

BIE-7029-001

# **Network Camera**

# VB-H630VE/VB-H630D/VB-M620VE/VB-M620D

# Installation Guide

Thank you for purchasing a Canon Network Camera (hereafter referred to as the camera). VB-H630D/VB-M620D is designed for indoor use only. It is also possible to install the VB-H630VE/ VB-M620VE outdoors, such as underneath eaves.

Be sure to read "Installation Guide" (this document) and "Operation Guide" (included in the Setup

This "Installation Guide" explains the installation method for installing the camera on a ceiling or wall and the installation method using the separately sold junction box mounting kit PS600-VB. Be sure to read the "Safety Precautions" section for correct use. After reading this Installation Guide, keep it in a readily accessible location for future reference. For the installation of this camera recessed into a ceiling or wall using the recessed mounting kit

(sold separately), please read the "Recessed Mounting Kit SR600-VB Installation Guide" included with the recessed mounting kit. When using the heater unit (sold separately), please read the "Heater Unit HU600-VB User

Manual" included with the heater unit. The detailed procedures for using this camera are explained in the "Operation Guide". Read these guides carefully before using the camera to ensure correct use.

\* For the latest information (firmware and included software, user manuals, operating environment, etc.), please refer to the Canon Web Site.

- Some cameras are not sold in some countries or regions.

/ WARNING H630D To reduce a risk of fire or electric shock, do not expose this

M620D product to rain or moisture.



Request a professional installer for all camera installation work. Never try to install the camera yourself. Doing so may result in unforeseen accidents such as dropping the camera or electric shock.

2. Power connector

4. Audio interface cable

Dome case lock screw wrench

(VB-H630VE/VB-M620VE only)

8. Installation Guide (This document)

Write the serial number and MAC address of the camera (printed on the seal at the botto the camera) in the field below before storing this Installation Guide in a safe location.						
Serial number						
MAC Address						

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# Check Included Items

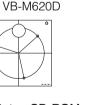
This product comes with the following items. If any item is missing, contact the dealer where you purchased the product.

- Camera (VB-H630VE/VB-H630D/ VB-M620VE/VB-M620D)

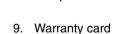


for VB-H630D/ for VB-H630VE/

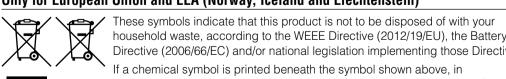








Only for European Union and EEA (Norway, Iceland and Liechtenstein)



household waste, according to the WEEE Directive (2012/19/EU), the Battery Directive (2006/66/EC) and/or national legislation implementing those Directives. f a chemical symbol is printed beneath the symbol shown above, in accordance with the Battery Directive, this indicates that a heavy metal (Hg

Notice

= Mercury, Cd = Cadmium, Pb = Lead) is present in this battery or accumulator at a concentration above an applicable threshold specified in the Battery Directive. This product should be handed over to a designated collection point, e.g., on an authorized one-for-

one basis when you buy a new similar product or to an authorized collection site for recycling waste electrical and electronic equipment (EEE) and batteries and accumulators. Improper handling of this type of waste could have a possible impact on the environment and human health due to potentially hazardous substances that are generally associated with EEE. Your cooperation in the correct disposal of this product will contribute to the effective usage of natural resources.

For more information about the recycling of this product, please contact your local city office, waste authority, approved scheme or your household waste disposal service or visit www.canon-europe. com/weee, or www.canon-europe.com/battery.

### otes on Privacy and Publicity Rights Regarding the Use of Video/Aud afety Precautions

When using the camera (for video or audio recording), it is the full responsibility of the user to protect privacy and avoid any violation of publicity rights. For example, obtain consent to install the camera in advance if specific buildings or rooms are to be monitored. Canon shall have no liability whatsoever in this regard.

### **Legal Notice**

In some cases, camera monitoring may be prohibited by law or regulation, the details of which differ by country or region. Before using the camera, check the laws or regulations of the country or region where the camera is used.

# er Manuals

- Installation Guide (This document)
- This guide provides notes on camera installation and explains the procedures to install the camera onto a ceiling or wall.
- Operation Guide (Included in the Setup CD-ROM)
- This document explains the initial camera settings, Admin Tools settings, viewer operations and troubleshooting, etc.

### Symbols Indicating Camera Model

Camera specific functions will be listed using the icons below.

**H630VE**: VB-H630VE **H630D**: VB-H630D M620VE: VB-M620VE M620D: VB-M620D

# Accessories

The following accessories can be purchased separately as necessary. Some accessories are not sold in some countries or regions.

### Recessed Mounting Kit SR600-VB

This dedicated accessory is used to install the camera recessed into a wall or ceiling.

# **Junction Box Mounting Kit PS600-VB**

This dedicated accessory is used to mount the camera to a junction box.

# Heater unit HU600-VB

This dedicated accessory is attached to the interior of VB-H630VE/VB-M620VE to maintain operation temperature within the dome and achieve stable operation even in extremely cold environments.

### Pendant Mounting Kit PC600-VB

This is a dedicated accessory for large stores with high ceilings used to install the camera at the end of a pipe stretching down from the ceiling.

When this accessory is used, the camera may shake more than the vibrations in the ceiling depending on how the pipe is mounted to the ceiling. If the camera angle is off, use the Camera Angle Setting Tool to readjust the angle (See "Operation Guide" > "Camera Angle Setting Tool").

### Canon AC Adapter PA-V18

Important

A dedicated AC adapter for this camera

# bols Indicating Safety Precautions

read this section.

explanations.

This Installation Guide uses the following marks to indicate important information the user should know in order to use the product safely. Be sure to observe these items.

<b>⚠</b> Warning	Inappropriate handling against the instruction accompanied by this sign may result in death or serious injury. Be sure to observe these warnings to ensure safety.			
<b>⚠</b> Caution	Inappropriate handling against the instruction accompanied by this sign may result in injury. Be sure to observe these precautions to ensure safety.			
Caution	Inappropriate handling against the instruction accompanied by this sign may result in property damage. Be sure to observe these precautions.			

This symbol indicates important or restricted items. Be sure to

Contains reference information for operation or additional

# **Precautions for Use**

use an insect repellent sponge if necessary.

<u> </u>	Warning	

• Firmly fix the dome case to the main unit of the camera with the lock screws, taking care not to

This section explains precautions that must be observed when using the camera. If they

are not observed, injury, death and/or property damage may occur. Read the following

**!** Warning

Caution

For installation or inspection of this camera, consult the dealer where you purchased

• This installation should be made by a qualified service person and should conform to

weight of the camera and ceiling plates and is sufficiently reinforced if necessary.

order to prevent injuries and equipment damage due to falling items.

Be sure to attach the safety wire when installing the camera.

Do not touch the edge of metal parts with bare hands.

Do not install the camera on an unstable surface.

Take care not to damage wiring or pipes in the room.

Be sure to install the camera under eaves or other places out of

• Install the camera in a place unexposed to long periods of direct

• When mounting the camera onto a wall or other upright surface,

• If wiring the camera through the wiring hole on the bottom, use

silicone sealant or a rubber mat to ensure waterproofing. Also

attached to the wiring hole, wrap teflon tape around the tip of the

pipe, clear any debris from the wiring hole and firmly tighten the

• If wiring with a composite pipe (NPT 3/4 inch threaded hole)

pipe. Apply silicone sealant after attaching the pipe.

pinch cables between the main unit and dome case.

position the wiring hole straight down to prevent rain infiltration.

Failure to do so may result in the camera falling or other accidents.

• Be careful not to trap your fingers during installation of the camera.

places subject to salt damage or corrosive gas.

Do not move the lens unit by hand.

Damage to peripheral items may result

Periodically check the parts and screws for rust and to see if they have loosened, in

• Do not install in unstable places, places subject to significant vibration or impact, or

Caution

• To maximize shock resistant specifications, do not install on insufficiently strong

surfaces or surfaces subject to significant vibration (VB-H630VE/VB-M620VE).

Take measures to remove static electricity before performing any procedures.

• If there is condensation, please wait to power on, until the condensation dissipates.

Precautions for Installing the Camera Outdoors (VB-H630VE/VB-M620VE)

When installing the VB-H630VE/VB-M620VE outdoors, observe the following precautions to retain

When installing on a ceiling, make sure the surface is capable of withstanding the total

Places in strong direct sunlight, near heat-generating objects, or subject to high

Places near fire sources or flammable solvents (alcohol, thinner, fuel, etc.)

information carefully and be sure to observe the precautions.

Installation Precautions

Humid or dusty places

• Places subject to sea air

the product.

all local codes

Injury may result.

Malfunction may result.

waterproof/dustproof capabilities.

direct sunlight

• Confined or enclosed places

Fire or electric shock may result

Do not install in the following places:

Places subject to oily smoke or steam

 If you discover defective conditions such as smoke, strange sounds, heat or strange odors, immediately stop using the camera and contact your closest dealer. Fire or electric shock may result from continued use of the product.

• If thunder starts, stop installation or inspection etc. and do not touch the camera or continue connecting the cable.

- Do not disassemble or modify the camera.
- Do not damage the connecting cable.
- Do not spill water or other liquid inside the camera, spray the camera with water, or otherwise make it wet.
- Do not insert foreign objects into the camera.
- Do not use flammable sprays near the camera.
- Do not leave LAN cables, external power supplies or AC adapter (sold separately) power connectors connected when the camera is not in use for long periods.
- Do not use flammable solvents such as alcohol, paint thinner or benzine when cleaning

Fire or electric shock may result.

### Notes on Power Supply

# Warning Warning

- Only use the dedicated AC Adapter (sold separately) for AC power. • Do not set any heavy objects on the power cable (or the LAN cable for a PoE power
- Do not pull, forcibly bend, scratch, or modify the power cable (or the LAN cable for a
- PoE power supply). • Do not cover or wrap the AC adapter (sold separately) with cloth or blankets.
- Fire or electric shock may result.

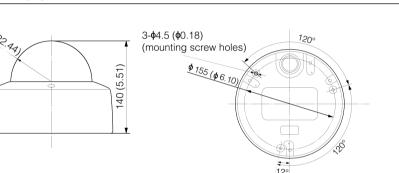
### Caution

 After turning off the power, wait for at least five seconds before turning the power on again. If the power is turned on again too quickly, the camera may operate poorly.

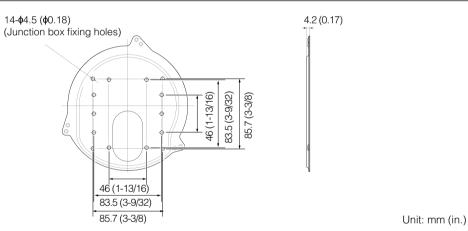
# **External Dimensions**

# VB-H630VE/VB-M620VE 3-44 6 (40 18) (mounting screw holes)

### 3/4" NPT threaded hole VB-H630D/VB-M620D



# **Junction Box Plate**



## Camera

Main Specifications

Image Sensor 1/3 type CMOS (primary color filter) Number of Effective Pixels

H630VE (H630D) Approx. 2.1 million pixels M620VE M620D Approx. 1.3 million pixels

3x optical (4x digital zoom) zoom lens (electric drive)

Focal Length\*1 2.8 (W) - 8.4 mm (T)F1.2 (W) - F2.0 (T)

Viewing Angle For 16:9 aspect ratios Horizontal: 111.0° (W) - 36.5° (T) Vertical: 60.1° (W) – 20.5° (T) For 4:3 aspect ratios Horizontal: 81.2° (W) - 27.3° (T)

Vertical: 60.1° (W) - 20.5° (T) Auto/Day Mode/Night Mode Day/Night Switch Min. Subject Illumination Day Mode (color) 0.3 lux (F1.2, shutter speed 1/30 sec., when smart shade control is off, 50IRE)

0.008 lux (F1.2, shutter speed 1/2 sec., when smart shade control is on, 50IRE) Night Mode (monochrome) 0.015 lux (F1.2, shutter speed 1/30 sec., when smart shade control is off, 50IRE) 0.001 lux (F1.2, shutter speed 1/2 sec., when smart shade control is off, 50IRE) 0.0005 lux (F1.2, shutter speed 1/2 sec., when smart shade control is on, 50IRE) Focus One-shot AF/Manual/Fixed at infinity

0.02 lux (F1.2, shutter speed 1/2 sec., when smart shade control is off, 50IRE

Shooting Distance (from front of lens) Night Mode: 1.0 m (3.3 ft.) - infinity Shutter Speed 1, 1/2, 1/4, 1/8, 1/15, 1/30, 1/60, 1/100, 1/120, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/8000, 1/10000, 1/16000 sec.

Day Mode: 0.3 m (12 in ) - infinity

Auto/Auto (Flickerless)/Auto (Shutter-priority AE)/Manual (Shutter Speed, Aperture, Exposure Auto/Light Source (Daylight Fluorescent/White Fluorescent/Warm Fluorescent/ White Balance

Mercury Lamp/Sodium Lamp/Halogen Lamp)/Manual (One-shot WB/R Gain/B Center-Weighted/Average/Spot Metering Mode **Exposure Compensation** Smart Shade Control Auto/Manual/Disable

Auto: 3 levels Manual: 7 levels Brightens shaded areas of a video Haze Compensation Auto/Manual/Disable Auto: 3 levels Manual: 7 levels AGC Limit 5 levels

Tilt Angle Range 150° (±75°) Rotation Angle Range Pan: 17.1°/sec., Tilt: 12.6°/sec., Rotation: 25.9°/sec Moving Speed When the Camera Angle Setting Tool is used

JPEG. H.264

350° (±175°)

I-Frame Interval

Camera Control

Pan Angle Range

Video Compression Method Video Size

**H630VE** H630D JPEG, H.264: 1920 x 1080, 960 x 540, 480 x 270 1280 x 720, 640 x 360, 320 x 180 1280 x 960, 640 x 480, 320 x 240 M620VE M620D JPEG, H.264: 1280 x 720, 640 x 360, 320 x 180

1280 x 960, 640 x 480, 320 x 240 JPEG. H.264: 5 levels Video Quality Frame Rate\*2 JPEG: 0.1 - 30 fps H.264: 1/2/3/5/6/10/15/30 fps Max. Frame Rate

**H630VE**(H630D) When streaming JPEG, H.264 (1920 x 1080): 30 fps When used in the following combinations: When streaming H.264(1) (1920 x 1080) and H.264(2) (all sizes) simultaneously: 15 fps When streaming H.264(1) (all sizes) and H.264(2) (1920 x 1080)

simultaneously: 15 fps When streaming H.264(1) (1280 x 960) and H.264(2) (1280 x 960) simultaneously: 15 fps

When streaming H.264(1) (1280 x 720) and H.264(2) (1280 x 720) simultaneously: 15 fps M620VE M620D When streaming JPEG, H.264 (1280 x 960): 30 fps When used in the following combinations:

When streaming H.264(1) (1280 x 960) and H.264(2) (1280 x 960) simultaneously: 15 fps When streaming H.264(1) (1280 x 720) and H.264(2) (1280 x 720) simultaneously: 15 fps

Max. 30 Clients + 1 Admin Client Simultaneous Client Access Administrator, Authorized user, Guest user (level of control varies depending on

Max. 50 user names and passwords registered for authorized users. Access Control User authority (user name and password), Host Access Restrictions (IPv4, IPv6) SSL/TLS, IPsec (Auto Key Exchange/Manual) IEEE 802.1X EAP-MD5, EAP-TLS, EAP-TTLS, EAP-PEAP

> (Client), DNS (Client), mDNS, ARP, ICMP, POP3, NTP, SMTP authentication, RTSP, WV-HTTP (Canon proprietary), ONVIF IPv6: TCP/IP, UDP, HTTP, FTP, SMTP (Client), DHCPv6 (Client), DNS (Client), mDNS, ICMPv6, POP3, NTP, SMTP authentication, RTSP,

IPv4: TCP/IP, UDP, HTTP, FTP, SNMPv1/v2c/v3 (MIB2), SMTP (Client), DHCP

Audio Compression Method G.711 µ-law (64 kbps) Audio Communication Method Full-duplex (two-way) Echo cancellation function compliant

0.5/1/1.5/2/3/4/5 sec.

Sound Transfer Protocol by Canon Audio File Playback\*3 Available (audio files can be played back when an event is triggered by the intelligent function or external device input.) Privacy Mask Number of registration: Max. 8 places, Number of mask colors: 1 (select from 9

Preset Max. 20 positions Intelligent Function Detection Types: moving object detection, abandoned object detection.

removed object detection, camera tampering detection, and passing detection Detection Settings: Max. 15 Volume Detection

**Event Trigger Type** External Device Input, Intelligent Function (Video), Intelligent Function (Volume),

FTP/HTTP/SMTP (e-mail) Image Upload Temporary storage memory in camera: Max. approx. 5 MB Frame Rate: Max. 10 fps (JPEG)

Event Notification HTTP/SMTP (e-mail) Image Cropping Function Digital PTZ

Cropping sizes: 640 x 360/512 x 288/384 x 216/256 x 144/128 x 72 640 x 480/512 x 384/384 x 288/256 x 192/128 x 96

Max. 30 fps (H.264)

On-Screen Display Daylight Saving Time Available Custom Settings Number of registers: 4

Items to Reg.: Exposure, Smart Shade Control, Haze Compensation. Focus. White Balance, Image Quality Adjustment, Day/Night German/English/Spanish/French/Italian/Russian/Turkish/Chinese (Simplified)/

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### Interface

LAN x 1 (RJ45, 100Base-TX (auto/full-duplex/half-duplex)) Network Terminal\*4 Audio Input Terminal Φ3.5 mm (Φ0.14 in.) mini-jack connector (monaural) (common for LINE IN & MIC IN) Connect via an audio interface cable (included) Switch LINE IN/MIC IN in the setting page. LINE IN x 1 (connect to an amplifier microphone) of MIC IN x 1 (connect to a microphone w/o amplifier) Audio Output Terminal φ3.5 mm (φ0.14 in.) mini-jack connector (monaural) (LINE OUT) Connect via an audio interface cable (included) LINE OUT x 1 (connect to an amplifier speaker)

External Device I/O Terminal Input x 2. Output x 2 SD Memory Card, SDHC Memory Card, SDXC Memory Card Compatible. Memory Card Frame Rate: Max. 1 fps (JPEG)

Power Supply

Power Consumption

Impact Resistance

Waterproof Specification

Temperature:  $-10^{\circ}\text{C} - +50^{\circ}\text{C} (+14^{\circ}\text{F} - +122^{\circ}\text{F})$ Operating Environment Humidity: 5% – 85% (without condensation)

H630VE M620VE

Temperature: -30°C - +50°C (-22°F - +122°F) Humidity: 5% – 85% (without condensation) \*Equipped with separately sold Heater Unit HU600-VB

Max. 30 fps (H.264)

PoE: PoE power supply via LAN connector (IEEE802.3af Class 0 compliant) AC Adapter: PA-V18 (100 - 240 V AC) (sold separately) External power source: 24 V AC/12 V DC

H630VE M620VE Heater Unit HU600-VB (sold separately): 24 V AC only When using PoE: **H630VE** M620VE Max. approx. 8.4 W\*5

H630D M620D Max. approx. 7.8 W\*5

When using AC Adapter PA-V18: H630VE M620VE Max. approx. 9.9 W (100 V AC) Max. approx. 10.3 W (240 V AC) H630D M620D Max. approx. 9.4 W (100 V AC)

Max. approx. 9.2 W (240 V AC) When using DC: H630VE M620VE Max. approx. 9.0 W 630D M620D Max. approx. 8.3 W When using AC: H630VE M620VE Max. approx. 8.1 W

1630D M620D Max. approx. 7.5 W **H630VE M620VE** Max. approx. 18.7 W\* \*when separately sold Heater Unit HU600-VB installed **H630VE** M620VE ( $\phi \times H$ )  $\phi$ 180  $\times$  147 mm ( $\phi$ 7.09  $\times$  5.79 in.) 630D M620D  $(\phi \times H) \phi 186 \times 140 \text{ mm} (\phi 7.32 \times 5.51 \text{ in.})$ 

**630VE M620VE** Approx. 1920 g (4.24 lb.) Approx. 162 g (5.8 oz.) (Junction Box Mounting Kit) H630D M620D Approx. 1190 g (2.63 lb.)

Approx. 159 g (5.7 oz.) (Junction Box Mounting Kit) H630VE M620VE External materials: aluminum alloy, Dome: polycarbonate plastics

Only applies if properly installed and adequately waterproofed

With lens shock absorbing mechanism Estimated shock resistant: 50J (based on Canon's test method) **H630VE M620VE** IP66 compliant (IEC60529)

\*1 (W): maximum wide angle, (T): maximum telephoto

\*2 Values represent streaming performance from the camera. The frame rate may be reduced due to Viewer PC's specs, the number of clients accessing at the same time, network loads, video quality setting, type or

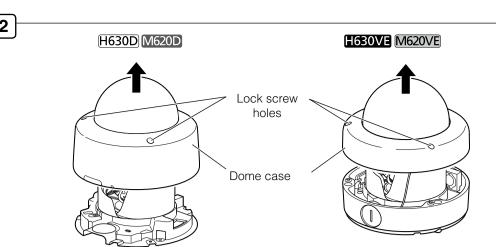
movement of the subject or other reasons \*3 A third-party amplifier speaker is necessary.

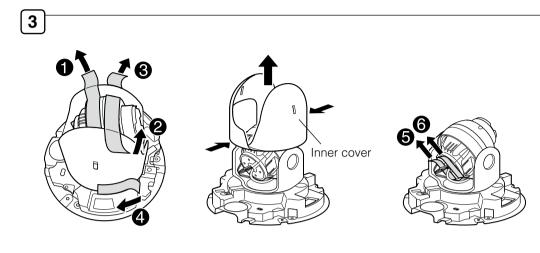
\*4 Use a category 5 or better LAN cable, 100 m (328 ft.) or less in length.

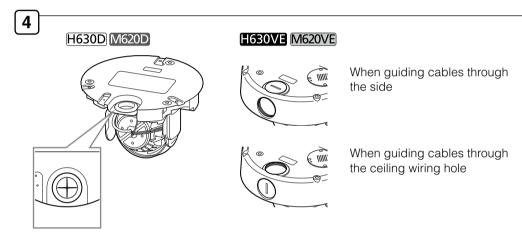
\*5 Class 0 power sourcing equipment (requests 15.4 W)

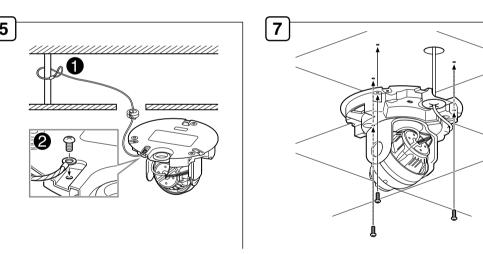
The contents of this guide are subject to change without any prior notice.

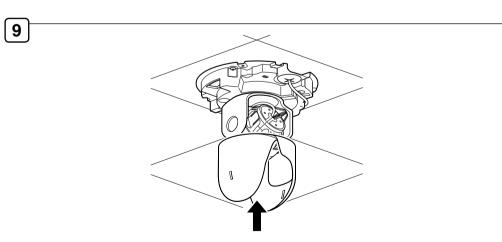
30-2, Shimomaruko 3-chome, Ohta-ku, Tokyo 146-8501, Japan CANON EUROPA N.V. Bovenkerkerweg 59, 1185 XB Amstelveen, The Netherlands

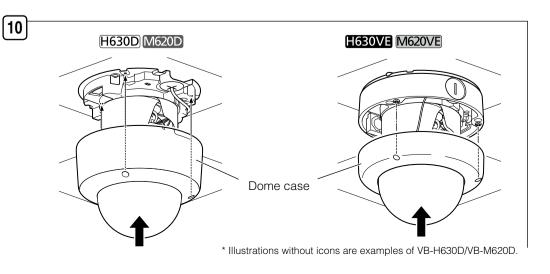












# istalling the Camera

The following describes procedures for mounting the camera to a ceiling. Before installing the camera, set the IP address and other network information on the camera using the "Camera Management Tool" on the Setup CD-ROM. For details on how to operate the "Camera Management Tool", see "Camera Management Tool User Manual".

# $oxed{1}$ Determine an installation position for the camera and drill holes in the ceiling

Use the included template to determine the positions of the fixing screw holes and wiring hole (\$40 mm (\$1.6 in.)) according to the camera orientation. Next, cut out the wiring hole, and drill the fixing screw holes in the the ceiling.

# Use the template with the printed side facing you. 2 Loosen the three lock screws on the dome case and remove the dome case

Special temper-resistant screws are used for the dome case lock screws. Use the included dome case lock screw wrench.

# 3 Remove the tape and the inner cover

Remove the 4 pieces of tape that prevent lens rotation during shipping, and push the inner cover in the direction of the arrows to remove it. Then remove the 2 pieces of tape attached to the base of the lens.

# Important

Do not move the lens unit by hand. This can damage the lens unit.

# 4 Open the wiring hole according to the installation method

Use a box cutter to cut a cross shape into the wiring hole cover in order to guide cables through. Do not remove the wiring hole cover.

Use a coin to unscrew the wiring hole cover from the side through which cables will be guided. Screw the wiring hole cover into the other wiring hole. You can fit a composite pipe (NPT 3/4 inch threaded hole) to the wiring hole.

# 5 Secure the safety wire

Securely attach the safety wire to an anchor or structure. After securing one end of the safety wire to the ceiling, secure the other end to the camera using the screw that is fastened to the camera.

# [6] Guide the LAN cable through the wiring hole

When using an external power supply, guide the power interface cable through the wiring hole. Guide the I/O interface cable and the audio interface cable (included) through the wiring hole if necessary.

When using the AC Adapter (sold separately), cut the cable tie and remove the ferrite core. Be sure not to damage the power cable when cutting the

# [ 7 ] Fix the camera to the ceiling

Fix the camera at three points to the ceiling using the appropriate screws. Three ceiling fixing screw holes are located on the camera. You must provide screws that correspond to the ceiling fixing screw holes.

# 8 | Wire the cables

Wire the cables referring to "Cable Wiring Method"

## Important

When wiring is complete, seal the wiring hole to keep out insects and dust.

# 9 Attach the inner cover

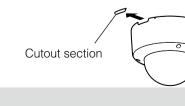
Attach the inner cover to its original position.

# 10 Attach the dome case

Firmly fix the dome case at three points to the camera using the dome case screws.

## H630D M620D

If the cables cannot be stored above a ceiling made of concrete, etc., break the cutout section of the dome case using diagonal pliers to create a cutout through which to guide the cables.



Cable tie

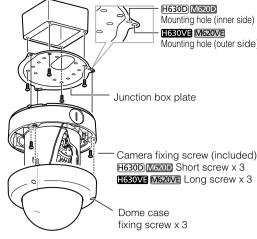
# Important H630VE M620VE

When attaching the dome case, be sure not to pinch cables between the camera and dome case. Pinched cables may impair dust and waterproofing capabilities.

# |11|Set the camera angle

When installation is complete, use the Camera Angle Setting Tool to adjust the pan, tilt, rotation, zoom (and focus) see "Operation Guide" > "Camera Angle Setting Tool").

# Attaching a Junction Box



Use the junction box plate (included with the separately sold junction box mounting kit PS600-VB) to mount the camera to the junction box. nting hole (outer side) ① Attach the junction box plate to the junction box with screws that match the screw holes

in the junction box. ② Guide the cables through the wiring hole and

mount the camera to the junction box plate using the 3 included camera fixing screws The camera fixing screws differ in length depending on the camera. Use short screws

for VB-H630D/VB-M620D, and long screws for VB-H630VE/VB-M620VE. ③ Wire the cables and attach the inner cover and dome case.

\* Diagram of VB-H630VE/VB-M620VE.

# **Using an Memory Card**

Push the memory card as far as possible into the memory card slot with the label facing outward.

### Removing the card

Push the memory card in all the way until the card slightly pops out. Pinch the card and remove.

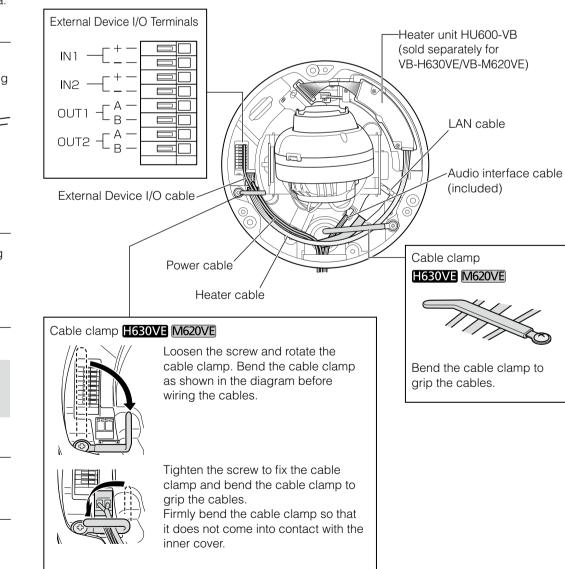
# Important

- Insert the memory card before attaching the dome case.
- Make sure the memory card is not write-protected.
- When using an memory card with the camera for the first time, it is recommended to format the card after inserting it into the camera (see "Operation Guide" > "Setting Page" > "Memory Card").

# **Cable Wiring Method**

Camera

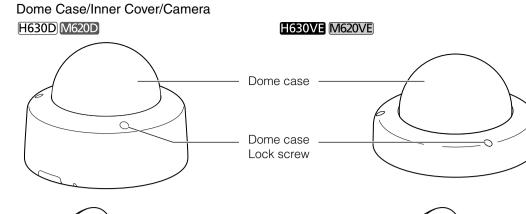
For VB-H630VE/VB-M620VE, secure the various cables with the cable clamps fastened to the camera to prevent damage to cables or connectors due to vibration, etc. \*The diagram is a wiring example for VB-H630VE/VB-M620VE.

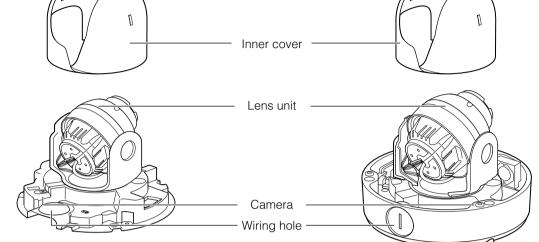


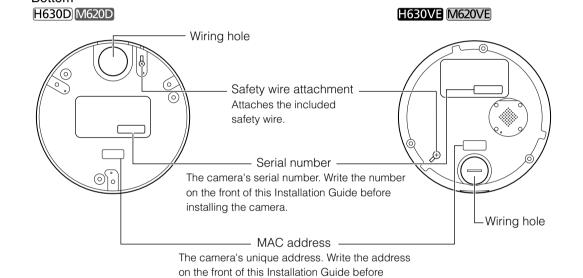
-Bend the cable clamp so that

it does not exceed this height

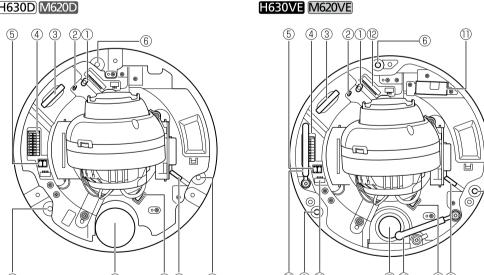
# Part Names







Top view of the camera interior H630D M620D



installing the camera.

Reset switch

Turn on the power while pushing this switch using a sharp object. Continue to push the switch for 5 seconds or more to restore all factory settings except for the date and time.

- ② LED The blue LED light comes on.
- On: When powered on, during reboot
- Off: During normal use 3 Memory card slot
- ④ External device I/O terminals
- (5) Power connection terminal ⑥ Installation screw holes
- Used when securing the camera to the installation surface, the junction box mounting kit (sold separately), or the recessed mounting kit (sold separately).
- 8 Audio I/O terminal
- Connect the included audio interface cable here to connect audio input and output devices to the camera. 9 100Base-TX LAN connector
- 10 Cable clamps H630VE M620VE
- 1) Fan **H630VE M620VE**
- 12 Heater connection terminal H630VE M620VE

# Connecting the Camera

## **Power Connection**

Power can be supplied to the camera in the three ways described below. Please be sure to read the user manual for the dedicated power supply before use.

- The camera does not have a power switch. Connecting and disconnecting the LAN cable (PoE power supply), AC adapter, or external power supply plug turns the power ON and OFF, respectively.
- When the camera needs to be rebooted, perform the reboot operation from the camera setting page (see "Operation Guide" > "Setting Page" > "Maintenance").
- When using the heater unit HU600-VB (sold separately), use 24 V AC for the VB-H630VE/VB-M620VE power supply. PoE, 12 V DC and the AC adapter cannot be used.

### ■ PoE (Power over Ethernet)

The camera supports PoE functions. Power can be supplied to the camera by using a LAN cable to connect it to a PoE HUB that conforms to the IEEE 802.3af standard.

# Important

- Check with your dealer for more information about PoE HUB and Midspan technology. Midspan (a LAN cable power supply device) is a device that, like a PoE HUB, supplies power to the camera via a LAN cable.
- Some PoE HUBs allow current limits for each port, but applying limits may interfere with performance. If using this type of PoE HUB, do not limit the operating current.
- Some PoE HUBs have total consumption current limits for ports, which can interfere with performance when multiple ports are in use. For more information, check the instruction guide for your PoE HUB.
- The camera can also be connected to an AC adapter (sold separately) while receiving power from a PoE HUB. In such cases, the PoE power supply is given priority, and the camera does not use the power supply from the AC adapter (sold separately). When the PoE power supply is disconnected, power is supplied automatically from the AC adapter (sold separately).

## External Power Supply

12 V DC or 24 V AC input can be used.

Connect the included power connector as shown below.

Fightening torque: 0.25 N·m (max. Important

> 60 Hz ±0.5 Hz or less) Current supply capacity of at least 1.0 A per camera

• The power supply should be within the following voltage range.

• 24 V AC: Voltage fluctuation within ±10% of 24 V AC (50 Hz or

12 V DC can be connected in a non-polar configuration.

- 12 V DC: Voltage fluctuation within ±10% of 12 V DC
- Current supply capacity of at least 1.5 A per camera • When using a 12 V DC battery power supply, be sure to connect resistors of at least  $0.5 - 1.0 \Omega/20 \text{ W}$  in series to the power line.

For an external power supply, use a double-insulated device.

# Recommended Power Cables [Reference]

Cable (AWG)		24	22	20	18	16	
Conductor diameter	mm	<b>ф</b> 0.52	<b>ф</b> 0.65	<b>ф</b> 0.82	<b>ф</b> 1.03	<b>ф</b> 1.30	
	(in.)	( <b>ф</b> 0.020)	( <b>ф</b> 0.026)	( <b>ф</b> 0.032)	( <b>ф</b> 0.041)	( <b>ф</b> 0.051)	
12 V DC maximum cable length	m	5	9	14	23	32	
	(ft.)	(16.4)	(29.5)	(45.9)	(75.5)	(105.0)	
24 V AC maximum cable length	m	11	18	29	46	64	
	(ft.)	(36.1)	(59.1)	(95.1)	(150.9)	(210.0)	

## Use UL cable (UL-1015 or equivalent) for 12 V DC or 24 V AC wiring.

### AC Adapter

Use the dedicated AC Adapter (sold separately).

### External Device I/O Terminals

External device I/O terminals consist of two input and output systems each. Viewer can be used to check external device input status and control output to an external device (see "Operation Guide" > "Selecting the External Device Output" and "Displaying Event Status").

### ■ External Device Input Terminals (IN1, IN2)

External device input terminals consist of two sets (IN1, IN2) of two terminals, with the negative terminals connected to the camera interior GND. Connecting cables to the positive and negative terminals and opening or closing the circuit notifies the Viewer.

# Important

- When connecting sensors and switches, connect terminals that are electrically isolated from the respective power and GND.
- Do not push the external device I/O terminal button with too much force. Doing so may cause the button to remain pushed-in.

# ■ External Device Output Terminals (OUT1, OUT2)

Rating between output terminals:

Note

Maximum voltage 50 V DC

On resistance: Max. 30Ω

Adaptive wiring for external device cables

Solid conductor AWG: No. 28 – 22

Audio Input/Output Terminals

External device output terminals consist of two sets (OUT1, OUT2) of two terminals. The sets have no polarity. Controls from the viewer can be used to open and close the circuit between the terminals. Using optical couplers, the output terminals are isolated from the camera's internal

The load connected to the output terminals should be within the following rating range.

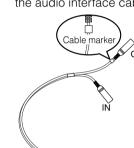
Internal Connection Diagram Continuous load current at or below 100 mA

# Cable strip should be approx. 8 – 9 mm (0.31 – 0.35 in.).

Conductor size:  $\phi 0.32 - \phi 0.65 \text{ mm} (\phi 0.013 - \phi 0.026 \text{ in.})$ 

Each audio input/output terminal has one input system and one output system. Connecting the camera to an audio input/output device such as a microphone or a speaker with an amplifier allows you to send/receive audio through the viewer.

Use the included audio interface cable to connect audio input/output devices to the camera. Use the \$4.5 mm (\$\phi 0.14 in.) monaural mini-jack connector to connect an audio output device with the audio interface cable.



The long end (has cable marker) from the bifurcation point in the cable corresponds to the audio output terminal. The short end (does not have cable marker) from the bifurcation point in the cable corresponds to the audio input terminal.

### Audio Input Dual LINE IN/MIC IN (monaural input)

Although the camera has a single audio input system, it supports two types of microphone input: LINE IN and MIC IN. Before using the audio input, change the [Audio Input] on the Setting Page (see "Operation Guide" > "Audio Input"). LINE IN is selected by default. Input terminal: \$43.5 mm (\$0.14 in.) mini-jack (monaural)

- Dynamic MIC IN
- Input impedance:  $1.75 \text{ k}\Omega \pm 20\%$ \* Supported microphones: Output impedance:  $400\Omega - 600\Omega$
- Condenser MIC IN Input impedance (microphone bias resistance): 2.2 k $\Omega$  ± 20%
- Microphone power supply: plug-in power (voltage: 1.8 V)
- \* Supported microphones: Condenser microphones with plug-in power support LINE IN
- Input level: Max. 1 Vp-p

### \* Use a microphone with an amplifier. Audio Output Terminal LINE OUT (monaural output)

Connect the camera to a speaker with an amplifier. Audio can be sent to the speaker from Viewer. Output terminal: \$43.5 mm (\$40.14 in.) mini-jack (monaural)

Output level: Max. 1 Vp-p

\* Use a speaker with an amplifier.

# Important

- Using the wrong settings in [Audio Input] may damage the camera and/or microphone. Be sure to configure settings correctly.
- Microphone characteristics may affect volume and sound quality. Images and audio do not always synchronize properly.
- Audio may be interrupted depending on PC characteristics and network environment.
- Video and audio can be streamed to up to 30 clients. However, audio may be interrupted when streaming to many clients or using SSL.

