preparations" above.
- If you have lost or damaged the CD-ROM, you can purchase replacement. Contact your Sony service representative.

Adobe and Acrobat Reader are trademarks of Adobe Systems Incorporated in the United States and/or other countries.

Location and Function of Part

Front

1 NETWORK indicator (green)

The indicator lights up or flashes in green when the camera is connected to the network.

The indicator goes off when the camera is not connected to the network.

2 Memory Stick slot

Insert a "Memory Stick" (not supplied) into the slot.

Note

Insert the "Memory Stick" with its front side towards the bottom of the camera.

3 PC card slot

This slot is used for the optional SNCA-CFW1/SNCA-CFW5* wireless card or recommended ATA memory card.

In case of the wireless card: Insert the SNCA-CFW1 or SNCA-CFW5* into a commercially available type II-PCMCIA adaptor and insert the adaptor into the PC card slot.

In case of the recommended ATA memory card: Insert the "Memory Stick" into the optional PC card adapter and insert the adapter into the PC card slot.

Notes

- Insert the PC card with its front side towards the bottom of the camera.
- For the verified ATA memory cards, contact your authorized Sony dealer.

4 PC card lever

Press the lever to remove the PC card from the PC card slot.

5 POWER indicator (green)

When the power is supplied to the camera, the camera starts checking the system. If the system works normally, this indicator lights up.

6 Lens

Note

The four edges of an image may be dark depending on the zoom position. This is a phenomenon related to the structure of the camera, and does not cause a problem.

* SNCA-CFW5 is not available in some countries and areas. For details, contact your authorized Sony dealer.

Rear

7 DC IN 12 V/AC IN 24 V (power input) terminal

Connect to a 12V DC or 24V AC power supply system.

8 I/O (Input/Output) port

This port is provided with an RS-232C port, two sensor inputs and two alarm outputs.

Pin No.	Pin name
1	Sensor In 1 +
2	Sensor In 1 - (GND)
3	Sensor In 2 +
4	Sensor In 2 - (GND)
5	Alarm Out 1 +
6	Alarm Out 1 -
7	Alarm Out 2 +
8	Alarm Out 2 -
9	GND
10	GND
11	RS232C . RX
12	RS232C . TX

9 LAN (network) port (RJ45)

Connect to the 10BASE-T or 100BASE-TX network using a network cable (UTP, category 5).

10 (video output) connector (BNC type)

Outputs a composite video signal.

11 (line output) jack (minijack, monaural)

Connect a commercially available speaker system with the built-in amplifier.

12 (microphone input) Jack (minijack, monaural)

Connect a commercially available microphone. This jack supports plug-in-power microphones (rated voltage: 2.5 V DC).

13 Reset switch

To reset the camera to the factory default settings, supply the power to the camera, while holding down this switch with a pointed object.

Bottom

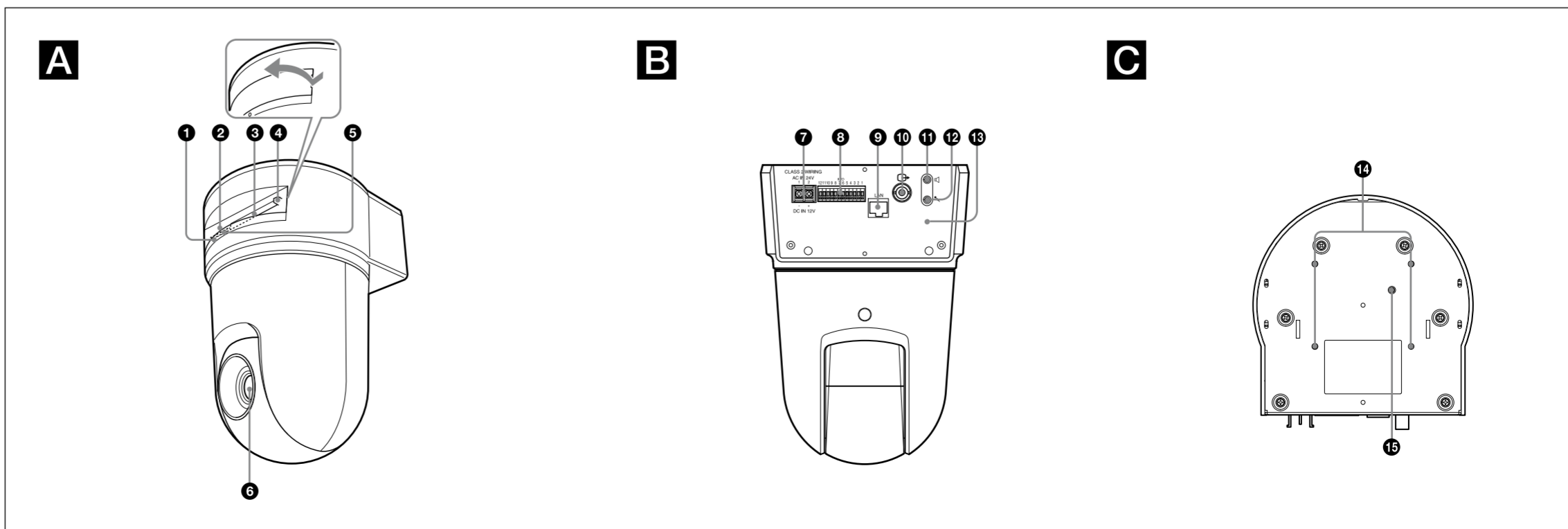
14 Ceiling bracket mounting screw holes

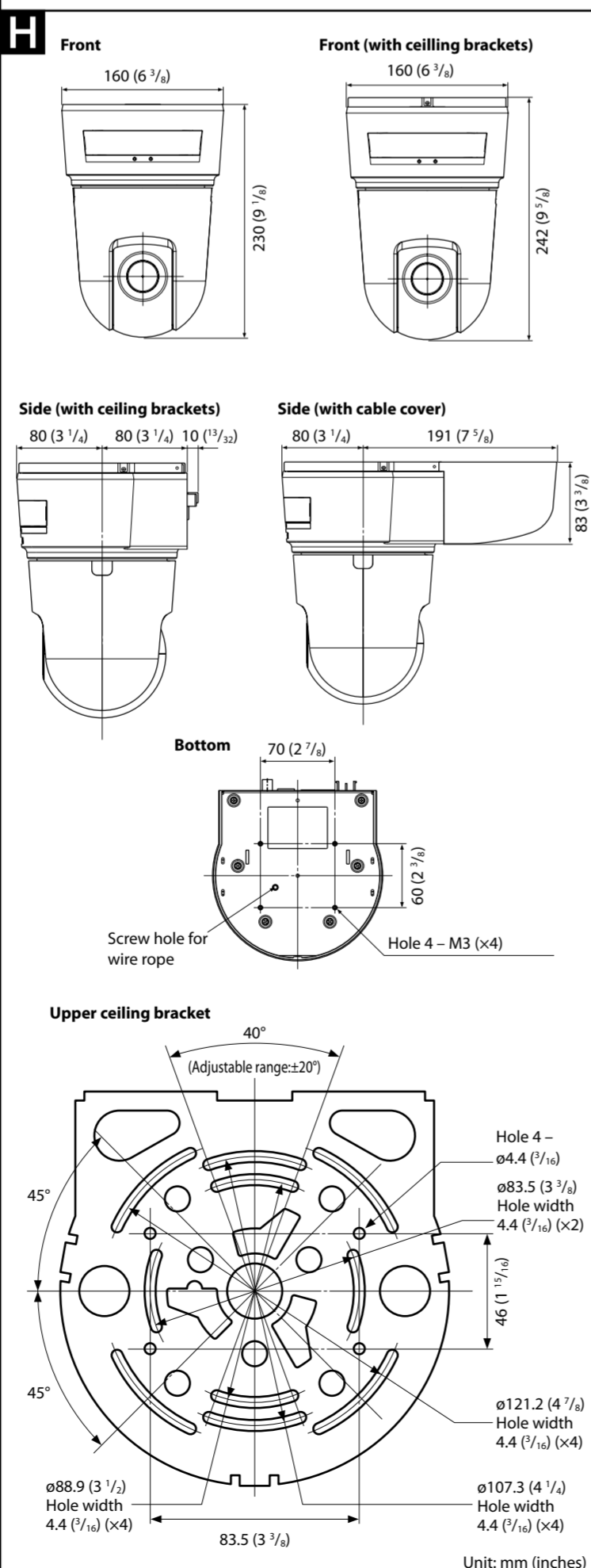
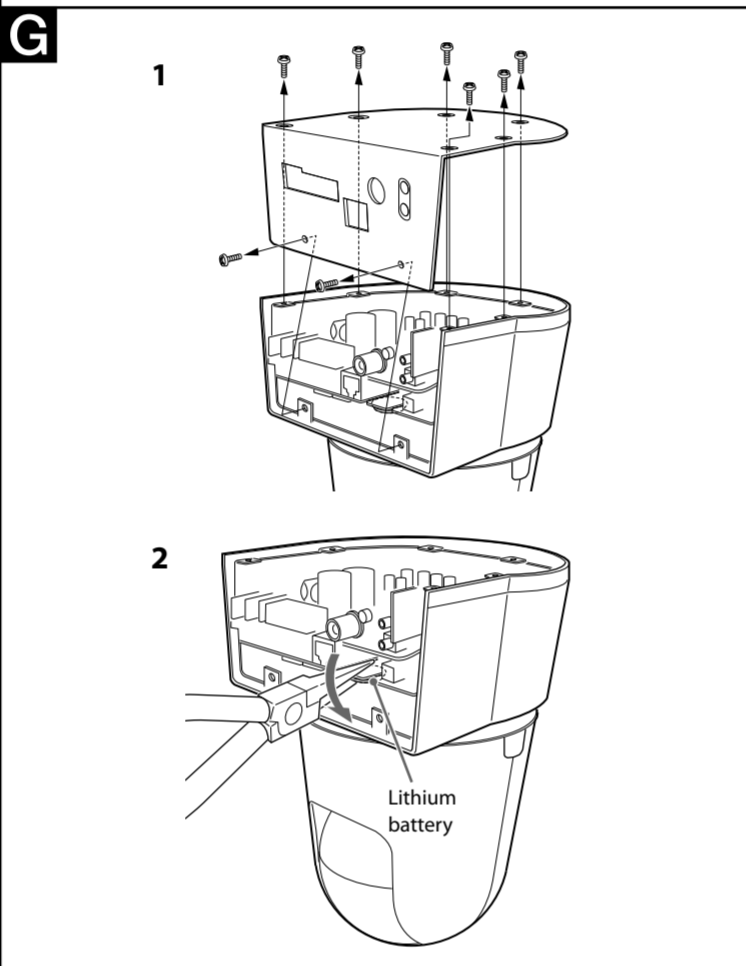
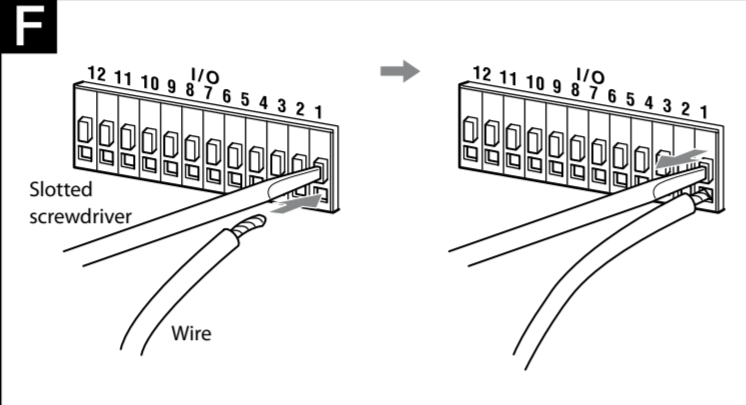
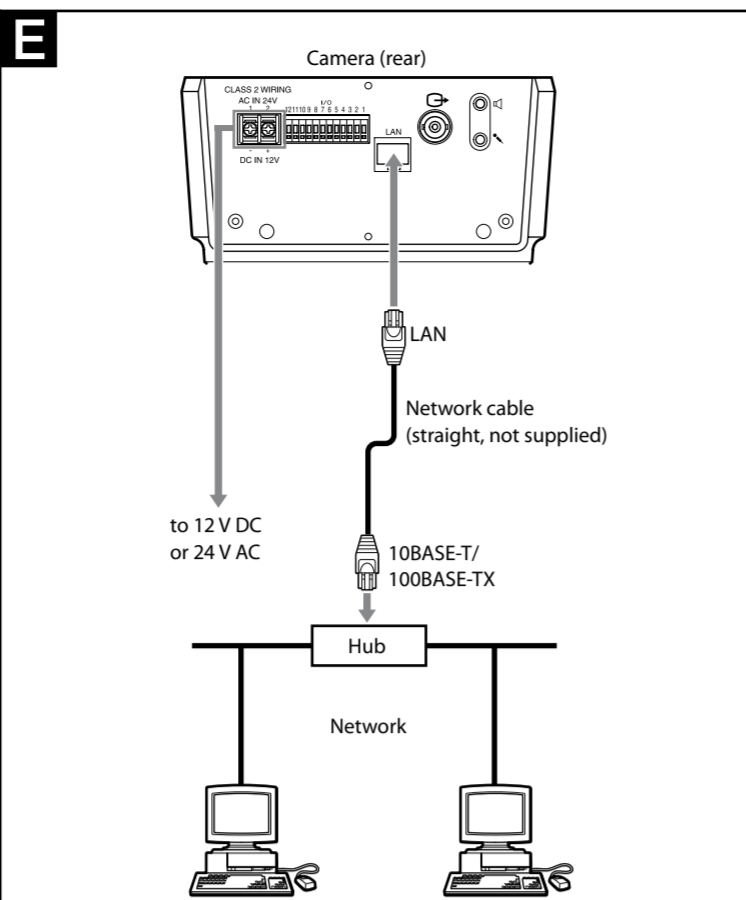
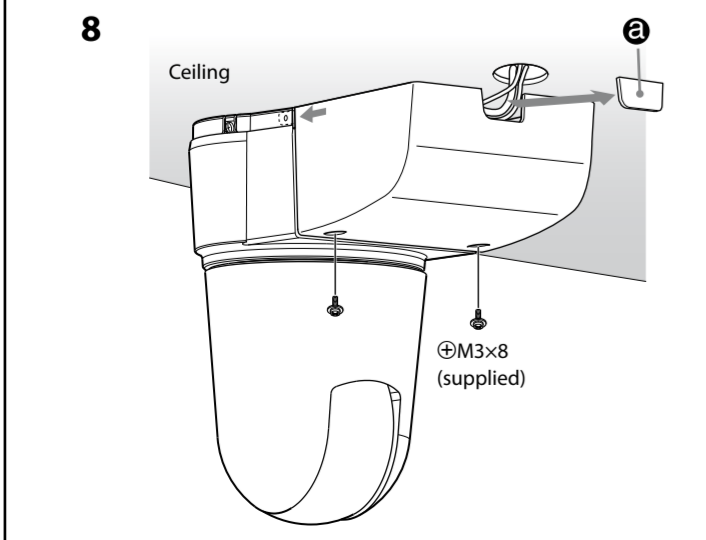
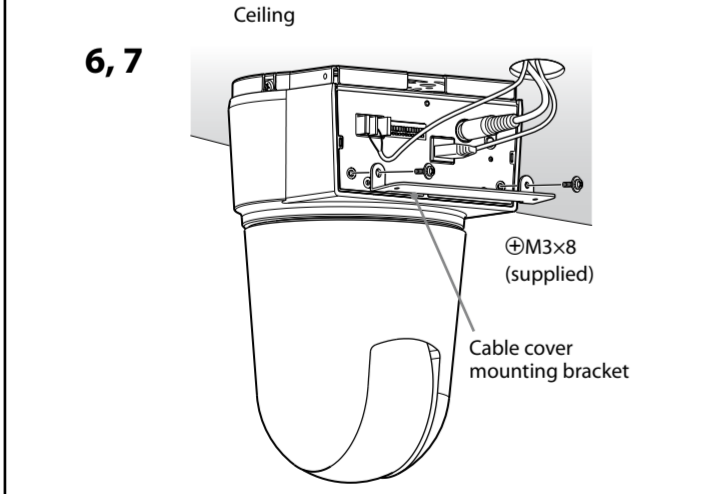
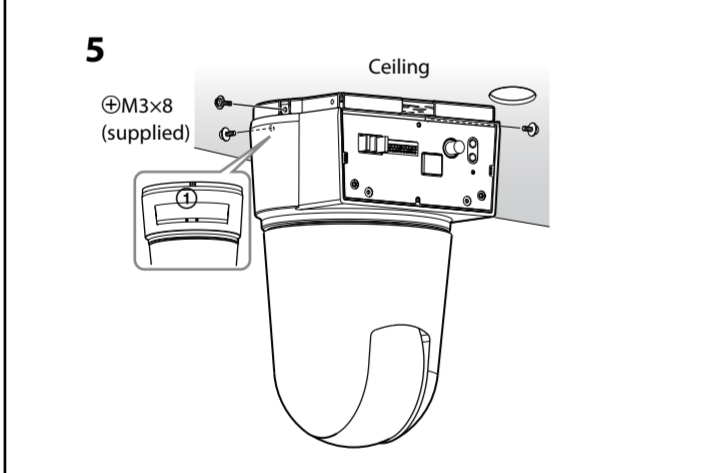
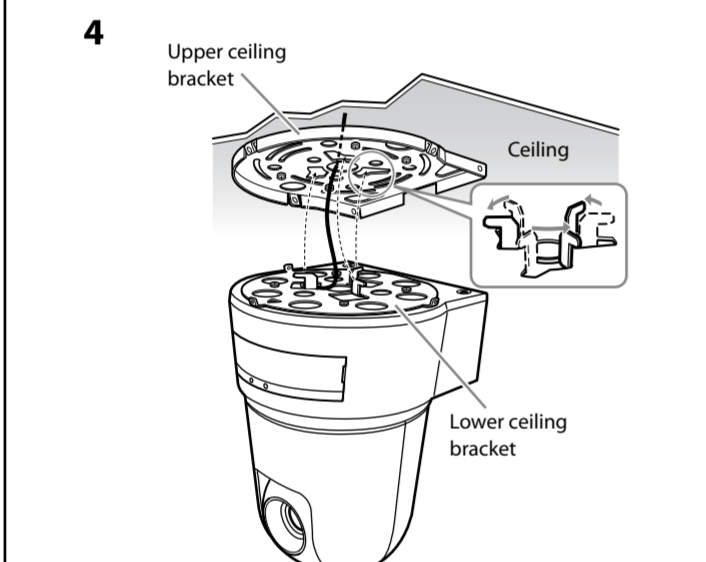
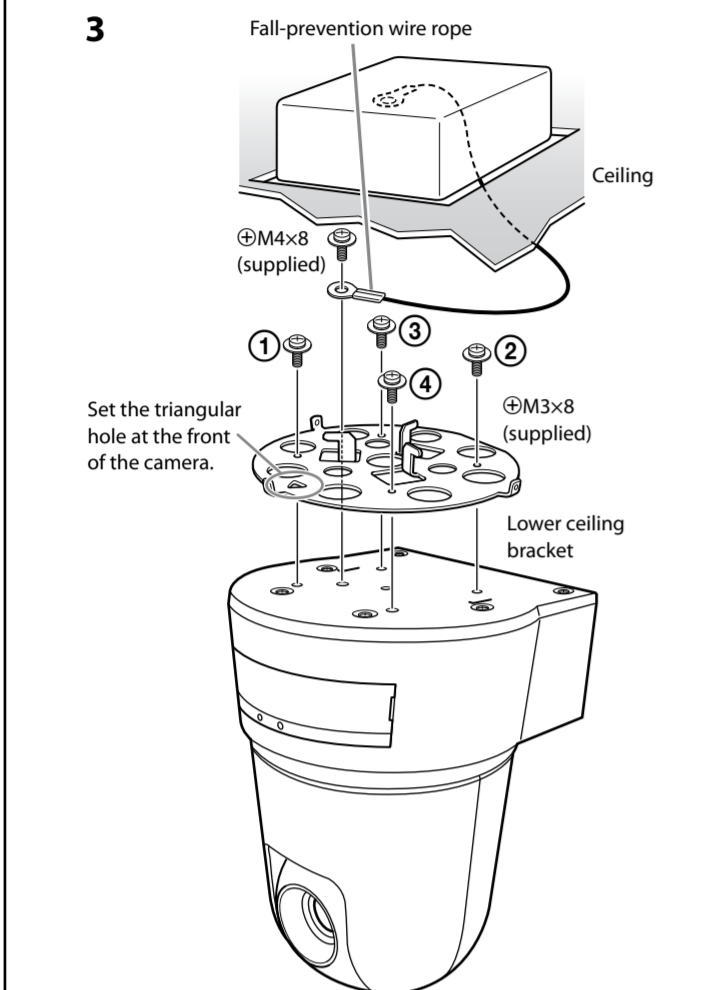
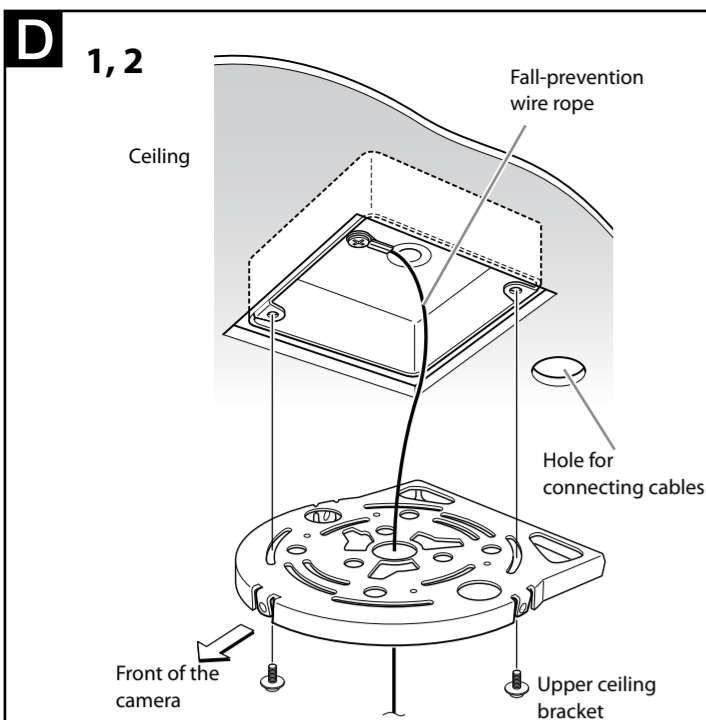
When installing the camera on the ceiling, fix the supplied ceiling brackets to these holes.

15 Screw hole for fall-prevention wire rope

When installing the camera on the ceiling, fix the supplied fall-prevention wire rope to this hole using the supplied screw \oplus M4x8.

(continued on the reverse side)





Installation

- Notes**
- Do not grasp the camera head when carrying the camera.
 - Do not turn the camera head manually. Doing so will result in the camera malfunctioning.

Installing the Camera on the Ceiling

You can view the image of this camera in the normal direction when the camera is installed on the ceiling. Using the supplied ceiling brackets, wire rope and screws, you can utilize existing junction boxes, etc., to attach the camera to the ceiling. When you install the camera, always install it on a level ceiling. If you have to install it on a sloping or uneven ceiling, make sure that the place where you install it is within ± 5 degrees of the horizontal in order to ensure the pan/tilt mechanism functions properly.

Warning

- If you attach the camera in the height such as the wall or the ceiling, etc., entrust the installation to an experienced contractor or installer.
- If you install the camera on the ceiling, ensure that the ceiling is strong enough to withstand the weight of the camera plus the ceiling brackets and then install the camera securely. If the ceiling is not strong enough, the camera may fall and cause serious injury.
- To prevent the camera from falling, make sure to attach the supplied wire rope.
- If you attach the camera to the ceiling, check periodically, at least once a year, to ensure that the connection has not loosened. If conditions warrant, make this periodic check more frequently.

Before installation

After deciding the direction in which the camera will shoot, make the required holes for the junction box, and connecting cables.

Note

The connecting cables cannot be passed through the upper ceiling bracket. A hole for the wiring is required in the ceiling at the back of the camera where it is attached to the ceiling.

Installation

- Insert the raised protrusions on the lower ceiling bracket into the spaces provided in the upper ceiling bracket, and temporarily fix them by turning the camera with lower ceiling bracket clockwise.
- While pushing up on the front part of the camera, attach it using the supplied three screws (M3 x 8), starting with the screw at position ①.
- Connect the cables to the connectors on the rear of the camera.
- To use the supplied cable cover, attach the supplied cable cover mounting bracket to the rear of the camera using the supplied two screws (M3 x 8). Attach the bracket with the flat surface downwards.
- Temporarily attach the cable cover by inserting the raised protrusions on the cable cover into the gaps at the rear of the upper ceiling cover. Then fix the cable cover using the supplied two screws (M3 x 8).
- To extend the cables through the rear of the cable cover, cut out the thinner portion ② of the cover using a cutter knife.

Caution

To attach the ceiling bracket, use only the screws supplied with the camera. Using other screws may damage the camera.

Removing the camera

- Remove two screws used to attach the cable cover in step 8 of "Installation" and remove the cable cover.
- Disconnect the cables from the connectors at the rear of the camera.
- Remove three screws used to attach the camera in step 5 of "Installation."
- Pushing the entire camera up towards the ceiling, turn the camera counterclockwise as far as it goes, then pull it out.

Connection

Connecting to the Network

Connect the LAN port of the camera unit to a router or hub in the network using the network cable (straight, not supplied).

To connect to a computer

Connect the LAN port of the camera unit to the network connector of a computer using the network cable (cross, not supplied).

Connecting the Power Source

Connect the 12 V DC or 24 V AC power supply system to the power input terminal on the rear of the camera.

- Use the 12 V DC or 24 V AC power source isolated from the 100 to 240 V AC.
- The usable voltage range is as follows:
12 V DC: 10.8 to 13.2 V
24 V AC: 21.6 to 26.4 V
- Use the UL cable (VW-1 style 1007) for 12 V DC or 24 V AC connection.

Recommended power cable

12 V DC	Cable(AWG)	#24(0.22 mm)	#22(0.33 mm)	#20(0.52 mm)	#18(0.83 mm)
Maximum cable length(m (feet))		4.5 (14.8)	7.5 (24.6)	12 (39)	21 (69)

24 V AC

Cable(AWG)	#24(0.22 mm)	#22(0.33 mm)	#20(0.52 mm)	#18(0.83 mm)
Maximum cable length(m (feet))	10.5 (34)	16.5 (54)	27.5 (90)	45.5 (149)

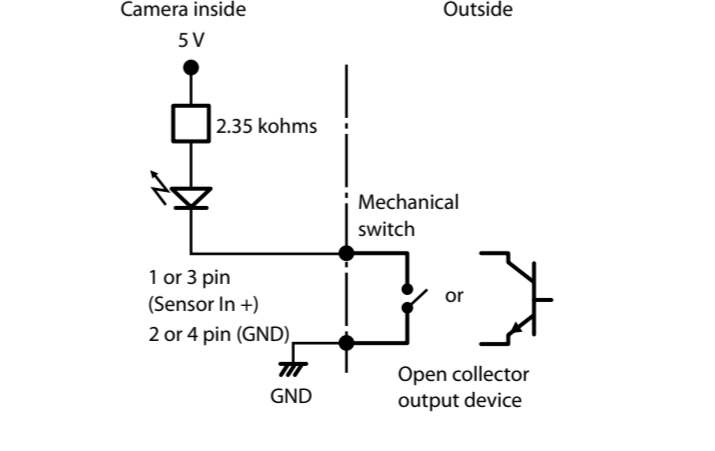
Connecting the I/O Cable

Using the I/O receptacle

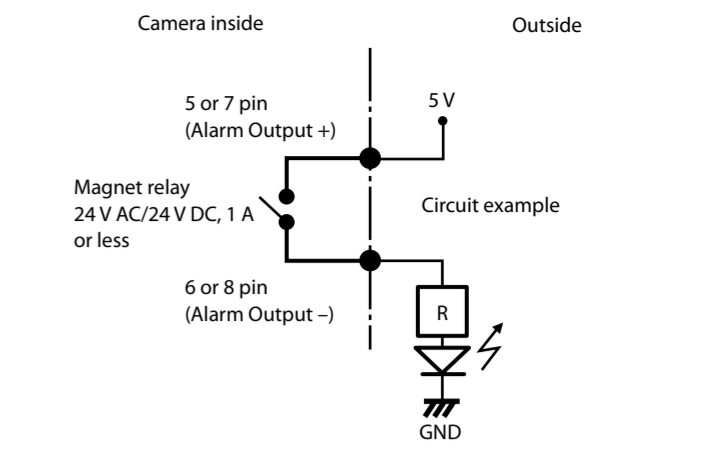
While holding down the button on the slot to which you want to connect the wire (AWG No. 28 to 22) with a small slotted screwdriver, insert the wire into the slot. Then release the screwdriver from the button. Repeat this procedure to connect all required wires.

Wiring diagram for sensor input

Mechanical switch/open collector output device



Wiring diagram for alarm output



When You Discard the Camera

For environmental reasons, take out the lithium battery from the camera and discard it appropriately.

- Remove the eight screws and detach the bottom panel.
- Hold the board on which the lithium battery is attached using long-nose pliers. Then, bend it in the direction of the arrow illustrated to detach the battery.

WARNING (for service personnel only)

There is danger of explosion if batteries are mishandled. Dispose of batteries properly in accordance with the manufacturer's instructions and all applicable local regulations.

Specifications

Network	Protocol	TCP/IP, ARP, ICMP, HTTP, FTP (server/client), SMTP (client), DHCP (client), DNS (client), NTP (client), SNMP (MIB-2), RTP/RTCP
Compression	Video compression format	JPEG/MPEG4/H.264
	Audio compression format	G.711/G.726 (40,32,24,16 kbps)
	Image size	640 x 480 (VGA), 384 x 288, 320 x 240 (QVGA), 160 x 120 (QQVGA)
	Maximum frame rate	SNC-RX570N/RX550N/RX530N: 30 fps SNC-RX570P/RX550P/RX530P: 25 fps
	Web browser	Internet Explorer Ver. 6.0 or later
	Available OS	Microsoft Windows 2000, Windows XP, Windows Vista
	Computer environments	CPU: Pentium 4, 1.5 GHz or higher (Pentium 4, 2.4 GHz or higher recommended) RAM: 256 MB or more Display size: 1024 x 768 or more 20 users
	Maximum user access	20 users
	Network security	Password (basic authentication), IP filtering
	Homepage customization	Starting from a homepage in the built-in flash memory, an ATA memory card or a "Memory Stick" possible
	Other functions	Detection, image trimming, built-in clock, etc.
Camera	Signal system	SNC-RX570N/RX550N/RX530N: NTSC color system SNC-RX570P/RX550P/RX530P: PAL color system
	Image device	1/4 type color CCD Total picture elements: SNC-RX570N/RX550N/RX530N: Approx. 410,000 SNC-RX570P/RX550P/RX530P: Approx. 470,000 Effective picture elements: SNC-RX570N/RX550N/RX530N: Approx. 380,000 SNC-RX570P/RX550P/RX530P: Approx. 440,000

	SNC-RX570N/P	SNC-RX550N/P	SNC-RX530N/P
Lens	36x (Optical), 12x (Digital) f=3.4 to 122.4 mm, F1.6 to 4.5 Horizontal angle: 1.7° to 57.8°	26x (Optical), 12x (Digital) f=3.5 to 91 mm, F1.6 to 3.8 Horizontal angle: 2.2° to 54.2°	18x (Optical), 12x (Digital) f=4.1 to 73.8 mm, F1.4 to 3.0 Horizontal angle: 2.8° to 48°
Minimum object distance	TELE end: 1,500 mm (59 1/8 inches) WIDE end: 320 mm (12 5/8 inches)	TELE end: 1,500 mm (59 1/8 inches) WIDE end: 320 mm (12 5/8 inches)	TELE end: 800 mm (31 1/2 inches) WIDE end: 290 mm (11 1/2 inches)
Minimum illumination	1.4 lx (F1.6/50 IRE)	1 lx (F1.6/50 IRE)	0.7 lx (F1.4/50 IRE)
Horizontal resolution	NTSC: 530 TV (WIDE end) PAL: 530 TV (WIDE end)	NTSC: 470 TV (WIDE end) PAL: 460 TV (WIDE end)	NTSC: 470 TV (WIDE end) PAL: 460 TV (WIDE end)

Shutter speed	1 to 1/10,000 s
Video S/N	50 dB or more
Mechanism	
Pan	360°, endless rotation Maximum speed: 300°/s
Tilt	-90° to 0° Maximum speed: 300°/s

Interface

Network port I/O port

10BASE-T/100BASE-TX, auto negotiation (RJ-45)
Sensor input: x 2, make contact
Alarm output: x 2, 24 V AC/DC, 1 A (mechanical relay outputs electrically isolated from the camera)Serial interface: x1 (RS-232C)
VIDEO OUT: BNC, 1.0 Vp-p,
75 ohms, unbalanced, sync negative

PC card slot
Memory Stick slot
Microphone input
Plug-in-power supported (rated voltage: 2.5 V DC)
Recommended load impedance 2.2 khoms
Minijack (monaural), Maximum output level: 1 Vrms

Others

Power supply
12 V DC $\pm 10\%$
24 V AC $\pm 10\%$, 50/60 Hz
25 W max.

Power consumption
Operating temperature
0 °C to +50 °C (32 °F to 122 °F)
Storage temperature
-20 °C to +60 °C (-4 °F to +140 °F)
Operating humidity
20 to 80 %
Storage humidity
20 to 95 %

Dimensions
230 x 160 x 160 mm (9 1/8 x 6 3/8 x 6 3/8 inches) (h/w/d)
not including the projecting parts
Approx. 2.3 kg (4 lb 14 oz)
CD-ROM (User's Guide and supplied programs)

Supplied accessories
(1) Upper ceiling bracket (1)
(1) Lower ceiling bracket (1)
(1) Cable cover (1)
(1) Cable cover mounting bracket (1)
Screws: M3 x 8 (11)
Screw: M4 x 8 (1)
Fall-prevention wire rope (1)
Installation Manual (this document) (1)
B&P Warranty Booklet (1) (SNC-RX570N/RX550N/RX530N only)

Optional accessories

Wireless card
Wireless LAN antenna
"Memory Stick"
SNCA-CFW1, SNCA-CFW5*
SNCA-AN1
MSX-1G5 (1GB), MSX-5125 (512MB), MSH-128 (128MB)

* SNCA-CFW5 is not available in some countries and areas. For details, contact your authorized Sony dealer.

Design and specifications are subject to change without notice.

Regular parts replacement

Some of the parts that make up this product (electrolytic condenser, for example) need replacing regularly depending on their life expectancies. The lives of parts differ according to the environment or condition in which this product is used and the length of time it is used, so we recommend regular checks.

Consult the dealer from whom you bought it for details.