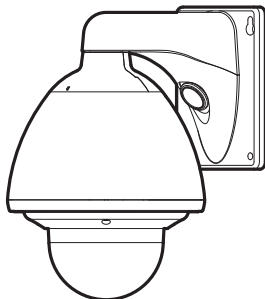# JVC

HD IP PTZ CAMERA
OUTDOOR HD IP PTZ CAMERA

VN-H657BU
VN-H657WPBU

INSTRUCTIONS

VN-H657BU   VN-H657WPBU

Specifications and appearance of this unit are subject to change for further improvement without prior notice. Please check the latest version of the INSTRUCTIONS from the following Mobile User Guide or download the PDF from the URL below.

Mobile User Guide

When you are outside, you can refer to the instructions from your Android phone or iPhone.

http://manual3.jvckenwood.com/pro/mobile/global/

You can view the Mobile User Guide using the browser on your Android phone or iPhone.

For Customer Use:
Enter below the Model No. and Serial No. which is located on the body.
Retain this information for future reference.
Model No.
Serial No.

Please read the following before getting started:
Thank you for purchasing this product.
Before operating this unit, please read the instructions carefully to ensure the best possible performance.

Safety Precautions

IMPORTANT SAFEGUARDS

1. Read all of these instructions.
2. Save these instructions for later use.
3. All warnings on the product and in the operating instructions should be adhered to.
4. Unplug this appliance system from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
5. Do not use attachments not recommended by the appliance manufacturer as they may cause hazards.
6. Do not use this appliance near water - for example, near a bathtub, washbowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool, etc.
7. Do not place this appliance on an unstable cart, stand, or table. The appliance may fall, causing serious injury to a child or adult, and serious damage to the appliance. Use only with a cart or stand recommended by the manufacturer, or sold with the appliance. Wall or shelf mounting should follow the manufacturer's instructions, and should use a mounting kit approved by the manufacturer. An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.
8. Slots and openings in the cabinet and the back or bottom are provided for ventilation, and to insure reliable operation of the appliance and to protect it from overheating, these openings must not be blocked or covered. The openings should never be blocked by placing the appliance on a bed, sofa, rug, or other similar surface. This appliance should never be placed near or over a radiator or heat register. This appliance should not be placed in a built-in installation such as a bookcase unless proper ventilation is provided.
9. This appliance should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supplied to your home, consult your dealer or local power company. For appliance designed to operate from battery power, refer to the operating instructions.
10. For added protection for this product during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the product due to lightning and power-line surges.
11. Do not allow anything to rest on the power cord. Do not locate this appliance where the cord will be abused by persons walking on it.
12. Follow all warnings and instructions marked on the appliance.
13. Do not overload wall outlets and extension cords as this can result in fire or electric shock.
14. Never push objects of any kind into this appliance through cabinet slots as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquid of any kind on the appliance.

15. Do not attempt to service this
appliance yourself as opening or
removing covers may expose you to
dangerous voltage or other hazards.
Refer all servicing to qualified service
personnel.

16. Unplug this appliance from the wall
outlet and refer servicing to qualified
service personnel under the following
conditions:
   a. When the power cord or plug is
   damaged or frayed.
   b. If liquid has been spilled into the
   appliance.
   c. If the appliance has been exposed
   to rain or water.
   d. If the appliance does not operate
   normally by following the operating
   instructions. Adjust only those
   controls that are covered by the
   operating instructions as improper
   adjustment of other controls may
   result in damage and will often
   require extensive work by a qualified
   technician to restore the
   appliance to normal operation.
   e. If the appliance has been dropped
   or the cabinet has been damaged.
   f. When the appliance exhibits a
   distinct change in performance -
   this indicates a need for service.

17. When replacement parts are required,
be sure the service technician has
used replacement parts specified by
the manufacturer that have the same
characteristics as the original part.
Unauthorized substitutions may result
in fire, electric shock or other hazards.

18. Upon completion of any service or
repairs to this appliance, ask the
service technician to perform routine
safety checks to determine that the
appliance is in safe operating
condition.

FOR USA AND CANADA

CAUTION

RISK OF ELECTRIC
SHOCK
DO NOT OPEN

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.

The lightning flash with
arrowhead 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.

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.

Information for USA

This device complies with part 15 of the FCC Rules. Changes or modifications not approved by JVC KENWOOD could void the user's authority to operate the equipment.

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.

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.

Due to design modifications, data given in this instruction book are subject to possible change without prior notice.

WARNING (VN-H657BU)

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

AVERTISSEMENT (VN-H657BU)

POUR EVITER LES RISQUES D'INCENDIE OU D'ELECTROCUTION, NE PAS EXPOSER L'APPAREIL A L'HUMIDITE OU A LA PLUIE.

CAN ICES-3 A / NMB-3 A

WARNING (FOR EUROPE):

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.

Dear Customer

This apparatus is in conformance with the valid European directives and standards regarding electromagnetic compatibility and electrical safety.
European representative of
JVC KENWOOD Corporation is:
JVC Technical Services Europe GmbH
Konrad-Adenauer-Allee 1-11
61118 Bad Vilbel
Germany

Sehr geehrter Kunde, sehr geehrte Kundin, dieses Gerät stimmt mit den gültigen europäischen Richtlinien und Normen bezüglich elektromagnetischer Verträglichkeit und elektrischer Sicherheit überein.
Die europäische Vertretung für die JVC KENWOOD Corporation ist:
JVC Technical Services Europe GmbH
Konrad-Adenauer-Allee 1-11
61118 Bad Vilbel
Deutschland

- This installation should be made by a qualified service person and should conform to all local codes.
- This installation shall be in accordance with the National Electrical Code ANSI/NFPA 70.
  The unit is to be powered by a Listed Class 2 power supply or using the PoE Plus.
  The AC 24V power supply should conform to the following: Class 2 only (For USA), isolated power supply only (For Europe and other).
- Any Mention in this manual of Alarm inputs/outputs have not been evaluated by UL to be used for Burglar Alarm Functionality.

Consult your dealer as special technique is required when installing this product. Ensure that the fixing screws or nuts are tightened securely, otherwise, the unit may fall off.

Mounting to a firm place

As the unit contain parts rotating at high speed, mount it on a firm place with sufficient strength to support the vibration and weight of the unit.
Mass : Approx. 2.0 kg (VN-H657BU)
　　　　Approx. 5.6 kg (VN-H657WPBU)
If the strength is weak, the vibration will cause fuzzy images on the monitor screen. In the worst scenario, the camera may even fall off and hit somebody, resulting in serious accidents.

Mount the camera correctly

Make sure to use the ceiling mount section. (VN-H657BU)
Be sure to connect the fall prevention wire and tighten the fixing screws or nuts securely.

Using the correct power and voltage

To supply power to this product, make use of AC 24 V 50 Hz/60 Hz or PoE Plus (IEEE802.3at Type2). Make use of the correct voltage.
Be sure to use an AC 24 V supply that is isolated from the primary power supply circuit.
Supplying a power beyond the rated value may result in failures, smoke or fire.
If the camera breaks down, turn off the power and contact our service center immediately.
When a power beyond the rated value is supplied, the internal components may be damaged even if no abnormality is found on the appearance and operation of the camera. Please contact our service center immediately for servicing (charged separately).

This unit is able to divert lightning conduction to itself and the connecting cables to a certain extent but this is not 100 % guaranteed. For installation locations that are likely to suffer lightning strikes, be sure to take appropriate measures such as adding arrestor to the connecting cables.

Inspect the unit regularly

Screws may be loosened due to vibration or deterioration of the mounting section. Perform regular inspections for loosened screws and check whether there is any danger of the unit falling off.

Do not hang on this product, shake it, or hang objects over it. Applying an excessive load may cause the product to fall off and result in accidents.

Do not modify this product. It may result in accidents.

Do not place any object inside the product. Placing a metallic or inflammable object may cause a fire or shock hazard.

Contents

Features

Support for PoE (Power over Ethernet) Plus

This camera supports PoE Plus (IEEE802.3at Type 2) and enables power supply through a LAN cable.

*1 Make use of an AC 24 V power supply when using the heater of VN-H657WPBU.

*2 Use a hub or a power supply device that supports PoE Plus (compliant with IEEE802.3at Type 2). Power cannot be supplied through a hub that supports PoE (IEEE802.3af-compliant).

Dual Stream Full Frame Rate Transmission

Streams with a frame size of 1920×1080 and 640×480 can be distributed simultaneously at 30 fps.

Multi-encode

This product comes with a high-performance encoder, which enables three encoding tasks to be performed simultaneously.

Realizing a High Picture Quality

This product uses 2,000,000-pixel CMOS sensor and 3D noise reduction to prevent the screen from appearing grainy, thereby achieving high picture quality in low illuminance.
It supports the 1080P (1920x1080) Full HD resolution. In addition, output in the following resolutions is also possible: Megapixel (1280x960), HD720P (1280x720), D1 (720x480), VGA (640x480), HVGAW (640x360), SIF (352x240), QVGA (320x240)

Long Magnification Zoom Lens

The optical 18 times long magnification lens allows you to conduct detailed monitoring. The high power and large focal ratio F1.6 (WIDE edge) and bright zoom lens realize 0.7 lux (AGC High, 50 %) high sensitivity during color mode.

Equipped with High Precision High Speed Rotation Mechanism

The direct drive rotation mechanism rotates at a high speed of about 400 °/s both horizontally and vertically, thus allowing the camera to move to the preset positions quickly. As it does not have a slowdown mechanism, it is very durable, has a high stopping accuracy and can rotate smoothly even at low speed.

Day/Night Surveillance

This product is equipped with an infrared filter mechanism. During low illuminance such as nighttime, switching the infrared filter to OFF will switch the product to high sensitivity mode (B&W).

Privacy Mask function

This function allows you to blank out areas that you do not wish to display in the location to be recorded.

Motion Detection Feature

This feature enables output of an alarm upon detection of motion in the video image within preset area. Pre-/post-recorded JPEG image files can be sent to the FTP server by the alarm.

Support for Multicast

This product supports multicast, which enables transmission of image data to multiple computers on the network without lowering the frame rate.

HTTP-based API

This product comes with HTTP-based API. This feature enables you to perform setting and control via the network.

Equipped with Built-in Viewer Software

This product comes with a Built-in Viewer that enables you to monitor videos captured by the camera (JPEG or H.264) on the computer. It can also be used to configure the camera settings and control the camera. It also employs a GUI for greater user-friendliness.

Supports audio input/output

By connecting an external microphone, audio can be input from the camera to the computer. Audio input sent to the computer can also be output from the camera via the network.

Supports microSD card recording

You can record surveillance videos to a microSD card, or view videos recorded on the microSD card via the network.

Use of "One-touch Lock Mechanism" (VN-H657BU)

It employs an original "one-touch lock mechanism" for easy attachment/detachment, making installation and maintenance simple.

Waterproof and Weatherproof Chassis (VN-H657WPBU)

This camera is equipped with a dust-proof and drip-proof mechanism that prevents it from being subject to rain, and therefore can be installed outdoors. (IP66 specification)

* However, VN-H657BU can only be used indoors. Do not use them in an outdoor environment or expose them to moisture.

How to read this manual

- In addition to the descriptions on the product and ways to install the camera described in INSTRUCTIONS (Installation/IP Address Settings), this manual also contain descriptions on setting using Internet Explorer as well as operation of the Built-in Viewer.
- The supplied CD-ROM contains "INSTRUCTIONS" (pdf), "API Guide" (pdf), "JVC-VN-SearchTool", "JVC-VN-IP Settings Tool", and "README" (txt).
- You can view the Mobile User Guide on an Android phone or iPhone terminal from a remote location. You can view the Mobile User Guide using the browser on your Android phone or iPhone. For more details, please visit the website below

  http://manual3.jvckenwood.com/pro/mobile/global/

Symbols used in this manual

Note : States precautions to be taken during operation.

Memo : States restrictions on the functions or use of this equipment. For reference purposes.

☞ : Indicates the page numbers or items to refer to.

Contents of this manual

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- iPhone is a registered trademark of Apple Inc. in the U.S. and other countries.
- Android is a registered trademark of Google Inc.
- QR Code is a registered trademark of Denso Wave Incorporated.
- Product names of other companies described in this manual are trademarks or registered trademarks of the respective companies. Symbols such as ™, ® and © are omitted in this manual.
- Design, specifications and other contents described in this manual are subject to change for improvements without prior notice.
- Screen displays in this manual may differ from the actual ones.
- The features and settings unique to each model are identified by the camera model and series name.

Precautions

Updated Information

- For the latest firmware version, please visit our website.
  (The latest firmware version can be found on the Download page of V.NETWORKS.)
  http://www3.jvckenwood.com/english/pro/vnetworks/index.html
- For more details on firmware update, refer to the Firmware item on the [Maintenance] page.
  (☞ p.81 [[Maintenance] Page])

Storage and Operating Environment

- VN-H657BU is an indoor camera. It cannot be used outdoors.
- VN-H657BU is a pendant mount camera. Be sure to place the camera head horizontally. The product will not work properly if it is tilted.
- VN-H657WPBU is specially designed to be mounted on walls. Be sure to place the camera head horizontally. The product will not work properly if it is tilted.
- Use of this product and cables connected to this product at locations where strong electric waves and magnetic waves are generated (e.g., near radio, TV, transformer, monitor, etc.) may cause noise interferences in the images or changes in the color.
- Inadequate heat ventilation may result in malfunction of this product. Be sure not to block vents around the product. This product discharges heat from the surface of the main unit.
- Do not install it at locations directly subjected to cold air such as near the vents of air-conditioners or at locations with high temperature. Condensation may occur inside the dome cover.
- Avoid using or placing this unit in the following places.
  It might result in malfunctions or failure.
  - Locations beyond the allowable operating humidity range of 20 %RH to 90 %RH. (Condensation is not allowed)
  - Near equipment that emits strong magnetic fields, such as transformers or motors.
  - Near equipment that emits radio waves, such as transceivers and mobile phones.
  - Locations with excessive dust and sand.
  - Locations that are subject to vibration such as inside the car or ship.
  - Locations prone to moisture such as window side.
  - Locations subject to steam or oil, such as kitchens.
  - Special environment, such as those with combustible atmosphere.
  - Locations that are subjected to radiation, X-rays, salt attack or corrosive gases.
  - Locations where chemicals are used such as swimming pools.
  - Hot or cold places that are beyond the allowable ambient operating temperature range.

Allowable ambient operating temperature
(VN-H657BU)
    -10 °C to 50 °C
Allowable ambient operating temperature
(VN-H657WPBU)
    AC 24 V power supply : -40 °C to 55 °C
    PoE Plus power supply : -10 °C to 55 °C
   -10 °C to 60 °C (*1)
*1 : When the microSD card and audio
          functions are not in use

- When power is supplied to VN-H657WPBU using PoE Plus, the heater will not work. Use an AC 24 V power supply when using the camera in an environment under -10 °C.
- When the power of the VN-H657WPBU is turned on in a low-temperature environment (-40 °C to -20 °C), this camera cannot be accessed during the interval (up to two hours) while the interior is being heated up by the built-in heater. It is therefore recommended that power be supplied to the camera at all times when the surrounding temperature is low.
- VN-H657WPBU is compliant with IP66, but this is not a guarantee that it will not be subject to water seepage in any type of environment.

Transportation

- Do not throw away the original box of the unit. Keep it and use it for transporting the unit in future.
- As the camera unit is of an easily rotatable structure, secure the camera unit inside the dome cover such that it does not rotate before transporting. Otherwise, an error may occur during camera operation.
  ① With the lens facing the horizontal direction, secure the lens unit with a tape.
  ② Insert cushioning material wrapped with air caps (approx. 50 mm × 200 mm) at two opposite sides of the camera.
- When attaching the ceiling mount section to the camera unit before transporting, pull out the tip of the fall-prevention wire to prevent it from being caught between the camera and the ceiling mount section. Otherwise, it may be difficult to detach the ceiling mount section from the camera. (VN-H657BU)

For VN-H657BU

② Cushioning material
① Secure with tape
Pull out the tip of the fall prevention wire

For VN-H657WPBU

① Secure with tape
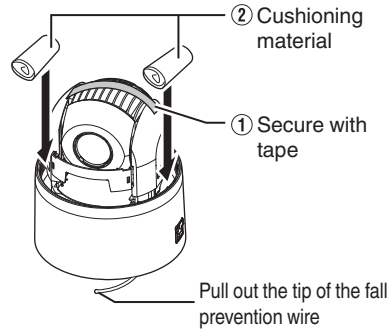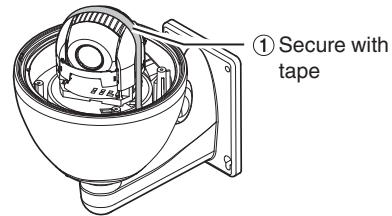
Carrying the Camera

- Remove the connecting cables when transporting the unit.
- When transporting the unit, turn off the power of the system.
- Pack the unit with cushioning material so as to avoid shock when transporting.
- Handle the unit with care and do not subject it to vibration or shock.

Copyright Protection

- With the exception of the user being the copyright holder or when permission such as for duplication has been granted by the copyright holder, permission is required in principle for the duplication, modification, or transmission of copyrighted video and audio data. Unauthorized duplication, modification, or transmission of copyrighted material may constitute a copyright infringement, and the user may be liable to compensate for any damages. When using copyrighted video/audio data, be sure to check the license agreement of the copyrighted material thoroughly. When rights or rights holders are involved with regard to the targeted duplicating subject, permission may be required for shooting or using (processing) it. Be sure to check the licensing conditions thoroughly.

Copyright

- Please note that broadcasting materials recorded with this camera for profit or for the general public to watch may violate the author's rights protected under copyright law.
- Use of recorded materials without prior consent from the author is forbidden under copyright law except in limited, specific instances.

Maintenance

- Turn off the power before performing maintenance.
- Wipe using a soft cloth.
  Wiping with thinner or benzene may melt or tarnish its surface. For tough stains, wipe using a cloth that is dipped into a neutral detergent diluted with water, followed by wiping with a dry cloth.
- When the same position is monitored continuously over a long period, the increased contact resistance on the horizontal rotation section may cause noise interferences in the images and operation from the computer may become unstable. As such, this product is equipped with an auto cleaning function that performs cleaning once a week.

Handling microSD Cards

- Do not place any object inside the camera. Inserting an object other than a microSD card into the microSD card slot may cause fire, electric shock, or malfunction of the product.
- Do not disassemble or modify the microSD card.
- Before you turn off the power of the camera or remove the microSD card from the card slot, make sure to press the [Unmount] button on the [microSD Card Recording] page.
  While writing to the microSD card is in progress, turning off the power or removing the card may damage the data stored inside it.
  (☞ p.63 [[microSD Card Recording] Page])
- If there is a likelihood that data stored in the microSD card is damaged, remove the microSD card from the camera, and back up the necessary data. Next, make use of the SD Formatter (version 4.0 or later) distributed by the SD Association to format the microSD card, followed by inserting the card into the camera. The SD Formatter is available on the following website.
  https://www.sdcard.org/downloads/
- There is a maximum limit to the number of times data on the microSD card can be rewritten. When approaching to the limit, data recording and playback may not function properly. In the event that the recorded data is damaged or when a playback error occurs, replace the microSD card with a new one.

- Do not use or store the card at a place that is subject to static electricity or electrical noise.
- Make sure that the orientation is correct when you insert the microSD card. Inserting the card forcibly in the wrong orientation may damage the camera or the microSD card.
  (☞ p.29 [Insert a microSD card. (VN-H657BU)])
  (☞ p.33 [Insert a microSD card. (VN-H657WPBU)])
- Our company shall not be liable for any accidental damage caused to the data stored in the card. Please back up important data on devices such as a computer.
  (☞ p.105 [[Export(Y/M/D-h:m:s)] Menu])
- To erase data stored in the microSD card completely, it is recommended that you make use of a commercially-available data erasure software program, or destroy the microSD card physically such as by using a hammer.
- Use the card within the operational requirements. Do not use it at the following locations.
  - Places exposed to direct sunlight.
  - Places near thermal equipment.
  - In a car under the sun with the windows closed.
  - Places subject to high humidity, corrosion, etc.
- Do not bend or drop the card, or subject it to strong impact or vibrations.
- Do not wet the card.
- Do not touch the connection terminals.
- Prevent dust, dirt, moisture or other foreign substances from being attached to the connection terminals.
- Do not peel off the label attached to the microSD card, or attach another label of sticker over it. This may cause the equipment to malfunction.
- To write characters on a microSD card, do not use a pencil or ballpoint pen. Make sure that a felt-tip pen is used.
- It may be difficult to remove some microSD cards from the slot of the camera.
- When removing the microSD card from the card slot, it may sometimes pop out forcefully. Be careful not to lose it.

Disclaimer

- The motion detection, tampering detection, and audio detection features are not intended to prevent theft or fire. Our company shall not be liable for any inconveniences or failures that occur.
- We shall not be responsible for any losses incurred in the event of privacy invasion caused by the videos captured by the camera or audio of this product.

Saving Energy

- If the camera is not to be used for a long time, turn off the power of the system for safety and energy conservation reasons.

Auto Focus

- Auto Focus operation can be performed on this product after the pan/tilt/zoom (PTZ) operation stops.
  For more details, refer to "Easy AF" on the [PTZ Control] page.
  (☞ p.98 [[PTZ Control]])
- The Auto Focus function on this product may not be able to achieve focus depending on the camera setting, subject, and light condition. In this case, set the focus manually.
- Objects which are difficult to be focused automatically.
  - When the brightness of the image plane is extremely high (bright).
  - When the brightness of the image plane is extremely low (dim).
  - When the brightness of the image plane is constantly changing (for example, a blinking light).
  - When there is almost no contrast.
  - When there are repetitive vertical striped patterns on the image plane.
- Auto Focus is difficult to set under the following conditions.
  - When sensitivity is increased with AGC and the screen is grainy.
  - When there is less movement on the screen due to the Sense Up function.
  - When there is no clear contour in electronic zoom.

Zoom Operation

- The following phenomena are the results of the built-in lens performance and are not malfunctions.
  - When manual operation or preset is selected, focus moves slightly after the zoom operation has stopped near the TELE end.
  - The zoom operation is not smooth during manual operation.
  - When Preset is selected, the camera becomes out of focus for an instant during zooming.

Others

- This camera will perform the initial operation of pan/tilt/zoom upon powering on. It takes about 90 seconds before the initial operation starts. This is not a malfunction.
- Do not subject the lens to strong light source such as sun rays. This may cause the equipment to malfunction.
- This camera comes with a built-in AGC circuit. The sensitivity increases automatically at a dark place and noise may become noticeable on the screen. This is not a malfunction.
- While AGC is activated, if a transceiver which causes strong radio wave is used near the camera, the picture may suffer from beat. Please use the camera more than three meters away from such transceivers.
- When the "Auto" iris setting is selected, brightness may not change if [AGC] is set to "Mid" or "High". In this case, change the iris setting to "Manual", or set [AGC] to "OFF".
- When this camera is used in the White Balance "ATW-Narrow", "ATW-Wide" or "ATW-Full" (automatic adjustment) mode, the color tone may differ slightly from the actual color due to the principle of the automatic color temperature tracking white balance circuit. This is not a malfunction.
- Do not touch the dome cover with your hands. Dirty covers will cause image deterioration.
- The dome cover may fog up due to the drastic change of temperature when humidity is high.
- Noises from an external source may cause the alarm to malfunction even when the alarm signal cable used is within 50 m. In this case, move the cable away from the noise source.
- Depending on the stop position and horizontal/vertical rotation speed of the rotation mechanism, the running sound of the rotation mechanism's motor may be heard, but this is not a malfunction.
- During audio input/output, noise may occur when the rotation mechanism is rotated horizontally/vertically, when zooming is performed, when the power is turned on/off, or when the microSD card is operating. This is not a malfunction.
- Noise may become pronounced in the audio when Mike Gain is set to a high value. This is not a malfunction.

- When using multicast, make use of an IGMPv2-compliant network switch.
- Some switching hubs of products that are equipped with intelligent features may include a broadcast/multicast suppression function. Viewing of multicast images on this product may fail if this function is enabled.
- The electronic shutter of this product is set to "1/30" by default. For regions with a commercial power supply frequency of 50 Hz, switch to "Flickerless" during use under fluorescent lights (excluding inverter lighting equipment) to prevent flickers.
- The dark areas on the screen may appear grainy or white spots may increase. When switching between color and black-and-white images, the brighter area on the screen is emphasized, which may reduce the visibility. However, this is not a malfunction.
- If the power supply voltage is momentarily cut off or reduced due to lightning or turning on of the air conditioner's power, the image may be disrupted or noise interference may occur.
- As the dome cover is of a semiglobular shape, image distortion will occur at the hemispherical edge. When the hemispherical edge of this unit is masked and horizontal level is shot in a tilt direction, the hemispherical edge will enter the field angle. This may cause the upper edge of the screen to become black and the focus unclear. In this case, you can avoid shooting the above area by using the Tilt Limit settings. (☞ p.68 [Tilt Limit])
- When shooting objects with a luminance difference or near a light source, ghost may occur on the screen. This is a feature of the dome cover and the built-in lens, and is not a malfunction.
- In particular, manual and auto pan operation near the TELE end (telephoto side) may cause the screen to vibrate (unsmooth rotation). This is a feature of the motor and is not a malfunction.
- As long magnification lens is used in this product, the focus may be unclear due to temperature changes but this is not a malfunction.
- Preset the focus under an environment with a temperature closest to that in your actual usage. If the temperature change is large and the focus becomes unclear, preset the focus again before using the product.
- If you sense that the focus has become unclear due to temperature changes, use the Auto Focus function or reset the focus manually.

- The time of the internal clock may be significantly out of alignment if the power of the product is turned off for a long time or when there is prolonged power failure. If this occurs, readjust the clock time. (☞ p.79 [[Time] Page])
- While viewing with the Built-in Viewer, audio sound may sometimes be out of synchronization. This is not a malfunction.
- The fan inside this unit is a consumable part. If the fan stops running for some reasons, a "Caution : The fan is stopped" message will be displayed over the video. You can also set the alarm trigger to send out a notification on fan stoppage via mail or TCP. (☞ p.56 [[Alarm] Page])
- If the fan stops functioning, turn off this unit and consult our service center.

- Before starting an important recording, be sure to perform a test recording in order to confirm that a normal recording is possible.
- We shall not be liable for the loss of recordings or opportunities in the event that recording could not be performed due to a problem that arises during the use of the video camera or recorder.
- The motion detection, tampering detection, and audio detection features are simple functions. They cannot be used as a substitute for a security alarm. Our company shall not be liable for any inconveniences or damages caused in the event of false detection or failure to detect by these functions. We shall not be liable for any inconveniences or damages caused as a result of operational failure for alarm input/output.

Accessories

Before mounting this product, please check to ensure that all the following accessories and attachments are available.

VN-H657BU

- INSTRUCTIONS (Installation/IP Address Settings): 1
- Warranty Card (for USA): 1
- Template: 1
- CD-ROM: 1
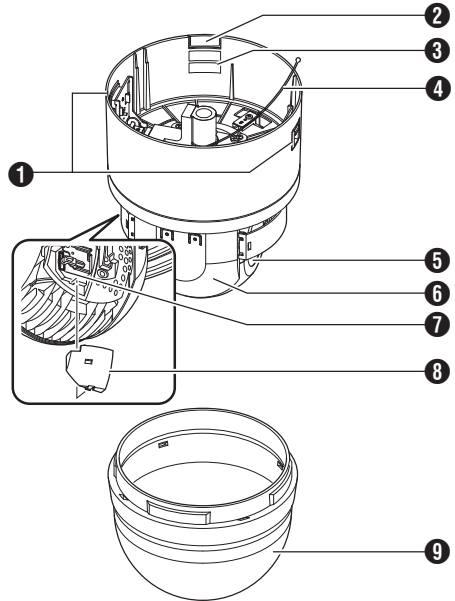- Wire Clamp: 1
- Audio cable: 1

VN-H657WPBU

- INSTRUCTIONS (Installation/IP Address Settings): 1
- Warranty Card (for USA): 1
- CD-ROM: 1
- Silica Gel: 3

Name of Parts

VN-H657BU

Camera

❶ Camera fixing lock knob (x2)
This mounts the camera on the ceiling and secures it so that it does not fall.

❷ Cable cover
To pull the cables from the side and mount the camera, remove the cover.
(☞ p.27 [Pulling out the cables from the side])

❸ [MAC address] indication
The MAC address is a unique physical address of the product. This address cannot be altered.

❹ Fall prevention wire
Attach it to the "fall-prevention wire fixing bracket ⓱" of the ceiling mount section.

❺ Lens unit (camera module)
You cannot replace the lens alone.

❻ Camera unit

❼ microSD card slot
Insert a microSD card.
(☞ p.29 [Insert a microSD card. (VN-H657BU)])

❽ microSD cover
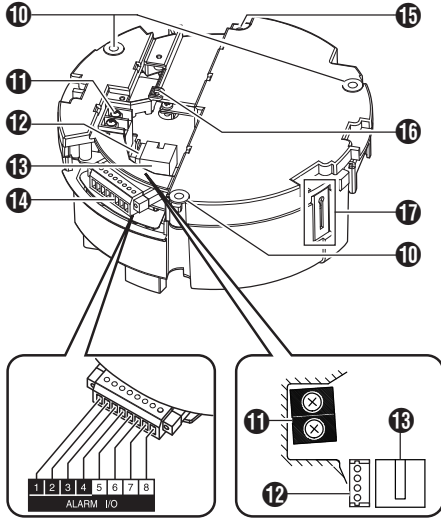
❾ Dome cover
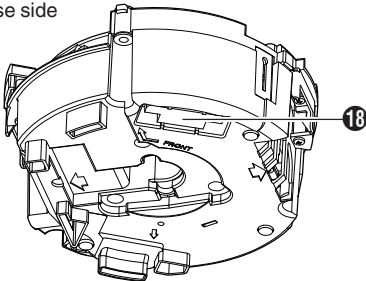The dome cover is a delicate object. Handle it with care.

Note :
- Do not peel off the protective sheet which is attached at shipment, until the dome cover is mounted on the main unit.

Ceiling mount section

Terminal

Reverse side

❿ Fixing holes (x3)
This hole is for mounting the ceiling clamping bracket to the ceiling or the ceiling recessed bracket (WB-S685U: Sold separately).

⓫ [AC24V∿INPUT] AC 24 V input terminal
For connecting to AC 24 V power.
(☞ p.25 [Connect the power cable.])

⓬ Audio terminal
For connecting the supplied audio cable.

List of Audio Cable Signals

Cable color		Signal Name
Brown	White	Mic Input
	Black	GND
Black	White	Line Output
	Black	GND

⓭ [10BASE-T/100BASE-TX] LAN cable connection terminal
For connecting the unit to the network.
It supports PoE Plus (IEEE802.3at Type 2) and enables you to use this camera without having to connect to a power supply using a power cord.
(☞ p.26 [Connect the LAN cable.])

⓮ Alarm signal terminal (8-pin)
For connecting the alarm signal cable.
(☞ p.19 [Alarm Input/Output Signal])
(☞ p.26 [Connect the alarm signal cable to the alarm signal terminal.])

List of Alarm Signal Terminal Signals

Pin Number	Signal Name
1	INPUT1
2	INPUT1 COM
3	INPUT2
4	INPUT2 COM
5	OUTPUT1
6	OUTPUT1 COM
7	OUTPUT2
8	OUTPUT2 COM

⓯ Fall prevention wire (for ceiling) mounting hole
Mount a fall prevention wire (for ceiling) from the ceiling slab or channel to this hole to prevent the camera from falling.

Memo :
- The fall prevention wire (for ceiling) is not supplied.

⓰ Wire clamp fixing hole
This is used to bundle wires.

⓱ Fall prevention wire fixing bracket
This is for attaching the "fall prevention wire ❹" of the camera.

⓲ Camera connection terminal (female)
For connecting to the connection terminal (male) of the camera.

VN-H657WPBU
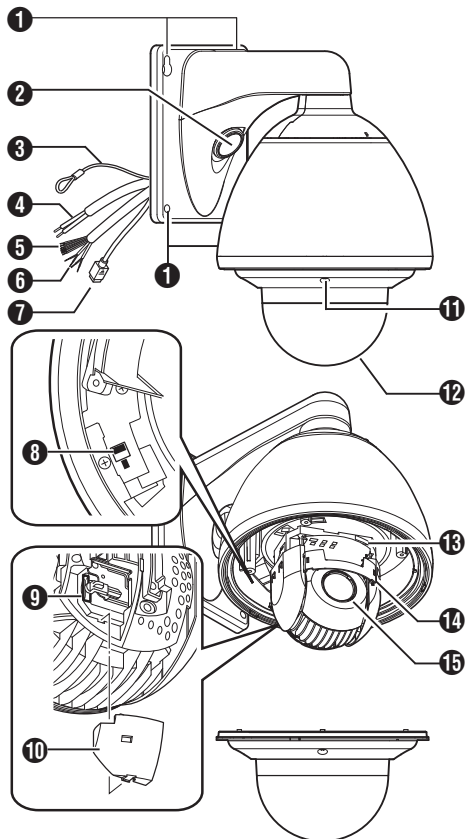
❶ Camera securing hole (x4)
This hole is used for mounting the camera on the wall.

❷ Cable connecting hole, cap
Remove the cap and pull out the cables from this hole for connection.
(☞ p.34 [Remove the cable connection cap.])

❸ Fall prevention wire
Connects the camera to the wall. Secure the camera tightly to the anchor bolts used to mount the fall prevention wire on the wall.
(☞ p.35 [Mount the fall prevention wire.])

❹ AC 24 V power cable
For connecting to AC 24 V power.
(☞ p.35 [Connect the power cable.])

❺ Alarm signal cable (8 pcs)
This cable is for alarm input and alarm output.
(☞ p.36 [Connect the alarm signal cable.])

List of Alarm Signal Cable Signals

Cable color	Signal Name
Brown	Input 1
Red	Input 1 (COM)
Orange	Input 2
Yellow	Input 2 (COM)
Green	Output 1
Blue	Output 1 (COM)
Purple	Output 2
Gray	Output 2 (COM)

❻ Audio cable (4 pcs)
These are the mic input and line output cables.

List of Audio Cable Signals

Cable color		Signal Name
White	White	Mic Input
	Black	GND
Light Green	Light Green	Line Output
	Black	GND

❼ LAN cable
For connecting the unit to the network.
It supports PoE Plus (IEEE802.3at Type 2) and enables you to use this camera without having to connect to a power supply using a power cord.
(☞ p.36 [Connect the LAN cable.])

❽ Heater ON/OFF switch
This is the ON/OFF switch of the built-in heater.
It is intended for use when the camera is
installed or used in an environment with low
temperature. When installing the heater at an
unrequired location, turn OFF the switch of the
heater. When it is set to ON, the heater will be
automatically controlled to adjust the internal
temperature to an appropriate level. It is usually
set to ON.
(☞ p.32 [Installation and Connection
Preparations (VN-H657WPBU)])

❾ microSD card slot
Insert a microSD card.
(☞ p.33 [Insert a microSD card.
(VN-H657WPBU)])

❿ microSD cover

⓫ Dome cover fixing screws (x4)

⓬ Dome cover
The dome cover is a delicate object. Handle it
with care.

Note : ─────────────────────────────

- It is covered with a protective sheet during
  shipment. Do not remove this sheet until
  installation is complete.

─────────────────────────────

⓭ [MAC address] indication
The MAC address is a unique physical address
of the product. This address cannot be altered.

⓮ Camera unit

⓯ Lens unit (camera module)
You cannot replace the lens alone.

About microSD Cards

This camera enables recorded videos to be saved to the microSD card (sold separately) inserted into the card slot.

Compatible microSD Cards

Make use of a microSD card with the following specifications.
- The microSDHC cards Class10 or higher (16 GB to 32 GB) with a guaranteed operating temperature of 85 °C or higher

Operation checks have been performed on the following microSD cards by connecting them to this camera.
- Panasonic RP-SMEB16GJK
- Toshiba MUH-A032G
- SanDisk SDSDQU-032G-J35A

* Not all microSD cards that meet the above requirements are guaranteed to operate on this camera.

Memo :
- Do not leave the microSD cover or dome cover open for a prolonged period of time. Dust may enter the interior of the camera unit, causing it to malfunction.
- Before you turn off the power of the camera or remove the microSD card from the card slot, make sure to press the [Unmount] button on the [microSD Card Recording] page.
  (☞ p.63 [[microSD Card Recording] Page])
- If a microSD card for which its operation is not verified is used, videos may not be correctly recorded even if the recording settings are properly specified.
- To remove the microSD card, push the microSD card inward slightly to disengage the lock, followed by taking it out. The card may sometimes pop out forcefully. Be careful not to lose it.
- It may be difficult to remove some microSD cards from the slot of the camera.
- To insert or replace a microSD card, do so after turning off the power of the camera.

Note :
- The microSD cards cannot be formatted on this camera. Make use of the SD Formatter (version 4.0 or later) distributed by the SD Association to format the microSD card, followed by inserting the card into the camera.
  The SD Formatter is available on the following website.
  https://www.sdcard.org/downloads/

Inserting a microSD Card

Inserting the microSD card in the wrong orientation may damage the camera or the microSD card. Before inserting a microSD card, ensure that the orientation is in alignment with the mark indicated on the card slot.
For details, refer to the following.
(☞ p.29 [Insert a microSD card. (VN-H657BU)])
(☞ p.33 [Insert a microSD card. (VN-H657WPBU)])

Estimated Recordable Time for microSD Cards

The values below are the estimated recording time. The duration may vary with the shooting environment or the microSD card in use.

Encoder's Bit Rate Setting	Recordable Time by microSD Card Capacity [Hours]	
	16 GB	32 GB
64 kbps, CBR	458	915
128 kbps, CBR	229	457
256 kbps, CBR	114	228
384 kbps, CBR	76	152
512 kbps, CBR	57	114
768 kbps, CBR	38	76
1024 kbps, CBR	28	57
1536 kbps, CBR	19	38
2048 kbps, CBR	14	28
3072 kbps, CBR	9	19
3584 kbps, CBR	8	16
4096 kbps, CBR	7	14
8192 kbps, CBR	3	7

Alarm Input/Output Signal

Alarm Input Signal

Connect to sensors such as infrared sensors, door sensors, metal sensors and manual switches.
- To prevent noise from entering the internal circuit, supply non-voltage contact signal to the alarm input signal.

Memo : ─────────────
- You can configure whether to set the alarm when the contact is short (MAKE) or open (BREAK) in the [Alarm] page of the [Advanced Settings] page.
(☞ p.56 [[Alarm] Page])
- Apply such that the alarm signal continues for at least 500 ms. The alarm signal may not be recognized if it is less than 500 ms.

Note : ─────────────
- Do not supply voltage.
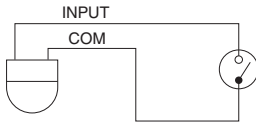
Rating
Low-level terminal current : 1 mA and below
High-level terminal voltage : DC 3.3 V

Alarm Output Signal

Connect to alarm devices such as alarm, indicator, light or buzzer.
- Alarm output signal is an open collector output insulated with photo coupler.

Memo : ─────────────
- You can select whether to set the contact to short (Make) or open (Break) during an alarm in the [Alarm] page of the [Advanced Settings] page.
(☞ p.56 [[Alarm] Page])

Note : ─────────────
- As this terminal is polarized, be sure to connect it such that the voltage of the OUTPUT output is higher than that of the COM output.
- It will be damaged if reverse voltage is supplied.
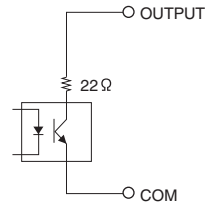
Rating
Max. applied voltage : DC 20 V
Max. driving current : 25 mA

Operating Environment

Recommended Computer Specifications

OS	:	Windows 8 Pro, Windows 7 Professional (SP1), Windows XP Professional, or Home Edition (SP3)
CPU	:	Intel Core i5 3 GHz or higher
Memory capacity	:	2 GB and above
Free hard disk space	:	512 MB or more
Display and video card	:	1920 × 1080 pixels or higher, True Color (24 or 32 bits) VRAM 1 GB or more recommended
Web browser	:	Internet Explorer Version 8.0, Version 9.0, Version 10.0

Note :
- Operation is not guaranteed for web browser other than the Internet Explorer versions stated in the recommended PC specifications.
- The touch operation of Windows 8 is not supported.
- The Built-in Viewer consists of a software component called ActiveX. The ActiveX is usually installed when the Built-in Viewer is used for the first time. However, installation may be rejected depending on the anti-virus software settings. If this occurs, change the settings of the anti-virus software.
- The camera image may not appear smooth at times due to factors such as fluctuations in the CPU and memory load, or network jitter. This is not a malfunction.
  The symptoms may improve when the camera settings are changed.
  (☞ p.52 [[Encoding] Page])
- Noise may be heard in the playback sound for some built-in sound cards on PCs.

LAN Environment

- 10BASE-T/100BASE-TX network interconnected using devices such as an IEEE802.3-compliant switching hub.
- IEEE802.3at-compliant switching hub when PoE plus is used
- IGMPv2-compliant network when multicast is in use.

Network

- Ensure that there is sufficient network bandwidth for the data volume to be sent out by the camera. Do not send multicast stream that exceeds the bandwidth. If the entire bandwidth is used by the multicast stream, control of this camera via the network may fail.
- Data volume to be sent by the camera varies with the settings and number of distributions.
- The maximum bit rate for transmission is about 40 Mbps.
- Supports up to 20 clients at the same time.

Frame Rate and Frame Size

This products enables simultaneous encoding up to three channels. However, the settable frame size and frame rate combinations are subject to restrictions.
For more details about restrictions on the combination, refer to the following.
(☞ p.114 [Appendix (Restrictions during Multi-encoding)])

Bit Rate of JPEG Stream

The JPEG file size per frame varies with the encoding settings as well as the camera images. When "AFS" is selected, encoding is performed such that the target file size is the average size of multiple JPEG images. When "VFS" is selected, the quantization table during JPEG encoding will be maintained, and the file size will increase/decrease according to the camera images.
If the JPEG file size per frame is 120 KB, then the total bit rate will be:
120 KB × 15 fps = 1800 KB/s = Approx. 14.4 Mbps
When "Multi-Encode" is selected, a different JPEG file size can be set for each channel.
For example, when 2fps JPEG files with 30 KB file size and 3fps JPEG file with 10 KB file size are transmitted, then the total bit rate will be:
30 KB × 2 fps +10 KB × 3 fps = 90 KB/s = Approx. 0.72 Mbps

Bit Rate of H.264 Stream

You can select either the Variable Bit Rate (VBR) or Constant Bit Rate (CBR) system for H.264 stream.
When the VBR system is selected, the bit rate varies according to the condition of the camera images. The VBR system delivers a stable picture quality, but forecast of the bit rate is difficult. When the CBR system is selected, encoding is performed at a fixed bit rate regardless of the condition of the camera images. The picture quality varies under the CBR system, but the bit rate can be easily forecast.
You can specify an estimated bit rate for both VBR and CBR. (64 kbps to 8192 kbps)
H.264 Baseline cannot be set for multiple encoders at the same time. Only one channel can be set with a frame size of 1280×720 or lower and a bit rate of 1.5 Mbps or lower.

Audio Data Size

Up to 2 stream of audio data can be sent. Up to 1 stream of audio data can be received. Each audio data stream is 64 kbps. The size of the audio data can be calculated using the following formula:
64 kbps × number of streams
The number of streams should be the total of the number of TCP streams being sent (the number of clients) and the number of multicast streams being sent/received. For example, if the camera is sending 2 streams of audio and receiving 1 stream of audio, the data size will be as follows:
64 kbps × 3 = 192 kbps

Insufficient Network Bandwidth

When there is insufficient bandwidth, the number of JPEG frames (frame rate) that the client can acquire will decrease. Delay will also occur in the distribution of images. In the case of H.264, noise interference may occur and playback may fail.

Network Delay

When the client acquires JPEG via TCP, the camera will send out data while checking the ACK from the client at the same time. For networks with considerable delay, data cannot be sent out until ACK is received, and therefore the frame rate will drop. In the case of H.264, noise interference may occur and playback may fail.
A decrease in the frame rate due to network delays can be eliminated by receiving data via multicast.

Network Jitter

When there is considerable network jitter, delay time may be prolonged and the image frame rate may drop. In the case of H.264, noise interference may occur and playback may fail.

Packet Loss

When acquiring images from camera via TCP, packet loss may be recovered by TCP transmission. When there is considerable delay in the network, however, missing data may occur and the image frame rate may drop. In the case of H.264, noise interference may occur and playback may fail.
When packet loss occurs during multicast sending from camera, the image frame rate may drop. In the case of H.264, noise interference may occur and playback may fail.

List of Protocols and Port Numbers Used by Camera

The camera uses the protocols and port numbers listed below. Ensure that these ports are allowed through the firewall when a firewall is to be installed.

Protocol/Port number	Purpose of use
Source	
TCP/80	JPEG/H.264 acquistion, Web Settings page, API, audio acquisition
TCP/554	RTSP
TCP/32040	Sending alarm
TCP/49298	Audio data reception
Destination	
TCP/ User-defined number	Sending alarm
UDP/ User-defined number	
TCP/20, 21	FTP
TCP/25	Mail delivery
TCP/110	POP (Mail Delivery)
UDP/123	SNTP
UDP/161	SNMP

Operating Protocol

ONVIF

This camera supports ONVIF (Open Network Video Interface Forum).
ONVIF is a forum that is standardizing surveillance device network protocols.
Protocols for discovery of surveillance devices, acquisition and modification of surveillance device settings, and audio/video data transfer are standardized under ONVIF.
The initial user name and password are set as follows:
 User Name : admin
 Password : jvc
This camera fulfills the ONVIF Profile S.

Images

H.264 Profiles

The camera supports both the H.264 Baseline Profile and H.264 High Profile standards.
High Profiles can maintain high image quality with a low bit rate, but as the decoder needs to support High Profiles, the processing load on the decoder becomes heavier.
Compared to High Profiles, Baseline Profile offers lower compression performance, but the processing load on the decoder will be reduced. Selecting High Profiles is recommended if the decoder has sufficient processing ability.

Selection of Languages on Setting Pages

There are two radio buttons for selecting the language at the right top corner of the setting pages, however the language will be automatically set according to the OS environment of your computer. If you select "Japanese" while using an English-language OS, it may not be correctly displayed because there is no Japanese environment. Make sure to use the setting page according to the language setting for the OS of the computer in use.

● Fore more details on the Settings page, refer to the following.
(☞ p.43 [How to Open the Settings Page])

○ Japanese ● English(Custom)

Memo :
● Once you have set a language, all information is displayed in the selected language after the next startup.

Uploading and Downloading of the Language File

You can change the language on settings page and "Built-in Viewer" of the camera.

Procedure

1 **Open the Settings page.**
   ● Fore more details on the Settings page, refer to the following.
   (☞ p.43 [How to Open the Settings Page])

2 **Click [Download] button on the [Maintenance] page.**

3 **Save "language.ini" file to the appropriate folder in the computer.**

4 **Edit the downloaded "language.ini" file using Notepad or general purpose text editor.**
   ● Current texts are described after "=". Change them to desired text.
   ● You can write comments after the ";". Comments are annotations for each line and all the text from the ";" to the end of the line is ignored.
   ● Maximum number of texts in one line is 126 bytes.
   ● Save the file after editing. Do not change the file name.
   ● Western European language (ISO-8859-1) is supported. Multi byte character set is not supported.

5 **Click "Browse..." button on the Maintenance page and select "language.ini" file which you edited.**

6 **Click [Upload] button on the Maintenance page.**

7 **Select "Custom", then click [Apply] button on the Maintenance page.**
   ● Language is replaced after reloading the [Maintenance] page. When language is not replaced, please reload the [Maintenance] page again.

● Following GUI is added to [Maintenance] page.
(☞ p.81 [[Maintenance] Page])

Language File		
Download	Download	
Upload		Browse... Upload

Pages Available to Each User

Enter User Name and Password

User name and password entry will be required when you access the camera.
There are three access authorization levels to the camera. The factory settings are as follows.

- admin
  All operations and setting changes are allowed.
  (Default Password: "jvc")
- operator
  The following items cannot be operated, and setting changes are not permitted. [Basic Setting1], [Network], [Protocol], [Access Restrictions], [Time], [Password], [Maintenance]
  (Default Password: "jvc")
- user
  Viewing of images and some operations are permitted.
  (Default Password: "jvc")

Memo :
- For more details on accessing the camera from Internet Explorer, refer to the following.
  (☞ p.43 [How to Open the Settings Page])

Pages that Users Have Access

Restrictions are placed on the pages that users have access. In addition, links on the setting pages are also displayed according to the access rights of the user.

Memo :
- For details and a list of the pages, refer to the following.
  (☞ p.44 [Built-in Viewer Menu List])

admin

Top Menu	Sub Menu
[Basic Setting1]	[Network]
	[Time]
[Basic Setting2]	[Camera]
	[Encode]
[Advanced Settings]	[Camera]
	[Encoding]
	[Audio]
	[Alarm]
	[Alarm Environment]
	[FTP Recording]
	[microSD Card Recording]
	[PTZ]

Top Menu	Sub Menu
[Advanced Settings]	[Auto Patrol 0 to 2]
	[Privacy Mask]
	[Motion Detection]
	[Audio Detection]
	[Tampering Detection]
	[Network]
	[Protocol]
	[Multicast]
	[Access Restrictions]
	[Time]
	[Password]
	[Maintenance]
	[Miscellaneous]
	[Operation]
	[Settings]
	[Position List]
	[Patrol Settings 0 to 2]

operator

| Top Menu	Sub Menu
[Basic Setting2]	[Camera]
	[Encode]
[Advanced Settings]	[Camera]
	[Encoding]
	[Audio]
	[Alarm]
	[Alarm Environment]
	[FTP Recording]
	[microSD Card Recording]
	[PTZ]
	[Auto Patrol 0 to 2]
	[Privacy Mask]
	[Motion Detection]
	[Audio Detection]
	[Tampering Detection]
	[Multicast] (Transmission and stopping only)
	[Miscellaneous]
	[Operation]
	[Settings]
	[Position List]
	[Patrol Settings 0 to 2]

user

Top Menu	Sub Menu
[Advanced Settings]	[Miscellaneous]

Installation and Connection Preparations (VN-H657BU)

- Be sure to put on protective glasses to protect your eyes from falling objects when mounting the camera.
- The fall prevention wire (for ceiling) is not supplied. Please purchase the fall prevention wire separately beforehand.

1 **Make holes on the ceiling (use the provided template) and pull out the cables from the holes.**
- Use the provided template to make a hole (Φ80 mm) for the connection cables to thread behind the ceiling.
- If necessary, also open a screw hole to mount the ceiling mount section to the ceiling. In this case, align the "↟FRONT mark" of the template in the direction where the camera faces front and open the screw hole.
- Pull out from the ceiling the fall prevention wire (for ceiling), power cable, LAN cable, alarm signal cable, audio cable, etc. that were mounted to the ceiling slab.
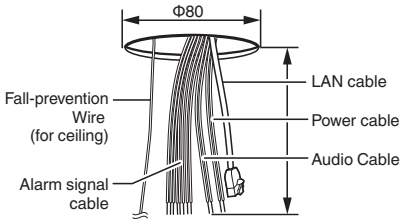
Note :
- Mount the fall-prevention wire (for ceiling) to a location that has sufficient strength.

2 **Remove the ceiling mount section from the camera unit.**
- The ceiling mount section is attached to the camera unit during packaging of the product. Before installing the camera, remove the ceiling mount section from the camera unit.
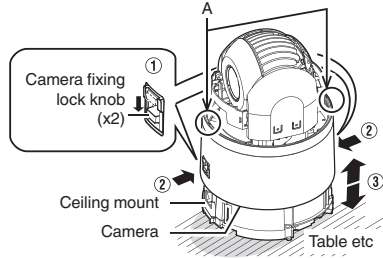
① Release the locks by sliding them in the direction indicated by the arrows
② Push the lock knobs inward from both the left and right directions as indicated by the two arrows.
(If the camera fixing lock knob is too stiff, push the knob hard while pressing the edge of the camera unit (A in the diagram) against the table you are using.)
③ Lift the camera unit upward to detach.

3 **Remove the terminal cover.**
- Loosen the two screws on the ceiling mount section and remove the terminal cover.
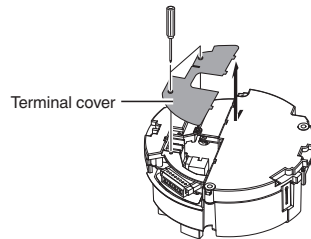
4 **Mount the fall prevention wire (for ceiling; to connect the ceiling mount section to the ceiling).**

Fall-prevention Wire (for ceiling)

Fall-prevention Wire (for ceiling)

6 mm

6 mm and below

Φ9 mm and below

Φ4 to 5.5 mm
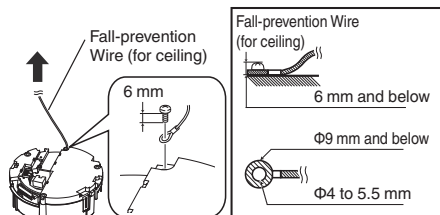
Note :
- Take note of the length, strength, pull and material (insulation) of the fall prevention wire (for ceiling) and use one with a wire strength of more than 20 kg.
- The inner diameter of the ring section of the fall prevention wire mounted on the camera should be Φ4 mm and above and Φ5.5 mm and below, and the outer diameter should be Φ9 mm and below.
- The thickness of the screw head and the wire (including the washer) should be 6 mm and below. If it is more than 6 mm, the screw will touch the ceiling and the camera cannot be installed horizontally.
- Use M4 fixing screws.

Memo :
- The wire should be insulated from the ceiling structure. If the ceiling structure is metal and insulation is not provided between the camera and the ceiling structure, image noise may occur.

5 **Connect the power cable.**
- To supply power from an AC 24 V power supply, connect a power cable.
- To supply power via PoE plus, you do not need to connect a power cable. Go to the next step.
(☞ p.26 [Connect the LAN cable.])
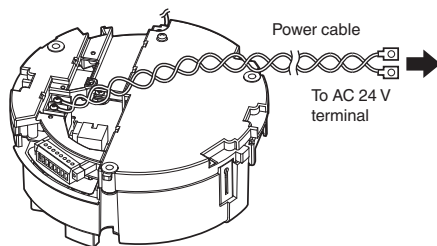
Power cable

To AC 24 V terminal

Power cord for connecting to AC 24 V (Reference value)

Conductor Diameter (mm)	Maximum connection distance (m)
Φ1.0 and above	40
Φ1.6 and above	130
Φ2.0 and above	200
Φ2.6 and above	350

Memo :
- The default IP address setting is 192.168.0.2.

Note :
- For safety reasons, turn on the power only after ensuring that all the connections are in place.
- If power is supplied from both power cable and LAN cable, priority will be given to the power supply from the power cable.
- If multiple cameras are turned on simultaneously in the same LAN environment, access attempts may fail due to IP address duplication. Set up an IP address by either using the JVC-VN-IP SettingTool (included on the supplied CD-ROM) or turning the power supply of each camera on separately to avoid duplication.

Mounting the Camera

Caution

To supply power to this product, make use of AC 24 V 50 Hz/60 Hz or PoE Plus (IEEE802.3at Type2). Make use of the correct voltage.
Be sure to use an AC 24 V supply that is isolated from the primary power supply circuit.
Supplying a power beyond the rated value may result in failures, smoke or fire. If the camera breaks down, turn off the power and contact our service center immediately.
When a power beyond the rated value is supplied, the internal components may be damaged even if no abnormality is found on the appearance and operation of the camera.
Please contact our service center immediately for servicing (charged separately).

6 Connect the LAN cable.

LAN cable

[10BASE-T/ 100BASE-TX] LAN cable connection terminal
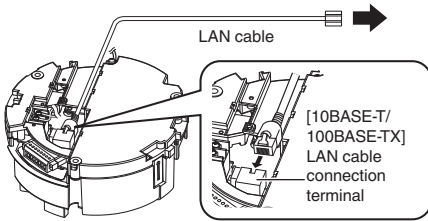
- Connect the camera to a hub or computer using a LAN cable.
- When connecting to a hub: Make use of a straight cable.
- When connecting to a computer: Make use of a cross cable.

LAN cable to use

- STP (Recommended shield cable)
- Length of 100 m or shorter
- Category 5e and above

Note : ─────────────────────

- Cross cables cannot be used with some computers. When connecting the camera directly to a computer, check the computer's LAN specifications in advance.

7 Connect the alarm signal cable to the alarm signal terminal.

- Connect the alarm signal terminal to external devices, such as a sensor or buzzer.
- For information on the pin number and signal name of the alarm signal, refer to the following.

(☞ p.15 [List of Alarm Signal Terminal Signals])

- Fore more details on alarm input/output, refer to the following.

(☞ p.19 [Alarm Input/Output Signal])

Alarm signal terminal
Screw terminal
Alarm signal cable
4 mm
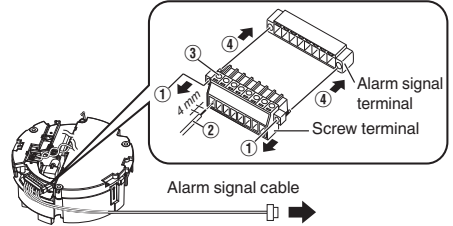
① Loosen screws on both sides of the screw terminal with a flathead screwdriver, and remove the screw terminal.

Memo : ─────────────────────

- You can remove the screw terminal easily by inserting the tip of the screwdriver into the slit of the screw terminal.

② Peel off about 4 mm of the alarm signal cable covering, and insert the cable into the screw terminal.

Memo : ─────────────────────

- If the cable cannot be inserted, turn the screw located on the side of the screw terminal in the anti-clockwise direction.

③ Turn the screws at the side to secure the alarm signal cable.

④ When the alarm signal cable is secured, return the screw terminal that was removed in ① to its original position.

Alarm signal cable to use

- Length of 50 m or shorter
- UL1007, UL1015 or equivalent products
- AWG#22 to AWG#18 or equivalent products

Note : ─────────────────────

- Noises from an external source may cause the camera to malfunction even when the cable used is within 50 m. In this case, move the cable away from the noise source.

8 Connect the audio cable.

- Get ready a separate cable for connecting to the audio device.
- After connecting the audio cable (supplied) to the audio terminal of the camera, connect the cable of the audio equipment with the supplied audio cable by soldering or crimping, and wrap the joint with insulation tape.
- Audio cable (brown/white) (mic input): Connect with the cable from devices such as a capacitor microphone that supports plug-in power.
- Audio cable (black/white) (line output): Connect with the cable from devices such as speakers with a built-in amplifier.
- For information on the color and signal name of the audio cable, refer to the following. (☞ p.15 [List of Audio Cable Signals])
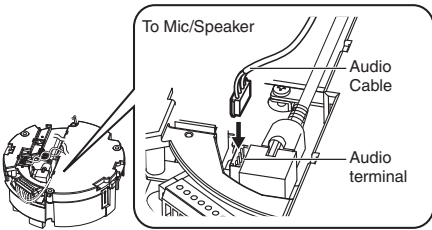
To Mic/Speaker
Audio Cable
Audio terminal

Cable for connecting to the audio device (microphone input/line output)

- Shielded cable recommended
- Length of 5 m or shorter recommended

Note :
- When connecting the audio cable (supplied) to the audio terminal, pay attention to the direction of the connector.

9 After connection of the cables is complete, bundle them with a wire clamp (supplied).

Wire clamp fixing hole
Tie here
Wire clamp (suppiled)
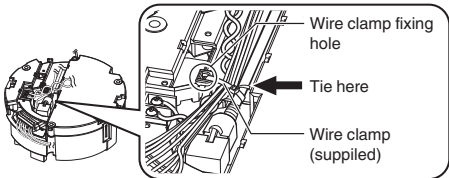
Note :
- To prevent the cables from tangling and coming off, be sure to thread a wire clamp through the wire clamp fixing hole to tie the cables.

10 Mount the terminal cover.

- Return the terminal cover that was removed in step 3 to its original position. The direction to pull out the cables changes according to the mounting method of the camera.

Pulling out the cables from the side

Terminal cover

Pulling out the cables from the top

Fall prevention wire
(To go under the terminal cover)
Terminal cover
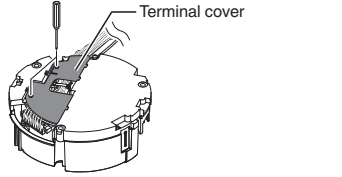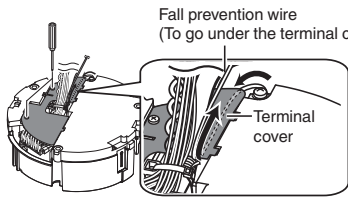
Note :
- Be sure to mount the terminal cover to prevent foreign objects or dust from entering.
- When pulling out the cables from the top, make sure the fall prevention wire go under the terminal cover and pull it out together with the other cables.
- When pulling out the cables from the side, remove the cable cover of the camera.

Cable cover
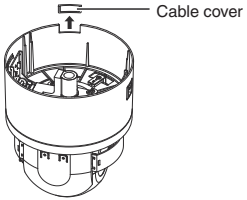
Preparation for installation and connection is now complete. Next, mount the camera unit. (☞ p.28 [Mounting the Camera (VN-H657BU)])

Mounting the Camera (VN-H657BU)

1 **With the FRONT mark (↟) facing the shooting direction, secure the ceiling mount section to the ceiling.**
   * Ensure that the connection cables are not caught in between and secure the ceiling mount section to the ceiling with 3 screws.

Front of the camera

↟FRONT mark

M4x3
(Wooden screws: Φ4.1)

25 mm and above
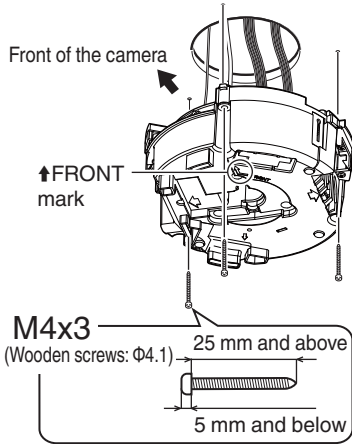
5 mm and below

Note :
* Use M4 fixing screws and bolts.
* Use Φ4.1 wooden screws.
* The length of the screws should be 25 mm (1 inch) and above.
* Place and install the product horizontally. The camera will not operate properly if it is slanted.
* The screw head should be 5 mm and below. If the ceiling structure is metal, image noise may occur.
* Do not use screws for which the screw head is embedded after fastening. (e.g. flat countersunk head screws). Otherwise, the insulating resin part may be damaged, thus preventing proper insulation.

Memo :
* Always use three screws and mount securely.
* Tighten the screws again during maintenance just to be safe.
* The plastic parts on the ceiling fixing holes of the ceiling mount section act as an insulation between the ceiling mount section and the ceiling structure. If the ceiling structure is metal and insulation is not provided between the camera and the ceiling structure, image noise may occur. Be sure to provide insulation.

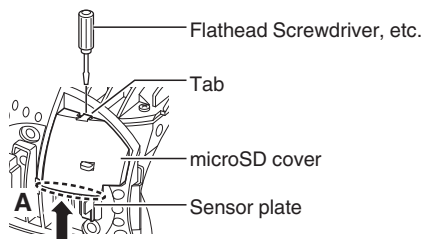2 **Remove the tape, lens cap, and packing sheet from the lens section of the camera.**

Packing sheet

Tape

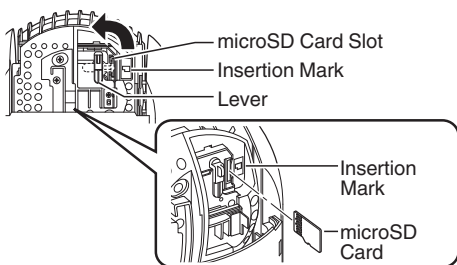Lens cap
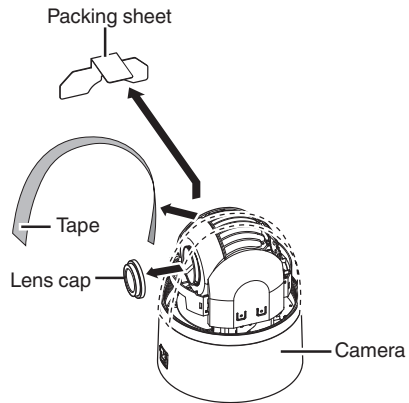
Camera

3 Insert a microSD card. (VN-H657BU)

• Get ready a formatted microSD card in advance.
Refer to the following page for the types of microSD cards compatible with this camera.
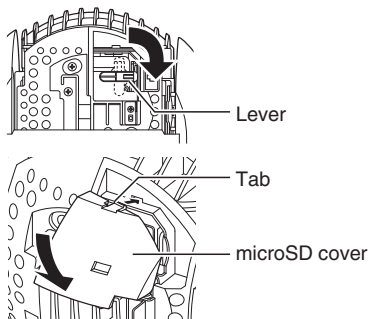(☞ p.18 [Compatible microSD Cards])

microSD Card Slot

Lever

Sensor plate

microSD cover

A Remove the microSD cover by lifting the part indicated by A in the direction of the arrow.

• If it is hard to remove the microSD cover, press an object such as a flathead screwdriver against the tab to remove it.

Flathead Screwdriver, etc.

Tab

microSD cover

A

Sensor plate

B Turn the lever by 90 ° in the anti-clockwise direction, and insert the microSD card into the microSD card slot.

• Align the orientation of the microSD card with the insertion mark, and insert it all the way in until it clicks into place.

microSD Card Slot
Insertion Mark
Lever

Insertion Mark

microSD Card

C Turn the lever by 90 ° in the clockwise direction to attach the microSD cover.

• To attach the microSD cover, attach the tab, followed by pushing it in the direction of the arrow.

Lever

Tab

microSD cover

Memo : ─────────────────

• The lens unit (camera module) may turn easily. Keep it in position using your hand without touching the lens.
• To remove the microSD card, follow the same steps during insertion to remove the microSD cover and take out the card.
Pushing the microSD card inward ejects it.

Note : ─────────────────

• To insert or replace a microSD card, do so after turning off the power of the camera.
While writing to the microSD card is in progress, turning off the power or removing the card may damage the data stored inside it.
• Before removing the microSD card, press the [Unmount] button on the [microSD Card Recording] page to unmount it.
(☞ p.63 [[microSD Card Recording] Page])
• When removing the microSD cover or the microSD card, exercise care to prevent injury caused by the tools or metal around the microSD cover.
• When removing or attaching the microSD cover, pay attention not to scratch the sensor plate, or cause it to deform with excessive force.
• When removing the microSD card from the card slot, it may sometimes pop out forcefully. Be careful not to lose it.
• When inserting or replacing a microSD card, be careful not to drop the microSD cover or microSD card.

4 Mount the dome cover to the camera.

① Check that the dome cover and lens are free from dirt.

② Turn the dome cover in a clockwise direction to mount.

Dome cover

Camera
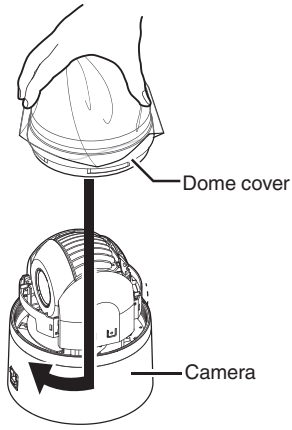
Note :
- The dome cover is an optical part. Handle with care.
- Prevent any dirt or foreign object from entering when mounting the dome cover.
- Tighten the dome cover securely.
- Be sure to turn the dome cover until it stops and tighten securely. Make sure that the dome cover is not slanted.
- Do not over-rotate the dome cover. This may damage the dome cover.

Memo :
- If it is difficult to screw on the dome cover, turn it in an anticlockwise direction until you hear a click sound, then turn it in a clockwise direction. It will screw on smoothly.

5 Mount the fall prevention wire to the camera (for connecting the ceiling mount section to the camera).

- Mount the fall prevention wire, which is attached to the camera, to the fall prevention wire fixing bracket of the ceiling mount section.

Caution
• The camera may fall if the fall prevention wire is not connected. Be sure to connect the fall prevention wire. • For safety purposes, do not leave the fall prevention wire dangling by the camera.

6 Mount the camera and check the camera lock knob.

- Align the "♦ mark (blue)/(red)" inside the camera with the "♦ mark (blue)/(red)" on the ceiling mount section.
- Mount the camera securely by inserting it into the ceiling mount section until you hear a click sound.
- If the camera is mounted on securely, the camera fixing lock knobs (x2) will stick out a little.


Fall prevention wire fixing bracket

5

♦ mark (red)

♦ mark (blue)

Fall-prevention Wire on Camera

Check the knob.

During mounting

After mounting

6
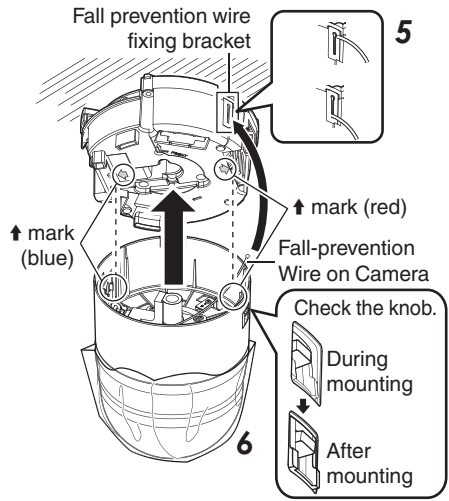
Note :
- Before mounting the camera, check that the camera fixing lock knobs are not locked (i.e., lock knobs are on top). The camera cannot be mounted if the lock knobs are locked.
- When pulling out the cables from the side, remove the cable cover of the camera. (☞ p.27 [Pulling out the cables from the side])

7 Lock the two camera fixing lock knobs, and peel off the dome cover protection sheet.
- When the camera is mounted on the ceiling mount section, lower the camera fixing lock knobs (x2) in the direction of the arrow and secure the camera such that it does not fall off.
- After installation is complete, peel off the dome cover protection sheet.

Camera fixing lock knob (x2)

Dome cover protective sheet
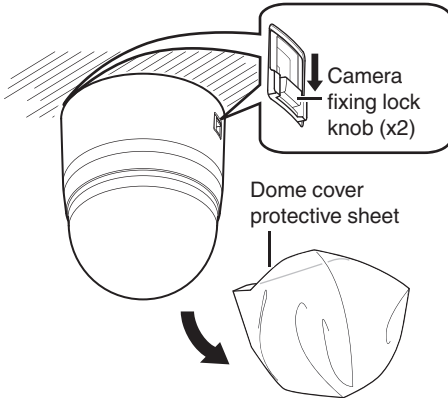
Caution

- The camera may fall if the camera fixing lock knobs (x2) are not locked. Be sure to check that the lock knobs are firmly locked.
- Improper mounting may cause the camera to fall off. After mounting, check that the camera is mounted securely.

Installation of the camera is complete. Next, set the IP address of the camera.
(☞ p.38 [IP Address Setting Procedure])

Removing the Camera

1 Release the lock by sliding the camera fixing lock knobs toward the ceiling.

2 Press the two camera fixing lock knobs from both the left and right sides to remove the camera unit.

3 Remove the fall prevention wire by performing the mounting procedures in the reverse sequence.

Installation and Connection Preparations (VN-H657WPBU)

Be sure to put on protective glasses to protect your eyes from falling objects when mounting the camera.

Setting Up the Wall

1 Make a hole in the wall.
- Make a hole (Φ45 mm) for the connecting cables to pass through.

Note :
- Check the strength of the wall. A less firm wall may cause the unit to fall.

2 Install the anchor bolts for mounting the camera.
- Install 4 anchor bolts (M8 × 35 mm and above) to mount the camera.

3 Install the anchor bolt for mounting the fall prevention wire.
- Install the anchor bolt to mount the fall prevention wire 30 mm below the center of the upper two anchor bolts that are used to mount the camera.

Anchor bolt to mount the fall prevention wire
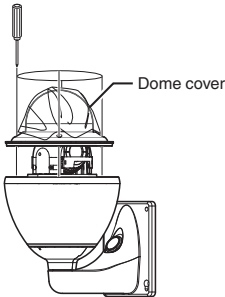
Anchor bolts to mount the camera
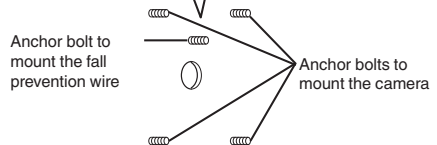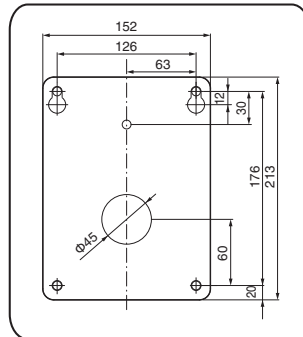
4 Pull the cables from the hole in the wall.
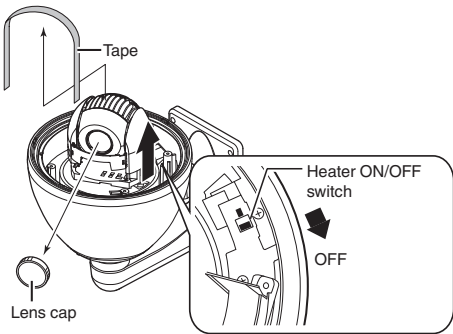- Pull the power cable, LAN cable, alarm signal cable, and audio cable from the wall.

- LAN cable
- Power cable
- Alarm signal cable
- Audio Cable
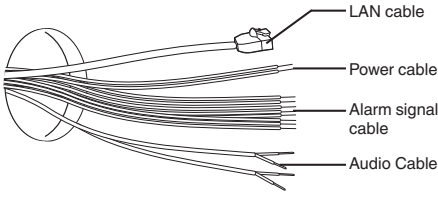
Setting Up the Camera

1 Remove the dome cover.
- Loosen the screws (x4) and remove the dome cover from the camera.

Dome cover

**2 Remove the lens cap and tape used during transporting.**

Tape

Heater ON/OFF switch

OFF

Lens cap

Memo :
- When installing the heater at an unrequired location, turn off the ON/OFF switch of the heater.

3 Insert the silica gels.
- Be sure to insert the provided silica gels in the position as shown in the diagram.

① Loosen the screw and lift up the clamp.

② Take out three silica gels from the aluminum bag, and insert them into the back of the heater (as shown in the diagram).
- After inserting the silica gels, check that they are not touching the heater.

③ Fix the silica gels firmly with the clamp, and fasten the screw.
- Turn the clamp until the silica gels are secured, followed by tightening the screw.

Clamp

Heater

Heater

Screw

Silica gel x3

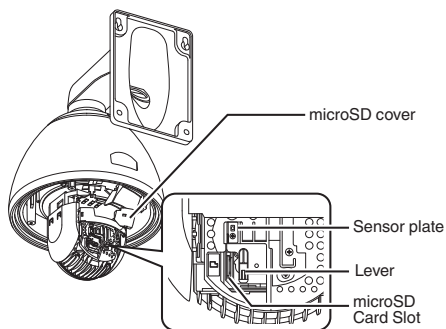③ Fasten the silica gels firmly with the clamp

Clamp
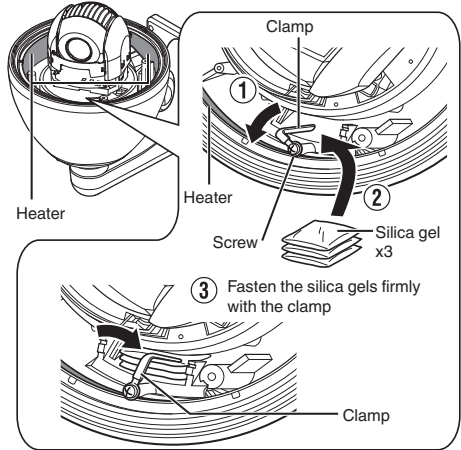
Memo :
- During reconnection or re-installation after repair or maintenance, make sure to replace the silica gels with new ones.
- Consult our service center on the replacement procedures. Use the silica gel with a service part number of LW40500-001A for the part to be replaced.
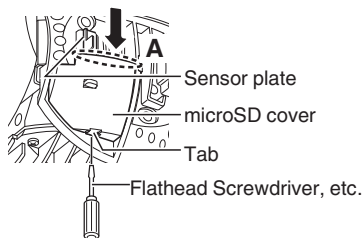
Note :
- If silica gel is not inserted, the camera lens and dome cover may turn foggy, and the camera image may not turn out clear.
- When installing on a rainy day, ensure that raindrops do not enter the interior.

4 **Insert a microSD card.**
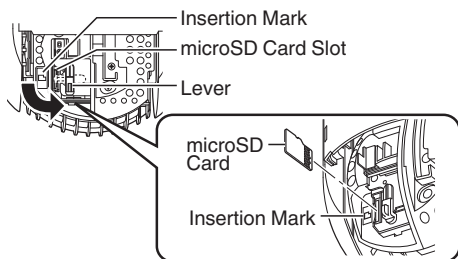   **(VN-H657WPBU)**
   - Get ready a formatted microSD card in advance.
     Refer to the following page for the types of microSD cards compatible with this camera.
     (☞ p.18 [Compatible microSD Cards])
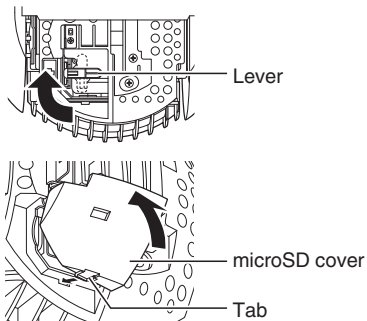

microSD cover
Sensor plate
Lever
microSD Card Slot

① Remove the microSD cover by lifting the part indicated by A in the direction of the arrow.
   - If it is hard to remove the microSD cover, press an object such as a flathead screwdriver against the tab to remove it.

A
Sensor plate
microSD cover
Tab
Flathead Screwdriver, etc.

② Turn the lever by 90 ° in the anti-clockwise direction, and insert the microSD card into the microSD card slot.
   - Align the orientation of the microSD card with the insertion mark, and insert it all the way in until it clicks into place.

Insertion Mark
microSD Card Slot
Lever
microSD Card
Insertion Mark

③ Turn the lever by 90 ° in the clockwise direction to attach the microSD cover.
   - To attach the microSD cover, attach the tab, followed by pushing it in the direction of the arrow.


Lever

microSD cover
Tab

Memo :
- The lens unit (camera module) may turn easily. Keep it in position using your hand without touching the lens.
- To remove the microSD card, follow the same steps during insertion to remove the microSD cover and take out the card.
  Pushing the microSD card inward ejects it.

Note :
- To insert or replace a microSD card, do so after turning off the power of the camera.
  While writing to the microSD card is in progress, turning off the power or removing the card may damage the data stored inside it.
- Before removing the microSD card, press the [Unmount] button on the [microSD Card Recording] page to unmount it.
  (☞ p.63 [[microSD Card Recording] Page])
- When removing the microSD cover or the microSD card, exercise care to prevent injury caused by the tools or metal around the microSD cover.
- When removing or attaching the microSD cover, pay attention not to scratch the sensor plate, or cause it to deform with excessive force.
- When removing the microSD card from the card slot, it may sometimes pop out forcefully. Be careful not to lose it.
- When inserting or replacing a microSD card, be careful not to drop the microSD cover or microSD card.

5 Mount the dome cover to the camera.

- Use the screws (x4) to mount the dome cover to the camera. When installing the dome cover, make use of the three catches and the center mark of the cover as a guide. Install such that the central mark appears above the JVC mark of the camera.


Position alignment catches (x3)

Center mark (facing the JVC mark)
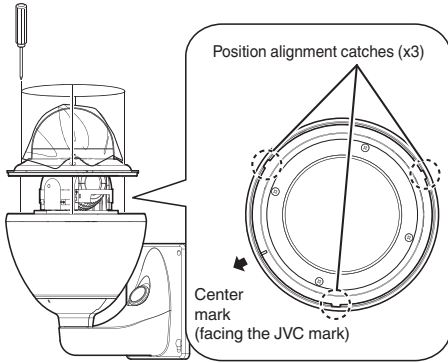
Note :
- Check that there is no dirt or dust inside the dome cover before mounting.
- When installing on a rainy day, ensure that raindrops do not enter the interior.
- When mounting the dome cover, temporarily secure the four screws and then tighten.
- As a guide, tighten the screws to 0.5 N·m to 1 N·m (5 kgf·cm to 10 kgf·cm). If the screws are insufficiently tightened, the dome cover may fog due to moisture penetration.

6 Remove the cable connection cap.
- Remove the cap on the arm of the camera.

Cable connection cap
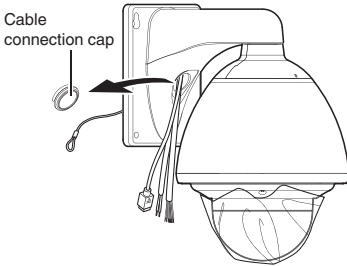
7 Pull out the cables from the cable connection hole.
- Pull out the cables (except the fall prevention wire) of the camera from the cable connection hole.

Preparation for installation and connection is now complete. Next, mount the camera unit. (☞ p.35 [Mounting the Camera (VN-H657WPBU)])

# Mounting the Camera (VN-H657WPBU)

1 Mount the fall prevention wire.
- Mount the fall prevention wire of the camera to the fall prevention wire anchor bolt that was installed earlier.
- Secure the fall prevention wire tightly with a nut and washer.

2 Run the cables (from the wall) through the cable connection hole.

3 Mount the camera to the wall.
- Mount the camera to the camera anchor bolts that were installed earlier.
- Secure the camera tightly with a nut and washer.

Arm
Nut
Washer
Fall prevention wire
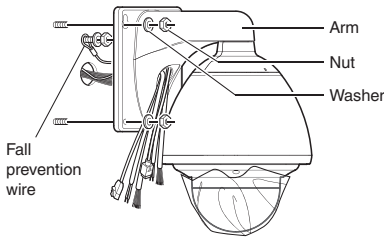
Note :
- This product weighs approximately 5.6 kg. Mount the camera while paying careful attention to prevent it from falling.
- For your safety, hold the arm section during installation.
- After installing, paint the nuts and washers to prevent corrosion.

4 Connect the power cable.
- To supply power from an AC 24 V power supply, connect a power cable.
- To supply power via PoE plus, you do not need to connect a power cable. Go to the next step.
  (☞ p.36 [Connect the LAN cable.])
- After connecting the power cable, wind the waterproof tape (adhesive).
- After connecting, push the power cable into the arm of the camera.

Solder welding or crimping
Insulating tape
To Power Supply
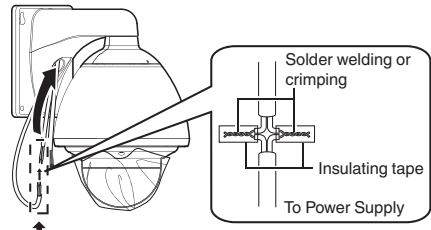
Wind the waterproof tape (adhesive)

Power cord for connecting to AC 24 V (Reference value)

Conductor Diameter (mm)	Maximum connection distance (m)
Φ1.0 and above	20
Φ1.6 and above	60
Φ2.0 and above	100
Φ2.6 and above	180

Memo :
- The default IP address setting is 192.168.0.2.
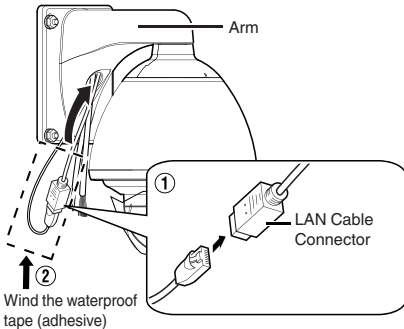
Note :
- For safety reasons, turn on the power only after ensuring that all the connections are in place.
- If power is supplied from both power cable and LAN cable, priority will be given to the power supply from the power cable.
- If multiple cameras are turned on simultaneously in the same LAN environment, access attempts may fail due to IP address duplication. Set up an IP address by either using the JVC-VN-IP SettingTool (included on the supplied CD-ROM) or turning the power supply of each camera on separately to avoid duplication.

Caution

To supply power to this product, make use of AC 24 V 50 Hz/60 Hz or PoE Plus (IEEE802.3at Type2). Make use of the correct voltage.
Be sure to use an AC 24 V supply that is isolated from the primary power supply circuit.
Supplying a power beyond the rated value may result in failures, smoke or fire. If the camera breaks down, turn off the power and contact our service center immediately.
When a power beyond the rated value is supplied, the internal components may be damaged even if no abnormality is found on the appearance and operation of the camera.
Please contact our service center immediately for servicing (charged separately).

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5 Connect the LAN cable.

① Connect the hub or computer to the LAN cable connector of the camera with a LAN cable.

- When connecting to a hub: Make use of a straight cable.
- When connecting to a computer: Make use of a cross cable.

② Wind the connector section with waterproof tape (adhesive) and push the LAN cable into the arm of the camera.

Arm

① LAN Cable Connector

② Wind the waterproof tape (adhesive)
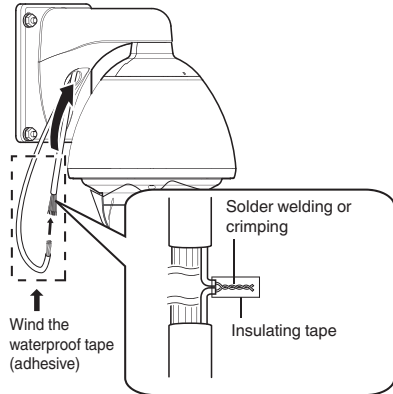

LAN cable to use

- STP (Recommended shield cable)
- Length of 100 m or shorter
- Category 5e and above

Note :

- Connect to an AC 24 V power supply when using the VN-H657WPBU in an environment below -10 °C. When power is supplied using PoE Plus, the heater will not work.
- Cross cables cannot be used with some computers. When connecting the camera directly to a computer, check the computer's LAN specifications in advance.

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6 Connect the alarm signal cable.

- Connect the alarm signal cable to external devices, such as a sensor or buzzer.
- For information on the color and signal name of the alarm signal cable, refer to the following.
- (☞ p.16 [List of Alarm Signal Cable Signals])
- Fore more details on alarm input/output, refer to the following.
- (☞ p.19 [Alarm Input/Output Signal])
- After connecting the alarm signal cable, wind the waterproof tape (adhesive).
- After connecting, push the alarm signal cable into the arm of the camera.

Solder welding or crimping

Wind the waterproof tape (adhesive)

Insulating tape

Alarm signal cable to use

- Length of 50 m or shorter
- UL1007, UL1015 or equivalent products
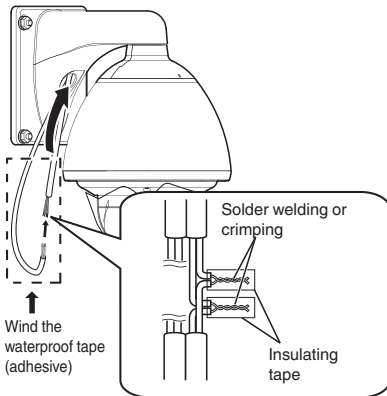- AWG#22 to AWG#18 or equivalent products

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Note :

- For cables that are not used, be sure to wrap the ends individually with waterproof tape (adhesive) to ensure that waterproof treatment is performed.
- For safety reasons, turn on the power only after ensuring that all the connections are in place.
- Noises from an external source may cause the camera to malfunction even when the cable used is within 50 m. In this case, move the cable away from the noise source.

7 Connect the audio cable.

- Get ready a separate cable for connecting to the audio device.
- Connect the cable of the audio equipment with the audio cable of the camera by soldering or crimping.
- Audio cable (white/white) (mic input): Connect with the cable from devices such as a capacitor microphone that supports plug-in power.
- Audio cable (light green/light green) (line output): Connect with the cable from devices such as speakers with a built-in amplifier.
- For information on the color and signal name of the audio cable, refer to the following. (☞ p.16 [VN-H657WPBU])
- Connect the audio cable, followed by winding the waterproof tape (adhesive).
- After connecting, push the audio cable into the arm of the camera.

Wind the waterproof tape (adhesive)

Solder welding or crimping

Insulating tape

Cable for connecting to the audio device (microphone input/line output)

- Shielded cable recommended
- Length of 5 m or shorter recommended

Note :
- For cables that are not used, be sure to wrap the ends individually with waterproof tape (adhesive) to ensure that waterproof treatment is performed.
- For safety reasons, turn on the power only after ensuring that all the connections are in place.
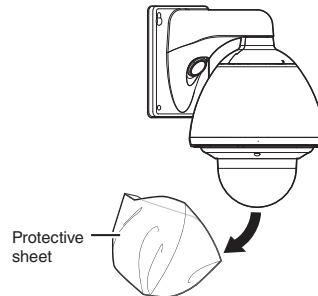
8 Attach the cap, and seal the cable connection hole and areas around the camera's mounting surface and the four anchor bolt fasteners with a waterproof sealant (GE silicon).

Waterproof treatment (x4)

Cap

Waterproof treatment
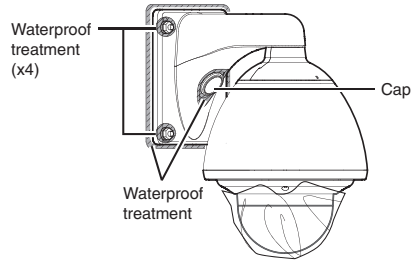
Note :
- Ensure that waterproof treatment is performed. Otherwise, the camera may malfunction due to rain water seepage.
- Use GE silicon or other similar product for the sealing material.

9 Remove the dome cover protective sheet.

Protective sheet

Installation of the camera is complete. Next, set the IP address of the camera.
(☞ p.38 [IP Address Setting Procedure])

Removing the Camera

1 **Remove the waterproof sealants (GE silicon) for sealing the cable connection hole, areas around the camera's mounting surface, and the four anchor bolt fasteners .**

2 **Remove the cable connection cap, and take out the cables.**

3 **Remove the cables, and dismantle the camera from the wall.**

IP Address Setting Procedure

* This item is described basically for Windows 7/ Internet Explorer 8.0.

Follow the procedure below to configure the IP address of the camera.

[Step1 Set the IP Address of the Computer for Configuring the Camera Settings] p.38

Set the IP address of the computer for configuring the camera settings.

▼

[Step2 Internet Explorer Setting] p.39

Configure the Internet Explorer settings in order to establish connection between the computer and the camera.

▼

[Step3 Connecting the Camera to the Computer] p.40

Connect the computer to the camera.

▼

[Step4 IP Address Setting for the Camera] p.41

Set the [IP Setting] item on the [Basic Setting1] screen to "DHCP Disable" or "DHCP Enable".

Note : —————————————————
● Do not reset the camera and do not turn the power supply off immediately after you have changed the settings. Otherwise, your settings will be lost and the camera may returned to the factory defaults.

Step1 Set the IP Address of the Computer for Configuring the Camera Settings

The camera is set to "DHCP Disable" (the DHCP client function is Off) by default. The camera is first started up using the following IP address. Set the IP address of the PC correctly so that you can communicate with the following.
(For example, set the IP address to 192.168.0.100 and the subnet mask to 255.255.255.0.)

Note : —————————————————
● If multiple cameras are turned on simultaneously in the same LAN environment, access attempts may fail due to IP address duplication. Set up an IP address by either using the JVC-VN-IP SettingTool (included on the supplied CD-ROM) or turning the power supply of each camera on separately to avoid duplication.

IP address of the camera (default)

IP address   : 192.168.0.2
Subnet mask   : 255.255.255.0
Default gateway : None

Step2 Internet Explorer Setting

1 **Launch the Internet Explorer on the computer.**

2 **When proxy settings are enabled in the Internet Explorer, follow the steps below to disable the proxy of the Internet Explorer.**

① Select in the sequence of [Tools]-[Internet Options]-[Connections]-[LAN Settings].

② From the [Local Area Network (LAN) Settings] window, select [Proxy server] and uncheck the [Use a proxy server for your LAN] box.
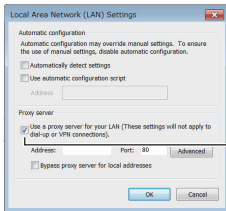
Deselect the check.

*3* **If the active script of the Internet Explorer is disabled, follow the steps below to enable it.**

① Select [Trusted sites] under [Tools]-[Internet Options]-[Security].

② Click the [Trusted sites] button, and uncheck the [Require server verification (https:) for all sites in this zone] box.

③ Add the URL of the camera to the zone. If you use the camera with factory defaults, add the following URL to the zone.
http://192.168.0.2

④ Select [Trusted sites] in [Tools]-[Internet Options]-[Security], and click [Custom Level].

⑤ From the [Security Settings] window, select [Enable] in [Scripting]-[Active scripting].
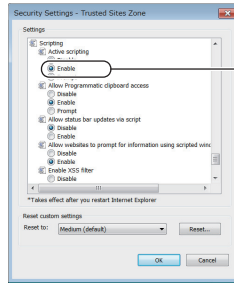
Select [Enable].

4 **If ActiveX controls and plug-ins of Internet Explorer are disabled, follow the steps shown below to enable them.**

① Click [Trusted sites] under [Tools]-[Internet Options]-[Security].

② Select the [Custom Level] button and open the [Security Settings] window.

③ Set all options of [ActiveX controls and plug-ins] to [Enable].
Also, select [Miscellaneous] and set [Allow Script-initiated windows without size or position constraints] to [Enable].
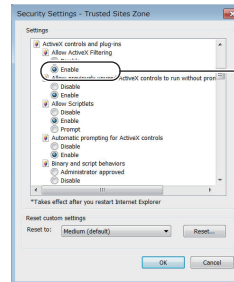
Select [Enable].

5 **Disable pop-up block.**
Connection of the camera cannot be established when pop-up block in the Internet Explorer is set to "Enable". Follow the steps below to set the pop-up block to "Disable".

① Selecting [Tools]-[Pop-up Blocker]-[Turn Off Pop-up Blocker] permits all websites.

② To permit only specific websites, such as that for this product, select [Tools]-[Pop-up Blocker]-[Turn on Pop-up Blocker].

③ Select [Tools]-[Pop-up Blocker]-[Pop-up Blocker Settings] to open the [Pop-up Blocker Settings] window. In the opened window, add the address of the camera as a permitted website address.

6 **If plug-in tools are installed in the Internet Explorer, disable the pop-up block function of these plug-in tools as well.**

Step3 Connecting the Camera to the Computer

1 **Launch the Internet Explorer.**
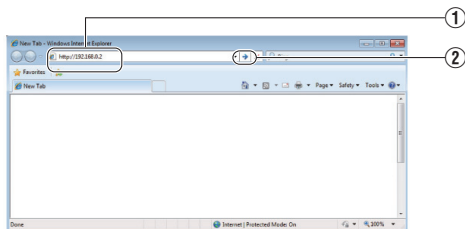

① Enter the IP address of the camera (for example, the factory default of [http://192.168.0.2]).

② Click [→].

Memo :
- If the proxy server settings for access to the Internet via the Internet Explorer is enabled, you may not be able to specify the IP address directly. In this case, change the proxy settings of the Internet Explorer.
- You can open the [Basic Setting1] page without going through the Built-in Viewer by entering the following URL address of the [Basic Setting1] page in the address field of Internet Explorer. http://192.168.0.2/cgi-bin/display.cgi?basicmenu1.html
- After the [Security Settings] screen appears, click the [YES] button to proceed.

2 **Enter the user name and password (login as "admin").**
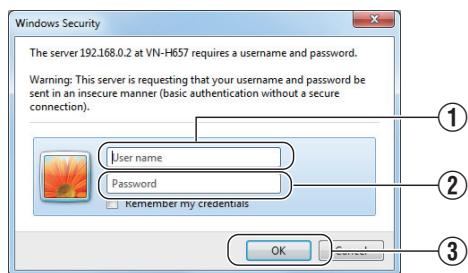
① Enter the user name. (default password is "admin")

② Enter a password. (default password is "jvc")

③ Click OK.

Memo :
- After the [Security Information] screen appears, click the [YES] button to proceed.

3 Install the camera's Built-in Viewer.
- When displaying the Built-in Viewer on the Internet Explorer for the first time, the plug-in software of the Built-in Viewer is downloaded from the camera and installed on the PC. When the installation screen of the Built-in Viewer (IntegratedViewer.cab add-on) appears, install it according to the instructions displayed.
- After installation is complete, the video on the camera is displayed.
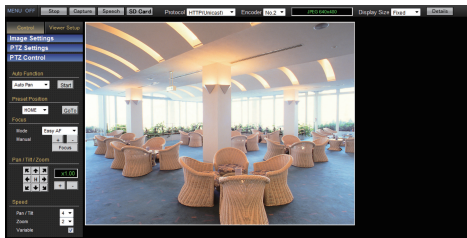
When the IP address of the camera is unknown

IP address settings cannot be changed by accessing via a computer when the IP address of the camera is unknown. You can use the following method to identify the IP address.
- Access the [TOOL_E] folder of the supplied CD-ROM disc, and search for the camera in the LAN using the "JVC-VN-SearchTool" of this folder.

* For details about the [JVC-VN-SearchTool], please read through the Readme file in the [TOOL_E] folder.


Memo :
- This camera will perform the initial operation of pan/tilt/zoom upon powering on. It takes about 90 seconds before the initial operation starts. This is not a malfunction.
- The settings required for running the Built-in Viewer on the PC are stored in cookies.
- Settings that are stored in cookies are information related to the operation of the Built-in Viewer, such as the number of the encoder to be displayed and whether the display size is set to a specified or variable size. Settings related to camera operation are not stored in cookies.

Step4 IP Address Setting for the Camera

1 Click [Details] of Built-in Viewer.
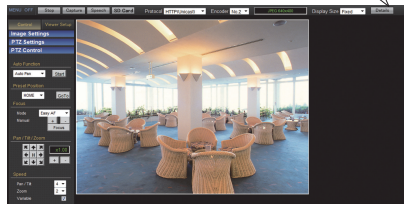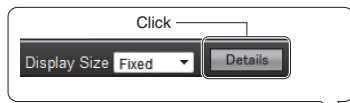
2 The [Basic Setting1] screen appears.
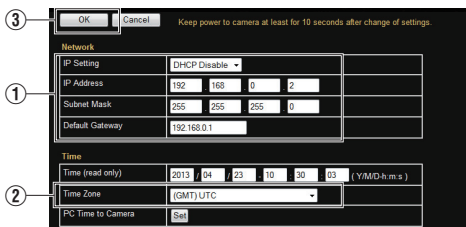
① Specify the [Network].

- When selecting "DHCP Disable":
Select "DHCP Disable" for the [Network] option. Then, enter required values in [IP Address], [Subnet Mask], and [Default Gateway].
- When selecting "DHCP Enable":
The default setting is "DHCP Disable" (DHCP client function is disabled). To assign an IP address from the DHCP server, connect the DHCP server to the LAN, set the [Network] of the camera to "DHCP Enable", and click the [OK] button.
For details on IP addresses assigned to the camera, consult your network administrator.

Note :
- Set the DHCP server such that the same IP address is always assigned to the MAC address of the camera by the DHCP server. Connection may fail if the above setting is not performed.

② Select [Time Zone].

③ Click to confirm.

Memo : ────────────────────

- For information on the network settings, please consult your network administrator.
- If you enter the following URL directly into the address bar of Internet Explorer, you can open the [Basic Setting1] page after logging in as "admin" in 2 of Step 3 without going through the Built-in Viewer.
  Example: http://192.168.0.2/cgi-bin/display.cgi?basicmenu1.html
- After the [Security Settings] screen appears, click the [YES] button to proceed.

───────────────────────

3 **When the confirmation window opens, click [OK].**
   - The camera restarts using the new IP address. The camera takes about 1 minute to restart.

Memo : ────────────────────

- Access from this computer may fail when the IP address of the camera is changed. If you access the camera from the same PC, set the IP address of the PC accordingly.

───────────────────────

If the display or configuration of the open window appears strange

Check the PC settings as follows:

① Select [Start]-[Control Panel]-[Appearance and Personalization].

② Open [Adjust screen resolution] under [Display].

③ Check that Resolution is set to Monitor size (recommended) in use.

④ Otherwise, change the [Monitor size (recommended)] setting and press the [OK] button.

⑤ In [Display Settings], press the [Keep changes] button.

IP Address Settings

How to Open the Settings Page

1 **Enter the URL of camera in the address bar of Internet Explorer.**
  - The factory default URL is "http://192.168.0.2".

Memo : —————————————————————
- For details on the IP address to specify for the URL of the camera, refer to the following.
  (☞ p.38 [IP Address Setting Procedure])

2 **Enter the user name and password.**
  - The factory default is "admin" and "jvc".
  - After entering a correct user name and password, the Built-in Viewer of the camera is displayed.
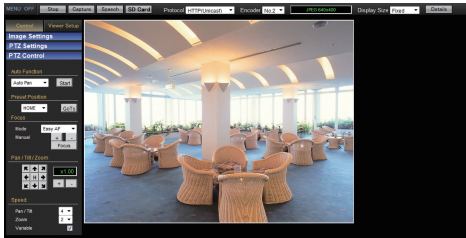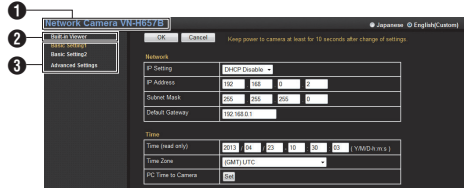

3 **Click [Details].**
  - [Basic Setting1] page will be opened if accessed by user name "admin".
  (☞ p.45 [[Basic Setting1] Page])
  - [Basic Setting2] page will be opened if accessed by user name "operator".
  (☞ p.46 [[Basic Setting2] Page])
  - [Miscellaneous] page will be opened if accessed by user name "user".
  (☞ p.83 [[Miscellaneous] Page])

Screen Configuration of Setting Page

After opening the setting page, the main page is displayed for the menu, which varies according to the name of the user gaining access.
(The screen below is the case during access by the user name of "admin".)

❶ Model
  Displays the model name of the camera currently gaining access.

❷ Built-in Viewer
  Click it to switch to the Built-in Viewer screen. For details on the Built-in Viewer, refer to the following.
  (☞ p.89 [Built-in Viewer Operation])

❸ Built-in Viewer Menu
  Displays the menu name according to the user gaining access.
  Clicking the menu name displays the settings page for the clicked menu.
  If there are more menus embedded under the menu name, clicking the name displays the menu names in the lower hierarchical layer.
  For details on the menu list, refer to the following.
  (☞ p.44 [Built-in Viewer Menu List])

Note : ——————————————————————
- Do not reset the camera and do not turn the power supply off immediately after you have changed the settings. Otherwise, your settings will be lost and the camera may returned to the factory defaults.

Built-in Viewer Menu List

The following items can be set. Depending on the logged-in user name, some items may not be set due to the access authorization. In such case, items won't be displayed.

*1 Displayed if logged in by user name "admin".
*2 Displayed if logged in by user name "admin" or "operator".

Setting Using Internet Explorer

[Basic Setting1] Page

This page is for performing basic setting related to the network.
This page can be used during access using "admin".

- Click [Basic Setting1] in the side menu.
- Press the [OK] button to enable the new settings.
- If the [OK] button is pressed upon entering an invalid value, a warning message will appear and the entry will be denied. Press the [Cancel] button to restore the invalid entry to the value before the change was made.

Memo :
- If you enter the following URL directly into the address bar of Internet Explorer, you can open the [Basic Setting1] page without going through the Built-in Viewer.
  http://192.168.0.2/cgi-bin/display.cgi?basicmenu1.html
  (When the IP address of the camera is 192.168.0.2)

Settings

* Setting values with ● are default values.

Network

IP Setting

Sets the DHCP client function.
To enable the DHCP, connect the camera to the network environment where the DHCP server is running.
If you have set the IP Setting to "DHCP Enable" but the DHCP server does not exist, the camera will start with the IP address "192.168.0.2" and subnet mask "255.255.255.0" approximately 2 minutes after startup.
[Set values: ●DHCP Disable, DHCP Enable]

IP Address

Sets the IP address of camera.
[Factory default: ●192.168.0.2]

Subnet Mask

Sets the subnet mask of camera.
[Factory default: ●255.255.255.0]

Default Gateway

Sets the default gateway of camera.
Enter 0.0.0.0 if you do not want to set a default gateway.
[Factory default: ●0.0.0.0]

Time

Time (read only)

Displays the clock time of the camera. The time transmitted by the camera is recorded in the JPEG header.

Memo :
- This item does not allow you to alter the camera's clock time. For details about the Time settings, refer to the [Time] page.
  (☞ p.79 [[Time] Page])

Time Zone

For setting the time zone.
[Set values: (GMT-12:00) to ●(GMT) UTC to (GMT +12:45)]

Note :
- When the [Time Zone] settings are changed to a value different from the factory default, they cannot be restored to the factory settings even by initializing using [All Settings] on the [Maintenance] page.
  (☞ p.81 [[Maintenance] Page])

PC Time to Camera

Click the [Set] button to set the time of the computer on the camera.

Memo :
- The time zone of the computer cannot be reflected. Only the time will be set.

[Basic Setting2] Page

This is a page for specifying the basic settings related to the camera and encoding. You can access this page when you login as "admin" or "operator".

- Click [Basic Setting2] in the side menu.
- Press the [OK] button to enable the new settings.
- If the [OK] button is pressed upon entering an invalid value, a warning message will appear and the entry will be denied. Press the [Cancel] button to restore the invalid entry to the value before the change was made.

Memo :

- If you enter the following URL directly into the address bar of Internet Explorer, you can open the [Basic Setting2] page without going through the Built-in Viewer.
  http://192.168.0.2/cgi-bin/display.cgi?basicmenu2.html
- H.264 High indicates the H.264 High Profile standard.

Settings

* Setting values with ● are default values.

Camera

Camera ID

Text entered here will be written in the H.264 header and the JPEG comment segment (item name: camera). It links to the [Camera ID] of the [Camera].
For details, refer to the following.
(☞ p.48 [[Camera] Page])

Memo :

- For more details about the format of the JPEG files, refer to the "API Guide" on the supplied CD-ROM.

Scenefile

You can select the setting that is suitable for the shooting scene. You can select the following eight scenes. You can customize the camera page settings (except Camera ID) stored in "Scenefile". For details, refer to the following.
(☞ p.48 [[Camera] Page])

- General:
  General location.
- Indoor:
  Place with indoor lighting.
- Outdoor:
  For shooting the subject in sunlit conditions.
- ActiveGamma:
  The most appropriate gamma correction is applied according to the brightness of the image.
- Traffic:
  For shooting a subject that moves at high speeds, for example, during road surveillance.
- DataSaving:
  Data can be saved for VBR or VFS coding using noise suppression.
  For details about the VBR or VFS settings, refer to the "[[Encoding] Page] p.52" page.
- Day(Color):
  Always shoots in color. This setting is used for shooting in bright locations such as in sunlit areas during the day.
- Night(B&W):
  Always shoots in black and white. This setting is used for shooting in dark locations such as at night or when the object is illuminated by infrared light.

[Set values: ●General, Indoor, Outdoor, ActiveGamma, Traffic, DataSaving, Day(Color), Night(B&W)]

Memo :

- Select "Day(Color)" or "Night(B&W)" when you switch the Color or B&W using an alarm trigger. (Example: If you want to shoot in the Black & White mode after reaching a certain time, set the [Action] for [Switch Scene File] to "Night(B&W)", and specify the "Time" by making a selection in [1st Trigger]. Doing so switches the scene file to B&W at the specified time, allowing you to perform shooting with the mode fixed at Black & White.)
  For details on alarm trigger, refer to the following. (☞ p.56 [[Alarm] Page])

Encode

Select the frame size for each screen of JPEG and H.264 from the following six patterns.

■ Selectable distribution size

- H.264 High 1920×1080 30 fps
  (Frame size: 1920×1080, frame rate: 30 fps, communication speed: 8 Mbps, bit rate: CBR, I Frame Interval: 30 frames)
- H.264 High 1920×1080 5 fps
  (Frame size: 1920×1080, frame rate: 5 fps, communication speed: 2 Mbps, bit rate: CBR, I Frame Interval: 5 frames)
- JPEG 1920×1080
  (Frame size: 1920×1080, frame rate: 5 fps, file size per frame: 200 KB, bit rate: AFS)
- JPEG 1280×960
  (Frame size: 1280×960, frame rate: 5 fps, file size per frame: 120 KB, bit rate: AFS)
- JPEG 640×480
  (Frame size: 640×480, frame rate: 5 fps, file size per frame: 30 KB, bit rate: AFS)
- Set in "Encoding" Page
  (Select this option for settings other than those above.)

Memo : ───────────────────

- If "Set in "Encoding" Page" is selected, the details can be set in the [Encoding] page.
  (☞ p.52 [[Encoding] Page])
- For more details about the format of the JPEG files, refer to the "API Guide" on the supplied CD-ROM.

[Advanced Settings] Page

[Camera] Page

This is a page for specifying the camera settings. Settings here are linked to the Camera item in the [Basic Setting2] page.

(☞ p.46 [[Basic Setting2] Page])

This page can be used during access using "admin" or "operator".

- Click [Advanced Settings] in the side menu, and click [Camera].
- Press the [OK] button to enable the new settings.
- If the [OK] button is pressed upon entering an invalid value, a warning message will appear and the entry will be denied. Press the [Cancel] button to restore the invalid entry to the value before the change was made. If you press the [Cancel] button, other changed items will also be restored to the values before the change was made.

Settings

* Setting values with ● are default values.

Camera

Camera ID

Enter characters to be written to the JPEG comment segment (item name: camera).

Memo :
- You can enter up to 40 characters consisting of alphabets (both upper case and lower case), numerals, parentheses, commas, periods, spaces and hyphens.
- All characters entered in the JPEG comment segment will be saved, but some characters may not be displayed when Camera ID is viewed with the Built-in Viewer.
- For more details about the format of the JPEG files, refer to the "API Guide" on the supplied CD-ROM.

Scenefile

You can select the setting that is suitable for the shooting scene. You can select the following eight scenes.

You can customize the [Camera] page settings (except Camera ID) stored in [Scenefile].

- General:
  General location.
- Indoor:
  Place with indoor lighting.
- Outdoor:
  For shooting the subject in sunlit conditions.
- ActiveGamma:
  The most appropriate gamma correction is applied according to the brightness of the image.
- Traffic:
  For shooting a subject that moves at high speeds, for example, during road surveillance.
- DataSaving:
  Data can be saved for VBR or VFS coding using noise suppression.
  For details about the VBR or VFS settings, refer to the "[[Encoding] Page] p.52" page.
- Day(Color):
  Always shoots in color. This setting is used for shooting in bright locations such as in sunlit areas during the day.
- Night(B&W):
  Always shoots in black and white. This setting is used for shooting in dark locations such as at night or when the object is illuminated by infrared light.

[Set values: ●General, Indoor, Outdoor, ActiveGamma, Traffic, DataSaving, Day(Color), Night(B&W)]

Memo :
- If you press the [OK] button, the settings (except Camera ID) of the [Camera] page will be stored in the selected scene file.
- Press the [Initialize] button to restore the selected Scenefile to the factory defaults.

Setting Using Internet Explorer

Iris

You can set the convergence level for the iris.
- Auto +1:
  Converges to a level brighter than "Auto".
- Auto:
  This setting is used under general circumstances.
- Auto -1:
  Converges to a level darker than "Auto".
- Manual:
  You can adjust the iris setting to a value between "0" (fully stopped down) and "100" (fully open).

[Set values: Auto +1, ●Auto, Auto -1, Manual]

Memo : ─────────────────────────
- If a sufficient amount of light cannot be obtained when the iris setting is set to "Auto+1" / "Auto" / "Auto-1", set to "Manual" and adjust accordingly.
- If AGC is set to "Mid" or "High", the brightness may not change due to the function of AGC even when the iris is adjusted manually.

Color Level

Adjusts the color density. A larger value darkens the color and a smaller value lightens the color.
[Set values: -5 to ●Normal to 5]

Black Level

Adjusts the black level. Setting the value to "Low" darkens the video image.
[Set values: Low, ●Normal]

Memo : ─────────────────────────
- If the black level is set to "Low", this may be too low depending on the monitoring device, or dark area will become complete black.

Gamma

To alter the appearance of dark areas in a video image, adjust the gamma curve.
[Set values: 1.0, 0.55, ●0.45, Active]

↳ Active Gamma Level

When [Gamma] is set to "Active", you can set the [Active Gamma Level].
- Low:
  Suitable for objects with little luminance difference.
- Mid:
  Intermediate effect between Low and High.
- High:
  Suitable for objects with large luminance difference.

[Set values: Low, ●Mid, High]

Enhance Level

Sets the intensity of edge enhancement. A larger value increases the intensity of edge enhancement and a smaller value decreases the intensity of edge enhancement.
[Set values: -5 to ●Normal to 5]

3D DNR

The noise on the screen will be reduced. The level of noise reduction effect increases in the order of Low→Mid→High.
[Set values: OFF, Low, ●Mid, High]

Memo : ─────────────────────────
- With a moving object, the higher the noise reduction (as you select Low→Mid→High), the more likely there will be an afterimage.

White Balance

For selecting the white balance control feature.
- ATW-Wide:
  Switches to the Auto-Tracking White Balance (automatic color temperature tracking) Wide mode. Adjusts the white balance automatically according to the color temperature of the light. (Color temperature: 2500 K to 8500 K)
- ATW-Narrow:
  Switches to the Auto-Tracking White Balance (automatic color temperature tracking) Narrow mode. Adjusts the white balance automatically according to the color temperature of the light. (Color temperature: 3200 K to 8000 K)
- ATW-Full:
  The Auto-Tracking White Balance (automatic color temperature tracking) adjusts the white balance automatically in a wide color temperature range according to the color temperature of the lighting.
- AWC:
  Selects the Auto-White Balance Control (AWC) mode. In the AWC mode, values entered for the [AWC R-Gain] and [AWC B-Gain] items are applied to white balance.
  By pressing the [OnePushAWC] button, this unit saves all the changes on the [Camera] page. Next, the white balance setting is switched to the AWC mode, and the white balance is automatically adjusted to the optimal setting for the current image. The results are reflected in the [AWC R-Gain] and [AWC B-Gain] fields.

[Set values: ●ATW-Wide, ATW-Narrow, ATW-Full, AWC]

Memo :
- To execute [OnePushAWC], fill the screen completely with a white object in a location with lighting conditions similar to those of the subject you are going to shoot.
- Depending on the subject and lighting condition, you may not achieve the desired white balance even if you have performed [OnePushAWC] once. In this case, perform [OnePushAWC] again.

↳ AWC R-Gain

Sets the gain of R (red) when in the AWC mode. A larger value increases the redness and a smaller value decreases the redness.
[Set values: 0 to ●107 to 255]

↳ AWC B-Gain

Sets the gain of B (blue) when in the AWC mode. A larger value increases the blueness and a smaller value decreases the blueness.
[Set values: 0 to ●168 to 255]

ALC

Maintains the video level according to the object brightness. The priority of motion (by [AGC]) or the priority of picture quality (by [Sense Up]) can be selected. If both are set simultaneously, you can set their priority using the [Priority] option.

↳ AGC

Sets the AGC (automatic gain control) level. You can adjust the brightness of image according to the object brightness.
- OFF:
  When the AGC function is not in use.
- Mid:
  When the amount of light is insufficient.
- High:
  When the amount of light is particularly insufficient.

[Set values: OFF, Mid, ●High]

Memo :
- If [Day/Night] is set to "Auto Low", "Auto Mid" or "Auto High", you cannot set this item to "OFF".
- The screen appears grainy at dark locations when the AGC feature is in use.

↳ Sense Up

This function is used to raise the sensitivity level by lengthening the exposure time.
You can specify the number of times by which the sensitivity level is to be increased automatically when the object becomes dark.
When "x16" is selected, the sensitivity level will automatically increases continuously until it is 16 times the level when "OFF" is selected.
[Set values: OFF, ●x2, x4, x8, x16, x32]

Memo :
- When the sensitivity level is increased, the shutter speed drops and a moving object appears unnatural.
- When the sensitivity level is increased, the screen may appear white or white dots may occur, and noise may become more visible. However, this is not a malfunction.
- If Shutter Speed is set to 1/50 to 1/10000, Sense Up can only be set to "OFF".

Note :
- When Sense Up is set to a value other than "OFF", flickers occur under the light of fluorescent or mercury lamps. This is not a malfunction of the camera, but is due to principles related to Sense Up.

↳ Priority

Sets the priority of ALC (function for maintaining the video level according to the object brightness).
- Combo:
  Selects the best combination automatically.
- Motion:
  Assigns priority to AGC (automatic gain control). This is suitable for shooting fast-moving objects.
- Quality:
  Assigns priority to the Sense Up function. This is suitable for shooting objects requiring a high picture quality.

[Set values: Combo, ●Motion, Quality]

Shutter Speed

Sets the shutter speed.
- 1/30 to 1/10000:
  Fixes the shutter speed.
- Auto(1/30-1/100):
  Varies the shutter speed automatically between 1/30 and 1/100 seconds according to the brightness.
- Auto(1/30-1/1000):
  Varies the shutter speed automatically between 1/30 and 1/1000 seconds according to the brightness.
- Auto(1/30-1/8000):
  Varies the shutter speed automatically between 1/30 and 1/8000 seconds according to the brightness.
- Flickerless:
  Sets a shutter speed to prevent flickering in the 50 Hz power frequency.

[Set values: 1/30, 1/50, 1/60, 1/100, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000, Auto(1/30-1/100), Auto(1/30-1/1000), ●Auto(1/30-1/8000), Flickerless]

Setting Using Internet Explorer

Memo : ─────────────────────────────

- Flickers may occur when this is set to a value other than "Flickerless".
- If [Sense Up] is set to a value other than "OFF", Shutter Speed cannot be set to a value between 1/50 and 1/10000.

Day/Night

Sets video to Black & White mode. Also allows you to select from among 3 levels for automatically activating Black & White mode in low-light conditions.

- Color:
  Keeps color mode activated at all times.
- Black & White:
  Keeps Black & White mode activated at all times.
- Auto Low:
  Switches to Black & White mode when the subject's signal level has a low level of brightness.
- Auto Mid:
  Switches to Black & White mode when the subject's signal level has a medium level brightness.
- Auto High:
  Switches to Black & White mode when the subject's signal level has a high level of brightness.

[Set values: ●Color, Black & White, Auto Low, Auto Mid, Auto High]

↳ IR Preset AF

The B&W mode is sensitive to both visible lights and near-infrared lights, depending on the type of light source, defocus may occur when switching from the Color mode to B&W mode. When this happens, set this item to "ON" to focus automatically.
[Set values: ●ON, OFF]

Memo : ─────────────────────────────

- Auto focus may not be able to achieve focus depending on the camera setting, subject, and light condition. In this case, please adjust the focus manually.

↳ Light

This item sets the illumination of the object during B&W mode.

- Normal:
  Select this for normal illumination.
- IR:
  Select this when using infrared illumination.

[Set values: ●Normal, IR]

Back Light Compensation

Set this feature when there is a bright light source in the same direction as the object. Enables unwanted light sources to be excluded from the photometry area.

- OFF:
  Disables backlight compensation.
- Area 1 to 4:
  Select a photometry area from the four areas.

[Set values: ●OFF, Area 1, Area 2, Area 3, Area 4]

Photometry area

OFF   Area 1   Area 2   Area 3   Area 4
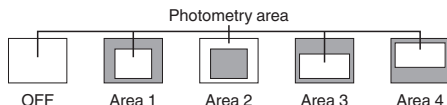
Memo : ─────────────────────────────

- The backlight compensation area is not linked to the electronic zoom.

[Encoding] Page

This is a page for specifying settings on JPEG/H. 264 encoding.
The settings here are linked to the [Encode] item in the [Basic Setting2] page.
(☞ p.46 [[Basic Setting2] Page])
This page can be used during access using "admin" or "operator".

- Click [Advanced Settings] in the side menu, and click [Encoding].
- Press the [OK] button to enable the new settings.
- If the [OK] button is pressed upon entering an invalid value, a warning message will appear and the entry will be denied. Press the [Cancel] button to restore the invalid entry to the value before the change was made. If you press the [Cancel] button, other changed items will also be restored to the values before the change was made.
- There is upper limit to transmission bit rate from the camera. If a bit rate that exceeds upper limit is specified, this new setting will not be applied. For details on the maximum transmission limit, refer to the following.
(☞ p.20 [Network])
- The contents displayed in "Encoder No.1", "Encoder No.2" and "Encoder No.3" change depending on the type of encoding and the item selected.
- If the distribution bit rate exceeds 40 Mbps, the specified frame rate distribution fails.
- In cases such as high-bitrate distribution at a frame size of 1920×1080 and frame rate of 30 fps (particularly slow pan operations), the camera image may not appear smooth even on a high-performance computer. In this case, lower the [Framesize], [Framerate], and [Bitrate], and check the image again.

Memo :
- H.264 High indicates H.264 High Profile, and H. 264 Baseline indicates H.264 Baseline Profile.

Settings

* Setting values with ● are default values.

Encode

Select the encoding from "Single-Encode" or "Multi-Encode".
- Single-Encode
(☞ p.52 [When "Single-Encode" is selected in [Encode]])

- Multi-Encode
(☞ p.53 [When "Multi-Encode" is selected in [Encode]])

[Set values: Single-Encode, ●Multi-Encode]

When "Single-Encode" is selected in [Encode]

Enables only Encoder No.1 out of the three channels of encoders.

Encoder No.1

Select either JPEG, H.264 Baseline, or H.264 High.
[Set values: JPEG, H.264 Baseline, ●H.264 High]

↳ **Framesize**

Select the frame size of each JPEG or H.264 screen.
[Set values: ●1920×1080, 1280×960, 1280×720, 720×480, 640×480, 640×360, 352×240, 320×240]

↳ **Framerate**

Select a frame rate.
[Set values: ●30 fps, 25 fps (JPEG is not supported), 15 fps, 10 fps, 7.5 fps, 5 fps, 3 fps, 2 fps, 1 fps]

↳ **Bitrate (when "H.264 Baseline" or "H.264 High" is selected)**

Select whether to set the scalable rate control method for single encoding to CBR (Constant Bit Rate) or VBR (Variable Bit Rate).

- CBR:
  Data is encoded at a fixed bit rate regardless of the condition of input video signals. It is easy to estimate the bit rate. Select from the list of bit rate ranges.
- VBR:
  The bit rate varies according to the condition of input video signals. The picture quality is stable but it is difficult to estimate the bit rate. Select from the list of bit rate ranges.

[Set values: ●CBR, VBR]
[Bitrate range: 64, 128, 256, 384, 512, 768, 1024, 1536, 2048, 3072, 3584, ●4096, 8192] kbps

Memo :

- When "VBR" is set, the [Bitrate] setting uses 30 fps as a reference value.
  When the frame rate is low, the actual bitrate distributed may drop.
  Example: When the frame rate is 15 fps and the I-frame interval is 15 frames, specifying the bitrate as 8192 kbps gives a maximum bitrate of about 4000 kbps. (When the frame rate is below 30 fps, the extent to which the maximum bitrate drops is dependent on the frame rate and the I-frame interval.)

↳ **I Frame Interval (when "H.264 Baseline" or "H.264 High" is selected)**

Encoding starts from the I-frame. Shortening the interval stabilizes the picture quality even when there are rapid changes in the video image. However, the picture quality for images with little change will deteriorate.
[Set values: 5, 10, 15, ●30, 60, 90, 120] Frame

↳ **Quality (when "JPEG" is selected)**

Selects the JPEG picture quality (scalable rate control method) and picture quality level.
- AFS:
  Encoding is performed such that the target file size is the average size of multiple JPEG images.
- VFS:
  The quantization table during JPEG encoding will be maintained and the file size will increase or decrease according to the input signals. When recording JPEG data to a recorder with a limited storage capacity, the maximum recording time may vary as the file size fluctuates under this setting.

[Set values: ●AFS, VFS]
[Picture quality level: Level 1 to ●Level 7]

Memo :

- The target file size varies with the frame size and picture quality level settings. The reference value per frame is displayed to the right of the picture quality setting pull-down menu.

When "Multi-Encode" is selected in [Encode]

Each of the three channels of the encoder can be set to H.264 High, H.264 Baseline or JPEG, and a different frame size can also be specified.
However, only one channel is available for H.264 Baseline, and therefore it cannot be set for multiple encoders at the same time.

Encoder No.1, Encoder No.2 and Encoder No.3

Select either JPEG, H.264 Baseline, or H.264 High.
When Encoder No.3 is set to "OFF", the Encoder No.3 item will be disabled.
[Encoder No.1 settings: JPEG, H.264 Baseline, ●H.264 High]
[Encoder No.2 settings: ●JPEG, H.264 Baseline, H.264 High]
[Encoder No.3 settings: JPEG, H.264 Baseline, H.264 High, ●OFF]

↳ **Framesize**

Select the frame size of each JPEG or H.264 screen.
[Encoder No.1 settings: ●1920×1080, 1280×960, 1280×720, 720×480, 640×480, 640×360, 352×240, 320×240]
[Encoder No.2 settings: 1920×1080, 1280×960, 1280×720, 720×480, ●640×480, 640×360, 352×240, 320×240]
[Encoder No.3 settings: 720×480, ●640×480, 640×360, 352×240, 320×240]

↳ **Framerate**

Select a frame rate.
[Encoder No.1, Encoder No.2 and Encoder No.3 settings: ●30 fps, 25 fps (not selectable for JPEG), 15 fps, 10 fps, 7.5 fps, 5 fps, 3 fps, 2 fps, 1 fps]

↳ **Bitrate (when "H.264 Baseline" or "H.264 High" is selected)**

Select whether to set the scalable rate control method for each encoder to CBR (Constant Bit Rate) or VBR (Variable Bit Rate).

● CBR:
  Data is encoded at a fixed bit rate regardless of the condition of input video signals. It is easy to estimate the bit rate. Select from the list of bit rate ranges.

● VBR:
  The bit rate varies according to the condition of input video signals. The picture quality is stable but it is difficult to estimate the bit rate. Select from the list of bit rate ranges.

[Encoder No.1, Encoder No.2 and Encoder No.3 settings: ●CBR, VBR]
[Bitrate range: 64, 128, 256, 384, 512, 768, 1024, 1536, 2048, 3072, 3584, ●4096, 8192] kbps

Memo :

● When "VBR" is set, the [Bitrate] setting uses 30 fps as a reference value.
  When the frame rate is low, the actual bitrate distributed may drop.
  Example: When the frame rate is 15 fps and the I-frame interval is 15 frames, specifying the bitrate as 8192 kbps gives a maximum bitrate of about 4000 kbps. (When the frame rate is below 30 fps, the extent to which the maximum bitrate drops is dependent on the frame rate and the I-frame interval.)

↳ **I Frame Interval (when "H.264 Baseline" or "H.264 High" is selected)**

Encoding starts from the I-frame. Shortening the interval stabilizes the picture quality even when there are rapid changes in the video image. However, the picture quality for images with little change will deteriorate.
[Encoder No.1, Encoder No.2 and Encoder No.3 settings: 5, 10, 15, ●30, 60, 90, 120] frames

↳ **Quality (when "JPEG" is selected)**

Selects the JPEG picture quality (scalable rate control method) and picture quality level.

● AFS:
  Encoding is performed such that the target file size is the average size of multiple JPEG images.

● VFS:
  The quantization table during JPEG encoding will be maintained and the file size will increase or decrease according to the input signals. When recording JPEG data to a recorder with a limited storage capacity, the maximum recording time may vary as the file size fluctuates under this setting.

[Encoder No.1, Encoder No.2 and Encoder No.3 settings: AFS, ●VFS]
[Encoder No.1 picture quality level: Level 1 to ●Level 7]
[Encoder No.2 and Encoder No.3 picture quality level: Level 1 to ●Level 4 to Level 7]

Note :

● H.264 Baseline cannot be set for multiple encoders at the same time. Only one channel can be set with a frame size of 1280 × 720 or lower and a bit rate of 1.5 Mbps or lower. If the setting you have selected exceeds these limits, a message will appear when you press the [OK] button.

Memo :

● You can specify the file size by combining the frame size and the picture quality level.
● Select between Level 1 and 7. The picture quality increases when the level value is small. However, the file size increases.
● The reference value per frame is displayed to the right of the picture quality setting pull-down menu.
● During multi-encoding, there is a limit to the total number of pixels per unit time that can be encoded simultaneously by three encoders (total frame size and frame rate processed by each encoder).
  (☞ p.114 [Appendix (Restrictions during Multi-encoding)])

[Audio] Page

This is a page for specifying the audio settings. This page can be used during access using "admin" or "operator".

- Click [Advanced Settings] in the side menu, and click [Audio].
- Press the [OK] button to enable the new settings.
- If the [OK] button is pressed upon entering an invalid value, a warning message will appear and the entry will be denied. Press the [Cancel] button to restore the invalid entry to the value before the change was made. If you press the [Cancel] button, other changed items will also be restored to the values before the change was made.

Settings

* Setting values with ● are default values.

Audio

Communicate

For setting the audio transmission mode.
- Half Duplex:
  Stops the audio transmission from the camera to the computer during audio transmission from the computer to the camera.
- Full Duplex:
  Enables audio transmission from the computer to the camera while listening to audio sent from the camera to the computer.

[Set values: ●Half Duplex, Full Duplex]

Memo : —————————————————
- When "Full Duplex" is selected, audio transmission received from the computer may be fed back to the computer through the external microphone connected to the camera, causing echo to occur. If this occurs, make use of the "Half Duplex" setting.

Mike Gain

For setting the gain level for the external microphone connected to the camera.
[Set values: 0dB, 20dB, 26dB, ●32dB, AGC]

Mike Power Supply

For setting the power supply for the external microphone connected to the camera.
[Set values: ●ON, OFF]

Upload

Audio File No.1 to No.5

For registering the audio file to be output from the camera's audio cable or terminal when an alarm is activated.

- To display the file selection screen and select an audio file prepared in advance, press the [Browse...] button.
- To register the selected audio file to the camera, press the [Upload] button.
- To delete an audio file registered to the camera, press the [Delete] button.
- To play back an audio file registered to the camera and output it to the audio cable of the camera, press the [Play] button.
- To stop playback of an audio file, press the [Stop] button.

Memo :
- You can record audio or create a file in the WAV format using the sound recorder of Windows or generic audio processing tools.

How to output a registered audio file

① Get ready an audio file with the following specifications on your computer, and register it to the camera.

- ・ File format: WAV
- ・ Encoding system: linear PCM
- ・ Sampling frequency: 8 kHz
- ・ Quantization bit: 16 bits
- ・ Monaural
- ・ Maximum size: 30 seconds

② Set the [Action] item on the [Alarm] page to "Play Audio".

Memo :
- For details about the alarm settings, refer to the [Alarm] page.
  (☞ p.56 [[Alarm] Page])

Note :
- If the audio transmission function of the Built-in Viewer is activated while playing an audio file, playback of the file will stop.
- Audio files cannot be played back while the audio transmission function of the Built-in Viewer is running.
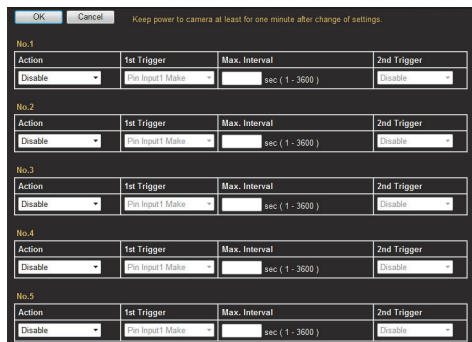
[Alarm] Page

This page sets actions to be taken if an alarm occurs. You can set up to five actions (No. 1 to No. 5).
This page can be used during access using "admin" or "operator".

- Click [Advanced Settings] in the side menu, and click [Alarm].
- Press the [OK] button to enable the new settings. Only items that are valid under the selected [Action] will be saved. If you set an [Action] to "Disable", its settings are initialized.
- If the [OK] button is pressed upon entering an invalid value, a warning message will appear and the entry will be denied. Press the [Cancel] button to restore the invalid entry to the value before the change was made. If you press the [Cancel] button, other changed items will also be restored to the values before the change was made.
- The contents displayed changes depending on the selected action and the item of [1st Trigger].

Settings

* Setting values with ● are default values.

No.1 to No.5

Action

Selects the action to perform when the alarm is activated.

- Disable:
  Performs no action.
- Mail:
  Sends out e-mail. Specify the recipient's mail address. The subject of the mail is "Alarm from {model name}".
  (For example, the subject is Alarm from VN-H657WPB in the case of VN-H657WPBU.)
  Enter the message to send in [Mail Text]. Enter a message not longer than 127 characters.
  To attach an image to the mail, set [JPEG Attachment] to "ON".
- TCP:
  Sends the text string input in the [TCP Data] field via TCP to the recipients specified in [TCP IP Address] and [TCP Port Number].
- UDP:
  Sends the text string input in the [UDP Data] field via UDP to the recipients specified in [UDP IP Address] and [UDP Port Number].
- Switch Scene File:
  Specifies the filming scene.
- Position:
  Moves to the position set at [Action Position Number].
  (☞ p.58 [Action Position Number])
- Play Audio:
  Plays back an audio file registered to the camera.
  For details about the audio file settings, refer to [Audio File No.1 to No.5] on the [Audio] page.
  (☞ p.56 [Audio File No.1 to No.5])
- Pin Output1 Make:
  Changes Pin Output1 to Make.
- Pin Output1 Break:
  Changes Pin Output1 to Break.
- Pin Output2 Make:
  Changes Pin Output2 to Make.
- Pin Output2 Break:
  Changes Pin Output2 to Break.

[Set values: ●Disable, Mail, TCP, UDP, Switch Scene File, Position, Play Audio, Pin Output1 Make, Pin Output1 Break, Pin Output2 Make, Pin Output2 Break]

1st Trigger

Select the 1st trigger to perform an action.
[Set values: ●Pin Input1 Make, Pin Input1 Break, Pin Input2 Make, Pin Input2 Break, Position, Audio Detection1, Audio Detection2, Motion Detection, Tampering Detection, Time, Day/Night, FAN Stop]

Memo : ───────────────────

- If you set the [2nd Trigger] to "Disable", an action will be performed when only [1st Trigger] is triggered.
- [Max. Interval] and [2nd Trigger] can be selected only when input terminal ("Pin Input1 Make", "Pin Input1 Break", "Pin Input2 Make", or "Pin Input2 Break") is selected for the [1st Trigger] trigger.

Max. Interval

This is available when both [1st Trigger] and [2nd Trigger] are set.
Specify the maximum interval between each trigger for [1st Trigger] and [2nd Trigger].
An action will be performed if [2nd Trigger] occurs within the maximum time interval after [1st Trigger] occurs.
[Set values: 1 sec to 3600 sec]

2nd Trigger

Select the 2nd trigger to perform an action.
[Set values: ●Disable, Pin Input1 Make, Pin Input1 Break, Pin Input2 Make, Pin Input2 Break]

Mail

- Mail Settings:
  If you have set the [SMTP Server], [Port Number], and [Send Mail Address] on the [Alarm Environment] page, the "Preset" message is shown. If not set, the "Unset" message is shown.
  (☞ p.59 [[Alarm Environment] Page])
- Mail Address:
  Enter the recipient's mail address.
- Mail Text:
  Enter the mail text. Input not more than 127 characters.

- JPEG Attachment:
Specify whether or not to attach an image file to the mail. To attach JPEG images, check the Attach box and select the transmission channel.
- Encoder:
Specifies an Encoder No. for encoding of attached JPEG files.

Memo :
- You cannot select [JPEG Attachment] if there is no channel with Encode set to JPEG.
- By using [JPEG Attachment], images recorded immediately before and/or after the trigger are attached. In the event that the action of a trigger takes time, the image you want may not be included in the attachment.
For example, even when "Day/Night" is selected as the trigger condition and set to "Color", a black-and-white image may be attached instead of a colored one.

TCP

- TCP IP Address:
Enter the IP address or FQDN of the destination of TCP notification.
- TCP Port Number:
Enter the port number of the destination of TCP notification. (1 to 65535)
- TCP Data:
Enter a character string to be sent for TCP notification. Input not more than 127 characters.
- JPEG Attachment:
Specify whether or not to attach an image file to the mail. To attach JPEG images, check the Attach box and select the transmission channel.
- Encoder:
Specifies an Encoder No. for encoding of attached JPEG files.

Memo :
- You cannot select [JPEG Attachment] if there is no channel with Encode set to JPEG.
- By using [JPEG Attachment], images recorded immediately before and/or after the trigger are attached. In the event that the action of a trigger takes time, the image you want may not be included in the attachment.
For example, even when "Day/Night" is selected as the trigger condition and set to "Color", a black-and-white image may be attached instead of a colored one.

UDP

- UDP IP Address:
Enter the IP address or FQDN of the destination of UDP notification.
- UDP Port Number:
Enter the port number of the destination of UDP notification. (1 to 65535)
- UDP Data:
Enter a character string to be sent for UDP notification. Input not more than 127 characters.

Switch Scene File

- Scene File:
Select the scene file to change. For details of the scene file, see the [Camera] page.
(☞ p.48 [[Camera] Page])

[Set values: ●General, Indoor, Outdoor, ActiveGamma, Traffic, DataSaving, Day(Color), Night(B&W)]

Action Position Number

Set the position number to move to when [Action] item is set to "Position".
[Set values: 0 to 99]

Memo :
- Specify the setting for Preset Position in [PTZ Settings] of Built-in Viewer.
(☞ p.94 [[PTZ Settings]])

Pin Output1 Make, Pin Output1 Break, Pin Output2 Make, Pin Output2 Break

- Alarm Output Duration:
Specify the output time when the [Action] item is set to "Pin Output1 Make", "Pin Output1 Break", "Pin Output2 Make", or "Pin Output2 Break".

[Set values: 0, 100 to 5000] msec

Play Audio

- Audio File:
Select the file number to play when [Action] item A is set to "Play Audio".

[Set values: 1 to 5]

Trigger Position Number

Set the preset position number to be used as the trigger when [1st Trigger] is set to "Position".
[Set values: 0 to 99]

Memo :
- Specify the setting for Preset Position in [PTZ Settings] of Built-in Viewer.
  (☞ p.94 [[PTZ Settings]])

Time

Executes an action at the time you have entered.
[Set values: 00 H 00 M to 23 H 59 M]

Day/Night

This is enabled when "Day/Night" is selected for the [1st Trigger] item.
- Color:
  Executes an action when the image switches from black-and-white to color.
- Black & White:
  Executes an action when the image switches from color to black-and-white.
[Set values: Color, Black & White]

Time Filter

For specifying the alarm action with respect to each day of the week and setting the corresponding time of the day.
- Applicable day of week:
  Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, Saturday
- Alarm action:
  Unmask All, Mask All, Unmask Span, Mask Span
- Applicable time period:
  Specify the starting and ending time of the alarm in hours and minutes.

[Alarm Environment] Page

This page sets up the alarm environment.
This page can be used during access using "admin" or "operator".
- Click [Advanced Settings] in the side menu, and click [Alarm Environment].
- Press the [OK] button to enable the new settings.
- If the [OK] button is pressed upon entering an invalid value, a warning message will appear and the entry will be denied. Press the [Cancel] button to restore the invalid entry to the value before the change was made. If you press the [Cancel] button, other changed items will also be restored to the values before the change was made.

Settings

* Setting values with ● are default values.

Mail Settings

For setting the mail environment when [Mail] is specified as an action on the Alarm page. If [SMTP Server], [Port Number], and [Send Mail Address] are set, the alarm action is displayed as "Preset".

SMTP Server

For setting the IP address or FQDN of the SMTP server.

What is FQDN (Fully Qualified Domain Name)?：
This is a fully qualified domain name that indicates a notation method of describing the entire host or domain name on the TCP/IP network without abbreviating.
For example, if the host name is www and the domain name is jvckenwood.co.jp, this will be denoted as "www.jvckenwood.co.jp" in FQDN.
Japanese cannot be used in FQDN. If FQDN is specified, set also the DNS server on the Network page.
  (☞ p.75 [DNS Server])

Port Number

Input the port number.
[Set values: 0 to ●25 to 65535]

Send Mail Address

Specify the sender's mail address.

POP before SMTP

To enable [POP before SMTP], select "Enable" and set the POP server.
[Set values: ●Disable, Enable]

↳ POP Server

For setting the IP address or FQDN of the POP server.

↳ Port Number

Input the port number.
[Set values: 0 to ●110 to 65535]

↳ User Name

Enter the user name.

↳ Password

Enter a password.

Alarm Output

Configure settings related to alarm output from an alarm output cable or connector.

Duration

Set the output duration for [Manual Output].
[Set values: ●0, 100 to 5000] msec

Manual Output

Manually operate alarm output.
The current output status is displayed on the right side. When [Duration] is set to "0", pressing the [Make] button sets the alarm to make output, and pressing the [Break] button sets the alarm to break output.
When [Duration] is set to other than "0", pressing the [Make] button sets the alarm to make output only for the output duration time, and then changes it to break output.
When [Duration] is set to other than "0", pressing the [Break] button sets the alarm to break output only for the output duration time, and then changes it to make output.
[Set values: Make, ●Break]

[FTP Recording] Page

This page describes setting procedures related to recording.
This page can be used during access using "admin" or "operator".

- Click [Advanced Settings] in the side menu, and click [Record Status].
- Press the [OK] button to enable the new settings.
- If the [OK] button is pressed upon entering an invalid value, a warning message will appear and the entry will be denied. Press the [Cancel] button to restore the invalid entry to the value before the change was made. If you press the [Cancel] button, other changed items will also be restored to the values before the change was made.
- Options displayed vary according to the recording mode selected.

Memo : ─────────────

- If FTP recording is set while [microSD Card Recording] is set to "ON", a dialog box will appear. When this occurs, press the [OK] button to set [Record Status] of [microSD Card Recording] to "OFF".

Settings
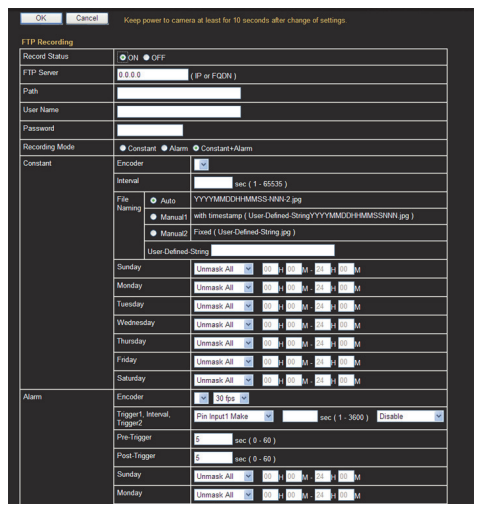
* Setting values with ● are default values.

FTP Recording

Record Status

For selecting a recording mode. Selecting "ON" displays options after [Record Status].
[Set values: ON, ●OFF]

FTP Server

For setting the IP address or FQDN of the FTP server.

Path

For setting the path name. When [Path] is left blank, FTP transfer will be performed to the home directory of the FTP server.

Memo : —————————————————————
● To enable FTP transfer to a directory below the home directory, set the corresponding directory name in [Path]. Delimit the directory using "/".
  Example: subdir1/subdir2
● Destination directory of FTP transfer will be dependent on the FTP server if "/" is added at the beginning.

User Name

Enter the user name.

Password

Enter a password. When a user name is specified, "*******" is displayed.

Recording Mode

For setting the FTP recording mode. Options for [Constant] vary according to the selected [Recording Mode].
● Constant:
  Transfers JPEG images to the FTP server constantly at the preset time.
● Alarm:
  Transfers JPEG images before and after the occurrence of an alarm that matches the preset conditions to the FTP server.
● Constant+Alarm:
  Enables both Constant and Alarm recording.
[Set values: Constant, Alarm, ●Constant + Alarm]

Constant

Settings for performing constant recording.

↳ Encoder

For selecting the encoder for performing constant recording.

Memo : —————————————————————
● You can select a JPEG encoder number.

↳ Interval

For setting the recording interval in seconds.
[Set values: ●1 to 65535] seconds

↳ File Naming

Three types of recording file names are available for selection.
● "Auto":
  Generated from the year/month/day/hour/minute/second, and number.
  Example: 20121114161032-001-2.jpg
● "Manual1":
  Year, month, day, hour, minute, second, and number are added to [User-Defined-String] in the file name.
  Example: Camera1_20121114161032001.jpg
● "Manual2":
  File name contains only the character string entered in [User-Defined-String].
  Example: Camera1.jpg
[Set values: ●Auto, Manual1, Manual2]

↳ Sunday to Saturday

For selecting whether to activate or stop recording by day of the week.
[Set values: ●Unmask All, Mask All, Unmask Span, Mask Span]
● For setting the time period when "Unmask Span" or "Mask Span" is selected.
[Set values: 00H00M to 24H00M]

Alarm

Settings for performing alarm recording.

↳ Encoder

For setting the encoder for performing alarm recording, and the JPEG frame rate.
[Set values: 30 fps, 15 fps, 10 fps, 7.5 fps, ●5 fps, 3 fps, 2 fps, 1 fps]

Memo : —————————————————————
● You can select a JPEG encoder number.
● The settable frame rate varies with the encoder setting.

↳ Trigger1, Interval, Trigger2

- Trigger1:
  For selecting the first trigger for performing alarm recording.
  [Set values: ●Pin Input1 Make, Pin Input2 Make, Pin Input1 Break, Pin Input2 Break, Position, Audio Detection1, Audio Detection2, Motion Detection, Tampering Detection, Time, Day/Night, FAN Stop]
- Interval:
  Specify the maximum interval between each trigger for [Trigger1] and [Trigger2].
  [Set values: 1 to 3600]
- Trigger2:
  For selecting the second trigger for performing alarm recording.
  [Set values: ●Disable, Pin Input1 Make, Pin Input1 Break, Pin Input2 Make, Pin Input2 Break]

↳ Position Number

Displayed when "Position" is selected in [Trigger1].
Executes alarm recording upon moving to the entered preset position.
[Set values: 0 to 99]

Memo :

- Specify the setting for Preset Position in [PTZ Settings] of Built-in Viewer.
  (☞ p.94 [[PTZ Settings]])

↳ Day/Night

This is enabled when "Day/Night" is selected for the [Trigger1] item.

- Color:
  Executes alarm recording when the image switches from black-and-white to color.
- Black & White:
  Executes alarm recording when the image switches from color to black-and-white.

[Set values: Color, Black & White]

↳ Time

Displayed when "Time" is selected in [Trigger1].
Executes alarm recording at the time you have entered.
[Set values: 00H00M to 23H59M]

↳ Pre-Trigger

For setting the FTP pre-recording trigger time (recording time before alarm input) in seconds.
[Set values: 0 to ●5 to 60]sec

↳ Post-Trigger

For setting the FTP post-recording trigger time (recording time after alarm input) in seconds.
[Set values: 0 to ●5 to 60]sec

Memo :

- [Pre-Trigger] and [Post-Trigger] cannot be set to "0 sec" at the same time.
- To keep only one image at the time of alarm occurrence, set [Pre-Trigger] or [Post-Trigger] to "1 sec", and [Encoder] of [Alarm] to "1 fps".

↳ Sunday to Saturday

For selecting whether to activate or stop recording by day of the week.
[Set values: ●Unmask All, Mask All, Unmask Span, Mask Span]

- For setting the time period when "Unmask Span" or "Mask Span" is selected.

[Set values: 00H00M to 24H00M]

[microSD Card Recording] Page

This page describes setting procedures related to microSD card recording.
This page can be used during access using "admin" or "operator".

- Click [Advanced Settings] in the side menu, and click [microSD Card Recording].
- Press the [OK] button to enable the new settings.
- If the [OK] button is pressed upon entering an invalid value, a warning message will appear and the entry will be denied. Press the [Cancel] button to restore the invalid entry to the value before the change was made. If you press the [Cancel] button, other changed items will also be restored to the values before the change was made.
- The contents displayed vary according to the value of the selected [Recording Mode].

Memo :
- Only one channel for the H.264 video data will be recorded to the microSD card. Audio sound is not recorded.
- If the status of the [microSD Card] is "No card", all buttons other than [OK] and [Cancel] cannot be selected.
- If microSD card recording is set while FTP recording is in progress, the recording process is interrupted, and a dialog box appears prompting you to switch to microSD card recording. Pressing the [OK] button stops FTP recording and starts microSD card recording.
- If FTP recording is set while [microSD Card Recording] is set to "ON", a dialog box will appear. When this occurs, press the [OK] button to set [Record Status] of [microSD Card Recording] to "OFF".
- Images recorded to the microSD card can be played back on the microSD card operation screen by clicking the [SD Card] button on the Built-in Viewer screen.
  (☞ p.104 [[microSD Card] Operation Screen])
- [Encode Setting] cannot be changed while recording to a microSD card is in progress.
- Distribution capability may deteriorate during recording to the microSD card, or playback or video output from the card.

Note :
- The microSD cards cannot be formatted on this camera. Make use of the SD Formatter (version 4.0 or later) distributed by the SD Association to format the microSD card, followed by inserting the card into the camera.
  The SD Formatter is available on the following website.
  https://www.sdcard.org/downloads/
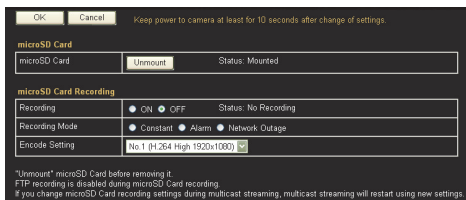
Settings

* Setting values with ● are default values.

microSD Card

microSD Card

↳ [Mount]/[Unmount] button

- [Mount] button:
  Click this button to mount a microSD card to the camera. After the microSD card is mounted, you can access it via the camera to perform operations such as recording data to or playback back data on the card.
  When a microSD card is mounted, this button switches to the [Unmount] button display.
- [Unmount] button:
  Clicking this button stops recording if recording to the microSD card is in progress, and unmounts the card from the camera. After the microSD card is unmounted, recording to or playback of data on the card will not resume until the [Mount] button is pressed again.

Memo :
- When the power of the camera is turned on with a microSD card inserted, the card will be automatically mounted to the camera.
- If you do not want microSD recording to start automatically after powering off and on the camera, or after clicking the [Mount] button, set [Record Status] to "OFF" in advance.

Note :
- Make sure to press the [Unmount] button before turning off the power of the camera or removing the microSD card,
  While writing to the microSD card is in progress, turning off the power or removing the card may damage the data stored inside it.

↳ Status

Displays the mount status of the microSD card.

- Mounted:
  A microSD card is mounted to the camera.
  Recording to or playback of data on the card can be performed.
- Unmounted:
  A microSD card is not mounted to the camera.
  Recording to and playback of data on the card are disabled.
- No card:
  A microSD card is not inserted into the camera, or the inserted microSD card cannot be recognized. To enable recording to the microSD card, insert a card that can be recognized by the camera.
  For details, refer to [Compatible microSD Cards] p.18.
- Error:
  Recording or playback cannot be performed due to an error in the microSD card.

microSD Card Recording

Record Status

Starts/stops recording to the microSD card.
Select "ON" and press the [OK] button to start recording to the microSD card.
Select "OFF" and press the [OK] button to stop recording.
[Set values: ON, ●OFF]

Memo : ——————————————————

- This option is available only when [Status] of [microSD Card] is set to [Mounted].

Note : ———————————————————

- If you want to change the time setting of the camera using any of the following operations, make sure that you stop microSD card recording in advance. Playback may fail if the time of the video recorded in the microSD card overlaps with the time of the camera after changes are made.
  - When the time setting is changed in "PC Time to Camera" on the [Basic Setting1] page.
  (☞ p.45 [[Basic Setting1] Page])
  - When the time setting is changed in "Time" and "PC Time to Camera" on the [Time] page under [Advanced Settings].
  (☞ p.80 [[Time] Page])
  - When the time setting is changed in "Time Zone" on the [Time] page under [Advanced Settings].
  (☞ p.80 [[Time] Page])

↳ Status

This is indicated as "Recording" when recording is in progress, and as "No Recording" when recording is stopped. When only [Alarm] is selected, the status is indicated as "Recording" when an alarm trigger is detected, and as "No Recording" when an alarm trigger is not detected.

Recording Mode

For setting the mode for recording to the microSD card.
You can select [Constant], [Alarm], or [Network Outage].
[Set values: Constant, Alarm, Network Outage]

Memo : ——————————————————

- When [Record Status] is "ON", the [Recording Mode] setting cannot be changed.
- To change the [Recording Mode], do so after setting [Record Status] to "OFF", followed by pressing the [OK] button to stop recording.
- When [Record Status] is set to "OFF", [Recording Mode] is restored to the factory default.

↳ Constant

Regardless of whether there is an alarm, recording to the microSD card is performed at all times.
Erases the oldest record data and continues recording when the microSD card is full.

↳ Alarm

Performs recording to the microSD card when a trigger that matches the preset conditions in [Alarm Settings] is detected. The recording duration for an alarm event during the occurrence of an alarm trigger is about 120 seconds in total: 60 seconds before the trigger (pre-trigger) and 60 seconds after the trigger (post-trigger).
Selecting "Alarm" displays the [Alarm Settings] item.

Memo : ——————————————————

- If a new trigger is detected within approximately 60 seconds after the first trigger is detected, it will not be registered to the event list.
- If a new trigger is detected while alarm recording is in progress, the recording duration will be extended by about 60 seconds from the point of detection.
- If the recording time of a video data is shorter than 60 seconds, the recording time for the pre-trigger will be less than 60 seconds.
- Erases the oldest record data and continues recording when the microSD card is full.

↳ **Network Outage**

Performs recording to the microSD card when the link between the camera and the network is disconnected.

Memo : ———————————————

- If the LAN cable is unplugged while power is supplied via PoE Plus, both the link with the network and the power supply will be disconnected. In this case, recording to the microSD card will not be performed.
- Erases the oldest record data and continues recording when the microSD card is full.

Note : ———————————————

- There are some network failures that Network Outage.is unable to support.
- Our company shall not be liable for any accident or damage that occurs.

Alarm Settings

For setting the corresponding alarm trigger when "Alarm" is selected in [Recording Mode].

↳ **Trigger1**

For selecting the first trigger for starting alarm recording.
[Set values: ●Pin Input1 Make, Pin Input1 Break, Pin Input2 Make, Pin Input2 Break, Position, Audio Detection1, Audio Detection2, Motion Detection, Tampering Detection, Day/Night, Time, FAN Stop]

Memo : ———————————————

- The "Audio Detection1", "Audio Detection2", "Motion Detection", and "Tampering Detection" settings for the trigger specified in [Trigger1] need to be set to "ON" on the respective settings pages under [Advanced Settings].
- If the trigger for [Trigger2] is set to "Disable", alarm recording starts with only the trigger in [Trigger1].
- When "Audio Detection1", "Audio Detection2", "Motion Detection", "Tampering Detection", "Day/Night", or "Time" is selected for [Trigger1], [Interval] and [Trigger2] cannot be selected.

↳ **Interval**

This is available when both [Trigger1] and [Trigger2] are set.
Specify the maximum interval between each trigger for [Trigger1] and [Trigger2].
Starts alarm recording if [Trigger2] occurs within the maximum time interval after [Trigger1] has occurred.
[Set values: 1 to 3600]sec

Memo : ———————————————

- If an invalid value is set, a dialog box indicating "Invalid interval" appears. If the interval field is left blank, a dialog box indicating "Interval field is blank" appears.

↳ **Trigger2**

For selecting the second trigger for starting alarm recording.
[Set values: ●Disable, Pin Input1 Make, Pin Input1 Break, Pin Input2 Make, Pin Input2 Break]

Memo : ———————————————

- If the same setting is specified for [1st Trigger] and [2nd Trigger], a dialog box indicating "Duplicate setting between Trigger 1 and Trigger 2" appears, and alarm recording will not start.

↳ **Position Number**

For setting the camera's preset position number. This is enabled when "Position" is selected for the trigger in [Trigger1].
Executes action recording upon moving to the entered position.
[Set values: 0 to 99]

Memo : ———————————————

- Specify the setting for Preset Position in [PTZ Settings] of Built-in Viewer.
  (☞ p.94 [[PTZ Settings]])
- This position parameter is also valid during manual pan/tilt/zoom (PTZ) operation or during automatic pan/tilt/zoom (PTZ) operations such as Auto Patrol.

↳ Day/Night

This is enabled when "Day/Night" is selected for the [Trigger1] item.
- Color:
  Executes alarm recording when the image switches from black-and-white to color.
- Black & White:
  Executes alarm recording when the image switches from color to black-and-white.

[Set values: Color, Black & White]

↳ Time

Displayed when "Time" is selected in [Trigger1].
Executes alarm recording at the time you have entered.
[Set values: 00H00M to 23H59M]

Encode Setting

Select the H.264 encoder No. for performing microSD card recording.
Specify the encoding settings in the [Encoding] page.
(☞ p.52 [[Encoding] Page])

Memo :
- Recordable frame rates are limited to 5, 10, 15, and 30 fps. If a frame rate other than those above is specified, a dialog box appears, and recording will not start. If this occurs, review and adjust the settings accordingly.
  (☞ p.52 [[Encoding] Page])
- Set the I-frame interval to a value equivalent to the frame rate. Otherwise, a dialog box will appear.

[PTZ] Page

This page allows you to specify the Auto Return, Move Preset Position and Auto Flip settings.
This page can be used during access using "admin" or "operator".
- Click [Advanced Settings] in the side menu, and click [PTZ].
- Press the [OK] button to enable the new settings.
- If the [OK] button is pressed upon entering an invalid value, a warning message will appear and the entry will be denied. Press the [Cancel] button to restore the invalid entry to the value before the change was made. If you press the [Cancel] button, other changed items will also be restored to the values before the change was made.
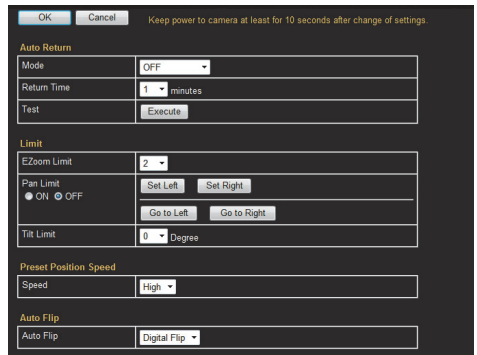
Settings

* Setting values with ● are default values.

Auto Return

If the manually-controlled camera is not operated over the duration that was set in "Return Time", it will automatically be restored to the state that was set in "Mode".

Mode

This item sets the operation after Auto Return.
- OFF:
  Auto Return is disabled.
- Home:
  Returns to the home position.
- Auto Pan:
  Returns to the Auto Pan operation.
- Auto Patrol0 to 2:
  Returns to the Auto Patrol operation.
- Auto Trace:
  Returns to the Auto Trace operation.

[Set values: ●OFF, Home, Auto Pan, Auto Patrol0 to 2, Auto Trace]

Return Time

This item sets the time to return the operation with Auto Return.
[Set values: ●1, 2, 3, 5, 10, 20, 30, 60] minutes

Test

Click [Execute] to test run the configured Auto Return operation.

Limit

EZoom Limit

When the zoom lens is operated to TELE side, optical zoom works and electronic zoom works after optical zoom becomes full. This item sets the maximum value of the electronic zoom function.
[Set values: 1, ●2, 4, 8, 10]

Memo :
- As electronic zoom processes the images digitally, image quality will deteriorate slightly
- Increasing the electronic zoom ratio will shift the center of the screen toward the top left. This is a characteristic of this camera and is not a malfunction.
- During continuous zoom operation, there is a one-second pause when the electronic zoom switches to optical zoom. This is intended to mark the boundary between electronic and optical zoom, and is not a malfunction.

Pan Limit

This item sets the movable range of the pan (horizontal) operation during manual operation when "ON" is selected. It is invalid when "OFF" is selected.
[Set values: ON, ●OFF]
- [Set Left], [Set Right]:
  Click these buttons to set the current position to the left or right edge.
- [Go to Left], [Go to Right]:
  Click these buttons to move the camera to the preset left or right edge.

Memo :
- It does not affect the Preset Position, Auto Pan, Auto Trace, and Auto Flip operations.

Basic operation of Pan Limit

When [Pan Limit] is set to "ON", panning is only available in the effective area.
When the camera is moved to prohibited area by some operation that has priority over [Pan Limit] and manual panning is performed, it operates in the following manner.

Memo :
- Panning can be operated freely even in the prohibited area before the camera enters the effective area.
- Once the camera enters the effective area, the [Pan Limit] settings take over and pan operation can only be performed in the effective area.

Operations that have priority over Pan Limit

The following operations are available regardless of the prohibited areas set in [Pan Limit].
- Auto Pan
- Auto Trace
- Move Preset Position
- Auto Flip

Settings that have priority over Pan Limit

The following setting comes together with pan operation but they can be set regardless of the prohibited areas even when [Pan Limit] is set to "ON".
- Privacy Mask Setting
- Auto Pan setting

Memo :
- When setting Preset Position with [Pan Limit] set to "ON", panning operation is disabled in the prohibited area.
- As Move Preset Position has priority over manual pan limit, setting the manual pan limit after setting Preset Position does not prevent Preset Position operation in the prohibited area.
- When setting Auto Trace and Preset Position and the [Pan Limit] setting is "ON", panning is unavailable in the prohibited area.
- As Auto Trace and Move Preset Position have priority over manual pan limit, setting pan limit after setting Auto Trace or Preset Position does not prevent Auto Trace or Preset Position operation.

Tilt Limit

This item sets the movable range of the tilt (vertical) operation during manual operation.
When this item is set to 10°, the movable range of the tilt operation is from 10° to 90°. It cannot operate between -5° and 9°.
When the [Auto Flip] item is set to "Digital Flip", Tilt Limit is also applied to tilt operations to 180°.
[Set values: -5 Degree to ●0 Degree to 10 Degree]

Memo : ─────────────────────────────

- When the camera is moved to a prohibited area by some operation for which priority is assigned to Tilt Limit and manual tilting is performed, it operates in the following manner.
  - Tilt operation is disabled in the prohibited area. Tilt will be forcibly moved to the effective area.
  - Once the camera enters the effective area, the Tilt Limit settings take over and tilt operation can only be performed in the effective area.
- It does not affect the Preset Position, Auto Pan and Auto Trace operations.

Preset Position Speed

Speed

This item sets the speed of moving to the preset position. It is also applicable when moving to the preset position in Auto Patrol.
[Set values: Low, Mid, ●High]

Auto Flip

Auto Flip

Set this item when shooting objects that pass right under the camera.
The camera stops at the face down position when vertical rotation is performed, the following operations are necessary to shoot objects that pass right under the camera.

① Turn the camera to face down.

② Rotate the camera 180° horizontally.

③ Turn the camera to face up.

You can use the [Auto Flip] function to perform the above operations automatically.

- OFF:
  Auto Flip function does not activate.
- Digital Flip:
  The top/bottom and left/right of the image flips when tilt position passed the angle of 135°.

- Mode1:
  When the camera faces bottom, it rotates 180° horizontally and stops. In this case, the operating direction of the camera is the same as that of the Pan/Tilt operation.
- Mode2:
  When the camera faces down, it rotates 180° horizontally and the camera operates in a direction opposite to that of the Tilt operation. Select this mode if you wish to operate continuously. Once operation stops, the direction will return to normal.
- Mode3:
  When the camera faces bottom, it rotates 180° horizontally and the operating direction of the camera is opposite that of the Tilt operation. However, the operating direction will return to normal 10 seconds after the operation has stopped.

[Set values: OFF, ●Digital Flip, Mode1, Mode2, Mode3]

Memo : ─────────────────────────────

- The [Speed] settings for [Preset Position Speed] are reflected as the rotation speed when images are flipped using "Mode1", "Mode2", "Mode3". To flip images in high speed using "Mode1", "Mode2", "Mode3", set the [Preset Position Speed] in [Speed] to "High".

Note : ─────────────────────────────

- When [Auto Flip] is set to other than "OFF", the camera can be moved to areas outside the pan limit with the Tilt operation. When "Digital Flip" is set, use the Tilt operation to flip and return to the pan limit area again. When "Mode1", "Mode2" or "Mode3" is set and the camera is moved to inside of the pan limit with Pan operation, it will stop at the pan limit position.

[Auto Patrol] Page

This function sets the Auto Patrol operation which patrols multiple positions at specified time intervals. You can set the order in which to view the determined positions.
This page can be used during access using "admin" or "operator".
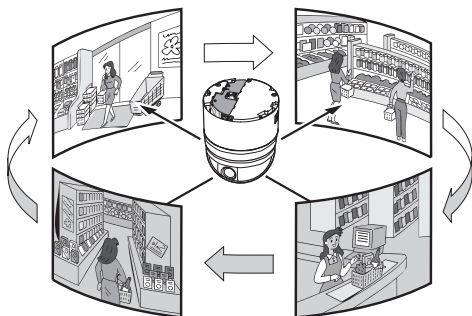
- Open the side menu by clicking [Advanced Settings] in the menu, followed by clicking [Auto Patrol 0], [Auto Patrol 1], or [Auto Patrol 2].
- Press the [OK] button to enable the new settings.
- If the [OK] button is pressed upon entering an invalid value, a warning message will appear and the entry will be denied. Press the [Cancel] button to restore the invalid entry to the value before the change was made.

Settings

There are three screens in Auto Patrol.
(The screen below appears when [Auto Patrol 0] is clicked.)

* Setting values with ● are default values.

No.

Switches the camera image from No. 0 to 99 in sequence.

Title

This displays the title of the position.

Position

This sets the position number to be moved in sequence.
[Set values: 0 to 99]

Memo :
- Specify the setting for Preset Position in [PTZ Settings] of Built-in Viewer.
  (☞ p.94 [[PTZ Settings]])

Stay Time

This sets the duration of displaying the images at each position.
For positions that you do not want to display during Auto Patrol, set to "Skip".
[Set values: Skip, ●10, 20, 30, 45, 60, 120]sec

Moving Speed

This item sets the speed of moving to the preset position.
[Set values: Low, Mid, ●High]

[Privacy Mask] Page

Privacy Mask is a feature that enables masking of a portion of the video image.
You can set 8 rectangular privacy masks for this unit.
This page can be used during access using "admin" or "operator".

- Click [Advanced Settings] in the side menu, and click [Privacy Mask].
- Press the [OK] button to enable the new settings.
- If the distribution capability of the camera is exceeded when images are acquired from the camera by the Built-in Viewer or other clients, images may not appear on the [Privacy Mask] page. Stop the Built-in Viewer or other clients before using the [Privacy Mask] page.
  (☞ p.107 [Exiting Built-in Viewer])
- If the [OK] button is pressed upon entering an invalid value, a warning message will appear and the entry will be denied. Press the [Cancel] button to restore the invalid entry to the value before the change was made.

Note :
- When the setting page for privacy mask is opened, zoom will be at the Wide end and [Auto Flip] is set to "OFF".
- To specify the privacy mask settings, set the zoom to the wide-angle end in advance.
- The size of the preset mask changes with the pan, tilt, and zoom operation.
- The privacy mask settings will also apply to videos recorded to the FTP server or microSD card, as well as those to be distributed.

Settings
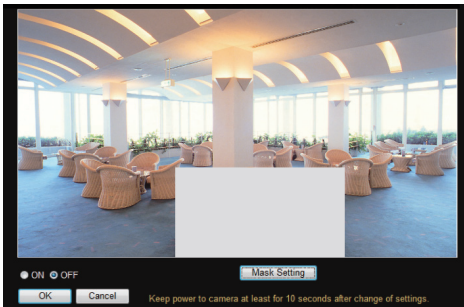
* Setting values with ● are default values.

Privacy Mask

For specifying whether to activate the Privacy Mask feature.
When this is set to "ON", the privacy mask specified in [Mask Setting] will appear on the screen.
[Set values: ON, ●OFF]

Memo :
- When [Privacy Mask] is set to "ON", zoom is set to the Wide end, and [Auto Flip] is set to "OFF".
  (☞ p.68 [Auto Flip])

Mask Setting

This item adjusts the mask. Click this item to open the Mask Setting screen.

↳ **Mask Setting screen**
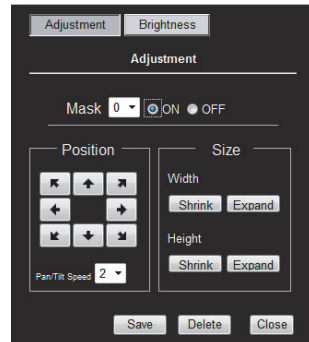
- Mask No.:
  When "ON" is selected, the mask corresponding to the selected number appears on the screen.
  When "OFF" is selected, mask will not be displayed on the screen.
  [Set values: 0 to 7]
- Size:
  This item sets the size of the mask.
  Use the [Shrink] or [Expand] button to set the Width or Height of the mask.
- Position:
  This sets the position to place the mask. Set the moving speed in [Pan/Tilt Speed].
  [Set values: 1 to 8]
- [Save] button:
  This saves the new settings.
- [Delete] button:
  This removes the privacy mask of the specified mask number.
- [Close] button:
  This closes the Mask Setting screen.

Memo : ───────────────────

- Upon opening the Mask Setting screen, Auto Flip switches temporarily to "OFF". After closing the Mask Setting screen, the original settings are restored.

Note : ───────────────────

- The tilt angle where mask can be set is within 40 ° from the horizontal position.
- The default home position (45 ° from the horizontal position) is outside the range of the privacy mask.
- To change the privacy mask position to the upper area from horizontal direction, press the up button until the end of the horizontal position, release the button, and press it again. Only the privacy mask will be moved to the upper area. This allows you to apply the privacy mask to an area above the horizontal position.
- The mask will appear larger than when it is set.
- As some areas that you wish to hide may appear due to the camera's direction or zoom operation, set the mask larger in advance.

↳ Brightness Setting

This item sets the brightness of the mask. Clicking this item switches the Mask Setting screen to the Brightness Setting screen.

↳ Brightness Setting screen
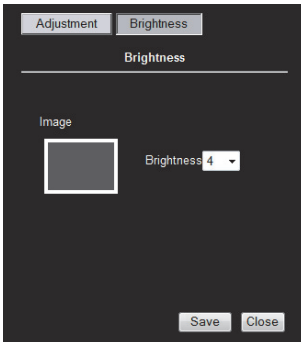
This item sets the brightness of the mask. "0" is the darkest. Increasing the value brightens the mask. You can check the brightness of the mask at [Mask Image]
[Set values: 0 to ●4 to 10]

- [Save] button:
  This saves the new settings.
- [Close] button:
  This closes the Brightness Setting screen.

Memo : ───────────────────

- To return to the Mask Setting screen, click [Mask Setting].

[Motion Detection] Page

This page is for setting motion detection.
This page can be used during access using "admin" or "operator".

- The area valid for motion detection is displayed in blue.
- When motion is detected, the area around the screen is highlighted in red.
- Motion detection is valid only when the camera is at the home position.
- Click [Advanced Settings] in the side menu, and click [Motion Detection].
- Press the [OK] button to enable the new settings.
- If the distribution capability of the camera is exceeded when images are acquired from the camera by the Built-in Viewer or other clients, images may not appear on the [Motion Detection] page. Stop the Built-in Viewer or other clients before using the [Motion Detection] page.
  (☞ p.107 [Exiting Built-in Viewer])
- If the [OK] button is pressed upon entering an invalid value, a warning message will appear and the entry will be denied. Press the [Cancel] button to restore the invalid entry to the value before the change was made. If you press the [Cancel] button, other changed items will also be restored to the values before the change was made.

Memo : ───────────────────

- The area display position serves as a reference. Make sure to perform operation check.
- The screen is divided into 96 blocks (12 horizontal $\times$ 8 vertical). Set the angle of view such that the size of the object for which motion is to be detected is at least the size of two blocks.
- You cannot set an area in a zoomed image.

Note : ───────────────────

- Flickers of fluorescent lamps may falsely trigger motion detection.
- Changes in brightness due to the light source may be detected as motion.
- The motion detection feature is not intended to prevent theft or fire. This feature may not function properly depending on the conditions of the object and settings.
  Our company shall not be liable for any accident or damage that occurs.
- Detection may not work depending on the installation conditions and subject.
- When [Audio Detection] or [Tampering Detection] is set to "ON", the motion detection feature cannot be used.

Settings
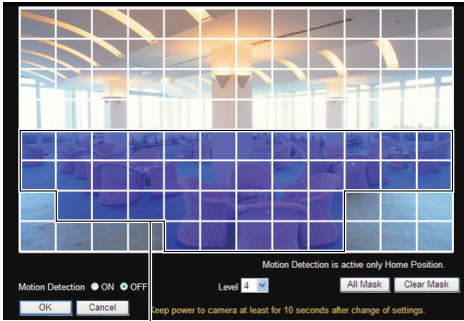
Motion detection area is displayed in blue

* Setting values with ● are default values.

Motion Detection Area

When the motion detection area is displayed, the screen is divided into 12 horizontal × 8 vertical blocks, allowing you to specify motion detection settings for each block.
Click on the block to detect motion. The block appears in blue, indicating that it is now enabled for motion detection. Right-clicking on a blue block clears the blue display and excludes it from motion detection. By moving the mouse with the left or right button pressed down, you can select multiple blocks at the same time.
After setting all the blocks, press the [OK] button to enable the motion detection settings for each of the blocks.

Motion Detection

For setting motion detection to On/Off.
[Set values: ON, ●OFF]

Level

For setting the sensitivity of motion detection. Increasing the number raises the detection sensitivity level, and hence it is more sensitive.
[Set values: 0 to ●4 to 10]

All Mask

Masks all blocks, and cancels the motion detection settings. (The blue display for all the blocks is cleared.)

Clear Mask

Clears the masks for all blocks, and enables the motion detection settings. (All blocks are displayed in blue.)

[Audio Detection] Page

This page sets the audio detection parameters. Audio detection is activated when the audio sound input to the audio input terminal from a microphone, etc. has exceeded the detection level. Connect speakers, headphones, etc. to the computer in advance so that the audio sound is audible.
This page can be used during access using "admin" or "operator".
● Click [Advanced Settings] in the side menu, and click [Audio Detection].
● Press the [OK] button to enable the new settings.
● If the [OK] button is pressed upon entering an invalid value, a warning message will appear and the entry will be denied. Press the [Cancel] button to restore the invalid entry to the value before the change was made. If you press the [Cancel] button, other changed items will also be restored to the values before the change was made.

Memo :
● The camera returns to the undetected status if a sound level below the detection level continues for five seconds or longer after the occurence of an audio detection.

Note :
● Audio detection cannot function if an audio driver is not installed on the computer.
● When [Motion Detection] or [Tampering Detection] is set to "ON", the audio detection feature cannot be used.
● When the [Audio Detection] does not work even if it is set to "ON" and you adjust [Level], please adjust [Mike Gain].
 (☞ p.55 [Mike Gain])

Settings

* Setting values with ● are default values.

Setting Using Internet Explorer

Peak Meter (No.1, No.2)

For selecting the target for detection using the peak meter displayed at the top of the setting screen. A sound level below the detection level is indicated in green on the meter, and a level higher than the detection level is indicated in red.
[Set values: ●No.1, No.2]

No.1, No.2

Audio Detection

Enables or disables Audio Detection for No.1 or No.2.
[Set values: ON, ●OFF]

Level

For setting the sensitivity level of audio detection. Increasing the number raises the detection sensitivity level, and hence it is more sensitive.
[Set values: 0 to ●4 to 10]

Detection Time

For setting the minimum duration for audio detection.
Abnormal sound is detected if an audio sound meets the conditions for Audio Detection for a duration longer than the preset time.
[Set values: 0 to ●1000 to 3000] msec

[Tampering Detection] Page

This page sets the tampering detection parameters.
Such cases are usually thought to be caused by blocked lenses or obstructing objects.
This page can be used during access using "admin" or "operator".

- Click [Advanced Settings] in the side menu, and click [Tampering Detection].
- Press the [OK] button to enable the new settings.
- If the [OK] button is pressed upon entering an invalid value, a warning message will appear and the entry will be denied. Press the [Cancel] button to restore the invalid entry to the value before the change was made. If you press the [Cancel] button, other changed items will also be restored to the values before the change was made.
- If the distribution capability of the camera is exceeded when images are acquired from the camera by the Built-in Viewer or other clients, images may not appear on the [Tampering Detection] page. Stop the Built-in Viewer or other clients before using the [Tampering Detection] page.
  (☞ p.107 [Exiting Built-in Viewer])

Note :
- The tampering detection feature is not intended to prevent theft or fire. This feature may not function properly depending on the conditions of the object and settings.
  Our company shall not be liable for any accident or damage that occurs.
- Detection may not work depending on the installation conditions and subject. Also, tampering detection may not function for a while after the pan/tilt/zoom (PTZ) operation is performed.
- When [Motion Detection] or [Audio Detection] is set to "ON", the tampering detection feature cannot be used.
- When the [Tampering Detection] page is opened, electronic zoom is canceled.

Settings
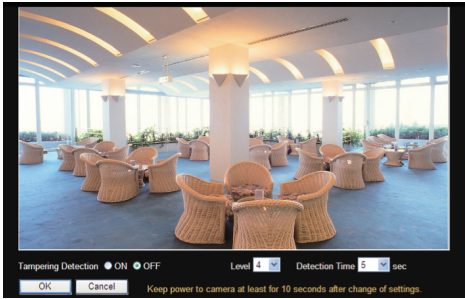
* Setting values with ● are default values.

Verification Screen

When tampering is detected, the area around the viewer is highlighted in red.
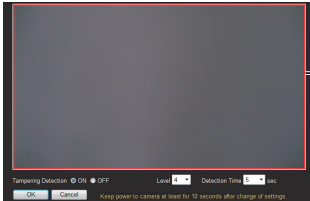
A red frame is displayed when tampering is detected.

Memo :
- Tampering is deemed to have occurred when the brightness data of the image converges on a single value.

Tampering Detection

Sets tampering detection to ON/OFF.
[Set values: ON, ●OFF]

Level

For setting the sensitivity level of tampering detection.
Increasing the number raises the detection sensitivity level, and hence it is more sensitive.
[Set values: 0 to ●4 to 10]

Detection Time

For setting the minimum duration for which tampering is deemed detected.
Tampering is detected if an image meets the conditions for tampering detection for a duration longer than the preset time.
[Set values: ●5, 10, 30, 60, 120]sec

[Network] Page

This page sets the network settings.
This page can be used during access using "admin".
- Click [Network] in the side menu.
- Press the [OK] button to enable the new settings.
- If you change the settings, the camera will restart. The camera takes about 90 seconds to restart.
- If the [OK] button is pressed upon entering an invalid value, a warning message will appear and the entry will be denied. Press the [Cancel] button to restore the invalid entry to the value before the change was made. If you press the [Cancel] button, other changed items will also be restored to the values before the change was made.

Memo :
- If you change the settings other than host name and DNS server on the [Network] page, all of the currently operating services are terminated. For example, if you change a setting on the [Network] page during JPEG/H.264 file distribution, the file distributions are stopped and the TCP connection is disconnected.

Settings

* Setting values with ● are default values.

IP Setting

IP Setting

Sets the DHCP client function.
To enable the DHCP, connect the camera to the network environment where the DHCP server is running.
If the DHCP server does not exist when DHCP is set to "Enable", camera will start running with the 192.168.0.2 IP address and 255.255.255.0 subnet mask in about 2 minutes after startup. For details on entering the IP address, refer to the following.
(☞ p.38 [IP Address Setting Procedure])
[Set values: ●DHCP Disable, DHCP Enable]

IP Address

Sets the IP address of camera.
[Factory default: 192.168.0.2]

Subnet Mask

Sets the subnet mask of camera.
[Factory default: 255.255.255.0]

Default Gateway

Sets the default gateway of camera.
Enter 0.0.0.0 if you do not want to set a default gateway.
[Factory default: 0.0.0.0]

Host Name

Sets a host name of camera.
It can consist of alphanumeric characters, hyphen (-), and period (.). Underscore (_) character is not allowed to use.

DNS Server

Sets an address of DNS server.
[Factory default: 0.0.0.0]

MAC Address

The MAC address of camera is shown as a hexadecimal number.

Other

Negotiation

Sets the network negotiation.
If you have selected a value other than "Auto", do not set the connected network device to "Auto". Be sure to set it to the same value as the camera.
[Set values: ●Auto, 100M Full, 100M Half, 10M Full, 10M Half]

Note :

- The camera and another connecting device on the network may connect automatically when other than "Auto" is selected for the camera and "Auto" is set for the other connecting device.
- When connection is established with "100M Half" or "10M Half", restriction on the communication line applies, and sending and receiving cannot be executed simultaneously. If video streams are distributed from the camera in this state, sending of instructions such as pan/tilt/zoom (PTZ) operation to the camera may fail.

MTU

Sets the maximum size of packets which contain visual data.
[Set values: 1280 to ●1500]

[Protocol] Page

This page sets the protocol.
This page can be used during access using "admin".

Memo :
- Press the [OK] button to enable the new settings.
- If the [OK] button is pressed upon entering an invalid value, a warning message will appear and the entry will be denied. Press the [Cancel] button to restore the invalid entry to the value before the change was made. If you press the [Cancel] button, other changed items will also be restored to the values before the change was made.
- When you connect via Internet Explorer after changing protocol settings, enter the address using the new server port and port number in the address bar.

Settings

* Setting values with ● are default values.

Protocol Settings

Sets the protocols.

HTTP/HTTPS

For selecting the protocol to use.
[Set values: ●HTTP, HTTPS]

HTTP Server Port

You can change the port number for the built-in HTTP server of the camera.
[Set values: 11 to ●80 to 65524]

Memo :

* To access the camera from Internet Explorer, input the following into the Internet Explorer address bar with the camera in the factory default state.
http://192.168.0.2
When the port number is changed to 8080, input the new port number after the IP address as follows.
http://192.168.0.2:8080
Input ":" + port number
* Upon changing the HTTP server port, the port number for requesting video stream distribution will also be changed.
* Set [HTTP Port] of the Built-in Viewer to the same value.
(☞ p.99 [HTTP Port])

HTTPS Server Port

You can change the port number for the built-in HTTPS server of the camera.
[Set values: 11 to ●443 to 65524]

Memo :

* To access the camera from Internet Explorer, input the following into the Internet Explorer address bar with the camera in the factory default state.
https://192.168.0.2
When the port number is changed to 8080, input the new port number after the IP address as follows.
https://192.168.0.2:8080
Input ":" + port number
* Upon changing the HTTPS server port, the port number for requesting video stream distribution will also be changed.

SNMP

For setting SNMP.
[Set values: ON, ●OFF]

AMX Device Discovery Protocol

You can change the AMX device detection protocol. Set to "ON" when you are using the camera on AMX's system.
[Set values: ●ON, OFF]

Standard Surveillance Protocol

Sets standard surveillance protocols.

ONVIF

You can change the standard surveillance protocols.
[Set values: ●ON, OFF]

JPEG Streaming

Selects the JPEG image streaming priority.

Priority

Selects whether to give priority to the client number for JPEG image streaming or the frame rate.
* Client Number:
Gives priority to the streaming client number. Lowers the JPEG frame rate as delivery requests increase, allowing delivery to a maximum of 20 clients.
* Framerate:
Assigns priority to the frame rate. Set this to maintain the frame rate for JPEG images requested by clients. Delivery requests that exceed the maximum number will be denied.

[Set values: ●Client Number, Framerate]

▌[Multicast] Page

This page is for setting manual multicast transmission.
All items can be set when you log in as "admin".
If you log in as "operator", you are only allowed to start or stop transmission.

- When you are logged in as "admin", press the [OK] button to save changes made on this page.
- When you are logged in as "admin", a warning message will appear if you press the [OK] button upon entering an invalid value, and the entry will be denied. Press the [Cancel] button to restore the invalid entry to the value before the change was made. If you press the [Cancel] button, other changed items will also be restored to the values before the change was made.

Memo :
- When the power of the camera is turned off accidentally during multicast transmission, multicast transmission will restart automatically after the camera is rebooted.

Settings

* Setting values with ● are default values.

Encoder No.1 to No.3

For setting manual distribution by Encoder No.1 to No.3.

Memo :
- Only the setting options for the encoder in operation will be displayed.

Encode

Displays the [Encode] settings specified for each encoder.
   (☞ p.52 [[Encoding] Page])
[Displayed values: JPEG, H.264 Baseline, H.264 High]

↳ **Framesize**

Displays the [Framesize] settings specified for each encoder.
   (☞ p.54 [Framesize])

↳ **Framerate**

Displays the [Framerate] for multicast transmission.
The frame rate can be changed when Encode is set to "JPEG".
[Set values: ●30 fps, 15 fps, 10 fps, 7.5 fps, 5 fps, 3 fps, 2 fps, 1 fps, 1/2 fps, 1/3 fps, 1/5 fps, 1/10 fps, 1/30 fps]

Memo :
- You can specify a frame rate that does not exceed the upper limit specified in the [Basic Setting2] page or [Encoding] page.
   (☞ p.52 [[Encoding] Page])

Destination Address

For specifying the destination address of multicast transmission.
Specify the multicast address. When other devices that make use of multicast transmission exist, ensure that each of them is set to a different multicast address.
[(Factory default) Encoder No.1: 225.0.1.1, Encoder No.2: 225.0.2.1, Encoder No.3: 225.0.4.1]

Destination Port

For specifying the destination port number for multicast transmission.
Specify an even number for RTP compliance.
When other devices that make use of multicast transmission exist, it is recommended that each of them be set to a different port number.
Multiple multicast streams cannot be received on a single computer when there are duplicate port numbers.
[(Factory default) Encoder No.1: 49152, Encoder No.2: 59152, Encoder No.3: 29152]

Start

Saves the [Framerate], [Destination Address], and [Destination Port] settings, and starts manual distribution.
It is displayed as a [Stop] button during distribution.
[Framerate], [Destination Address], and [Destination Port] cannot be changed while distribution is in progress.

Setting Using Internet Explorer

EncoderNo.4: Audio

For setting manual distribution by EncoderNo.4.

Destination Address

For specifying the destination address for audio distribution.
Specify the multicast address. When other devices that make use of multicast transmission exist, ensure that each of them is set to a different multicast address.
[Factory default: 225.0.3.1]

Destination Port

For specifying the destination port number for audio distribution.
Specify an even number for RTP compliance.
When other devices that make use of multicast transmission exist, it is recommended that each of them be set to a different port number.
Multiple multicast streams cannot be received on a single computer when there are duplicate port numbers.
[Factory default: 39152]

Start

Saves the [Destination Address] and [Destination Port] settings, and starts manual distribution.
It is displayed as a [Stop] button during distribution.
[Destination Address] and [Destination Port] cannot be changed while distribution is in progress.

[Access Restrictions] Page

This page is for setting client restrictions.
This page can be used during access using "admin".
- Click [Advanced Settings] in the side menu, and click [Access Restrictions].
- Press the [OK] button to enable the new settings.
- If the [OK] button is pressed upon entering an invalid value, a warning message will appear and the entry will be denied. Press the [Cancel] button to restore the invalid entry to the value before the change was made. If you press the [Cancel] button, other changed items will also be restored to the values before the change was made.
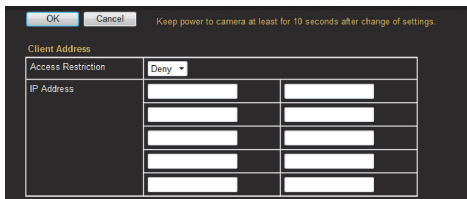
Memo : ─────────────
- This feature is applicable for restricting the acquisition of H.264/JPEG or audio transmission data. It does not impose restrictions on access via a web browser or use of API.

Note : ─────────────
- The Access Restriction feature determines whether to impose restrictions during TCP connection by the client. In the case when access restriction is set after TCP connection by a client has been established, TCP connection will not be disconnected.

Settings

* Setting values with ● are default values.

Client Address

Restrictions may be imposed on clients accessing the camera using the IP address.

Access Restriction

- Deny:
  Denies acquisition of H.264/JPEG or audio transmission data from the IP address specified in [IP Address]. Restrictions are not imposed on access to the setting page.
- Allow:
  Accepts acquisition of H.264/JPEG or audio transmission data from the IP address specified in [IP Address]. Restrictions are not imposed on access to the setting page.

[Set values: ●Deny, Allow]

IP Address

You can register up to 10 IP addresses for prohibited or permitted clients.

Memo : —————————————————————

- To specify a specific IP address range, enter a combination of the IP address and subnet mask in the [IP Address] item.
- Define the subnet mask using a length between 8 to 30 bits.
  For example, to specify the range from 192.168.0.0 to 192.168.0.255, 192.168.0.0/24 ([IP address]/[bit length of subnet mask]) is used.

Note : ——————————————————————

- Note that when "Allow" is selected and all IP address fields are left blank, acquisition of H.264/JPEG or audio transmission data from all IP addresses will be denied.
  Restrictions are not imposed on access to the setting page.
  Additionally, the camera will also deny access when instructions for transmission to the specified IP address are sent via API.

[Time] Page

This page sets the current clock time.
This page can be used during access using "admin".

- Press the [OK] button to enable the new settings.
- If the [OK] button is pressed upon entering an invalid value, a warning message will appear and the entry will be denied. Press the [Cancel] button to restore the invalid entry to the value before the change was made. If you press the [Cancel] button, other changed items will also be restored to the values before the change was made.

Memo : ——————————————————————

- The time of the internal clock may be significantly out of alignment if the power of the product is turned off for a long time or when there is prolonged power failure. If this occurs, readjust the [Time] setting.

Settings

* Setting values with ● are default values.

SNTP

Sets the SNTP client function.
ON:
Gets the time by periodically accessing the specified NTP server.
OFF:
Does not access the NTP server.
[Set values: ●OFF, ON]

Memo : ——————————————————————

- The time is recorded in the JPEG header and H.264 header distributed by the camera. The time recorded in the JPEG header and H.264 header may be discontinuous immediately before and after acquiring the time from the NTP server.

SNTP Server

Sets an IP address of NTP server.
[Factory default: 0.0.0.0]

Interval

Sets a unit and values of measurement for the time interval at which to access the NTP server.
[Set values: Min(1-60), ●Hour(1-24), Day(1-31)]

Time

Displays the clock time of camera.
You can correct the time by entering a value (without seconds).

Memo :
- The time is recorded in the JPEG header and H.264 header distributed by the camera. Discontinuity may occur in the time of the JPEG header and H.264 header immediately before and after changing the time.
- Change the [Time] if it does not coincide with the [Time Zone] of the region you are residing.

Time Zone

Sets a time zone.
[Set values: (GMT-12:00) to ●(GMT)UTC to (GMT +12:45)]

Memo :
- After changing the [Time Zone], check to ensure that the [Time] is correct. If it is incorrect, readjust the [Time] accordingly.

Note :
- When the [Time Zone] settings are changed to a value different from the factory default, they cannot be restored to the factory settings even by initializing using [All Settings] on the [Maintenance] page.
  (☞ p.81 [[Maintenance] Page])

PC Time to Camera

Click [Set] to set the computer's time on the camera.

[Password] Page

This page sets a password.
This page can be used during access using "admin".

Note :
- Be sure to handle the password carefully in case you forget it.
- If you have forgotten the password, please consult our service center.

Settings

admin, operator, user

User Name

You must set passwords for the "admin", "operator" and "user".

Memo :
- You can set up to four users each for "admin", "operator" and "user".
- You cannot specify a user name other than the character strings displayed.

Password

Enter a password.
You can use a combination of alphanumeric characters with hyphen (-), period (.) and underscore (_). Specify a password between 1 and 16 characters. The camera is case-sensitive.

Password Re-Input

Enter the new password again for confirmation.

Action

Enables password settings or deletes them. When you press a button, its confirmation screen appears.
- Set button:
  Sets the password you have entered.
- Delete button:
  Deletes the password.

Memo :
- Remember that you cannot delete the "admin", "operator" and "user" factory default passwords.

[Maintenance] Page

This page maintains the camera system.
This page can be used during access using "admin".
- Click [Advanced Settings] in the side menu, and click [Maintenance].

Settings

Restart, Initialize

Restart

Restarts the camera. (The camera takes about 1 minute to restart.)

All Settings

Restarts the camera and initializes the set values of the camera. (The camera takes about 1 minute to initialize or restart.)
All passwords are initialized as well. However, the time zone setting and the time of the clock built in the camera is not reset.
Current services such as JPEG/H.264 streaming are all stopped.

Firmware

Update

Updates the camera firmware and restarts the camera.
Copy the new firmware file to the computer where you use the Internet Explorer, and specify the file by clicking the [Browse...] button. Press the [Update] button to start firmware updating. Current services such as JPEG/H.264 streaming are all stopped. The firmware updating may take several minutes.
When the firmware is successfully updated, a message is displayed in the Internet Explorer.
If an error message appears, check the file of the selected firmware, and execute the update again.

Memo :
● Executing update does not reset the camera settings.

Note :
● Do not shut down the system and computer power supplies when the firmware is being updated and when the camera is restarting immediately after firmware updating. If the power is shut down, it may cause a malfunction of camera.
● Before starting firmware updating, terminate any access to the camera (by the viewer or others), except for the access from the Maintenance Page. If an access to the camera from anything other than the Maintenance Page is valid, and if you start to update the firmware, the access from this Maintenance Page may be disconnected. If it occurs, terminate the access from anything other than the Maintenance Page. Then, access to this Maintenance Page again and restart firmware updating.
● When the window is opened in the computer for the first time after updating, ActiveX control will be installed.

Version

Displays the camera's firmware version.

Language File

The Language File (the file of languages) can be uploaded or downloaded only when the "English (Custom)" is selected by the language selection radio button.
(☞ p.22 [Uploading and Downloading of the Language File])

Download

Downloads the Language File.
Click [Download] button to download the "language.ini" file to computer.

Upload

Uploads the Language File.
Click [Browse...] button to display the file selection screen. Please select the "language.ini" file which you edited.
Click [Upload] button to upload the selected "language.ini" file to camera.

Auto Cleaning

Auto Cleaning

You can set whether to automatically clean the power and signal transmission components.
Setting to "ON" executes cleaning at the preset time specified in [Auto Cleaning Time].
Select "ON" or "OFF", and click [Apply].
[Set values: ●ON, OFF]

Note :
● When the camera has stopped at the pan position for more than 7 days, it will pan at the specified time and perform cleaning automatically. Cleaning takes about one second to complete.

Auto Cleaning Time

You can set the time to start auto cleaning.
To change the setting, enter the time and click the [Apply] button.
[Set values: 0-23 h, 0-59 m, ●00 h 00 m]

[Miscellaneous] Page

This page displays the software information of the camera.
This page can be used during access using "admin", "operator" or user.

```
Free Open Source Software

Software information regarding this product, Model No. VN-H657

- SOFTWARE LICENSE AGREEMENT
- Important Notice conserning the Software

The Software contained in this product, among others, consists of the following software:

(1) the software which is developed by or for JVC KENWOOD Corporation;
(2) the software which is licensed under the below;

    - GNU GENERAL PUBLIC LICENSE Version 2.0 (GPLv2.0)
    - GNU LESSER GENERAL PUBLIC LICENSE Version 2.1 (LGPLv2.1)

Also this product includes:

(3) the software uses libraries from the FFmpeg project under the LGPLv2.1;
(4) the software which is licensed under the Apache License, Version 2.0 (the "License");
    you may not use this file except in compliance with the License.
    You may obtain a copy of the License at

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    Unless required by applicable law or agreed to in writing, software
    distributed under the License is distributed on an "AS IS" BASIS,
    WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
    See the License for the specific language governing permissions and
    limitations under the License.
(5) This product includes lighttpd-1.4.30 that has copyright note below;
```

[Operation] Page

The operation status of the camera is displayed.
This page can be used during access using "admin" or "operator".

Settings

```
Operation
Total Sending Bitrate      Total: 478 kbps
                           TCP: 478 kbps
                           UDP: 0 kbps
Destination                Send Count: 1
                           Send To H.264 High: 192.168.0.21


Log
System Log
```

Operation

Total Sending Bitrate

Displays the total TCP/UDP bit rate sent by the camera, and individual bit rates.

Destination

Displays the number of streams the camera is sending.

Log

System Log

Displays the logs.

[Settings] Page

Displays the firmware version and the current settings of the camera.
This page can be used during access using "admin" or "operator".
The following screen is an example of one possible configuration.

Firmware	
Streaming Manager	SPL2889 0.01.112
PT Controller	SPL2808 2.00.014
Peripheral	SPL2809 1.00.005

Camera	
Camera ID	VN-H657B
Scenefile	General
Iris	Auto
Color Level	Normal
Black Level	Normal
Gamma	0.45
Active Gamma Level	Mid
Enhance Level	Normal
3D DNR	Mid
White Balance	ATW-Wide (R-Gain: 107, B-Gain: 168)
AGC	High
Sense Up	x2
ALC Priority	Motion
Shutter Speed	Auto (1/30 - 1/10000)
Day/Night	Color
IR Preset AF	ON
Light	Normal
Back Light Compensation	OFF

Encode	
Mode	Multi-Encode

Memo :
● Equivalent values for the preset areas are indicated in the [Motion Detection] and [Detection Area] items.

[Position List] Page

Displays information on the preset position.
This page can be used during access using "admin" or "operator".

Position	Registration	Title
0	Registered	Home
1	Unregistered	
2	Unregistered	
3	Unregistered	
4	Unregistered	
5	Unregistered	
6	Unregistered	
7	Unregistered	
8	Unregistered	
9	Unregistered	
10	Unregistered	
11	Unregistered	
12	Unregistered	
13	Unregistered	
14	Unregistered	
15	Unregistered	
16	Unregistered	
17	Unregistered	
18	Unregistered	

Memo :
● This product enables setting up to 100 preset positions, including HOME and 1 to 99.
● For details about the preset position, see the [PTZ Settings] page.
(☞ p.94 [Preset Position])

[Patrol Settings] Page

This page displays the information and settings of Auto Patrol.
This page can be used during access using "admin" or "operator".
● The patrol information consists of three screens. (The screen below appears when [Patrol Settings0] is clicked.)

Patrol Settings 0				
No.	Title	Position	Stay Time	Moving Speed
No.0	Home	0	10 sec	High
No.1		1	10 sec	High
No.2		2	10 sec	High
No.3		3	10 sec	High
No.4		4	10 sec	High
No.5		5	10 sec	High
No.6		6	10 sec	High
No.7		7	10 sec	High
No.8		8	10 sec	High
No.9		9	10 sec	High
No.10		10	10 sec	High
No.11		11	10 sec	High
No.12		12	10 sec	High
No.13		13	10 sec	High
No.14		14	10 sec	High
No.15		15	10 sec	High
No.16		16	10 sec	High
No.17		17	10 sec	High
No.18		18	10 sec	High

List of Factory Defaults of Each Page

Camera Page

Item		Factory Settings
Camera ID		Model name (In case of VN-H657WPBU: VN-H657WPB)
Scenefile		General
Iris		Auto
Color Level		Normal
Black Level		Normal
Gamma		0.45
	Active Gamma Level	Mid
Enhance Level		Normal
3D DNR		Mid
White Balance		ATW-Wide
	AWC R-Gain	107
	AWC B-Gain	168
ALC	AGC	High
	Sense Up	x2
	Priority	Motion
Shutter Speed		Auto(1/30-1/8000)
Day/Night		Color
	IR Preset AF	ON
	Light	Normal
Back Light Compensation		OFF

Encoding Page

Item		Factory Settings
Encode		Multi-Encode
Encoder No.1	Encoding	H.264 High
	Framesize	1920×1080
	Framerate	30 fps
	Bitrate	CBR 4096 kbps
	I Frame Interval	30 Frame
Encoder No.2	Encoding	JPEG
	Framesize	640×480
	Framerate	30 fps
	Quality	VFS Level 4
Encoder No.3	Encoding	OFF

Audio Page

Item	Factory Settings
Communicate	Half Duplex
Mike Gain	32 dB
Mike Power Supply	ON
Audio File No.1	-
Audio File No.2	-
Audio File No.3	-
Audio File No.4	-
Audio File No.5	-

Alarm Page

Item	Factory Settings
Action	Disable
1st Trigger	Pin Input1 Make
Max. Interval	-
2nd Trigger	Disable
Action Position Number(*1)	-
Mail Settings (*2)	Unset
Mail Address (*2)	-
Mail Text (*2)	-
JPEG Attachment (*2)	-
Encoder(*2)	No.2 (JPEG 640×480)
TCP IP Address (*3)	-
TCP Port Number (*3)	-
TCP Data (*3)	-
JPEG Attachment (*3)	-
Encoder(*3)	No.2 (JPEG 640×480)
UDP IP Address (*4)	-
UDP Port Number (*4)	-
UDP Data (*4)	-
Alarm Output Duration (*5)	-
Scene File (*6)	General
Audio File (*7)	-
Trigger Position Number (*8)	-
Time (*9)	-
Day/Night (*10)	-
Time Filter	Unmask All

*1 : When "Position" is selected in [Action]
*2 : When "Mail" is selected in [Action]
*3 : When "TCP" is selected in [Action]
*4 : When "UDP" is selected in [Action]
*5 : When "Pin Output1 Make", "Pin Output1 Break", "Pin Output2 Make", or "Pin Output2 Break" is selected in [Action]
*6 : When "Switch Scene File" is selected in [Action]
*7 : When "Play Audio" is selected in [Action]
*8 : When "Position" is selected in [1st Trigger]
*9 : When "Time" is selected in [1st Trigger]
*10 : When "Day/Night" is selected in [1st Trigger]

Alarm Environment Page

Item		Factory Settings
SMTP Server		0.0.0.0
Port Number		25
Send Mail Address		-
POP before SMTP		Disable
	POP Server	0.0.0.0
	Port Number	110
	User Name	-
	Password	-
Duration Output 1		0 msec
Duration Output 2		0 msec
Manual Output Output 1		Break
Manual Output Output 2		Break

FTP Recording Page

Item		Factory Settings
Record Status		OFF
FTP Server		0.0.0.0
Path		-
User Name		-
Password		-
FTP Recording Mode		Constant+Alarm
Constant	Encoder	No.2 (JPEG 640×480)
	Interval	1 sec
	File Naming	Auto
	User-Defined-String	-
	Sunday to Saturday	Unmask All
Alarm	Encoder	No.2 (JPEG 640×480) 5 fps
	Trigger1	Pin Input1 Make
	Interval	-
	Trigger2	Disable
	Pre-Trigger	5 sec
	Post-Trigger	5 sec
	Sunday to Saturday	Unmask All

microSD Card Recording Page

Item		Factory Settings
microSD Card		-
	Status	No card
Record Status		OFF
	Status	No Recording
Recording Mode		-
Alarm Settings		
	1st Trigger	Pin Input1 Make
	Interval	-
	2nd Trigger	Disable
Encode Setting		No.1 (H.264 High1920×1080)

PTZ Page

Item		Factory Settings
Auto Return	Mode	OFF
	Return Time	1 minute
EZoom Limit		2
Pan Limit		OFF
Tilt Limit		0 Degree
Speed		High
Auto Flip		Digital Flip

Auto Patrol Page

Item	Factory Settings
Position	0 to 99
Stay Time	10
Moving Speed	High

Privacy Mask Page

Item		Factory Settings
Privacy Mask		OFF
Mask Setting	Pan/Tilt Speed	4
Brightness Setting		4

Motion Detection Page

Item	Factory Settings
Motion Detection	OFF
Level	4

Audio Detection Page

Item		Factory Settings
No.1,2		No.1
No.1	Audio Detection	OFF
	Detection Sensitivity	4
	Detection Time	1000 ms
No.2	Audio Detection	OFF
	Detection Sensitivity	4
	Detection Time	1000 ms

Tampering Detection Page

Item	Factory Settings
Tampering Detection	OFF
Level	4
Detection Time	5 sec

Network Page

Item	Factory Settings
IP Setting	DHCP Disable
IP Address	192.168.0.2
Subnet Mask	255.255.255.0
Default Gateway	0.0.0.0
Host Name	-
DNS Server	0.0.0.0
Negotiation	Auto
MTU	1500

Protocol Page

Item	Factory Settings
HTTP/HTTPS	HTTP
HTTP Server Port	80
HTTPS Server Port	443
SNMP	OFF
AMX Device Discovery Protocol	ON
ONVIF	ON
JPEG Streaming	Client Number

Multicast Page

Item		Factory Settings
Encoder No.1	Framesize	1920×1080
	Framerate	30 fps
	Destination Address	225.0.1.1
	Destination Port	49152
Encoder No.2	Framesize	640×480
	Framerate	30 fps
	Destination Address	225.0.2.1
	Destination Port	59152
Encoder No.3	Framesize	640×480
	Framerate	30 fps
	Destination Address	225.0.4.1
	Destination Port	29152
Encoder No.4	Destination Address	225.0.3.1
	Destination Port	39152

Access Restrictions Page

Item	Factory Settings
Access Restriction	Deny
IP Address	-

Time Page

Item	Factory Settings
SNTP	OFF
SNTP Server	0.0.0.0
Interval	Hour(1-24), 1
Time Zone	(GMT) UTC

Password Page

Item	Factory Settings
Password	Displayed as ***. Default passwords are: admin: jvc operator: jvc user: jvc
Password Re-Input	-

Maintenance Page

Item	Factory Settings
Auto Cleaning	ON
Auto Cleaning Time	00 h 00 m

Built-in Viewer Operation

The camera comes with a Built-in Viewer.
Enter the IP address of the camera in the address bar of Internet Explorer to start up the Built-in Viewer. The Built-in Viewer enables operations such as saving of still images in the JPEG format and pan/tilt/zoom (PTZ) operations.

● You can operate the Pan, Tilt and Zoom functions using a mouse.

Memo :
● The first time you display the Built-in Viewer in Internet Explorer, the Built-in Viewer will be installed on the computer.
● The settings required for running the Built-in Viewer on the PC are stored in cookies.
● Settings that are stored in cookies are information related to the operation of the Built-in Viewer, such as the number of the encoder to be displayed and whether the display size is set to a specified or variable size. Settings related to camera operation are not stored in cookies.

Note :
● If you delete the cookies, the current viewer settings are deleted. The next time when you start the Built-in Viewer, the viewer will operate in the initialized state.

List of operations

● [Built-in Viewer Screen Configuration] p.90
● [[Image Settings] Settings] p.92
● [[PTZ Settings]] p.94
● [[PTZ Control]] p.97
● [[Unicast] Settings] p.99
● [[Multicast] Settings] p.100
● [[On Screen Display] Settings] p.101
● [[Audio Monitor] Settings] p.102
● [[Other] Settings] p.103
● [[microSD Card] Operation Screen] p.104
● [Exiting Built-in Viewer] p.107

If the display or configuration of the open window appears strange, check the computer settings as follows:

① Select [Start]-[Control Panel]-[Appearance and Personalization].

② Open [Adjust screen resolution] under [Display].

③ Check that [Resolution] is set to [Monitor size (recommended)] in use.

④ Otherwise, change the [Monitor size (recommended)] setting and press the [OK] button.

⑤ In [Display Settings], press the [Keep changes] button.

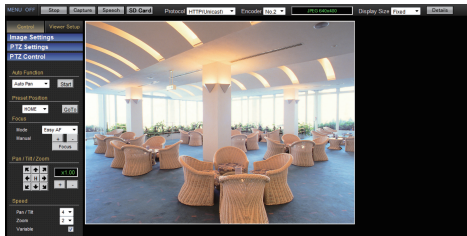Operation

Built-in Viewer Screen Configuration

Memo :
- Built-in Viewer settings are stored in cookies.
- From this Settings screen, you can set up the Built-in Viewer as the software on the computer. You cannot set up camera operations from this screen.
- For the latest firmware version, please visit our website.
(The latest firmware version can be found on the Download page of V.NETWORKS.)
http://www3.jvckenwood.com/english/products-e.html

Note :
- If you delete the cookies, the current viewer settings are deleted. The next time when you start the Built-in Viewer, the viewer will operate in the initialized state.

* Setting values with ● are default values.

MENU OFF/MENU ON

Displays or hides the operation menu.
Click [MENU ON], and the operation menu will appear on the left of the page.

Control

Switches the Operation Menu to the Control Menu. Click this button to adjust the [Image Settings], [PTZ Settings] or [PTZ Control] settings.
   (☞ p.92 [[Image Settings] Settings])
   (☞ p.94 [[PTZ Settings]])
   (☞ p.97 [[PTZ Control]])

Viewer Setup

Switches the Operation Menu to the Viewer Setup Menu.
Click this when you want to set [Unicast], [Multicast], [On Screen Display], [Audio Monitor], [Other], or play back videos on the [microSD card].
   (☞ p.99 [[Unicast] Settings])
   (☞ p.100 [[Multicast] Settings])
   (☞ p.101 [[On Screen Display] Settings])
   (☞ p.102 [[Audio Monitor] Settings])
   (☞ p.103 [[Other] Settings])
   (☞ p.104 [[microSD Card] Operation Screen])

Stop/Play

Pauses or plays back images.

Capture

Captures the currently displayed image in your computer. The image is recorded as a JPEG file in the folder that is created under the [Document] folder of the computer.
The default folder name is "model name". (For example, the folder name is "VN-H657WPB" in the case of VN-H657WPBU.)
The file name is made up of "year, month, day, hour, minute, second, and millisecond".

Memo :
- You can rename the folder in the [Other] settings.
   (☞ p.103 [[Other] Settings])

Note :
- The clock time of this file name is the clock time of the computer. Note that it is not the "Time" of the camera.
- You cannot capture images as videos.
- You cannot save H.264 images.

Speech

- Clicking this button sends audio sound to the camera from the microphone that is connected to the computer.
Audio is output from the camera.
- If this button is not clicked, audio sound from the microphone connected to the camera via the audio cable is output from the speaker of the computer.
- The color of the button changes to orange during audio transmission.
- When [Communicate] on the [Audio] page is set to "Half Duplex", audio from the camera's microphone is not output from the computer while audio transmission to the camera is in progress.

Operation

Note :
- Even when [Communicate] on the [Audio] page is set to "Full Duplex", audio from the camera's microphone may be interrupted momentarily when the [Speech] button is pressed. This is not a malfunction.

SD Card

Switches to the microSD operation screen.
(☞ p.104 [[microSD Card] Operation Screen])

Memo :
- When you are logged in as "user", the [SD Card] button cannot be selected (grayed out), and data on the microSD card cannot be played back.

Protocol

Selects a protocol to be used when the viewer acquires data from the camera.
- HTTP(Unicast):
  Allows monitoring the camera with a single viewer. If a packet is lost, the packet data is transmitted again and recovered.
- RTP(Multicast):
  Allows multiple viewers to monitor the camera.
[Set values: ●HTTP(Unicast), RTP(Multicast)]

Memo :
- When playing back via multicast, start multicast transmission on the [Multicast] page.
  (☞ p.77 [[Multicast] Page])

Note :
- If you select "RTP(Multicast)" and start the Built-in Viewer, you may be alarmed by the Windows Firewall.
  In this case, select "Do not block" and proceed to the next step.
  If you select "Block", the multicast stream will be blocked by the Windows Firewall. The viewer cannot play back multicast data.

Encoder

Select the encoder No. for streaming.
[Set values: ●No.1, No.2, No.3]

Memo :
- When [Protocol] is set to "RTP(Multicast)", you need to specify [Multicast IP Address] and [Multicast Port] as well.
  (☞ p.100 [[Multicast] Settings])

Compression format and Framesize

Displays the compression format of the stream and the resolution of the frame size.

Display Size

Sets a display size of image area.
- Fixed:
  Sets the image display size to the same as the preset frame size. For frame size setting, see [Encoding] page of [Advanced Settings].
  (☞ p.52 [[Encoding] Page])
- Variable:
  Displays images according to the Web browser's window size.
[Set values: Fixed, Variable]

Memo :
- The window size of the Web browser does not change even if you select the "Fixed" or "Variable" display size.

Details

Opens the Settings page. The display page varies depending on the access authorization of the user.
- admin: [Basic Setting1] Page
- operator: [Basic Setting2] Page
- user: [Miscellaneous] Page
  (☞ p.43 [How to Open the Settings Page])

REC Display

While recording to the microSD card is in progress, a REC icon appears at the top right corner of the camera's video image.
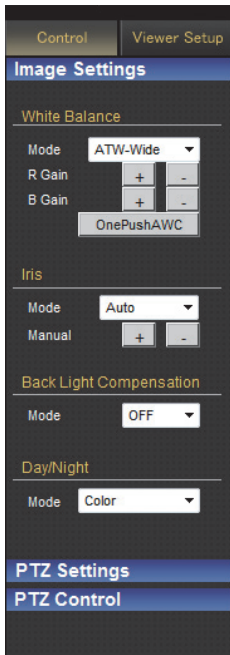
[Control]

[Image Settings] Settings

Adjusts the picture quality.
This page can be used during access using "admin" or "operator".
- While the Viewer Setup Menu is open, click [Control] to switch to the Control Menu. Click [Image Settings] to open the Settings screen.

White Balance

For selecting the white balance control feature.

↳ **Mode**

- ATW-Wide:
  Switches to the Auto-Tracking White Balance (automatic color temperature tracking) Wide mode. Adjusts the white balance automatically according to the color temperature of the light. (Color temperature: 2500 K to 8500 K)
- ATW-Narrow:
  Switches to the Auto-Tracking White Balance (automatic color temperature tracking) Narrow mode. Adjusts the white balance automatically according to the color temperature of the light. (Color temperature: 3200 K to 8000 K)
- ATW-Full:
  The Auto-Tracking White Balance (automatic color temperature tracking) adjusts the white balance automatically in a wide color temperature range according to the color temperature of the lighting.
- AWC:
  Selects the Auto-White Balance Control (AWC) mode.

[Set values: ●ATW-Wide, ATW-Narrow, ATW-Full, AWC]

↳ **R Gain**

Sets the gain of R (red) during AWC.
- [+] button:
  Increases the redness (red level).
- [-] button:
  Decreases the redness (red level).

Memo : ─────────────────────
- Click the [+] or [-] button once to change to the next value. To change the value continuously, click repeatedly. The value will not change if the button remains pressed down.

↳ **B Gain**

Sets the gain of B (blue) during AWC.
- [+] button:
  Increases the blueness (blue level).
- [-] button:
  Decreases the blueness (blue level).

Memo : ─────────────────────
- Click the [+] or [-] button once to change to the next value. To change the value continuously, click repeatedly. The value will not change if the button remains pressed down.

↳ [OnePushAWC] button

Executes AWC (automatic white balance control).

Memo :

- To execute [OnePushAWC], fill the screen completely with a white object in a location with lighting conditions similar to those of the subject you are going to shoot.
- Depending on the subject and lighting condition, you may not achieve the desired white balance even if you have performed [OnePushAWC] once. In this case, perform [OnePushAWC] again.
- Even when white balance is set to "ATW-Wide" or "ATW-Narrow", pressing the [OnePushAWC] button switches the mode automatically to AWC.

Iris

The iris is adjusted automatically when "Auto +1", "Auto", or "Auto -1" is specified. You can also set exposure compensation to ±1 with respect to the auto adjustment value.

↳ Mode

- Auto -1:
  Converges to a level darker than "Auto".
- Auto:
  This setting is used under general circumstances.
- Auto +1:
  Converges to a level brighter than "Auto".
- Manual:
  Click the [+] or [-] button once to change to the next value. To change the value continuously, click repeatedly. The value will not change if the button remains pressed down.

[Set values: Auto -1, ●Auto, Auto +1, Manual]

Back Light Compensation

Set this feature when there is a bright light source in the same direction as the object. Enables unwanted light sources to be excluded from the photometry area.

↳ Mode

- OFF:
  Disables backlight compensation.
- Area 1 to 4:
  Select a photometry area from the four areas.

[Set values: ●OFF, Area 1, Area 2, Area 3, Area 4]

Photometry area

OFF   Area 1   Area 2   Area 3   Area 4
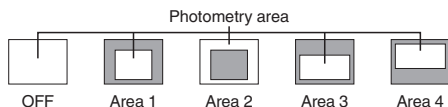
Memo :

- The backlight compensation area is not linked to the electronic zoom.

Day/Night

Sets video to Black & White mode. Also allows you to select from among 3 levels for automatically activating Black & White mode in low-light conditions.

↳ Mode

- Color:
  Keeps color mode activated at all times.
- Black & White:
  Keeps Black & White mode activated at all times.
- Auto Low:
  Switches to Black & White mode when the subject's signal level has a low level of brightness.
- Auto Mid:
  Switches to Black & White mode when the subject's signal level has a medium level brightness.
- Auto High:
  Switches to Black & White mode when the subject's signal level has a high level of brightness.

[Set values: ●Color, Black & White, Auto Low, Auto Mid, Auto High]

Memo :

- The mechanical sound of the infrared filter insertion/removal can be heard when the mode switches.
- If you set "Auto Low", "Auto Mid", or "Auto High", the camera immediately switches modes when the set amount of illumination is detected.

[PTZ Settings]

This item sets the pan/tilt/zoom (PTZ) functions.
This page can be used during access using
"admin" or "operator".
- While another menu is open, click [Control],
  followed by clicking [PTZ Settings] in the
 operation menu to open the setting screen.

Preset Position

Sets the camera preset position.
- Point the lens in the shooting direction using the
  pan, tilt, or zoom operation. Select a position
  number, followed by inputting a position title.
  Next, click [Register] to register the position. The
  position number is used for alarm trigger,
  moving to a specific position, and the position
  settings of Auto Patrol.
- When [Auto Flip] is set to "Digital Flip", preset
  positions cannot be registered when the tilt
  angle is more than 90 degrees.
  (☞ p.68 [Auto Flip])

Memo :
- This product enables setting up to 100 preset
  positions, including HOME and 1 to 99.
- When setting preset positions and [Pan Limit] is
  "ON", pan operation is unavailable in the
  prohibited areas.
- As moving preset positions has priority over pan
  limit, set the preset positions when [Pan Limit] is
  "OFF". After that, when [Pan Limit] is set to "ON",
  the camera will pan regardless of the prohibited
  areas.
- Items that are stored in the preset position
  include pan, tilt, zoom, focus, position title, white
  balance, iris, and backlight compensation.
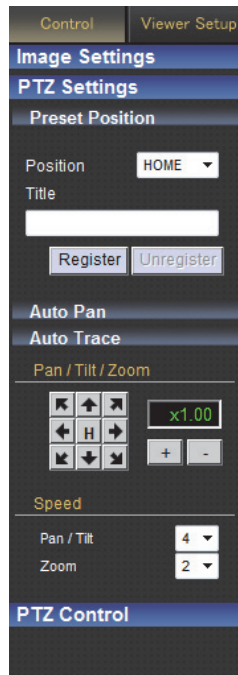
Position

Selects a Position.
[Set values: HOME, 1 to 99]

Title

Displays the current title.
- [Title]:
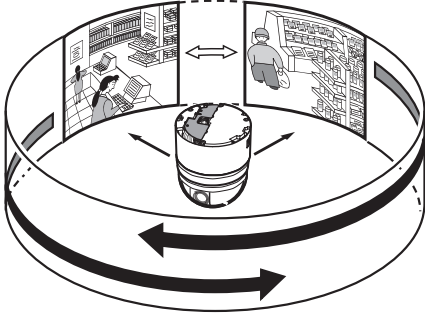 To register or change the title, enter a title here.
  (You can input up to 32 characters. However,
  the JPEG Viewer only supports display up to 16
  characters.)
- [Register] button:
  Click to complete registration of the new
  position.
- [Unregister] button:
  Click to delete information on the selected
  position.

Memo :
- Note that you cannot delete the [HOME]
  position.

Operation

Auto Pan

Specifies the auto pan settings. This item sets the Auto Pan operation which moves at a specific speed from the preset [Start].
- Click [Auto Pan] in the operation menu to open the setting screen.
- When you click the [Apply] button, the settings selected for [Mode] and [Speed] become valid on the viewer, and they are stored in the computer.

Mode

Select the [Mode] of the auto pan operation.
- Right:
  Rotate the camera horizontally in the right direction from the [Start].
- Left:
  Rotate the camera horizontally in the left direction from the [Start].
- Return:
  Move between [Start] and [Return] in the clockwise direction from the [Start] toward the [Return].
  You can specify any random position as the start and return positions except under the following conditions.
  - Tilt angle of 90 ° or larger
    (An error message appears if the angle is set to 90 ° or larger.)

Memo : ─────────────────────
- If the zoom ratio between the [Start] and [Return] is different from each other, linked operations between zoom and pan/tilt may not be even.

Speed

Select the auto pan operation speed.
[Set values: Low, Middle, High]

Start, Return

Select the [Start] and [Return] (only during "Return") of the operation. Pan, tilt, or zoom the camera manually, decide on a position, and click [Set] to register.
- [Set]:
  Complete the Auto Pan settings.
- [GoTo]:
  Move to the registered position.

Memo : ─────────────────────
- For details on manual pan, tilt, and zoom operations, refer to the following.
  (☞ p.98 [Pan / Tilt / Zoom])

Auto Trace

For setting Auto Trace. This item stores and reproduces manual operations of the camera.

- Click [Auto Trace] in the operation menu to open the setting screen.
- As Auto Trace performs simple saving of manual operation, the position may be slightly misaligned during playback.
- Digital Flip in [Auto Flip] cannot be used during Auto Trace recording.

State

- [Record Start]:
  The camera will start recording of Pan/Tilt and Zoom operations. (for approximately 30 seconds)
- [Record Stop]:
  Click this when a recording operation is complete.

Memo : ─────────────────────

- For details on manual pan, tilt, and zoom operations, refer to the following.
  (☞ p.98 [Pan / Tilt / Zoom])

↳ [State] Display

The current status is displayed.
- Standby:
  The camera is on standby. [Record Stop] is invalid.
- Recording:
  The camera is recording. Click [Record Stop] to finish recording. "Completed" will be displayed.
- Completed:
  Recording is completed. After "Completed" is displayed for three seconds, "Standby" will be displayed.
- Timeout:
  30 seconds has passed since recording started. (Operation for the 30 seconds has been recorded.) After "Timeout" is displayed for three seconds, "Standby" will be displayed.
- Memory Full:
  The operation has exceeded the number of recordable operations. Further recording cannot be made even if it is within 30 seconds. (Operations before the limit are recorded.) After "Memory Full" is displayed for three seconds, "Standby" will be displayed.

Pan / Tilt / Zoom

- Pan / Tilt operation:
  Press the arrow buttons to move the display area in the direction indicated by the arrow. Release the button to stop the movement.
  Press the [H] button to move to the home position.
- Zoom operation:
  Use this function to perform zoom operation on the display area.
  [+]: Zooms in and enlarges an object.
  [-]: Zooms out and reduces an object.
- Scale display:
  Displays the current magnification.

Memo : ────────────────

- You can restrict the magnification of an object using the [+] button by altering the [EZoom Limit] settings.
  (☞ p.67 [EZoom Limit])
- You can manipulate zooming by rotating the mouse wheel.
- You can operate the Pan, Tilt and Zoom functions using a mouse. If you click the mouse on the screen, the clicked spot will be the center of the display area. (Click on Center)
- If "Click on Center" is not functioning properly, set the magnification to "100%" by clicking the magnifying glass icon at the bottom right of the window in the case of Internet Explorer 8, or the settings icon at the top right corner in the case of Internet Explorer 9 and Internet Explorer 10. If doing so does not resolve the problem, set [Protocol] of Built-in Viewer to "HTTP(Unicast)", and [Encoder] to "No.1".
  (☞ p.91 [Built-in Viewer Screen Configuration])

Speed

Sets an operation speed.

↳ Pan / Tilt

Controls the speed of [Pan / Tilt] operation. A larger value increases the operation speed.
[Set values: 1 to 8]

↳ Zoom

Controls the speed of [Zoom] operation. A larger value increases the operation speed.
[Set values: 1 to 4]

[PTZ Control]

Operates the pan/tilt/zoom (PTZ) function. Operate the camera to adjust the direction, angle and focus. This page can be used during access using "admin" or "operator".

- While another menu is open, click [Control], followed by clicking [PTZ Control] in the operation menu to open the control screen.
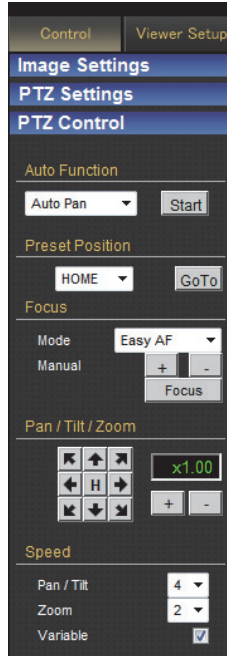
Auto Function

Select an Auto action, and press the [Start] or [Stop] button.

- [Start] button:
  Start the selected Auto function.
- [Stop] button:
  Stop the running Auto function.

Selectable Auto functions

- Auto Pan:
  Performs the configured auto pan operation.
  (☞ p.95 [Auto Pan])
- Auto Patrol 0 to 2:
  Perform the preset Auto Patrol operation corresponding to the selected number. Repeats from the beginning after the series of operations are complete.
  (☞ p.69 [[Auto Patrol] Page])

- Auto Trace:
  The configured Auto Trace operation is performed. Returns to the starting position after completing the series of operations, and resumes after 30 seconds.
  (☞ p.96 [Auto Trace])

Note :

- When the [Mode] item of [Auto Return] is set to "Auto Patrol" and Auto Patrol starts in this screen, the "Auto Patrol" mode of [Auto Return] will be changed to the mode that was started in this screen.
  (☞ p.69 [[Auto Patrol] Page])
- If Auto Return function is set, Auto function that was started manually is stopped when Auto Return starts.

Preset Position

Select a preset position, and press the [GoTo] button. When the selected position has been registered, the camera will move to the selected position.
[Set values: HOME, 1 to 99]

Memo :

- This product enables setting up to 100 preset positions, including HOME and 1 to 99.
- For details about the preset position, see the [PTZ Settings] page.
  (☞ p.94 [Preset Position])

Focus

Adjust the focus.

↳ Mode

Shows the current mode.

- Easy AF:
  Auto Focus (AF) will activate automatically after the pan or tilt function is operated manually. This is convenient as you need not reset the focus every time you move the camera when there are many manual operations.
- Manual:
  - Click the [+] or [-] button to adjust the focus manually.
    The focus will change while the [+] or [-] button is being pressed. It will stop when the button is released.
  - Click the [Focus] button to focus automatically in 1 second.

Memo :

- Pressing the [+], [-] or [Focus] button releases the Easy AF mode and activates the Manual mode.
- The "Easy AF" function may not focus properly for some objects. In this case, set the focus manually.

Pan / Tilt / Zoom

For performing manual pan, tilt, and zoom operations.

- Pan / Tilt operation:
  Press the arrow buttons to move the display area in the direction indicated by the arrow. Release the button to stop the movement.
  Press the [H] button to move to the home position.
- Zoom operation:
  Use this function to perform zoom operation on the display area.
  [+]: Zooms in and enlarges an object.
  [-]: Zooms out and reduces an object.
- Scale display:
  Displays the current magnification.

Memo :

- You can restrict the magnification of an object using the [+] button by altering the [EZoom Limit] settings.
  (☞ p.67 [EZoom Limit])

Speed

Sets an operation speed.

↳ Pan / Tilt

Controls the speed of [Pan / Tilt] operation. A larger value increases the operation speed.
[Set values: 1 to 8]

↳ Zoom

Controls the speed of [Zoom] operation. A larger value increases the operation speed.
[Set values: 1 to 4]

↳ Variable

This function adjusts the Pan/Tilt operation speed by the zoom ratio. Select the checkbox to slow down at the Tele end and to move quickly at the Wide end. Deselect the checkbox to move the camera at a constant speed configured in Pan/Tilt regardless of the zoom ratio.

[Viewer Setup]

[Unicast] Settings

You can set the HTTP port and the JPEG frame rate in Unicast.
This page can be used during access using "admin" or "operator".

- When the Control Menu is open, click [Viewer Setup] to switch to the Viewer Setup Menu.
- Click [Unicast] to open the Settings screen.
- When you click the [Apply] button, the current settings are made valid on the viewer and they are stored in the computer.
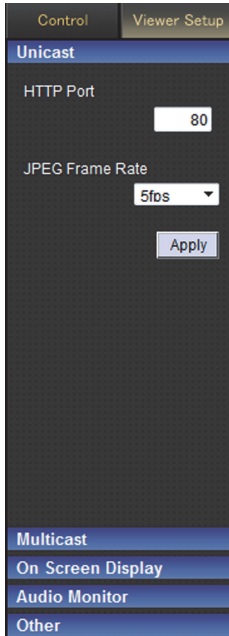
HTTP Port

You can change the port number to be used when the client computer accesses to the camera via HTTP.
Set to the same value as [HTTP Server Port] of the [Protocol] page.

(☞ p.75 [[Protocol] Page])

[Factory default: 80]

JPEG Frame Rate

Sets a frame rate for image acquisition by the viewer.
A high frame rate increases the amount of data processed by the computer where the viewer is running.

[Set values: 30 fps, 15 fps, 10 fps, 7.5 fps, 6 fps, ●5 fps, 3 fps, 2 fps, 1fps, 1/2 fps, 1/3 fps, 1/5 fps, 1/10 fps, 1/15 fps, 1/20 fps, 1/30 fps, 1/60 fps]

Note :

- Set the JPEG frame rate so that the CPU load of the computer does not exceed 80 %.
  If the CPU is overloaded, the computer may not function properly.
- The highest frame rate for images is the camera's encoding setting.
  (☞ p.52 [Framerate])

Operation

[Multicast] Settings

You can set the individual IP address and multicast port for video images and audio received via multicast.
This page can be used during access using "admin" or "operator".

- When the Control Menu is open, click [Viewer Setup] to switch to the Viewer Setup Menu.
- Click [Multicast], followed by clicking [Video] or [Audio] to open the setting screen.
- When you click the [Apply] button, the current settings are made valid on the viewer and they are stored in the computer.

Video

Multicast IP Address

You can change the multicast IP address.
[Factory default: 225.0.1.1]

Multicast Port

You can change the multicast port number.
[Factory default: 49152]

Memo : ─────────────────────────────
- Set the multicast IP address and multicast port to the same value specified for the destination address and destination port respectively in the [Multicast] page.
  (☞ p.77 [[Multicast] Page])

Audio

Multicast IP Address

You can change the multicast IP address.
[Factory default: 225.0.3.1]

Multicast Port

You can change the multicast port number.
[Factory default: 39152]

Memo : ─────────────────────────────
- Set the multicast IP address and multicast port to the same value specified for the destination address and destination port respectively in the [Multicast] page.
  (☞ p.77 [[Multicast] Page])

[On Screen Display] Settings

Sets a display item on the viewer screen.
For the Built-in Viewer, characters are displayed as overlay on the video image.
This page can be used during access using "admin" or "operator".

- When the Control Menu is open, click [Viewer Setup] to switch to the Viewer Setup Menu.
- Click [On Screen Display] to open the Settings screen.
- When you click the [Apply] button, the current settings are made valid on the viewer and they are stored in the computer.
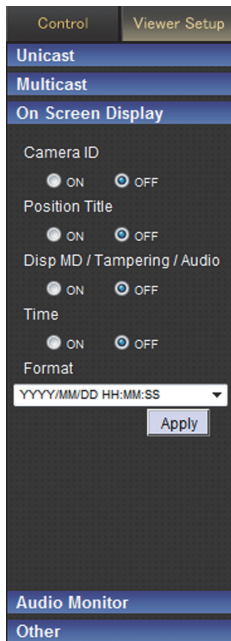
Camera ID

When "ON" is selected, the [Camera ID] is displayed at the top of the screen.
You can set the [Camera ID] from the camera's [Basic Setting2] or [Camera] Page.
(☞ p.46 [[Basic Setting2] Page])
(☞ p.48 [[Camera] Page])
[Set values: ON, ●OFF]

Position Title

When "ON" is selected, the position title is displayed in the lower left of the screen.
[Set values: ON, ●OFF]

Disp MD / Tampering / Audio Detection

Selecting "ON" displays a red frame around the area in the video image where Disp MD / Tampering or Audio Detection is detected.
[Set values: ON, ●OFF]

Time

Set to "ON" to display the time.
Displays the time information stored in the JPEG data or stream data at the bottom right of the screen.

* Stream data: Stream data encoded with H.264 Baseline or H.264 High.

[Set values: ON, ●OFF]

Memo :

- You can display the time at the bottom right corner of the screen by setting Time under [Viewer Setup] of the Built-in Viewer to "ON".
  Normally, the characters are displayed in white. If the level of performance is not sufficient for decoding and displaying the received video, the time display on the Built-in Viewer screen may appear in a different color. This is part of the design specifications, and is not a malfunction.
- If the time is not displayed in white, try lowering the parameters such as the frame size and frame rate of the encoder corresponding to the video displayed on the Built-in Viewer to reduce the load on the computer.
  For details about encoding settings, refer to the following.
  (☞ p.52 [[Encoding] Page])

Format

Selects a time display format. YYYY, MM and DD denote the year, month and days. HH, MM and SS are hours, minutes and seconds. mm is 1/100 seconds.
[Set values: YYYY/MM/DD HH:MM:SS.mm, YYYY/MM/DD HH:MM:SS, DD/MM/YYYY HH:MM:SS, MM/DD/YYYY HH:MM:SS, MM/DD HH:MM:SS, HH:MM:SS, HH:MM]

Operation

[Audio Monitor] Settings

For specifying settings related to audio transmission on the Built-in Viewer.
This page can be used during access using "admin" or "operator".

- When the Control Menu is open, click [Viewer Setup] to switch to the Viewer Setup Menu.
- Click [Audio Monitor] to open the setting screen.
- When you click the [Apply] button, the current settings are made valid on the viewer and they are stored in the computer.

Note :

- If you select "RTP(Multicast)" and start the Built-in Viewer, a Windows Firewall warning may appear. In this case, select "Do not block" and proceed to the next step.
  If you select "Block", the multicast stream will be blocked by the Windows Firewall, and audio cannot be received by the client computer.
- Audio transmission cannot be performed if an audio driver is not installed on the computer.

Receive

For specifying settings related to reception of audio distributed by the camera.
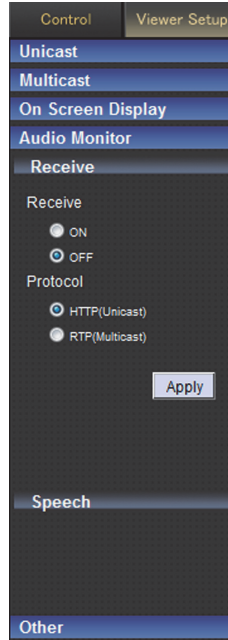
Receive

For setting whether to enable audio reception. To receive audio, select "ON".
[Set values: ON, ●OFF]

Protocol

For selecting the streaming format for the audio to be received.

- HTTP(Unicast):
  If a packet is lost, the packet data is transmitted again and recovered.
- RTP(Multicast):
  Allows multiple client computers to monitor the audio of the camera.

[Set values: ●HTTP(Unicast), RTP(Multicast)]

Memo :

- During multicast reception, start multicast transmission on the [Multicast] page.
  (☞ p.77 [[Multicast] Page])

Speech

For specifying settings related to audio transmission from a computer to the camera.

Destination Port

You can change the destination port for audio transmission from the computer to the camera. The default port number setting is 49298.

[Other] Settings

When you are using the JPEG data compression, you can record still images.
You can rename the folder which stores a captured file.
This page can be used during access using "admin" or "operator".

- When the Control Menu is open, click [Viewer Setup] to switch to the Viewer Setup Menu.
- Click [Other] to open the Settings screen.
- When you click the [Apply] button, the current settings are made valid on the viewer and they are stored in the computer.

Folder Name

To change the name of the folder for storing captured files, enter the folder name.
[Factory setting (during installation of viewer): Model]
(For example, the folder name is "VN-H657WPB" in the case of VN-H657WPBU.)

[microSD Card] Operation Screen

Clicking the [SD Card] button on the Built-in Viewer screen displays the operation screen of the microSD card. On the microSD card operation screen, you can play back videos stored in the microSD card. These videos can also be saved to a computer.

Memo :
- To play back data on the microSD card, start by selecting the video to start playback from the [Specified Time Playback(Y/M/D-h:m:s)] or [Event List Playback] menu.
- Videos stored in the microSD card of one camera cannot be played back on multiple units of Built-in Viewer at the same time.
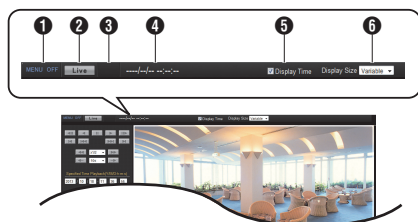
A **MENU OFF / MENU ON**
Displays or hides the operation menu.
Clicking [MENU OFF] closes the menu on the left of the page. Click [MENU ON], and the operation menu will appear at the left of the page.

B **[Live] button**
Switches to the Built-in Viewer screen.

C **"Playing" display**
The playback status is indicated with an icon.

D **Time stamp**
Displays the date and time the currently playing video is recorded.

E **Display Time**
For specifying whether to display or hide the recording date/time on the video during playback.

F **Display Size**
For setting the size of the video display area.
- Fixed:
  Displays images in the preset pixel count.
- Variable:
  Displays images according to the window size.
[Set values: Fixed, Variable]
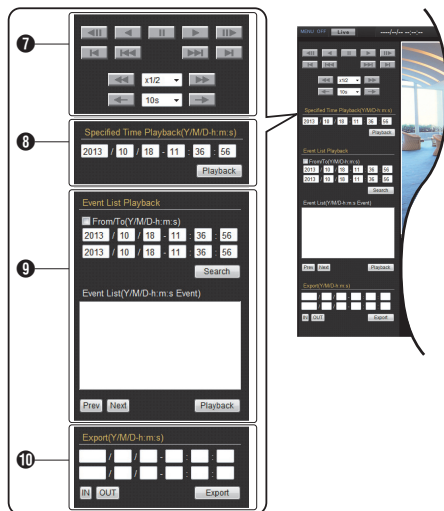
G Video control menu
Controls video playback.
For descriptions on the individual buttons, refer to the "List of Video Control Menu Buttons".
(☞ p.106 [List of Video Control Menu Buttons])

H [Specified Time Playback(Y/M/D-h:m:s)] Menu
In the default setting, the current date/time is input. Enter the date/time to start recording.
- [Playback] button:
  Clicking the [Playback] button plays back videos recorded on the specified date/time.

Memo :
- If there are no videos recorded on the specified date/time, the one that is closest to the date/time is chosen from the available videos and played back.
- The [Specified Time Playback(Y/M/D-h:m:s)] menu is intended for checking the video at the date/time you have entered. It is not a function that is designed for monitoring. Refrain from continuous playback for a prolonged period of time.

I [Event List Playback] Menu
Narrows down the number of recorded videos and displays the search result in a list. Select a video to play back from the displayed list.
- From/To(Y/M/D-h:m:s):
  Narrows down the videos to those within the specified date/time range.
- [Search] button:
  Displays the search result in a list based on the selected criteria. All events are displayed if none of the checkboxes are selected.

Operation

- List Details:
  Displays the "Starting Date/Time" and "Event Type" in sequence for events starting from the recording with the latest starting date/time.
- [Prev] / [Next] button:
  Up to 100 events can be displayed on a single page. Press the [Prev] button to move to the page with the latest starting date/time, and press the [Next] button to move to a page with older events.
- Playback button:
  Select an event from the list, and press the [Playback] button to start playback.

Memo : ─────────────────────

- One of the parameters below, which is specified during alarm recording, is displayed as the event trigger: "Input1", "Input2", "Motion Detection", "Position", "Black&White", "Color", "Audio Detection1", "Audio Detection2", "Tampering Detection", "Time", "Backup".
  (☞ p.65 [Alarm Settings])

Note : ─────────────────────

- After playback of an event has ended, playback of the next event starts automatically (the event marker displayed in the list does not move).
- When a video at a specific starting date/time has been overwritten, the event will not appear in the list. However, you can make use of [Specified Time Playback(Y/M/D-h:m:s)] to play back the remaining parts of the video that are not overwritten.

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⑩ [Export(Y/M/D-h:m:s)] Menu
  Saves the video specified from [IN] to [OUT] to the computer.
  You can specify where to save the video in [Viewer Setup]-[Other]-[Folder Name] of the Built-in Viewer screen.
  (☞ p.103 [[Other] Settings])

Note : ─────────────────────

- The video data that is saved may be split into several files depending on the recording status in the camera.
- If [Export] is executed while microSD card recording is in progress, an error message may appear. In this case, set [microSD Card Recording] to "OFF", and execute export again.

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- [IN] button:
  Inputs the time of the video that is currently playing automatically into the date/time entry field. (upper)
- [OUT] button:
  Inputs the time of the video that is currently playing automatically into the date/time entry field. (lower)

- [Export] button:
  Pressing the button displays a confirmation screen and saves the video.
  While saving of the video is in progress, the button switches to a [Cancel] button display.

Memo : ─────────────────────

- You cannot switch the Built-in Viewer screen while saving of a video is in progress.
- The time needed to save the video varies according to the duration of the video. The progress is shown at the top of the screen.

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- [Cancel] button:
  Click this button to stop saving of the video that is currently being output.
  Data up to the point the button is pressed will be created into a file.

Memo : ─────────────────────

- After output is stopped, the button switches to the [Export] button display.
- If the duration of the video to be stored on the computer is short, the process may not stop even if the button is pressed.

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⑪ Video display area
  Displays recorded videos.

⑫ Time stamp
  Displays the date and time the currently playing video is recorded. You can use ⑤[Display Time] to display or hide the time stamp.

List of Video Control Menu Buttons

❶ ❷ ❸ ❹ ❺

❻ ❼ ❽ ❾ ❿ ⓫ ⓬ ⓭ ⓮ ⓯

❶ ◀‖
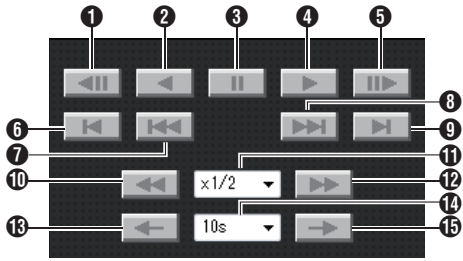
Moves back to the previous I-frame and pauses playback.

❷ ◀

Starts reverse playback.

❸ ‖

Pauses playback.

❹ ▶

Starts playback.

❺ ‖▶

Advances to the next video frame and pauses playback.

❻ ◀

Returns to the oldest video recording and pauses playback.

❼ ◀◀

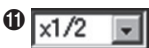Jumps to the video of the previous alarm event.

❽ ▶▶

Jumps to the video of the next alarm event.

❾ ▶

Advances to the latest video and pauses playback.

❿ ◀◀

Performs fast reverse at the speed specified in ⓫.

⓫ x1/2 ▼

For selecting a speed for fast forward in ⓬ or fast reverse in ❿.
[Set values: ●x1/2, x1, x3, x10, x30, x60]

⓬ ▶▶

Performs fast forward at the speed specified in ⓫.

⓭ ◀

Moves in the reverse direction by the amount of time specified in ⓮ and pauses playback.

⓮ 10s ▼

For selecting the amount of time to move in ⓭ and ⓯.
[Set values: ●10s, 15s, 30s, 1m, 10m, 30m, 1h, 6h, 12h, 24h]

⓯ ▶

Moves in the forward direction by the amount of time specified in ⓮ and pauses playback.

Memo :

- To play back data on the microSD card, start by selecting the video to start playback from the [[Specified Time Playback(Y/M/D-h:m:s)] menu] or [[Event List Playback] menu].
- After playback of an event has ended, playback of the next event will start automatically.
- For buttons other than ❹, ❺, and ⓬ (and ⓫ when it is set to "x1/2" or "x1"), only I-frames are displayed.
- If the camera does not return to the oldest video recording when ❻ is clicked, press the button again.
- Pressing the ❼ or ❽ button jumps only to an alarm event video. You cannot jump to a continuous recording event and Network outage event.
- When you jump through the image using button ⓭ or ⓯, there may be a difference of up to one second with respect to the length of time specified in ⓮.
  (☞ p.64 [[microSD Card Recording] Page])
- Playback and movement in the reverse direction can only be performed in I-frame units.

Operation

Exiting Built-in Viewer

Click the [×] button at the right top corner of the window to exit the viewer.
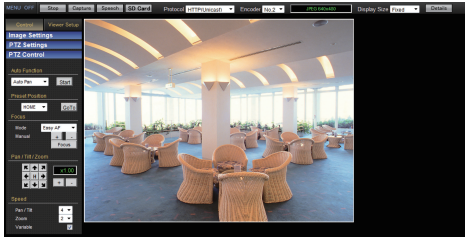
Memo :
- When you start the Built-in Viewer the next time, start up Internet Explorer and enter the URL of the Built-in Viewer into the address bar.
  For example, if the IP address of the camera is 192.168.0.2, enter the URL as follows:
  http://192.168.0.2/
- After the "Security Settings" screen appears, press the [YES] button to proceed.

Troubleshooting

▢ : Symptom

▢ : Possible Causes and Actions Taken

No video image. / Power does not turn on.

Is there any problem with the power cable for connecting this product to the power supply unit? (If the cable is too long or thin, this may increase the resistance and prevent the voltage from being properly supplied.)
→Connect using a cable with a thickness/length specified for this product.
(☞ p.25 [Installation and Connection Preparations (VN-H657BU)])
(☞ p.35 [Mounting the Camera (VN-H657WPBU)])

Is the lens cap attached?
→Remove the lens cap.

Is the port number to be used when the client computer accesses to the camera via HTTP correctly specified?
(If the port number is incorrect, the Built-in Viewer menus will be displayed, but videos will not appear, and a "Connection is failed" message will be displayed instead.)
→Set the HTTP port value for the Built-in Viewer to the same value specified for the HTTP server port on the camera's Protocol page.
(☞ p.76 [[Protocol] Page])
(☞ p.99 [[Unicast] Settings])

The power does not turn on even when PoE Plus is used to supply power.

Is connection established using a PoE Plus (compliant with IEEE802.3at Type 2) power supply device and a LAN cable of Category 5e or higher?
→Check the cable. For some PoE Plus power supply devices (such as a hub), power will not be supplied when the number of PoE/PoE Plus terminals connected exceeds the limit of the total electrical power that can be supplied. For more information, please refer to the instruction manual of the PoE Plus power supply device.

The power of the camera turns off when VN-H657WPBU is used in an environment under -10°C.

→Check to ensure that the ON/OFF switch of the heater is set to ON.

→When power is supplied using PoE Plus, the heater will not work. Connect the VN-H657WPBU to an AC 24 V power supply when using it in an environment under -10°C.

Power turns on, but shuts down once the camera starts rotating.

Is the adhesive tape attached during shipment detached? Is there any foreign object inside the product that prevents the camera from rotating? If the camera unit is unable to rotate when you try to turn it, the power will shut down automatically to protect the equipment.
→Remove the adhesive tape attached during shipment, and check whether the camera unit rotates by turning it manually.
(☞ p.10 [Transportation])

Is there any problem with the power cable for connecting this product to the power supply unit? (If the cable is too long or thin, this may increase the resistance and prevent the voltage from being properly supplied.)
→Connect using a cable with a thickness/length specified for this product.
(☞ p.25 [Installation and Connection Preparations (VN-H657BU)])
(☞ p.35 [Mounting the Camera (VN-H657WPBU)])

I do not know the IP address of the camera.

If no changes have been made to the factory default settings, the IP address is 192.168.0.2, and the subnet mask is 255.255.255.0.

If you have set the [IP Setting] to "DHCP Enable" and if you start the camera on the LAN where no DHCP server exists, you can start the camera with the factory default IP address.

→If you have a computer connected to the same LAN, search for the IP address using "JVC-VN-SearchTool" on the computer.

Others

I cannot display the Settings page of the camera.

→Check the current settings of Internet Explorer. When a proxy server is in use, configure the proxy server settings of the Internet Explorer accordingly.

Cannot find the menu items and operating items of the Built-in Viewer described in the instruction manual.

Is the firmware updated?
→Check out the latest firmware from our website and update the firmware as necessary. (☞ p.9 [Updated Information])

Unable to install Built-in Viewer/a warning message appears when I start the Built-in Viewer.

→Check the current settings of Internet Explorer. The Built-in Viewer consists of a software component called ActiveX. The ActiveX is usually installed when the Built-in Viewer is used for the first time. However, installation may be rejected depending on the anti-virus software settings. In this case, change the settings of the anti-virus software before installing the Built-in Viewer.

When I install the Built-in Viewer, authentication by VeriSign appears.

The Built-in Viewer has an electronic signature for authentication by VeriSign.
If computers are connected to the Internet in the network environment, the digital certificate of the Built-in Viewer can be checked by VeriSign authentication.

A white zone appears in the Built-in Viewer.

For some computers, if [Start]-[Control Panel]-[Adjust screen resolution]-[Make text and other items larger or smaller] is set to "Medium - 125%" or "Larger - 150%", some parts of the Internet Explorer may be left white with no graphics.
→If this occurs, perform setting as follows. Set [Start]-[Control Panel]-[Adjust screen resolution]-[Make text and other items larger or smaller] to "Smaller - 100% (default)".

A part of the image disappears when the Internet Explorer screen display is changed from 100% to a different magnification.

The display may disappear depending on the version of the Internet Explorer.
→Exit Internet Explorer, and launch it again.

No sound is heard from the microphone to which the audio cable of the camera is connected.

→Check the connection with the microphone.

Is audio transmission in progress?
(When Communicate on the [Audio] page is set to Half Duplex, audio sound cannot be received from the microphone to which the audio cable is connected while audio transmission is in progress.)
→The color of the button turns orange during audio transmission. In this case, click the Speech button to stop audio transmission. (☞ p.90 [Speech])

Is [Receive] of [Audio Monitor] set to "OFF"?
→The factory default is "OFF", and audio reception is not possible in this state. Change the [Receive] of [Audio Monitor] to "ON". (☞ p.102 [Receive])

Videos sent via TCP do not play.

The camera can transmit a maximum of 40 videos via TCP, and a maximum of 20 Built-in Viewer can be connected to 1 camera.

If [Priority] of [JPEG Streaming] is set to the "Framerate" mode, the frame rate requested by the clients are kept, but the maximum number of streams is reduced.

Others

Multicast images do not play.

→Start manual multicast transmission from the [Multicast] page of the camera.
(☞ p.77 [[Multicast] Page])

→During multicast reception on the Built-in Viewer, check to ensure that [Destination Address] and [Destination Port] in the [Multicast] page of the camera coincide with [Multicast IP Address] and [Multicast Port] of the Built-in Viewer. Also, use multicast streaming on a network that supports IGMPv2.
(☞ p.77 [[Multicast] Page])
(☞ p.100 [[Multicast] Settings])

Multicast streaming may be blocked by the Windows 7 Firewalls. In that case, you can go through the firewalls as follows.

① Select [Start]-[Control Panel]-[System and Security].

② Open [Check firewall status] under [Windows Firewall].

③ Open the [Advanced] menu and select [Inbound Rules]-[New Rule].

④ In [New Inbound Rule Wizard], select "port" in [Rule type].

⑤ In [Protocols and Ports], enter the port number for "Specific local ports".

⑥ Select "Allow the connection" in [Actions].

⑦ Select applicable conditions in [Profile].

⑧ Register an arbitrary character string for the "Name" in [Name].

If your computer has multiple network cards, disable the network cards to which the camera is not connected. You can perform this as follows.

① Select [Start]-[Network Connections].

② Right-click on the connection(s) not used for the camera, and select "Disable".

The frame rate of displayed videos is low.

→If the Built-in Viewer is in use, check the Built-in Viewer settings.

If the network has a narrow bandwidth, the frame rate will be limited.

If [Priority] of [JPEG Streaming] is set to the "Client Number" mode, and if the number of streaming requests increases, the images are distributed at a frame rate lower than the preset rate.

If the distribution capability is exceeded, images are distributed at the lower frame rate so that the upper quantity limit of distribution data is not exceeded.

The image displayed is not smooth.

The camera image may not appear smooth at times due to factors such as fluctuations in the CPU and memory load, or network jitter.
Also, distribution capability may deteriorate during recording to the microSD card, or playback or video output from the card.
→Lower the [Framesize], [Framerate], and [Bitrate], and check the image again.
(☞ p.52 [[Encoding] Page])

When 3D DNR is used, an afterimage appears.

When you use 3-dimensional noise reduction, in principle, an afterimage can appear if you shoot a moving object, however it is not a camera malfunction.

Others

I cannot receive an alarm via TCP/UDP.

The port may be blocked by the Windows Firewall.
→Execute the following operation for the firewall of the Windows environment on your PC.

① Select [Start]-[Control Panel]-[System and Security].

② Open [Check firewall status] under [Windows Firewall].

③ Open the [Advanced] menu and select [Inbound Rules]-[New Rule].

④ In [New Inbound Rule Wizard], select "port" in [Rule type].

⑤ In [Protocols and Ports], enter the port number for "Specific local ports".

⑥ Select "Allow the connection" in [Actions].

⑦ Select applicable conditions in [Profile].

⑧ Register any character string for the "Name" in [Name].

→For more information on the firewall for the network you are using or if you are still unable to resolve the issue with the above operation, please consult your network administrator or installation technician.

Characters of the file name registered in the FTP server are garbled.

→When double-byte characters are to be used for the file name, make use of an FTP server for which the character code is EUC-JP.

Files are not saved to the computer when you pressed the [Capture] button of the Built-in Viewer, or the [Export] button of the [Export(Y/M/D-h:m:s)] menu.

→Run the Internet Explorer as an administrator. You can perform this as follows.

① Right-click Internet Explorer.

② Select [Run as administrator].

The camera pans automatically

When [Auto Cleaning] is set to "ON", this is not an abnormality.
→Check the current settings of [Auto Cleaning].
(☞ p.82 [[Maintenance] Page])

Unable to perform pan/tilt/zoom (PTZ) operation.

The network bandwidth may be insufficient.
→Ensure that there is sufficient network bandwidth, and operate in "100 M Full".

Motion detection, audio detection, and tampering detection setting cannot be performed.

Settings for motion detection, audio detection, and tampering detection cannot be specified at the same time. If one of the detection features (motion detection or tampering detection) is currently enabled, an error message will be displayed when you try to enable the other detection feature.
→Check the message displayed, set the currently enabled feature to "OFF", and perform the detection setting again.

A warning message such as "Audio driver is not installed" appears, and audio detection setting cannot be performed.

If there is no valid playback device, the Windows system would assume that an audio driver is not available.
→Enable the playback device.

"Caution : The fan is stopped" appears on the screen.

The internal fan is abnormal. Please consult our service center. Also, stop using this unit and turn off the power.

Others

Unable to record to the microSD card.

→Make use of a microSD card that is usable on this camera.
(☞ p.18 [Compatible microSD Cards])

Recording cannot be performed when a microSD card is not mounted.
→Click the [Mount] button on the [microSD Card Recording] page to mount the microSD card.
(☞ p.63 [[microSD Card Recording] Page])

Video recording and playback cannot be performed when a microSD card formatted on the VN-H37U/VN-H57U series is used.

The microSD cards formatted on the VN-H37U/VN-H57U series cannot be used on this camera. Also, the microSD cards containing videos recorded by this camera cannot be used for recording or playback on the VN-H37U/VN-H57U series.

The microSD operation screen does not refresh.

The screen may not refresh if you move frequently between the microSD card operation screen and the [Advanced Settings] screen.
→Press the [Cancel] button or the Refresh button on the web browser to refresh.

The frame rate of the video recorded in the microSD card is lower than what was specified or fluctuates.

When the Sense Up function is activated, the frame rate of the video recorded in the microSD card is reduced in order to raise the sensitivity level. This leads to a lower or fluctuating playback frame rate as a result.
→To resolve the problem, set Sense Up on the [Camera] page under [Advanced Settings] to a lower value.
(☞ p.50 [[Camera] Page])

During playback from the event list while continuous SD recording is in progress, the time and screen display are not consistent when the ◄◄ button is pressed.

→Press the ◄◄ button again.
(☞ p.106 [[microSD Card] Operation Screen])

The screen turns black or does not change when the ◄◄◄ or ►►► button is pressed.

This may occur when there are contents with different frame size or frame rate settings.
→Press the ►► button once.
(☞ p.106 [[microSD Card] Operation Screen])

Slow pan/tilt/zoom (PTZ) response

If the bit rate setting of the encoder recorded in the microSD card is high, the response may be slow.
→Lower the bit rate setting value of the selected Encoder No. in the encoding setting of microSD card recording.
(☞ p.66 [[microSD Card Recording] Page])

Consumable Parts

The following are consumable parts. They must be replaced once they reach their lifetime.
The lifetime is only an estimation and differs according to the usage environment and conditions.
Replacement of consumable parts is chargeable within the guarantee period.

Consumable Parts	Estimated Lifetime

Camera module
  Zoom operation
  Focus operation
	Approx. 2 million operations
	Approx. 4 million operations

Slip ring	Approx. 5 million operations
Fan	Approx. 50,000 hours
Heater relay (VN-H657WPBU)	Approx. 100,000 operations
Thin coaxial cable	Approx. 3 million operations

* Replace the fan every five years.

Others

Appendix (Restrictions during Multi-encoding)

Possible Encoder No.1 and No.2 Setting Combinations

- During multi-encoding, there is a limit to the total number of pixels per unit time that can be encoded simultaneously by three encoders (total frame size and frame rate processed by each encoder).
- Encoder No.2 cannot be set to a frame size with a resolution higher than that of Encoder No.1.
- If you have selected an invalid combination on the Encode page, a pop-up message indicating that the limit on the total number of pixels per unit time has been exceeded when you press the [OK] button.
- Refer to the table below for the settable Encoder No.1 and No.2 combinations.

			Encoder No.2 settings				
Framesize			1920 × 1080				
		Framerate	30	25	15 - 10	7.5 - 5	3 - 1
Encoder No.1 settings	1920 × 1080	30	—	—	—	—	▲
		25	—	—	—	▲	▲
		15 - 10	—	—	▲	▲	▲
		7.5 - 5	—	▲	▲	▲	▲
		3 - 1	▲	▲	▲	▲	▲
	1280 × 960	30 - 1	—	—	—	—	—
	1280 × 720	30 - 1	—	—	—	—	—
	720 × 480	30 - 1	—	—	—	—	—
	640 × 480	30 - 1	—	—	—	—	—
	640 × 360	30 - 1	—	—	—	—	—
	352 × 240	30 - 1	—	—	—	—	—
	320 × 240	30 - 1	—	—	—	—	—

			Encoder No.2 settings				
Framesize			1280 × 960				1280 × 720
		Framerate	30	25	15 - 10	7.5 - 1	30 - 1
Encoder No.1 settings	1920 × 1080	30	—	—	—	▲	—
		25	—	—	▲	▲	—
		15 - 1	▲	▲	▲	▲	▲
	1280 × 960	30	—	▲	▲	▲	▲
		25 - 1	▲	▲	▲	▲	▲
	1280 × 720	30 - 1	—	—	—	—	▲
	720 × 480	30 - 1	—	—	—	—	—
	640 × 480	30 - 1	—	—	—	—	—
	640 × 360	30 - 1	—	—	—	—	—
	352 × 240	30 - 1	—	—	—	—	—
	320 × 240	30 - 1	—	—	—	—	—

▲ : Encoder No.2 settable, Encoder No.3 not settable
— : Both Encoder No.2 and Encoder No.3 not settable

			Encoder No.2 settings				
Framesize			720 × 480	640 × 480	640 × 360	352 × 240	320 × 240
		Framerate	30 - 1	30 - 1	30 - 1	30 - 1	30 - 1
Encoder No.1 settings	1920 × 1080	30	✓ (*1)	✓ (*1)	✓ (*1)	✓ (*1)	✓ (*1)
		25 - 1	✓ (*2)	✓ (*2)	✓ (*2)	✓ (*2)	✓ (*2)
	1280 × 960	30 - 1	✓ (*2)	✓ (*2)	✓ (*2)	✓ (*2)	✓ (*2)
	1280 × 720	30 - 1	✓ (*2)	✓ (*2)	✓ (*2)	✓ (*2)	✓ (*2)
	720 × 480	30 - 1	✓ (*2)	✓ (*2)	✓ (*2)	✓ (*2)	✓ (*2)
	640 × 480	30 - 1	—	✓ (*2)	✓ (*2)	✓ (*2)	✓ (*2)
	640 × 360	30 - 1	—	—	✓ (*2)	✓ (*2)	✓ (*2)
	352 × 240	30 - 1	—	—	—	✓ (*2)	✓ (*2)
	320 × 240	30 - 1	—	—	—	—	✓ (*2)

✓(*1) : Encoder No.2 settable, Encoder No.3 setting restricted

✓(*2) : Encoder No.2 settable, Encoder No.3 setting restricted

— : Both Encoder No.2 and Encoder No.3 not settable

*1 For example, if Encoder No.1 is set to a frame size of 1920×1080 and a frame rate of 30 fps, Encoder No.3 is operable, but will be subject to restrictions on the settable frame size and frame rate values.
For details, refer to the following.
(☞ p.116 [Restrictions when Encoder No.1 is set to 1920×1080 30 fps])

*2 Encoder No.3 cannot be set to a frame size with a resolution higher than that of Encoder No.1.

Others

Restrictions when Encoder No.1 is set to 1920×1080 30 fps

- When Encoder No.1 is set to a frame size of 1920×1080 and a frame rate of 30 fps,
  Encoder No.3 will be subject to restrictions on the settable values depending on the setting of
  Encoder No.2.
- If you have selected an invalid combination on the Encode page, a pop-up message indicating that the
  limit on the total number of pixels per unit time has been exceeded when you press the [OK] button.
- Please refer to the table below for the maximum settable frame rate corresponding to each frame size
  that is settable for Encoder No.3.

			Settable Maximum Frame Rate for Encoder No.3				
	Framesize		720 × 480	640 × 480	640 × 360	352 × 240	320 × 240
		Framerate					
Encoder No.2 settings	720 × 480	30	—	—	—	—	—
		25	5	5	5	15	15
		15	15	15	15	30	30
		10	15	15	25	30	30
		7.5	15	25	30	30	30
		5	25	25	30	30	30
		3 - 1	25	30	30	30	30
	640 × 480	30	3	3	3	10	15
		25 - 15	7.5	7.5	10	30	30
		10	15	15	30	30	30
		7.5	15	25	30	30	30
		5	25	25	30	30	30
		3 - 1	25	30	30	30	30
	640 × 360	30 - 25	7.5	10	10	30	30
		15	15	15	25	30	30
		10 - 7.5	15	25	30	30	30
		5 - 1	25	25	30	30	30
	352 × 240	30 - 25	15	25	30	30	30
		15	25	25	30	30	30
		10 - 1	25	30	30	30	30
	320 × 240	30 - 25	15	25	30	30	30
		15 - 1	25	30	30	30	30

— : Not settable

For example, if Encoder No.1 is set to 1920×1080 30 fps and Encoder No.2 to 720×480 30 fps, none of
the frame sizes can be set for Encoder No.3, thus it has to be set to "OFF".

Specifications

VN-H657BU and VN-H657WPBU (Common Specifications)

Overall

Alarm input : Non-voltage contact signal input (500ms and above); circuit current during low level: 1 mA and below; applied voltage during high level: DC 3.3 V

Alarm output : NPN open collector output (Allowable applied voltage: DC 20 V; Allowable inflow current: 25 mA)

Number of : Up to 100
preset positions

Camera section

Image pickup : 1/2.8 type CMOS
device

Minimum brightness of object

Color : 0.7 lx (typ.) (50 % output, AGC High, WIDE edge, Black Level Normal, 1/30)

During B&W : 0.3 lx (typ.) (50 % output, AGC High, WIDE edge, Black Level Normal, 1/30)

White balance : ATW-Wide/ATW-Narrow/ ATW-Full/AWC

Electronic : 1/30, 1/50, 1/60, 1/100, 1/250,
Shutter : 1/500, 1/1000, 1/2000, 1/4000, 1/10000, Auto(1/30-1/100), Auto(1/30-1/1000), Auto(1/30-1/8000), Flickerless

Backlight : 4 selectable metering area
Compensation types

Color level : Level adjustable
adjustment

Edge : Horizontal and vertical (level
enhancement adjustable)

Audio section

Audio input : Microphone input ×1
Plug-in power, 2.50 V ± 0.25 V DC (power supply switchable between ON/OFF)
Impedance 2.2 kΩ ± 0.2 kΩ

Input audio : μ-Law (64 kbps), 8-bit
compression quantization, sampling
format frequency 8 kHz, monaural

Audio output : Line output ×1
Maximum output level 1.90 V ± 0.25 V (10 kΩ termination, at 0 dBfs)

Network section

Image : JPEG, H.264 High Profile,
compression H.264 Baseline Profile
format

Frame size : 1920×1080, 1280×960, 1280×720, 720×480 (D1), 640×480, 640×360, 352×240, 320×240

Network : Supports 100 BASE-TX/
interface 10 BASE-T/FULL/HALF/ Auto negotiation

LAN Specifications

Compliant with IEEE802.3 and IEEE802.3u

Communication : IPv4, HTTP, HTTPS, TCP,
protocol RTSP/RTCP/RTP, FTP, SMTP, DHCP, SNTP, SNMP, ICMP, UDP, IGMP, DNS, ARP

Lens section

Zoom ratio : Optical zoom 18 times, digital zoom 10 times

Focal length : 4.7 mm to 84.6 mm

Maximum : F1.6 (WIDE) to F2.8 (TELE)
aperture ratio

Aperture range : F1.6 (Opened fully) to Equivalent to F360

Minimum object : Approx. 1.8 m (TELE)
distance Approx. 0.6 m (WIDE)

Rotation mechanism section

Horizontal : 360 ° Endless rotation
rotation range

Horizontal : Approx. 0.07 °/s to approx.
rotation speed 400 °/s

Vertical rotation : -5 ° to 185 ° (5 ° above horizontal
range level to face bottom to 5 ° above horizontal level)

Vertical rotation : Approx. 0.07 °/s to approx.
speed 400 °/s

microSD card section

microSDHC card (sold separately)
Class10 (or higher) microSDHC card (16 to 32 GB)
Cards with a guaranteed operating temperature of 85 °C or higher are recommended.

File format : MP4 (ISO/IEC 14496-14:2003)

Recording : Max. 1920 × 1080
frame size

Recording : Max. bitrate of 8192 kbps
quality (recommended: 1024 kbps)

Others

VN-H657BU

Overall

Mass : Approx. 2.0 kg
Surrounding : -10 °C to 50 °C (operation)
temperature 0 °C to 40 °C (recommended)
Ambient : 20 %RH to 90 %RH
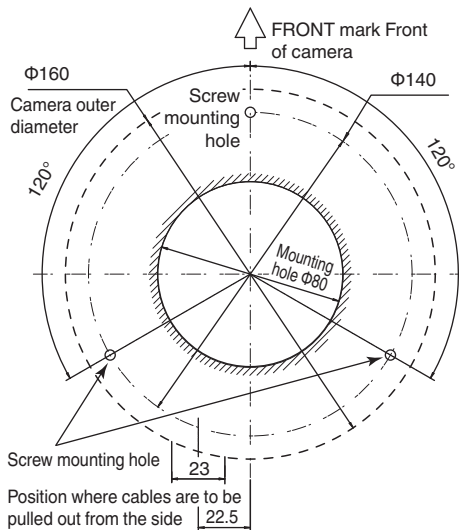humidity (without condensation)

Power source

Supply voltage : AC24 V 50 Hz/60 Hz, or PoE
Plus
Current consumption
AC 24 V power : AC 24 V 1.3 A
supply
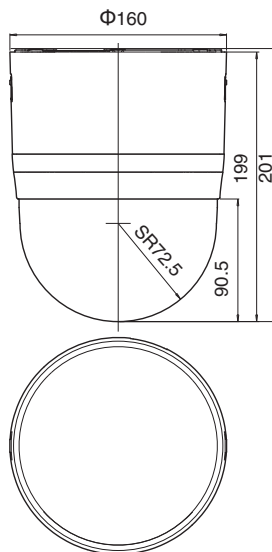Power consumption
PoE power : PoE Plus 18 W
supply

Accessories

INSTRUCTIONS (Installation/IP Address
Settings): 1
Warranty Card (for USA): 1
Template: 1
CD-ROM: 1
Wire Clamp: 1
Audio cable: 1

Ceiling mounting hole [Unit: mm]

Dimension [Unit: mm]

* Specifications and appearance of this unit are
subject to change for further improvement without
prior notice.

Others

VN-H657WPBU

Overall

Mass : Approx. 5.6 kg
Surrounding temperature
When heater is : -40 °C to 55 °C (operation)
in use (*1) -30 °C to 40 °C (recommended)
When heater is : -10 °C to 55 °C (operation)
not in use -10 °C to 60 °C (operation) (*2)
-10 °C to 40 °C (recommended)
Ambient : 20 %RH to 90 %RH
humidity (without condensation)
Dust-proof, : IP66 (IEC60529)
Waterproof

*1 Connect to AC 24 V when using the heater. When the power is turned on in a low-temperature environment (-40 °C to -20 °C), the camera cannot be accessed during the interval (up to two hours) while the interior is being heated up by the built-in heater.
*2 When a PoE Plus power supply is in use, and the microSD card and audio functions are not used.
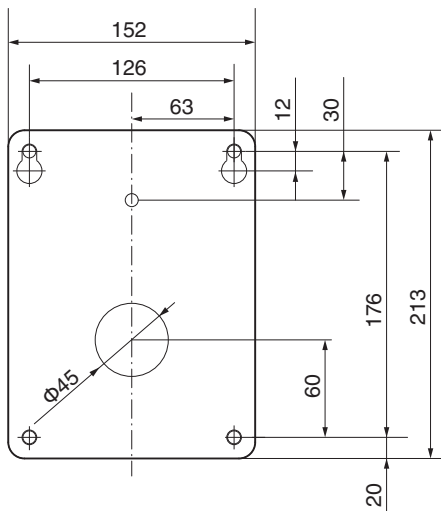
Power source

Supply voltage : AC24 V 50 Hz/60 Hz, or PoE Plus
Current consumption
AC 24 V power : AC 24 V 2.5 A
supply
Power consumption
PoE power : PoE Plus 21 W
supply

Accessories

INSTRUCTIONS (Installation/IP Address Settings): 1
Warranty Card (for USA): 1
CD-ROM: 1
Silica Gel: 3

Wall mounting hole [Unit: mm]

Dimension [Unit: mm]

Others
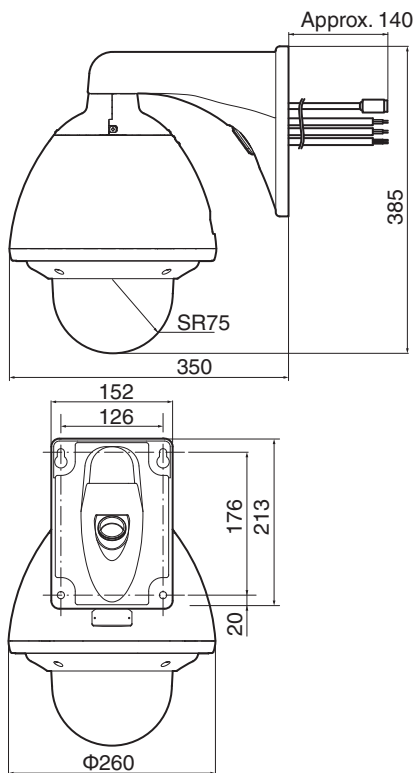
* Specifications and appearance of this unit are subject to change for further improvement without prior notice.

VN-H657BU
HD IP PTZ CAMERA/
VN-H657WPBU
OUTDOOR HD IP PTZ CAMERA

JVC

LST1534-001B