

Panasonic®

Operating Instructions

Network Camera Server

Model No. **BB-HCS301A**



Please read this manual before using and save this manual for future reference.

Panasonic Network Camera Website: <http://www.panasonic.com/netcam>
for customers in the USA or Puerto Rico

Main Features

Motion-JPEG Conversion from Analog Camera Image

When the analog camera is connected to this product, you can view the image from the Internet.

Video Output Terminal and Local Audio Mode

This product provides Video Output Terminal that allows you to output the video signal from Video Input Terminal and Local Audio Mode that allows you to output the audio signal from Audio Input Terminal. By cascading this product, the simultaneous accesses to the same video or audio can be increased (Up to 5).

IPv6^{*1} Supported

This product supports IPv6 (Internet Protocol Version 6), IPv6 was created to address the additional IP addresses that will be needed as the Internet continues to expand. Since this product also supports IPv4 that is currently used, it is "dual stack" design will seamlessly operate while IPv6 is phased in. For more information in IPv6 you wish to visit <http://www.ipv6.org/>. See page 14 for more information.

Audio 2-way Communication^{*2} (Walkie-talkie Type)

This product now provides 2-way audio, between this product and your PC. You will be able to hear the person on this product and respond using a microphone connected to your PC's sound card (customer-provided.) They will hear your response through the amplified speaker (customer-provided) connected this product.

Note

PLEASE NOTE that under certain circumstances, audio/video recording may be PROHIBITED by law. This device should be used only in compliance with all applicable federal, state and local statutes.

IPsec Security

IPsec is a data encryption method to prohibit interference by a third party. This product increases security by using IPsec and password authentication.

^{*1} To connect in IPv6, subscribe to the ISP's "IPv4/IPv6 Dual-Stack" or "IPv6 over IPv4 Tunneling" service. This product does not work in IPv6-only network.

^{*2} Audio feature does not work on cell phones. Talk button and Listen button cannot be used simultaneously. In consequence of traffic and network environments, the audio may be delayed or may break up.

Digital Zoom Feature¹

This product has a 10× digital zoom feature.

This feature allows you to increase or decrease the size of the object on the Single Camera screen, the Multi Camera screen, and the Buffered Image screen.

Therefore, it will be easy to view the object that located to a distant place.² A mouse wheel operation or clicking the right mouse button increases or decreases the size of the object on the Single Camera screen.

Motion Detection Feature

This product has a motion detection feature that detects movement, such as people, based on the preset threshold and sensitivity on the image.

This product can buffer the images, transfer them to an FTP server or send them by E-mails using the motion detection function as a trigger.

Multi-Camera Supported

Multi-Camera page displays up to 4 cameras while supporting each audio 2-way communication. This product can switch 3 sets of 4 cameras. Additionally, this product can displays maximum 12 cameras on a page in a static image.

DynamicDNS Service Supported

DynamicDNS service allows you to access this product over the Internet with your favorite domain name (e.g. bob.viewnetcam.com) instead of a global IP address.

Multi-Language Display

Top page, Single Camera and Multi-Camera page can be displayed in English, French, German, Italian, Spanish, Russian, Simplified Chinese or Japanese. The Setup, Maintenance and Support pages are displayed only in English or Japanese.

Alarm Log and Alarm Log Notification

This product notifies the signal detection log once a day by E-mail sent at a specified time. This product can have 3 E-mail destinations. It is convenient when this product has multiple detections such as comings and goings of people.

SD Memory Card³ Recording

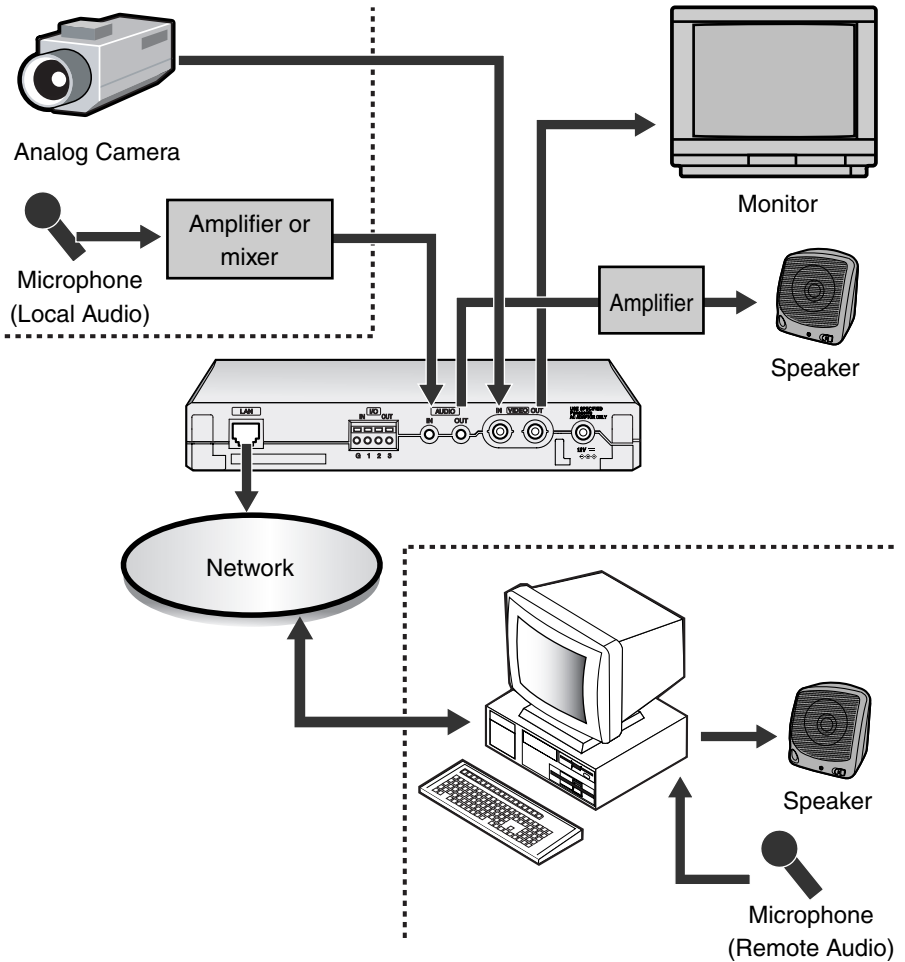
This product has an SD memory card slot. You can record images to the SD memory card. If you enable alarm buffer/transfer, you can record the image at the timing of signal detection of door sensor or light. About 60,000 images (320 × 240 resolution and standard quality) can be recorded to 1 GB SD memory card. If you enable 1-minute interval timer buffer/transfer, you can record the images for about 41 days.

¹ This feature is not available when viewing on a cell phone.

² As the magnification increases, the image quality decreases.

³ SD memory card is sold separately. This product supports 1 GB, 512 MB, 256 MB, 128 MB or 64 MB Panasonic SD memory card.

Example of connection

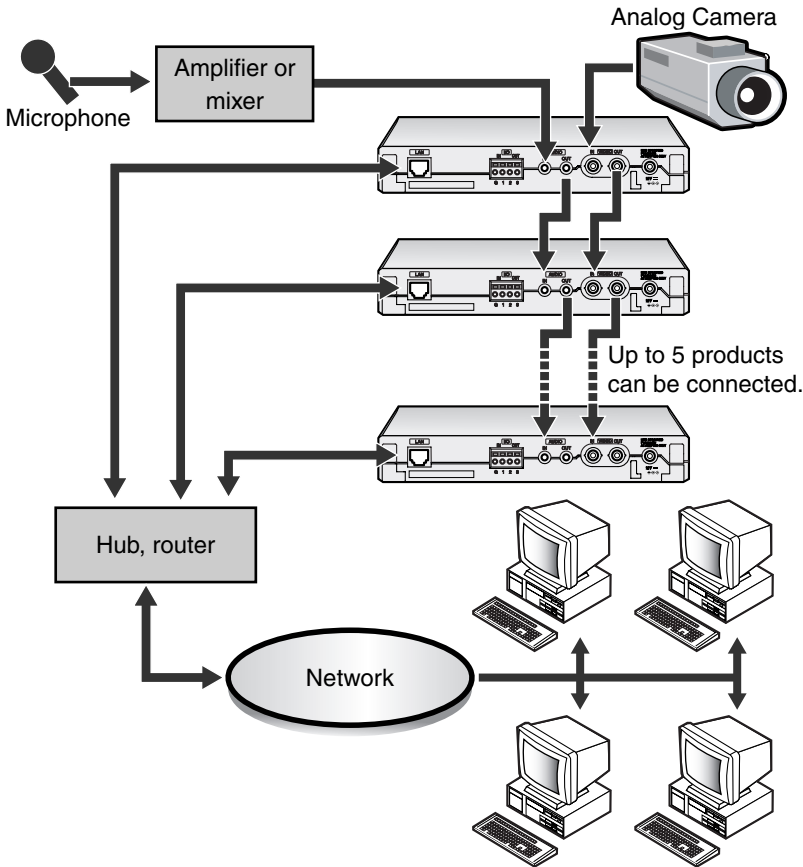


Note

When using the video output terminal, securely connect a cable from the video output terminal of this product to the video input terminal of a monitor. If the monitor cable becomes disconnected, and only the video input terminal of this product is connected, the image will turn pale.

Example of cascade connection

Maximum accesses can be increased by connecting two or more products.



Notes

- Set Local Audio for the audio output of each product in the cascade connection (see page 69).
- The contents set on the Setup page (see page 34) is effective to only one product. Set it to each product when using it by the cascade connection.
- The connected products have each destination URL.
- Disable the color night view mode when connecting Panasonic Network Camera BB-HCM381A. The image is not displayed correctly.
- The refresh interval may slow and the audio may be interrupted according to the performance and the network environment of PC.

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- This software is based in part on the work of the Independent JPEG Group.

Abbreviations

- UPnP is the abbreviation for "Universal Plug and Play".
- "Network Camera" or "Analog Camera connected to this product" is called "Camera" in this Operating Instructions.

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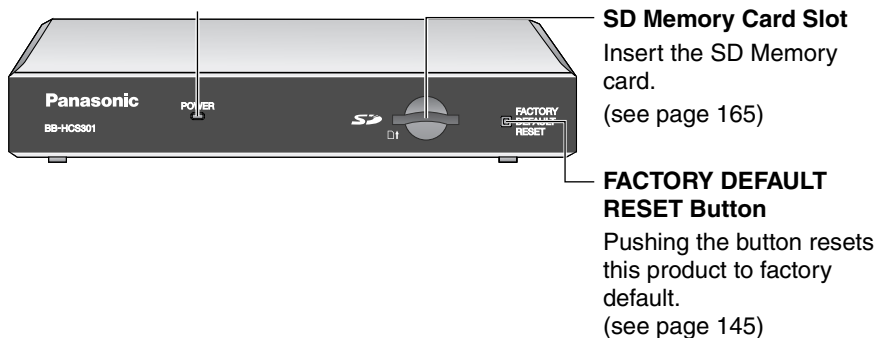
1 Camera Monitoring

1.1 Product Feature Locations

Front View

Power Indicator

The color display shows this product's status.



Indicator Display

Status		Indicator Operation
Power on	Not on the LAN	Orange blinking
	On the LAN	Orange blinking → Green blinking → Green
Normal Operation*1		Green
Automatic Setup	Setting	Green blinking
	Finished setting	Green blinking → Green
Using DHCP	Getting IP address*2	Green blinking
	Got IP address	Green
Updating Firmware		Orange blinking
Pressing FACTORY DEFAULT RESET button		Orange blinking → Turning off (This product restarts after that.)
UPnP™ Failure		Orange blinking (About a 2-second interval)
Internal Failure		Red blinking*3

*1 The indicator turns orange if this product is not connected to the LAN.

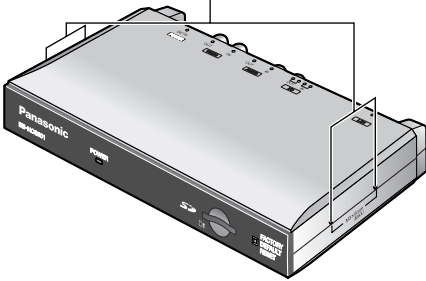
*2 The indicator blinks orange if this product is not connected to the LAN.

*3 See page 4 of the Troubleshooting on the Setup CD-ROM.

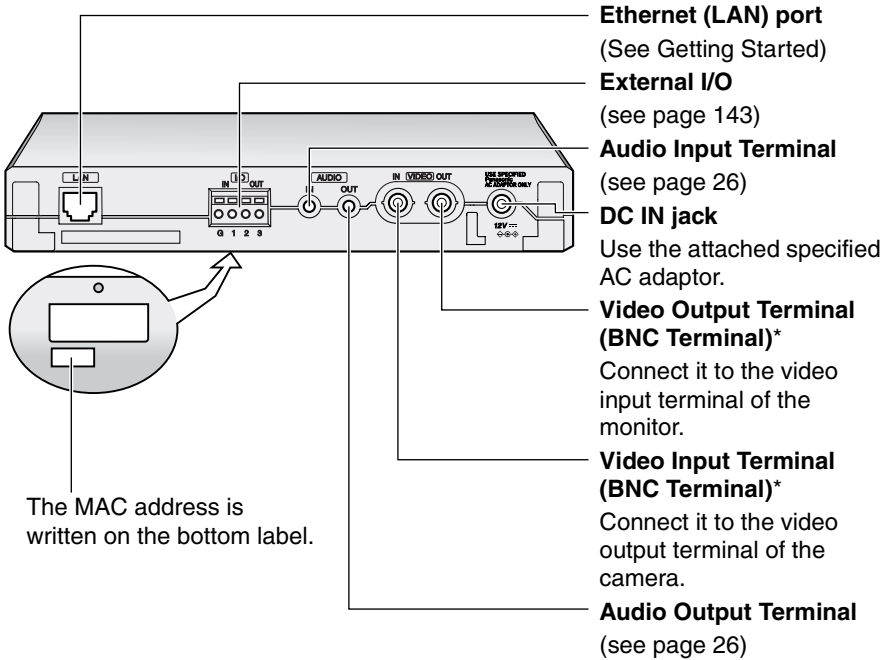
Side view

Mounting holes

Fix a steel plate with M3 screws (customer-provided) into the 4 holes.



Rear View



* Terminating resistance (75Ω) is built into this product's video input terminal. This terminating resistance is opened automatically when the cable is connected to both video input terminal and the video output terminal. In this case, it is terminated by terminating resistance that has built to the monitor's input terminal connected with the video output terminal with the cable.

1.2 Accessing this Product

1. Start up the web browser on your PC.
2. Enter "**http://IPv4 Address (or URL):Port Number**" on the address bar, and press [Enter] on the keyboard.
 - When port number is 80 (default), you do not need to enter port number. See page 39 for details about port number.
 - For IPv6 connection, see page 14 and page 15, and prepare the requirements. Enter the "**http://(IPv6-registered URL):Port Number**" on the address bar.
 - If the image is not displayed, see page 7 to page 12 of the Troubleshooting on the Setup CD-ROM.

E.g. `http://192.168.0.253:50000 (in IPv4)`

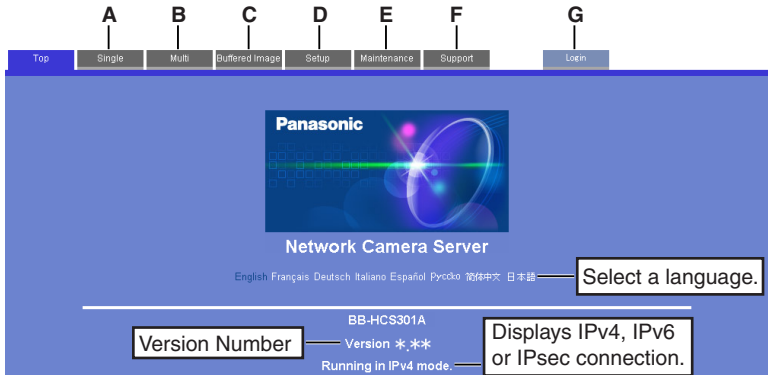
`http://*****.viewnetcam.com:50000 (in IPv6)`

3. The Enter Network Password window is displayed, and enter the user name and password that were set, and click [OK].

Note

When [Permit access from guest users] is set on the Security: Administrator page (see page 74), authentication window will not be displayed.

4. Click the following tabs to display each page.



A To Single Camera page (page 16)

C To Buffered Image page (page 29)

E To Maintenance page (page 132)

G To log in to this product (page 77)

B To Multi-Camera page (page 27)

D To Setup page (page 34)

F To Support page (page 141)

Notes

- When users other than an administrator are accessing this product, [Setup] and [Maintenance] tab will not be displayed. Additionally, when [Do not permit access from guest users] is set on the Security: Administrator page (see page 74), [Login] tab will not be displayed.
- If [View Multi-Camera page] or [View Buffered Image page] is not permitted on the General User page (see page 78), [Multi-Camera] or [Buffered Image] tab will not be displayed.

1.2.1 To Access this Product in IPv6

You need to prepare the followings to access this product in IPv6.

- **PC Requirements**

Operating System: Windows XP Service Pack 1 or later

Web Browser: Internet Explorer 6.0 or later

- **An IPv6 Router**

- **An IPv6 Connection Service**

To connect in IPv6, subscribe to the ISP's "IPv4/IPv6 Dual-Stack" or "IPv6 over IPv4 Tunneling" service. This product does not work in IPv6-only network.

IPv6 Domain Name Service

In Windows XP, you cannot access this product entering IP address on the web browser. You need to enter IPv6 URL registered in the domain name service. We recommend Viewnetcam.com service (see page 58) as a domain name service. Ask your ISP about other IPv6 domain name service.

What is IPv6?

- IPv6 is short for "Internet Protocol Version 6".
- IPv6 was created to address the additional IP addresses that will be needed as the Internet continues to expand.
- IPv6 is expected to gradually replace IPv4, with the 2 coexisting for a number of years during a transition period.
- Though most ISPs (Internet Service Providers) do not yet support IPv6, many local networks already use it. When your ISP supports IPv6, this product will be ready!
- For more information you wish to visit <http://www.ipv6.org/>.

Setting up the IPv6 Router, your PC, and this Product

Setting up the IPv6 Router

Set up the router as you subscribe to the IPv6 service. If the access from WAN side is disabled on the router, enable the TCP packets from WAN side in the packet filtering.

Setting up your PC

1. Click [Start]→[All Programs]→[Accessories]→[Command Prompt].
 - Command Prompt window is displayed.
2. Enter "ipv6 install".
 - "Succeeded" is displayed.

Notes

- If Windows XP Service Pack 1 or later is not installed, "Succeeded" will not be displayed. Install it on your PC.
 - When you use Windows XP Service Pack 2, click [Start]→[Control Panel]→[Security Center]→[Windows Firewall]→[Advanced] tab→[Settings] button of ICMP in the Windows Firewall window, then check [Allow incoming router request] check box in the ICMP Settings window.
3. Enter "ipconfig".
 - If the IPv6 address is properly assigned to your PC, IPv6 address will be displayed on the window.

Setting up this Product

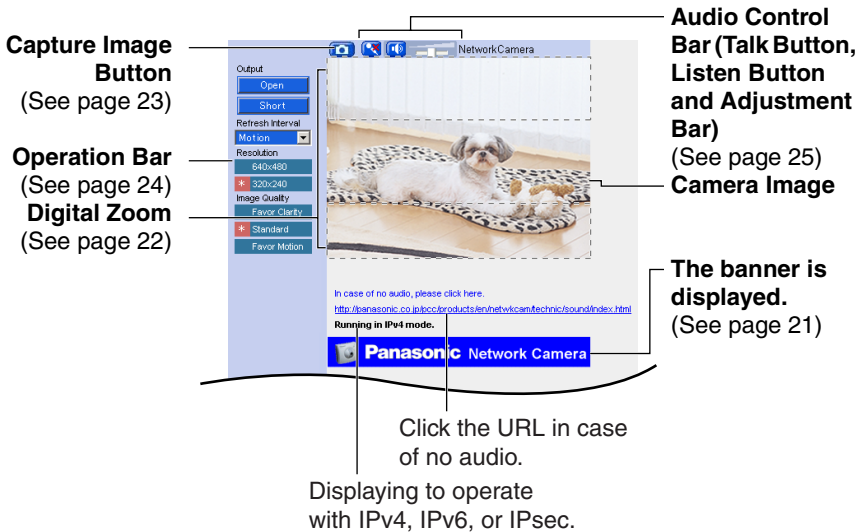
Usually, IPv6 address is automatically assigned. If you assign a static IPv6 address, see page 41. To access this product in IPv6, you need to subscribe to the domain name service such as Viewnetcam.com, and register the URL.

Confirming that You Can Access this Product

Confirm that the image is properly displayed (see page 12).

1.3 Viewing Single Camera page

1. Access this product (see page 12).
 - The Top page is displayed.
2. Click the [Single] tab at the top of the page.
 - When Security Warning window is displayed, click [Yes] (see page 18).
 - See page 19 for Security Warning window when using Microsoft® Windows® XP Service Pack 2.

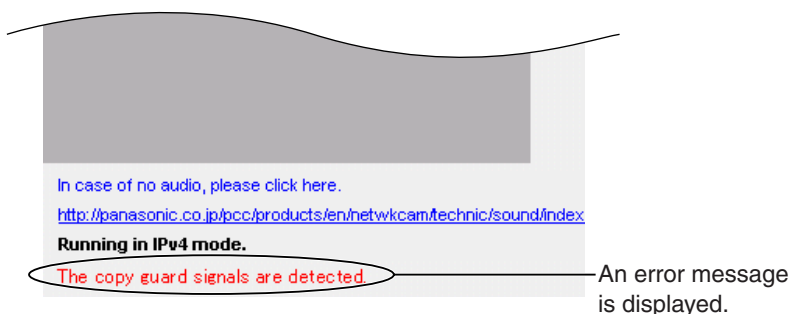


3. Close the web browser.

Notes

- When the camera image is not displayed correctly, click [Refresh] at the tool bar on the web browser. The image will be refreshed.
- Refresh interval is [Motion] by default. You can change it on the operation bar (see page 24).
- Refresh interval may change depending on the network condition, PC performance and what object you view. Using IPsec, enabling Motion Detection or SD memory card recording will also slow refresh interval.
- When [Motion] is selected for Refresh Interval, this product allows up to 30 simultaneous accesses. When trying more than 30 accesses, the 31st user will see a gray screen. (Maximum 30 accesses for a Buffered Image page too.)

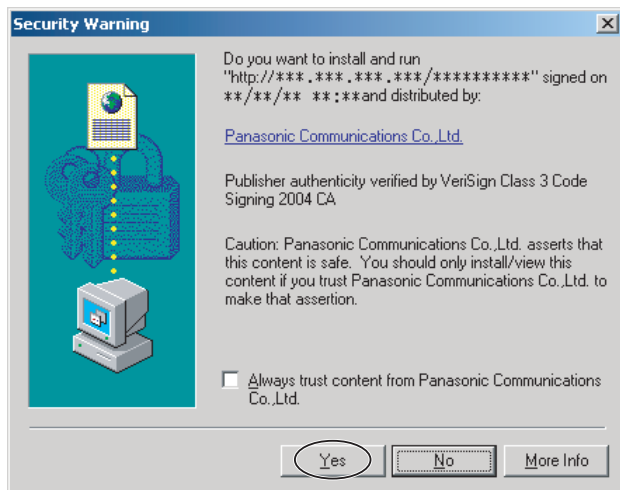
- To reduce the data traffic, the video can be automatically changed to refreshing still images on the General User page (see page 78).
- To display the Single Camera page directly, add it to the [Favorites] on the web browser.
- When the IP address was changed for this product, enter it on the address bar.
- Video may not be displayed quickly or audio may not be listened immediately. Wait for a while.
- If you use a proxy server, set the web browser not to access the proxy server (see page 159).
- When the image cannot be displayed, a gray screen appears. Clicking [Refresh] on the web browser displays an error message.



Error Message	Cause and Remedy
Copy guard signals are detected.	A copyguard signal was detected. This image cannot be displayed. Wait for a moment, and press the Refresh button on your browser. If the situation does not improve, consult your administrator.
There is no signals.	Wait for a moment, and press the Refresh button on your browser. If the situation does not improve, consult your administrator.
It is outside the operation time.	Images cannot be displayed outside the Operation Time. Consult your administrator about Operation Time.
Accesses are exceeding limit.	When [Motion] is selected for Refresh Interval, this product allows up to 30 simultaneous accesses. When trying more than 30 accesses, the 31st user will see a gray screen. (Maximum 30 accesses for a Buffered Image page too.) Wait for a moment, and press the Refresh button on your browser, or switch to still images.

Security Warning window

To view a video (Motion JPEG) or to use audio feature, ActiveX® Controls must be installed. When trying to display a video for the first time, Security Warning window will be displayed. When using Windows XP or Windows 2000, log in as an administrator to install it.



Security Warning window on Microsoft Windows XP Service Pack 2

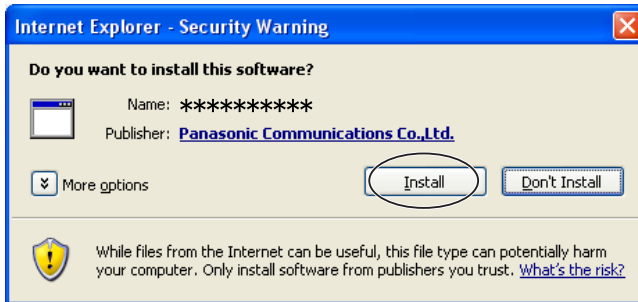
To view a video (Motion JPEG) or to use audio feature, ActiveX Controls must be installed.

Follow the steps shown below to install ActiveX Controls.

1. Click the warning displayed above the tabs, and click [Install ActiveX Control...].

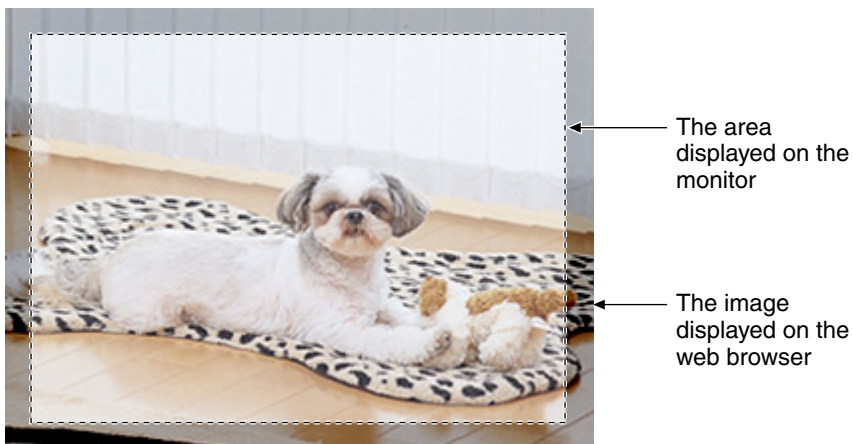


2. Click [Install].



The Image Output from the Video Output Terminal and the Image Displayed on the Web Browser

- The video output terminal outputs the image from the video input terminal as it is. The following features are effective only for the image on your web browser, and not effective for the image from the video output terminal.
 - Digital Zoom (See page 22)
 - Click to Center with Digital Zoom (See page 22)
 - Snapshot (See page 23)
 - Refresh Interval (See page 24)
 - Resolution (See page 24)
 - Image Quality (See page 24)
 - Picture Position Adjustment (See page 67)
- When you view the image on the general monitor, the edge of the image is not displayed (Overscan). On the web browser, you can view the whole area that the monitor cannot display.



The Banner

When this product accesses the Internet, the banner displays product information about products or announcements about the latest firmware, etc. from Panasonic. Whether or not to display the banner can be set at Banner Display (see page 123).

Notes

- The banner is displayed when [Yes] is checked for Allow Access from the Internet on the Automatic Setup page, or when [Enable] is checked for Auto Port Forwarding on the UPnP page for the Connection Mode of Static or DHCP.
- Even if [Yes] is checked for Allow Access from the Internet on the Automatic Setup page, or [Enable] is checked for Auto Port Forwarding on the UPnP page for the Connection Mode of Static or DHCP, when this product is not connected to the Internet, is displayed.

1.3.1 Zooming In and Out

This product has a 10x digital zoom feature.

There are 2 methods of increasing/decreasing the size of the object on the Single Camera screen, the Multi Camera screen, and the Buffered Image screen (only while playing video):

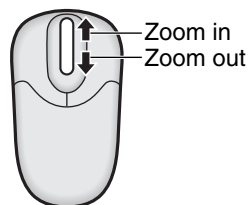
1. Rotating the mouse wheel
Rotating the mouse wheel away from you zooms in, and rotating it towards you zooms out.
2. Clicking the right mouse button
Clicking the right mouse button on the upper third of the Single Camera screen zooms in, and clicking on the lower third of the Single Camera screen zooms out.

Notes

- While the image is zoomed in, the clicked point is centered (Click to Center feature).
- This feature is not available when viewing on a cell phone.
- As the magnification increases, the image quality decreases.

Rotating the Mouse Wheel

On a screen, rotating the mouse wheel away from you zooms in, and rotating it towards you zooms out.



Note

The performance of the mouse varies according to your OS.

Clicking the Right Mouse Button

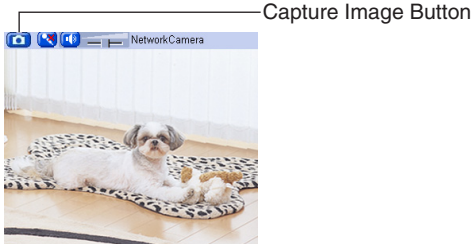
Clicking the right mouse button on the upper third zooms in, and clicking on the lower third zooms out. Zooming in and out is also available by moving the mouse up with pressing the right mouse button, or moving the mouse down with pressing the right mouse button.



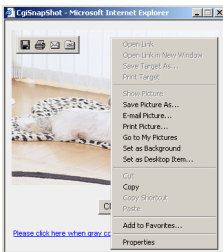
1.3.2 Capturing a Still Image

A still image can be saved on your PC.

1. Select a resolution to display an image.
2. Click the capture image button.

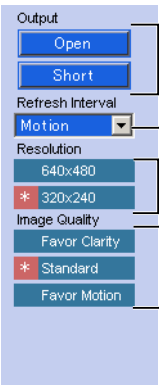


- The camera image opens in another window.
3. Right-click the image, and select [Save Picture As...].



- Save as dialog box is displayed.
4. Specify a folder, and click [Save].
 - The camera image is saved in the folder.
 5. Click [Close].

1.3.3 Using Operation Bar



The screenshot shows a control panel with the following elements:

- Output:** Two buttons labeled "Open" and "Short".
- Refresh Interval:** A dropdown menu currently set to "Motion".
- Resolution:** Two buttons labeled "640x480" and "320x240". The "320x240" button has a red asterisk next to it.
- Image Quality:** Three buttons labeled "Favor Clarity", "Standard", and "Favor Motion". The "Standard" button has a red asterisk next to it.

Callouts on the right side of the panel define the following settings:

- Output Control:** Controls output signals of the External I/O.
- Refresh Interval:** Sets a refresh interval. (Motion—60-second interval)
- Resolution:** Selects [640 × 480] or [320 × 240] (default) pixels.
- Image Quality:** Selects the image quality.
 - [Favor Clarity] optimizes the image for good clarity.
 - [Standard] keeps the standard quality. (default)
 - [Favor Motion] optimizes the image for motion display.

Note

When the image is not displayed soon or the image is not displayed correctly, click "Refresh" button on your browser. The image is updated.

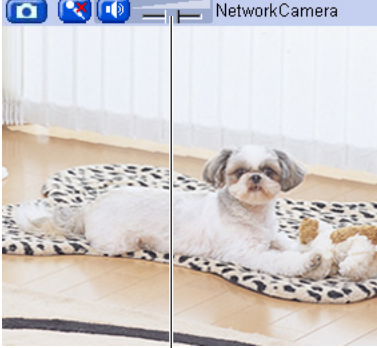
1.4 Listening to Audio—Talking to this product


1. Access this product (see page 12).
 - The Top page is displayed.
2. Click the [Single] tab at the top of the page.
3. The Audio Control Bar (Talk Button, Listen Button and Adjustment Bar) is displayed at the top of the screen. Listening or Talking is selected by using the 2 icons. For general users, the feature must be enabled, otherwise it will not be displayed.


Audio Feature


Listen Button —————


Talk Button —————



 : You can talk from this product using the PC's microphone. Clicking the button temporarily stops sending audio.

 : The audio is stopped. Clicking the button again starts the Talk feature.

 : You can listen to the audio around this product. Clicking the button temporarily stops the audio.

 : The audio is stopped.

Adjustment Bar —————
(Volume adjustment only for listening)

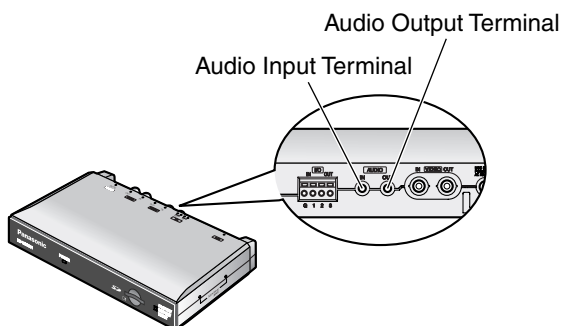


This slider adjusts the volume. To the right side, the volume is larger. To the left side, the volume is smaller.

Notes

- **Audio setting (See page 69)**
 - You can switch between the following types of audio to be outputted through the audio output terminal: [Remote Audio], [Local Audio], [Local Audio + Remote Audio] and [Disable]. When [Local Audio] or [Disable] are selected, pressing the Talk button does not allow you to talk.

- When you select [Local Audio] or [Local Audio + Remote Audio], and the audio input device is placed near the audio output device, a howling sound may be heard.
- Sensitivity can be set up on the Audio page (see page 69).
- **Talk button and Listen button**
 - Talk button and Listen button cannot be used simultaneously. Talk feature is stopped during listening. Talk feature can be used only for a user. Listen feature can be used for maximum 10 users. If the audio is interrupted, reduce the max. bandwidth (see page 40 and page 44). In this case, the number of users for listening are reduced.
 - Talk feature cannot be used from a PC when this product is accessed via a proxy server.
 - To talk from your PC, the audio output device must be connected to this product. The audio output terminal is a line output. To use an external speaker, use it with an amp.
- **Others**
 - If you are running other applications or opening multiple windows, the audio may be interrupted or delayed.
 - When the image is refreshed during any operation such as preset registration or a web browser refresh, the volume is reset to the default (midrange) position. Audio that was muted is enabled.
 - The audio may be interrupted due to your PC's performance or network environment. Reduce the max. bandwidth (see page 40 and page 44).
 - If this product is accessed while the PC user visits other websites, the active microphone may pick up audio from the PC's speakers. Be careful with it.
 - If you cannot listen to the audio or talk from your PC, see page 14 of the Troubleshooting on the Setup CD-ROM.



1.5 Viewing Multi-Camera page

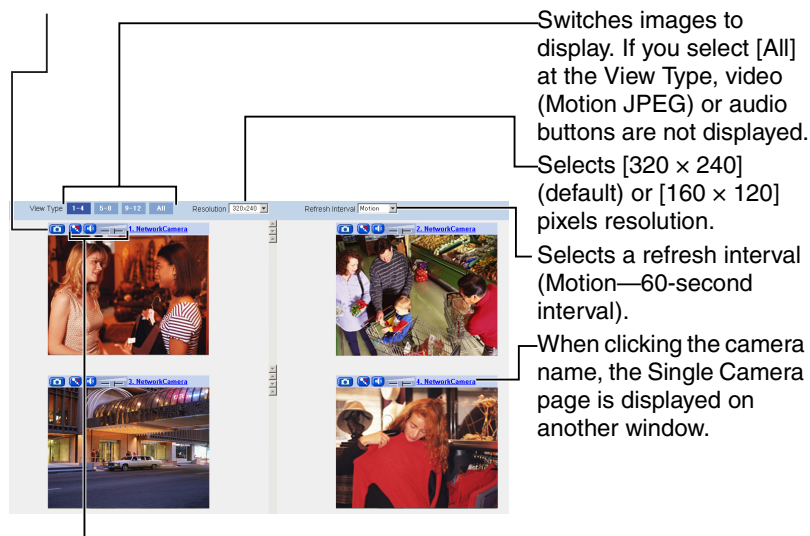
To view multiple images on the Multi-Camera page, you need to configure the Multi-Camera Setup page (see page 126).

1. Access this product (see page 12).
 - The Top page is displayed.
2. Click the [Multi] tab at the top of the page.



- Multi-Camera page can display up to 12 camera images.

Capture Image Button (See page 23)



Audio Control Bar (Talk button, Listen button and Adjustment Bar) (See page 25)

3. Close the web browser.

Notes

- When selecting [All] at the View Type, all images are displayed in 160 × 120 pixels resolution, and the Audio Control Bar is not displayed.
- 640 × 480 pixels image cannot be displayed on the Multi-Camera page.
- When viewing video (Motion JPEG), we recommend using an Ethernet switching hub instead of the repeater hub to prevent degradation in video display.
- Due to the network congestion or the number of accesses, the refresh interval may slow down.
- When the refresh interval is slow, restrict the bandwidth on the Network page (see page 40 and page 44). The refresh interval may be improved.
- To reduce the data traffic, the video can be automatically changed to refreshing still images on the General User page (see page 78).
- When viewing 4 images on the Multi-Camera page, you may need 3 to 4 Mbps bandwidth. If the bandwidth is not enough, the refresh interval may slow down.
- The digital zoom can be used. (only for video)
- Click to Center feature can be used while using the digital zoom.

When the image is not displayed on the Multi-Camera page

- Confirm that the Internet IP address is specified for each this product or Panasonic Network Camera and that each camera is connected to the Internet. For Internet access, local IP addresses (192.168.*.*.*.*) cannot be used.
- Confirm the settings on the Multi-Camera Setup page (see page 126).
- Confirm that the web browser is not accessing the proxy server (see page 159).

When setting [Do not permit access from guest users] on the Security: Administrator page

- An authentication window is displayed in access. Enter the administrator's or the general user's user name and password.
- When you view the images on the Multi-Camera page, all authentication windows of the configured images are displayed. Enter the administrator's or the general user's user name and password registered for each image.

1.6 Viewing Buffered Image page

To buffer the images on the internal memory, you need to set up image transfer settings (see page 82, page 91 or page 102). You can view buffered images on this Buffered Image page.

Note

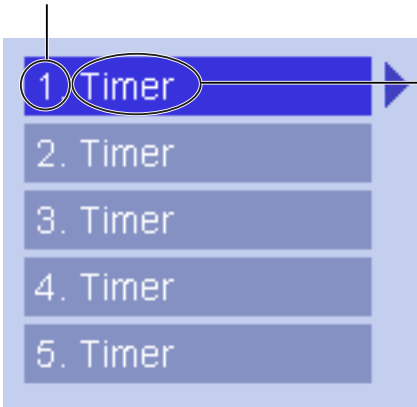
Sound cannot be buffered on the Buffered Image page.

1. Access this product (see page 12).
 - The Top page is displayed.
2. Click the [Buffered Image] tab at the top of the page.



3. Click the trigger number.

The trigger number is displayed (see page 82, page 91 or page 102).



The trigger is displayed (see page 82, page 91 or page 102).

4. Display images clicking buttons below.



Date and time of the day when the images were buffered are displayed.

Date, time and frame number are displayed.

[Play]:

The buffered images are displayed continuously.

[<Prev] or [Next]:

The previous or next image is displayed.

[First], [<1000], [<100], [<10] or [10>], [100>], [1000>], [Last]:

First, 10th, 100th, 1000th, image before or last, 10th, 100th, 1000th, image after of the displayed image appears.

Notes

- The buffered images are displayed chronologically.
- Date, Time and frame number are not displayed in play mode.
- A still image can be saved on the Buffered Image page, if you are not playing images on it. Put the cursor on the image, and right-click it. Then select [Save Picture As...].
- Maximum number of buffered images change depending on resolution, image quality and what object this product buffers. At the 320 × 240 pixels resolution and the standard quality, this product buffers about 125 frames. (If 3 triggers are enabled [maximum 5 triggers], the internal memory or the SD memory card capacity is divided into 3 sections. In this case, each trigger can buffer about 40 images.) See page 164 for the internal memory capacity. See page 166 for the SD memory card capacity.
- The digital zoom can be used while viewing buffered images (only while playing video).

1.6.1 Deleting Buffered Images

If you intend to delete images for each transfer condition, click [Delete Buffered Images] on the Trigger page (see page 82, page 91 or page 102).

Notes

- If you click [Save] on the Image Buffer/Transfer page, all buffered images on the SD memory card are deleted.
- If you are buffering images on the internal memory, the following operations also delete all buffered images.
 - Turning off this product.
 - Saving the Date and Time page.
 - Restarting, updating firmware or resetting this product to factory default.
 - Changing the check box setting for [Enable Image Buffer/Transfer]. (See page 82, page 91 or page 102)

1.7 Viewing Still Images on Your Cell Phone

You can view still images over the Internet from a compatible cell phone.

Enter "**http://IP address (or URL):Port Number/mobile**" on a cell phone and press [OK].

- When the port number is set to 80 (default), it is not required.

E.g. `http://202.208.167.*.*:50000/mobile`

(or `*.*.*.*.viewnetcam.com:50000/mobile`)

- This product must be allowed the Internet access for cell phone access.
- When an authentication window is displayed, enter the administrator's or the general user's user name and password.
- A still image is displayed. (Video [Motion JPEG] cannot be displayed.)

(5)Refresh — Pressing 5 will refresh the image.

(0)Resolution — 160 × 120 resolution is displayed at the first access. Pressing 0 switches the resolution to 320 × 240.

Alarm Log — Displays up to 50 Logs in order of time, and only when logging in as an administrator.

↓

Alarm Log Info
Displays Up to 50
Logs in order of
time.

Control Page — Go to the control page when clicking.

New Logs:3 — Displays the number of new logs.

3/22	19:52	A	R
3/22	19:51	A	R
3/22	19:51	MD	

— Displays the date and time, the kind of sensor and signal.

Control Page — Go to the control page when clicking.

Notes

- Audio feature does not work on cell phones.
- If the features are not permitted on the General User page, the buttons related with the features are not displayed. (See page 78)
- If the image is not displayed properly, try the following 2 URLs.

1. **[http:// IP address\(or URL\):Port Number/MobileH](http://IP address(or URL):Port Number/MobileH)** for HTML.
(or *******.viewnetcam.com:50000/MobileH**)
2. **[http:// IP address\(or URL\):Port Number/MobileX](http://IP address(or URL):Port Number/MobileX)** for XHTML.
(or *******.viewnetcam.com:50000/MobileX**)

- Some cell phones are not compatible with this product. Some phones may allow viewing only on port 80, and some may not support password authentication. See the Panasonic support website at **<http://panasonic.co.jp/pcc/products/en/netwcam/>** for a cell phone model list, and the compatibility level which has been verified with this product.
- Some cell phones display images not at the specified resolution but at a decreased size.

2 Various Product Features

2.1 Using Product Features

1. Access this product (see page 12).
 - The Top page is displayed.

Notes

- When [Permit access from guest users] is set on the Security: Administrator page, click [Login] tab and log in as an administrator.
 - When users other than an administrator are accessing this product, the [Setup] and [Maintenance] tabs are not displayed.
 - If [View Multi-Camera page] or [View Buffered Image page] is not permitted on the General User page, [Multi-Camera] or [Buffered Image] tab will not be displayed.
2. Click [Setup] tab at the top of the page.

The screenshot shows the 'Network(IPv4)' configuration page. At the top, there are navigation tabs: Top, Single, Multi, Buffered Image, Setup, Maintenance, and Support. The 'Setup' tab is active. On the left, a sidebar menu is visible with 18 numbered callouts: (1) Network(IPv4), (2) Network(IPv6), (3) IPsec, (4) UPnP, (5) DynamicDNS, (6) Date and Time, (7) Camera, (8) Audio, (9) Administrator, (10) General User, (11) Trigger, (12) Motion Detection, (13) Alarm Log, (14) Image Display, (15) Multi-Camera, (16) Operation Time, (17) External Output, and (18) Indicator Control. The main content area is titled 'Network(IPv4)' and contains instructions: 'Set up network configuration. Select "Automatic Setup" if you connect the camera to the router and wish to set it up automatically. Select "Static" if you wish to assign a static IP address to the camera. Select "DHCP" if you are using the DHCP function of your router or ISP.' Below this is a 'Connection Mode' table.

Connection Mode		
Connection Mode	Current Setting	
Automatic Setup	X	Configure network settings automatically
Static		Assign static IP address to the camera.
DHCP		Get IP address from DHCP server

Basic

- | | | |
|-----|-----------------------|---|
| (1) | Network (IPv4) | Configures the IPv4 network settings to connect this product to the network (see page 37). |
| (2) | Network (IPv6) | Configures the IPv6 network settings to connect this product to the network (see page 41). |
| (3) | IPsec | Enables IPsec (Transport or Tunnel mode) (see page 45). |
| (4) | UPnP | Enables automatic port forwarding or shortcut to this product (see page 55). |
| (5) | DynamicDNS | Registers with the DynamicDNS service (see page 58). |
| (6) | Date and Time | Sets the date and time, automatic time adjustment and adjust clock for daylight saving time settings (see page 64). |
| (7) | Camera | Sets camera name, Vertical Resolution and Picture position adjustment (see page 67). |
| (8) | Audio | Sets output, volume, PC audio input timeout, input, sensitivity and mute (see page 69). |
-

Account

- | | | |
|------|----------------------------------|--|
| (9) | Administrator¹ | Sets authentication setting and administrator security (user name and password) (see page 74). |
| (10) | General User¹ | Sets general user security (user name and password) and general user's access level (see page 78). |
-

Buffer/Transfer

- | | | |
|------|-------------------------|---|
| (11) | Trigger | Sets image buffer, transfer by timer, alarm or motion detection. (See page 82, page 91 or page 102) |
| (12) | Motion Detection | Sets the threshold and the sensitivity (see page 118). |
| (13) | Alarm Log | Sets the alarm log destination (see page 121). |
-

Advanced

- | | |
|---------------------------------------|---|
| (14) Image Display | Sets resolution, image quality and refresh interval of Single Camera and Multi-Camera page, time stamp setting, language and banner (see page 123). |
| (15) Multi-Camera^{*1} | Sets this product or Panasonic Network Camera IP address or host name, camera name on the Multi-Camera page (maximum 12 cameras) (see page 126). |
| (16) Operation Time | Sets time period to display images (see page 128). |
| (17) External Output | Sets the digital output terminal of the External I/O (see page 130). |
| (18) Indicator Control | Sets indicator display (see page 131). |
-

^{*1} If you change [Administrator], [General User], or [Multi-Camera Setup page] settings, changes will not be applied to the video (Motion JPEG) viewers. Restart this product to make changes applied to all video viewers.

2.2 Connecting this Product to Your IPv4 Network

The Network page offers three options to configure this product in IPv4.

- [Automatic Setup] automatically assigns an unused IP address to this product, and uses UPnP™ (Universal Plug and Play) to configure your router.
 - [Static] allows the user to use a specific IP address.
 - [DHCP] is offered for ISPs that require this option.
1. Click [Network (IPv4)] on the Setup page.
 2. Click a connection mode.

Connection Mode	
Connection Mode	Current Setting
Automatic Setup	Normally sets Automatic Setup.
Static	Uses a static IP address.
DHCP	Uses ISP DHCP server function.

- Each page is displayed (see page 37—page 38).
3. Enter each parameter in the proper data field.

Automatic Setup

This product automatically obtains the network settings (subnet mask, default gateway and DNS server address) utilizing a DHCP feature on the router. This product also automatically searches the unused IP address on your network. If you select [Yes] at the Allow Access from the Internet, this product automatically enables port forwarding by using UPnP™. In this case, this product automatically searches the unused port number on your network in the order from 50000 to 50050.

Allow Access from the Internet	
<input checked="" type="radio"/> Yes	
<input type="radio"/> No	
Max. Bandwidth Usage	
Unlimited	
Connection Type	
Auto Negotiation	
<input type="button" value="Save"/> <input type="button" value="Cancel"/>	

- Clicking [Cancel] takes you back to the previous page without saving changes.

DHCP Setup

Network Configuration from Setup Program	
<input checked="" type="checkbox"/> Enable	
Internet Connection	
Port No.	<input type="text" value="80"/>
Host Name	<input type="text"/>
Default Gateway	
Default Gateway	<input type="text"/>
DNS	
DNS Server 1	<input type="text"/>
DNS Server 2	<input type="text"/>
Max. Bandwidth Usage	
<input type="text" value="Unlimited"/>	
Connection Type	
<input type="text" value="Auto Negotiation"/>	
<input type="button" value="Save"/> <input type="button" value="Cancel"/>	

Static Setup

Network Configuration from Setup Program	
<input checked="" type="checkbox"/> Enable	
Internet Connection	
Port No.	<input type="text" value="80"/>
IP Address	<input type="text" value="192.168.0.253"/>
Subnet Mask	<input type="text" value="255.255.255.0"/>
Default Gateway	
Default Gateway	<input type="text"/>
DNS	
DNS Server 1	<input type="text"/>
DNS Server 2	<input type="text"/>
Max. Bandwidth Usage	
<input type="text" value="Unlimited"/>	
Connection Type	
<input type="text" value="Auto Negotiation"/>	
<input type="button" value="Save"/> <input type="button" value="Cancel"/>	

- Clicking [Cancel] takes you back to the previous page without saving changes.

4. Click [Save] when finished.
 - New settings are saved.
 - When finished, the following page is displayed.

New settings are saved.

New settings are saved. Please restart the camera.

Note.(1)All the buffered images will be erased when restarted.
 (2)Please use Setup Program to find out the camera on your network when you select "Automatic Setup" or "DHCP".

Note

The current network settings are shown on the Status page in the Maintenance section (see page 133).

5. Click [Restart].
 - This product restarts, and the Top page is displayed.
 - Checking [Yes] for [Allow Access from the Internet] on [Automatic Setup] may not display the Top page, because the port number may change. Use the Setup Program to access this product.

Notes

- When you do not know the IP address while setting [Automatic Setup] or [DHCP Setup], you can search it by using the Setup Program (see page 155).
- If this product is restarted, all buffered images on the internal memory are deleted. The buffered images on the SD memory card are not deleted.

Setting	Description
Allow Access from the Internet (Automatic Setup Only)	<ul style="list-style-type: none"> • Allow Access from the Internet setting automatically configures the router's Port Forwarding setting (some routers call it "Address Translation", "Static IP Masquerade", "Virtual Server" or "Port Mapping"). To enable Internet access to this product, check [Yes]. In this case, this product automatically searches the unused port number on your network in the order from 50000 to 50050. To disable Internet access to this product, check [No].
Network Configuration from Setup Program (Static/DHCP Only)	<ul style="list-style-type: none"> • If you prohibit the Setup Program from changing the network settings, clear the check box.
Port Number (Static/DHCP Only)	<ul style="list-style-type: none"> • The port number is 80 by default. When you use multiple products with a router on your network, each product must be assigned its own port number (see page 57). • Do not set the following port numbers. E.g., FTP: 20 and 21, Telnet: 23, SMTP: 25, DNS: 53, POP3: 110, HTTPS: 443, ICQ: 4000 and IRC: 6661—6667. • Enter only the number (1—65535). • Some ISPs do not allow you to use port 80. Ask your ISP or network administrator about the accessible port number over the Internet.
<ul style="list-style-type: none"> • IP address • Subnet Mask (Static Only)	<ul style="list-style-type: none"> • If your ISP or network administrator specifies the IP address and subnet mask, enter them in each data field. • If you use this product on the LAN, set the IP address in the same class as your PC (see page 154). • Set 4 digits (0—255) and 3 periods such as "192.168.0.253". But "0.0.0.0" and "255.255.255.255" are not available.
Host Name (DHCP Only)	<ul style="list-style-type: none"> • If your ISP uses the DHCP function which automatically assigns the IP address to this product, enter the ISP-assigned host name. (Host name may be used as an authentication.) • Enter ASCII characters for the host name (see page 163). But [Space], ["], ['], [&], [<] and [>] are not available.

Setting	Description
Default Gateway ¹ (Static/DHCP Only)	<ul style="list-style-type: none"> If you have the assigned Default Gateway address by your ISP or network administrator, enter it in this data field. Set 4 digits (0—255) and 3 periods such as "192.168.0.253". But "0.0.0.0" and "255.255.255.255" are not available.
DNS Server Address ¹ (Static/DHCP Only)	<ul style="list-style-type: none"> DNS server address is required in the following conditions. <ul style="list-style-type: none"> Transferring images by E-mail or FTP Setting products by their host names on the Multi-Camera Setup page Using the DynamicDNS service Using the alarm log notification If you have the assigned DNS server addresses by your ISP or network administrator, enter them in this data field. They usually have two addresses. Set 4 digits (0—255) and 3 periods such as "192.168.0.253". But "0.0.0.0" and "255.255.255.255" are not available.
Max. Bandwidth Usage	<ul style="list-style-type: none"> The bandwidth can be restricted. Select the maximum bandwidth usage from [Unlimited] to [0.1 Mbps]. This setting is valid in both IPv4/IPv6. <p>Note</p> <p>Set the maximum bandwidth usage seeing the following file sizes. These are examples for a JPEG file with a standard image quality. File sizes may change depending on the image quality or how bright the object is.</p> <p>160 × 120 pixels: About 3.5 KB (28 Kbit) 320 × 240 pixels: About 10 KB (80 Kbit) 640 × 480 pixels: About 18 KB (144 Kbit)</p>
Connection Type	<ul style="list-style-type: none"> Select [Auto Negotiation] normally. If you cannot access this product, see page 7 of the Troubleshooting on the Setup CD-ROM. This setting is valid in both IPv4/IPv6.

¹ If you automatically obtain the IP address from the DHCP server, you do not need to set it.

2.3 Connecting this Product to Your IPv6 Network

The Network page offers two options to configure this product in IPv6.

- [Automatic Setup] automatically assigns an IPv6 address to this product.
- [Static] allows the user to use a specific IPv6 address.

Note

IPv6 is the expanded protocol created for future Internet expansion. Your network and your ISP must support IPv6 before you can use this feature.

1. Click [Network (IPv6)] on the Setup page.
2. Click a connection mode.

Connection Mode	
Connection Mode	Current Setting
Automatic Setup	Normally sets Automatic Setup.
Static	Uses a static IP address.

3. Enter each parameter in the proper data field.

Automatic Setup

This product is automatically assigned an IPv6 prefix from the IPv6 router, and produces the original IPv6 address from the IPv6 prefix. If you select [No] at the Allow Access from the Internet, this product can be accessed only from the LAN that has the same IPv6 prefix as this product.

Allow Access from the Internet	
<input type="radio"/> Yes <input checked="" type="radio"/> No	
DNS	
DNS Server 1	<input type="text"/>
DNS Server 2	<input type="text"/>
Max. Bandwidth Usage	
Unlimited ▾	
Connection Type	
Auto Negotiation ▾	
<input type="button" value="Save"/> <input type="button" value="Cancel"/>	

- Clicking [Cancel] takes you back to the previous page without saving changes.

Static Setup

You can assign a static IPv6 address to this product. If you select [No] at the Allow Access from the Internet, this product can be accessed only from the LAN that has an same IPv6 prefix as this product.

- Clicking [Cancel] takes you back to the previous page without saving changes.
4. Click [Save] when finished.
- New settings are saved.
 - When finished, the following page is displayed.

Note

The current network settings are shown on the Status page in the Maintenance section (see page 133).

5. Click [Restart].
- This product restarts, and the Top page is displayed.

Notes

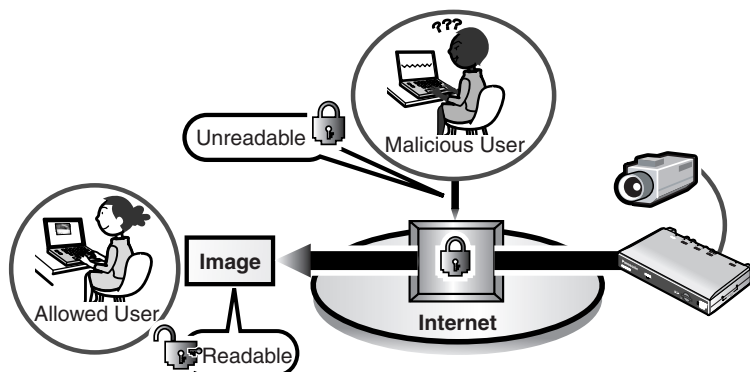
- When you do not know this product IP address while setting [Automatic Setup], you can search it by using the Setup Program (see page 155). Or you can search it on the Status page (see page 133) after accessing this product in IPv4.
- If this product is restarted, all buffered images on the internal memory are deleted. The buffered images on the SD memory card are not deleted.

Setting	Description
Allow Access from the Internet (Automatic Setup Only)	<ul style="list-style-type: none"> • If [Yes] is selected at the Allow Access from the Internet, you can access this product from the Internet. If [No] is selected, this product can be accessed only from the LAN that has the same IPv6 prefix as this product.
Port Number (Static Only)	<ul style="list-style-type: none"> • The port number is 80 by default. The port number must be unique for each terminal on your network. • Do not set the following port numbers. E.g., FTP: 20 and 21, Telnet: 23, SMTP: 25, DNS: 53, POP3: 110, HTTPS: 443, ICQ: 4000 and IRC: 6661—6667. • Enter only the number (1—65535). • Some ISPs do not allow you to use port 80. Ask your ISP or network administrator about the accessible port number over the Internet.
IP address (Static Only)	<ul style="list-style-type: none"> • Enter a global address. You do not need to enter prefix length. • IPv6 address consists of 8 hexadecimal digits divided with ":". Consecutive 0s can be abbreviated as "::". (E.g. 2001:2:3:4::5)
Default Gateway (Static Only)	<ul style="list-style-type: none"> • If you have the assigned Default Gateway IPv6 address by your ISP or network administrator, enter it in this data field. • IPv6 address consists of 8 hexadecimal digits divided with ":". Consecutive 0s can be abbreviated as "::". (E.g. 2001:2:3:4::5)

Setting	Description
DNS Server Address	<ul style="list-style-type: none"> • DNS server address is required in the following conditions. <ul style="list-style-type: none"> – Transferring images by E-mail or FTP – Setting products by their host names on the Multi-Camera Setup page – Using the DynamicDNS service – Using the alarm log notification • If you have the assigned DNS server IPv6 addresses by your ISP or network administrator, enter them in this data field. They usually have two addresses. • IPv6 address consists of 8 hexadecimal digits divided with ":". Consecutive 0s can be abbreviated as "::". (E.g. 2001:2:3:4::5)
Max. Bandwidth Usage	<ul style="list-style-type: none"> • The bandwidth can be restricted. • Select the maximum bandwidth usage from [Unlimited] to [0.1 Mbps]. • This setting is valid in both IPv4/IPv6. <p>Note</p> <p>Set the maximum bandwidth usage seeing the following file sizes. These are examples for a JPEG file with a standard image quality. File sizes may change depending on the image quality or how bright the object is.</p> <p>160 × 120 pixels: About 3.5 KB (28 Kbit) 320 × 240 pixels: About 10 KB (80 Kbit) 640 × 480 pixels: About 18 KB (144 Kbit)</p>
Connection Type	<ul style="list-style-type: none"> • Select [Auto Negotiation] normally. If you cannot access this product, see page 7 of the Troubleshooting on the Setup CD-ROM. • This setting is valid in both IPv4/IPv6.

2.4 What is IPsec?

IPsec provides security for the transmission of sensitive information over unprotected networks such as the Internet. IPsec authenticates IP packets between participating IPsec devices.



This product's IPsec Feature

This product can use IPsec in both IPv4/IPv6. This product supports the following IPsec feature.

Item	Supported Feature
IKEv1	Pre-shared Key Method Phase 1 mode : Main mode ¹ Phase 2 mode : Quick mode Cipher Algorithm : DES-CBC, 3DES-CBC, AES-CBC (128, 192, 256 bits) Message-Digest Algorithm : HMAC-MD5, HMAC-SHA-1
IPsec	ESP (Encapsulating Security Payload) ² Transport mode, Tunnel mode Cipher Algorithm : DES-CBC, 3DES-CBC, AES-CBC (128, 192, 256 bits) Message-Digest Algorithm : HMAC-MD5-96, HMAC-SHA-1-96

¹ This product does not support aggressive mode.

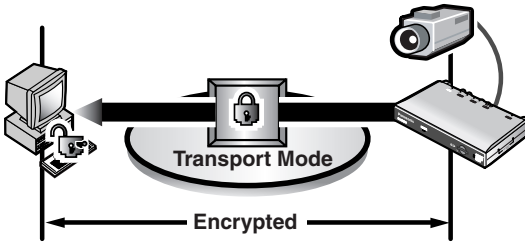
² This product does not support authentication header (AH).

IPsec Mode Selection

Select transport mode or tunnel mode to access this product.

Transport Mode (IPv4 Only)

The image is encrypted in the whole way between this product and your PC. In the environment of Windows XP Service Pack 1 or later, transport mode is available only in IPv4.



Prepare the following requirements.

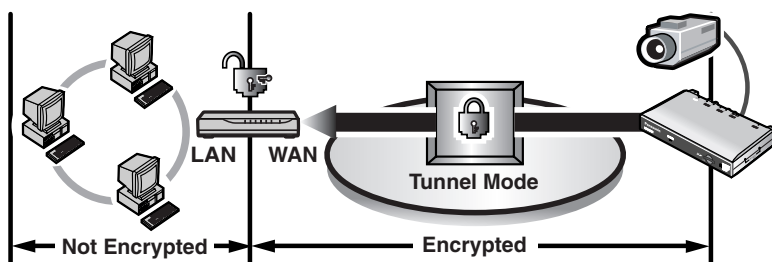
Item	Supported Feature
PC	<p>Operating System : Windows XP Service Pack 1 or later</p> <p>Web Browser : Internet Explorer 6.0 or later</p> <p>ISP Service : Services for multiple static global addresses (A global address must be set up on your PC.)</p> <p>Note</p> <p>To use IPsec, you need to set up your operating system. See the Panasonic support website at http://panasonic.co.jp/pcc/products/en/netwcam/ for the setup.</p>
Camera Server	<p>ISP Service : Services for multiple global addresses (A global address must be set up to this product.)</p>

Tunnel Mode (IPv4/IPv6)

An IPsec mode of operation where the entire IP packet including IP header is authenticated and encrypted. A new IP header is added (protecting the entire original packet). Both VPN clients and VPN gateways can use this mode.

Note

This product can be accessed only from the PCs under the VPN router. Other PCs cannot access this product.



Prepare the following requirements.

Item	Supported Feature
PC	<p>Operating System : Windows XP, Windows 2000, Windows Me, Windows 98SE (in IPv4)</p> <p>: Windows XP Service Pack 1 or later (in IPv6)</p> <p>Web Browser : Internet Explorer 6.0 or later</p>
Router	<p>ISP Service (in IPv4) : Static global address service (A global address must be set up to the WAN side of the router.)</p> <p>ISP Service (in IPv6) : "IPv4/IPv6 Dual-Stack" or "IPv6 over IPv4 Tunneling" service</p> <p>Note</p> <p>See the Panasonic support website at http://panasonic.co.jp/pcc/products/en/netwcam/ for the recommended router.</p>
Camera Server	<p>ISP Service (in IPv4) : Services for multiple static global addresses (A global address must be set up to this product.)</p> <p>ISP Service (in IPv6) : "IPv4/IPv6 Dual-Stack" or "IPv6 over IPv4 Tunneling" service</p>

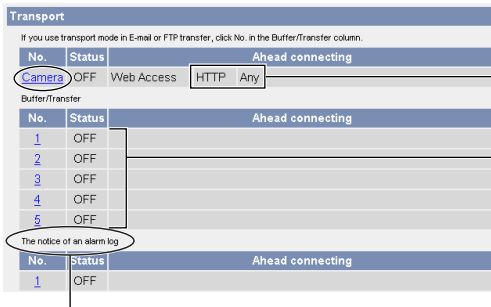
2.5 Encrypt the Camera Image in Transport Mode

This product can encrypt the image using IPsec transport mode.

Note

If you use IPsec, refresh interval slows down.

1. Click [IPsec] on the Setup page.
2. Click **Camera** in the Transport column.
 - If you use transport mode in E-mail or FTP transfer, click **No.** in the Buffer/Transfer column.



The display shows that the communication is in HTTP and any people can access this product if they have the pre-shared key. Set up these settings to transfer images in transport mode (see page 116).

Set to use Alarm Log (see page 121).

Note

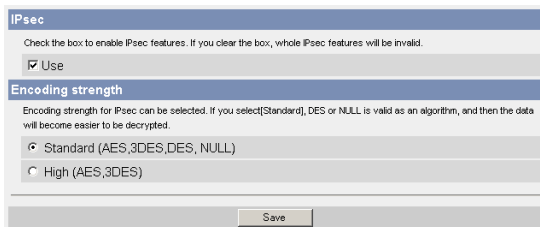
To display Alarm Log, set Alarm or Motion Detection for Trigger Setting and check [Enable].

3. Enter each parameter in the data field.

The screenshot shows the 'Transport setting' page. It has a 'Status' field with a checkbox and the label 'ON'. Below it are two text input fields: 'Pre-Shared Key (1 to 63 Characters)' and 'Retype Pre-Shared Key'. At the bottom, there are 'Save' and 'Cancel' buttons.

Setting	Description
Status	<ul style="list-style-type: none"> Check the box to use this encryption method.
Pre-Shared Key	<ul style="list-style-type: none"> It is the key to use in the authentication of communications. Enter the same pre-shared key as your PC. Enter ASCII characters for the host name (see page 163). But [Space], ["], ['], [&], [<] and [>] are not available. <p>Note</p> <p>If the pre-shared key leaks to a third party, it may lead to illegal access, private information leak or interference. To protect your security and privacy, pay attention to the following points.</p> <ul style="list-style-type: none"> Make it known only to the specified people. Set it as many characters as possible. Change the password regularly.

- Click [Save] when finished.
 - New settings are saved.
- Click [Cancel].
 - The IPsec page is displayed.
- Check [Use] in the IPsec column, select an encoding strength, and click [Save].



Setting	Description
IPsec	<ul style="list-style-type: none"> Check the box to enable IPsec features. If you clear the box, whole IPsec features will be invalid.
Encoding strength	<ul style="list-style-type: none"> Encoding strength for IPsec can be selected. If you select [Standard], DES or NULL is valid as an algorithm, and then the data will become easier to be decrypted.

7. Click [Restart].
8. Set up your PC as it fits to the requirements on page 46.
 - Set the FTP server or E-mail server to transfer images.
9. Access this product (see page 12).
 - If you can access this product, the IPsec setup is complete.

Notes

- In IPsec communications, "IPsec" is displayed on the Top page or the Single Camera page.
- If you cannot communicate using IPsec, see page 20 of the Troubleshooting on the Setup CD-ROM.
- See the Panasonic support website at <http://panasonic.co.jp/pcc/products/en/netwkcaml/> for the IPsec features.

2.6 Encrypt the Camera Image in Tunnel Mode

This product can encrypt the image using IPsec tunnel mode.

Notes

- Do not set IPsec on the PCs under the VPN router. Communications may be blocked.
- If you use IPsec, refresh interval slows down.
- This product can be accessed only from the PCs under the VPN router. Other PCs cannot access this product.

1. Click [IPsec] on the Setup page.
2. Click **Add** in the Tunnel column.

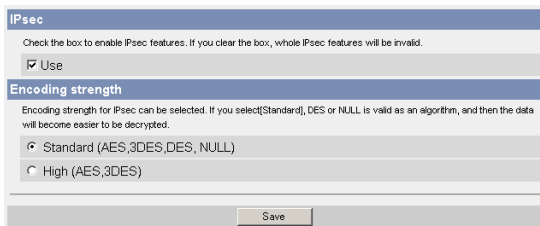
Tunnel	
When IPsec setting is added, when link of "Add".Click the number, and edit the tunnel mode.	
No.	Status
	Ahead connecting
Add	

3. Enter each parameter in the data field.

Tunnel setting	
Status	<input checked="" type="checkbox"/> ON
Pre-Shared Key (1 to 63 Characters)	<input type="text"/>
Retype Pre-Shared Key	<input type="text"/>
Network address	<input type="text"/>
Router address	<input type="text"/>
<input type="button" value="Save"/> <input type="button" value="Cancel"/>	

Setting	Description
Status	<ul style="list-style-type: none"> Check the box to use this encryption method.
Pre-Shared Key	<ul style="list-style-type: none"> It is the key to use in the authentication of communications. Enter the same pre-shared key as your VPN router. Enter ASCII characters for the host name (see page 163). But [Space], ["], ['], [&], [<] and [>] are not available. <p>Note</p> <p>If the pre-shared key leaks to a third party, it may lead to illegal access, private information leak or interference. To protect your security and privacy, pay attention to the following points.</p> <ul style="list-style-type: none"> Make it known only to the specified people. Set it as many characters as possible. Change the password regularly.
Network address	<ul style="list-style-type: none"> Enter the destination network address. Enter "IP address/Prefix length" in the data field.
Router address	<ul style="list-style-type: none"> Enter the WAN IP address of the VPN router on a destination network. <p>Notes</p> <ul style="list-style-type: none"> IPv6 link-local address is not available. This product can be accessed only from the PCs under the VPN router. Other PCs cannot access this product.

- Click [Save] when finished.
 - New settings are saved.
- Click [Cancel].
 - The IPsec page is displayed.
- Check [Use] in the IPsec column, select an encoding strength, and click [Save].



Setting	Description
IPsec	<ul style="list-style-type: none"> Check the box to enable IPsec features. If you clear the box, whole IPsec features will be invalid.
Encoding strength	<ul style="list-style-type: none"> Encoding strength for IPsec can be selected. If you select [Standard], DES or NULL is valid as an algorithm, and then the data will become easier to be decrypted.

7. Click [Restart].

8. Set up your VPN router as shown below.

- To use tunnel mode, you need to set up your VPN router.

IKE Items		Settings
Phase 1	Authentication Method	Pre-shared Key Method
	ID	Specifies by address.
	Mode	Main mode ¹⁾
	Diffie-Hellman MODP Group	Specifies 1 or 2.
	Cipher Algorithm	Select from DES-CBC, 3DES-CBC or AES-CBC (128, 192, 256 bits). (Multiple selections are available.)
	Message-Digest Algorithm	HMAC-MD5, HMAC-SHA-1 (Multiple selections are available.)
	Lifetime	Specifies by 28800 s (Byte setting is not supported.)

IKE Items		Settings
Phase 2	Mode	Quick mode
	PFS	Specifies either of Off, D-H Group 1 or D-H Group 2.
	Cipher Algorithm	Select from DES-CBC, 3DES-CBC, AES-CBC (128, 192, 256 bits) or NULL. (Multiple selections are available.)
	Message-Digest Algorithm	HMAC-MD5-96, HMAC-SHA-1-96 (Multiple selections are available.)
	Lifetime	Specifies by 28800 s (Byte setting is not supported.)

*1 This product does not support aggressive mode.

- Set up the IPsec policy as shown below.

Items	Settings
Protocol	ANY
Source Network	Network address and subnet mask on the LAN side of the VPN router
Source IP address	A global address on the WAN side of the VPN router
Destination Network	A global address of camera server
Destination IP address	A global address of camera server

9. Access this product (see page 12).

- If you can access this product, the IPsec setup is complete.

Notes

- In IPsec communications, "IPsec" is displayed on the Top page or the Single Camera page.
- If you cannot communicate using IPsec, see page 20 of the Troubleshooting on the Setup CD-ROM.
- See the Panasonic support website at <http://panasonic.co.jp/pcc/products/en/netwkcaml/> for the IPsec features.

2.7 Using UPnP™ (Universal Plug and Play)

UPnP™ can automatically configure your router to be accessed from the Internet. In order to use this feature, your router needs to support this feature and it must be enabled. Most router manufacturers disable this feature as the default setting. See <http://panasonic.co.jp/pcc/products/en/netwkcam/> for details and see your router's manual for how to enable UPnP™. After the UPnP™ is enabled on the router, set [Enable] for auto port forwarding.

Note

This product's UPnP™ does not support IPv6. Use this feature in IPv4.

1. Click [UPnP] on the Setup page.
2. Set up UPnP.

The screenshot shows a web interface for UPnP configuration. It has two sections: 'Auto Port Forwarding' and 'Display Shortcut Icon in My Network Places'. Each section has radio buttons for 'Enable' and 'Disable'. In both sections, the 'Enable' radio button is selected. At the bottom right, there is a 'Save' button.

Setting	Description
Auto Port Forwarding	<ul style="list-style-type: none"> • If the network setting is [Static] or [DHCP], enabling auto port forwarding allows you to access this product from the Internet. <p>Note</p> <p>If the network setting is [Automatic Setup], enable [Allow Access from the Internet] on the Network page (see page 39).</p>
Display Shortcut Icon in My Network Places	<ul style="list-style-type: none"> • Enabling it displays a shortcut to this product in the My Network Places folder. <p>Note</p> <p>If you use Windows XP or Windows Me, this feature is available. Enable UPnP™ Windows component before using this feature (see page 162).</p>

- 3.** Click [Save] when finished.
 - New settings are saved.
 - When finished, "Success!" is displayed.
- 4.** Click [Go to UPnP page].
 - The UPnP page is displayed.

2.7.1 Connecting this Product to a Router Not Supporting UPnP™ (IPv4 Only)

To allow access from the Internet with a router not supporting UPnP™, follow the procedures below.

1. Select [Static] on the Network (IPv4) page.

- (1) Access this product (see page 12).
- (2) Click [Setup] tab at the top of the page.
- (3) Select [Static] on the Network page.
 - The Static IP Address Configuration page is displayed. Make a note of the IP address and port number, since they are required to enable port forwarding on the router.
- (4) Click [Save] without changing the settings.
- (5) Click [Restart].

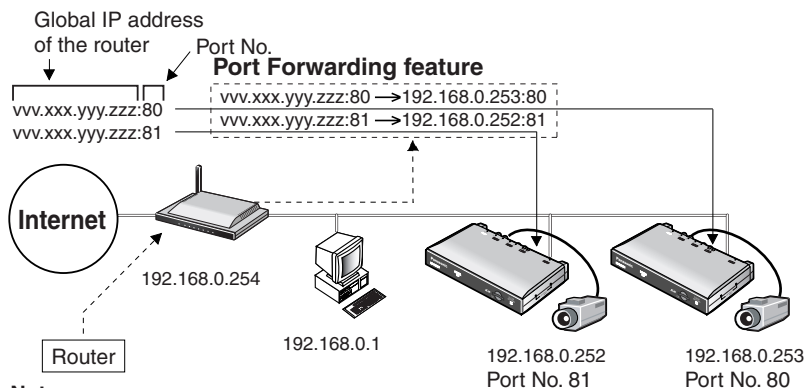
2. Enable port forwarding on the router.

Using the IP address and port number noted on step 1.(3), enable port forwarding on the router. See the router manual for how to enable port forwarding.

3. Register with the DynamicDNS service (see page 58).

Port Forwarding feature^{*1} (IPv4 Only)

The port forwarding feature is required to allow access from the Internet with a router not supporting UPnP™. It exchanges a local IP address for a global one. Each product must be assigned a unique port number.



Note

The IP addresses shown above may differ from those offered on your home network.

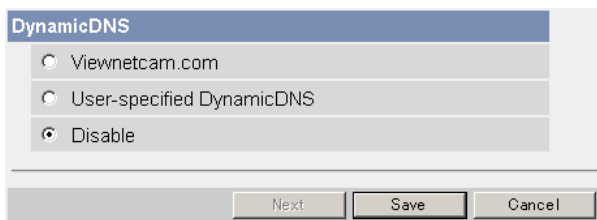
^{*1} "Port forwarding" may be called "Address translation", "Static IP Masquerade", "Virtual server" or "Port mapping" in other products.

2.8 Registering with the DynamicDNS service

DynamicDNS service is a service that allows you to assign an easy-to-remember name to this product, similar to your favorite web site. DynamicDNS service also allows you to easily access this product, even when your ISP changes the IP address. Panasonic Communications recommends you to register with it for the Internet access to this product. See <http://www.viewnetcam.com> for details about the Viewnetcam.com service.

1. Click [DynamicDNS] on the Setup page.

When you select [Disable]

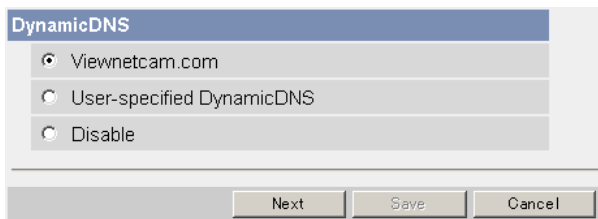


The screenshot shows a window titled "DynamicDNS" with three radio button options: "Viewnetcam.com", "User-specified DynamicDNS", and "Disable". The "Disable" option is selected. At the bottom of the window are three buttons: "Next", "Save", and "Cancel".

- The DynamicDNS service is disabled.
- Clicking [Cancel] cancels your settings without saving changes.

When you select [Viewnetcam.com]

2. Click [Next].



The screenshot shows a window titled "DynamicDNS" with three radio button options: "Viewnetcam.com", "User-specified DynamicDNS", and "Disable". The "Viewnetcam.com" option is selected. At the bottom of the window are three buttons: "Next", "Save", and "Cancel".

- Clicking [Cancel] cancels your settings without saving changes.

3. Click [Save].

- Clicking [Cancel] cancels your settings without saving changes, and the DynamicDNS window is displayed.

Setting	Description
Personal (Camera) URL	<ul style="list-style-type: none"> • The camera's personal URL will be displayed after you register with the Viewnetcam.com service.
Your Account Link	<ul style="list-style-type: none"> • The URL is displayed to register with the Viewnetcam.com service. Clicking [Your Account Link] item name displays the Viewnetcam.com registration website.

4. Click [OK].

5. Click [Go to Viewnetcam.com page].

- The Viewnetcam.com page is displayed.

6. Click **Your Account Link.**

- The Viewnetcam.com registration website is displayed.

Notes

- When the Viewnetcam.com registration website is not displayed, confirm that the URL is displayed in the right column of the Your Account Link. If the URL is not displayed, follow the procedures below.
 1. Wait for a while, and click [Refresh] on the web browser.
 2. Confirm that your network (your PC and this product) is connected to the Internet.
- Personal (Camera) URL is available after you registered with the Viewnetcam.com service.
- If port forwarding is not enabled or your network is not connected to the Internet, the Viewnetcam.com service is not available.

7. Register with the Viewnetcam.com service following the website.
 - The Viewnetcam.com page is displayed.
8. Access this product with a registered URL from the Internet (see page 12).
 - When the Top page is displayed, the Viewnetcam.com registration is complete.

Notes

- It may take a maximum of 30 minutes for the registered URL to work.
- If "Expired" is displayed at the Personal (Camera) URL on the Viewnetcam.com page or at the Camera URL in the DynamicDNS on the Status page, restart this product. After that, confirm that your registered URL is displayed on their pages.

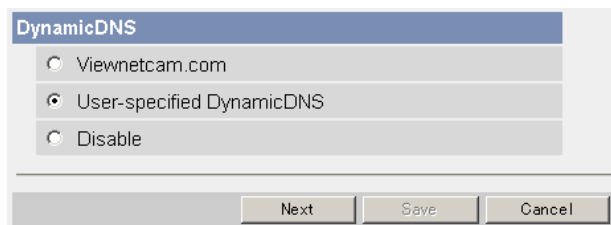
Confirming the Internet access

Due to the router specifications, the image may not be displayed even if you access this product from your PC on the same LAN as this product. In this case, access this product in the following procedures.

- Accessing from the PC on another network (see page 12)
- Accessing from your cell phone (see page 32)

When you select [User-specified DynamicDNS]

1. Click [Next].



- Clicking [Cancel] cancels your settings without saving changes.

2. Set each parameter.

User-specified DynamicDNS

DynamicDNS Server URL (1 to 255 Characters)

Updating time

Input User Name and Password

User Name (0 to 63 Characters)

Password (0 to 63 Characters)

- Clicking [Cancel] cancels your settings without saving changes.
- You can get DynamicDNS information from the DynamicDNS service industry company.

Setting	Description
DynamicDNS Server URL	Input URL acquired from the DynamicDNS service industry company.
Updating time	Specify the updating time.
User Name	Input User Name acquired from the DynamicDNS service industry company.
Password	Input Password acquired from the DynamicDNS service industry company.

3. Click [Save] after finished.
 - New settings are saved.
 - When finished, "Success!" is displayed.
4. Click [Go to DynamicDNS page].
 - The DynamicDNS page is displayed.

Notes

- It may take several minutes for the registered URL to connect.
- Some DynamicDNS service is not connected.

Confirming the Internet access

Due to the router specifications, the image may not be displayed even if you access this product from your PC on the same LAN as this product. In this case, access this product in the following procedures.

- Accessing from the PC on another network (see page 12)
http://***.***.***.***:*****
- Accessing from your cell phone (see page 32)
http://***.***.***.***:*****/mobile

User-specified DynamicDNS

- We do neither confirming the operation nor the operation guarantee concerning DynamicDNS services other than Viewnetcam.com service. Therefore, even if some troubles and damage occur because of the use of dynamic DNS services other than Viewnetcam.com service, we are not responsible for some troubles and damage.
- Ask about the selection and the setting of DynamicDNS service other than Viewnetcam.com to this services provider.

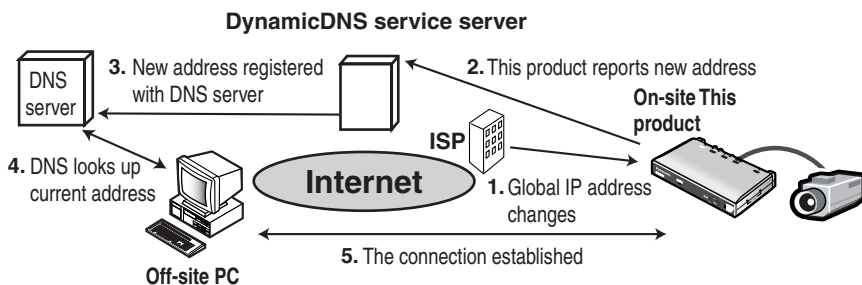
2.8.1 DynamicDNS Service (IPv4/IPv6)

DynamicDNS allows you to choose an easy-to-remember address (such as "bob.viewnetcam.com") that you can use to view images over the Internet. This service is compatible with both IPv4 and IPv6 addresses. Some DynamicDNS service is not compatible with IPv6 address.

What is the advantage of DynamicDNS service?

In order to view images over the Internet, you need to know your global IP address. However, many Internet Service Providers (ISPs) assign their customers a "dynamic" IP address that changes monthly, weekly, or each time they log on. Unless you have been assigned a static IP address (an IP address that does not change periodically) by your ISP, you may find it difficult to access this product over the Internet because your IP address changes periodically. Viewnetcam.com service allows you to access this product even if your assigned global IP address changes.

How the DynamicDNS service works



1. Your ISP assigns a global IP address to your Internet access account that changes periodically. This is the address needed to access this product over the Internet.
2. When your ISP assigned global IP address changes, this product automatically notifies the DynamicDNS service server of the new address in the DynamicDNS. This product notifies the DynamicDNS service server of the new address in DynamicDNS in the following cases.
 - When starting this product
 - Depending the time to be set at the update interval
 - When clicking the [Save] button
3. The DynamicDNS server contacts a Domain Name System (DNS) and registers your new global IP address to your chosen DynamicDNS address (such as "bob.viewnetcam.com").
4. When you enter your DynamicDNS address in your web browser while away from home or the office, the DNS server looks up the global IP address assigned to your DynamicDNS address.
5. The DNS server finds your current global IP address and allows you to connect to this product.

Notes

- Ask your ISP about what type of IP address you are using.
- Some ISPs assign you a local IP address. In this case, you cannot use the DynamicDNS service.
- If this product is using a port number other than 80, the port number must be specified at the end of the DynamicDNS URL. For example:
Using port 80: [http://\(Cameraname\).viewnetcam.com](http://(Cameraname).viewnetcam.com)
Using any other port: [http://\(Cameraname\).viewnetcam.com:Port Number](http://(Cameraname).viewnetcam.com:Port Number)

2.9 Setting Date and Time

The Date and Time page allows you to set date and time. Date and time are used for each images (Single, Multi and Buffered), Trigger, Alarm Log and Operation Time.

Note

Saving the date and time settings deletes all buffered images on the internal memory.

1. Click [Date and Time] on the Setup page.
2. Set each parameter.
 - Set [Automatic Time Adjustment] to synchronize the time automatically with an NTP server.

Time Setting			
Date	Month <input type="text" value="Jun"/>	Day <input type="text" value="10"/>	Year <input type="text" value="04"/>
Format	<input type="text" value="AM/PM"/>		<input type="text" value="24H"/>
Time	Hour <input type="text" value="7"/>	Minute <input type="text" value="35"/>	<input type="text" value="PM"/>
Automatic Time Adjustment			
<input type="checkbox"/> Enable			
NTP Server Address or Host Name	<input type="text"/>		
Time Zone	<input type="text" value="GMT-05:00 Eastern Time"/>		
Adjust Clock for Daylight Saving Time			
<input type="checkbox"/> Enable			
Start Day:	Month <input type="text" value="Apr"/>	Weekday <input type="text" value="First Sunday"/>	Hour <input type="text" value="2"/> <input type="text" value="AM"/>
End Day:	Month <input type="text" value="Oct"/>	Weekday <input type="text" value="Last Sunday"/>	Hour <input type="text" value="2"/> <input type="text" value="AM"/>
<input type="button" value="Save"/>		<input type="button" value="Cancel"/>	

- Clicking [Cancel] cancels your settings without saving changes.

Setting	Description
Time Setting	<ul style="list-style-type: none"> Select date and format (AM/PM or 24 H). These settings are used for each images (Single, Multi and Buffered), Trigger, Alarm Log and Operation Time. But E-mail subject and file name by E-mail or FTP transfer uses only 24 h format.
Automatic Time Adjustment	<ul style="list-style-type: none"> NTP (Network Time Protocol) server synchronizes this product's internal clock. It adjusts automatically every day. Check the box to enable it. Set the NTP server IP address. In IPv4, set 4 digits (0—255) and 3 periods such as "192.168.0.253". But "0.0.0.0" and "255.255.255.255" are not available. In IPv6, set 8 hexadecimal digits divided with ":". Consecutive 0s can be abbreviated as "::". Or set a host name¹ (1—255 characters). Select your time zone. <p>Note</p> <p>This product will not synchronize to the NTP server if the time setting from the NTP server moves forward or backward more than 1 hour at a time. This is to protect this product's time setting from fraudulent NTP server tampering, incorrect time information, etc.</p>
Adjust Clock for Daylight Saving Time	<ul style="list-style-type: none"> During the daylight saving time, the internal clock is turned forward an hour. The clock will shift one hour forward at the set time on the Start Day, and move back one hour at the set time on the End Day. Check the box to enable it. <p>Note</p> <p>An "s" is put between date and time of time stamp when enabling this feature. The time stamp will be attached to the transferred images by the Image Transfer feature.</p>

¹ But [Space], ["], ['], [&], [<] and [>] are not available.

- Click [Save] when finished.
 - New settings are saved.
 - When finished, "Success!" is displayed.
- Click [Go to Date and Time page].
 - The Date and Time page is displayed.

Note

Date and time settings become incorrect depending on the length of power-on time or the internal temperature. Using the Automatic Time Adjustment is recommended.

2.10 Changing Camera Settings

The Camera page allows you to set the Camera Name Vertical Resolution and Picture position adjustment.

1. Click [Camera] on the Setup page.

Camera Name

Camera Name

Vertical Resolution (for 640 x 480 mode)

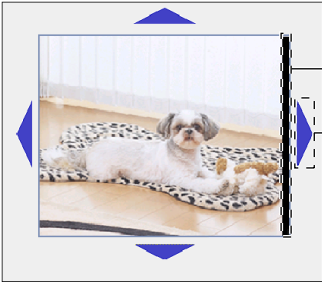
480 (Better for still images)

240 (Better for motion images)

Picture position adjustment

Save Cancel

2. Set each parameter.
 - Clicking [Cancel] cancels your settings without saving changes.

Setting	Description
Camera Name	<ul style="list-style-type: none"> The camera name is displayed on the Single camera page. Enter ASCII characters (see page 163) or characters in each language (1—15 characters for a 1-byte character and 1—7 characters for a 2-byte character). But [Space], ["], ['], [&], [<], and [>] are not available.
Vertical Resolution (for 640 × 480 mode)	When selecting the video of 640 × 480 dot resolution on the Single page, scanning lines may appear to record the fast moving objects. When selecting 240, correct the scanning lines.
Picture position adjustment	<p>The image area slips depending on the analog camera which you connect, and the black bar may appear into the picture edge. In this case, adjust picture position by clicking the icon on up, down, left and right. Adjust the image to right in the following example.</p> 

- Click [Save] when finished.
 - New settings are saved.
 - When finished, "Success!" is displayed.
- Click [Go to Camera page].
 - The Camera page is displayed.

Note

Clicking [Save] saves the adjusted position. Clicking [Cancel] cancels your settings without saving the position.

Picture position adjustment is reflected on the actual screen while adjusting.

When not to click [Save], the video is displayed in the adjusted position until turn the power off is turned off, however, turning the power back on returns this product to the original position.

2.11 Adjusting Audio

The Audio page adjusts the audio input sensitivity and audio output volume etc.

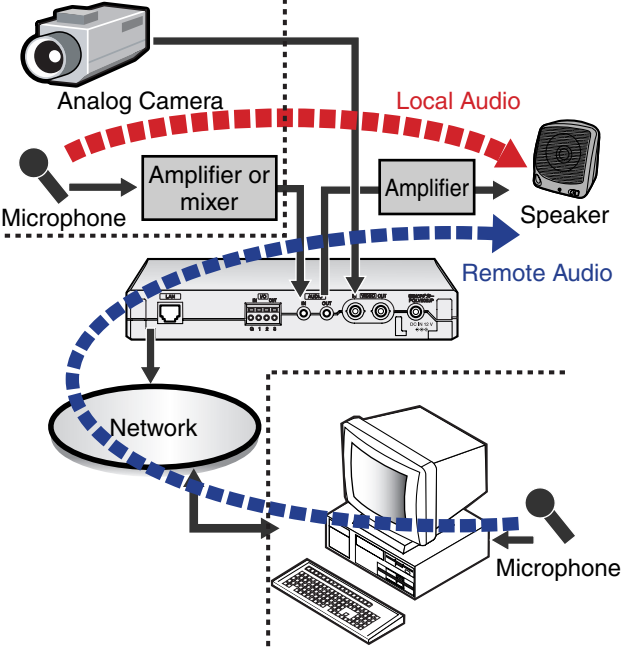
1. Click [Audio] on the Setup page.
2. Set each parameter.

The screenshot shows a settings window with the following sections and options:

- Output**: Radio buttons for Remote Audio, Local Audio, Local Audio + Remote Audio (selected), and Disable.
- Volume**: A dropdown menu set to Standard.
- PC Audio Input Timeout**: A dropdown menu set to 1 min.
- Input**: Radio buttons for Enable (selected) and Disable.
- Sensitivity**: A dropdown menu set to Standard.

At the bottom of the window are two buttons: Save and Cancel.

- Clicking [Cancel] cancels your settings without saving changes.

Setting	Description
<p>Output</p>	<ul style="list-style-type: none"> • Set the audio to output to this product's audio output terminal. <ul style="list-style-type: none"> – Remote Audio: Audio is outputted from the microphone input of your PC. – Local Audio: It outputs the audio from the audio output device connected to this product. – Local Audio + Remote Audio: Audio is outputted from the microphone input of your PC and from the audio input device connected to this product. – Disable: It disables the audio output. 
<p>Volume</p>	<ul style="list-style-type: none"> • It controls the audio volume to output to this product's audio output terminal. <ul style="list-style-type: none"> – Minimum: Turn down the volume – Standard: Standard setting (default) – Maximum: Turn up the volume

Setting	Description
PC Audio Input Timeout	<ul style="list-style-type: none"> • It controls the continuous receiving time of the microphone audio from your PC. • The following settings are available. 1 min, 2 min, 3 min, 5 min, 10 min, 20 min, 30 min, 60 min
Input	<ul style="list-style-type: none"> • It controls to enable or disable audio input to this product. If Disable is selected, you cannot output the Local audio.
Sensitivity	<ul style="list-style-type: none"> • It controls the audio sensitivity to input to this product. <ul style="list-style-type: none"> – Minimum: Decreased sensitivity – Standard: Standard setting (default) – Maximum: Enhanced sensitivity

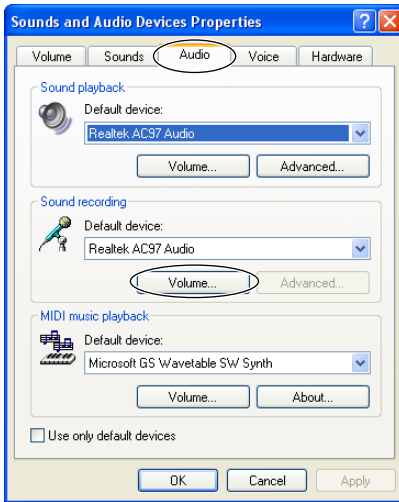
When [Local Audio + Remote Audio] is selected on the Audio page, Local Audio and Remote Audio are mixed and outputted from the audio output terminal. If they are not balanced well, adjust the audio (see page 72).

3. Click [Save] when finished.
 - New settings are saved.
 - When finished, "Success!" is displayed.
4. Click [Go to Audio page].
 - The Audio page is displayed.

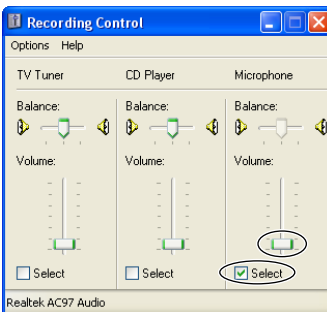
Adjusting local audio and remote audio

When [Local Audio + Remote Audio] is selected on the Audio page, audio from the audio input terminal (Local Audio) and audio from the microphone connected to your PC (Remote Audio) are mixed and outputted from the audio output terminal. If they are not balanced well, adjust the audio following the procedures below.

1. Adjust the remote audio (the volume of the microphone connected to your PC).
 - In this example, the menus and windows are described as in Windows XP.
- (1) Click [Start]→[Settings]→[Control Panel] on the Start menu.
 - (2) Click [Sounds, Speech, and Audio Devices]→[Sounds and Audio Devices].
 - (3) Click the [Audio] tab, and click [Volume...] in the Sound recording.



- (4) Confirm that the Microphone is checked, and adjust the volume bar.



- 2.** Adjust the sensitivity of the local audio.
 - (1)** Click [Audio] on the Setup page.
 - (2)** Select [Minimum], [Standard] or [Maximum] in the Sensitivity (see page 69).
 - (3)** Click [Save].
- 3.** Adjust both audios.
 - (1)** Click [Audio] on the Setup page.
 - (2)** Select [Minimum], [Standard] or [Maximum] in the Volume (see page 69).
 - (3)** Click [Save].

2.12 Changing Authentication Setting and Administrator User Name and Password

The Security: Administrator page allows you to change authentication, administrator user name and password. The authentication window is displayed, and allows the registered users to access this product.

Notes


- If you access this product for the first time, the window to set administrator user name and password is displayed. Make a note of the user name and password so that you will not forget them.
- The user name and password should be secured at your own responsibility. Pay attention to the following points.
 - Set the user name and password as many characters as possible.
 - Change the password regularly.

IMPORTANT

- It is important to limit access to this product by use of a unique User Name and a secret Password. Because this product is accessed through the Internet it is possible that this product could be accessed by unknown individuals, including those who are commonly known as "crackers" to whom you do not want to allow access. The use of a unique User Name and a Password known only to you will help insure that only authorized individuals are given access to this product. You have the option of proceeding without a User Name and Password, but it is strongly recommended that you utilize these protections.
1. Click [Administrator] on the Setup page.
 2. Set each parameter.

General Authentication	
<input type="radio"/>	Permit access from guest users
<input checked="" type="radio"/>	Do not permit access from guest users
Administrator Authentication	
User Name (8 to 15 Characters)	<input type="text"/>
Password (8 to 15 Characters)	<input type="text"/>
Retype Password	<input type="text"/>
<input type="button" value="Save"/> <input type="button" value="Cancel"/>	

- Clicking [Cancel] cancels your settings without saving changes.

Setting	Description
General Authentication	<p>Authentication has 2 phases.</p> <ul style="list-style-type: none"> If you set [Permit access from guest users], this product does not display the authentication window in camera access. All guest users can view the image without user name and password. <p>Note</p> <p>If you set [Permit access from guest users], [Login] tab is displayed at the top of the page. After you log in as an administrator (see page 77), you can access the Setup page and the Maintenance page.</p>  <p>The image shows a horizontal navigation bar with a blue background. On the left is a grey button labeled 'Support'. On the right is a blue button labeled 'Login', which is circled in red. Below the buttons is a blue horizontal line.</p> <ul style="list-style-type: none"> If you set [Do not permit access from guest users], this product displays authentication window in camera access. Users must enter the user name and password.
User Name/ Password	<ul style="list-style-type: none"> User Name (6 to 15 characters): Enter the user name. Password (6 to 15 characters): Enter the password. <p>Note</p> <p>The password must be different from the user name.</p> <ul style="list-style-type: none"> Retype Password: Reenter the password. Enter ASCII characters (see page 163). But [Space], ["], ['], [&], [<], [>] and [:] are not available.

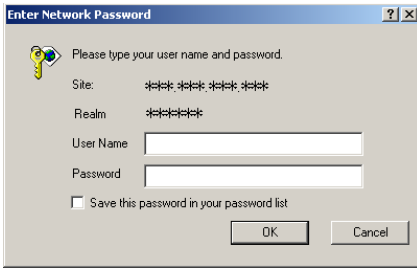
Notes

- When setting authentication, set the user name and password, and save them.
 - When users other than an administrator are accessing this product, [Setup] and [Maintenance] tab will not be displayed.
 - The user name and password are case sensitive.
- 3.** Click [Save] when finished.
- New settings are saved.
 - When finished, "Success!" is displayed.

4. Click [Go to Security: Administrator page].
 - The Security: Administrator page is displayed.

Note

- When the user name and password have been changed, this product displays an authentication window. Enter the user name and password, and click [OK].



Administrator/General Users/Guest Users

This product has 3 user levels (administrator, general users and guest users).

Items	Administrator	General Users	Guest Users
User Name and Password	Required	Required	Not Required
Number of Users	1	50	—
Accessible Pages	All Pages	Pages Except For Setup and Maintenance page	Pages Except For Setup and Maintenance page
Access Level	All Operations	Access level can be set for each general user (see page 78).	Access level can be set for guest users (see page 78).

Note

Guest users mean unregistered users. Set [Permit access from guest users] on the Security: Administrator page (see page 74).

2.13 Logging in to this Product

If you set [Permit access from guest users] on the Security: Administrator page, [Login] tab is displayed at the top of the page. After you log in as an administrator, you can access the Setup page and the Maintenance page.

1. Click [Login] tab at the top of the page.



2. Check the login mode, and click [Login].

 A screenshot of a dialog box titled 'Select Login mode'. It has a blue header bar with the title. Below the header, there are two radio button options: 'General User' (which is selected) and 'Administrator'. At the bottom right of the dialog box is a button labeled 'Login'.

Note

The authentication window is displayed. Enter the user name and password set for General Users or Administrator.

 A screenshot of a dialog box titled 'Enter Network Password'. It has a blue title bar with a key icon and a question mark icon. The main area contains the text 'Please type your user name and password.' followed by four input fields: 'Site' (with a masked password), 'Realm' (with a masked password), 'User Name' (with a text input field), and 'Password' (with a masked password). At the bottom, there is a checkbox labeled 'Save this password in your password list' and two buttons: 'OK' and 'Cancel'.

3. Enter a valid user name and password according to the Login mode selected in step 2, and click [OK].

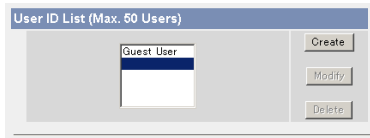
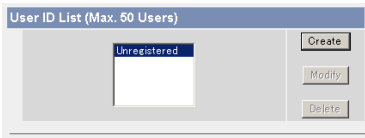
2.14 Creating, Modifying or Deleting General Users

The General User page allows you to create, modify or delete general users. Up to 50 general users can be registered. The access level is set for each general user. If you set [Permit access from guest users] on the Security: Administrator page, the access level can be set for guest users.

Note

For general users, the Setup and Maintenance tabs are not displayed.

1. Click [General User] on the Setup page.
2. If you create a general user, click [Create].
 - When setting [Do not permit access from guest users]
 - When setting [Permit access from guest users]



- If you change the settings of general users or guest users, select their name and click [Modify]. The modification page is displayed.
- If you delete a general user, select the name and click [Delete]. The confirmation page is displayed.

3. Set each parameter.

- Settings for a general user
- Settings for guest users

The screenshot shows two configuration panels. The top panel, titled "Input User Name and Password", contains three input fields: "User Name (6 to 15 Characters)", "Password (6 to 15 Characters)", and "Retype Password". The bottom panel, titled "Access Level", contains several settings: "Limit time of Continuous Motion JPEG" (set to "Not permitted"), "Refresh Interval" (set to "3 s"), and a series of checkboxes for "External Output Control", "Change Refresh Interval", "Change Resolution", "Change Quality", "Capture Image Button", "Listen", "Talk", "View Multi-Camera page", and "View Buffered Image page". Both panels have "Save" and "Cancel" buttons at the bottom.

The screenshot shows the "Access Level" configuration panel for guest users. It contains the same settings as the general user panel: "Limit time of Continuous Motion JPEG" (set to "Not permitted"), "Refresh Interval" (set to "3 s"), and checkboxes for "External Output Control", "Change Refresh Interval", "Change Resolution", "Change Quality", "Capture Image Button", "Listen", "Talk", "View Multi-Camera page", and "View Buffered Image page". "Save" and "Cancel" buttons are at the bottom.

- Clicking [Cancel] takes you back to the previous page without saving changes.

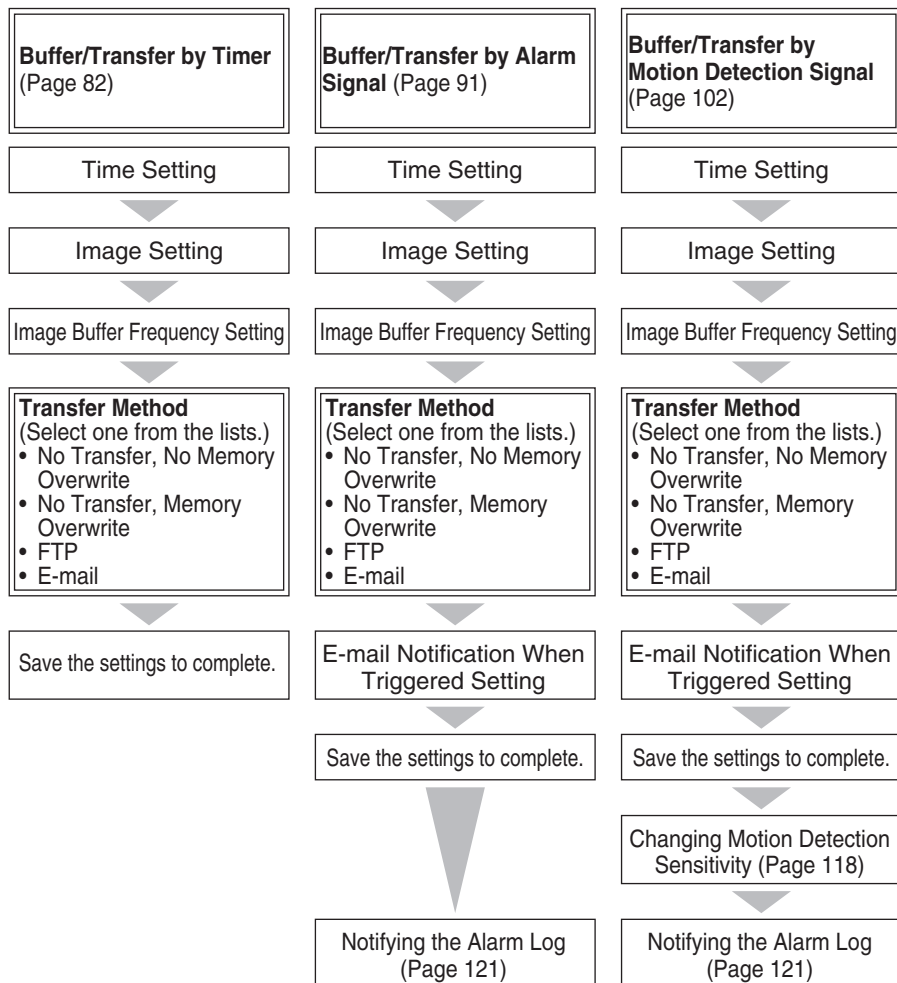
Setting	Description
User ID List	<ul style="list-style-type: none"> • Up to 50 general users can be registered. • The list is used to modify or delete general user settings.
User Name/ Password	<ul style="list-style-type: none"> • User Name (6 to 15 characters): Enter the user name. • Password (6 to 15 characters): Enter the password. <p>Note</p> <p>The password must be different from the user name.</p> <ul style="list-style-type: none"> • Retype Password: Reenter the password. • Enter ASCII characters (see page 163). But [Space], ["], ['], [&], [<], [>] and [:] are not available.

Setting	Description
Access Level	<p>Access level is set for each general user. Check the feature to enable.</p> <ul style="list-style-type: none"> • In the limit time of continuous motion JPEG, set the time to change the video (Motion JPEG) to still images for each user. (Not permitted, Unlimited, 10 seconds—60 minutes) In the refresh interval, set the refresh interval after the video changes to still images. (3—60 seconds) • See each page for the following features. External Output Control (see page 24) Change Refresh Interval (see page 24) Change Resolution (see page 24) Change Quality (see page 24) Capture Image Button (see page 23) Listen (see page 25) Talk (see page 25) View Multi-Camera page (see page 27) View Buffered Image page (see page 29)

4. Click [Save] when finished.
 - New settings are saved.
 - When finished, "Success!" is displayed.
5. Click [Go to General User page].

2.15 Procedures of Buffering or Transferring Images

The procedures from this page to page 112 are described about settings of the image buffer or transfer. See the procedures below to understand the general outline of the settings.



2.16 Buffering or Transferring Images by Timer

The Trigger page allows you to enable image buffer/transfer by E-mail or FTP.

Note

If you are recording images to the SD memory card, refresh interval slows down.

1. Click [Trigger] on the Setup page.
2. Click **No.** to enable buffer/transfer.

Trigger												
No.	Status	Trigger	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Active Time of Trigger	Transfer Method	Notify
1	OFF	Timer	X	X	X	X	X	X	X	Always	No Transfer, No Memory Overwrite	-
2	OFF	Timer	X	X	X	X	X	X	X	Always	No Transfer, No Memory Overwrite	-
3	OFF	Timer	X	X	X	X	X	X	X	Always	No Transfer, No Memory Overwrite	-
4	OFF	Timer	X	X	X	X	X	X	X	Always	No Transfer, No Memory Overwrite	-
5	OFF	Timer	X	X	X	X	X	X	X	Always	No Transfer, No Memory Overwrite	-

3. Check [Enable Image Buffer/Transfer], and select [Timer] for trigger, and click [Next>].

The screenshot shows the 'Trigger Setting' window. At the top, there is a title bar 'Trigger Setting'. Below it, the checkbox 'Enable Image Buffer/Transfer' is checked. Underneath, the 'Trigger' dropdown menu is set to 'Timer'. A button labeled 'Delete Buffered Images' is positioned below the dropdown. At the bottom of the window, there are three buttons: 'Next >', 'Save', and 'Cancel'.

Notes

- If you click [Save], all buffered images on the SD memory card are deleted.
- Click [Delete Buffered Images] to delete the buffered images.
- Click [Save] to save the settings.
- Clicking [Cancel] takes you back to the Trigger page without saving changes.

Setting	Description
Enable Image Buffer/Transfer	<ul style="list-style-type: none"> Check the box to enable the Trigger setting. Clear the box to disable it.
Trigger	<ul style="list-style-type: none"> Selecting [Timer] enables this product to buffer/transfer the image by timer. Selecting [Alarm] enables this product to buffer/transfer the image by alarm signal. Selecting [Motion Detection] enables this product to capture/transfer the images when the motion detects something.

4. Set the time, and click [Next>].

Note

The timer works by an internal clock. Set the date and time before using timer buffer/transfer (see page 64).

- Clicking [<Back] takes you back to the previous page.
- Clicking [Cancel] takes you back to the Trigger page without saving changes.

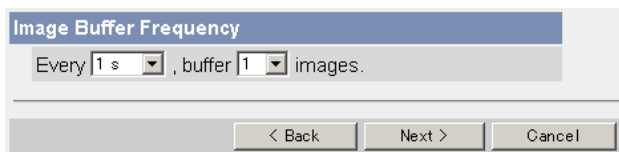
Setting	Description
A day of the week	<ul style="list-style-type: none"> Check the box to enable the day. Clear the box to disable it.
Active Time of Trigger	<ul style="list-style-type: none"> Select the [Always] option when you do not specify the time period. If you specify the time period, select the time period option and set the time period.

5. Set the image settings, and click [Next>].

- Clicking [<Back] takes you back to the previous page.
- Clicking [Cancel] takes you back to the Trigger page without saving changes.

Setting	Description
Image Resolution	<ul style="list-style-type: none"> • Select image resolution (640 × 480, 320 × 240 (default) or 160 × 120 pixels) to buffer or transfer.
Image Quality	<ul style="list-style-type: none"> • Select the image quality. [Favor Clarity] optimizes for good quality. [Standard] offers standard quality. (default) [Favor Motion] optimizes for enhanced motion. [Mobile Phone] is for a transfer to a cell phone. <p>Note 640 × 480 pixels cannot be set for a transfer to a cell phone.</p>

6. Set the image buffer frequencies, and click [Next>].



Note

Due to the network environment, object, number of accesses, enabling IPsec, this product may not record the numbers of images as you set. In this case, set the image buffer frequencies longer.

- Clicking [<Back] takes you back to the previous page.
- Clicking [Cancel] takes you back to the Trigger page without saving changes.

Setting	Description
Image Buffer Frequency	<ul style="list-style-type: none"> • Select the image buffer frequency to buffer or transfer the image. (1 image per hour—30 images per second)

7. Select the transfer method, and click [Next>].

The screenshot shows a dialog box titled "Transfer Method". It contains four radio button options:

- No Transfer, No Memory Overwrite
- No Transfer, Memory Overwrite
- FTP
- E-mail

 At the bottom of the dialog, there are three buttons: "< Back", "Next >", and "Cancel".

- Clicking [<Back] takes you back to the previous page.
- Clicking [Cancel] takes you back to the Trigger page without saving changes.

Note

If you transfer image by E-mail or FTP, confirm that the default gateway and DNS server addresses are assigned correctly (see page 37 and page 41).

Setting	Description
No Transfer, No Memory Overwrite	<ul style="list-style-type: none"> • If the internal memory is full, this product stops the buffer.
No Transfer, Memory Overwrite	<ul style="list-style-type: none"> • If the internal memory is full, this product deletes the old images, and continues to buffer the image.
FTP	<ul style="list-style-type: none"> • This product transfers the image to an FTP server (see page 86).
E-mail	<ul style="list-style-type: none"> • This product transfers the image by E-mail (see page 88).

When you set [FTP] for Transfer Method

Select [FTP], and click [Next>]. The following page is displayed.

FTP	
Server IP Address or Host Name	<input type="text"/>
Port No. (Usually Use 21)	<input type="text" value="21"/>
Login ID (0 to 63 Characters)	<input type="text"/>
Password (0 to 63 Characters)	<input type="text"/>
Login Timing	<input type="text" value="Every Time"/>
Upload File Name (1 to 234 Characters)	<input type="text"/>
Overwrite setting	<input type="text" value="Overwrite File"/>
Data Transfer Method	<input type="text" value="Passive Mode"/>

- Clicking [<Back] takes you back to the previous page.
- Clicking [Cancel] takes you back to the Trigger page without saving changes.

Setting	Description
Server IP Address or Host Name ¹	<ul style="list-style-type: none"> If you set the FTP server IP address, set 4 digits (0—255) and 3 periods such as "192.168.0.253". But "0.0.0.0" and "255.255.255.255" are not available. Or set a host name (1—255 characters). You can set IPv6 address.
Port No.	<ul style="list-style-type: none"> Enter a number (1—65535). Usually set to 21.
Login ID ²	<ul style="list-style-type: none"> If your ISP requires a login ID, set it (0—63 characters).
Password ²	<ul style="list-style-type: none"> If your ISP requires a password, set it (0—63 characters).
Login Timing	<ul style="list-style-type: none"> Select the login timing to an FTP server. If you set [One Time] during 1-minute transfer, this product logs in to the server only once, and can reduce the time to log in or log out.
Upload File Name ¹	<ul style="list-style-type: none"> Set the file name to save on an FTP server. Enter 1—234 characters. Entering "\" creates directories for a file. (E.g. NetworkCamera\image.jpg)
Overwrite Setting	<ul style="list-style-type: none"> Selecting [Overwrite File] saves and overwrites the image on the FTP server. Selecting [Save as New File with Time Stamp] saves the image attaching time stamps on the file name, and the images are not overwritten. (E.g. image<u>20050101093020500</u>.jpg) Underlined numbers are "9h30min20s500ms on January 1, 2005". The letter "s" is inserted after the day when referring to a summer time zone.
Data Transfer Method	<ul style="list-style-type: none"> Select [Passive Mode] normally. If FTP does not work, select [Active Mode] and check the operation.

¹ But [Space], ["], ['], [&], [<] and [>] are not available.

² But ["'] is not available.

When you set [E-mail] for Transfer Method

Select [E-mail], and click [Next>]. The following page is displayed.

E-mail Transfer	
SMTP Server IP Address or Host Name	<input type="text"/>
Port No. (Usually Use 25)	<input type="text" value="25"/>
POP3 Server IP Address or Host Name	<input type="text"/>
Port No. (Usually Use 110)	<input type="text" value="110"/>
Login ID (0 to 63 Characters)	<input type="text"/>
Password (0 to 63 Characters)	<input type="text"/>
Reply E-mail Address	<input type="text"/>
Destination E-mail Address 1	<input type="text"/>
Destination E-mail Address 2	<input type="text"/>
Destination E-mail Address 3	<input type="text"/>
Subject (Up to 44 Characters)	<input type="text"/>
Text (Up to 63 Characters)	<input type="text"/>
<input type="button" value=" < Back"/> <input type="button" value=" Save"/> <input type="button" value=" Cancel"/>	

- Clicking [<Back] takes you back to the previous page.
- Clicking [Cancel] takes you back to the Trigger page without saving changes.

Notes

- This product works only with an SMTP (Simple Mail Transfer Protocol) server. It does not work with mail servers like "Hotmail®" using a web browser.
- The subject name by E-mail transfer uses only 24 h format. The file name is "image.jpg".
E.g. "Subject:20050101093020500".
Underlined numbers are "9h30min20s500ms on January 1, 2005". The letter "s" is inserted after the day when referring to a summer time zone.

Setting	Description
SMTP Server IP Address or Host Name ¹	<ul style="list-style-type: none"> If you set the SMTP server IP address, set 4 digits (0—255) and 3 periods such as "192.168.0.253". But "0.0.0.0" and "255.255.255.255" are not available. Or set a host name (1—255 characters). You can set IPv6 address.
Port No.	<ul style="list-style-type: none"> Enter a number (1—65535). Usually set to 25.
POP3 Server IP Address or Host Name ¹	<ul style="list-style-type: none"> If you set the POP3 server IP address, set 4 digits (0—255) and 3 periods such as "192.168.0.253". But "0.0.0.0" and "255.255.255.255" are not available. Or set a host name (0—255 characters). You can set IPv6 address.
Port No.	<ul style="list-style-type: none"> Enter a number (1—65535). Usually set to 110.
Login ID ²	<ul style="list-style-type: none"> If your ISP requires a login ID to log in to a POP3 server, set it (0—63 characters).
Password ²	<ul style="list-style-type: none"> If your ISP requires a password to log in to a POP3 server, set it (0—63 characters).
Reply E-mail Address ²	<ul style="list-style-type: none"> Set the sender's E-mail address. We recommend you to set the administrator's E-mail address.
Destination E-mail Address ² 1—3	<ul style="list-style-type: none"> Set the destination E-mail address (up to 3).
Subject ²	<ul style="list-style-type: none"> Enter a subject with ASCII characters (see page 163) or characters in each language (0—44 characters for a 1-byte character and 0—22 characters for a 2-byte character).
Text ²	<ul style="list-style-type: none"> Enter text with ASCII characters (see page 163) or characters in each language (0—63 characters for a 1-byte character and 0—31 characters for a 2-byte character). But the [end-of-line] key is not available.

¹ But [Space], ["], ['], [&], [<] and [>] are not available.

² But ["] is not available.

8. Confirm the settings, and click [Save].
 - New settings are saved.
 - When finished, "Success!" is displayed.
9. Click [Go to Trigger page].
 - The Trigger page is displayed.

Notes

- If you click [Save], all buffered images on the SD memory card are deleted.
- If you are buffering images on the internal memory, the following operations also delete all buffered images.
 - Turning off this product.
 - Saving the Date and Time page.
 - Restarting, updating firmware or resetting this product to factory default.

2.17 Buffering or Transferring Images by Alarm Signal

The Trigger page allows you to enable image buffer/transfer by E-mail or FTP.

Notes

- If you are recording images to the SD memory card, refresh interval slows down.
- You need to attach the alarm to this product when using this feature.

1. Click [Trigger] on the Setup page.
2. Click **No.** to enable buffer/transfer.

Trigger											Active Time of Trigger	Transfer Method	Notify
No.	Status	Trigger	Sun	Mon	Tue	Wed	Thu	Fri	Sat				
1	OFF	Timer	X	X	X	X	X	X	X		Always	No Transfer, No Memory Overwrite	-
2	OFF	Timer	X	X	X	X	X	X	X		Always	No Transfer, No Memory Overwrite	-
3	OFF	Timer	X	X	X	X	X	X	X		Always	No Transfer, No Memory Overwrite	-
4	OFF	Timer	X	X	X	X	X	X	X		Always	No Transfer, No Memory Overwrite	-
5	OFF	Timer	X	X	X	X	X	X	X		Always	No Transfer, No Memory Overwrite	-

3. Check [Enable Image Buffer/Transfer], select [Alarm] for trigger, select [Rising: GND to Open (High).] or [Falling: Open (High) to GND.] and click [Next>].

Trigger Setting

Enable Image Buffer/Transfer

Trigger: Alarm

Alarm enable condition: Rising: GND to Open (High)

Notes

- If you click [Save], all buffered images on the SD memory card are deleted.
- Click [Delete Buffered Images] to delete this buffered images.
- Click [Save] to save the settings.
- Clicking [Cancel] takes you back to the Trigger page without saving changes.

Setting	Description
Enable Image Buffer/Transfer	<ul style="list-style-type: none"> Check the box to enable the Trigger setting. Clear the box to disable it.
Trigger	<ul style="list-style-type: none"> Selecting [Timer] enables this product to buffer/transfer the image by timer. Selecting [Alarm] enables this product to buffer/transfer the image by alarm signal. Selecting [Motion Detection] enables this product to capture/transfer the images when the motion detects something.
Alarm enable condition	<ul style="list-style-type: none"> Selecting the method of the detection for an alarm connected to the External I/O terminal. Select [Rising: GND to Open (High).] or [Falling: Open (High) to GND.]. [Rising: GND to Open (High).] is the state that GND pin and pin 1 or pin is left open. [Falling: Open (High) to GND.] is the state that GND pin and pin 1 or pin is short-circuited. (See page 143)

4. Set the time, and click [Next>].

The screenshot shows a 'Time' configuration window. At the top, there's a title bar 'Time'. Below it, a row of days: Sun, Mon, Tue, Wed, Thu, Fri, Sat. Each day has a checkbox. To the right of these is an 'Always' option with a radio button. Further right is the 'Active Time of Trigger' section, which includes 'AM' and 'PM' dropdowns, a '12' hour dropdown, and a '0' minute dropdown. At the bottom, there are three buttons: '< Back', 'Next >', and 'Cancel'.

Note

The timer works by an internal clock. Set the date and time before using timer buffer/transfer (see page 64).

- Clicking [<Back] takes you back to the previous page.
- Clicking [Cancel] takes you back to the Trigger page without saving changes.

Setting	Description
A day of the week	<ul style="list-style-type: none"> Check the box to enable the day. Clear the box to disable it.
Active Time of Trigger	<ul style="list-style-type: none"> Select the [Always] option when you do not specify the time period. If you specify the time period, select the time period option and set the time period.

5. Set the image settings, and click [Next>].

- Clicking [<Back] takes you back to the previous page.
- Clicking [Cancel] takes you back to the Trigger page without saving changes.

Setting	Description
Image Resolution	<ul style="list-style-type: none"> • Select image resolution (640 × 480, 320 × 240 (default) or 160 × 120 pixels) to buffer or transfer.
Image Quality	<ul style="list-style-type: none"> • Select the image quality. [Favor Clarity] optimizes for good quality. [Standard] offers standard quality. (default) [Favor Motion] optimizes for enhanced motion. [Mobile Phone] is for a transfer to a cell phone. <p>Note</p> <p>640 × 480 pixels cannot be set for a transfer to a cell phone.</p>

6. Set the image buffer frequencies, and click [Next>].

Note

Due to the network environment, object, number of accesses, enabling IPsec, SD memory recording, this product may not record the numbers of images as you set. In this case, set the image buffer frequencies longer. For the SD memory recording, 1 image per second setting is recommended.

- Clicking [<Back] takes you back to the previous page.
- Clicking [Cancel] takes you back to the Trigger page without saving changes.

Setting	Description
Enable Pre-trigger Image Buffer	<ul style="list-style-type: none"> • Check the box to enable the setting. This product buffers or transfers the image right before the alarm signal is detected. • Set an interval, number of images to buffer and total number. The buffered images may not match the total number due to memory capacity, image resolution, image quality or what object you view.
Enable Post-trigger Image Buffer	<ul style="list-style-type: none"> • Check the box to enable the setting. This product buffers or transfers the image right after the alarm signal is detected. • Set an interval, number of images to buffer and total number. The buffered images may not match the total number due to memory capacity, image resolution, image quality or what object you view.

7. Select the transfer method, and click [Next>].

The screenshot shows a dialog box titled "Transfer Method". It contains four radio button options:

- No Transfer, No Memory Overwrite
- No Transfer, Memory Overwrite
- FTP
- E-mail

 At the bottom of the dialog, there are three buttons: "< Back", "Next >", and "Cancel".

- Clicking [<Back] takes you back to the previous page.
- Clicking [Cancel] takes you back to the Trigger page without saving changes.

Note

If you transfer image by E-mail or FTP, confirm that the default gateway and DNS server addresses are assigned correctly (see page 37 and page 41).

Setting	Description
No Transfer, No Memory Overwrite	<ul style="list-style-type: none"> • If the internal memory is full, this product stops the buffer.
No Transfer, Memory Overwrite	<ul style="list-style-type: none"> • If the internal memory is full, this product deletes the old images, and continues to buffer the image.
FTP	<ul style="list-style-type: none"> • This product transfers the image to an FTP server (see page 96).
E-mail	<ul style="list-style-type: none"> • This product transfers the image by E-mail (see page 98).

When you set [FTP] for Transfer Method

Select [FTP], and click [Next>]. The following page is displayed.

FTP	
Server IP Address or Host Name	<input type="text"/>
Port No. (Usually Use 21)	<input type="text" value="21"/>
Login ID (0 to 63 Characters)	<input type="text"/>
Password (0 to 63 Characters)	<input type="text"/>
Login Timing	<input type="text" value="Every Time"/>
Upload File Name (1 to 234 Characters)	<input type="text"/>
Overwrite setting	<input type="text" value="Overwrite File"/>
Data Transfer Method	<input type="text" value="Passive Mode"/>

- Clicking [<Back] takes you back to the previous page.
- Clicking [Cancel] takes you back to the Trigger page without saving changes.

Setting	Description
Server IP Address or Host Name ¹	<ul style="list-style-type: none"> If you set the FTP server IP address, set 4 digits (0—255) and 3 periods such as "192.168.0.253". But "0.0.0.0" and "255.255.255.255" are not available. Or set a host name (1—255 characters). You can set IPv6 address.
Port No.	<ul style="list-style-type: none"> Enter a number (1—65535). Usually set to 21.
Login ID ²	<ul style="list-style-type: none"> If your ISP requires a login ID, set it (0—63 characters).
Password ²	<ul style="list-style-type: none"> If your ISP requires a password, set it (0—63 characters).
Login Timing	<ul style="list-style-type: none"> Select the login timing to an FTP server. If you set [One Time] during 1-minute transfer, this product logs in to the server only once, and can reduce the time to log in or log out.
Upload File Name ¹	<ul style="list-style-type: none"> Set the file name to save on an FTP server. Enter 1—234 characters. Entering "\" creates directories for a file. (E.g. NetworkCamera\image.jpg)
Overwrite Setting	<ul style="list-style-type: none"> Selecting [Overwrite File] saves and overwrites the image on the server. Selecting [Save as New File with Time Stamp] saves the image attaching time stamps on the file name, and the images are not overwritten. (E.g. image<u>20050101093020500</u>.jpg) Underlined numbers are "9h30min20s500ms on January 1, 2005". The letter "s" is inserted after the day when referring to a summer time zone.
Data Transfer Method	<ul style="list-style-type: none"> Select [Passive Mode] normally. If FTP does not work, select [Active Mode] and check the operation.

¹ But [Space], ["], ['], [&], [<] and [>] are not available.

² But ["'] is not available.

When you set [E-mail] for Transfer Method

Select [E-mail], and click [Next>]. The following page is displayed.

E-mail Transfer	
SMTP Server IP Address or Host Name	<input type="text"/>
Port No. (Usually Use 25)	<input type="text" value="25"/>
POP3 Server IP Address or Host Name	<input type="text"/>
Port No. (Usually Use 110)	<input type="text" value="110"/>
Login ID (0 to 63 Characters)	<input type="text"/>
Password (0 to 63 Characters)	<input type="text"/>
Reply E-mail Address	<input type="text"/>
Destination E-mail Address 1	<input type="text"/>
Destination E-mail Address 2	<input type="text"/>
Destination E-mail Address 3	<input type="text"/>
Subject (Up to 44 Characters)	<input type="text"/>
Text (Up to 63 Characters)	<input type="text"/>
<input type="button" value=" < Back"/> <input type="button" value=" Next > "/> <input type="button" value=" Cancel "/>	

- Clicking [<Back] takes you back to the previous page.
- Clicking [Cancel] takes you back to the Trigger page without saving changes.

Notes

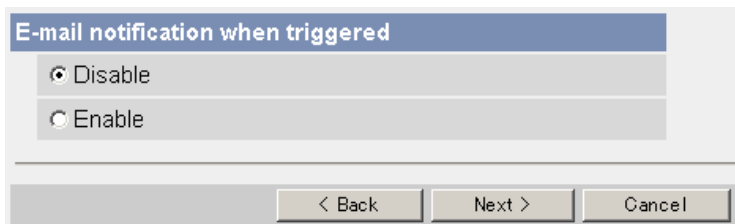
- This product works only with an SMTP (Simple Mail Transfer Protocol) server. It does not work with mail servers like "Hotmail" using a web browser.
- The subject name by E-mail transfer uses only 24 h format. The file name is "image.jpg".
E.g. "Subject:20050101093020500".
Underlined numbers are "9h30min20s500ms on January 1, 2005". The letter "s" is inserted after the day when referring to a summer time zone.

Setting	Description
SMTP Server IP Address or Host Name ¹	<ul style="list-style-type: none"> If you set the SMTP server IP address, set 4 digits (0—255) and 3 periods such as "192.168.0.253". But "0.0.0.0" and "255.255.255.255" are not available. Or set a host name (1—255 characters). You can set IPv6 address.
Port No.	<ul style="list-style-type: none"> Enter a number (1—65535). Usually set to 25.
POP3 Server IP Address or Host Name ¹	<ul style="list-style-type: none"> If you set the POP3 server IP address, set 4 digits (0—255) and 3 periods such as "192.168.0.253". But "0.0.0.0" and "255.255.255.255" are not available. Or set a host name (0—255 characters). You can set IPv6 address.
Port No.	<ul style="list-style-type: none"> Enter a number (1—65535). Usually set to 110.
Login ID ²	<ul style="list-style-type: none"> If your ISP requires a login ID to log in to a POP3 server, set it (0—63 characters).
Password ²	<ul style="list-style-type: none"> If your ISP requires a password to log in to a POP3 server, set it (0—63 characters).
Reply E-mail Address ²	<ul style="list-style-type: none"> Set the sender's E-mail address. We recommend you to set the administrator's E-mail address.
Destination E-mail Address ² 1—3	<ul style="list-style-type: none"> Set the destination E-mail address (up to 3).
Subject ²	<ul style="list-style-type: none"> Enter a subject with ASCII characters (see page 163) or characters in each language (0—44 characters for a 1-byte character and 0—22 characters for a 2-byte character).
Text ²	<ul style="list-style-type: none"> Enter text with ASCII characters (see page 163) or characters in each language (0—63 characters for a 1-byte character and 0—31 characters for a 2-byte character). But the [end-of-line] key is not available.

¹ But [Space], ["], ['], [&], [<] and [>] are not available.

² But ["] is not available.

8. After you confirm the settings and click [Next>], set E-mail notification and click [Next>].



- If you select [Enable], the E-mail Notification When Triggered page is displayed. Enter the settings seeing page 98 and page 99.

Setting	Description
Disable	<ul style="list-style-type: none"> • This product does not send an E-mail notification when buffering or transferring image.
Enable	<ul style="list-style-type: none"> • This product sends an E-mail notification (up to 3 destinations) when buffering or transferring image.

9. Click [Save] after confirming the settings.
 - New settings are saved.
 - When finished, "Success!" is displayed.

Note

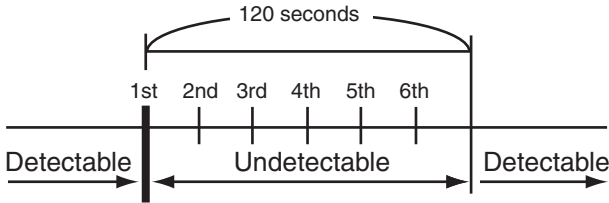
If you click [Save], all buffered images on the SD memory card are deleted.

10. Click [Go to Trigger page].

- The Trigger page is displayed.

Notes

- If you set a short interval to transfer image to a cell phone, many E-mails may be sent to it leading to a large phone bill. Therefore, we recommend you to set a long interval. 1 image per minute frequency is recommended.
- Alarm transfer stops its operations until this product finishes all transfers. For example, if this product transfers 3 images per minute and 6 images in total, the alarm detection will be in the following operation.



An alarm signal is detected.

- If you are buffering images on the internal memory, the following operations also delete all buffered images.
 - Turning off this product.
 - Saving the Date and Time page.
 - Restarting, updating firmware or resetting this product to factory default.

2.18 Buffering or Transferring Images by Motion Detection Signal

The Trigger page allows you to enable image buffer/transfer by E-mail or FTP.

Notes

- A change due to light or wind may detect motions mistakenly.
- Motion detection level is changed depending on resolution, image quality, and object situation. Confirm the level by performing motion detection recording.
- Enabling Motion Detection delays the frame rate of this product.
- Objects moving fast may not be detected.
- Motion Detection may not work in the dark.

1. Click [Trigger] on the Setup page.
2. Click [No.] to enable buffer/transfer.

Trigger												
No.	Status	Trigger	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Active Time of Trigger	Transfer Method	Notify
1	OFF	Timer	X	X	X	X	X	X	X	Always	No Transfer, No Memory Overwrite	-
2	OFF	Timer	X	X	X	X	X	X	X	Always	No Transfer, No Memory Overwrite	-
3	OFF	Timer	X	X	X	X	X	X	X	Always	No Transfer, No Memory Overwrite	-
4	OFF	Timer	X	X	X	X	X	X	X	Always	No Transfer, No Memory Overwrite	-
5	OFF	Timer	X	X	X	X	X	X	X	Always	No Transfer, No Memory Overwrite	-

3. Check [Enable Image Buffer/Transfer], select [Motion Detection] for trigger, and click [Next>].

Trigger Setting

Enable Image Buffer/Transfer

Trigger
Motion Detection ▼

Delete Buffered Images

Next >
Save
Cancel

Notes

- If you click [Save], all buffered images on the SD memory card are deleted.
- Click [Delete Buffered Images] to delete this buffered images.
- Click [Save] to save the settings.
- Clicking [Cancel] takes you back to the Trigger page without saving changes.

Setting	Description
Enable Image Buffer/Transfer	<ul style="list-style-type: none"> Check the box to enable the Trigger setting. Clear the box to disable it.
Trigger	<ul style="list-style-type: none"> Selecting [Timer] enables this product to buffer/transfer the image by timer. Selecting [Alarm] enables this product to buffer/transfer the image by alarm signal. Selecting [Motion Detection] enables this product to capture/transfer the images when the motion detects something.

4. Set the time, and click [Next>].

The screenshot shows a 'Time' configuration screen. At the top, there's a 'Time' title bar. Below it, a row of days (Sun, Mon, Tue, Wed, Thu, Fri, Sat) is displayed, each with a checked checkbox. To the right of the days is a section titled 'Active Time of Trigger'. This section includes a radio button for 'Always', a radio button for 'AM', and a time selection field showing '12' hours and '0' minutes. Below this is another radio button for 'PM' and another time selection field showing '11' hours and '59' minutes. At the bottom of the screen, there are three buttons: '< Back', 'Next >', and 'Cancel'.

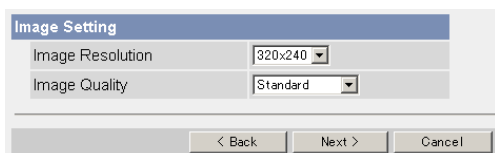
Note

The timer works by an internal clock. Set the date and time before using timer buffer/transfer (see page 64).

- Clicking [>Back] takes you back to the previous page.
- Clicking [Cancel] takes you back to the Trigger page without saving changes.

Setting	Description
A day of the week	<ul style="list-style-type: none"> Check the box to enable the day. Clear the box to disable it.
Active Time of Trigger	<ul style="list-style-type: none"> Select the [Always] option when you do not specify the time period. If you specify the time period, select the time period option and set the time period.

5. Set the image settings, and click [Next>].



- Clicking [>Back] takes you back to the previous page.
- Clicking [Cancel] takes you back to the Trigger page without saving changes.

Setting	Description
Image Resolution	<ul style="list-style-type: none"> • Select image resolution (640 × 480, 320 × 240 (default) or 160 × 120 pixels) to buffer or transfer.
Image Quality	<ul style="list-style-type: none"> • Select the image quality. [Favor Clarity] optimizes for good quality. [Standard] offers standard quality. (Default) [Favor Motion] optimizes for enhanced motion. [Mobile Phone] is for a transfer to a cell phone. <p>Note 640 × 480 pixels cannot be set for a transfer to a cell phone.</p>

6. Set the image buffer frequencies, and click [Next>].

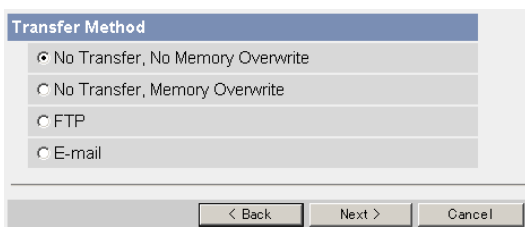
Note

Due to the network environment, object, number of accesses, enabling IPsec, this product may not record the numbers of images as you set. In this case, set the image buffer frequencies longer.

- Clicking [Cancel] takes you back to the Trigger page without saving changes.
- Clicking [<Back] takes you back to the previous page.

Setting	Description
Enable Pre-trigger Image Buffer	<ul style="list-style-type: none"> • Check the box to enable the setting. This product buffers or transfers the image right before the motion detection signal is detected. • Set an interval, number of images to buffer and total number. The buffered images may not match the total number due to memory capacity, image resolution, image quality or what object you view.
Enable Post-trigger Image Buffer	<ul style="list-style-type: none"> • Check the box to enable the setting. This product buffers or transfers the image right after the motion detection signal is detected. • Set an interval, number of images to buffer and total number. The buffered images may not match the total number due to memory capacity, image resolution, image quality or what object you view.

7. Select the transfer method, and click [Next>].



- Clicking [<Back] takes you back to the previous page.
- Clicking [Cancel] takes you back to the Trigger page without saving changes.

Note

If you transfer image by E-mail or FTP, confirm that the default gateway and DNS server addresses are assigned correctly (see page 37 and page 41).

Setting	Description
No Transfer, No Memory Overwrite	• If the internal memory is full, this product stops the buffer.
No Transfer, Memory Overwrite	• If the internal memory is full, this product deletes the old images, and continues to buffer the image.
FTP	• This product transfers the image to an FTP server (see page 107).
E-mail	• This product transfers the image by E-mail (see page 109).

When you set [FTP] for Transfer Method

Select [FTP], and click [Next>]. The following page is displayed.

FTP	
Server IP Address or Host Name	<input type="text"/>
Port No. (Usually Use 21)	<input type="text" value="21"/>
Login ID (0 to 63 Characters)	<input type="text"/>
Password (0 to 63 Characters)	<input type="text"/>
Login Timing	<input type="text" value="Every Time"/>
Upload File Name (1 to 234 Characters)	<input type="text"/>
Overwrite setting	<input type="text" value="Overwrite File"/>
Data Transfer Method	<input type="text" value="Passive Mode"/>

- Clicking [**<Back**] takes you back to the previous page.
- Clicking [**Cancel**] takes you back to the Trigger page without saving changes.

Setting	Description
Server IP Address or Host Name ¹	<ul style="list-style-type: none"> If you set the FTP server IP address, set 4 digits (0—255) and 3 periods such as "192.168.0.253". But "0.0.0.0" and "255.255.255.255" are not available. Or set a host name (1—255 characters). You can set IPv6 address.
Port No.	<ul style="list-style-type: none"> Enter a number (1—65535). Usually set to 21.
Login ID ²	<ul style="list-style-type: none"> If your ISP requires a login ID, set it (0—63 characters).
Password ²	<ul style="list-style-type: none"> If your ISP requires a password, set it (0—63 characters).
Login Timing	<ul style="list-style-type: none"> Select the login timing to an FTP server. If you set [One Time] during 1-minute transfer, this product logs in to the server only once, and can reduce the time to log in or log out.
Upload File Name ¹	<ul style="list-style-type: none"> Set the file name to save on an FTP server. Enter 1—234 characters. Entering "\" creates directories for a file. (E.g. NetworkCamera\image.jpg)
Overwrite Setting	<ul style="list-style-type: none"> Selecting [Overwrite File] saves and overwrites the image on the server. Selecting [Save as New File with Time Stamp] saves the image attaching time stamps on the file name, and the images are not overwritten. (E.g. image<u>20050101093020500</u>.jpg) Underlined numbers are "9h30min20s500ms on January 1, 2005". The letter "s" is inserted after the day when referring to a summer time zone.
Data Transfer Method	<ul style="list-style-type: none"> Select [Passive Mode] normally. If FTP does not work, select [Active Mode] and check the operation.

¹ But [Space], ["], ['], [&], [<] and [>] are not available.

² But ["'] is not available.

When you set [E-mail] for Transfer Method

Select [E-mail], and click [Next>]. The following page is displayed.

E-mail Transfer	
SMTP Server IP Address or Host Name	<input type="text"/>
Port No. (Usually Use 25)	<input type="text" value="25"/>
POP3 Server IP Address or Host Name	<input type="text"/>
Port No. (Usually Use 110)	<input type="text" value="110"/>
Login ID (0 to 63 Characters)	<input type="text"/>
Password (0 to 63 Characters)	<input type="text"/>
Reply E-mail Address	<input type="text"/>
Destination E-mail Address 1	<input type="text"/>
Destination E-mail Address 2	<input type="text"/>
Destination E-mail Address 3	<input type="text"/>
Subject (Up to 44 Characters)	<input type="text"/>
Text (Up to 63 Characters)	<input type="text"/>

- Clicking [<Back] takes you back to the previous page.
- Clicking [Cancel] takes you back to the Trigger page without saving changes.

Notes

- This product works only with an SMTP (Simple Mail Transfer Protocol) server. It does not work with mail servers like "Hotmail" using a web browser.
- The subject name by E-mail transfer uses only 24 h format. The file name is "image.jpg".
E.g. "Subject:20050101093020500".
Underlined numbers are "9h30min20s500ms on January 1, 2005". The letter "s" is inserted after the day when referring to a summer time zone.

Setting	Description
SMTP Server IP Address or Host Name ¹	<ul style="list-style-type: none"> If you set the SMTP server IP address, set 4 digits (0—255) and 3 periods such as "192.168.0.253". But "0.0.0.0" and "255.255.255.255" are not available. Or set a host name (1—255 characters). You can set IPv6 address.
Port No.	<ul style="list-style-type: none"> Enter a number (1—65535). Usually set to 25.
POP3 Server IP Address or Host Name ¹	<ul style="list-style-type: none"> If you set the POP3 server IP address, set 4 digits (0—255) and 3 periods such as "192.168.0.253". But "0.0.0.0" and "255.255.255.255" are not available. Or set a host name (0—255 characters). You can set IPv6 address.
Port No.	<ul style="list-style-type: none"> Enter a number (1—65535). Usually set to 110.
Login ID ²	<ul style="list-style-type: none"> If your ISP requires a login ID to log in to a POP3 server, set it (0—63 characters).
Password ²	<ul style="list-style-type: none"> If your ISP requires a password to log in to a POP3 server, set it (0—63 characters).
Reply E-mail Address ²	<ul style="list-style-type: none"> Set the sender's E-mail address. We recommend you to set the administrator's E-mail address.
Destination E-mail Address ² 1—3	<ul style="list-style-type: none"> Set the destination E-mail address (up to 3).
Subject ²	<ul style="list-style-type: none"> Enter a subject with ASCII characters (see page 163) or characters in each language (0—44 characters for a 1-byte character and 0—22 characters for a 2-byte character).
Text ²	<ul style="list-style-type: none"> Enter text with ASCII characters (see page 163) or characters in each language (0—63 characters for a 1-byte character and 0—31 characters for a 2-byte character). But the [end-of-line] key is not available.

¹ But [Space], ["], ['], [&], [<] and [>] are not available.

² But ["] is not available.

8. After you confirm the settings and click [Next>], set E-mail notification and click [Next>].

E-mail notification when triggered

Disable

Enable

< Back Next > Cancel

- If you select [Enable], the E-mail Notification When Triggered page is displayed. Enter the settings seeing page 109 and page 110.

Setting	Description
Disable	<ul style="list-style-type: none"> • This product does not send an E-mail notification when buffering or transferring image.
Enable	<ul style="list-style-type: none"> • This product sends an E-mail notification (up to 3 destinations) when buffering or transferring image.

9. Click [Save] after confirming the settings.
- New settings are saved.
 - When finished, "Success!" is displayed.

Note

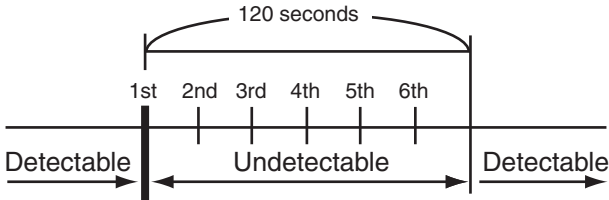
If you click [Save], all buffered images on the SD memory card are deleted.

10. Click [Go to Trigger page].

- The Trigger page is displayed.

Notes

- If you set a short interval to transfer image to a cell phone, many E-mails may be sent to it leading to a large phone bill. Therefore, we recommend you to set a long interval. 1 image per minute frequency is recommended.
- Motion Detection transfer stops its operations until this product finishes all transfers. For example, if this product transfers 3 images per minute and 6 images in total, the Motion Detection will be in the following operation.



A Motion Detection signal is detected.

- If you are buffering images on the internal memory, the following operations also delete all buffered images.
 - Turning off this product.
 - Saving the Date and Time page.
 - Restarting, updating firmware or resetting this product to factory default.

2.19 Formatting the SD memory card

You can record camera images to the SD memory card (customer-provided). Before you record the camera image, you need to format the SD memory card.

Note

- You can confirm the SD memory capacity on the Status page (see page 133).

1. Insert the SD memory card (see page 165).
2. Click [Trigger] on the Setup page.
3. Click [Format].

Trigger												
No.	Status	Trigger	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Active Time of Trigger	Transfer Method	Notify
1	OFF	Timer	X	X	X	X	X	X	X	Always	No Transfer, No Memory Overwrite	-
2	OFF	Timer	X	X	X	X	X	X	X	Always	No Transfer, No Memory Overwrite	-
3	OFF	Timer	X	X	X	X	X	X	X	Always	No Transfer, No Memory Overwrite	-
4	OFF	Timer	X	X	X	X	X	X	X	Always	No Transfer, No Memory Overwrite	-
5	OFF	Timer	X	X	X	X	X	X	X	Always	No Transfer, No Memory Overwrite	-

SD memory card

To format the SD memory card or stop SD recording, click the desired button below.
To stop SD recording, click the SD video recording stop button.

4. Click [OK] on the confirmation window.
 - Format is complete.
5. Click [Go to Trigger page].
 - The Trigger page is displayed.

2.20 Stopping the SD Memory Recording

After you stop the SD memory recording, remove the SD memory card.

Notes

- You can confirm the SD memory capacity on the Status page (see page 133).
- If this product is restarted (see page 134), the SD memory recording starts again.
- If you remove the SD memory card and insert it again (see page 165), the SD memory recording starts again.

1. Click [Trigger] on the Setup page.

2. Click [SD video recording stop].

Trigger												
No	Status	Trigger	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Active Time of Trigger	Transfer Method	Notify
1	OFF	Timer	X	X	X	X	X	X	X	Always	No Transfer, No Memory Overwrite	-
2	OFF	Timer	X	X	X	X	X	X	X	Always	No Transfer, No Memory Overwrite	-
3	OFF	Timer	X	X	X	X	X	X	X	Always	No Transfer, No Memory Overwrite	-
4	OFF	Timer	X	X	X	X	X	X	X	Always	No Transfer, No Memory Overwrite	-
5	OFF	Timer	X	X	X	X	X	X	X	Always	No Transfer, No Memory Overwrite	-

SD memory card	
To format the SD memory card or stop SD recording, click the desired button below. To stop SD recording, click the SD video recording stop button.	
Format	SD video recording stop

3. Click [OK] on the confirmation window.

- The SD memory recording is stopped.

4. Click [Go to Trigger page].

- The Trigger page is displayed.

Note

Ensure that recording has stopped before removing the SD memory card. (See page 114) Do not remove the SD memory card, nor restart or turn off this product while recording images on the card. Doing so can cause a decrease in SD memory card capacity, data corruption or camera malfunction.

2.21 Starting the SD Memory Recording

The SD memory recording can be started on the Trigger page.

Notes

- You can confirm the SD memory capacity on the Status page (see page 133).
- If this product is restarted (see page 134), the SD memory recording starts again.
- If you remove the SD memory card and insert it again (see page 165), the SD memory recording starts again.

- Click [Trigger] on the Setup page.
- Click [SD video recording start].

Trigger												
No.	Status	Trigger	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Active Time of Trigger	Transfer Method	Notify
1	OFF	Timer	X	X	X	X	X	X	X	Always	No Transfer, No Memory Overwrite	-
2	OFF	Timer	X	X	X	X	X	X	X	Always	No Transfer, No Memory Overwrite	-
3	OFF	Timer	X	X	X	X	X	X	X	Always	No Transfer, No Memory Overwrite	-
4	OFF	Timer	X	X	X	X	X	X	X	Always	No Transfer, No Memory Overwrite	-
5	OFF	Timer	X	X	X	X	X	X	X	Always	No Transfer, No Memory Overwrite	-

SD memory card

To format the SD memory card or start SD recording, click the desired button below.
To start SD recording, click the SD video recording start button.

Format
SD video recording start

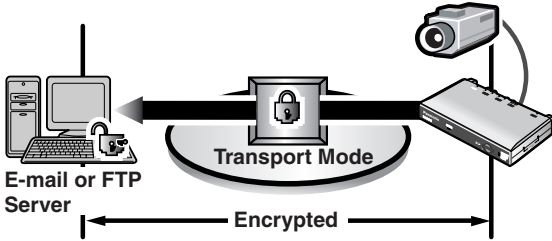
- "SD video recording was started." is displayed.
- Click [Go to Trigger page].
 - The Trigger page is displayed.

Note

Ensure that recording has stopped before removing the SD memory card. (See page 114) Do not remove the SD memory card, nor restart or turn off this product while recording images on the card. Doing so can cause a decrease in SD memory card capacity, data corruption or camera malfunction.

2.22 Transfer the Image in Transport Mode

This product can transfer the image in transport mode by E-mail or FTP.



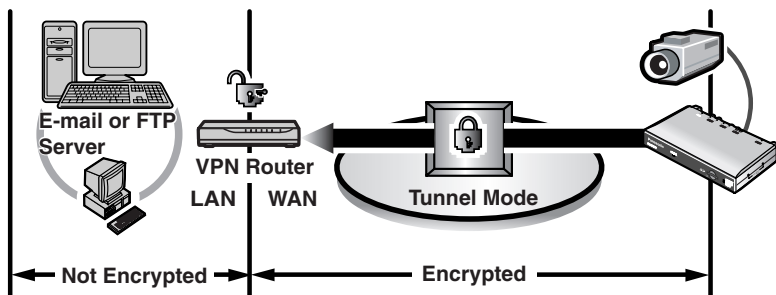
Prepare the following requirements.

Item	Supported Feature
E-mail or FTP Server	Operating System : IPsec supported ISP Service : Services for multiple static global addresses (A global address must be set up to the server.)
Camera Server	ISP Service : Services for multiple static global addresses (A global address must be set up to this product.)

See page 48 and set up the E-mail or FTP server.

2.23 Transfer the Image in Tunnel Mode

This product can transfer the image in tunnel mode by E-mail or FTP.



Prepare the following requirements.

Item	Supported Feature	
VPN Router	ISP Service (in IPv4)	: Services for static global addresses (A global address must be set up to the WAN side.)
	ISP Service (in IPv6)	: "IPv4/IPv6 Dual-Stack" or "IPv6 over IPv4 Tunneling" service
Camera Server	ISP Service (in IPv4)	: Services for multiple static global addresses (A global address must be set up to this product.)
	ISP Service (in IPv6)	: "IPv4/IPv6 Dual-Stack" or "IPv6 over IPv4 Tunneling" service

See page 51 and set up the E-mail or FTP server.

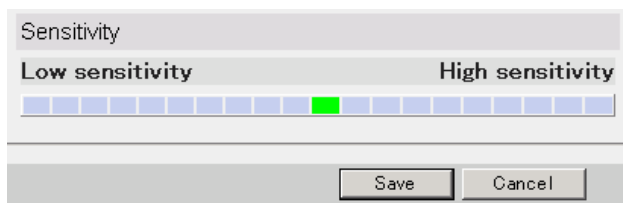
2.24 Setting the Motion Detection

The Motion Detection page allows you to adjust sensitivity of the Motion Detection. **Threshold:** If the threshold is set low, this function sensitively detects changes. **Sensitivity:** If you set sensitivity high, amplitude on the motion detection bar gets jumpy.

1. Click [Motion Detection] on the Setup page.
2. Click the Motion Detection bar in Threshold to set the threshold level.



3. Click the Motion Detection bar in Sensitivity to set the sensitivity level.



4. Click [Save] to save the settings.
 - Clicking [Cancel] cancels your settings without saving changes.
5. Click [Go to Motion Detection page].
 - The Motion Detection page is displayed.

Setting	Description
Threshold	<ul style="list-style-type: none"> • Adjust the threshold for Motion Detection. Setting the threshold lower allows subtler changes to be detected.
Sensitivity	<ul style="list-style-type: none"> • If you set sensitivity high, amplitude on the motion detection bar gets jumpy.

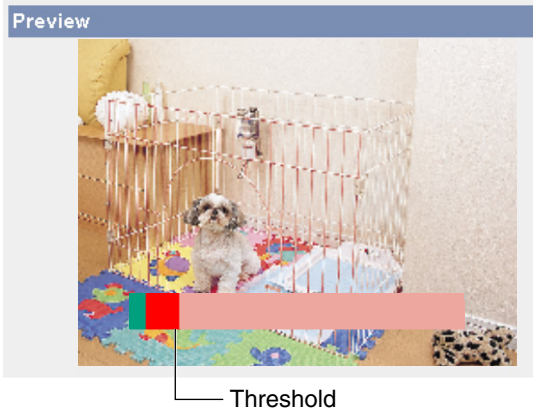
Preview

The preview window displays current threshold and detection level.

- The threshold is displayed by between green and red bar.
- The detection level is displayed by between dark and light color.

Note

Setting Threshold and Sensitivity is enabled after saving, and reflect to preview.



What is the motion detection?

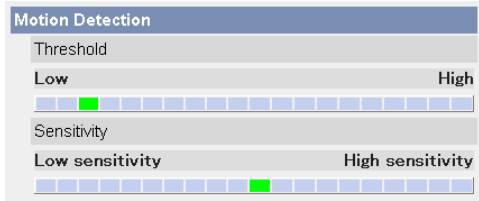
We assume no responsibility whatsoever for any damages resulting from the use of the motion detection feature. We do not recommend the use of the motion detection function for supervisory purposes where high reliability is essential. The motion detection function is not suitable for this kind of usage.

- **What is the threshold?**

The threshold is a value for this product to detect motions on the image during the motion detection buffering. Setting the threshold lower allows subtler changes to be detected. Setting the threshold higher allows bigger changes that might occupy half the image to be detected.

What is the sensitivity?

The sensitivity is the brightness change level for this product to detect as the motion. The high sensitivity setting enables this product to detect the slight brightness change. Lower the sensitivity to make this product to detect only the big brightness change.

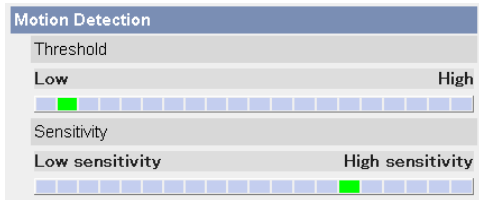
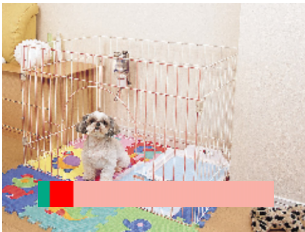


Detect motions according to the threshold.

When the level exceeds the threshold, this product detects motions.

Note

Lowering the threshold and heightening sensitivity enable this product easily to detect the trivial motion on the part of the image.



Notes

- The motion detection is activated by object outline's changes and the brightness changes. This feature is designed to alleviate false detections due to overall brightness changes caused by sunlight. But in this case, this product may falsely detect the rapid brightness changes by the artificial light such as the fluorescent light. In other cases, motion detection of Panasonic Network Camera Recorder detects whole objects and brightness changes. The way to detect motion differs between this product and Network Camera Recorder. Additionally, if the object's color is absorbed by the background color, this product is hard to detect the motions.
- The detecting level depends on the object, resolution, or image quality. Confirm the condition on the Preview window with following the above procedure when setting the Motion Detection.

2.25 Notifying Setup of an Alarm Log

Once a day, an alarm log sent at a specified time can be checked. To enable Alarm Log, set Alarm or Motion Detection for Trigger Setting and check [Enable].

1. Click [Alarm Log] on the Setup page.
2. Set each parameter.

A setup of operation							
<input checked="" type="radio"/> Disable <input type="radio"/> Enable(When there is no new-arrival alarm log:Disable) <input type="radio"/> Enable(When there is no new-arrival alarm log:Enable)							
Active Time							
Sun	Mon	Tue	Wed	Thu	Fri	Sat	Time
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PM 12 h 0 min
Notice setup of an alarm log							
SMTP Server IP Address or Host Name	<input type="text"/>						
Port No. (Usually Use 25)	<input type="text" value="25"/>						
POP3 Server IP Address or Host Name	<input type="text"/>						
Port No. (Usually Use 110)	<input type="text" value="110"/>						
Login ID (0 to 63 Characters)	<input type="text"/>						
Password (0 to 63 Characters)	<input type="text"/>						
Reply E-mail Address	<input type="text"/>						
Destination E-mail Address 1	<input type="text"/>						
Destination E-mail Address 2	<input type="text"/>						
Destination E-mail Address 3	<input type="text"/>						
Subject (Up to 44 Characters)	<input type="text" value="Alarm Log"/>						
<input type="button" value="Save"/> <input type="button" value="Cancel"/>							

3. Click [Save] to save the settings.
 - Clicking [Cancel] cancels your settings without saving changes.
4. Click [Go to Alarm Log page].
 - The Alarm Log page is displayed.

Note

If you change a setup of operation and click [Save], new alarm logs are deleted.

Setting	Description
A setup of operation	<ul style="list-style-type: none"> Alarm log operation can be set here.
Time	<ul style="list-style-type: none"> Set the date and time to send alarm logs via E-mail.
SMTP Server IP Address or Host Name ¹	<ul style="list-style-type: none"> If you set the server IP address, set 4 digits (0—255) and 3 periods such as "192.168.0.253". But "0.0.0.0" and "255.255.255.255" are not available. Or set a host name (0—255 characters). An IPv6 address can be set.
Port No.	<ul style="list-style-type: none"> Enter a number (1—65535). Usually set to 25.
POP3 Server IP Address or Host Name ¹	<ul style="list-style-type: none"> If you set the server IP address, set 4 digits (0—255) and 3 periods such as "192.168.0.253". But "0.0.0.0" and "255.255.255.255" are not available. Or set a host name (0—255 characters). An IPv6 address can be set.
Port No.	<ul style="list-style-type: none"> Enter a number (1—65535). Usually set to 110.
Login ID ²	<ul style="list-style-type: none"> If your ISP requires a login ID to log in to a POP3 server, set it (0—63 characters).
Password ²	<ul style="list-style-type: none"> If your ISP requires a password to log in to a POP3 server, set it (0—63 characters).
Reply E-mail Address ²	<ul style="list-style-type: none"> Set the sender's E-mail address. We recommend you to set the administrator's E-mail address.
Destination E-mail Address 1-3 ²	<ul style="list-style-type: none"> Set the destination E-mail address (up to 3).
Subject ²	<ul style="list-style-type: none"> Enter a subject with ASCII characters (see page 163) or characters in each language (0—44 characters for a 1-byte character and 0—22 characters for a 2-byte character).

¹ But [Space], ["], ['], [&], [<] and [>] are not available.

² But ["] is not available.

2.26 Changing Initial Settings on the Single Camera page or the Multi-Camera page

The Image Display page allows you to change initial settings (display settings when a user accesses this product) of image resolution, image quality and refresh interval. You can display a time stamp on the image. The initial language can be selected from eight languages. The banner can be displayed for administrator or general users or both.

1. Click [Image Display] on the Setup page.
2. Set each parameter.

Single Camera	
Image Resolution	320x240 ▾
Image Quality	Standard ▾
Refresh Interval	Motion ▾
Multi-Camera	
Image Resolution	320x240 ▾
Image Quality	Standard ▾
Refresh Interval	Motion ▾
Time stamp setting	
Time stamp	Disable ▾
Language	
Language	English ▾
Banner Display	
Administrator	<input checked="" type="checkbox"/> Display
General User	<input checked="" type="checkbox"/> Display
<input type="button" value="Save"/> <input type="button" value="Cancel"/>	

- Clicking [Cancel] cancels your settings without saving changes.

Setting	Description
Image Resolution	<ul style="list-style-type: none"> Select the image resolution. 640 × 480 pixels (Only for the Single Camera page) 320 × 240 pixels (default) 160 × 120 pixels (Only for the Multi-Camera page)
Image Quality	<ul style="list-style-type: none"> Select the image quality. [Favor Clarity] optimizes for good quality. [Standard] offers standard quality. (default) [Favor Motion] optimizes for enhanced motion.
Refresh Interval	<ul style="list-style-type: none"> Select a refresh interval. Motion, 3 s, 5 s, 10 s, 30 s, and 60 s
Time stamp setting	<ul style="list-style-type: none"> You can display a time stamp on the upper left side of the image. Select from [Enable] or [Disable]. <p>Notes</p> <ul style="list-style-type: none"> If you enable this feature, the time is also stamped on the buffered image. Set AM/PM format and 24H format on the Date and Time page.
Language	<ul style="list-style-type: none"> Select the initial language from English, French, German, Italian, Spanish, Russian, Simplified Chinese or Japanese. The selected language is displayed as the initial language on the Top, Single Camera, Multi-Camera and Buffered Image pages. If you select English or Japanese, all pages can be changed. But if you select other language, the Setup, Maintenance and Support pages are displayed only in English.
Banner Display	<ul style="list-style-type: none"> When this product accesses the Internet, the banner displays product information about this product or announcements about the latest firmware, etc. from Panasonic. Checking [Display] for Administrator is particularly recommended. When checked, the banner is displayed for administrator or general users or both. The banner is displayed only on the Single Camera page (see page 16).

- 3.** Click [Save] when finished.
 - New settings are saved.
 - When finished, "Success!" is displayed.
- 4.** Click [Go to Image Display page].
 - The Image Display page is displayed.

2.27 Configuring Multiple Images

To view images on the Multi-Camera page, this product's or the Panasonic Network Camera's IP address and camera name must be configured on the Multi-Camera Setup page. These configurations are required to use the Multi-Camera page. Up to 12 cameras can be configured.

1. Click [Multi-Camera] on the Setup page.
2. Click **Add**.

No.	Display	IP Address or Host Name	Port No.	Camera Name
Add				

Notes

- If you click the number, the modification page is displayed. The setting can be modified or deleted on it.
- If you configured multiple cameras, you can change the number. Select the number, and click [Move].

Change Camera Order		
From No.	<input type="text" value="1"/>	To No.
	<input type="text" value="1"/>	<input type="button" value="Move"/>

3. Set each parameter.

Add Camera	
Display	<input checked="" type="checkbox"/> On
IP Address or Host Name	<input type="text"/>
Port No. (1 to 65535)	<input type="text"/>
Camera Name (1 to 15 characters)	<input type="text"/>
<input type="button" value="Save"/> <input type="button" value="Cancel"/>	

- Clicking [Cancel] cancels your settings without saving changes.

Setting	Description
Display	<ul style="list-style-type: none"> Check the box to enable the image display.
IP Address ^{*1} or Host Name ^{*2}	<ul style="list-style-type: none"> Set the IP address or the host name to enable the image display.
Port No.	<ul style="list-style-type: none"> Set the port number (1—65535).
Camera Name ^{*3}	<ul style="list-style-type: none"> The name is displayed only on the Multi-Camera page.

^{*1} In IPv4, set 4 digits (0—255) and 3 periods such as "192.168.0.253". But "0.0.0.0" and "255.255.255.255" are not available.

In IPv6, set the host name.

^{*2} Enter ASCII characters for the host name (see page 163). But [Space], ["], ['], [#], [&], [%], [=], [+], [?], [<] and [>] are not available.

Enter 1—255 characters.

^{*3} Enter ASCII characters (see page 163) or characters in each language (1—15 characters for a 1-byte character and 1—7 characters for a 2-byte character). But [Space], ["], ['], [#], [&], [%], [=], [+], [?], [:], [<], and [>] are not available.

Notes

- Set the local IP address and port number for this product on the same LAN.
- If this product is accessed from the Internet, be sure to use the global IP address. In this situation, local IP addresses such as 192.168.*.*.*.*.* cannot be used.

4. Click [Save] when finished.

- New settings are saved.
- The Multi-Camera Setup page is displayed.

2.28 Specifying Operation Time

The Operation Time page allows you to limit the operation time. The image turns to a gray screen outside the operation time.

Notes

- If you wrongly set the time period, your privacy may be seen. Confirm the time period after the setup.
 - If you access this product as an administrator, you can view the image outside the time period.
1. Click [Operation Time] on the Setup page.
 2. Click [No.] to set the operation time.

Operation Time									
No.	Status	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Operation Time
1	Disable	X	X	X	X	X	X	X	Always
2	Disable	X	X	X	X	X	X	X	Always
3	Disable	X	X	X	X	X	X	X	Always
4	Disable	X	X	X	X	X	X	X	Always
5	Disable	X	X	X	X	X	X	X	Always
6	Disable	X	X	X	X	X	X	X	Always
7	Disable	X	X	X	X	X	X	X	Always

Note

If No. 1—7 are disabled, this product can always be operated.

3. Check [Enable], set the time.

Operation Time										
Enable	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Operation Time		
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="radio"/> Always	from <input type="text" value="AM"/> <input type="text" value="12"/> <input type="text" value="h"/> <input type="text" value="0"/> <input type="text" value="min"/>	to <input type="text" value="AM"/> <input type="text" value="12"/> <input type="text" value="h"/> <input type="text" value="0"/> <input type="text" value="min"/>
<input type="button" value="Save"/> <input type="button" value="Cancel"/>										

- Clicking [Cancel] takes you back to the previous page.

Setting	Description
Enable	<ul style="list-style-type: none"> Check the box to enable the setting. Clear the box to disable it.
A day of the week	<ul style="list-style-type: none"> Check the box to enable the day. Clear the box to disable it.
Operation Time	<ul style="list-style-type: none"> Select the [Always] option when you do not specify the time period. If you specify the time period, select the time period option and set the time period.

4. Click [Save] when finished.
- New settings are saved.
 - The Operation Time page is displayed.

About Operation Time

In the operation time settings, the enabled settings take priority over the disabled settings. Therefore, if Monday or Tuesday is disabled in a setting but enabled in other settings, this product can be operated on both Monday and Tuesday.

No.	Status	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Operation Time
1	Enable	X	X		X	X	X	X	Always
2	Enable	X		X	X	X	X	X	Always

2.29 Controlling External Output Terminal

The digital output terminal allows you to control the external devices. You can change the initial status of the output signal.

Note

Connect the external devices to this product.

1. Click [External Output] on the Setup page.
2. Click [Save] when finished.

- Clicking [Cancel] cancels your settings without saving changes.
- New settings are saved.
- When finished, "Success!" is displayed.

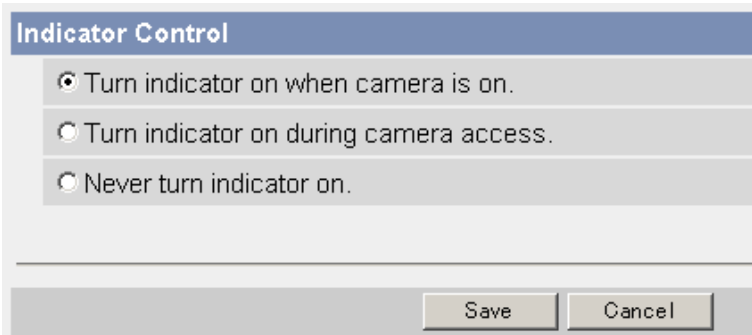
Setting	Description
External Device Control Output	<ul style="list-style-type: none"> • If you check [Open], the internal transistor turns off and the external output terminal gets high impedance (open collector) when this product powers up. If you check [Short to GND], the internal transistor turns on and is electrically short-circuited to GND pin when this product powers up. The external output terminal gets low impedance (0 V).
Button name modification	<ul style="list-style-type: none"> • You can change the output control button names on the operation bar. You can name the button depending on your external devices.

3. Click [Go to External Output Control page].
 - The External Output Control page is displayed.

2.30 Changing Indicator Display

The Indicator Control page allows you to select Indicator operation. Indicator has three options.

- Always on
 - Turn the indicator on when this product is accessed.
 - Always off
1. Click [Indicator Control] on the Setup page.
 2. Select indicator option.



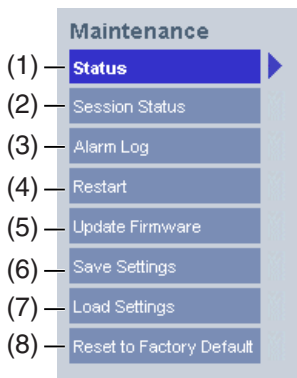
- Clicking [Cancel] cancels your settings without saving changes.

Notes

- See page 10 for indicator display.
 - Selecting [Never turn indicator on] keeps indicator always off.
3. Click [Save] when finished.
 - New settings are saved.
 - When finished, "Success!" is displayed.
 4. Click [Go to Indicator Control page].
 - The Indicator Control page is displayed.

3 Maintenance

3.1 Maintenance page



Maintenance

- | | |
|-------------------------------------|--|
| (1) Status | Displays the settings and status (see page 133). |
| (2) Session Status | Displays information on access to this product (see page 133). |
| (3) Alarm Log | Displays alarm logs (see page 134). |
| (4) Restart | Restarts this product (see page 134). |
| (5) Update Firmware | Updates the firmware (see page 135). |
| (6) Save Settings | Creates a configuration file (see page 138). |
| (7) Load Settings | Loads settings from a configuration file (see page 139). |
| (8) Reset to Factory Default | Resets this product to its default settings (see page 140). |
-

3.1.1 Confirming the Status

The Status page allows you to check the status of this product. The status information provides support for troubleshooting.

Clicking [Status] displays the following page.

Version	
Displays Hardware/Firmware Version.	
Model	*****
Firmware(Boot)	* **
Firmware(Application)	* **

Note

See the Panasonic support website at <http://panasonic.co.jp/pcc/products/en/netwcam/> for details about status information.

3.1.2 Confirming Session Status

The Session Status page displays client information connecting to this product.

You can confirm the connected sessions of audio or video (max. 30 for audio and max. 10 for video) and current sessions.

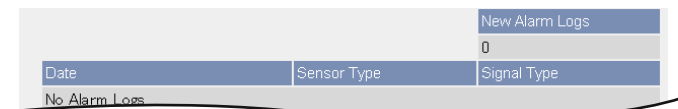
Clicking [Session Status] displays the following page.

Number of Sessions			
Show number of motion and audio sessions.			
Div	Max Sessions	Now Sessions	
Motion	30	**	
Audio	10	**	
List of Sessions			
Display max 40 tables connecting now.			
Connect time	Access to	Addr/Port	User

3.1.3 Displaying Alarm Logs

Displays up to 50 Alarm Logs in order of time. Old logs will be overwritten by new one.

1. Click [Alarm Log] on Maintenance page.
2. Alarm Logs are displayed.



Note

If this product is restarted, all alarm logs are deleted.

Item	Description
New Alarm Logs	<ul style="list-style-type: none"> • Displays the number of new alarm logs.
Date	<ul style="list-style-type: none"> • Displays the date and time when the Alarm or Motion Detect was responded.
Sensor Type	<ul style="list-style-type: none"> • Displays the Trigger Setting (Alarm or Motion Detection) on the Trigger page.
Signal Type	<ul style="list-style-type: none"> • Displays the Alarm enable condition on the Trigger page when selected Alarm.

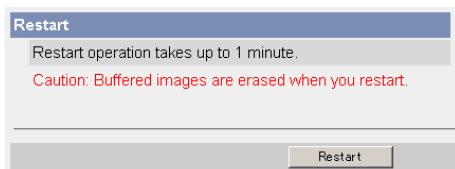
3.1.4 Restarting this Product

The Restart page can restart this product. This product restarts by disconnecting the power cord from the outlet and reconnecting it again.

Note

When this product restarts, the buffered images and alarm logs will be deleted. The buffered images on the SD memory card are not deleted.

1. Click [Restart] on the Maintenance page.
2. Click [Restart].



- Restarting takes about 1 minute. The Top page is displayed when finished.

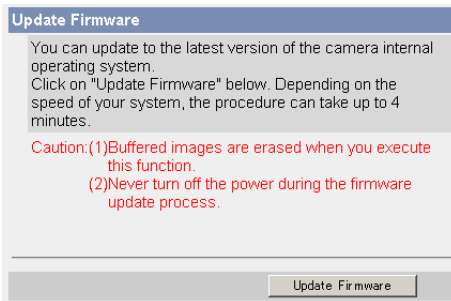
3.1.5 Updating this Product Firmware

The Update Firmware page allows you to update the firmware. If the new firmware is available, install it into this product.

Notes

- Do not turn off the power during firmware update.
- The version number can be seen on the Top page or the Status page.
- All buffered images and alarm logs on the internal memory will be deleted after the firmware update. The buffered images on the SD memory card are not deleted.

1. Download the new firmware on the Panasonic support website at <http://panasonic.co.jp/pcc/products/en/netwcam/>, and save it on your PC.
2. Click [Update Firmware] on the Maintenance page.
3. Click [Update Firmware].



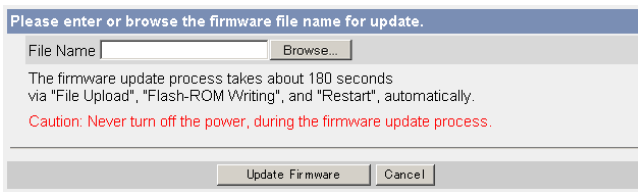
- This product restarts.

Restarting now...

Restart operation takes up to 1 minute.

Please enter the proper IP address to URL when no response.

- The Update page is displayed in about 1 minute.



4. Click [Browse...].
 - A dialog box is displayed to select the firmware.
5. Select the firmware (including directory information) and click [Open].
 - The firmware file name is displayed.
6. Confirm the firmware file name, and click [Update Firmware].
 - Clicking [Cancel] takes you back to the Top page without firmware update.
 - The next message is displayed during update.

Updating firmware.

Please wait about 180 seconds.

Caution: Never turn off the power, during the firmware update process.

- This product restarts automatically after update.

Restarting now...

Restart operation takes up to 1 minute.

Please enter the proper IP address to URL when no response.

- The Top page is displayed in about 1 minute.

7. Confirm that the version number on the Top page is updated.



Updated version

- If the version number is updated, the firmware update is complete.

3.1.6 Creating Configuration File

A configuration file can be saved on your PC. You can load the settings from the configuration file on the Load Settings page (see page 139).

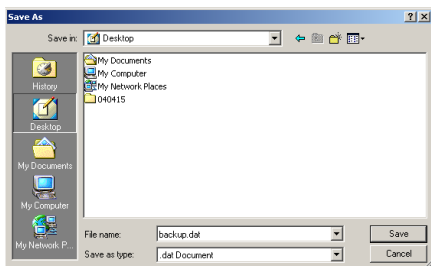
Note

The saved image has privacy information. Prevent private information leaks.

1. Click [Save Settings] on the Maintenance page.
2. Click [Save].



3. Click [Save] on the File Download dialog box.
4. Specify the location, and click [Save] on the Save As dialog box.



- The configuration file is saved in the location.

Notes

- The file extension (.dat) cannot be changed. If you change it, the settings cannot be loaded.
- If you try to update this product, create a configuration file after updating the firmware. If there is a firmware version difference between the product that you create a configuration file from and the product that you try to load settings to, the settings may not be loaded to the product.

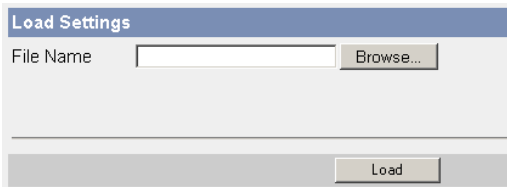
3.1.7 Loading Settings from a Configuration File

The settings can be loaded from a configuration file. If you reset this product to factory default, this product can load its settings from the configuration file.

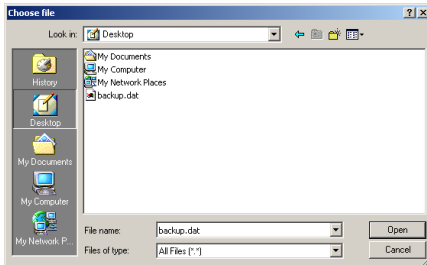
Notes

- The configuration file has network settings. When the settings are loaded, the network settings are also loaded as they were saved.
- If you try to update this product, create a configuration file after updating the firmware. If there is a firmware version difference between the product that you create a configuration file from and the product that you try to load settings to, the settings may not be loaded to the product.

1. Click [Load Settings] on the Maintenance page.
2. Click [Browse...].



3. Select the configuration file on the Choose file dialog box, and click [Open].

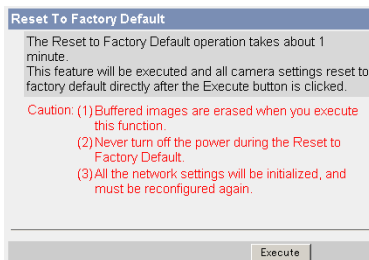


- The file name is displayed in the data field.
4. Confirm the file name, and click [Load].
 5. Click [Restart].
 - This product restarts, and the Top page is displayed.

3.1.8 Resetting this Product to Factory Default

All settings are reset to factory default directly after the Execute button is clicked.

1. Click [Reset to Factory Default] on the Maintenance page.
2. Click [Execute].



- The indicator blinks orange, and then turns off for 10 seconds.
- All settings (user name, password, IP address, subnet mask etc.) are reset to factory default.
- If this product is reset to factory default, the network connection mode changes to [Automatic Setup]. Reconfigure this product seeing the Getting Started.

Notes

- Do not turn off this product during the reset operation.
- The internal clock will not be reset, but the time format will return to AM/PM mode (see page 64). Set it again.
- See page 146—page 153 for default settings.
- Pressing the FACTORY DEFAULT RESET button resets this product to the factory default (see page 145).
- All buffered images and alarm logs on the internal memory are deleted when resetting this product to factory default. The buffered images on the SD memory card are not deleted.
- The reset operation takes about 1 minute.
- If this product is restarted, all alarm logs are deleted.

3.2 Support page



Support

- | | | |
|-----|----------------------------|--|
| (1) | Help | Displays the Help page (see page 141). |
| (2) | Product Information | Displays product information website (see page 141). |
| (3) | Support Information | Displays support information website (see page 142). |
-

3.2.1 Seeing Help page

The Help page displays explanations for each feature about the following 1. to 6. items.

Clicking [Help] on the Support page displays the next page.



3.2.2 Seeing Product Information

You can see product information on the Panasonic support website.

Clicking [Product Information] on the Support page displays the URL, click it.

Note

If this product is not connected to the Internet, the website cannot be displayed.

3.2.3 Seeing Support Information

You can see support information on the Panasonic support website.

Clicking [Support Information] on the Support page displays the URL, click it.

Note

If this product is not connected to the Internet, the website cannot be displayed.

3.3 External I/O

If you connect the external devices such as sensors to the External I/O and image buffer/transfer by alarm signal is set, the image is transferred by the alarm detection.

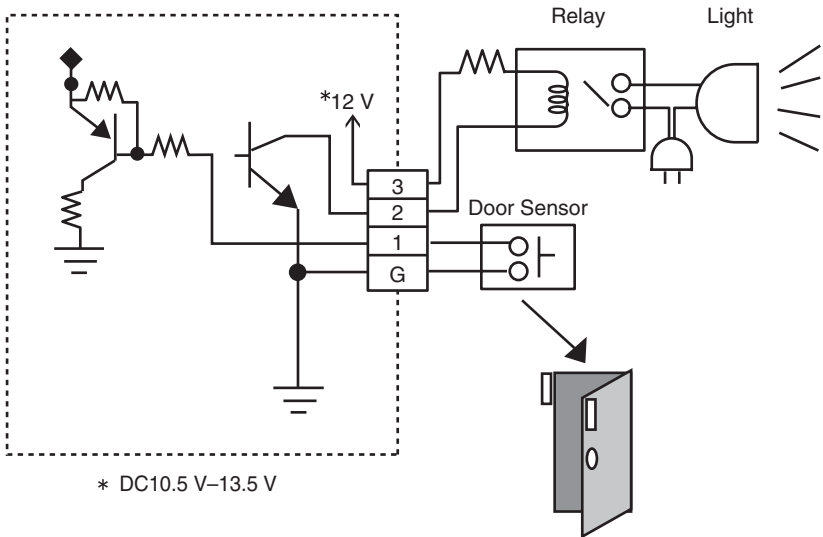
Explanation of the External I/O

Pin	Features
G	GND pin
1	External Sensor Input <ul style="list-style-type: none"> Use it by opening or GND short-circuit.
2	External Device Control Output <ul style="list-style-type: none"> You can control it on the External Output page (see page 130). It is an open collector circuit, and the maximum drawing-in current is the same as pin 3. Do not exceed the voltage of DC power output terminal (pin 3).
3	DC Power Output Terminal <ul style="list-style-type: none"> 10.5—13.5 V DC Maximum of 100 mA load drive is possible.

Note

The External I/O (Input/Output) is independent. Output terminal is controlled only by External Output Control page on page 130.

Circuit Diagram Example

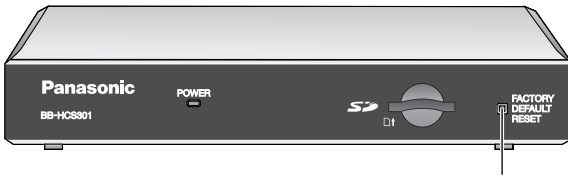


CAUTION

- The external I/O is not capable of connecting directly to devices that require large amounts of current. In some case, a custom interface circuit (customer-provided) may have to be used. Serious damage to this product may result if a device is connected to the external I/O that exceeds its electrical capability (see page 143).
- The low voltage/current circuits and high voltage/current circuits are in the circuit. The qualified electrician should do the wiring not by yourself. Incorrect wiring could damage this product. You could receive the fatal electric shock.

3.4 FACTORY DEFAULT RESET Button

This product has a FACTORY DEFAULT RESET button in front.



FACTORY DEFAULT
RESET Button
(Press the button
with a pointed object.)

Pressing the FACTORY DEFAULT RESET button resets this product to factory default. If you lose your user name and password, use this button to reset this product.

- Press the FACTORY DEFAULT RESET button for 1 second when this product is on.
- The indicator blinks orange, and then turns off for 5 seconds.
- The settings and password are deleted, and the settings turn into factory default.

Notes

- The process of resetting to factory default takes about 1 minute. During that time, do not turn the power off.
- The internal clock will not be reset, but the time format will return to AM/PM mode (see page 64). Set it again.
- See page 146—page 153 for default settings.
- All buffered images and alarm logs on the internal memory are deleted when resetting this product to factory default. The buffered images on the SD memory card are not deleted.

3.5 Default Setting List

Basic

	Items	Default	Required	Note
Network (IPv4)	Connection Mode	Automatic Setup	-	Automatic Setup/Static/DHCP
	Allow Access from the Internet (Automatic Setup only)	No	-	-
	Network Configuration from Setup Program (Static/DHCP only)	Enable	-	-
	Port No. (Static/DHCP only)	80	-	20, 21, 25 or 110 is not available.*2
	IP address (Static only)	192.168.0.253	When setting Static	*1
	Subnet Mask (Static only)	255.255.255.0	When setting Static	*1
	Host Name (DHCP only)	[Blank]	When setting DHCP (Not always required)	0—63 characters *4
	Default Gateway (Static/DHCP only)	[Blank]	When using Gateway	*1
	DNS Server 1 DNS Server 2 (Static/DHCP only)	[Blank]	When using DNS	*1
	Max. Bandwidth Usage (Mbps)	Unlimited	-	0.1, 0.2, 0.3, 0.5, 1 or Unlimited
	Connection Type	Auto Negotiation	-	-

	Items	Default	Required	Note
Network (IPv6)	Connection Mode	Automatic Setup	-	Automatic Setup/Static
	Allow Access from the Internet (Automatic Setup only)	No	-	-
	Port No. (Static only)	80	-	20, 21, 25 or 110 is not available.*2
	IP address (Static only)	[Blank]	When setting Static	*1
	Default Gateway (Static only)	[Blank]	When using Gateway	*1
	DNS Server 1 DNS Server 2	[Blank]	When using DNS	*1
	Max. Bandwidth Usage (Mbps)	Unlimited	-	0.1, 0.2, 0.3, 0.5, 1 or Unlimited
	Connection Type	Auto Negotiation	-	-
IPsec	Use	No check	-	-
	Encoding strength	Standard (AES, 3DES, DES, NULL)	-	Standard/High
	Transport	[Blank]	-	-
	Tunnel	[Blank]	-	-
UPnP	Auto Port Forwarding	Disable	-	-
	Display Shortcut Icon in My Network Places	Enable	-	-
Dynamic DNS	DynamicDNS	Disable	-	Viewnetcam.com/ User-specified DynamicDNS/ Disable

Items		Default	Required	Note
Date and Time	Date	-	-	Not initialized
	Format	AM/PM	-	-
	Time	-	-	Not initialized
	Automatic Time Adjustment	No check	When using NTP	-
	Time Zone	GMT -05:00	-	-
	Adjust Clock for Daylight Saving Time	No check	-	-
	Start Day	Apr, First Sunday, 2 AM	-	-
	End Day	Oct, Last Sunday, 2 AM	-	-
Camera	Camera Name	Network Camera	Required	1—15 characters *6
	Vertical Resolution (for 640 × 480 mode)	480 (Better for still images)	-	480/240
	Picture position adjustment	-	-	-
Audio	Output	Local Audio+ Remote Audio	-	Remote Audio/ Local Audio/Local Audio+Remote Audio/Disable
	Volume	Standard	-	Minimum/ Standard/ Maximum
	PC Audio Input Timeout	1 min	-	1, 2, 3, 5, 10, 20, 30, 60 (min)
	Input	Enable	-	-
	Sensitivity	Standard	-	Minimum/ Standard/ Maximum

Account

Items		Default	Required	Note
Security: Administrator	General Authentication	Do not permit access from guest users	-	-
	User Name	[Blank]	When setting administrator	6—15 characters *3
	Password	[Blank]	When setting administrator	6—15 characters *3
	Retype Password	[Blank]	When setting administrator	6—15 characters *3
General User	User ID List	[Blank]	-	-
	User Name	[Blank]	When setting general user	6—15 characters *3
	Password	[Blank]	When setting general user	6—15 characters *3
	Retype Password	[Blank]	When setting general user	6—15 characters *3
	Limit time of Continuous Motion JPEG	Not permitted	-	Not permitted, Unlimited, 10, 30 (s), 1, 5, 10, 30, 60 (min)
	Refresh Interval	3 s	-	3, 5, 10, 30, 60 (s)
	Access Level	No checks	-	-

Buffer/Transfer

	Items	Default	Required	Note
Trigger	Status	Off	-	-
	Trigger	Timer	-	-
	Active Time of Trigger	Always	-	-
	Image Setting (Image Resolution)	320 × 240	-	160 × 120, 320 × 240, 640 × 480
	Image Quality	Standard	-	Favor Clarity, Standard, Favor Motion, Mobile phone
	Image Buffer Frequency	Every 1 s, buffer 1 image.	-	1 image per hour—30 images per second
	Transfer Method	No Transfer, No Memory Overwrite	-	-
	Notify	Disable	-	-
Motion Detection	Threshold	Third blocks from the left	-	-
	Sensitivity	Center	-	-

Items		Default	Required	Note
Alarm Log	A setup of operation	Disable	When selecting Alarm or Motion Detection in Trigger.	Disable/ Enable(When there is no new-arrival alarm log:Disable)/ Enable(When there is no new-arrival alarm log:Enable)
	Active Time	Checked		AM/PM, 1–12 (h), 0/10/20/30/40/50 (min)
	Time	PM 12h 0min		-
	Notice setup of an alarm log	[Blank]		-
	Port No. (SMTP)	25		-
	Port No. (POP)	110		-
	Subject	Alarm Log		-

Advanced

	Items	Default	Required	Note
Image Display	Single Camera Image Resolution	320 × 240	-	320 × 240 or 640 × 480
	Single Camera Image Quality	Standard	-	Favor Clarity, Standard or Favor Motion
	Single Camera Refresh Interval	Motion	-	3, 5, 10, 30, 60 (s) or Motion
	Multi-Camera Image Resolution	320 × 240	-	160 × 120 or 320 × 240
	Multi-Camera Image Quality	Standard	-	Favor Clarity, Standard or Favor Motion
	Multi-Camera Refresh Interval	Motion	When reducing traffic	3, 5, 10, 30, 60 (s) or Motion
	Time stamp setting	Disable	-	Disable/Enable
	Language	English	-	English/ Japanese/ French/German/ Italian/Spanish/ Simplified Chinese/Russian
	Banner Display (Administrator)	Checked	-	-
	(General User)	Checked	-	-

Items		Default	Required	Note
Multi-Camera	Multi-Camera	[Blank]	-	-
	Display	Checked	When setting Multi-Camera	-
	IP Address or Host Name	[Blank]	When setting Multi-Camera	IP address*1 Host name*5 is 1—255 characters.
	Port No.	[Blank]	When setting Multi-Camera	20, 21, 25 and 110 are not available.*2
	Camera Name	[Blank]	When setting Multi-Camera	1—15 characters *7
Operation Time	Operation Time	Always	-	-
External Output	External Device Control Output	Open	-	Open/Short to GND
	Button name modification	Open	-	-
		Short	-	-
Indicator Control	Indicator Control	Turn indicator on when this product is on	-	-

*1 In IPv4, set 4 digits (0—255) and 3 periods such as "192.168.0.253". But "0.0.0.0" and "255.255.255.255" are not available.

In IPv6, set 8 hexadecimal digits divided with ":". Consecutive 0s can be abbreviated as "::".

*2 Set the number of 1—65535.

*3 Enter ASCII characters (see page 163). But [Space], ["], ['], [&], [<], [>] and [:] are not available.

*4 Enter ASCII characters for the host name (see page 163). But [Space], ["], ['], [&], [<], and [>] are not available.

*5 Enter ASCII characters for the host name (see page 163). But [Space], ["], ['], [#], [&], [%], [=], [+], [?], [<], and [>] are not available.

*6 Enter ASCII characters (see page 163) or characters in each language (1—15 characters for a 1-byte character and 1—7 characters for a 2-byte character). But [Space], ["], ['], [&], [<], and [>] are not available.

*7 Enter ASCII characters (see page 163) or characters in each language (1—15 characters for a 1-byte character and 1—7 characters for a 2-byte character). But [Space], ["], ['], [#], [&], [%], [=], [+], [?], [<], and [>] are not available.

3.6 Setting an IP Address on Your PC

Your PC's IP address can be assigned by the following procedures.

1. Display the TCP/IP Properties window.

- The steps are different depending on your OS. The steps are shown below.

OS	Steps
Windows XP	[Start] (→[Settings])→[Control Panel]→[Network and Internet Connections]→[Network Connections]→[Local Area Connection] in use→[Properties]→Select Internet Protocol [TCP/IP]→[Properties]→[Use the following IP address]
Windows 2000	[Start]→[Settings]→[Control Panel]→[Network and Dial-up Connections]→[Local Area Connection] in use→[Properties]→Select Internet Protocol [TCP/IP]→[Properties]→[Use the following IP address]
Windows Me, Windows 98SE	[Start]→[Settings]→[Control Panel]→[Network]→Select [TCP/IP] with adaptor in use→[Properties]→[IP Address]→[Specify an IP address]

- When using Windows XP and Windows 2000, log in as an administrator to access the TCP/IP Properties window.

2. Enter IP address and subnet mask.

3. Click [OK].

- In Windows Me or Windows 98SE, the PC needs to be restarted to enable the settings.

Local IP Address

Local IP address is the network ID that is not used on the Internet. They are classified into Class A, Class B and Class C, as shown below. Set the IP address in the range of the number specified in the class corresponding to your local network scale.

Class	Subnet Mask	Local IP Address		
Class A	255. 0. 0. 0	10. 0. 0. 1	—	10. 255. 255. 254
Class B	255. 255. 0. 0	172. 16. 0. 1	—	172. 31. 255. 254
Class C	255. 255. 255. 0	192. 168. 0. 1	—	192. 168. 0. 254

3.7 Using Setup Program

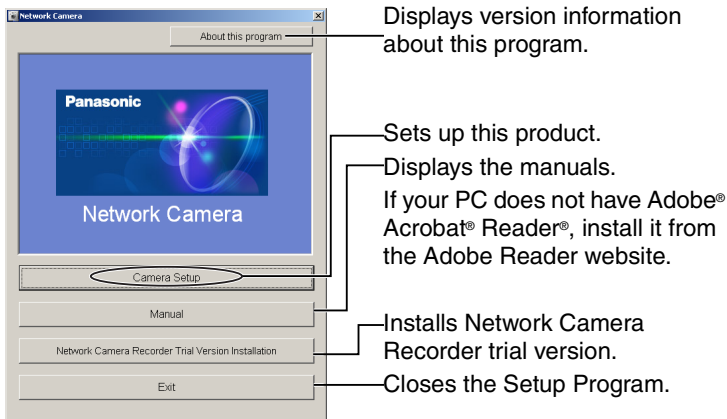
Setup Program can set up this product or Panasonic Network Camera. In the explanation in this section, this product's setup is described.

The Setup Program can be used for the following purposes.

- Finding the IP address and port number of this product.
- Setting up this product automatically.
- Setting up this product manually to a Static or a DHCP setting.
- Disabling IPsec.
- Displaying the Setup page of this product.

Finding this product

1. Insert the Setup CD-ROM into the CD-ROM drive of your PC.
 - If the Panasonic Network Camera Setup window does not appear, click "setup.exe" on the Setup CD-ROM.
2. Click [Camera Setup].

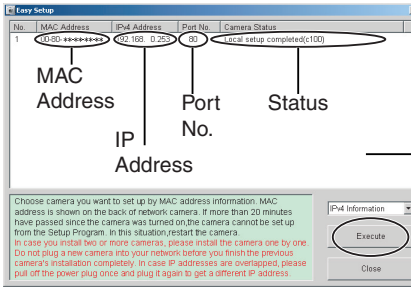


- When the following dialog box is displayed, click [Unblock].

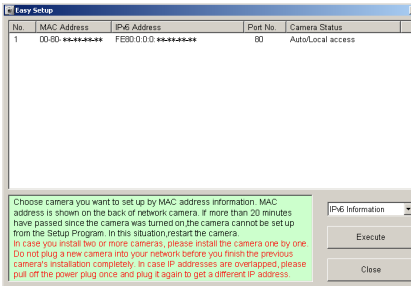


- You can find the IP address and port number by looking up the MAC address of this product.

IPv4 Information



IPv6 Information

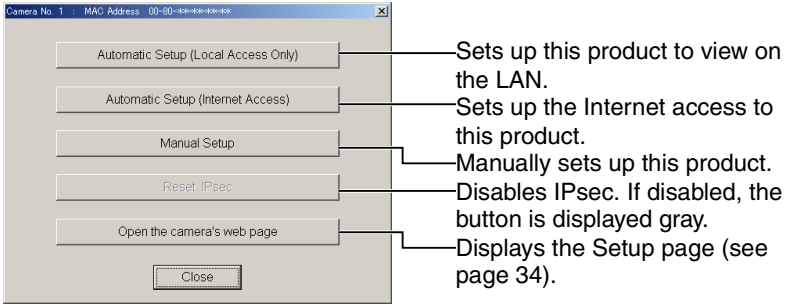


Notes

- MAC address is written at the label on the bottom of this product.
- See the Getting Started for the setup from the MAC address.

Automatic Setup (Local or Internet Access) or Manual Setup

1. Click [Execute] on the List window shown on page 156.
2. Click each button to execute the program.



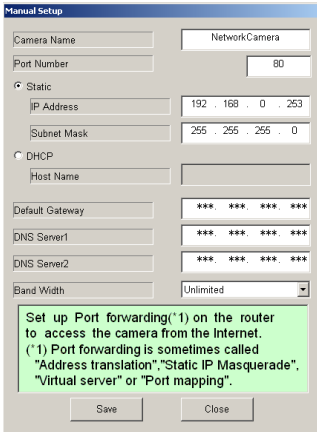
Note

See the Getting Started for the local and Internet access setup.

Manual Setup window

Set up each parameter seeing page 39—page 40.

- If more than 20 minutes have passed since this product was turned on, this product cannot be set up from the Setup Program. If this product cannot be set up, restart this product.



- If "Camera setup completed" is displayed, click [Close] to finish the Manual Setup.

3. Close all Setup windows.

3.8 Setting Your PC

3.8.1 Setting the Proxy Server Settings on Web Browser

If the proxy server is not used, the settings are not required. If you are using the proxy server, the following settings are required.

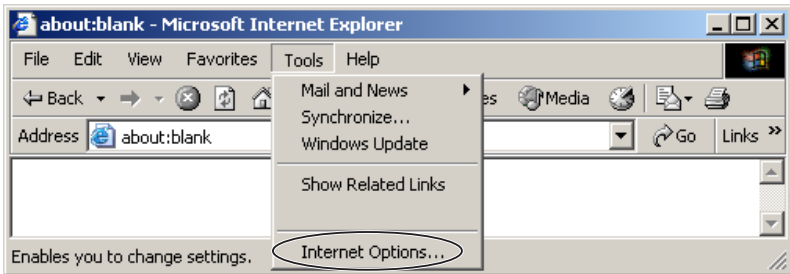
- To communicate with this product installed inside a LAN, changing the web browser settings is recommended.
- A firewall of a proxy server in a corporate environment may prevent access to this product. Consult your network administrator.

Notes

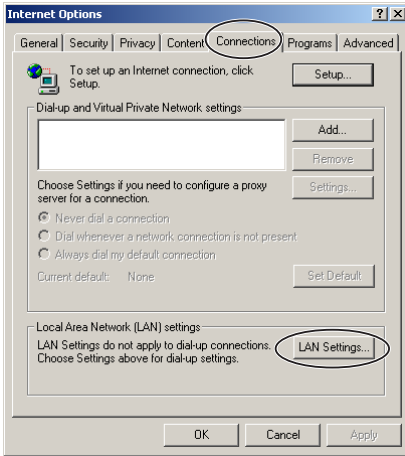
- A proxy server is used to protect your network connected to the Internet.
- If this product is accessed via a proxy server, problems may occur. Consult your network administrator before installing this product.
- If this product is accessed via a proxy server, the refresh interval may be slow.

How to Set the Proxy Server Settings

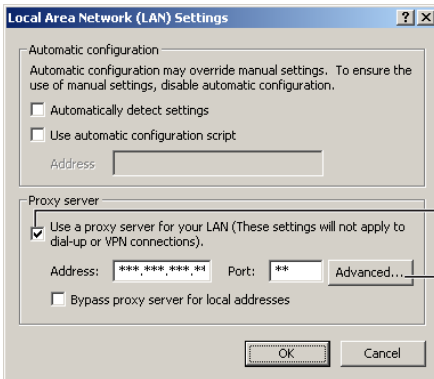
1. Start up Internet Explorer. (The example is Internet Explorer 6.0.)
2. Click [Tools]→[Internet Options...].



3. Click the [Connections] tab, and click [LAN Settings].



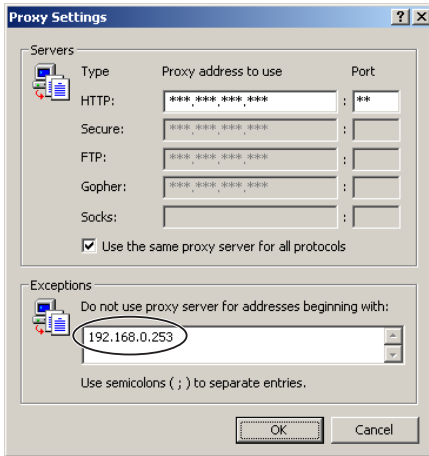
4. See if the Use a proxy server check box is checked or not. If checked, click [Advanced...].



See if the check box is checked or not. If checked, click [Advanced...].

- If not checked, click [Cancel]. Proxy settings are not required.

5. Enter the IP address into the Do not use proxy server for addresses beginning with data field. (Example: 192.168.0.253)



6. Click [OK].

Note

When accessing this product via a proxy server, the Talk Button is displayed gray. Talk feature cannot be used.

3.8.2 Setting UPnP™ to Display the Shortcut in My Network Places

To display the shortcut in the My Network Places folder, Windows component should be added. Enable UPnP™ (Universal Plug and Play) following the steps below.

OS	Steps
Windows XP	[Start] (→[Settings])→[Control Panel]→[Programs]→[Windows Components]→Select [Network Service]→[Properties]→Check [UPnP]→[OK] →[Next]→Complete
Windows XP Service Pack 2	[Start] (→[Settings])→[Control Panel]→[Programs]→[Windows Components]→Select [Networking Service]→[Details]→Check [Internet Gateway Device Discovery and Control Client]→Check [UPnP User Interface]→[OK]→Complete
Windows Me	[Start]→[Settings]→[Control Panel]→[Application]→[Windows File] tab→Select [Communication]→[Detail]→Check [UPnP]→[OK]→[OK]→[Restart]→Complete

Note

This feature is available only when Windows XP or Windows Me is being used.

3.8.3 Setting the Internet Temporary File Setting on Web Browser

The old image may be displayed. In this case, set the web browser following the steps below.

[Tools]→[Internet Options]→[General] tab→[Settings] in the Temporary Internet files→Check [Every visit to the page] in the Check for newer versions of stored pages→[OK]→[OK]→Complete
--

3.9 ASCII Character Table

(space)	0	@	P	`	p
!	1	A	Q	a	q
"	2	B	R	b	r
#	3	C	S	c	s
\$	4	D	T	d	t
%	5	E	U	e	u
&	6	F	V	f	v
'	7	G	W	g	w
(8	H	X	h	x
)	9	I	Y	i	y
*	:	J	Z	j	z
+	;	K	[k	{
,	<	L	\	l	
-	=	M]	m	}
.	>	N	^	n	~
/	?	O	_	o	

3.10 File Size and Number of Buffered Images

The following table shows the relationship between the file size of the image and the maximum number of buffered images.

Note

The following file sizes were shown at the largest value.

Resolution	Items	Capture	Favor Clarity	Standard	Favor Motion	Mobile phone*
640 × 480 (pixels)	File Size	About 60 KB	About 50 KB	About 33 KB	About 20 KB	-
	Buffered Images	-	About 40	About 60	About 100	-
320 × 240 (pixels)	File Size	About 30 KB	About 25 KB	About 16 KB	About 8 KB	About 8 KB
	Buffered Images	-	About 80	About 125	About 250	About 250
160 × 120 (pixels)	File Size	About 10 KB	About 7 KB	About 5 KB	About 3 KB	About 3 KB
	Buffered Images	-	About 290	About 400	About 675	About 675

* The values shown are the file sizes when transferring to a cell phone.

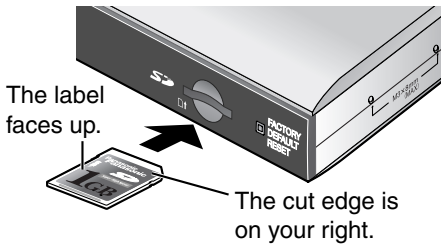
3.11 Using the SD Memory Card

The SD memory card (customer-provided) enables this product to store images and replay them. Follow the instructions below to insert the SD memory card into this product.

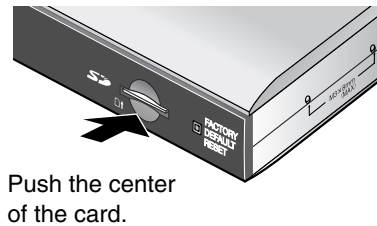
How to Insert or Remove the SD Memory Card

1. Confirm that the SD memory card label faces up, and insert the card shown as below.
2. Push the card with your finger until it clicks.
3. To remove the card, push its center, then pull it straight towards you.
 - Ensure that recording has been stopped, before removing the card (see page 114). If the SD memory card is removed while recording, the image file will most likely become unreadable. In this case, format the SD memory card again. (Files will be deleted.)

Inserting the Card



Removing the Card



Notes

- Before using the SD memory card, format it (see page 113).
- After this product starts recording images to the SD memory card, do not remove the card, restart this product or turn the power off. The number of recordable images may decrease, or the data may become unreadable.

3.12 Number of Images on the SD Memory Card

This product supports the Panasonic SD memory card.

- 1 GB: RP-SDH01GU1A
- 512 MB: RP-SDH512U1A
- 256 MB: RP-SD256U1A
- 128 MB: RP-SD128BU1A
- 64 MB: RP-SD064BPPA

Resolution/ Image Quality		1 GB	512 MB	256 MB	128 MB	64 MB
160 × 120 (pixels)	Favor Motion	About 300,000	About 157,000	About 78,000	About 39,000	About 19,000
	Standard	About 180,000	About 94,000	About 47,000	About 23,000	About 11,000
	Favor Clarity	About 130,000	About 67,000	About 33,000	About 16,000	About 8,000
320 × 240 (pixels)	Favor Motion	About 110,000	About 58,000	About 29,000	About 14,000	About 7,000
	Standard	About 58,000	About 29,000	About 14,000	About 7,000	About 3,000
	Favor Clarity	About 37,000	About 18,000	About 9,000	About 4,000	About 2,000
640 × 480 (pixels)	Favor Motion	About 47,000	About 23,000	About 11,000	About 5,000	About 2,000
	Standard	About 28,000	About 14,000	About 7,000	About 3,000	About 1,000
	Favor Clarity	About 18,000	About 9,000	About 4,000	About 2,000	About 1,000

Note

The actual numbers of recordable images may differ from the ones above depending on the kind of SD memory card.

3.13 Specifications

Other Specifications

Items	Specifications
Video Compression	JPEG (3 Levels)
Video Resolution	640 × 480, 320 × 240 (default), 160 × 120
Buffered Image ¹	About 125 frames (320 × 240, Standard) with time display
Video Input	BNC Terminal 1.0 Vp-p/75 Ω (NTSC)
Video Output	BNC Terminal Through Output of Video Input
Audio Communication	2-way Half Duplex
Audio Bandwidth	300 Hz—3.4 KHz
Audio Play Method	Play with ActiveX
Input Encoding Method	Encoding with ActiveX
Audio Input	RCA Pin Jack Input Impedance: 47 KΩ Maximum 0 dBm
Audio Output ²	RCA Pin Jack Output Impedance: 680 Ω
Frame rate ³	Max. 12 frames/second (640 × 480) Max. 30 frames/second (320 × 240 or 160 × 120)
Supported Protocols	IPv4/IPv6 Dual-Stack <ul style="list-style-type: none"> • IPv4: TCP, UDP, IP, HTTP, FTP, SMTP, DHCP, DNS, ARP, ICMP, POP3, NTP, IPsec, UPnP™ • IPv6: TCP, UDP, IP, HTTP, FTP, SMTP, DNS, ICMPv6, POP3, NDP, NTP, IPsec
IPsec Feature	ESP Encryption, ESP Authentication Transport mode/Tunnel mode IKE (Internet Key Exchange)
IKE (Internet Key Exchange)	Pre-Shared Key, Main mode
Cipher Algorithm	DES-CBC, 3DES-CBC, AES-CBC

Other Specifications

Items	Specifications
Message-Digest Algorithm	HMAC-MD5, HMAC-SHA-1
Image Transfer Condition	Alarm, Timer (Day of the Week/Hour/Minute) or Motion Detection
Image Transfer Method	SMTP, FTP
Interface	10Base-T/100Base-TX Ethernet RJ-45 connector × 1
Indicator Display	Power/Network Communication/Operation/Ethernet link
External I/O	External Sensor Input × 1 External Sensor Output × 1
Dimension (HWD)	About 38 mm (1 1/2 inches) × About 216 mm (8 1/2 inches) × About 125 mm (4 15/16 inches)
Weight	370 g (0.82 lb.) (Only the unit)
Power Supply	AC adaptor: Input 100—120 V AC, 60 Hz Output 12 V DC, 750 mA Consumption: Standby About 2.5 W Maximum About 4.5 W
Temperature	Operation: 0 °C (+32 °F) to +40 °C (+104 °F) Storage: 0 °C (+32 °F) to +50 °C (+122 °F)
Humidity	Operation: 20 %—80 % (No Condensation) Storage: 20 %—90 % (No Condensation)

- ¹ The maximum number of frames changes depending on the image quality and what object you buffer.
- ² Use the audio output with an amp.
- ³ Frame rate may slow down depending on the network environment, the PC performance, the image quality, enabling IPsec, or what object you view.

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For product service

- Panasonic Servicenters are listed in the servicenter directory.
- Call 1-800-272-7033 for the location of an authorized servicenter.
- This Network Camera Server is designed for use in the United States of America. Sale or use of this product in other countries/areas may violate local laws.

When you ship the product

- Carefully pack your unit, preferably in the original carton.
- Attach a letter, detailing the symptom, to the outside of the carton.

Symptom _____

- Send the unit to an authorized servicenter, prepaid and adequately insured.
- Do not send your unit to the Panasonic Consumer Electronics Company listed below or to executive or regional sales offices. These locations do not repair consumer products.

The information in this document is subject to change without notice.

Panasonic Consumer Electronics Company, Division of Panasonic Corporation of North America

One Panasonic Way, Secaucus, New Jersey 07094

Panasonic Puerto Rico, Inc.

San Gabriel Industrial Park, Ave. 65 de Infantería, Km. 9.5,
Carolina, Puerto Rico 00985

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