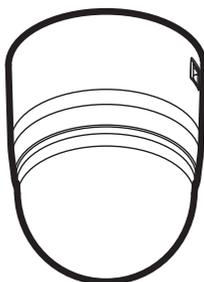




HD IP PTZ CAMERA

VN-H657U

INSTRUCTIONS



Specifications and appearance of this unit are subject to change for further improvement without prior notice.

This manual does not contain descriptions such as those on “Setting Using Internet Explorer” and “Built-in Viewer Operation”. For more details on the settings and operation, please read through “INSTRUCTIONS” on the CD-ROM.

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 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 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

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

AVERTISSEMENT

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

INFORMATION (FOR CANADA) RENSEIGNEMENT (POUR CANADA)

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

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

Information for Users on Disposal of Old Equipment [European Union]



Attention: This symbol is only valid in the European Union.

This symbol indicates that the electrical and electronic equipment should not be disposed as general household waste at its end-of-life. Instead, the product should be handed over to the applicable collection point for the recycling of electrical and electronic equipment for proper treatment, recovery and recycling in accordance with your national legislation. By disposing of this product correctly, you will help to conserve natural resources and will help prevent potential negative effects on the environment and human health which could otherwise be caused by inappropriate waste handling of this product. For more information about collection point and recycling of this product, please contact your local municipal office, your household waste disposal service or the shop where you purchased the product. Penalties may be applicable for incorrect disposal of this waste, in accordance with national legislation.

(Business users)

If you wish to dispose of this product, please visit our web page <http://www.jvc.eu> to obtain information about the takeback of the product.

[Other Countries outside the European Union]

If you wish to dispose of this product, please do so in accordance with applicable national legislation or other rules in your country for the treatment of old electrical and electronic equipment.

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 Postfach 10 05 04 61 145 Friedberg 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 Postfach 10 05 04 61 145 Friedberg 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

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. 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 sure to use it with 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 your dealer 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 your dealer 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.

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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.

* 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 Platform

The direct drive rotation platform 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).

Use of “One-touch Lock Mechanism”

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

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 camera images (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.

How to read this manual

- This manual contains descriptions on the product, ways to install the camera described in INSTRUCTIONS (Installation/IP Address Settings), 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).

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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- 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.

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.
(☞ P48 [[Maintenance] Page])

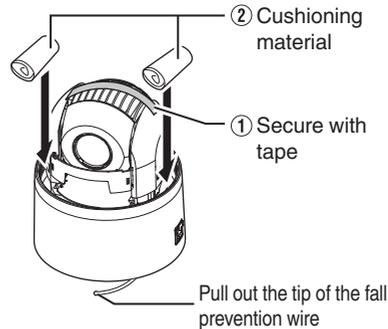
Storage and Operating Environment

- VN-H657U is an indoor camera. It cannot be used outdoors.
- VN-H657U is a pendant mount camera. 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.
- Do not store in the following environments. 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 medicine is used such as pools.
 - Hot or cold places that are beyond the allowable operating temperature range

Allowable operating : -10 °C to 50 °C temperature

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.



Transporting the Unit

- 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.

Disclaimer

- We shall not be responsible for any losses incurred in the event of privacy invasion caused by the camera footages 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 PTZ (pan/tilt/zoom) operation stops.
For more details, refer to “Easy AF” on the [PTZ Control] page.
( P60 [[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, please adjust 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 edge.
 - Manual zoom operation is not smooth.
 - 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 the screen may appear noisy. This is not a malfunction.
 - While AGC is activated, if a transceiver which causes strong electromagnetic 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 this camera is used in the White Balance “ATW-Narrow” or “ATW-Wide” (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.
 - If a high brightness object (such as a lamp) is shot, the image on the screen may have white vertical tailings. This phenomenon (smear) is characteristic of solid-state image sensors and 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 camera 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 rotation speed of the horizontal/vertical rotation platform, the running sound of the rotation platform’s motor may be heard, but this is not a malfunction.
 - 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. (P44 [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 edge (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. (P47 [[Time] Page])
 - Replace the fan every five years.
- Before starting an important recording, be sure to perform a test recording in order to confirm that a normal recording is possible.
 - We do not accept liability for the loss of a recording in the case of it becoming impossible to record due to a problem in the video camera, VTR, hard disk recorder or video tape.

Accessories

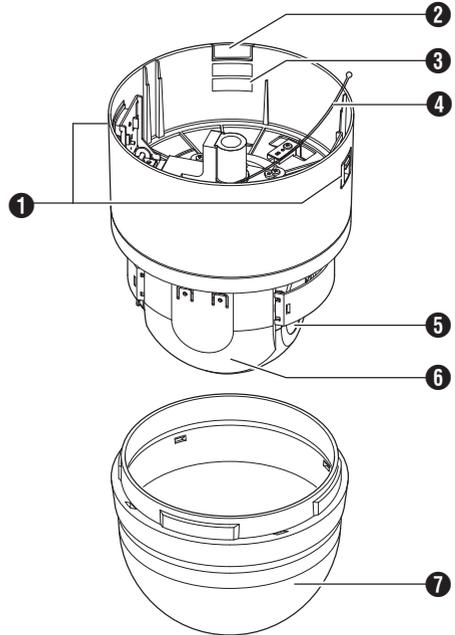
Before mounting this product, please check to ensure that all the following accessories and attachments are available.

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

Name of Parts

VN-H657U

Camera



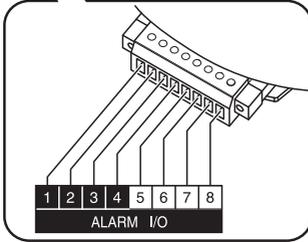
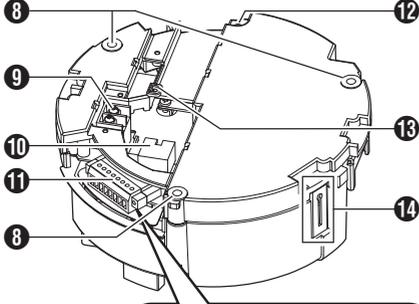
- ❶ Camera fixing lock knob (x2)
This mounts the camera on the ceiling and secures it so that it does not fall.
- ❷ Cable cover
To pull the cables from the side and mount the camera, remove the cover.
(☞ P21 [Pulling out the cables from the side])
- ❸ [MAC address] indication
The MAC address is a unique physical address of the product. This address cannot be altered.
- ❹ Fall prevention wire
Attach it to the "fall prevention wire fixing bracket ❹" of the ceiling mount section.
- ❺ Lens (camera module)
You cannot replace the lens alone.
- ❻ Camera head
- ❼ Dome cover
The dome cover is a delicate object. Handle it with care.

Note : _____

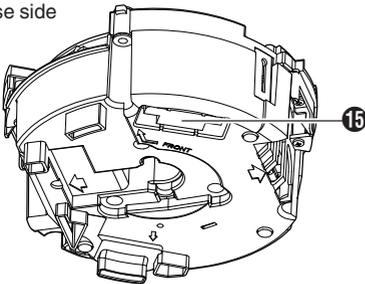
- Do not peel off the protective sheet which is attached at shipment, until the dome cover is mounted on the main unit.

Ceiling mount section

Terminal



Reverse side



- ⑧ Fixing holes (x3)
This hole is for mounting the ceiling clamping bracket to the ceiling or the ceiling recessed bracket (WB-S685U: Sold separately).
- ⑨ [AC24V $\sqrt{\text{V}}$ INPUT] AC 24 V input terminal
For connecting to AC 24 V power.
(☞ P20 [Connect the power cable.])
- ⑩ [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.
(☞ P20 [Connect the LAN cable.])
- ⑪ Alarm Input/Alarm Output terminal (x8)
This cable is for alarm input and alarm output.
(☞ P14 [Alarm Input/Output Signal])
(☞ P21 [Connect the alarm signal cable to the alarm signal terminal.])

List of Alarm Pin Numbers

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

- ⑫ Fall prevention wire mounting hole
Mount a fall-prevention wire (sold separately) from the ceiling slab or channel to this hole to prevent the camera from falling.
- ⑬ Wire clamp fixing hole
This is used to bundle wires.
- ⑭ Fall prevention wire fixing bracket
This is for attaching the "fall prevention wire ④"
of the camera.
- ⑮ Camera connection terminal (female)
For connecting to the connection terminal (male) of the camera.

Alarm Input/Output Signal

Alarm Input Signal

Connect to sensors such as infrared sensors, door sensors, metal sensors and manual switches.

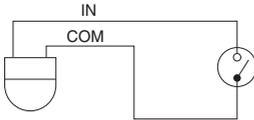
- To prevent noise from entering the internal circuit, supply non-voltage contact signal to the alarm input signal.

Memo : _____

- When the contact is short (MAKE) or open (BREAK) on the menu, you can set it to Alarm.
- 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.



Alarm Output Signal

Connect to alarm devices such as alarm, indicator, light or buzzer.

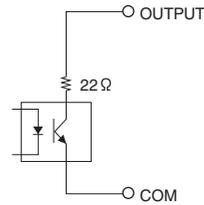
- Alarm output signal is an open collector output insulated with photo coupler.

Memo : _____

- You can select whether to set the contact to short (Make) or open (Break) during an alarm in the menu settings.

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 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

Note :

- Operation is not guaranteed for web browser other than the Internet Explorer versions stated in the recommended PC specifications.
- 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.

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 product 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.

(P67 [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:

$120 \text{ KB} \times 15 \text{ fps} = 1800 \text{ KB/s} = \text{Approx. } 14.4 \text{ Mbps}$
When "Multi-Encode" is selected, a different JPEG file size can be set for each channel.

For example, when transmitting JPEG files with 30 KB file size at 2 fps, and JPEG files with 10 KB file size at 3 fps, the total bit rate will be:

$30 \text{ KB} \times 2 \text{ fps} + 10 \text{ KB} \times 3 \text{ fps} = 90 \text{ KB/s} = \text{Approx. } 0.72 \text{ Mbps}$

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.

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 acquisition, Web Settings page, API
TCP/32040	Alarm distribution
Destination	
TCP/ User-defined number	Sending alarm
UDP/ User-defined number	

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.

Settings Page

Selection of Languages on Settings Page

There is a radio button for selecting the language at the right top corner of the settings page, 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. Select a language suitable for the OS of your computer on the settings page.

- For more details on the Settings page, refer to the following.
(P29 [How to Open the Settings Page])



Memo : _____

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

Pages Available to Each User

Enter User Name and Password

User name and password entry will be required at the beginning.

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], [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. (☞ P29 [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. (☞ P29 [Built-in Viewer Menu List])

admin

Top Menu	Sub Menu
[Basic Setting1]	[Network]
	[Time]
[Basic Setting2]	[Camera]
	[Encode]
[Advanced Settings]	[Camera]
	[Encoding]
	[Alarm]
	[Alarm Environment]
	[PTZ]
	[Network]
	[Protocol]
	[Time]
	[Password]
	[Maintenance]
	[Miscellaneous]
	[Operation]
[Settings]	
[Position List]	

operator

Top Menu	Sub Menu
[Basic Setting2]	[Camera]
	[Encode]
[Advanced Settings]	[Camera]
	[Encoding]
	[Alarm]
	[Alarm Environment]
	[PTZ]
	[Miscellaneous]
	[Operation]
	[Settings]
	[Position List]

user

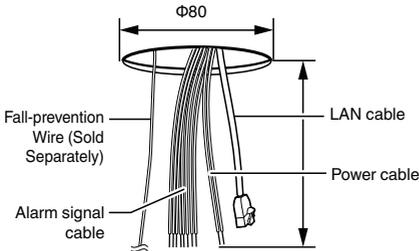
Top Menu	Sub Menu
[Advanced Settings]	[Miscellaneous]

Installation and Connection Preparations

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

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 ($\Phi 80$ 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 the fall prevention wire (sold separately), power cable, coaxial cable, control signal cable, alarm signal cable and provided alarm cable that were mounted to the ceiling slab from the ceiling.

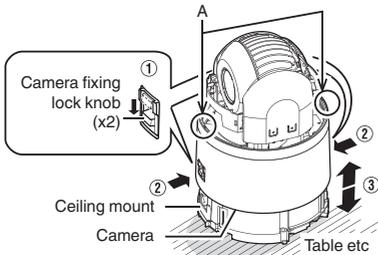


Note : _____

- Mount the fall-prevention wire (sold separately) 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.



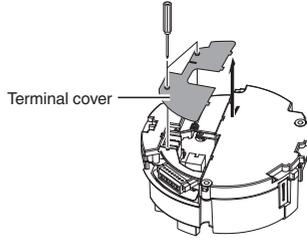
- ① Release the locks by sliding them in the direction indicated by the arrows

- 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.)

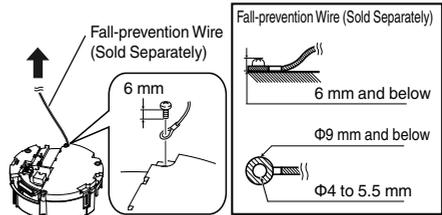
- ③ Lift the camera unit upward to detach.

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 (sold separately; for connecting the ceiling mount section to the ceiling).



Note : _____

- Take note of the length, strength, pull and material (insulation) of the fall prevention wire (sold separately) 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 $\Phi 4$ mm and above and $\Phi 5.5$ mm and below, and the outer diameter should be $\Phi 9$ 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.

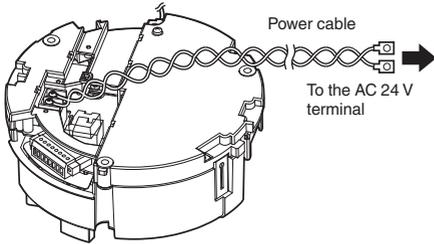
Memo : _____

- 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.

(☞ P20 [Connect the LAN cable.])



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 :

- By default, the IP address of the camera is set to 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

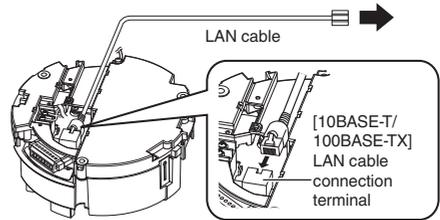
To supply power to this product, make use of AC 24 V 50 Hz/60 Hz or PoE Plus (IEEE802.3at Type2). Make sure to use it with the correct voltage.

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 your dealer 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 your dealer immediately for servicing (charged separately).

6 Connect the LAN cable.



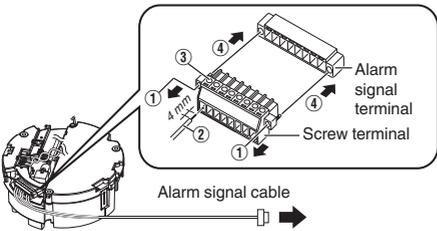
- Connect the camera to a hub or computer using a LAN cable.
- When connecting to a hub: Make use of a straight cable.
- When connecting to a computer: Make use of a cross cable.

LAN cable to use

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

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

- Connect the alarm signal input/output 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.
(☞ P13 [List of Alarm Pin Numbers])
- For more details on alarm input/output, refer to the following.
(☞ P14 [Alarm Input/Output Signal])



- 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.
- 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.

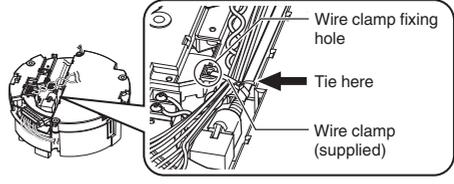
Alarm signal cable to use

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

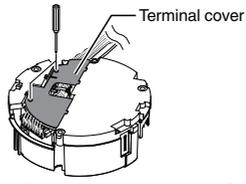


Note : _____

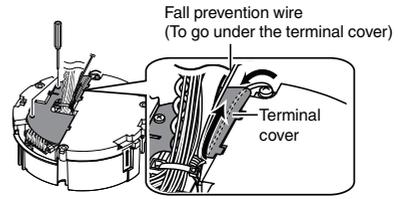
- To prevent the cables from tangling and coming off, be sure to thread a wire clamp through the wire clamp fixing hole to tie the cables.

9 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

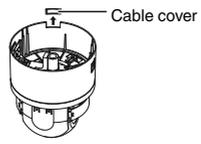


Pulling out the cables from the top



Note : _____

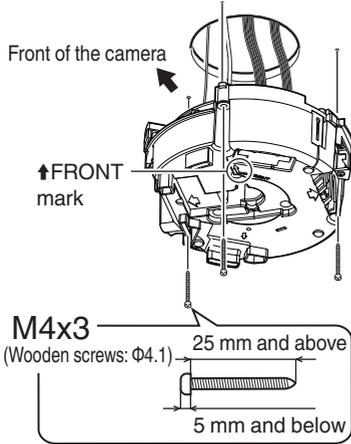
- Be sure to mount the terminal cover to prevent foreign objects or dust from entering.
- When pulling out the cables from the top, make sure the fall prevention wire goes under the terminal cover and pull it out together with the other cables.
- When pulling out the cables from the side, remove the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



Mounting the Camera

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.



Note :

- Use M4 fixing screws and bolts.
- Use $\Phi 4.1$ wood 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.

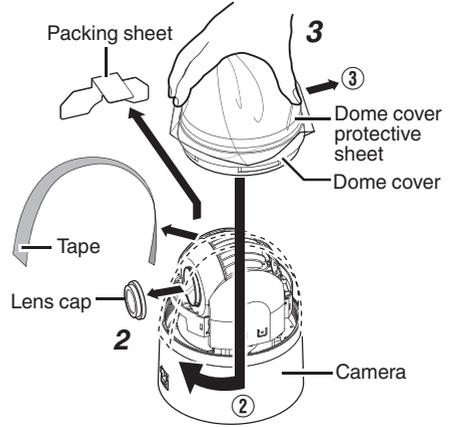
Memo :

- Always use 3 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.

3 Mount the dome cover on the main unit and remove the protective sheet.

- ① Check that the dome cover and lens are free from dirt.
- ② Turn the dome cover in a clockwise direction to mount.
- ③ Remove the protective sheet.



Note :

- The dome cover is an optical part. Handle with care.
- When mounting the dome cover, make sure that there is no dirt inside the 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.

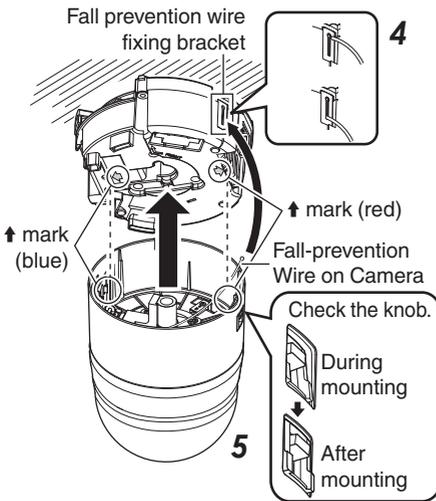
4 Mount the fall prevention wire to the camera (for connecting the ceiling mount section to the camera).

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

Caution
<ul style="list-style-type: none"> • Be sure to connect the fall prevention wire. Otherwise, the camera may fall. • For safety purposes, do not leave the fall prevention wire dangling by the camera.

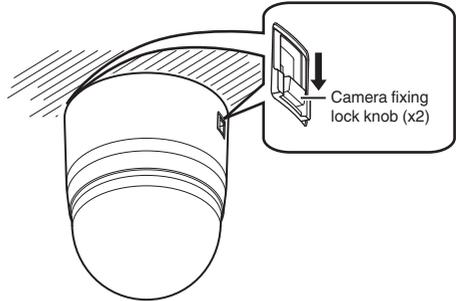
5 Mount the camera and check the camera lock knob.

- 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.



6 Lock the camera fixing lock knobs (x2)

- 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.



Caution
<ul style="list-style-type: none"> • Be sure to check that the camera fixing lock knobs (x2) are locked securely. Otherwise, the camera may fall. • After mounting, check that the camera is mounted securely. Improper mounting may cause the camera to fall off.

Installation of the camera is complete. Next, set the IP address of the camera.
 (☞ P24 [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.**

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.
 (☞ P21 [Pulling out the cables from the side])

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 24

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



[Step2 Internet Explorer Setting] P 25

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



[Step3 Connecting the Camera to the Computer] P 26

Connect the computer to the camera.



[Step4 IP Address Setting for the Camera] P 27

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.

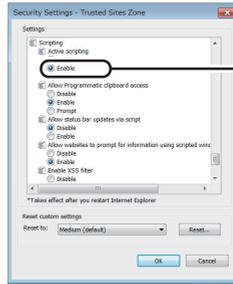
- ① Select in the sequence of [Tools]-[Internet Options]-[Connections]-[LAN Settings].
- ② From the [Local Area Network (LAN) Settings] window, select [Proxy server] and uncheck the [Use a proxy server for your LAN] box.



Deselect the check.

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

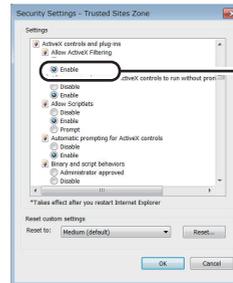
- ① Select [Trusted sites] under [Tools]-[Internet Options]-[Security].
- ② Click the [Trusted sites] button, and uncheck the [Require server verification (https:)] for all sites in this zone] box.
- ③ Add the URL of the camera to the zone. If you use the camera with factory defaults, add the following 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.

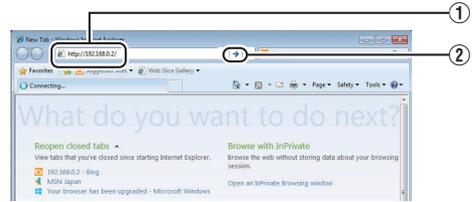
Connection of the camera cannot be established when pop-up block in the Internet Explorer is set to "Enable". Follow the steps below to set the pop-up block to "Disable".

- ① Selecting [Tools]-[Pop-up Blocker]-[Turn Off Pop-up Blocker] permits all sites.
- ② To permit only specific sites, 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 web site 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").

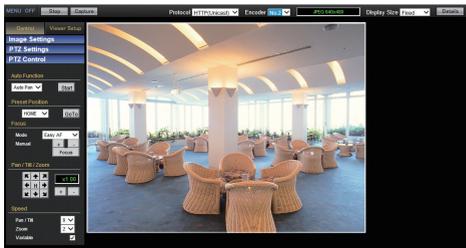


- ① Enter the user name. (default password is "admin")
- ② Enter a password. (default password is "jvc")
- ③ Click OK.

Memo : _____

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

3 The camera's Built-in Viewer appears.



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 disk, and search for the camera in the LAN using the "JVC-VN-SearchTool" of this folder.

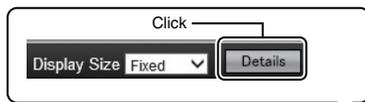
* For the [JVC-VN-SearchTool] details, please open the "README" file in the [TOOL_E] folder.

Memo : _____

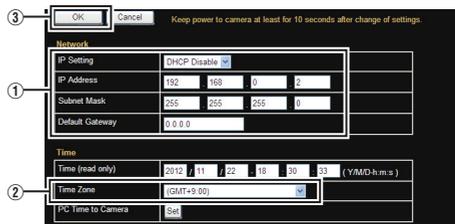
- This camera will perform the initial operation of pan/tilt/zoom upon powering on. It takes about 90 seconds before the initial operation starts. This is not a malfunction.
- The first time you display the Built-in Viewer in Internet Explorer, the Built-in Viewer will be installed on the computer.
- 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 fixed or variable size. Settings related to camera operation are not stored in cookies.

Step4 IP Address Setting for the Camera

1 Click [Advanced Settings] 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.

How to Open the Settings Page

1 Enter the URL of camera in the address bar of Internet Explorer

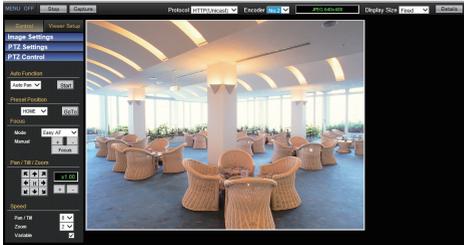
- The factory default URL is "http://192.168.0.2".

Memo :

- For details on the IP address to specify for the URL of the camera, refer to the following.
(☞ P24 [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 [Advanced Settings].

- [Basic Setting1] page will be opened if accessed by user name "admin".
(☞ P30 [[Basic Setting1] Page])
- [Basic Setting2] page will be opened if accessed by user name "operator".
(☞ P31 [[Basic Setting2] Page])
- [Miscellaneous] page will be opened if accessed by user name "user".
(☞ P49 [[Miscellaneous] Page])

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.

[Basic Setting1] (*1)	P 30
[Basic Setting2] (*2)	P 31
[Advanced Settings]	P 33
└ [Camera] (*2)	P 33
└ [Encoding] (*2)	P 37
└ [Alarm] (*2)	P 40
└ [Alarm Environment] (*2)	P 42
└ [Alarm Output]	P 42
└ [PTZ] (*2)	P 43
└ [Limit]	P 43
└ [Preset Position Speed]	P 44
└ [Auto Flip]	P 44
└ [Network] (*1)	P 45
└ [IP Setting]	P 45
└ [Other]	P 45
└ [Protocol] (*1)	P 46
└ [Time] (*1)	P 47
└ [Password] (*1)	P 47
└ [Maintenance] (*1)	P 48
└ [Miscellaneous]	P 49
└ [Operation] (*2)	P 49
└ [Operation]	P 49
└ [Log]	P 49
└ [Settings] (*2)	P 50
└ [Position List] (*2)	P 50

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

[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

OK		Cancel		Keep power to camera at least for 10 seconds after change of settings.	
Network					
IP Setting	DHCP Disable ▾				
IP Address	192	168	0	2	
Subnet Mask	255	255	255	0	
Default Gateway	0.0.0.0				
Time					
Time (read only)	2012	11	22	18	20 53 (Y/M/D-h:m:s)
Time Zone	(GMT+9.00) ▾				
PC Time to Camera	Set				

* 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.
(P47 [[Time] Page])

↳ Time Zone

For setting the time zone.

[Set values: (GMT-12:00) to ●(GMT) UTC to (GMT+12:45)]

↳ PC Time to Camera

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

Memo : _____

- Your computer's time zone cannot be applied. Only the time will be set.

[Basic Setting2] Page

This page sets fundamental camera and encoding parameters. This page can be used during access using “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.

(☞ P33 [[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.

(☞ P33 [[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 “[[Encoding] Page] P 37”.
- 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 scene file switching to B&W, and specify the time by making a selection in Condition 1. 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.

(☞ P40 [[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
(Multi-encoding and details can be set on the [Encoding] page.)

Memo : _____

- If "Set in "Encoding" Page" is selected, the details can be set in the [Encoding] page.
(☞ P37 [[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 page sets the camera's parameters. Settings here are linked to the Camera items in the [Basic Setting2] page.

(P31 [[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 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 "[[Encoding] Page] P 37".
- 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.

Iris

You can set the convergence level for auto 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”

[Set values: Auto +1 to ●Auto to Auto -1]

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]

Memo : _____

- Edge enhancement is applied to both the horizontal and vertical directions.

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

Adjusts the white balance. White balance can be adjusted for a light source with a color temperature range of 2300 K to 10000 K.

- 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 increase continuously until it is 16 times the level when "OFF" is selected.

[Set values: ●OFF, x2, x4, x8, x16, x32]

Memo : _____

- When the sensitivity is increased, the shutter speed drops and a moving object appears unnatural.
- Upon raising the sensitivity level, the screen may appear white, or white dots may occur, or 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]

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.

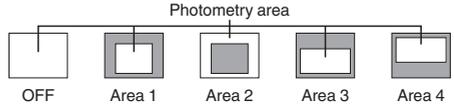
- Normal:
 - Select this for normal illumination.
- IR:
 - Select this when using infrared illumination.

[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]



Memo : _____

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

[Encoding] Page

This page sets the JPEG/H.264 encoding parameters.

Settings here are linked to the [Encode] item of [Basic Setting2] page.

(☞ P31 [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.
(☞ P15 [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.

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
(☞ P37 [When “Single-Encode” is selected in [Encode]])
- Multi-Encode
(☞ P38 [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.

Please refer to the following recommended range of H.264 bit rate.
When it sets outside recommended range, it is not distributed by the specified bit rate.

Framesize	H.264 High		H.264 Baseline	
	Min. Bitrate	Max. Bitrate	Min. Bitrate	Max. Bitrate
1920x1080	512kbps	8192kbps	—	—
1280x960	384kbps		—	—
1280x720	256kbps	256kbps	768kbps	1536kbps
720x480	128kbps		—	—
640x480	—		—	—
640x360	—	—	—	—
352x240	64kbps	—	—	—
320x240	—	—	—	—

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]

Memo : _____

- When [Framesize] is set to “1920×1080”, the frame size of the Built-in Viewer may be displayed as “1920×1088”, and the video image may appear disrupted at the top.

↳ 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]

Memo : _____

- When in “VBR” mode, please specify the [Bitrate] as the one in 30 fps in spite of current framerate setting.
Actual bitrate from the camera will be automatically reduced according to the framerate setting.
For example, when transmitting H.264 stream with 8192 kbps at 15 fps and I Frame Interval is 15 frame, the maximum bitrate will be about 4000 kbps .(Maximum bit rate depends on the framerate parameter and the I Frame Interval parameter).

↳ **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.

Framesize	H.264 High		H.264 Baseline	
	Min. Bitrate	Max. Bitrate	Min. Bitrate	Max. Bitrate
1920x1080	5120kbps	8192kbps	—	—
1280x960	3840kbps	—	—	—
1280x720	2560kbps	—	7680kbps	45360kbps
720x480	1280kbps	—	2560kbps	—
640x480	—	—	—	—
640x360	—	—	—	—
352x240	640kbps	—	—	—
320x240	—	—	—	—

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]

Memo : _____

- When [Framesize] is set to “1920×1080”, the frame size of the Built-in Viewer may be displayed as “1920×1088”, and the video image may appear disrupted at the top.

↳ 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]

Memo : _____

- When in “VBR” mode, please specify the [Bitrate] as the one in 30 fps in spite of current framerate setting.
Actual bitrate from the camera will be automatically reduced according to the framerate setting.
For example, when transmitting H.264 stream with 8192 kbps at 15 fps and I Frame Interval is 15 frame, the maximum bitrate will be about 4000 kbps. (Maximum bit rate depends on the framerate parameter and the I Frame Interval parameter).

↳ 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).
(☞ P67 [Appendix (Restrictions during Multi-encoding)])

[Alarm] Page

This page sets the 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

OK Cancel Keep power to camera at least for 10 seconds after change of settings.

No.1			
Action	1st Trigger	Max. Interval	2nd Trigger
Disable	Pin Input1 Make	sec (1 - 3600)	Disable

No.2			
Action	1st Trigger	Max. Interval	2nd Trigger
Disable	Pin Input1 Make	sec (1 - 3600)	Disable

No.3			
Action	1st Trigger	Max. Interval	2nd Trigger
Disable	Pin Input1 Make	sec (1 - 3600)	Disable

No.4			
Action	1st Trigger	Max. Interval	2nd Trigger
Disable	Pin Input1 Make	sec (1 - 3600)	Disable

No.5			
Action	1st Trigger	Max. Interval	2nd Trigger
Disable	Pin Input1 Make	sec (1 - 3600)	Disable

* Setting values with ● are default values.

Action

Selects the action to perform when the alarm is activated.

- Disable:
Performs no action.
- TCP:
Sends the text string input in the [TCP/UDP Data] field via TCP to the recipients specified in [TCP/UDP IP Address] and [TCP/UDP Port Number].
- UDP:
Sends the text string input in the [TCP/UDP Data] field via UDP to the recipients specified in [TCP/UDP IP Address] and [TCP/UDP Port Number].
- Switch Scene File:
Specifies the filming scene.
- Position:
Moves to the position set at [Action Position Number].
(P41 [Action Position Number])
- 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, TCP, UDP, Switch Scene File, Position, 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 Input2 Make, Pin Input1 Break, Pin Input2 Break, Position, Time, 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 Input2 Make, Pin Input1 Break, 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 Input2 Make, Pin Input1 Break, Pin Input2 Break]

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.

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.
(☞ P33 [[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]

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

Trigger Position Number

Set the position number to move to when [1st Trigger] item is set to "Position".

[Set values: 0 to 19]

Time

Executes an action at the time you have entered.

[Set values: 00 H 00 M to 23 H 59 M]

[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

OK Cancel Keep power to camera at least for 10 seconds after change of settings.			
Alarm Output			
Duration	Output 1	<input type="text" value="0"/>	msec (0 / 100 - 5000)
	Output 2	<input type="text" value="0"/>	msec (0 / 100 - 5000)
Manual Output	Output 1	<input type="button" value="Make"/> <input type="button" value="Break"/>	Current Output: Break
	Output 2	<input type="button" value="Make"/> <input type="button" value="Break"/>	Current Output: Break

* Setting values with ● are default values.

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 1000 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]

[PTZ] Page

This page allows you to specify the 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

OK Cancel Keep power to camera at least for 10 seconds after change of settings.

Limit

EZoom Limit 2

Pan Limit
● ON ● OFF
Set Left Set Right
Go to Left Go to Right

Tilt Limit 0 Degree

Preset Position Speed

Speed High

Auto Flip

Auto Flip Digital Flip

* Setting values with ● are default values.

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 : _____

- This item does not affect the preset position and auto pan operation.

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
- 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”.

- 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.

↳ 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 set for the tilt operation to 180°.

[Set values: -5 Degree to ●0 Degree to 10 Degree]

Memo : _____

- When the camera is moved to the prohibited area by some operation that gives priority to Tilt Limit and manual tilt operation 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.
- This item does not affect the preset position and auto pan operation.

Preset Position Speed

↳ Speed

This item sets the speed of moving to the preset position.

[Set values: Low, Mid, ●High]

Auto Flip

Set this item when shooting objects that pass right under the camera.

Otherwise, 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 : _____

- Settings for [Preset Position Speed] are reflected in [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.

[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

OK Cancel		Keep power to camera at least for 10 seconds after change of settings.	
IP Setting			
IP Setting	DHCP Disable ▾		
IP Address	192	168	0 2
Subnet Mask	255	255	255 0
Default Gateway	0.0.0.0		
Host Name	m-h657		
DNS Server	0.0.0.0		
MAC Address	00:80:88:1a:2b:3c		
Other			
Negotiation	Auto ▾		
MTU	1500	(1280 - 1500)	

* 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.
(☞ P24 [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 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 through 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



OK Cancel Keep power to camera at least for 10 seconds after change of settings.

Protocol Settings

HTTP Server Port	80 (1 - 65535)
AMX Device Discovery Protocol	<input checked="" type="radio"/> ON <input type="radio"/> OFF

Before changing priority of JPEG streaming, please stop all JPEG streams.

* Setting values with are default values.

Protocol Settings

Sets the protocols.

↳ HTTP Server Port

You can change the port number for the built-in HTTP server of the camera.

[Set values: 1 to 80 to 65535]

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.
( P61 [HTTP Port])

↳ 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]

[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 : _____

- Adjust Time and Time Zone together.
- 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.

Settings

OK Cancel Keep power to camera at least for 10 seconds after change of settings.

Time	2012 / 11 / 22 - 18 : 50 : 55 (Y/M/D-h.m.s)
Time Zone	(GMT+9.00)
PC Time to Camera	Set

* Setting values with ● are default values.

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 distributed by the camera. Discontinuity may occur in the JPEG header's time immediately before and after changing the time.

Time Zone

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

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 : _____

- Always handle the password carefully so that you do not forget it.
- If you have forgotten the password, please consult our customer support center.

Settings

admin

User Name	Password	Password Re-Input	Action
admin	***		Set

operator

User Name	Password	Password Re-Input	Action
operator	***		Set

user

User Name	Password	Password Re-Input	Action
user	***		Set

Input password in 1 - 16 characters.
Keep power to camera at least for 10 seconds after change of settings.

admin, operator, user

↳ User Name

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

Memo : _____

- 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.

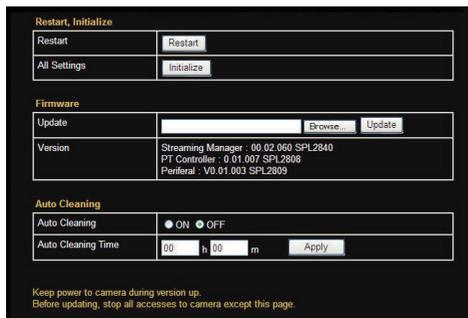
Set: Sets the password you have entered.

[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 open the file by pressing the [Browse...] button. Press the [Execute] 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, the message is displayed in the Internet Explorer.

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.

↳ Version

Displays the camera's firmware version.

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 1 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-R657

- SOFTWARE LICENSE AGREEMENT
- Important Notice concerning 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.
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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

This page displays the operation status of the camera.

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: 192.168.0.21 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 a log.

[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	SPL2840 0.02.159
PT Controller	SPL2808 0.01.008
Periferal	SPL2809 0.01.004
Camera	
Camera ID	VNH957
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	Mid
Sense Up	OFF
ALC Priority	Motion
Shutter Speed	1/30
Day/Night	Color
IR Preset AF	ON
Light	Normal
Back Light Compensation	OFF

[Position List] Page

Displays the preset position information.

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

Position	Registration	Title
0	Registered	
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	

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.
(P57 [Preset Position])

List of Factory Defaults of Each Page

Camera Page

Item	Factory Settings
Camera ID	Camera ID model (VN-H657)
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	Mid
Sense Up	OFF
Priority	Motion
Shutter Speed	1/30
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

Alarm Page

Item	Factory Settings
Action	Disable
1st Trigger	Pin Input1 Make
Max. Interval	-
2nd Trigger	Disable
Action Position Number(*1)	-
TCP IP Address(*2)	-
TCP Port Number(*2)	-
TCP Data(*2)	-
JPEG Attachment(*2)	-
Encoder(*2)	No.2 (JPEG 640×480)
UDP IP Address(*3)	-
UDP Port Number(*3)	-
UDP Data(*3)	-
Alarm Output Duration(*4)	-
Scene File(*5)	General
Trigger Position Number(*6)	-
Time(*7)	-

- *1 : When "Position" is selected in [Action]
- *2 : When "TCP" is selected in [Action]
- *3 : When "UDP" is selected in [Action]
- *4 : When "Pin Output1 Make", "Pin Output1 Break", "Pin Output2 Make", or "Pin Output2 Break" is selected in [Action]
- *5 : When "Switch Scene File" is selected in [Action]
- *6 : When "Position" is selected in [1st Trigger]
- *7 : When "Time" is selected in [1st Trigger]

Alarm Environment Page

Item	Factory Settings
Duration Output 1	0 msec
Duration Output 2	0 msec
Manual Output Output 1	Break
Manual Output Output 2	Break

PTZ Page

Item	Factory Settings
EZoom Limit	2
Pan Limit	OFF
Tilt Limit	0 Degree
Speed	High
Auto Flip	Digital Flip

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 Server Port	80
AMX Device Discovery Protocol	ON

Time Page

Item	Factory Settings
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 PTZ operations.

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 fixed 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 53
- [[Image Settings] Settings] P 55
- [[PTZ Settings]] P 57
- [[PTZ Control]] P 59
- [[Unicast] Settings] P 61
- [[On Screen Display] Settings] P 62
- [[Other] Settings] P 63
- [Exiting Built-in Viewer] P 63

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.

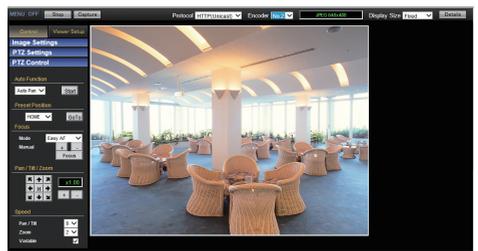
Built-in Viewer Screen Configuration

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.
- Some menus may not be displayed depending on the firmware version. 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.

- ☞ P55 [[Image Settings] Settings)
- ☞ P57 [[PTZ Settings]])
- ☞ P59 [[PTZ Control]])

Viewer Setup

Switches the Operation Menu to the Viewer Setup Menu.

Click this button when you want to configure the settings of [Unicast], [On Screen Display] and [Other].

-  P61 [[Unicast] Settings])
-  P62 [[On Screen Display] Settings])
-  P63 [[Other] Settings])

Stop/Play

Pauses or plays back images.

Capture

Captures and saves 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". The file name shows the year, month, days, hours, minutes, seconds, and milliseconds.

Memo : _____

- You can rename the folder in the [Other] settings.
 P63 [[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 save images as motion images.
- You cannot save H.264 images.

Protocol

Selects a protocol to be used when the viewer acquires data from the camera.

Only "HTTP(Unicast)" can be selected.

- HTTP(Unicast):
Allows monitoring the camera with a single viewer. If a packet is lost, the packet data is transmitted again and recovered.

Encoder

Select the stream when the protocol is "HTTP(Unicast)".

[Set values: ●No.1, No.2, No.3]

Compression format and Framesize

Displays the stream type and the resolution.

Memo : _____

- When [Framesize] is set to "1920×1080", the frame size of the Built-in Viewer may be displayed as "1920×1088", and the video image may appear disrupted at the top.

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].
 P37 [[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.

Advanced Settings

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
 P29 [How to Open the Settings Page])

[Control]

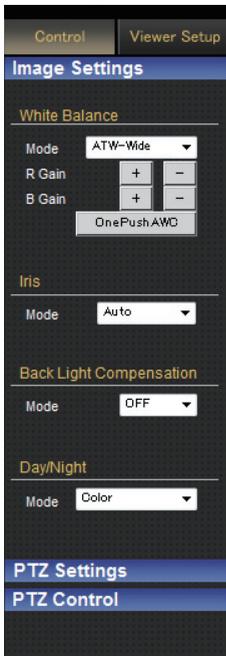
[Image Settings] Settings

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.

Image Settings



White Balance

↳ 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]

↳ [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. You can also set exposure compensation to ± 1 with respect to the auto adjustment value.

[Set values: Auto -1, ●Auto, Auto +1]

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.

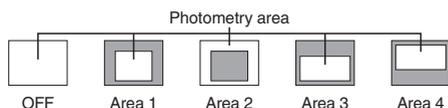
- OFF:

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]



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 page can be used during access using “admin” or “operator”.

- While another menu is open, click [Control] to switch to the Control Menu. Click [PTZ Settings] to open the Settings screen.

Preset Position

Sets the camera preset position.

- When [Auto Flip] is set to “Digital Flip”, preset positions cannot be registered when the tilt angle is more than 90 degrees.
( P44 [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]

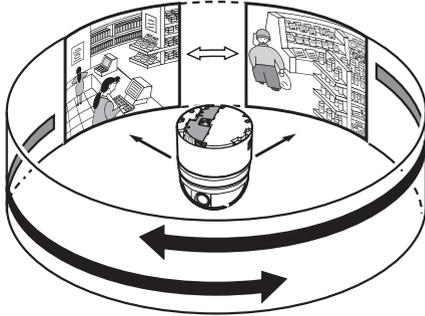
Title

Displays the current title.

- 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.)
- Press the [Register] button, and the new position will be registered.

Memo : _____

- Click [Unregister] button to delete information of the selected position. Note that you cannot delete the [HOME] position.



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] on the left side of the screen to open the setting screen.



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. Operate the camera manually, decide on a position and click [Set] to register.

- [Set]:
Complete the Auto Pan settings.
- [GoTo]:
Move the camera to the registered position.

Memo :

- For details on the manual operation, see [PTZ Control].
(P59 [[PTZ Control]])

Pan / Tilt / Zoom

- Pan / Tilt operation:
Click the arrow buttons to move the display area in the direction indicated by the arrow. Release the button to stop the movement.
Click 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 the object using the [+] button by altering the [EZoom Limit] settings.
( P43 [EZoom Limit])
- You can operate the Pan, Tilt and Zoom function using a mouse. If you click the mouse on the screen, the clicked spot will be the center of the display area.

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]

Controls the 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] to switch to the Control Menu. Click [PTZ Control] to open the Settings screen.



Auto Function

Select the operations.

Only "Auto Pan" can be selected.

- [Start] button:
Start the selected Auto function.
- [Stop] button:
Stop the running Auto function.
- Auto Pan:
Performs the configured auto pan operation.
(P58 [Auto Pan])

Note : _____

- When the auto pan operation starts, the camera will repeat the left rotate, right rotate or return operations.

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.
(P57 [Preset Position])

Focus

Adjust the focus.

↳ Mode

Shows the current mode.

- Easy AF:
Auto Focus (AF) will activate automatically when 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

- Pan / Tilt operation:
Click the arrow buttons to move the display area in the direction indicated by the arrow. Release the button to stop the movement.
Click 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 the object using the [+] button by altering the [EZoom Limit] settings.
(P43 [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.

Unicast

The screenshot shows a dark-themed interface with two tabs at the top: 'Control' and 'Viewer Setup'. The 'Unicast' section is highlighted in blue. Below it, there is a text input field for 'HTTP Port' containing the number '80'. Below that is a dropdown menu for 'JPEG Frame Rate' currently set to '5fps'. An 'Apply' button is located below the dropdown. At the bottom of the screen, there are two more blue-highlighted sections: 'On Screen Display' and 'Other'.

HTTP Port

You can change the port number to be used when the client computer accesses to the camera via HTTP.

Specify the same value as the parameter being set on the camera's Protocol Page.

(☞ P46 [[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 :

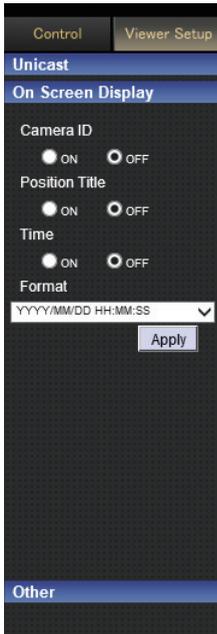
- Set the JPEG frame rate so that the CPU load of the computer does not exceed 80%.
If the CPU is overloaded, the computer may not function properly.
- The highest frame rate for images is the camera's encoding setting.
(☞ P37 [Framerate])

[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.

On Screen Display



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.
(P31 [[Basic Setting2] Page])
(P33 [[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]

Time

Set to “ON” to display the time.
The time is displayed at the right bottom position of the screen.
The clock time contained in the JPEG data or stream data is displayed.
* Stream data: Stream data encoded with H.264 Baseline or H.264 High.

[Set values: ON, OFF]

Memo : _____

- The time is displayed at the right bottom position of the screen, when “ON” of the Time radio buttons is selected at the [Viewer Setup] of the Built-in Viewer. The time is displayed with white characters normally.
If there is not good enough performance to decode and display the video, the Built-in Viewer may change the color of the time on the screen. This design is not a malfunction.
- When you see the time with non-white characters on the display of the Built-in Viewer, reduce the parameters like framesize and framerate for the encoder what you are viewing to reduce load of your computer.
For more details on encoder parameters, refer to the following.
(P37 [[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:SS, HH:MM]

[Other] Settings

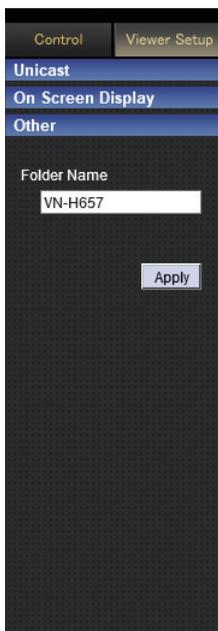
When you are using the JPEG data compression, you can record still images.

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.

Other



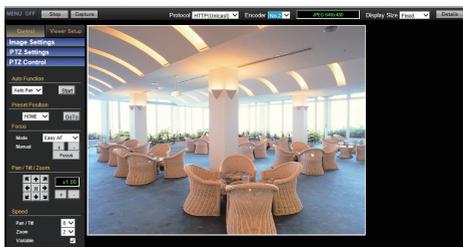
Folder Name

To change the name of the folder for storing captured files, enter the folder name.

(When the viewer is installed: "VN-H657")

Exiting Built-in Viewer

Click the [X] 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.

(☞ P20 [Power cord for connecting to AC 24 V (Reference value)])

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.

(☞ P46 [[Protocol] Page])

(☞ P61 [[Unicast] Settings])

Power is turned on but it is disconnected once the camera rotates.

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.

(☞ P9 [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.

(☞ P20 [Power cord for connecting to AC 24 V (Reference value)])

The power does not turn on even when a PoE Plus power supply device 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.

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.

I cannot display the Settings page of the camera.

→ Check the current settings of Internet Explorer. Also, if you are using a proxy server, set the proxy server of the Internet Explorer.

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.

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 you set the JPEG Streaming to “Framerate”, the frame rate requested by clients are kept but the maximum number of streams is reduced.

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 you set the video distribution setting to “Client Number” 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.

A white zone appears in the Built-in Viewer.

If you set up Internet Explorer as follows, some Internet Explorer graphics may not appear and will be left white on some computers.

→ If this occurs, perform setting as follows.

[Start]-[Control Panel]

If you select -[Appearance and Personalization]-[Display]-[Make text and other items larger or smaller] and select “100% (default)”, the normal graphic is restored.

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.

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.

Videos set to be exported are not saved to my computer.

→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].
(☞ P49 [[Maintenance] Page])

I cannot perform the PTZ operations.

The network bandwidth may be insufficient.

→Ensure that there is sufficient network bandwidth, and operate in "100 M Full".

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	Approx. 2 million operations
Focus operation	Approx. 4 million operations
Slip ring	Approx. 5 million operations
Cooling fan	Approx. 50,000 hours
Thin coaxial cable	Approx. 3 million operations

* Replace the fan every five years.

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					
		1920 × 1080					
Encoder No.1 settings	Framesize	Framerate	30	25	15 - 10	7.5 - 5	3 - 1
	1920 × 1080	30	30	—	—	—	—
25		25	—	—	—	▲	▲
15 - 10		15 - 10	—	—	▲	▲	▲
7.5 - 5		7.5 - 5	—	▲	▲	▲	▲
3 - 1		3 - 1	▲	▲	▲	▲	▲
1280 × 960	30 - 1	30 - 1	—	—	—	—	—
1280 × 720	30 - 1	30 - 1	—	—	—	—	—
720 × 480	30 - 1	30 - 1	—	—	—	—	—
640 × 480	30 - 1	30 - 1	—	—	—	—	—
640 × 360	30 - 1	30 - 1	—	—	—	—	—
352 × 240	30 - 1	30 - 1	—	—	—	—	—
320 × 240	30 - 1	30 - 1	—	—	—	—	—

		Encoder No.2 settings					
		1280 × 960				1280 × 720	
Encoder No.1 settings	Framesize	Framerate	30	25	15 - 10	7.5 - 1	30 - 1
	1920 × 1080	30	30	—	—	—	▲
25		25	—	—	▲	▲	—
15 - 1		15 - 1	▲	▲	▲	▲	▲
1280 × 960	30	30	—	▲	▲	▲	▲
	25 - 1	25 - 1	▲	▲	▲	▲	▲
1280 × 720	30 - 1	30 - 1	—	—	—	—	▲
720 × 480	30 - 1	30 - 1	—	—	—	—	—
640 × 480	30 - 1	30 - 1	—	—	—	—	—
640 × 360	30 - 1	30 - 1	—	—	—	—	—
352 × 240	30 - 1	30 - 1	—	—	—	—	—
320 × 240	30 - 1	30 - 1	—	—	—	—	—

- ✓ : Encoder No.2 settable, Encoder No.3 setting arbitrary
- ✓(*) : Encoder No.2 settable, Encoder No.3 setting restricted
- ▲ : 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	✓ (*)	✓ (*)	✓ (*)	✓ (*)	✓ (*)
		25 - 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 settable, Encoder No.3 setting arbitrary
- ✓(*) : Encoder No.2 settable, Encoder No.3 setting restricted
- ▲ : Encoder No.2 settable, Encoder No.3 not settable
- : Both Encoder No.2 and Encoder No.3 not settable

* 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.

(P69) P69 [Restrictions when Encoder No.1 is set to 1920×1080 30 fps]

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.
- Encoder No.3 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.
- Please refer to the table below for the maximum settable frame rate corresponding to each frame size that is settable for Encoder No.3.

Framesize		Settable Maximum Frame Rate for Encoder No.3					
		720 × 480	640 × 480	640 × 360	352 × 240	320 × 240	
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
		30 - 25	15	25	30	30	30
	352 × 240	15	25	25	30	30	30
		10 - 1	25	30	30	30	30
30 - 25		15	25	30	30	30	
320 × 240	15 - 1	25	30	30	30	30	
	30 - 25	15	25	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

CAMERA HEAD

Image pickup device	: 1/2.8" CMOS
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 Shutter	: 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
Backlight Compensation	: 4 photometry areas can be selected
Color level adjustment	: YES
Edge enhancement	: Effective for both horizontal and vertical (adjustable level)

Network section

Image compression format	: JPEG, H.264
Frame size	: 1920×1080, 1280×960, 1280×720, 720×480 (D1), 640×480, 640×360, 352×240, 320×240
Network interface	: Supports 100 BASE-TX/10 BASE-T/FULL/HALF/ Auto negotiation

LAN Specifications

Compliant with	IEEE802.3 and IEEE802.3u
Communication protocol	IPv4, HTTP, TCP, RTSP/RTCP/ RTP, ICMP, UDP, IGMP, DNS, DHCP, ARP

Lens

Zoom ratio	: Optical zoom 18 times, digital zoom 10 times
Focal length	: 4.7 mm to 84.6 mm
Maximum aperture ratio	: F1.6 (WIDE) to F2.8 (TELE)
Aperture range	: F1.6 (Opened fully) to Equivalent to F360
Maximum close-range	: Approx. 1.8 m (TELE) Approx. 0.6 m (WIDE)

Rotation platform

Horizontal rotation range	: 360 ° Endless rotation
Horizontal rotation speed	: Approx. 0.07 °/s to approx. 400 °/s
Vertical rotation range	: -5 ° to 185 ° (5 ° above horizontal level to face bottom to 5 ° above horizontal level)
Vertical rotation speed	: Approx. 0.07 °/s to approx. 400 °/s

Overall

Mass	: Approx. 2.0 kg
Alarm input	: No-voltage a contact input, NPN open collector input, low level, latch/momentary (500 ms and above) (Circuit current during low level: 1 mA; Applied voltage during high level: DC 3.3 V)
Alarm output	: NPN open collector output (Allowable applied voltage: DC20 V; Allowable inflow current: 25 mA)
Number of preset positions	: Up to 100
Surrounding temperature	: -10 °C to 50 °C (operation) 0 °C to 40 °C (recommended)
Ambient humidity	: 20 %RH to 90 %RH (without condensation)

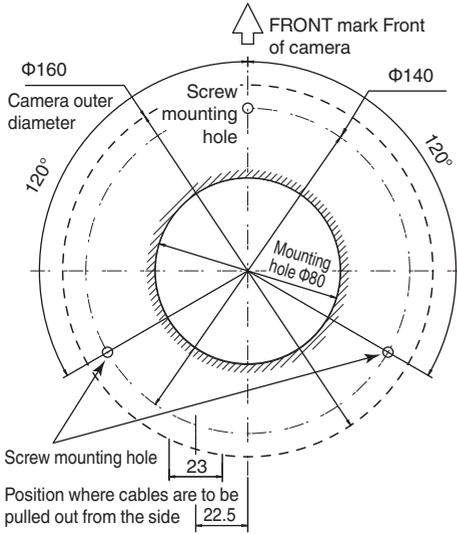
Power source

Supply voltage	: AC 24 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

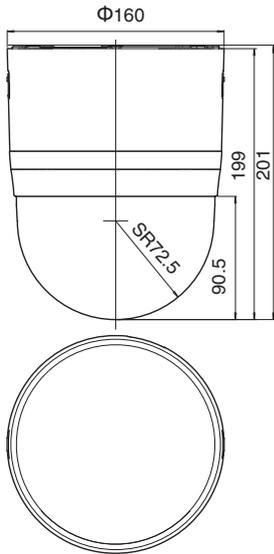
Accessories

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

Ceiling mounting hole [Unit: mm]



Dimension [Unit: mm]



* Specifications and appearance of this unit are subject to change for further improvement without prior notice.

VN-H657U
HD IP PTZ CAMERA

JVC