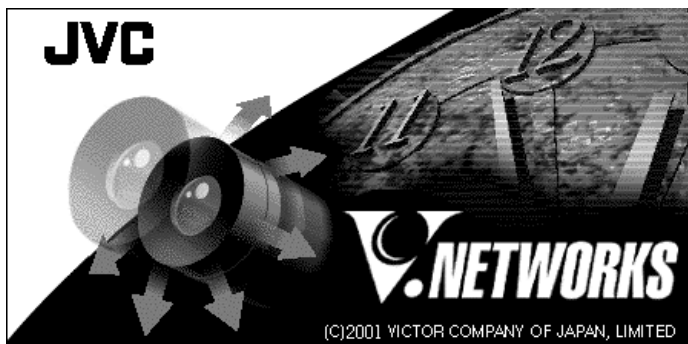


JVC®

V.NETWORKS

VN-C30U

INSTRUCTIONS



For Customer Use:

Enter below the Serial No. which is located on the body. Retain this information for future reference.

Model No. **VN-C30U**

Serial No. _____

This instruction book is made from 100% recycled paper.

LHT0005-001A

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. This appliance system is equipped with a 3-wire grounding type plug (a plug having a third (grounding) pin). This plug will only fit into a grounding-type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the grounding plug.

PORTABLE CART WARNING
(symbol provided by RETAC)



S3126A

-
11. 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.
 12. 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.
 13. Follow all warnings and instructions marked on the appliance.
 14. Do not overload wall outlets and extension cords as this can result in fire or electric shock.
 15. 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.
 16. 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.
 17. 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.
 18. 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.
 19. 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.

Safety Precautions



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 could void the user's authority to operate the equipment.

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.

 **WARNING**

■ **Keep away from moisture**



Fire or electrical shock can result from the presence of moisture.

Spillage can occur from objects containing water (flower vases, flower pots, cups, cosmetics, pharmaceuticals, etc.) and should not be placed on top of this device.

■ **Do not touch**



Do not touch lines (antenna wires, phone lines, etc.) connected to this device or power plugs during a thunder storm because this can result in electrical shock.



- When installing this device, maintain a space of 10cm or more between this device and the wall. Also keep other devices at a distance to ensure good radiation. Internal heat can result in fire.
-

Warning

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

PRECAUTIONS FOR SAFE AND PROPER USE

To ensure safety

■ **Always observe the following to ensure correct and safe usage of this device.** Read Safety Precautions thoroughly before using this device. The safety precautions contain important information and should always be observed. After reading, store in a readily available location for future reference.

Regarding Symbol Indications

Numerous symbols are employed as indication in the precautions for safety, precautions for handling, and in the indication to the products. These are designed to prevent in advance any possible infliction of injury on you and other individuals and the damage of properties through the proper use of the product. The symbols and meanings are shown below. Grasp the contents of the symbols completely before reading this manual.



WARNING

This represents the contents in which the probabilities for death or serious injury are assumed if this symbol indication is ignored and the product is erroneously handled.



CAUTION

This represents the contents in which the probabilities for injury to be inflicted are assumed and the contents in which material damages to be sustained are assumed if this symbol indication is ignored and the product is erroneously handled.

Examples of Symbol Indications



This symbol informs you of the presence of the contents that demands caution (including danger and warning). Specifically prohibited contents (caution against electric shock in case of the left symbol) are illustrated in the symbol.










This symbol informs you of prohibited actions. Specifically prohibited contents (prohibition of disassembly in case of the left symbol) are illustrated in the symbol and its vicinity.



This symbol informs you of the contents that forces you to take some action or gives you some guidelines or instructions. Specific contents of instructions (unplug the power cord from the outlet in case of the left symbol) are illustrated.

Cautions

- Do not install this device in locations such as the following.
To avoid the possibility of fire or electrical shock, do not install this device in locations such as the following. 
 - Where there is excessive humidity or dust.
Do not install where there is excessive humidity or dust.
Avoid locations with oil smoke or steam.
 - Locations where temperatures are high.
Do not install in locations where temperatures are extremely high due to direct contact with sunlight or proximity to a heater.
- Do not connect or disconnect the power cord or plug with wet hands because this can result in electrical shock. 
- Do not place heavy objects on top of this device.
Loss of balance could cause falling and result in injury or damage. 
- Do not stand on this device.
This could cause overturning and result in injury or damage. Use special caution with children. 
- Use only the specified accessories.
Use only the accessories specified in the instruction manual with this device. The use of other accessories can result in fire or electrical shock. 

- Have your local dealer perform an internal inspection once every three years.
Accumulated dust inside this device can eventually result in fire or malfunction if not removed periodically. It is more effective to have this inspection performed before the rainy season and when humidity is high. Consult your local dealer concerning the inspection fee. 
- About CD-ROM handling
Do not bend or fold CD-ROMs.
- The power IN jack is exposed, so use caution to avoid shorting with metal objects, etc., when connecting and disconnecting the power cable.
- Do not allow children with the carton and bags used for packing because this could result in suffocation.

Cautions

- This instruction manual may not be reproduced in part or in its entirety.
- Use caution to avoid infringing the copyrights of others during use.
- Please note that this company does not assume any responsibility in the case of any possible errors that may be found in this instruction manual.
- The contents of this instruction manual are subject to change without notice.
- When this product is discarded, always observe all applicable laws and regulations.

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The marks TM, ©, ®, etc., are not used in this instruction manual.

Any other company names and product names mentioned in this instruction manual are the trademarks or registered trademarks of the respective companies.

Before Recording or Saving Important Images

- Due to provisions of the copyright law, images recorded and saved from TV broadcasts and recorded tapes, etc., and recorded and saved images of printed materials such as posters, etc., cannot be used for any purpose other than personal enjoyment without the express written permission of the copyright holder.
- When recording important images, always make test shots beforehand to make sure that recording and display are correct. Also use caution concerning available hard disk capacity.
- Please note that compensation will not be paid in the case that normal recording and playback are not possible due to problems with this product or with the computer software, etc.

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About New Versions

- New versions of the software (VN-C30U) can be acquired via Internet. Download the software from the following.
Home page: <http://www.jvc-victor.co.jp/english/pro/vnetworks/>

Package Contents

This product includes all of the following items. If any item should be missing, please contact your local dealer.

- VN-C30U main unit
- VN-C30U Controller CD-ROM
- Instruction manual (this document)

Operating Environment

The environment described below is necessary for operation of the VN-C30U.

A PC running Microsoft Windows 95, 98, NT (Service Pack 4 or higher) 2000 (Service Pack 1 or higher)

- CPU
Pentium II 300 MHz or equivalent (Pentium III 500 MHz or more recommended).
- Memory capacity
64 MB or more (128 MB or more recommended).
- Hard disk capacity
20MB or more.
- Display and video card
640 x 480 dots or more, High Color (1024 x 768 dots or more, True Color recommended).
- 10BASE-T / 100BASE-TX
LAN board, connection cables.
- Others
Windows Media Player Ver. 6.4 or higher Internet Explorer Ver. 4.01 or higher

LAN Environment

- 10BASE-T or 100BASE-TX networks mutually connected by hubs, etc., that conform to IEEE 802.3 or IEEE802.3u.
- The VN-C30U and a PC can be connected directly by using a cross cable. (Although rare, the use of cross cables is not possible with some LAN boards.)
- When used with 100 BASE-TX, please use a CAT-5 cable.

Caution

When using the MPEG image compression method, please use a computer conforming to the recommended specifications.

To ensure correct usage

- To save electricity, be sure to turn off the power to the system when not in use.
- This product is for indoor use. It cannot be used outside.
- The product cannot be used and should not be installed in the following locations.
 - Locations subject to rain or water.
 - Locations with hot air or oil vapors, such as in kitchens, etc.
 - Locations where the allowed ambient operating temperature (0°C – 40°C) is exceeded.
 - Locations with radiation, x-rays or where strong electrical or magnetic waves are generated.
 - Locations with vibrations.
 - Locations with much dust.
- Insufficient dissipation of heat from the unit may cause damage. Never block or obstruct the ventilation around the unit.
- When this product is used with AGC on (Auto on), the sensitivity will be increased automatically in dark places, so the screen may flicker in some cases. This is not a malfunction.
- When this product is used with ATW on, in some cases the recorded colors may differ slightly from the natural colors due to the principle of the automatic tracking color balance circuit.
- When any bright object such as a lamp, etc., is photographed, white bands may appear above and below the bright object. This is called smearing, a phenomenon caused by the characteristics of the individual pixels, and is not a malfunction.
- The electronic shutter of this unit is set to 1/60 sec from the factory. When using the camera in locations with fluorescent light with a commercial frequency of 50 Hz, please switch the setting to 1/100 sec. (The sensitivity becomes slightly lower at the 1/100 sec. setting.)
- Do not touch the lens cover directly with hands. A dirty cover will result in reduced picture quality.
- When panning and tilting the VN-C30U, do not apply force to any part other than the body because this could result in damage or a malfunction.
- Use caution to avoid catching on the sensor insert button of the alarm input/output jack. In case this happens and disconnection from the alarm input/output jack occurs, return to the original location and use there.
- Cleaning
 - Turn OFF the power before cleaning.
 - Wipe dirt off the lens cover using lens cloth (or paper). Depending on the environment of use, dirt may accumulate in a short time. When very dirty, moisten the lens cloth (or paper) with a neutral detergent diluted with water.

VN-C30U Installation and Setup

Before starting installation and setup

It is necessary to set an IP address for each VN-C30U unit. Use the following procedure for the setup of each unit. (If the power is not turned on, the installation of multiple VN-C30U can be performed at one time.)

1. Install the VN-C30U

※ In case of installation in a location where the power cannot easily be turned on, complete steps 2 - 5 before step 1.

2. Connect the VN-C30U to the network, and set MODE SW as outlined on the next page.

(The power to the VN-C30U should be ON.)

3. Set the VN-C30U IP address.

※ When setting the VN-C30U IP address, be sure to contact the network administrator for assignment or approval. When installing the second and following units, reboot the PC and then return to step 2.

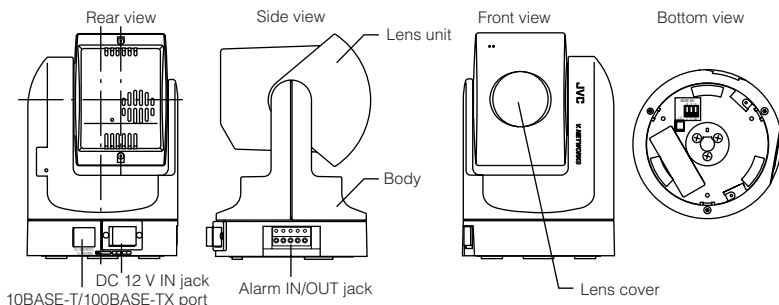
4. Enable the VN-C30U IP address.

(Turn the VN-C30U power off and then on again.)

5. Register the connection point.

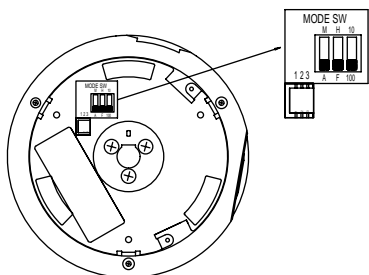
※ This registers the VN-C30U IP address data in the PC.

Names of VN-C30U parts



Connection to Ethernet

VN-C30U can be connected to both 10BASE-T and 100BASE-TX network. To ensure this, the factory setting is set to Auto Negotiation. However, depending on the used HUB, the unit may fail to work at this setting. For this reason the LAN connection setting switch "MODE SW" is provided on the bottom of the VN-C30U main unit. If VN-C30U cannot be connected or motion image are not smooth, change the settings of the "MODE SW" switch as shown below to find the appropriate condition.



- A : Auto Negotiation
- M : Manual
- F : Full Duplex
- H : Half Duplex
- 100 : 100BASE-TX
- 10 : 10BASE-T

The maximum data rate for sending from VN-C30U is 4Mbit/s, but it may not be possible to obtain smooth MPEG live images in the Half Duplex mode. We recommend to select one of the following mode;

- (1) 10BASE-T Full Duplex
- (2) 100BASE-TX Full Duplex
- (3) Auto Negotiation

(In the (3) Auto Negotiation mode, it is recommended that the HUB, etc., to which VN-C30U is connected be a device for which the link can be established in the above-mentioned condition (1) or (2).)

Installation and setup

1. Installation

Use the optional bracket (Model VN-BK30) for installation.

Make the power and network connections after completion of the installation work.

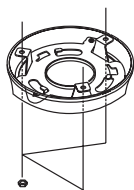
Caution

Install in a location with sufficient strength to prevent falling.

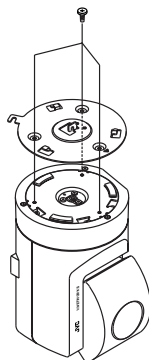
VN-C30U units can only be installed as shown in the diagram below, or inverted. Do not install facing sideways.

Tilted installation is not possible.

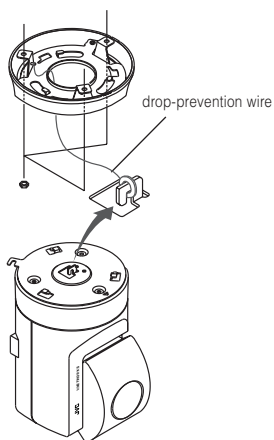
- ① Attach the ceiling fixer with the ▽ hole pointing toward the front of the camera.



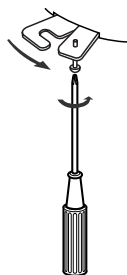
- ② Mount the camera body fixer on the VN-C30U.



- ③ Attach the drop-prevention wire of the ceiling fixer to the camera body fixer.



- ④ Mount the VN-C30U on the ceiling fixer by rotating clockwise, then tighten the screw of the camera body fixer.

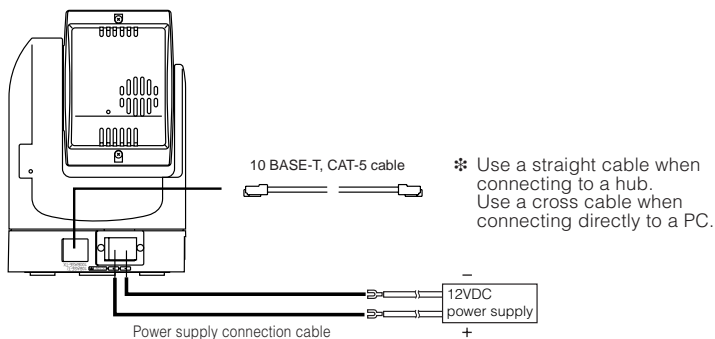


2. Connecting to the network

Turn on the power of only one VN-C30U unit.

When network connection is completed and the power is turned on, the VN-C30U unit will be connected to the network at the following IP address.

| | |
|----------------------------|----------------|
| Factory Default IP address | 192. 168. 0. 2 |
|----------------------------|----------------|



● About the power supply connection cable

- Length: 30m(98 feet) or less.
- Recommended model: UL1007, UL1015 or equivalent cable with wire equivalent to ID AWG #20 or larger.

Caution

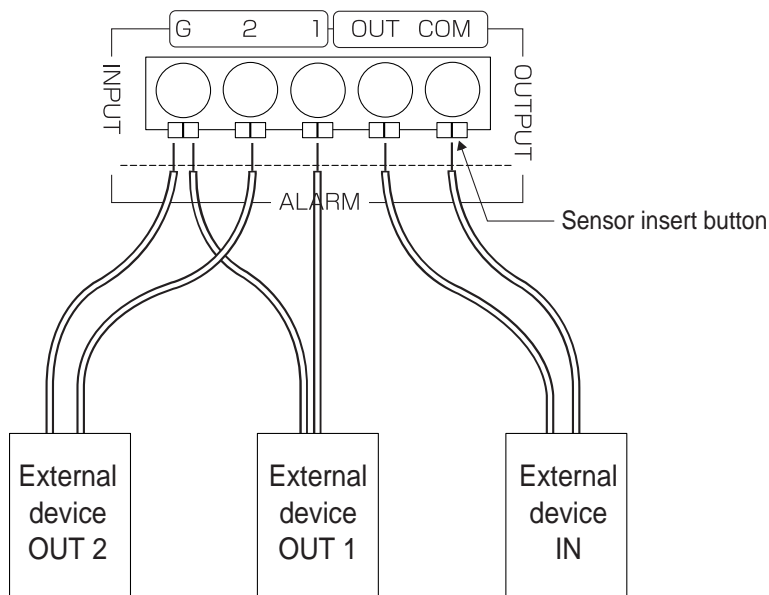
When shipped from the factory, the IP address of all VN-C30U units is set to 192.168.0.2. Consequently, if multiple units are installed in the same LAN environment and the power is turned ON at the same time, duplication of IP addresses will occur and correct access will not be possible. Always turn the power on for only one unit at a time. Once duplication of IP addresses has occurred (and after confirming that only one VN-C30U exists in the same LAN environment), wait a while (10 minutes or longer), or turn off the power of all the network devices on the same LAN environment, before turning the power ON again. If this is not done, it may not be possible to access the VN-C30U.

Caution

VN-C30U unit is intended to be supplied by a Listed Direct Plug-In Power Unit marked "Class 2" and rated from 11 to 15 V dc, 2 to 2.5 A.

3. Alarm IN/OUT connection

Connect external devices to the alarm IN/OUT as shown below.



● Cable connection and disconnection

Press the sensor insert button when connecting and disconnecting cables. After connecting or disconnecting, make sure the sensor insert button returns to its original position.

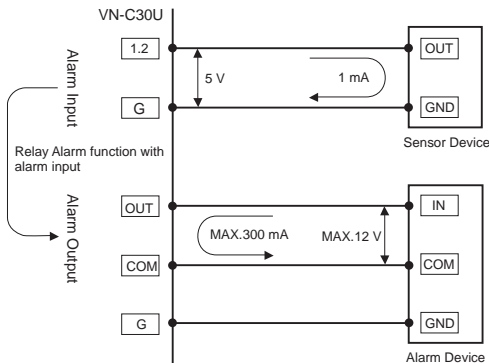
● About the alarm IN/OUT connection cables

- Length: use cables with a length of 50 m (164 feet) or less.
- Recommended model: UL1007, UL1015 or equivalent cable with wire equivalent to AWG #22 - AWG #18.

Caution

External noise may affect the alarm working properly even with a cable length of 50m or less. In such cases, it is necessary to either change to the use of shielded cable to prevent influence by noise or to change the wiring route to avoid passing close to the source of the noise.

VN-C30U Summary of Alarm Input / Output Functions



Interface condition of Alarm Input Terminal

Non-voltage, relay “a” contact input

Or non-contact, semiconductor “a” contact input

Or NPN open-collector input

Active low level, latch/momentary(500 ms or more)

Circuit current 1 mA at low level, applied voltage

5 V at high level.

Examples of Sensor Devices

Infrared sensor, door sensor, metal sensor
manual switch, etc.

Interface condition of Alarm Output Terminal

Equivalent to NPN open-collector output

(The output logic is set by the Setup Tool software)

Allowable input voltage: 12 V DC or less

Allowable current drain: 300 mA or less

Momentary(2-5000 msec)output

(The time is set by the Setup Tool software)

Examples of Alarm device

Alarm, indicator, light, buzzer, etc.

Note:

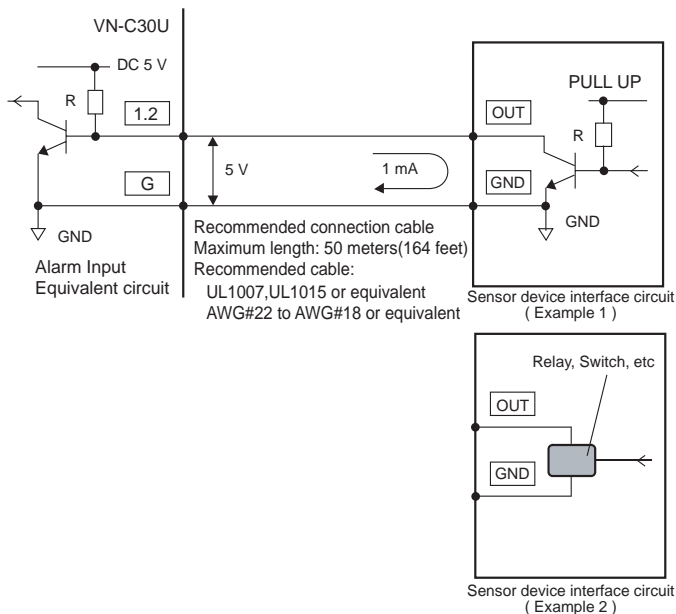
The types of relay contact mechanisms are expressed as “a” contact, “b” contact, “c” contact, etc.

“a” contact: The contact is normally “Open” and is “Closed” when an event occurs.

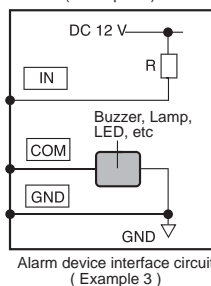
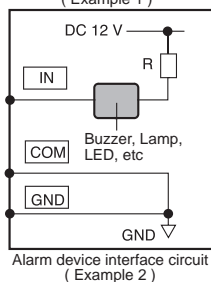
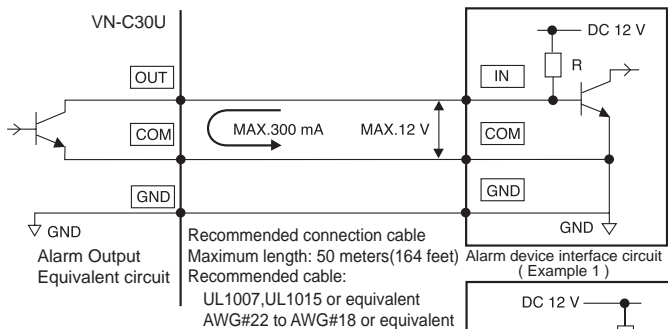
“b” contact: The contact is normally “Closed” and is “Open” when an event occurs.

“c” contact: The contact status is inverted when an occurs.

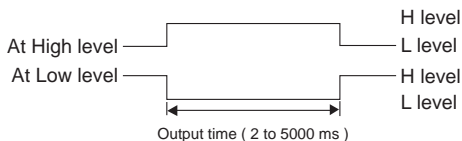
VN-C30U Examples of Alarm Input Terminal Interface



VN-C30U Examples of Alarm Output Terminal Interface



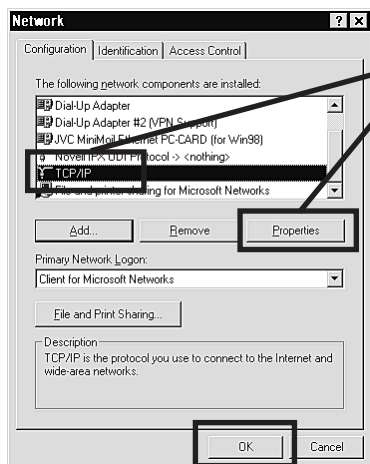
Note: Alarm setup menu of the V.NETWORKS setup tool
When an alarm device with a similar structure to interface circuits shown here is connected, the OUT terminal of VN-C30U varies as shown below according to the output port setup.



4. Setting the VN-C30U IP address

4-1 Changing the IP address of the PC

Display the network settings panel by selecting **Settings** from the **Start button**, then selecting **Control Panel** and **Network**, in that order.

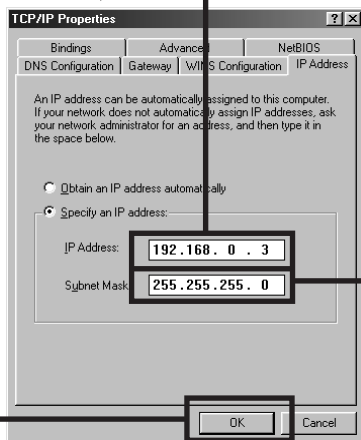


① Select the TCP/IP item, then click on Properties.

② Before making a change, always make a note of the original IP address.
Change the IP address to **192. 168. 0. 3**.

Set the subnet mask to a value suitable for the setting operation. If the value is unknown, check with the network administrator.

③ Click on **OK** and then reboot the PC.



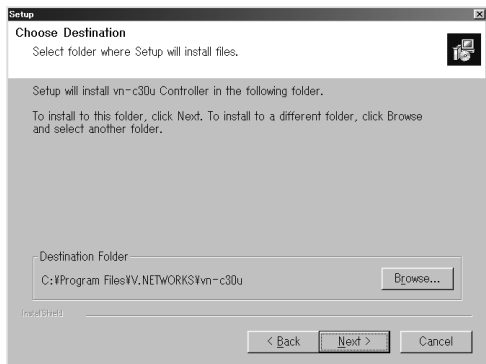
5. Installing the software

5-1 Installing the controller software

Load the VN-C30U Controller CD-ROM into the CD-ROM drive.

The setup program is in the \JVC folder on the CD-ROM.

Execute **\JVC\Setup.exe** and follow the displayed instructions to setup the software.

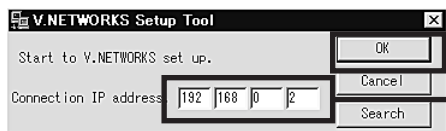


5-2 Installing the V.NETWORKS Setup Tool

Execute the \JVC\setup\Setup.exe file on the CD-ROM, and then complete the installation as directed by the messages on the screen.

6. Setting the V. NETWORKS Setup Tool

When installation is completed, select **Start - Program - V.NETWORKS** to invoke the **VN-C30U Setup Tool**.



Enter the VN-C30U IP address.
The factory default IP address
192. 168. 0. 2



Select the compression method for the camera image. For details on the setting, see page 23.

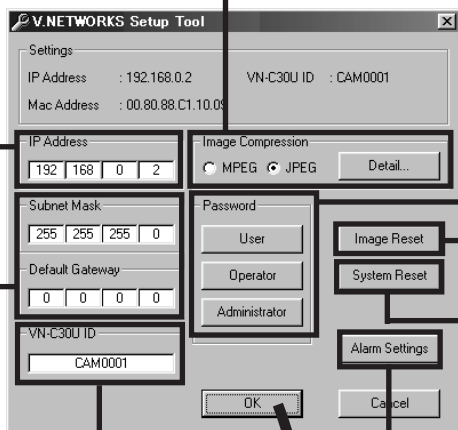
Change to an IP address assigned or approved by the network administrator.
(192. 168. 0. 2 is used as an example in the diagram.)

Set the subnet mask to a value suitable for the setting operation. If the value is unknown, check with the network manager.

The camera ID corresponds to the identification code located on the VN-C30U body. Only alphanumeric can be entered.

The user does not participate directly.

Normally, consecutive numbers such as CAM00001, CAM00002..... will be set.

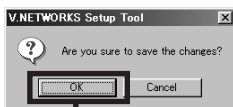


For setting of password, see page 30.

Resets the image.

Resets the VN-C30U unit.

For alarm settings, see page 26.

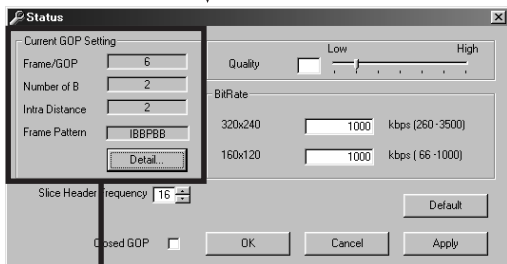
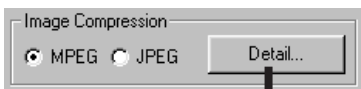


Settings are updated at the time when "OK" is clicked.

6-1 Setting the Image Compression Method

VN-C30U allows selection of either the MPEG1 compression or the JPEG compression. (Hereafter, MPEG1 will be referred to as MPEG in this manual.) On the V.NETWORKS Setup Tool screen, select MPEG or JPEG in the "Image Compression" area, and then click the **Details** button to set the details for the compression method.

■ When MPEG is selected



This is to select the data structure for the intra-frame compression of the image data. Group of Pictures (GOP) denotes a group that contains at least one frame of the image (I picture) frames of the data of the in-frame compression that becomes the source of the intra-frame compression. Press the **Details** button and select GOP. If the bit rate is the same, the image quality will be higher when there are more B frames and as the delay time becomes large for the composition of the final lines of the frame, this setting is recommended for recording.

| frame/GOP | Number of B | Intra Distance | Frame Pattern |
|-----------|-------------|----------------|---------------|
| 01 | 0 | 1 | I |
| 02 | 1 | 1 | IB |
| 02 | 0 | 2 | IP |
| 03 | 2 | 1 | IBB |
| 03 | 0 | 3 | IPP |
| 04 | 3 | 1 | IBBB |
| 04 | 1 | 2 | IBPB |
| 04 | 0 | 4 | IFPP |
| 05 | 0 | 5 | IFPPP |
| 06 | 2 | 2 | IBBPBB |
| 06 | 1 | 3 | IBPBPB |
| 06 | 0 | 6 | IFPPPP |
| 16 | 3 | 4 | IBBPBBPBB... |

GOP consists of three types of pictures, namely I, P and B.

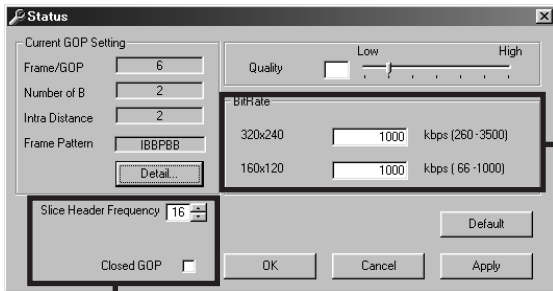
I picture: Image composed only by the in-frame compression data.

(Data size: Large)

P picture: Image compressed by referencing past picture data.

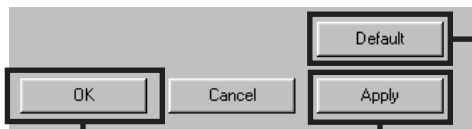
(Data size: Medium)

B picture: Image with data compressed by using past and future I or P pictures. (Data size: Small)



Slice header frequency
Normally use with the setting at 16.
Closed GOP
When set to ON, individual GOPs are created. Normally use with OFF selected.

Setting the bit rate
320 x 240 can be set within the range of 260 kbit/s - 3500 kbit/s, and 160 x 120 can be set within the range of 66 kbit/s - 1000 kbit/s. However, the lower limit value may fluctuate a little depending on the relevant image. If you want to know the exact lower limit value for the relevant image, make the recording and perform the following calculation.
Recording file's number of frames/30 = Recording time
File capacity (kbyte) x 8 bit/Recording time = The bit rate (bit/s) of the acquired image

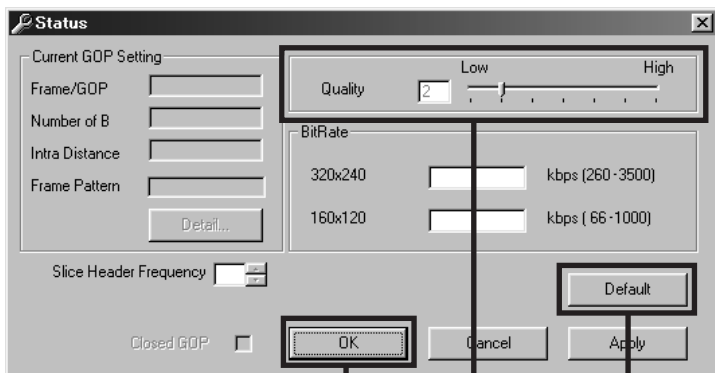
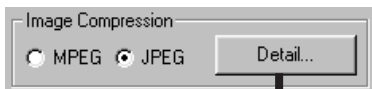


Makes the changes to settings valid.
Returns to the V.NETWORKS Setup Tool screen.

Makes the changes to settings valid.
Detailed settings are displayed.
When the settings of other items are changed, click the Apply button.

Resets settings to the factory default settings.

■ When JPEG is selected



Makes the changes to settings valid.
Returns to the V.NETWORKS Setup Tool screen.

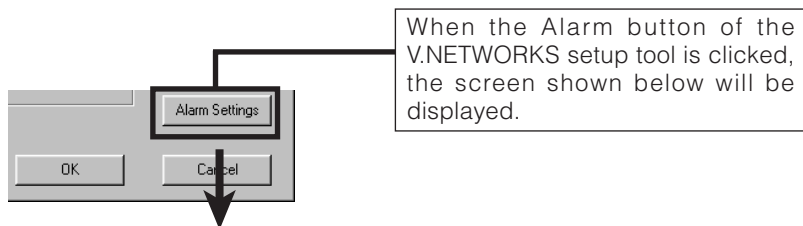
Resets settings to the factory default settings.

The compression rate is inversely proportional to the picture quality.
The frame rate is proportional to the compression rate.
Compression rate (1) - (7)
Image quality (High) - (Low)
Frame Rate (Low) - (High)

6-2 Alarm Setting

Alarm function

This function is to receive or send an alarm signal from/to alarm input/output over network. Use the V.NETWORKS setup tool for the fundamental settings.



Alarm Setting

Alarm1
 OFF
 ON
 Alarm Output
 Go to a preset position
[Left Arrow] [Right Arrow] []

Alarm2
 OFF
 ON
 Alarm Output
 Go to a preset position
[Left Arrow] [Right Arrow] []

Out port setting
 OFF
 ON
Output Value High Low
[] ms
Initialization ON OFF

Relay Alarm
 Use relay alarm
[Alarm1] [v]
Within [0] min. [1] s
[Alarm2] [v]
Use relay alarm
 Alarm Output
 Go to a preset position
[Left Arrow] [Right Arrow] []

Retry
[1] Times

Alarm force output
Output the Alarm out port complying with current settings.
[Output]

[Client List] [OK] [Cancel] [Apply]

The **Alarm 1** and **Alarm 2** settings determine whether or not the alarm function on Alarm 1 and Alarm 2 are effective (ON or OFF). When ON is selected, "Alarm Output" (to send a signal to Alarm out) and "Go to a preset position" (one of the 10 preset positions) are available.

✳For camera preset positions, see "Position Memory Settings" on page 44.

Alarm1
 OFF
 ON
 Alarm Output
 Go to a preset position

Alarm2
 OFF
 ON
 Alarm Output
 Go to a preset position

Relay Alarm
 Use relay alarm

Alarm1

Within min. s

Alarm2

Use relay alarm

Alarm Output
 Go to a preset position

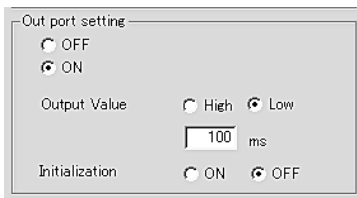
When the Alarm 1 and Alarm 2 receive signals in sequence, use the **Relay Alarm** Function to make the different settings from the above mentioned Alarm 1 and Alarm 2 settings.

Place a check beside **Use Relay Alarm** and specify the alarm occurrence sequence and the time interval.

When a relay alarm is generated, the alarm output and movement of the camera to the preset position can be controlled using check boxes and scrollbars.

Caution

When Relay Alarm is set, following alarm operations will not activate. Example: If relay alarm is generated in the order of Alarm 1 → Alarm 2, the operating mode becomes: Operation of Alarm 1 → Operation of relay alarm, and operation of Alarm 2 itself will not be executed.



Out port setting

OFF
 ON

Output Value High Low

ms

Initialization ON OFF



Out port setting includes the following settings:

OFF/ON: Determine whether or not an alarm is to be output.

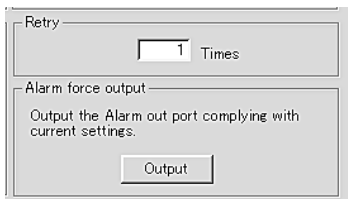
Output value: Determine whether the High or Low signal will be output when an alarm occurs. Enter the time for continuous signal output of selected output value (High or Low) in the text box below.

Example: High 100ms

The High signal will be output for 100ms. After that, the output value will change to Low.

Initialization: Determine whether or not the alarm signal will be output one time when the power is turned on.

❖ Set the values of Out port setting in accordance with the device to which the output is to be sent.



Retry

Times

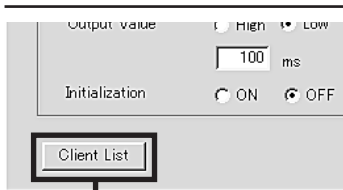
Alarm force output

Output the Alarm out port complying with current settings.



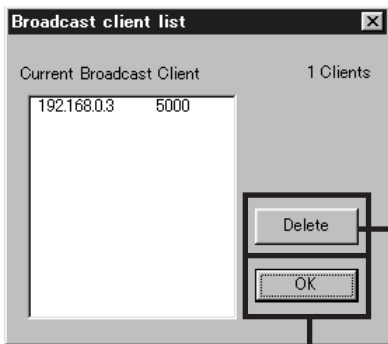
Retry: Determines the number of retries (1 - 3) to be made when alarm input arrives. Depending on the LAN environment, alarm retry may fail. To prevent this, it is possible to set the number of alarm retry attempts to 3 times. However, even when set to multiple times the client (VN-C30U controller) will only operate once.

Alarm force output: Press the Output button for compulsory alarm output from the camera alarm Out port in accordance with the current alarm Out port settings. This can be used for checking devices connected to the output port.



The list of alarm broadcast client (IP address and port number) currently registered in the camera can be displayed by pressing **Client List**. The PCs that satisfy the following conditions are displayed.

- The VN-C30U controller has been started and is connected to the VN-C30U subject to setup.
- Checks are placed at **Settings** and **Alarm Reg.**



PCs can be deleted from the broadcast client list by selecting the IP address and pressing **Delete**.

Return to Alarm Setting window by pressing **OK**.

Caution

Once the PC is deleted from the Broadcast client list, the alarm does not function.

6-3 Setting the Password

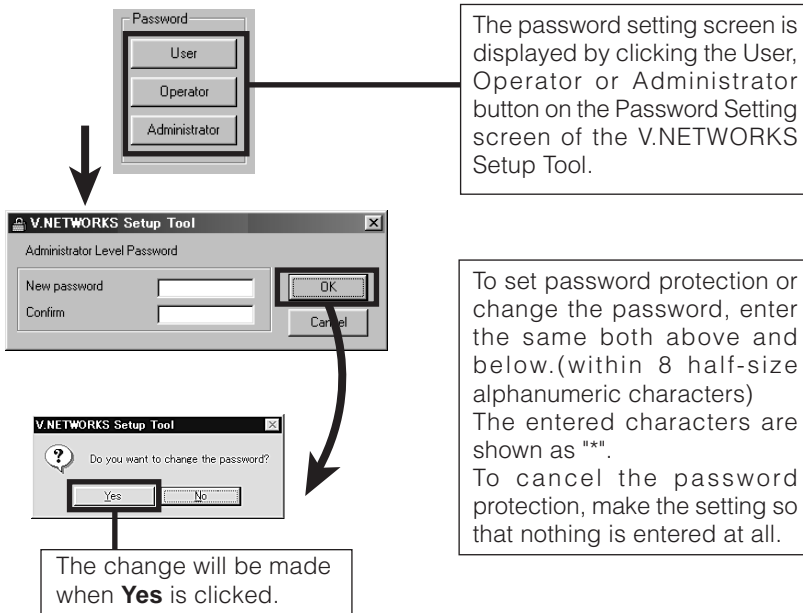
Password function

An access protection using a password is provided to regulate connecting PCs (users). Password setting and cancellation is performed by the V.NETWORKS setup tool. Passwords for User, Operator and Administrator can be set for each of the privilege levels.

| Privilege Level | Contents of Access Rights |
|-----------------|---|
| User | Can view the images. |
| Operator | Can perform all the operations allowed by the VN-C30U. |
| Administrator | Can perform all of the above and make all the settings allowed by the Setup Tool. |

Caution

Never forget the current password because the current password setting cannot be changed unless it matches the password setting.



For a VN-C30U for which password protection is set, the password requesting screen appears. If the Administrator password does not match, it will not be possible to perform the VN-C30U setup. The password will not be requested in the condition in which only the password for user or operator is set and the administrator password has not been set.

6-4 Making the set IP address valid

When the IP address is changed, the pan and tilt mechanism will work and the IP address becomes valid after the VN-C30U is reset.

6-5 Special Notes on the V.NETWORKS Setup Tool

Caution

The V.NETWORKS Setup Tool is software that is only required when the setup is performed. Therefore, please uninstall the software following completion of the setup unless there is special reason for leaving it on the PC. When setting the second or following units, reboot the PC and then return to 2 (page 15). After setting of all the VN-C30U units is completed, proceed with the next procedure.

Restoring a work PC IP address

Using the same procedure as in 4-1, select **Settings** from the **Start** button, then select **Control Panel** and **Network**, Change to the original TCP/IP properties setting that you made a note and then restore a work PC IP address. After restoration is completed, follow the messages of OS and reboot the PC.

Search function

The Search button is used to find the V.NETWORKS IP addresses currently connected to the network.

When Search button is pressed, the Search screen will be displayed. When Start Search button is pressed, a list of the V.NETWORKS IP addresses currently connected to the network will be displayed. Timeout is used to set the search time and can be set to 0 - 30 sec.

Caution

When your own PC and a V.NETWORKS of a different subnet are connected on a LAN, connection will not be possible even if the search is successful.

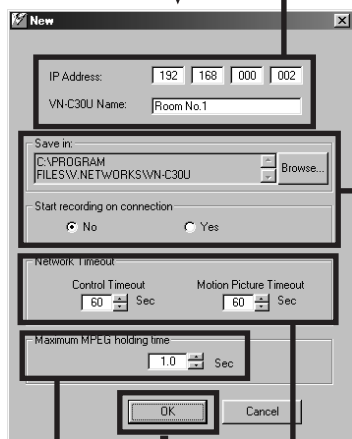
In such cases, change to an appropriate IP address on your PC and then try connection.

7. Registering connection points

Start the VN-C30U controller (vn-c30u.exe). Select **New** from the **File** item in the menu and then specify the connection point.



Enter the IP address and name of the VN-C30U connection point. (192.168.0.2 is used as an example in the diagram.)



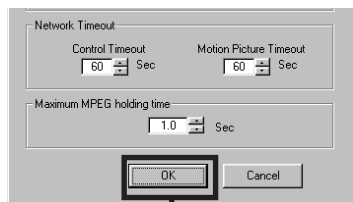
The folder "VN-C30U Name" will be created automatically in the folder specified here. Recorded files will be saved here. (Refer to page 50 concerning recording.)

"Start recording on connection" determines whether or not recording will start automatically upon the connection of VN-C30U.

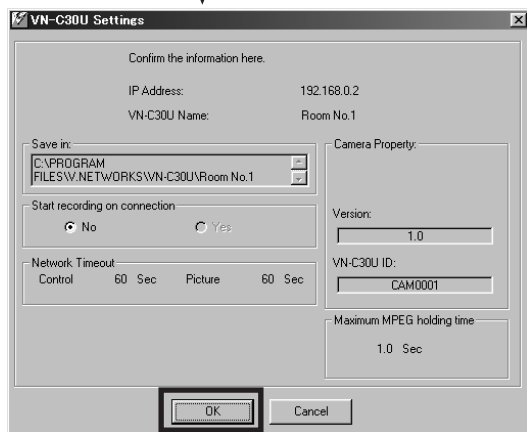
Set the Network time-out (seconds). Set a long Network time-out in case the image does not display correctly when connecting to the network.

See the next page.

When using a network backbone that does not offer sufficient capacity to enable reception of the MPEG images, the images received within the buffering period are displayed together after the buffering period has expired. If set to 4 seconds, for example, nothing will be displayed for 4 seconds after the connection is established, and after 4 seconds the images that have been received up to then are displayed. Then there will be another 4 seconds of buffering before images are displayed again. This setting is ignored if the network backbone capacity is larger than the bit rate of the MPEG images being received. The factory default setting is 1 second.(90 sec is the maximum value that can be set.)



Clicking the **OK** button displays the setting confirmation screen.



Click **OK** to complete the registration.

Controller Software Operation

Starting connection and changing connection points

Refer to Software Installation on page 21 for the installation procedure.

When the VN-C30U controller (vn-c30u.exe) is executed, a logo will be displayed and then the following screen will appear.

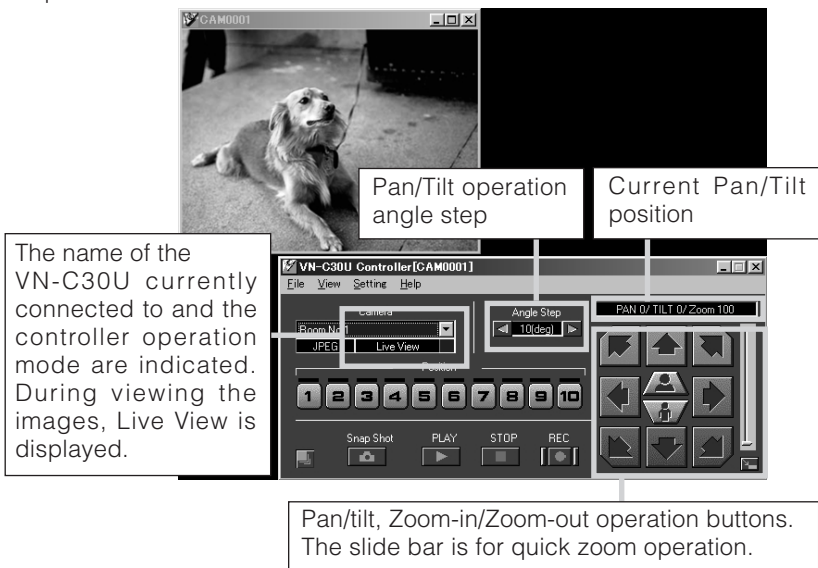


Connection points can be selected from this pulldown menu.

- * In the case of a connection point provided with a password, you are asked to enter the password. To connect, enter the password for operator or administrator use.

Controller 1

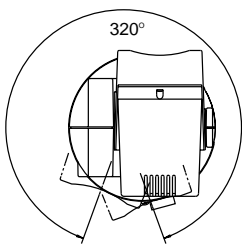
After a connection point is selected, you will find the names of currently connected VN-C30U, the pan/tilt operation angle step and the current Pan/Tilt position.



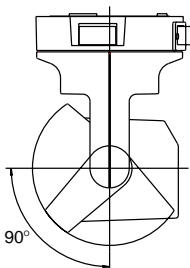
The Pan/Tilt operation angle step of connected VN-C30U can be changed by clicking on the left and right (◀ ▶) buttons.

Pan/Tilt position can be changed with the Pan/Tilt operation buttons (8 buttons).

Zoom in/Zoom out is performed by one step for each click of zoom button. If you keep pressing the button, Zoom in/Zoom out can be performed continuously.

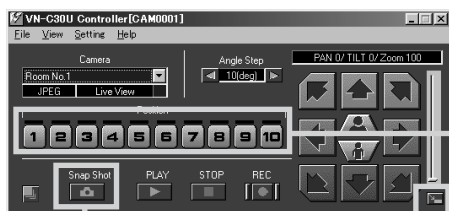


Pan range



Tilt range

Controller 2

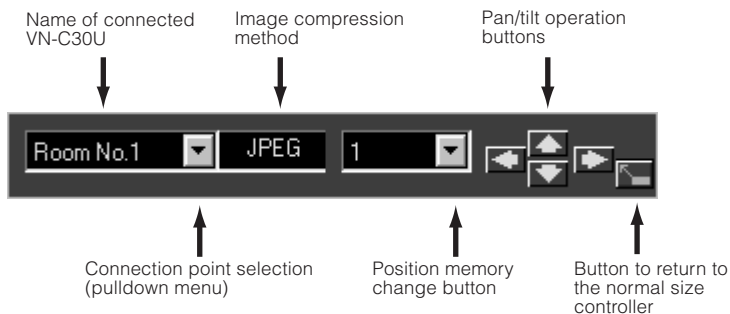


The VN-C30U controller has the Snapshot function. This function allows you to capture still images or save them onto the hard disk. For details, refer to "Snapshot function" on page 52.

The VN-C30U controller has the position memory function (up to 10 positions). By pressing this button, the current position is changed to the already memorized position. Refer to "Changing position memory" on page 44 concerning changing the contents of the position memory.

The size of VN-C30U controller can be smaller by pressing this button. It is possible to switch between the normal and smaller controller.

Smaller Controller



Caution

During the position memory operation, the images may pause for a few seconds. This is because the position correction function is automatically being operated and this is not a malfunction.

Convenient Function

When double-clicking in the window, the clicked position is brought to the center of the image. (Only when JPEG image format is selected.)



Caution

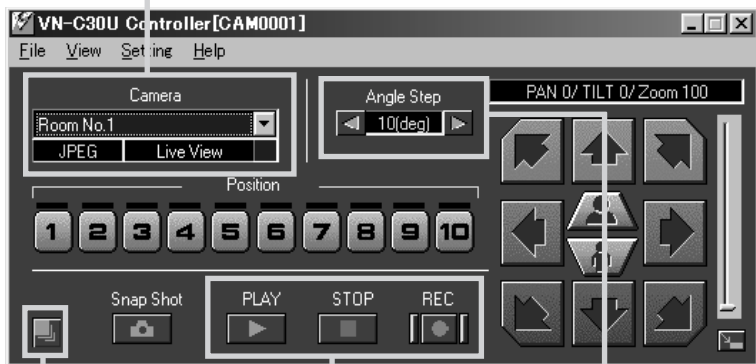
It is not possible to move beyond the Pan/Tilt limits but this is not a malfunction.

Caution

During the Pan/Tilt operation, the images may pause for a few seconds. This is because the position correction function is automatically being operated and this is not a malfunction.

Controller 3

If the cursor is briefly positioned over the VN-C30U name, a balloon display of VN-C30U names will be displayed.



The VN-C30U controller has the recording and playback function. For details, refer to page 50 and 51.

Pan/Tilt operation angle step can be set by clicking the value and directly enter any value. After entering (changing) the value, press the Enter key.

When Placing the mouse cursor at the edge of the window the arrows \leftrightarrow \updownarrow \nwarrow allow the size of the image to be changed as desired (the size of the image captured from VN-C30U does not change). This button returns the changed size of the window to the original size. (Only when MPEG image format is selected.)

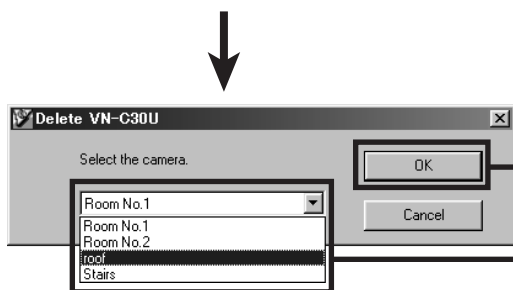
Creating new connection points

Refer to "Registering connection points" on page 32.

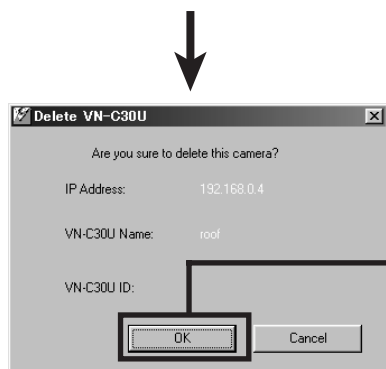
Deleting connection points



Select **File** from the menu and then select **Delete**.



Select a connection point to be deleted and then click on **OK**.

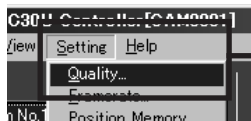


Make sure the desired point is being deleted, and then press **OK**.

Caution

The connection point cannot be recovered once it is deleted.

Image quality • Lens adjustment



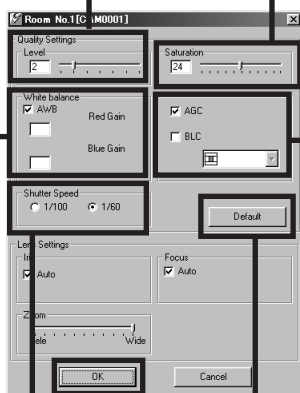
Select **Settings** from the menu and then select **Quality**.

■ Image quality adjustment

The compression rate is inversely proportional to the image quality. As the value gets smaller, the image quality increases but the data size becomes larger.

Color saturation adjustment
As the value gets higher, saturation gets stronger.
A small value makes it weaker.

When AWB is checked, the auto-white balance function will operate. When the checkmark is removed from AWB, manual white balance adjustment becomes possible by means of the R Gain/B Gain slide bar.



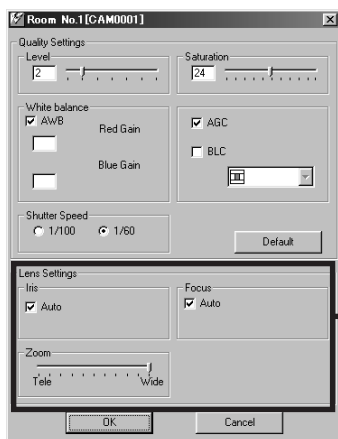
- When AGC is checked, internal amp gain is automatically adjusted in accordance with the brightness of the surroundings.
 - When BLC is checked, the backlight compensation function is activated. From the pull-down menu, the metering area can be specified. (Select between 5 types.) Brightness is automatically adjusted with the specified metering area (shaded area) acting as reference.
- *When AGC is not checked, BLC cannot be checked.

The setting will be effective.

Set at 1/60 in the case of normal recording. In regions with fluorescent light with a commercial frequency of 50 Hz, please switch the setting to 1/100. Set to 1/60 in 60 Hz regions. This will reduce flickering caused by fluorescent light.

Clicking Default returns the image quality to the factory default settings.

■ Lens setting



The current condition of the lens is shown in the window. The lens moves when the setting items are operated.

- When Auto is selected for Iris, the amount of light entering the camera will be kept constant. When Auto is not selected, the brightness of the screen is maintained at a fixed level that can be adjusted by using the slide bar.
- When Auto is selected for Focus, the slide bar becomes inoperative. When Manual is selected, the slide bar can be operated.

Advice

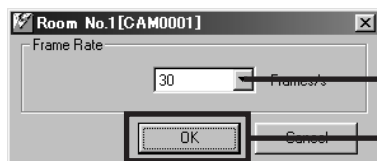
For locations where many people are passing by or operation of zoom at Tele, we recommend to select Manual Focus in order to prevent continuous auto focusing.

Frame Rate Setting

The frame rate can only be set for JPEG images. It is fixed at 30 Frame/s in the case of MPEG images.



Select **Settings** from the menu and then select **Frame Rate**.



This is to set the upper limit of transmission frame rate from VN-C30U.

Caution

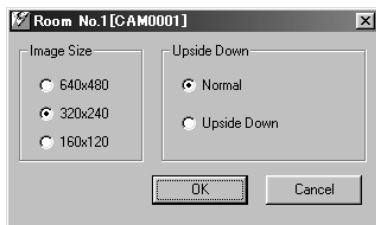
The actual frame rate depends on the operational environment (PC specifications, image compression, network infrastructure, etc.) and may be different from the transmission frame rate. In practice, the higher transmission frame rate is set up, the more bandwidth is required. Therefore, try to set the lower transmission frame rate if relatively low bandwidth is available for VN-C30U.

Changing resolution and inverting the image



Select **View** from the menu.

The resolution can be selected from 160 x 120, 320 x 240 or 640 x 480. Depending on the installation, select Normal or Upside Down.

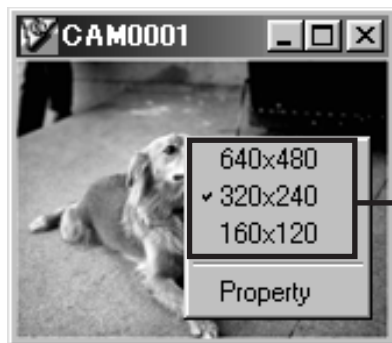


Caution

640 x 480 cannot be selected for MPEG images. Upside Down is not possible either.

On-screen resolution change

The resolution can also be changed on the screen with the following procedure.

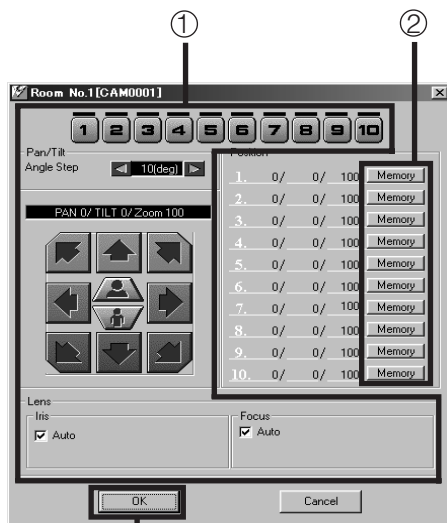


Click the right button of the mouse on the screen and select one of the following: 160 x 120, 320 x 240 or 640 x 480. Clicking Properties displays the MAC address, IP address, unit name, program version, and storage destination. (The pull-down menu is not displayed in the case of MPEG compression.)

Changing position memory



Select **Setting** from the menu and then select **Position Memory**.



Procedure for **Position memory change**

- ① Use the position memory buttons, Pan/Tilt/Zoom setting and lens setting to set the status in position memory.
- ② Press one of these memory buttons in which the status set in step ① is to be memorized.
- ③ Press **OK** to close the position memory setting window.

Caution

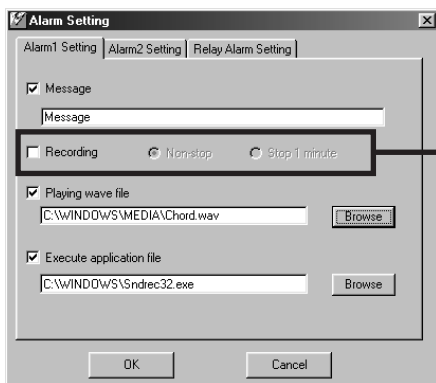
- When the zoom scroll bar is set to the Tele end, the lens position may not be the same after changing its position.

Alarm setting

The alarm settings determines the actions to be performed when an alarm signal is received from Alarm 1 or Alarm 2 input of VN-C30U.



Select **Settings** from the menu, then select **Alarm** Settings.



Select Non-Stop or Stop in 1 minute after the recording starts, Stop in 1 minute is used for saving space on the hard disk. When Stop in 1 minute is selected, normal recording specified on the controller software also stops in 1 minute after the alarm is received.

There are four functions as follows:

- **Message**

Pop-up the message entered in the text box.

(There is a limit on how many characters that can be displayed.)

- **Recording**

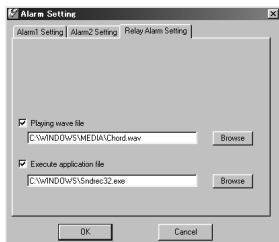
Start recording the images.

- **Playing wave file**

Play a specified wave file . Any wave files can be specified from the Browse button.

- **Execute application file**

Execute a specified application file. Any execute (.exe) files can be specified from the Browse button.



Relay alarm setting

When relay alarm setting is performed using the V.NETWORKS Setup Tool, this window becomes active.

The program to be executed and the wave file to be played back when a relay alarm is generated can be set in advance.

(For these items, please see the previous page.)

Caution

- When a large wave file (*.wav) is selected, the alarm operation may be delayed depending on the PC specifications. Try to select a relatively small wave file.
- In order to enable the Alarm 1, Alarm 2 and/or Relay Alarm setting it is necessary to
 - 1) Select "ON" in Alarm 1, Alarm 2 and/or Relay Alarm setting of V.NETWORKS setup tool (refer to page 27),
 - and
 - 2) Check (✓) Alarm reg.
- When relay alarm has been set, the second alarm operations is not performed.

Example: When the Relay Alarm occurs in the sequence of Alarm 1 → Alarm 2, alarms operate in the sequence of Alarm 1 → Relay Alarm and Alarm 2 does not operate at all.

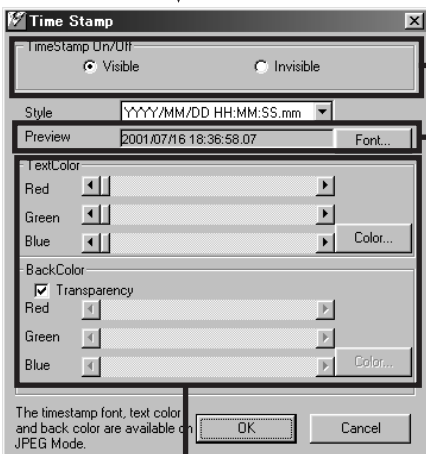


To enable the Alarm 1, Alarm 2 and/or Relay Alarm settings, it is necessary to check (✓) Alarm reg.

Time stamp setting



Select **Setting** from the menu and then select **Time Stamp**.



Sets whether the time stamp should be displayed or not. When Visible is checked, the date and time are displayed superimposed on the camera image.

During playback, the date and time of the recording are displayed.

* In the case of MPEG, the time stamp is only displayed in the title bar.

In the MPEG mode, selection of Font is disabled.

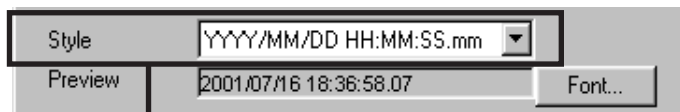
Sets the color of the characters of the time stamp and the background color.

- Transparency ... The background becomes transparent.

* In the MPEG mode, selection of color is disabled.

* Changing the time stamp display position

On the screen, hold down the Shift key and click the left button of the mouse at the position where time stamp is to be displayed.



Any of the following 7 display styles can be selected.

YYYY/MM/DD HH:MM:SS.mm

(year/month/date hour: minute: second. millisecond)

YYYY/MM/DD HH:MM:SS

(year/month/date hour: minute: second)

DD/MM/YYYY HH:MM:SS

(date/month/year hour: minute: second)

MM/DD/YYYY HH:MM:SS

(month/date/year hour: minute: second)

MM/DD HH:MM:SS

(month/date hour: minute: second)

HH:MM:SS

(hour: minute: second)

HH:MM

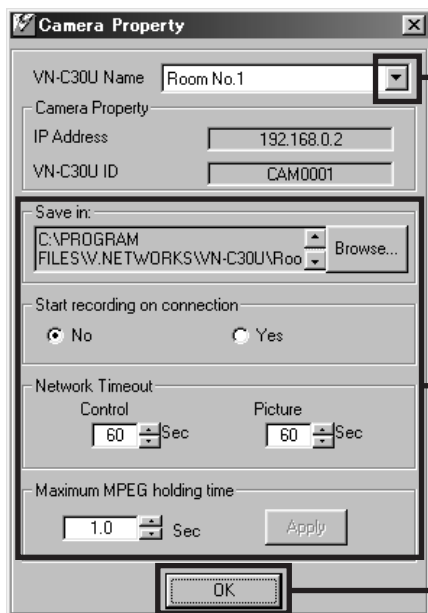
(hour:minute)

Changing Property

The information related to connections and setting when the connection was first defined can be changed. (However, it is only the VN-C30U information in the offline mode that can be changed.)



Select **Settings - Property**.



Select the camera for which the properties should be changed from the **VN-C30U Name** designations pull-down menu. **Camera property** and **Save in** cannot be changed.

It is possible to make the settings as when the properties were first created. Following these changes, click the **OK** button to complete the changing of properties.

Recording function

This function is to continuously record the images of connected VN-C30U onto automatically created folder with "VN-C30U Name."



Press the "**REC**" button.

❖ The recorded file is saved in the folder specified when the initial setup was performed.



Blinks red during recording.

"**Recording**" is displayed when recording starts.



In the JPEG mode, the "**REC**" characters are displayed in the upper right corner of the window.



Press the **STOP** button to stop recording. "REC" disappear.

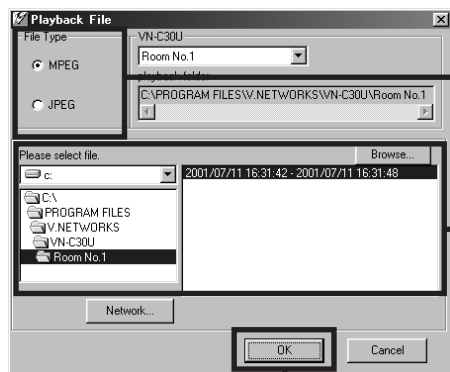
❖ Avoid continuous recording for a long period of time. When playing back a file recorded by continuous recording for a long period of time, the memory of the computer may become insufficient, and playback may not be possible.

❖ Never change the saved files and their name, otherwise all the saved images may not be correctly playback.

Playback function



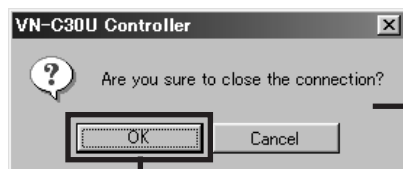
Press the **PLAY** button.



Select the file type for the image data.
(MPEG or JPEG)

Select the file that you want to playback from the storage destination of the recorded file.
The filename becomes the start-to-stop times of the recording.

Click the **OK** button.



This window only appears during viewing of the image from the camera.



When the **OK** button is clicked, the connection to the camera is disconnected and the playback picture screen appears.

Playback picture screen



Closes the playback picture screen.

During playback, the slide bar moves toward the right in accordance with the playback time.

By dragging the slide bar with the mouse, the file can be played back as desired.

Clicking **Stop** stops the playback and returns to the first image.

Clicking **Pause** pauses the playback.

Clicking **Play** starts the playback.

Snapshot function

The VN-C30U controller allows you to capture a still image and save it as a still picture file.

If the VN-C30U is operating in the JPEG mode, the file will be saved in the JPEG format, and if it is operating in the MPEG mode, it will be saved in the MPEG format.



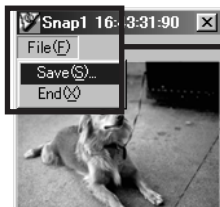
Click the **Snap Shot** button.



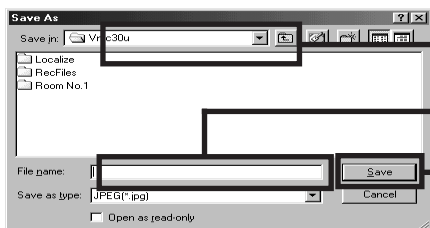
Snapshot display is possible.

Up to 16 images can be shown as snapshot display. When 16 snapshots are displayed, the camera symbol disappears from the **Snap Shot** button.

A beep sound is heard if you click the **Snap Shot** button at this time.



If you select **File - Save** from each of the snapshot display menus, the Save dialog box is displayed.



Specify the location.

Enter the file name.

Press **Save** to save the file.

Caution

- Saved images can be displayed with ordinary viewer software. However, inverted images cannot be displayed inverted. Colors may also differ from those seen on the VN-C30U controller screen.
- Do not start other image viewing application while the VN-C30U Controller Software is active. This is particularly important with Windows 95 as it may cause a failure in saving snapshots. In this case, use the recording function to save images.

Troubleshooting

| | |
|---|---|
| <p>An IP address changed with the V.NETWORKS Setup Tool has been forgotten.</p> | <p>The Search button of the V.NETWORKS Setup Tool can be used to acquire the IP addresses of V.NETWORKS cameras connected to the network.</p> <p>If the desired information cannot be found by viewing the vsetup file, this must be handled as a repair. Please consult your local dealer.</p> |
| <p>Recording is not possible.</p> | <ul style="list-style-type: none">• It is possible to delete the folder used to save images. Check to make sure the folder exists.• It is possible for the disk to become full. Check the available capacity of the disk. |
| <p>The password set with the password protection function has been forgotten.</p> | <p>The disabling of the password protection function is handled as a repair. Please consult your local dealer.</p> <p>For safety, be prepared to show proper identification.</p> |
| <p>Time is required for cancellation when "Connecting..." is displayed.</p> | <p>Once the connection operation starts, cancellation is not possible for a period of several seconds.</p> |

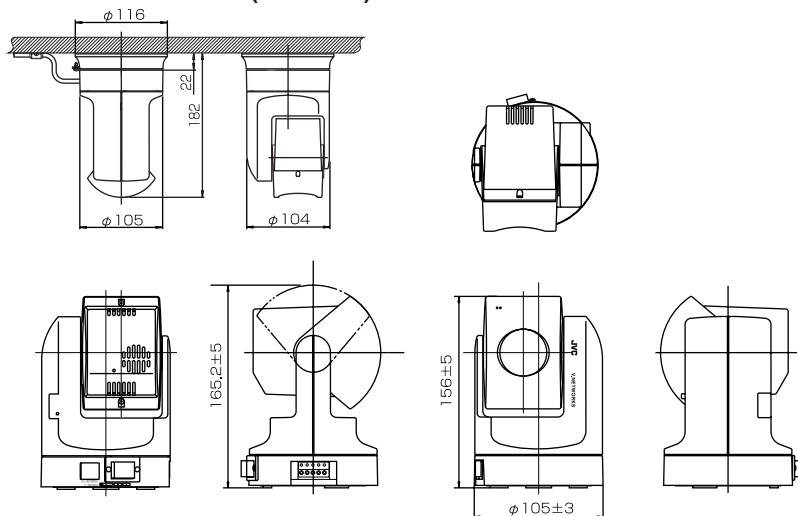
| | |
|--|--|
| <p>The colors are not satisfactory.</p> | <ul style="list-style-type: none"> • Check the color adjustments of the display or video card. The colors displayed by different PC display monitors and video cards will differ to some degree. Improvement is sometime possible by adjusting the color settings of the display monitor. Depending on the video card, colors can sometimes be adjusted using Screen Properties (click the right mouse button on the desktop.) • Switching to True Color (24-bit) display Colors are sometimes not natural at the High Color (16-bit) or lower setting. It is recommended that you use True Color. • Adjusting white balance Colors can also be changed by adjusting Manual white Balance from the image quality adjustment screen. When different light sources have been used. (For example, when alternately using sunlight outdoors and fluorescent lighting indoors.) Time is sometimes required for auto tracking white balance to start operating. In such cases, white balance can sometimes be made to work quickly by removing the check from Auto in the image quality adjustment screen and then replacing the check. • Depending on the subject, the colors may appear to vary slightly in some cases. This is not a malfunction. |
| <p>The image size and position change spontaneously.</p> | <p>When one VN-C30U unit is connected to several PCs, the last PC to operate and set the VN-C30U unit will have priority.</p> |

| | |
|--|---|
| <p>Out of focus.</p> | <p>The autofocus sometimes does not operate correctly in dark places and when blank surfaces such as walls are photographed. In such cases, focus manually. The focus may be off slightly when manual focus is used at the TELE position, but this is not a malfunction.</p> |
| <p>VN-C30U connection is not possible or the connection has been broken.</p> | <p>When there are multiple occurrences of broadcasts, collisions, etc., or when the network status is not normal, it may become impossible to connect the VN-C30U or the connection may be broken.</p> |
| <p>When display of moving MPEG images is not smooth.</p> | <p>When the computer's specifications or the bandwidth of the network is insufficient, the live images may appear as in slow motion or frames may drop out, etc. (This is not a malfunction.)</p> |
| <p>The VN-C30U controller does not start up.</p> | <p>When using the snapshot utility supplied with the CANOPUS's video card, the dll file name will cause conflicts, and normal operation of the VN-C30U controller may be prevented. Use the VN-C30U controller in the condition in which the snapshot utility supplied with the video card has been closed.</p> |

Specifications

| | |
|---------------------------|---|
| LAN standard | IEEE 802.3, IEEE 802.3u standards |
| Communication protocol | UDP/IP, TCP/IP |
| Image Sensor | 1/4-inch, 380,000-effective pixels CCD |
| Lens | 15:1 zoom lens, $f = 4.1 \text{ mm} - 61.5 \text{ mm}$, $F 1.4 - 2.4$ |
| Minimum focusing distance | 0.8 m |
| Pan/tilt operation angle | Pan: 320° Tilt: 90° |
| Image compression | JPEG, MPEG1 |
| Output image format | 640 x 480, 320 x 240, 160 x 120 |
| Alarm input | Non-voltage a contact input.NPN open collector input Low level. latch/momentary (500 ms or more) Low level circuit current 1 mA High level impressed voltage 5 V |
| Alarm output | NPN open collector output (allowable impressed voltage: 12 V; allowable input current: 300 mA) |
| Power supply voltage | DC 12 V |
| Power consumption | 2.0 A (max.) |
| Operating temperature | $0^\circ \text{C} - 40^\circ \text{C}$ |
| Mass (weight) | Approx. 800 g. |

External dimensions (Unit: mm)









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