Panasonic

Network Camera
Setup Manual

Model No. **WV-NW484SE**
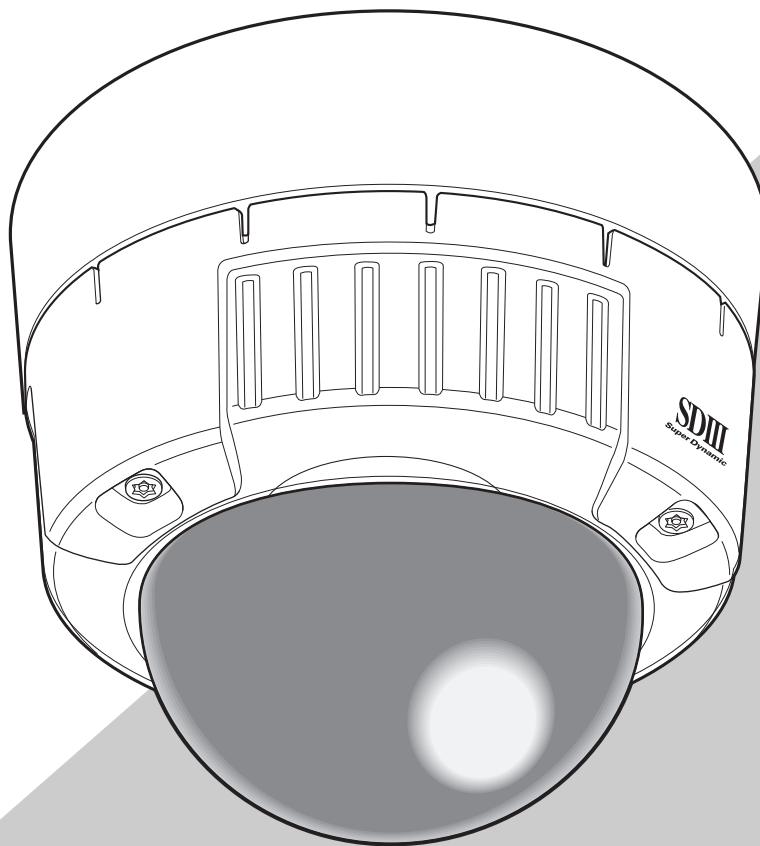
Contents

Preface

About these operating instructions

The Instruction Manual for this camera is comprised of three parts: this manual (PDF), Operating Manual (PDF) and Operating Instructions.

This manual explains how to set up this camera on a personal computer (hereafter "PC") over a network. For details on how to install this camera and how to connect it to network devices, refer to the "Operating Instructions."

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Viewer Software

- Images will not be displayed when the viewer software "Network camera View3" is not installed on the PC. This software can be installed directly from the camera or by double clicking "nwcv3setup.exe" on the CD-ROM provided, and then following the on-screen instructions.

Important

- The default setting of "Automatic installation of Viewer software" is "ON". Follow the instructions on page 76 when the message is displayed on the information bar of the browser.
- When the "Live" page is displayed for the first time, the install wizard of the ActiveX control required to display images from the camera will be displayed.
  Follow the instructions of the wizard.
- When the install wizard is displayed again even after completing the installation of the ActiveX, restart the PC.
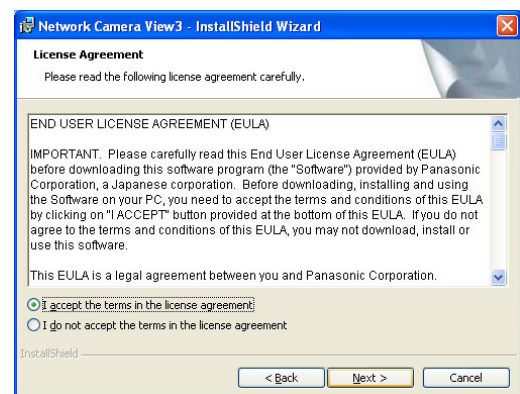
- The viewer software used on each PC should be licensed individually. The number of installations of the viewer software from the camera can be checked on the [Upgrade] tab of the "Maintenance" page (→ page 62). Refer to your dealer for the software licensing.

Configure the Camera Settings Using a PC

The settings of the camera or the various software functions can be configured in the setup menu on the PC.

Important

- The setup menu can be operated only by users with access level "1. Administrator." For further information on setting the access level, see page 46.

How to display the setup menu

- **"Live" page**
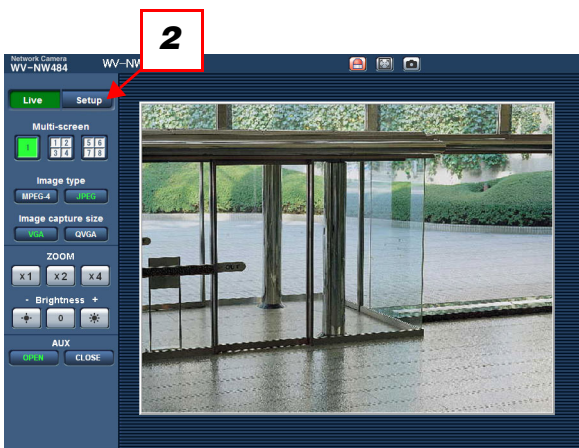
1 Display the "Live" page. (→ Operating Manual)

2 Click the [Setup] button on the "Live" page.
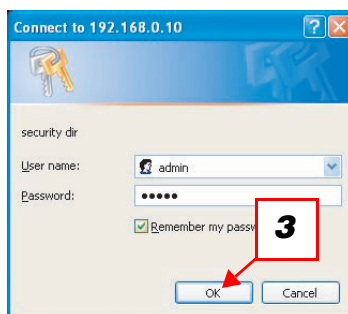
3 Enter the "User name" and "Password", and click the [OK] button.
The setup menu will be displayed. (→ page 7)
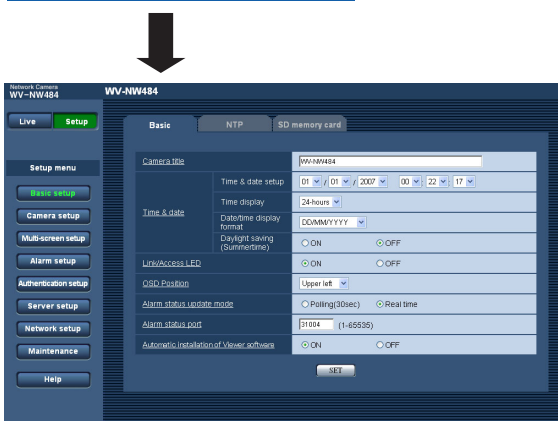
How to operate the setup menu

1 Click the desired menu button in the frame on the left of the window to display the respective setup page. When the page comprises multiple tabs, click the respective tab to display the desired setup page.

2 Enter the items in the setup page (→ page 7).

3 After completing input, click the [SET] button to apply the settings.

Note ....

• When there are multiple [SET] buttons in the same page, click the [SET] button for each edited item.
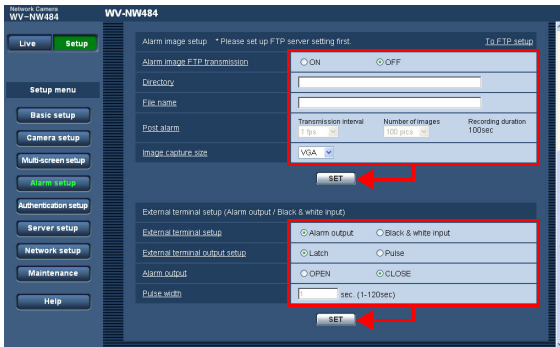
For further information about the "Live" page, refer to Operating Manual.

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About the setup menu window

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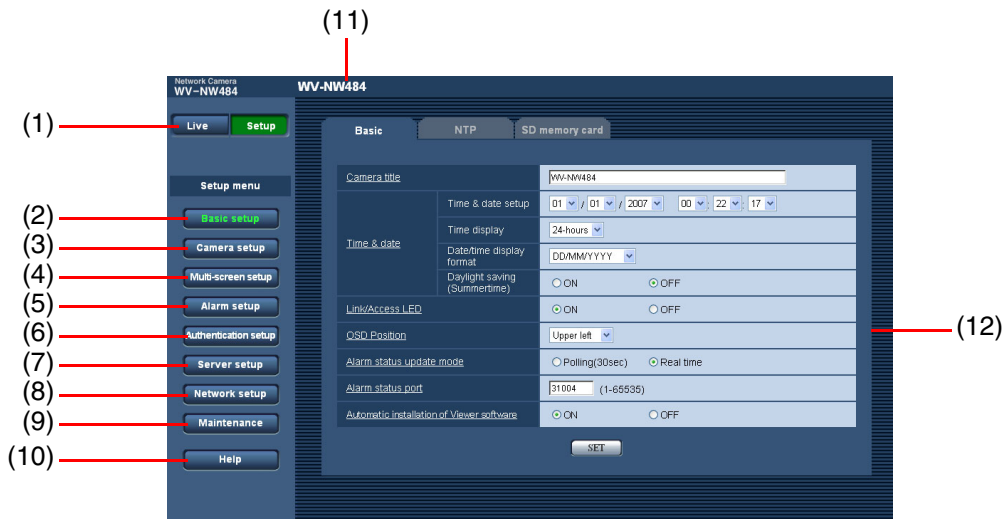
No.	Item	Description
(1)	[Live] button	Click this button to display the "Live" page.
(2)	[Basic setup] button (→ page 9)	Click this button to display the "Basic setup" page. Basic information such as camera title, and time and date are set in this page.
(3)	[Camera setup] button (→ page 16)	Click this button to display the "Camera setup" page. Camera-related settings, such as JPEG/MPEG-4 image quality, image capture size and operation, can be configured on the "Camera setup" page.
(4)	[Multi-screen setup] button (→ page 33)	Click this button to display the "Multi-screen setup" page. Up to eight cameras can be registered so that images can be monitored on the multi-screen.
(5)	[Alarm setup] button (→ page 34)	Click this button to display the "Alarm setup" page. Settings relating to alarm action at an alarm occurrence, VMD area and alarm notification destinations can be configured on the "Alarm setup" page.
(6)	[Authentication setup] button (→ page 46)	Click this button to display the "Authentication setup" page. Users allowed to access the camera and PC authentication can be configured on the "Authentication setup" page.
(7)	[Server setup] button (→ page 50)	Click this button to display the "Server setup" page. Settings relating to the mail server and FTP server that the camera accesses can be configured on the "Server setup" page.
(8)	[Network setup] button (→ page 52)	Click this button to display the "Network setup" page. Network-related settings for the camera can be configured on the "Network setup" page.
(9)	[Maintenance] button (→ page 61)	Click this button to display the "Maintenance" page. The system log can be displayed, the firmware upgraded and settings initialized on the "Maintenance" page.
(10)	[Help] button (→ page 66)	Click this button to display the "Help" page.

No.	Item	Description
(11)	Status display area	The title of the camera whose settings are currently being configured will be displayed here.
(12)	Setup page	Pages of each setup menu will be displayed. Some pages comprise multiple tabs depending on the functions to be displayed. When the underlined item is clicked, the corresponding help page will be displayed.

Configure the Basic Settings of the Camera

Basic settings such as the name of the camera, time and date, NTP server, and settings relating to SD memory cards can be configured on the "Basic setup" page.
The "Basic setup" page has three tabs: the [Basic] tab, the [NTP] tab, and the [SD memory card] tab.

Basic settings [Basic]

Click the [Basic] tab on the "Basic setup" page.
Basic settings such as the title of the camera and time and date can be configured on this page.

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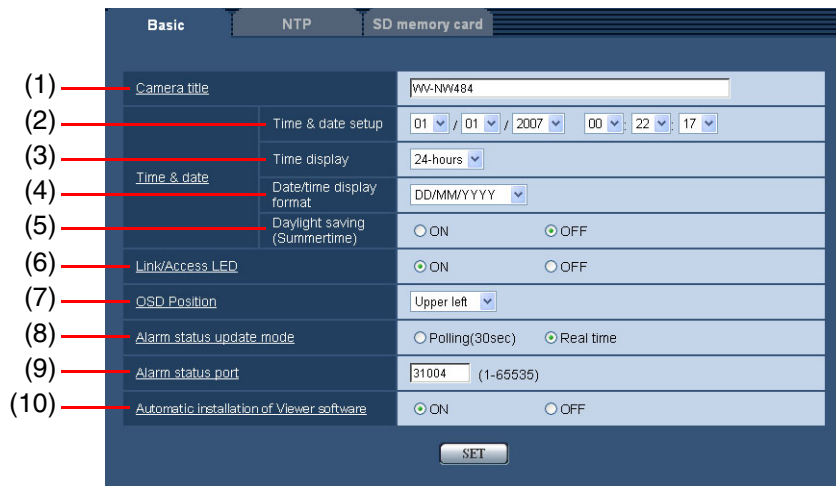
No.	Item	Description
(1)	[Camera title] Default: WV-NW484	Enter the name of the camera. Click the [SET] button after entering the title of the camera. The entered title will be displayed in the status display area. Number of characters for the camera title: 0 to 20
(2)	[Time & date setup]	Enter the current time and date. When "12-hours" is selected for [Time display], "AM" or "PM" can be selected. Available range: 2007/01/01 0:00:00 to 2035/12/31 23:59:59
(3)	[Time display] Default: 24-hours	Enter the time display format. Select [Time & date setup] matched to the display format setting here.
	24-hours	The time is displayed in 24-hour format.
	12-hours	The time is displayed in 12-hour format.
	OFF	Hides the time and date.
(4)	[Date/time display format] Default: Mmm/DD/YYYY	Enter the date/time display format. When "2007/Apr./01 13:10:00" is set for [Time & date setup], the time and date will be respectively displayed as follows:
	DD/MM/YYYY	01/04/2007 13:10
	MM/DD/YYYY	04/01/2007 13:10
	DD/Mmm/YYYY	01/Apr/2007 13:10
	YYYY/MM/DD	2007/04/01 13:10
	Mmm/DD/YYYY	Apr/01/2007 13:10

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No.	Item		Description
(5)	[Daylight saving (Summertime)] Default: OFF		Select whether or not to apply daylight saving time. Set this item in regions where daylight saving is applied.
		ON	Applies daylight saving time. An asterisk "*" will be displayed on the left side of the displayed time and date.
		OFF	Does not apply daylight saving time.
(6)	[Link/Access LED] Default: ON		Select whether or not to light the LEDs. To check the operational status by lighting of the LEDs, select "ON". *Note* .... • Link LED : This LED will light when communication with the connected device is available. • Access LED : This LED will light when accessing a network. • SD memory card error LED : This LED will light when the SD memory card is unavailable to save images. ....
		ON	The LEDs are turned on.
		OFF	The LEDs are turned off.
(7)	[OSD Position] Default: Upper left		Select a position where time and date and display text are to be displayed in images in the "Live" page.
		Upper left	The above information will be displayed at the upper left corner in the image.
		Lower left	The above information will be displayed at the lower left corner in the image.
		Upper right	The above information will be displayed at the upper right corner in the image.
		Lower right	The above information will be displayed at the lower right corner in the image.

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No.	Item		Description
(8)	[Alarm status update mode] Default: Real time		Select an interval at which the camera status is notified. When the status of the camera changes, the alarm occurrence indication button and the AUX button will be displayed in the "Live" page to notify you of the camera status. **Important** • When using Microsoft Windows 2000 Professional SP4, the camera will operate in the "Polling(30 sec)" mode even when "Real time" is selected for "Alarm status update mode". *Note* • Depending on the network environment in use, notification may not be performed in real time.
		Polling(30 sec)	The camera status is updated and notified every 30 seconds.
		Real time	The camera status is notified when the status has changed.
(9)	[Alarm status port] Default: 31004		When "Real time" is selected for [Alarm status update mode], designate a port number to which the status notification is to be sent. Available port number: 1 to 65535
(10)	[Automatic installation of Viewer software] Default: ON		Determine whether or not to install the viewer software from this camera. **Important** • It is impossible to display images and to receive/transmit audio between the camera and the PC when the viewer software "Network Camera View3" is not installed on the PC. • The number of the viewer software installations can be checked on the [Upgrade] tab of the "Maintenance" page.
		ON	Installs the viewer software from the camera automatically.
		OFF	The viewer software cannot be installed from the camera.

Setting the NTP server [NTP]

Click the [NTP] tab on the "Basic setup" page.
Settings relating to the NTP server, such as NTP server address and port number, can be configured on this page.

No.	Item	Description
(1)	[Time adjustment] Default: Manual setup	Select whether time should be adjusted manually or synchronized with the NTP server.
	Manual setup	The time set on the [Basic] tab on the "Basic setup" page will be used as the standard time of the camera.
	Synchronization with NTP server	The time automatically adjusted by synchronizing with the NTP server will be used as the standard time of the camera.
(2)	[NTP server address]* Default: None (blank)	Enter the IP address or host name of the NTP server. Number of characters for the NTP server address: 1 to 128 **Important** • When entering the host name for [NTP server address], it is necessary to configure the DNS settings on the [Network] tab of the "Network setup" page. (→ page 52) • Enter the domain name using alphanumeric characters.
(3)	[NTP port]* Default: 123	Enter a port number to be used for the NTP server. Available port number: 1 to 65535
(4)	[Synchronization interval]* Default: 1 hour	Select an interval (1 - 24 hours: in 1 hour intervals) of synchronization with the NTP server.
(5)	[Time zone]* Default: (GMT) Greenwich Mean Time : Dublin, Edinburgh, Lisbon, London	Select a time zone corresponding to the location where the camera is in use.

* Set these items when [Time adjustment] is set to "Synchronization with NTP server".

Setting the SD memory card [SD memory card]

Click the [SD memory card] tab on the "Basic setup" page.

Settings relating to the SD memory card can be configured on this page.
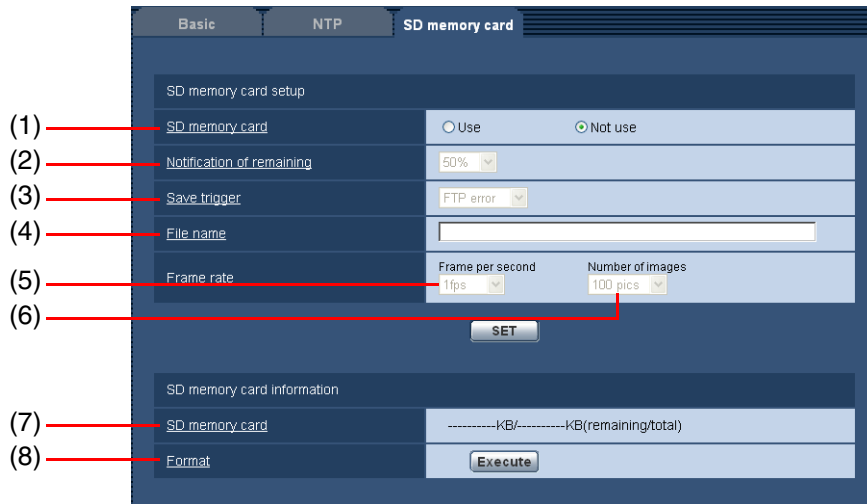
■ SD memory card

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No.	Item		Description
(1)	[SD memory card] Default: Not use		Select whether or not to use the SD memory card. **Important** • When an SD memory card is inserted, select "Use".
		Use	SD memory card is used.
		Not use	SD memory card is not used.
(2)	[Notification of remaining] Default: 50%		When the [E-mail notification] function or the [Panasonic alarm protocol] function is used to notify the remaining space on the SD memory card, select a level (%) at which to be notified from the following. 50%/20%/10%/5%/2% *Note* • Notification will be performed each time the remaining space of the SD memory card reaches the values above. For example, notification will be performed each time the remaining space reaches 50%, 20%, 10%, 5% and 2% when "50%" is selected. Depending on the network environment in use, notification may not always be made at the very moment that the remaining space has reached each value.

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No.	Item		Description

(3)	[Save trigger]
	Default: FTP error
			Select a trigger to save images on the SD memory card from the following:
			
			Note ....
			  • Set the "FTP error" to use the FTP periodic transmission function or to send an image to the FTP server during an alarm.
			  • When "ON" is selected for the DHCP function ($\rightarrow$ page 52), images cannot be saved on the SD memory card until an IP address is assigned to the camera regardless of the [Save trigger] setting.
			....

		FTP error	Images are saved when images have failed to be transmitted to the FTP server.
		Alarm input	Images are saved when an alarm occurs.
(4)	[File name]* Default: None (blank)		Enter the file name used for the image to be saved on the SD memory card. The file name will be as follows: "Entered file name + Time and date (year/month/day/hour/minute/second) + Serial number" Number of characters for the file name: 1 to 8 **Note** .... • When "FTP error" is selected for "Save trigger", the file name entered on the [FTP] tab of the "Network setup" page will be used for the file name of the image saved on the SD memory card. ....
(5)	[Frame per second]* Default: 1 fps		Select the interval that images are saved on the SD memory card from the following: 0.1 fps/0.2 fps/0.33 fps/0.5 fps/1 fps
(6)	[Number of images]* Default: 100 pics		Select the number of alarm images to be saved on the SD memory card from the following: 10 pics/20 pics/30 pics/50 pics/100 pics/200 pics/300 pics/500 pics/1000 pics/2000 pics/3000 pics/5000 pics

*   Set these items when "Alarm input" is set for [Save trigger].

■ **SD memory card information**

No.	Item	Description

(7)	[SD memory card]	The available size and total size of the SD memory card will be displayed. Depending on the status of the SD memory card, the size indications will differ as follows:
		  • "?KB/?KB"
		    No SD memory card is inserted. Failed to obtain available size due to a read error, etc.
		  • "*****KB/*****KB"
		    The SD memory card is unformatted, or locked, etc.

(8)	[Format]	To format an SD memory card, click the [Execute] button.

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Note ....

About Formatting

- Before formatting an SD memory card, select "Use" for [SD memory card] ($\rightarrow$ page 13) and "OFF" for [FTP periodic transmission] ($\rightarrow$ page 57).
- Always format the SD memory card from the [SD memory card] tab. Failure to format from the [SD memory card] tab may result in the following functions operating improperly.
  - Save/obtain images that have failed to transmit to the FTP server using the FTP periodic transmission function.
  - Save/obtain images taken at alarm occurrences.
  - Save/obtain images recorded using the SD memory recording function of Panasonic's network disk recorder.
- It is impossible to access the SD memory card during formatting.
- All data saved on an SD memory card will be deleted when the SD memory card is formatted.
- Do not turn the camera off during formatting.
- After formatting the SD memory card, the available size displayed may be smaller than the total size since the default directory required for operation is automatically created in the SD memory card.
- Operation has already been confirmed on the following SD memory cards:*
  Panasonic SD memory cards (64 MB, 128 MB, 256 MB, 512 MB, 1 GB, 2 GB)
  * SDHC memory cards are not supported.
- Insert a new SD memory card or one already formatted according to the SD standard.

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Possible number of images that can be saved on the SD memory card (reference only)

Important

- The numbers in the following table are just indications. They are not actual numbers of images that can be saved on the SD memory card. Numbers will differ according to photographic subject, settings relating to the SD memory card, etc. ($\rightarrow$ page 13).

Image capture size: VGA

Size of SD memory card	Image quality									
	0 (Super fine)	1 (Fine)	2	3	4	5 (Normal)	6	7	8	9 (Low)
2 GB	Approx. 10,000 pics	Approx. 14,000 pics	Approx. 16,000 pics	Approx. 18,000 pics	Approx. 20,000 pics	Approx. 22,000 pics	Approx. 26,000 pics	Approx. 28,000 pics	Approx. 30,000 pics	Approx. 32,000 pics
1 GB	Approx. 5,000 pics	Approx. 7,000 pics	Approx. 8,000 pics	Approx. 9,000 pics	Approx. 10,000 pics	Approx. 11,000 pics	Approx. 13,000 pics	Approx. 14,000 pics	Approx. 15,000 pics	Approx. 16,000 pics
512 MB	Approx. 2,500 pics	Approx. 3,500 pics	Approx. 4,000 pics	Approx. 4,500 pics	Approx. 5,000 pics	Approx. 5,500 pics	Approx. 6,500 pics	Approx. 7,000 pics	Approx. 7,500 pics	Approx. 8,000 pics
256 MB	Approx. 1,250 pics	Approx. 1,750 pics	Approx. 2,000 pics	Approx. 2,250 pics	Approx. 2,500 pics	Approx. 2,750 pics	Approx. 3,250 pics	Approx. 3,500 pics	Approx. 3,750 pics	Approx. 4,000 pics
128 MB	Approx. 625 pics	Approx. 875 pics	Approx. 1,000 pics	Approx. 1,125 pics	Approx. 1,250 pics	Approx. 1,375 pics	Approx. 1,625 pics	Approx. 1,750 pics	Approx. 1,875 pics	Approx. 2,000 pics
64 MB	Approx. 312 pics	Approx. 437 pics	Approx. 500 pics	Approx. 562 pics	Approx. 625 pics	Approx. 687 pics	Approx. 812 pics	Approx. 875 pics	Approx. 937 pics	Approx. 1,000 pics

Image capture size: QVGA

Size of SD memory card	Image quality									
	0 (Super fine)	1 (Fine)	2	3	4	5 (Normal)	6	7	8	9 (Low)
2 GB	Approx. 24,000 pics	Approx. 26,000 pics	Approx. 27,000 pics	Approx. 28,000 pics	Approx. 30,000 pics	Approx. 32,000 pics	Approx. 36,000 pics	Approx. 38,000 pics	Approx. 40,000 pics	Approx. 42,000 pics
1 GB	Approx. 12,000 pics	Approx. 13,000 pics	Approx. 13,500 pics	Approx. 14,000 pics	Approx. 15,000 pics	Approx. 16,000 pics	Approx. 18,000 pics	Approx. 19,000 pics	Approx. 20,000 pics	Approx. 21,000 pics
512 MB	Approx. 6,000 pics	Approx. 6,500 pics	Approx. 6,750 pics	Approx. 7,000 pics	Approx. 7,500 pics	Approx. 8,000 pics	Approx. 9,000 pics	Approx. 9,500 pics	Approx. 10,000 pics	Approx. 10,500 pics
256 MB	Approx. 3,000 pics	Approx. 3,250 pics	Approx. 3,375 pics	Approx. 3,500 pics	Approx. 3,750 pics	Approx. 4,000 pics	Approx. 4,500 pics	Approx. 4,750 pics	Approx. 5,000 pics	Approx. 5,250 pics
128 MB	Approx. 1,500 pics	Approx. 1,625 pics	Approx. 1,687 pics	Approx. 1,750 pics	Approx. 1,875 pics	Approx. 2,000 pics	Approx. 2,250 pics	Approx. 2,375 pics	Approx. 2,500 pics	Approx. 2,625 pics
64 MB	Approx. 750 pics	Approx. 812 pics	Approx. 843 pics	Approx. 875 pics	Approx. 937 pics	Approx. 1,000 pics	Approx. 1,125 pics	Approx. 1,187 pics	Approx. 1,250 pics	Approx. 1,312 pics

Configure the Settings Relating to Images

Settings relating to JPEG/MPEG-4 images, camera function, image quality and ABF can be configured on the "Camera setup" page.
The "Camera setup" page has three tabs: the [JPEG/MPEG-4] tab, the [Cam Function] tab, and [Image/ABF] tab.

Setting JPEG images [JPEG/MPEG-4]

Click the [JPEG/MPEG-4] tab on the "Camera setup" page.
Settings relating to the refresh interval of JPEG images, image capture size and image quality can be configured on this page. For further information on settings related to MPEG-4 images, see page 17.

■ **JPEG setup**

No.	Item	Description
(1)	[Refresh interval (JPEG)*] Default: 5 fps	Select an interval to refresh the displayed JPEG image from the following: 0.1 fps/0.2 fps/0.33 fps/0.5 fps/1 fps/2 fps/3 fps/5 fps/6 fps*/10 fps*/15 fps*/30 fps* ***Note*** • When "ON" is selected for [MPEG-4 transmission], the refresh interval may be longer than the set value when any value with an asterisk "*" on the right is selected depending on the network environment in use.
(2)	[Image capture size] Default: VGA	Select "QVGA" or "VGA" for the image capture size of JPEG images.
(3)	[Image quality] Default: 5 Normal	Select the image quality of JPEG images from the following: 0 Super fine/1 Fine/2/3/4/5 Normal/6/7/8/9 Low

Setting MPEG-4 images [JPEG/MPEG-4]

Click the [JPEG/MPEG-4] tab on the "Camera setup" page.
The settings relating to MPEG-4 images such as bit rate, image capture size and image quality can be configured on this page. For information on settings relating to JPEG images, see page 16.

■ MPEG-4 setup

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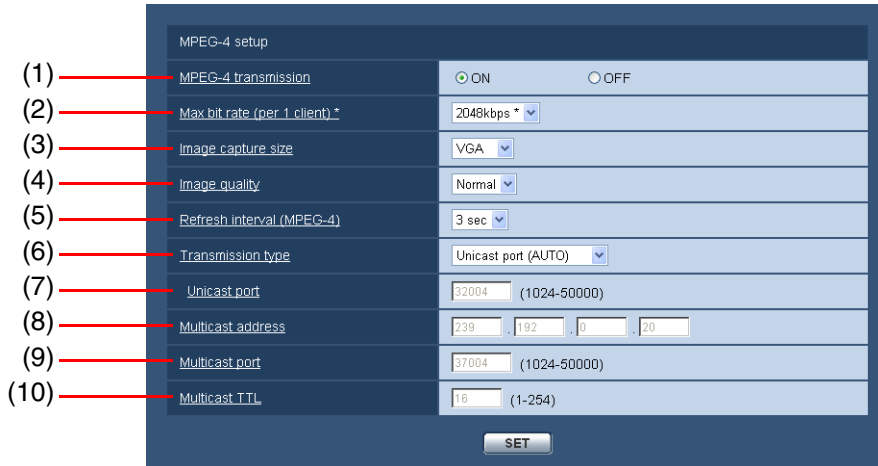| No.	Item	Description
(1)	[MPEG-4 transmission] Default: ON	Select whether or not to transmit MPEG-4 images. **Note** • When "ON" is selected for [MPEG-4 transmission], both MPEG-4 images and JPEG images can be monitored. Note, however, that the refresh interval may be longer than the set value when displaying JPEG images.
	ON	MPEG-4 images are transmitted.
	OFF	MPEG-4 images are not transmitted.
(2)	[Max bit rate (per 1 client)*] Default: 2048kbps*	Select an MPEG-4 bit rate per client from the following: 64kbps/128kbps*/256kbps*/512kbps*/ 1024kbps*/1536kbps*/2048kbps*/3072kbps*/4096kbps* **Note** • The MPEG-4 bit rate is synchronized with the [Total bit rate] set on the "Network setup" page. (→ page 52) For this reason, the bit rate may be lower than the set value when any value with an asterisk "*" on the right is selected depending on the network environment in use.
(3)	[Image capture size] Default: VGA	Select "QVGA" or "VGA" for the image capture size of MPEG-4 images.

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No.	Item		Description
(4)	[Image quality] Default: Normal		Select the image quality of MPEG-4 images.
		Low	Movement is given priority. (Images become grainy.)
		Normal	This is the normal setting.
		Fine	Image quality is given priority. (Operation becomes slower.)
(5)	[Refresh interval (MPEG-4)] Default: 3 sec		Select an interval (i-frame interval) to refresh the displayed MPEG-4 images from the following: 1 sec/2 sec/3 sec/4 sec/5 sec If errors occur frequently on the network environment in use, shorten the refresh interval for MPEG-4 to reduce image distortion. Note, however, that the refresh interval may be longer than the set value.
(6)	[Transmission type] Default: Unicast port (AUTO)		Select the transmission type of MPEG-4 images. When "Unicast" is selected, up to eight users can access a single camera simultaneously. When "Multicast" is selected, any number of users can access a single camera simultaneously.
		Unicast port (AUTO)	When MPEG-4 images are transmitted by Unicast transmission, the port number to be used is automatically assigned. ***Note*** .... • When it is unnecessary to fix the port number from which to transmit MPEG-4 images, for example, when using the camera on a network, we recommend selecting "Unicast port (AUTO)". ....
		Unicast port (MANUAL)	Select this item when MPEG-4 images are transmitted by Unicast transmission manually. Select the port number to be used. ***Note*** .... • When transmitting MPEG-4 images via Internet, it is necessary to set the verified port number on a broadband router. For further information, refer to the Operating Instructions for the broadband router in use. ....
		Multicast	When transmitting MPEG-4 images by multicast transmission, enter [Multicast address], [Multicast port] and [Multicast TTL].
(7)	[Unicast port] [*1] Default: 32004		Enter the unicast port number (used to transmit images from the camera). Available port numbers: 1024 to 50000 (even numbers only)
(8)	[Multicast address] [*2] Default: 239.192.0.20		Enter the multicast address. Images will be transmitted to the designated multicast address. Available addresses: 224.0.0.0 to 239.255.255.255

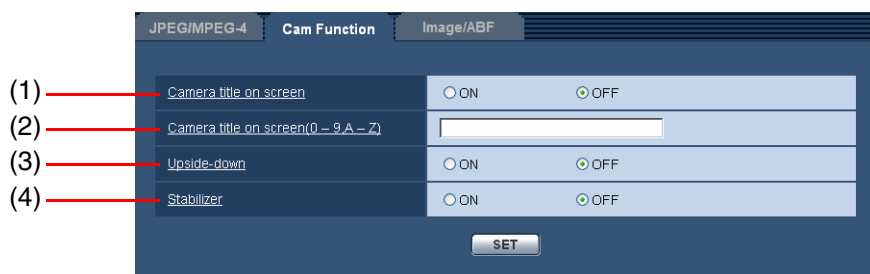| No.	Item	Description
(9)	[Multicast port] [2] Default: 37004	Enter the multicast port number (used to transmit images from the camera). Available port numbers: 1024 to 50000 (even numbers only) **Important** • Enter an unused port number as the multicast port number.
(10)	[Multicast TTL] [2] Default: 16	Enter the multicast TTL value. Available value: 1 to 254 **Important** • When MPEG-4 images cannot be transmitted via the Internet, consult the network administrator. • When displaying multicast images on a PC with multiple network interface cards installed, deactivate cards that are not related to the network to which the camera is connected.

*1 Set this item when [Transmission type] is set to "Unicast port (MANUAL)".

*2 Set this item when [Transmission type] is set to "Multicast".

Setting camera titles and camera operations [Cam Function]

Click the [Cam Function] tab on the "Camera setup" page.

The settings relating to camera title and camera operation can be configured on the "Camera setup" page.

No.	Item		Description
(1)	[Camera title on screen] Default: OFF		Select whether or not to display the camera title set here on images.
		ON	The camera title set on [Camera title on screen] will be displayed at the position selected for [Time & date setup]. (→ page 9).
		OFF	The camera title is not displayed on images.
(2)	[Camera title on screen (0-9, A-Z)] Default: None (blank)		Enter the camera title to be displayed on images. Number of characters for the camera title: 0 to 16 Available characters: 0 to 9, A to Z, and the following symbols: ("#$%&'()*+,-./:;=? ; = ?)
(3)	[Upside-down] Default: OFF		Select whether not to display images upside-down on screen.
		ON	Images are displayed upside-down.
		OFF	Images are not displayed upside-down.
(4)	[Stabilizer] Default: OFF		Select whether or not to use the camera's stabilizer function. This function is effective, for example, when the camera is installed on a utility pole. **Important** • When "ON" is selected for this function, the view angle becomes narrower and the image capture size is reduced. When installing the camera with this function set to "ON", adjust the view angle and image capture size. (→ Operating Instructions) The stabilizer may not be effective for the following subjects: • Objects in low lighting • Non-contrast objects (white walls etc) • Fast moving periodic action, such as mechanical vibration • Large-scale amplitude vibrations
		ON	Vibration is reduced.
		OFF	Vibration is not reduced.

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Setting image quality [Image/ABF]

Click the [Image/ABF] tab on the "Camera setup" page.
When the [SETUP>>] button of each setting item is clicked, the detailed setup menu will be displayed in a newly opened window. Detailed settings can be configured while monitoring images displayed on the [Image/ABF] tab.
The following describes how to configure settings relating to image adjustment, electronic zoom, back focus, and privacy zone.
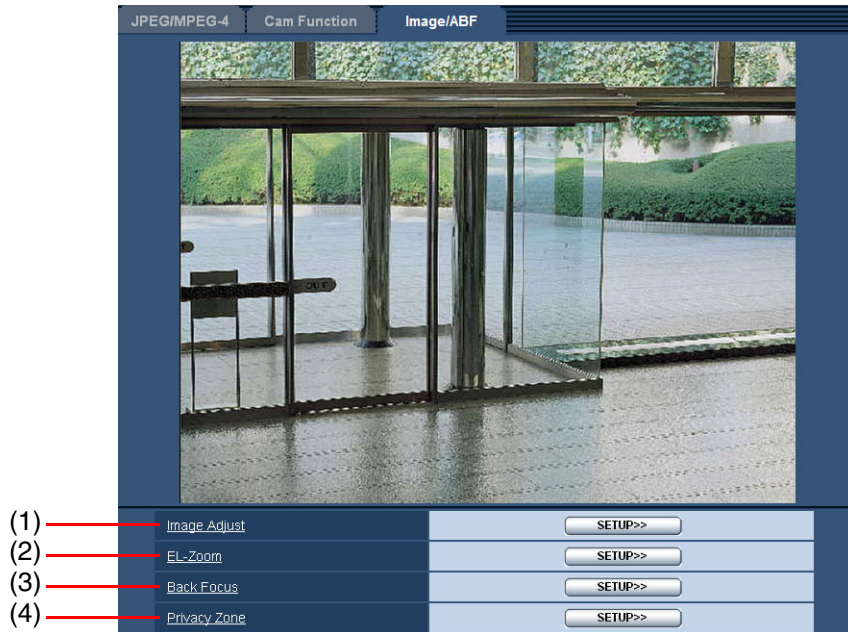
No.	Item	Description
(1)	[Image Adjust]	Click the [SETUP>>] button to display the setup menu for configuring settings relating to the adjustment of image quality in a newly opened window. ($\rightarrow$ page 22)
(2)	[EL-Zoom]	Click the [SETUP>>] button to display the setup menu for configuring settings relating to the electronic zoom in a newly opened window. ($\rightarrow$ page 28)
(3)	[Back Focus]	Click the [SETUP>>] button to display the setup menu for configuring settings relating to the back focus in a newly opened window. ($\rightarrow$ page 29)
(4)	[Privacy Zone]	Click the [SETUP>>] button to display the setup menu for configuring settings relating to the privacy zone in a newly opened window. ($\rightarrow$ page 31)

21

Adjusting picture quality (picture quality adjustment screen)

Click the [SETUP>>] button under "Image Adjust" on the [Image/ABF] tab. (→ page 21)
Settings relating to adjustment of image quality can be configured in a newly displayed window. When values are changed, the changed values will be applied immediately to the image displayed on the [Image/ABF] tab.
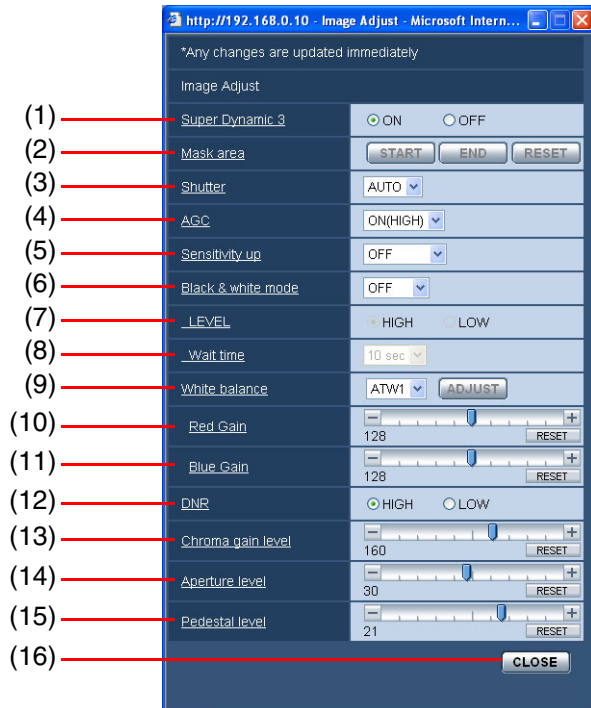
(1/4)

No.	Item		Description
(1)	[Super Dynamic 3] Default: ON		Select whether or not to turn Super Dynamic 3 on. **Note** • When lighting conditions cause flickering, changes in colour or noise, set the shutter speed to "OFF".
		ON	Super Dynamic 3 is turned on.
		OFF	Super Dynamic 3 is turned off.
(2)	[Mask area]		When "OFF" is selected for [Super Dynamic 3], it is possible to compensate for backlight by masking brighter areas in an image. For further information about masking see page 26.
		START	Start the mask area settings.
		END	End the mask area settings.
		RESET	Delete the set mask area.
(3)	[Shutter] Default: AUTO		Select the speed of the electronic shutter. Flickering may not be compensated even when "AUTO" is selected. When flickering appears frequently, set the shutter speed to "1/100".
		AUTO	The shutter speed is automatically adjusted to reduce flickering caused by fluorescent lamps.
		OFF	Fixed at 1/60 seconds.
		1/100	Fixed at 1/100 seconds.

No.	Item		Description
(4)	[AGC] Default: ON(HIGH)		Select the gain (degree of amplitude of the video signals) adjustment method.
		ON(HIGH) ON(MID) ON(LOW)	When the luminance of the subject becomes darker, the gain will be automatically incremented and the screen will become brighter. "HIGH", "MID" and "LOW" in parentheses "( )" are indications of the gain level.
		OFF	Images will be captured with the gain level fixed.
(5)	[Sensitivity up] Default: OFF		Electronic sensitivity enhancement (sensitivity up) is performed by adjusting the storage time of CCD elements. The following sensitivity settings are available: OFF/x2 AUTO/x4 AUTO/x6 AUTO/x10 AUTO/x16 AUTO/x32 AUTO ***Note*** • Selecting "x32 AUTO", for example, automatically increases sensitivity up to a maximum of 32 times. **Important** • When "ON" is selected for [Sensitivity up], the frame rate may become lower. Noise or white dots (blemishes) may sometimes appear in the image.
(6)	[Black & white mode] Default: OFF		Select switching between the colour mode and the black & white mode. ***Note*** • This camera can easily judge the light source by the information of the CCD image capture elements. Sometimes the light source cannot be judged when a moving subject or the entire screen is constantly a fixed colour. When "AUTO2" is selected for [Black & white mode], use a light source having a wavelength of 800 nm or more.
		ON	The black & white mode is selected.
		OFF	The colour mode is selected.
		AUTO1	The camera automatically switches between the colour mode and the black & white mode in accordance with picture brightness (luminance). The black & white mode is selected when lighting is low, while the colour mode is selected for bright lighting.
		AUTO2	Select this setting when using a near infra-red light source at night.
(7)	[LEVEL] Default: HIGH		Set the level of light at which black & white mode is switched to.
		HIGH	The black & white mode is switched to when the lighting around the camera is approximately 5 lx or lower.
		LOW	The black & white mode is switched to when lighting around the camera is approximately 1 lx or lower.

No.	Item		Description
(8)	[Wait time] Default: 30 sec		Select the interval before switching between the colour mode and black & white mode from the following: 10 sec/30 sec/1 min/5 min

(9)	[White balance]
	Default: ATW1
			Select the white balance adjustment method from the following.
			White colour can be adjusted by [Red Gain] and [Blue Gain].
			
			Note ....
			  • Under the following conditions, colour may not be faithfully processed. In such cases, use the AWC white balance mode.
			    • When capturing a subject, the majority of which is a dense colour
			    • When the light source is clear blue sky or the setting sun
			    • When capturing a subject whose luminance is too low
			  • After selecting "AWC", click the [ADJUST] button. It will take around 7 seconds to complete the white balance adjustment.
			....

		ATW1	Sets the auto tracking white balance mode. In this mode, the camera continually monitors the colour temperature of the light source and automatically adjusts white balance. In this mode, the supported colour temperature range is approximately 2,700 K to 6,000 K.
		ATW2	Sets the auto tracking white balance under a sodium lamp mode. The camera will automatically adjust to the optimum white balance mode. In this mode, the supported colour temperature range is approximately 2,000 K to 6,000 K.
		AWC	Sets the auto white balance control mode. This mode is best in locations where the light source is constant. In this mode, the supported colour temperature range is approximately 2,000 K to 10000 K.
(10)	[Red Gain]		Select this item to adjust the red colour of images. When the cursor is moved in the "+" direction, the red colour will become denser. When it is moved in the "-" direction, the red colour will become less dense. Click the [RESET] button to reset the colour to the default.
(11)	[Blue Gain]		Select this item to adjust the blue colour of images. When the cursor is moved in the "+" direction, the blue colour will become denser. When it is moved in the "-" direction, the blue colour will become less dense. Click the [RESET] button to reset the colour to the default.
(12)	[DNR] (Digital Noise Reduction) Default: HIGH		When this function is active, noise is automatically reduced under low lighting.
		HIGH	High DNR, afterimage remains
		LOW	Low DNR, reduces afterimage

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No.	Item	Description
(13)	[Chroma gain level]	Select this item to adjust the chroma level (colour density). When the cursor is moved in the "+" direction, the colours will become denser. When it is moved in the "-" direction, the colours will become less dense. Click the [RESET] button to reset the level to the default.
(14)	[Aperture level]	Select this item to adjust the aperture level (outline compensation). When the cursor is moved in the "+" direction, images will become sharper. When the cursor is moved in the "-" direction, images will become softer. Click the [RESET] button to reset the level to the default.
(15)	[Pedestal level]	Adjust the black level of images. When the cursor is moved in the "+" direction, images will become brighter. When it is moved in the "-" direction, images will become darker. Click the [RESET] button to reset the level to the default.
(16)	[CLOSE] button	Click this button to close the "Image Adjust" setup menu.

Note ....

• When lighting conditions cause flickering, changes in colour or noise, set the shutter speed to "OFF".

....
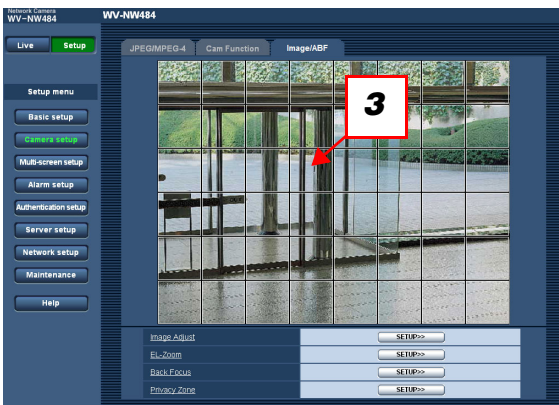
Setting mask areas

It is possible to compensate for backlight by masking brighter areas in an image.
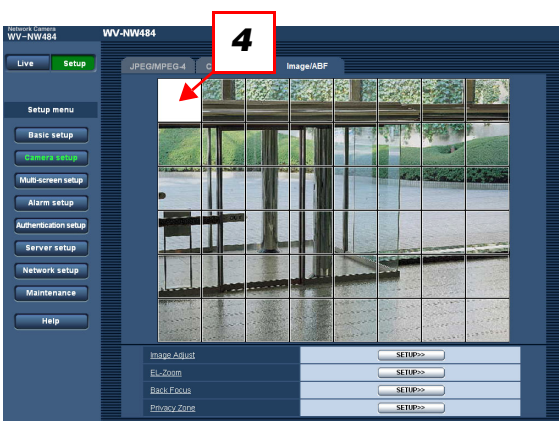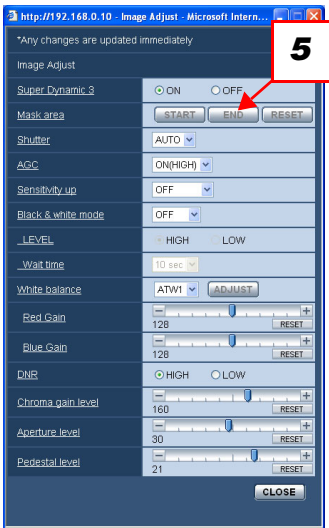
• **"Image Adjust" menu**

1 Select "OFF" if [Super Dynamic 3] is set to "ON". (→ page 22)

2 Click the [START] button at [Mask Area].

3 Borders will appear and the image displayed on the [Image/ABF] tab will be divided into 48 (6x8) areas.

4 Click the divided areas to be masked.
The clicked area(s) will be masked and will become white.
To cancel masking, click the area again.

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5 Click the [END] button after setting the mask areas.
The borders on the image displayed on the [Image/ABF] tab will disappear.

Note ....

- To cancel all set masked areas, click the [RESET] button.
- Configure the mask area settings before setting the electronic zoom.

....

Setting the [EL-Zoom] (electronic zoom setup screen)

Click the [SETUP>>] button for [EL-Zoom] on the [Image/ABF] tab. (→ page 21)

Settings relating to the electronic zoom can be configured on this page.
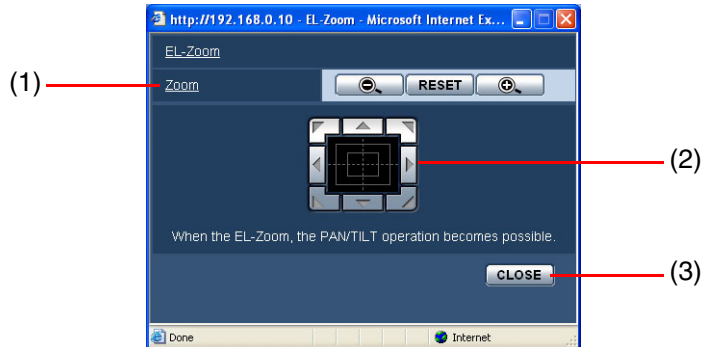
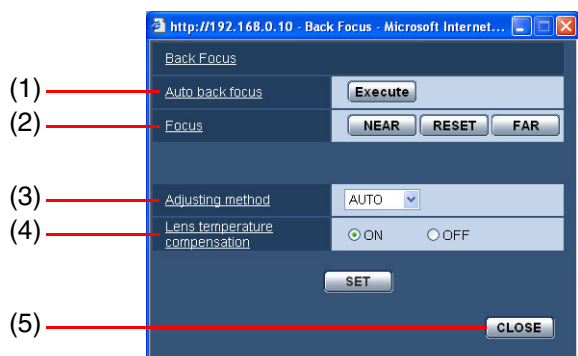| No.	Item		Description
(1)	[Zoom]		Select the electronic zoom within the range 1X to 3X.
		[+] button	Click this button to increase the magnification up to 3X. The camera's view angle can be controlled up/down/left/right by clicking the control pad.
		[-] button	Click this button to decrease the magnification down to 1X.
		[RESET] button	Click this button to return the currently set magnification to 1X.
(2)	[Control pad]		When the zoom magnification has been increased by the [+] button, clicking the control pad changes the camera's view angle up/down/left/right.
(3)	[CLOSE] button		Click this button to close the "EL-Zoom" setup menu.

Important

• With the VMD area already set, setting the electronic zoom causes the location of the VMD area to shift. After setting the electronic zoom, set the VMD area.

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Setting back focus (back focus setup screen)

Click the [SETUP>>] button for "Back Focus" on the [Image/ABF] tab. (→ page 21)

The following describes how to configure the back focus settings.

No.	Item		Description
(1)	[Auto back focus]		Select this item to automatically adjust the back focus of a subject in the centre area of the screen.
		[Execute] button	Click this button to activate the ABF function.
(2)	[Focus] buttons		Click these buttons to fine-adjust the focus. Click the [RESET] button to reset the focus to the default.
		[NEAR] button	Click this button to adjust the back focus towards the near side.
		[RESET] button	Click this button to return the back focus position to its default.
		[FAR] button	Click this button to adjust the back focus towards the far side.
(3)	[Adjusting method] Default: AUTO		Select the back focus settings.
		AUTO	When switching between the colour mode and the black and white mode, the back focus is automatically adjusted and focus deviation is corrected.
		PRESET	When switching between the colour mode and the black and white mode, the focus shifts to the preset back focus positions set for each image mode. The last back focus positions that were set for the colour mode and black and white mode are automatically stored to memory as the preset positions.
		FIX	The position after adjustment of the back focus by ABF (automatic back focus) or manually by "Focus" is fixed.
(4)	[Lens temperature compensation] Default: ON		Select whether or not to automatically compensate focus by using changes in temperature. This setting should normally be left at "ON".
		ON	The focus is automatically compensated.
		OFF	The focus is not automatically compensated.
(5)	[CLOSE] button		Click this button to close the "Back Focus" setup menu.

Important

- When the settings of the [Adjusting method] and [Lens temperature compensation] have been changed, be sure to click the [SET] button.

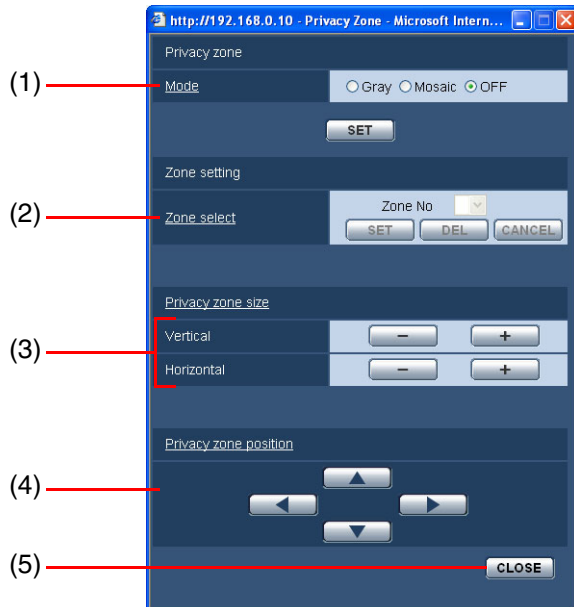29

Note ....

- Set the back focus as follows according to the subject:

Subject Conditions	Recommended Setting	
	Back focus adjustment	Adjusting method
• Standard subject	Select [Execute] for [Auto back focus].	"AUTO"
• Lots of movement • Extreme changes in illumination • Low lighting • Excessive brightness or reflection • Subject behind a window • Lens easily dirtied • Low contrast (e.g. white wall) • Large depth-of-field • Extreme flickering • Only parallel horizontal line like light passing through a shutter	Select [Execute] for [Auto back focus]. → Click the [NEAR] or [FAR] focus button.	"PRESET" or "FIX"

....

Setting the privacy zone (privacy zone setup screen)

Click the [SETUP>>] button for "Privacy Zone" on the [Image/ABF] tab. (→ page 21)
When there is a zone that is not to be displayed in a captured location (screen), that zone (privacy zone) can be configured not to be displayed. Up to 8 privacy zones can be configured.

No.	Item		Description
(1)	[Mode] Default: OFF		Select a display mode for the privacy zone.
		Gray	Privacy zones will be displayed in gray.
		Mosaic	Privacy zones will be displayed with a mosaic effect.
		OFF	Privacy zones will not be displayed.
(2)	[Zone select]		Click to select a privacy zone.
		Zone No	Select a number (1 to 8) from "Zone No". An asterisk "*" to the right of the a number indicates that a privacy zone has been configured.
		[SET] button	Click this button to set the size and position for aligning the mask with the location to be masked out.
		[DEL] button	Click this button to delete a selected privacy zone.
		[CANCEL] button	Click this button to return the privacy zone size and position to its original setting.
(3)	[Privacy zone size]		When you press the [+] button, the privacy zone expands horizontally or vertically. When you press the [-] button, the privacy zone shrinks horizontally or vertically.
(4)	[Privacy zone position]		Click these buttons to move the position of the privacy zone up/down/left/right.
(5)	[CLOSE] button		Click this button to close the "Privacy Zone" setup screen.

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Note ....
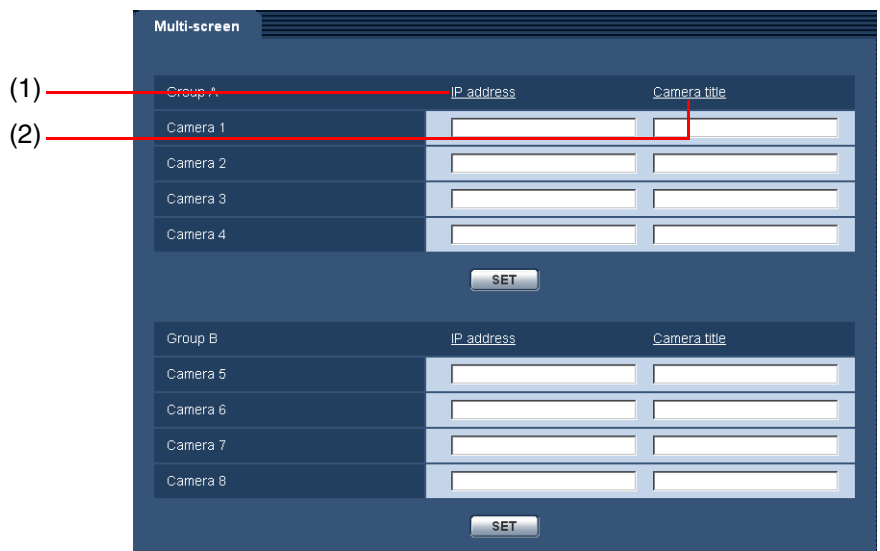
- When "Zone No" is selected after selecting "Gray" for the [Mode] setting, the corresponding zone will start blinking and its colour will change in the following order: dark gray → clear → light gray → clear. When another zone that already has been set exists in the same image, the colour of the zone will change in the following order: dark gray → light gray.
- When "Zone No" is selected after selecting "Mosaic" for the [Mode] setting, the corresponding zone will be displayed with a mosaic effect. When another zone that already has been set exists in the same image, the colour of the zone will be dark gray.

....

Configure the Multi-screen Settings

The cameras to be used for the multi-screen display can be configured on the "Multi-screen setup" page.

Note ....
- The following cameras are applicable for the multi-screen display:
  - WV-NS202
  - WV-NP1000 series
  - WV-NS320
  - WV-NF284
  - WV-NW474S
  - WV-NP244 series
  - WV-NP472

....

No.	Item	Description
(1)	[IP address]	Enter the IP address or host name of the camera to be used in the multi-screen display. 4 cameras can be registered as a group and up to 8 cameras can be registered. When the HTTP port setting for the camera has been changed, enter the "IP address of the camera:port number". Example: 192.168.0.10:8080 Number of characters for the host name: 1 to 128 *Note* .... - When setting the host name, it is necessary to configure the DNS settings of the PC to be used for the multi-screen display. (→ page 52) ....
(2)	[Camera title]	Enter the title of the camera. The entered camera title will be displayed on a multi-screen. Number of characters for the camera title: 0 to 20

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Configure the Alarm Settings

The settings relating to alarm operation at alarm detection, alarm images, VMD area, and alarm notification can be configured on the "Alarm setup" page.
The "Alarm setup" page has three tabs: the [Alarm] tab, [VMD area] tab and the [Notification] tab.

Settings for alarm detection [Alarm]

Click the [Alarm] tab on the "Alarm setup" page.
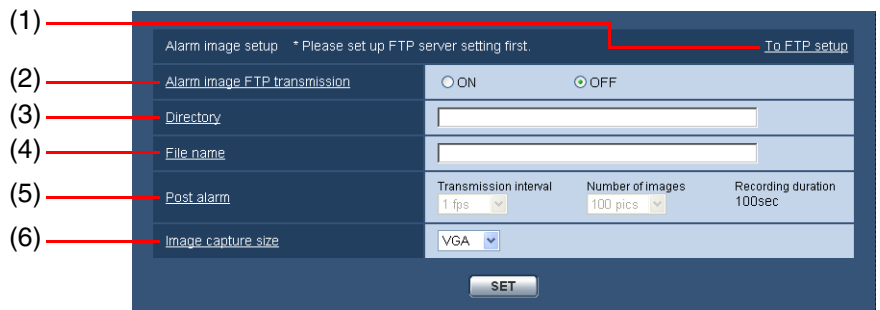At this point, configure the settings for the alarm.

■ **Alarm setup**

(1/2)

No.	Item		Description
(1)	[Terminal alarm] Default: OFF		Select whether or not to receive terminal alarm input.
		ON	Terminal alarm input is received.
		OFF	Terminal alarm input is not received.
(2)	[VMD alarm] Default: OFF		Set whether or not to operate the VMD alarm. For further information on setting the VMD area, see page 40. **Important** • When set to ON, the refresh interval of MPEG-4 images and JPEG (QVGA) images is a maximum of 15 fps.
		ON	Alarm operation is performed.
		OFF	Alarm operation is not performed.

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No.	Item		Description

(3)	[Scene change detection alarm]
	Default: OFF
			Select the detection sensitivity level of the scene change detection alarm. The scene change alarm detects changes in the subject's state, such as when the camera is covered with a cloth or cover, or when the camera's orientation has changed.
			
			Note ....
			• Motion cannot be detected by the [Scene change detection alarm] function in the following situations:
			  • Only a part of the screen is covered
			  • The covering is translucent
			  • The subjects before and after the camera's orientation has changed resemble each other.
			• False detection by the [Scene change detection alarm] function might occur in the following situations:
			  • When extreme changes in lighting occur, such as turning the lights on and off
			  • When pedestrian or vehicle traffic is heavy
			....

		ON(High)	High-sensitivity scene change alarm operation is performed.
		ON(Middle)	Medium-sensitivity scene change alarm operation is performed.
		ON(Low)	Low-sensitivity scene change alarm operation is performed.
		OFF	Scene change alarm operation is not performed.
(4)	[Command alarm] Default: OFF		Select whether or not to receive input from the command alarm. The "Command alarm" function performs notification of a Panasonic protocol alarm from other cameras.
		ON	Command alarm input is received.
		OFF	Command alarm input is not received.
(5)	[Originating port number] Default: 8181		Enter the port number to be used to receive the command alarm. Available port number: 1 to 65535

Setting the alarm image [Alarm]

Click the [Alarm] tab on the "Alarm setup" page.

Settings relating to alarm images to be sent to an FTP server can be configured on this page. To transmit alarm images to an FTP server, it is necessary to configure the FTP server settings in advance. (→ page 51)

No.	Item	Description
(1)	[To FTP setup]	When [To FTP setup] is clicked, the [FTP] tab of the "Server setup" page is displayed. (→ page 51)
(2)	[Alarm image FTP transmission] Default: OFF	Select whether or not to transmit the alarm image to the FTP server when an alarm is detected. **Note** • When using this function, do not set [Alarm input] on the basic setup page of the [SD memory card] tab under [Save] mode.
	ON	Alarm images are transmitted to an FTP server.
	OFF	Alarm images are not transmitted to an FTP server.
(3)	[Directory]	Enter the name of the directory on the FTP where sent alarm images are to be saved. For example, enter "/ALARM" to designate the directory "ALARM" under the root directory of the FTP server. Number of characters for the directory name: 1 to 256
(4)	[File name]	Enter the file name used for the alarm image to be saved on the FTP server. File name: "Entered file name + Time and date (year/month/day/hour/minute/second) + Serial number". Number of characters for the file name: 1 to 32
(5)	[Post alarm]	Select the transmission interval, number of images to be transmitted.
	Transmission interval Default: 1 fps	Select the interval at which alarm images are transmitted to the FTP server from the following: 0.1 fps/0.2 fps/0.33 fps/0.5 fps/1 fps
	Number of images Default: 100 pics	Select the number of images to be transmitted from the following: 1 pic to 9 pics/10 pics/20 pics/30 pics/50 pics/100 pics/200 pics/300 pics/500 pics/1000 pics/2000 pics/3000 pics/5000 pics
	Recording duration	The approximate time taken to save the "number of images" with the set "transmission interval" will be displayed.
(6)	[Image capture size] Default: VGA	Select "QVGA" or "VGA" for the image capture size of the alarm images to be transmitted to the FTP server or of an image to be attached to the alarm mail.

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Changing the Aux name [Aux name]

Click the [Alarm] tab on the "Alarm setup" page. The name of "AUX" on the "Live" page can be changed.

No.	Item	Description
(1)	[AUX (Up to 10 characters)] Default: AUX	Enter the name of "AUX" on the "Live" page. (Up to 10 characters)
(2)	[OPEN (Up to 5 characters)] Default: OPEN	Enter the name for "OPEN" of "AUX" on the "Live" page. (Up to 5 characters)
(3)	[CLOSE (Up to 5 characters)] Default: CLOSE	Enter the name for "CLOSE" of "AUX" on the "Live" page. (Up to 5 characters)

Setting the output terminal/black and white switching terminal [Alarm]

Click the [Alarm] tab on the "Alarm setup" page.
Settings relating to whether to use the output terminal as an alarm output terminal or for black and white input are configured on this page.

■ **External terminal setup**

(1/2)

No.	Item		Description
(1)	[External terminal setup] Default: Alarm output		Set whether or not to use the output terminal as an alarm output terminal or for black and white input.
		Alarm output	The output terminal is used as an alarm output terminal. When the output terminal is used as an alarm output terminal, set the following items [External terminal output setup], [Alarm output] and [Pulse width].
		Black and white input	The output terminal is used for black and white input.
(2)	[External terminal output setup] Default: Latch		Select "Latch" or "Pulse" as the operation of the alarm output terminal when an alarm is detected.
		Latch	When an alarm is detected, the alarm output terminal will change to the state selected for the [Alarm output] setting until the alarm occurrence indication button on the "Live" page is clicked.
		Pulse	When an alarm is detected, the alarm output terminal will change to the state selected for the [Alarm output] setting for the duration set at [Pulse width].

No.	Item		Description
(3)	[Alarm output] Default: CLOSE		Select whether to open or close the alarm output terminal when outputting the alarm signals. ***Note*** .... • When "OPEN" is selected, the alarm signal will be output for about 20 seconds when the camera is turned on. ....
		OPEN	The alarm output terminal will open when outputting the alarm signals. (Normally closed)
		CLOSE	The alarm output terminal will close when outputting the alarm signals. (Normally open)
(4)	[Pulse width] Default: 1 sec		When "Pulse" is selected for [Alarm output], select an alarm output terminal duration from the following. Available pulse width: 1 to 120 sec

Setting the VMD area [VMD area]

Click the [VMD area] tab on the "Alarm setup" page.
The areas for detecting motion of objects using the motion detector function can be configured on this page.
Four VMD areas can be set to preset positions that are distinguished by a different outline colour. When motion is detected in the set area, the alarm operation will be performed.

No.	Item		Description
(1)	[All areas] button		Select all areas for VMD area excluding the time and date display area.
(2)	[Area]		Select four VMD areas for each outline colour. 1 (white)/2 (blue)/3 (green)/4 (red)
		[Status]	Select "ON" or "OFF" for the motion detector function for each outline colour.
		[Delete] button	Deletes a preset VMD area.
(3)	[Detection sensitivity] Default: Middle		Select "High/Middle/Low" as the sensitivity for detecting a change in the VMD area.

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Note ....

- Areas used for the time and date display of [OSD position] (→ page 9) cannot be used for the VMD areas.
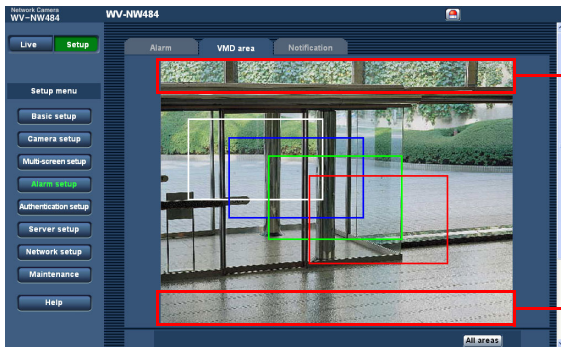
Areas used for the time and date display of "OSD position"

- It is possible to display the alarm occurrence indication button (→ Operating Manual) for confirmation when motion of an object is detected by the motion detector function. To display the alarm occurrence indication button, select "ON" for [VMD alarm] on the [Alarm] tab.
- The alarm occurrence indication button will be displayed when an alarm input of a terminal alarm or a command alarm is received.
- Depending on the network environment in use, notification may be delayed even when "Real time" is selected for [Alarm status update mode] on the [Basic] tab of the "Basic setup" page (→ page 9).

....

Important ———

- When it is necessary to set the electronic zoom, do so after setting the VMD area.

Setting the four preset VMD areas

Setting VMD areas divided in 4 areas for each outline colour.

Important

- The VMD alarm detect function may not work while the settings are being updated on the setup page.

- **Alarm setup page**
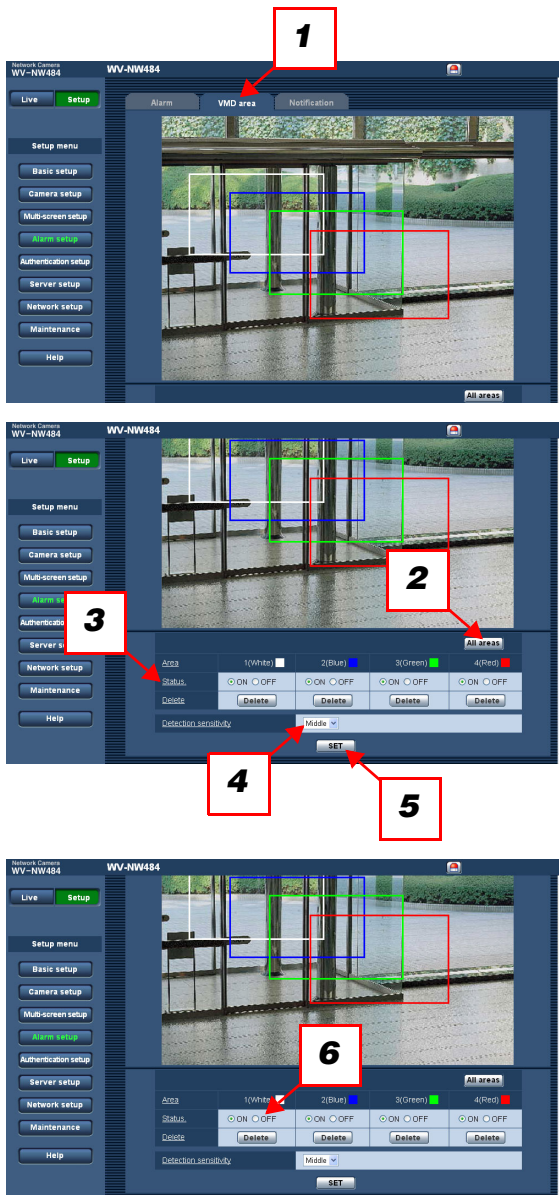
1 Click the [VMD area] tab on the "Alarm setup" page.

2 Drag the mouse across the image and select the area. Clicking the [All Areas] button selects all areas and surrounds them with a white frame.

3 Change [Status] for the outline colour to set as a VMD area to [ON].

4 Select "High/Middle/Low" for [Detection sensitivity]. The detection sensitivity set here is common to all areas.

5 Click the [Setup] button.
The settings are reflected.

6 To turn a VMD area OFF, change the [Status] setting for the corresponding area to OFF.
When the [SET] button is clicked after selecting [OFF], the outline colour will be indicated as a broken line. No alarm operation will be performed even when motion is detected in an area whose [Status] setting is OFF.

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Setting mail notification [Notification]

Click the [Notification] tab on the "Alarm setup" page.

The settings relating to how mail is notified when an alarm is detected or when an alarm is judged as a result of self-diagnostics can be configured on this page. To configure mail notification, it is necessary to configure the settings of the mail server. (→ page 50)
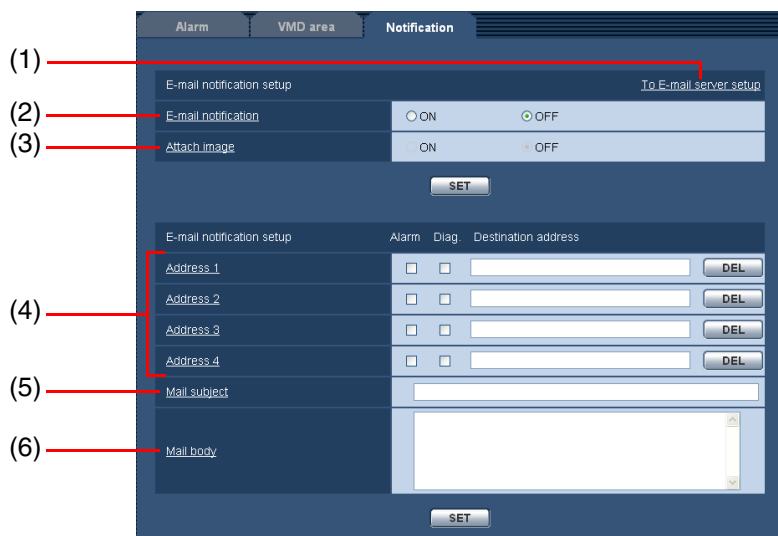
■ **E-mail notification setup**

(1/2)

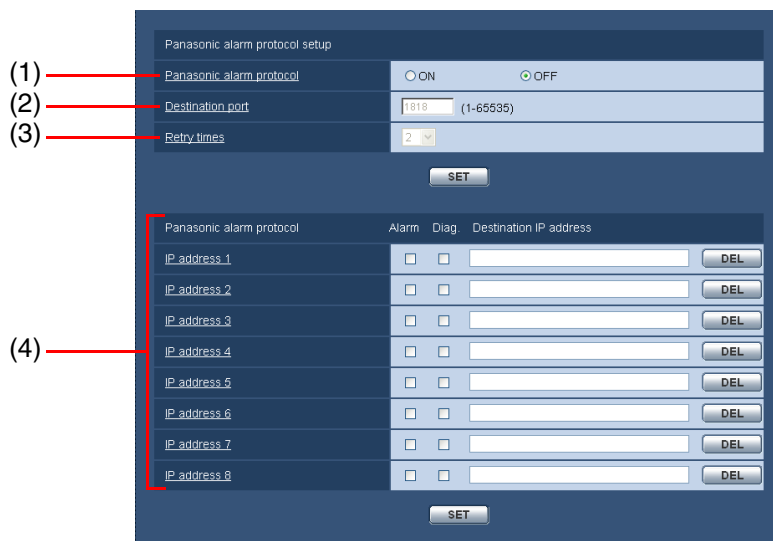| No.	Item		Description
(1)	[To E-mail server setup]		When [To E-mail server setup] is clicked, the [Mail] tab of the "Server setup" page is displayed. (→ page 50)
(2)	[E-mail notification] Default: OFF		Select whether or not to perform notification of an alarm occurrence and/or self-diagnosis by e-mail when an alarm is detected.
		ON	E-mail notification is performed.
		OFF	E-mail notification is not performed.
(3)	[Attach image] Default: OFF		Select whether or not to attach an image to the e-mail to be sent. **Note** • The settings for [Image capture size] of the "Alarm image setup" section on the [Alarm] tab (→ page 36) will be applied to the size of the image to be attached.
		ON	An image will be attached to the e-mail.
		OFF	An image will not be attached to the e-mail.

■ **E-mail destination address setup**

No.	Item		Description
(4)	Destination address 1 to 4		Enter the destination mail address(es). Up to 4 destinations can be registered.
		Alarm	To perform e-mail notification when an alarm is detected, select the "Alarm" check box.
		Diag.	To perform notification by e-mail for the remaining space on the SD memory card, the SD memory card has become full, or when mounting of the SD memory card failed, select the "Diag." check box.
		Destination address	Enter the mail address of the destination mail address. Number of characters for the mail address: 3 to 128
		[DEL] button	To delete a registered address, click the [DEL] button.
(5)	[Mail subject]		Enter the subject of the e-mail. Number of characters for the mail subject: 0 to 50
(6)	[Mail body]		Enter the body of the e-mail. Number of characters for the mail body: 0 to 200 **Note** • E-mail notification will be sent with the message "SD memory card is full" when there is no more free space left on the SD memory card or with the message "The SD memory card cannot be recognized." when the SD memory card has failed to mount.

Setting Panasonic alarm notification [Notification]

Click the [Notification] tab on the "Alarm setup" page.

Settings relating to notification by Panasonic alarm protocol can be configured on this page.

■ Panasonic alarm protocol setup

No.	Item	Description
(1)	[Panasonic alarm protocol] Default: OFF	Set whether or not to send notification for alarm detections and for information about the SD memory card. *Note* • When "ON" is selected, notification of the alarm occurrence will be performed to registered destination addresses in order starting with [IP address 1]. (only to destination addresses whose "Alarm" or "Diag." check box is selected)
	ON	Notification by Panasonic alarm protocol is performed.
	OFF	Notification by Panasonic alarm protocol is not performed.
(2)	[Destination port] Default: 1818	Select a destination port for notification by the Panasonic alarm protocol. Available port number: 1 to 65535
(3)	[Retry times] Default: 2	Select the number of retries when notification by Panasonic alarm protocol is not possible. Available retry times: 1 to 30

■ IP address setup

No.	Item	Description
(4)	IP address setup 1 to 8	Enter the IP address of the destination(s) to perform notification by Panasonic alarm protocol. Up to 8 destinations can be registered. **Important** • Confirm that the IP addresses are registered correctly. When a registered IP address does not exist, notification by Panasonic alarm protocol may be delayed. • IP addresses cannot be entered as a host name. Be sure to specify destinations as an IP address.
	Alarm	To perform notification by Panasonic alarm protocol when an alarm is detected, select the "Alarm" check box.
	Diag.	Select the "Diag." check box to send notifications about the remaining space on the SD memory card, the SD memory card is full, or when mounting the SD memory card has failed by e-mail.
	Destination IP address	Enter the IP address of the destination mail address.
	[DEL] button	To delete a registered IP address, click the [DEL] button.

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Configure the Authentication Settings [Authentication]

Settings relating to authentication, such as user and PC (IP address) restrictions for accessing the camera from a PC can be configured on the "Authentication setup" page.
The "Authentication setup" page has two tabs: the [User] tab and the [Host] tab.
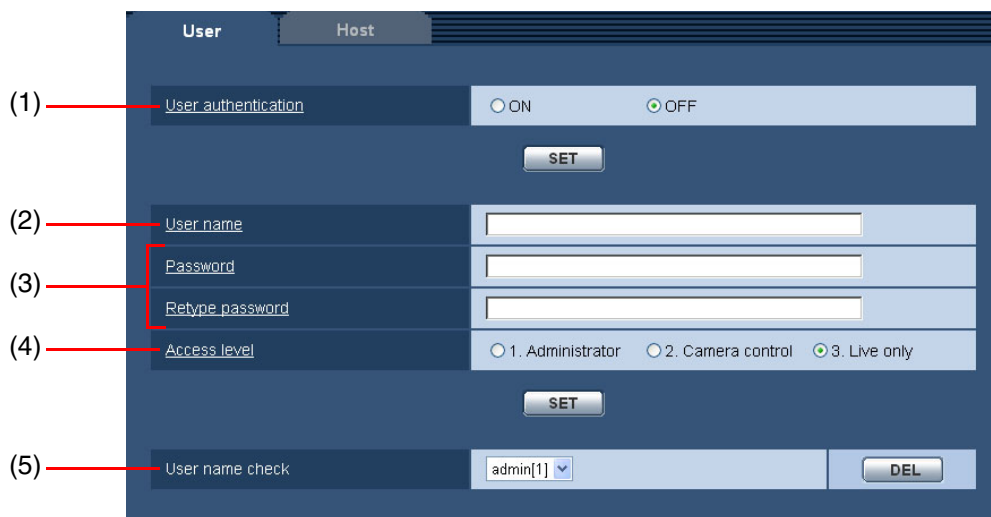
Setting user authentication [User]

Click the [User] tab on the "Authentication setup" page.
The settings relating to user authentication for restricting access to the camera from a PC can be configured on the "Authentication setup" page.
Up to 16 users can be registered.

Note ....
- This camera can no longer be accessed if user authentication fails (authentication error) from a PC with the same IP address for 8 times or more in 30 seconds. Wait for a while before retrying to access the camera.
....

(1/2)

No.	Item		Description
(1)	[User authentication] Default: OFF		Select whether or not to authenticate the users.
		ON	Users are authenticated.
		OFF	Users are not authenticated.
(2)	[User name]		Enter a user name. Number of characters for the user name: 1 to 32
(3)	[Password]/[Retype password]		Enter the password. Number of characters for the password: 4 to 32 *Note* .... • When a user name already in use is entered and the [SET] button is clicked, the relevant user information will be overwritten. ....

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No.	Item		Description
(4)	[Access level] Default: 3 Live only		Set the access level of the user.
		1. Administrator	The user is allowed use of all available camera functions and operations.
		2. Camera control	The user is allowed to display images and operate the camera.
		3. Live only	The user is allowed only to display live images.
(5)	[User name check]		By clicking [▼], registered user names will be displayed. The user display format is "registered user name [access level]".
		[DEL] button	To delete the displayed user, click the [DEL] button.

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Setting host authentication [Host]

Click the [Host] tab on the "Authentication setup" page.
The settings relating to host authentication for restricting the PC (IP address) that accesses the camera can be configured on this page.

(1/2)

No.	Item		Description
(1)	[Host authentication] Default: OFF		Select whether or not to authenticate the host. **Important** • Before configuring host authentication, it is necessary to register the IP addresses of the PCs to be allowed to access the camera and determine their access levels. If "ON" is selected for [Host authentication] before registering IP addresses, it will be impossible to access the camera.
		ON	Hosts are authenticated.
		OFF	Hosts are not authenticated.
(2)	[IP address]		Enter the IP address of the PC to be allowed to access the camera. PCs cannot be designated by entering a host name. **Note** • When "IP address/subnet mask" is entered, it is possible to restrict PCs in each subnet. For example, when [192.168.0.1/24] is entered, and [2. Camera control] is selected for [Access level], the PCs whose IP address is between 192.168.0.0. to 192.168.0.255 can access the camera with the access level [2. Camera control]. • When an IP already in use is entered and the [SET] button is clicked, the respective host information will be overwritten.
(3)	[Access level] Default: 3 Live only		Set the access level of the host. For further information about the access level, see page 46.
		1. Administrator	The host is allowed use of all available camera functions and operations.
		2. Camera control	The host is allowed to display images and operate the camera.
		3. Live only	The host is allowed only to display images.

No.	Item	Description
(4)	[Host check]	By clicking [▼], registered hosts can be selected and their IP addresses can be checked. The IP address display format is "registered IP address [Access level]". ***Note*** .... • By clicking [▼], registered hosts (IP addresses) are displayed. Registered IP addresses are displayed in the format "registered IP address [Access level]". To delete a registered host, click the [DEL] button after selecting the IP address to be deleted. ....
	[DEL] button	The displayed IP address is deleted.

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Configure the Servers Settings [Server setup]

The mail server and FTP server settings can be configured on the "Server setup" page.
The "Server setup" page has 2 tabs: the [Mail] tab and the [FTP] tab.

Setting the mail server [Mail]

Click the [Mail] tab on the "Server setup" page.
On this page, the settings for the mail server used that sends the alarm mail can be configured.

No.	Item	Description
(1)	[SMTP server address]	Enter the IP address or host name of the SMTP server used to send e-mails. To enter the host name for "SMTP server address", it is necessary to configure the DNS settings on the [Network] tab of the "Network setup" page. (→ page 52) Number of characters for the server address: 1 to 128
(2)	[POP server address]	When "POP before SMTP" is selected for "Authentication", enter the IP address or host name of the POP server. To enter the host name for "POP server address", it is necessary to configure the DNS settings on the [Network] tab of the "Network setup" page. (→ page 52) Number of characters for the server address: 1 to 128
(3)	[Authentication] Default: None	Select the authentication method to send e-mails from the following: **Note** • When you do not know the authentication method for sending e-mails, consult with the network administrator.
	None	It is not necessary to clear any authentication to send e-mails.
	POP before SMTP	It is necessary to first clear POP authentication to use the SMTP server to send e-mails.
	SMTP	It is necessary to clear authentication to send e-mails.
(4)	[User name]	Enter the user name to access the server. Number of characters for the user name: 1 to 32
(5)	[Password]	Enter the password to access the server. Number of characters for the password: 0 to 32
(6)	[Sender mail address]	Enter the mail address of a sender. The entered mail address is displayed in the "From" field of the sent mails. Number of characters for the sender mail address: 3 to 128

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Setting the FTP server [FTP]

Click the [FTP] tab on the "Server setup" page.
On this page, the settings for the FTP server that sends alarm images can be configured.
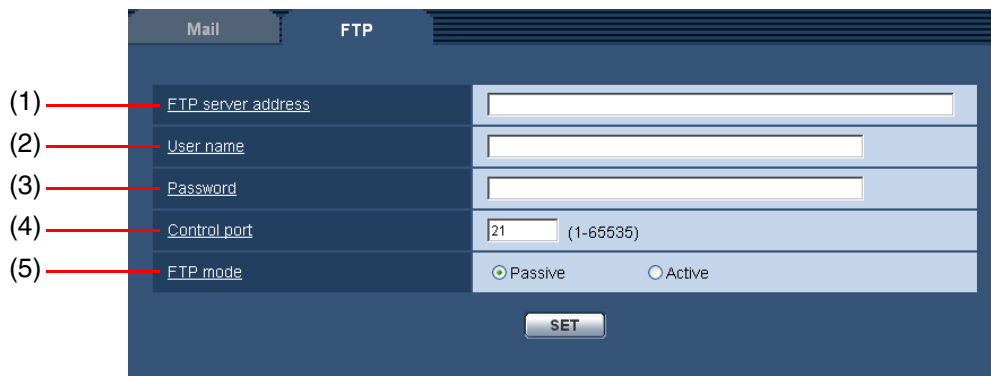
No.	Item	Description
(1)	[FTP server address]	Enter the IP address or host name of the FTP server used to send images. To enter the host name for "FTP server address", it is necessary to configure the DNS settings on the [Network] tab of the "Network setup" page. (→ page 52) Number of characters for the FTP server address: 1 to 128
(2)	[User name]	Enter the user name to access the server. Number of characters for the user name: 1 to 32
(3)	[Password]	Enter the password to access the server. Number of characters for the password: 0 to 32
(4)	[Control port] Default: 21	Enter a control port number to be used for the FTP server. Available port number: 1 to 65535
(5)	[FTP mode] Default: Passive	Select the FTP communication mode for when images are sent. **Note** • Normally, select "Passive". When a connection cannot be established in the "Passive" mode, select "Active".
	Passive	Sets the FTP communication mode to "Passive".
	Active	Sets the FTP communication mode to "Active".

Configure the Network Settings [Network setup]

The camera's network functions and the DDNS (Dynamic DNS) function can be configured on this page.
The "Network setup" page has 4 tabs: the [Network] tab, [DDNS] tab, [SNMP] tab, and [FTP] tab.

Setting the network [Network]

Click the [Network] tab on the "Network setup" page.
The following information is required to configure the network settings. Consult the network administrator or your Internet service provider.

- IP address
- Net mask
- Default gateway (when using the gateway server/router)
- HTTP port
- Primary DNS, Secondary DNS (when using DNS)

No.	Item		Description
(1)	[DHCP] Default: OFF		Select whether or not to use the DHCP function. Configure the DHCP server not to assign the same IP address for the PCs (ones not using DHCP function) and other network cameras.
		ON	The DHCP function is used.
		OFF	The DHCP function is not used.
(2)	[IP address] Default: 192.168.0.10		When the DHCP function is not used, enter the IP address of the camera. Do not enter an IP address already in use (for the PCs and the other network cameras).
(3)	[Net mask] Default: 255.255.255.0		When the DHCP function is not used, enter the subnet mask of the camera.
(4)	[Default gateway] Default: 192.168.0.1		When the DHCP function is not used, enter the default gateway address of the camera.
(5)	[HTTP port] Default: 80		Assign HTTP port numbers independently. Available port number: 1 to 65535 *Note* • Use any port numbers other than the following as the HTTP port number: 20, 21, 23, 25, 42, 53, 67, 68, 69, 110, 123, 161, 162, 995, 10669, 10670.
(6)	[DNS] Default: MANUAL		Select whether to obtain DNS server address manually or automatically.
		AUTO	When using the DHCP function, it is possible to obtain the DNS server address automatically by selecting "AUTO".
		MANUAL	Enter DNS server address when DHCP function is no in use. It is necessary to enter "Primary DNS" and "Secondary DNS". (These settings can also be entered when using the DHCP function.)
(7)	[Primary DNS] [Secondary DNS]		When "MANUAL" is selected for [DNS], enter the IP address of the DNS server.
(8)	[Line speed] Default: AUTO		Select the line speed for transmission. *Note* • Normally, we recommend using the default, "AUTO".
		AUTO	The line speed will be automatically selected.
		100M-FULL	100 Mbps full-duplex is selected as the line speed for transmission.
		100M-HALF	100 Mbps half-duplex is selected as the line speed for transmission.
		10M-FULL	10 Mbps full-duplex is selected as the line speed for transmission.
		10M-HALF	10 Mbps half-duplex is selected as the line speed for transmission.

No.	Item		Description
(9)	[FTP access] Default: Forbid		Select "Allow" or "Forbid" to determine whether to allow or forbid camera access from an FTP client.
		Allow	Accessing of the camera from FTP client is allowed.
		Forbid	Accessing of the camera from FTP client is forbidden.
(10)	[Total bit rate] Default: Unlimited		Select the total bit rate from the following. Unlimited/64 kbps/128 kbps/256 kbps/512 kbps/1024 kbps/2048 kbps/ 4096 kbps/ ***Note*** .... • To carry out live transmission of JPEG images and FTP periodic transmission simultaneously, select a bit rate of "128 kbps" or faster. • When the transmission amount has been lowered, it is possible that the one-shot function may not operate depending on the environment. In this case, configure the JPEG setting for "Capture size" to QVGA or lower the "Image quality." ....

Note ....
- For further information about the address settings of each server, consult the network administrator.
- The following addresses are unavailable for the IP addresses and default gateway addresses even when using the DHCP function.
  - 0.*.*.*
  - *.*.*.0
  - 255.*.*.*
  - *.*.*.255
  - 127.0.0.1
  - Class D addresses (224.0.0.0 to 239.255.255.255)
  - Class E addresses (240.0.0.0 to 255.255.255.255)

....

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Setting DDNS [DDNS]

Click the [DDNS] tab on the "Network setup" page.

Settings relating to the DDNS function can be configured on this page.

The DDNS function must be configured to access the camera via the Internet from the network environment whose global IP address is obtained by DHCP.

When using the DDNS function, it is possible to access with "Host name registered in the DDNS server.nmdns.net".

To receive DDNS services, register to the dedicated DDNS server. For further information on how to register to the dedicated DDNS server, refer to the "Readme" file provided with the firmware.
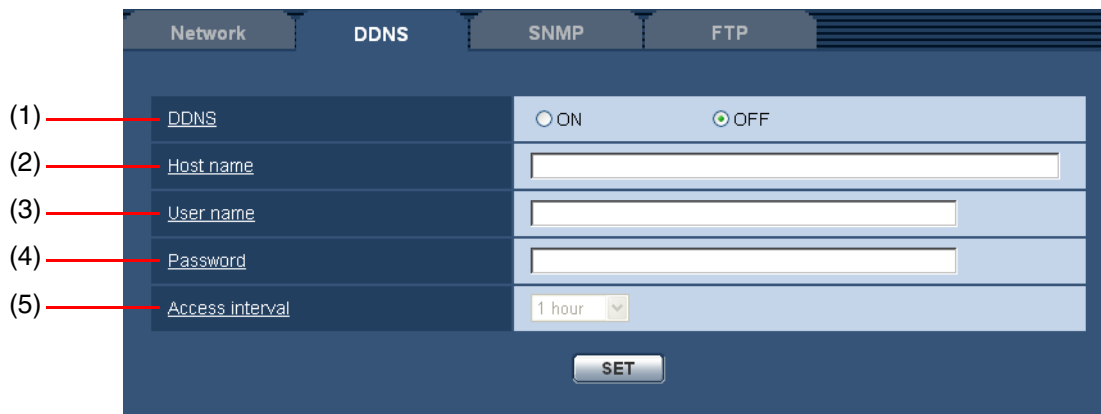
No.	Item		Description
(1)	[DDNS] Default: OFF		Select whether or not to use the DDNS function.
		ON	The DDNS function is used.
		OFF	The DDNS function is not used.
(2)	[Host name]		Enter the host name to be used. Number of characters for the host name: 1 to 64
(3)	[User name]		Enter the user name to access the DDNS server. Number of characters for the user name: 1 to 32
(4)	[Password]		Enter the password to access the DDNS server. Number of characters for the password: 0 to 32
(5)	[Access interval] Default: 1 hour		Select the interval to access the DDNS server to check the IP address and the host name from the following: 1 min/10 min/30 min/1 hour/6 hours/24 hours

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Setting SNMP [SNMP]

Click the [SNMP] tab on the "Network setup" page.

Settings relating to the SNMP function can be configured on this page. Use the SNMP manager to check the status of the camera.

When using the SNMP function, check the details to be set with the network administrator.

No.	Item	Description
(1)	[Community name]	Enter the community name to be monitored. Number of characters for the community name: 0 to 32 **Important** • When no community name is entered, the SNMP function will not work. Be sure to enter a community name to use the SNMP function.
(2)	[Camera title]	Enter a camera title to be used to manage the camera with the SNMP function. Number of characters for the camera title: 0 to 32
(3)	[Camera location]	Enter the name of the location where the camera is installed. Number of characters for the camera location: 0 to 32
(4)	[Contact (Destination address or phone number of manager)]	Enter the mail address or the phone number of the SNMP manager. Number of characters for "Contact": 0 to 255

Setting FTP transmission [FTP]

Click the [FTP] tab on the "Network setup" page.
Settings relating to the transmission of images to an FTP server can be configured on this page. To transmit images to an FTP server, it is necessary to configure the FTP server in advance. (→ page 51)
For further information about configuring periodic transmission schedules, see page 59.

Important

- Depending on the network environment in use, images may not be transmitted at the exact designated interval or period.
- When "Alarm input" is set for "Save trigger" on the [SD memory card] tab of the "Basic setup" page, set "FTP error" for "Save trigger". (→ page 13)
- When "ON" is selected for both the alarm image transmission function and the FTP transmission function, the alarm image transmission function will be given priority. For this reason, images may not be transmitted at the exact designated interval or period if alarms occur frequently.

Note

- When "FTP error" is selected for "Save trigger" on the [SD memory card] tab of the "Basic setup" page, images that have failed to transmit using FTP transmission are automatically saved on an SD memory card. (→ page 13)
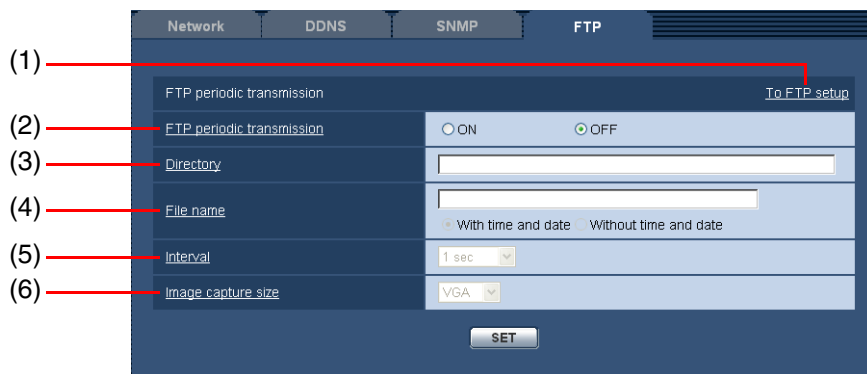
■ FTP transmission settings

(1/2)

No.	Item	Description
(1)	[To FTP setup]	When "To FTP setup" is clicked, the [FTP] tab of the "Server setup" page is displayed. (→ page 51)
(2)	[FTP periodic transmission] Default: OFF	Determine whether or not to transmit images using the FTP server transmission function. When "ON" is selected, configure the settings of the FTP server. (→ page 51)
	ON	Images are transmitted by FTP server transmission.
	OFF	Images are not transmitted by FTP server transmission.
(3)	[Directory]	Enter the name of the directory where the images are to be saved. For example, enter "/img" to designate the directory "img" under the root directory of the FTP server. Number of characters for the directory name: 1 to 256

| No.	Item		Description
(4)	[File name]		Enter the file name (name of the image file to be transmitted), and select the naming option from the following. Number of characters for the file name: 1 to 32
		With time and date	File name will be "Entered file name + "Time and date" (year/month/day/hour/minute/second)" + "Serial number (starting from 00.jpg)".
		Without time and date	File name will be characters entered for "File name" only. The previous file will be overwritten each time a new file is transmitted.
(5)	[Interval] Default: 1 sec		Select the interval for FTP transmission from the following. 1 sec to 6 sec/10 sec/15 sec/20 sec/30 sec/1 min to 6 min/10 min/15 min/20 min/30 min/1 hour/1.5 hours/2 hours/3 hours/4 hours/6 hours/12 hours/24 hours
(6)	[Image capture size] Default: VGA		Select "QVGA" or "VGA" for the capture size of the images.

Setting the FTP transmission schedule [FTP]

Click the [FTP] tab on the "Network setup" page.

Schedule settings relating to the periodic transmission of images to an FTP server can be configured on this page.

For further information about configuring FTP transmission schedules, see page 57.

• **How to configure the schedule settings**
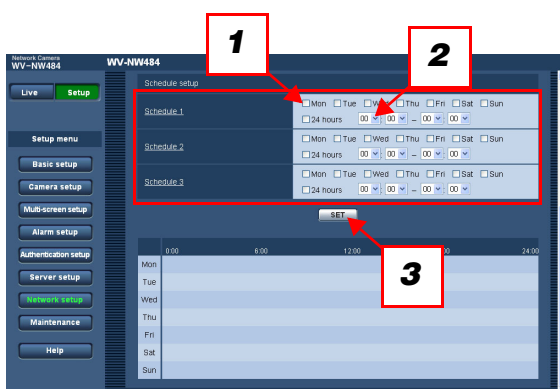
1 On "Schedule setup", check the box of the desired day of the week to set the schedule.

2 To a designate time, click [▼] and select the desired "hour" and "minute".

When not designating the time, check the "24 hours" box.

3 Click the [SET] button after completing the settings. The result will be displayed at the bottom of the window as a graph.
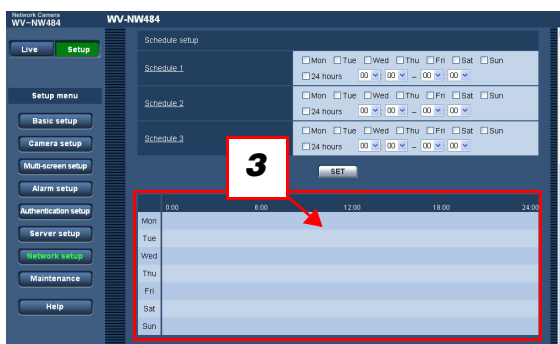
• **How to delete a set schedule**
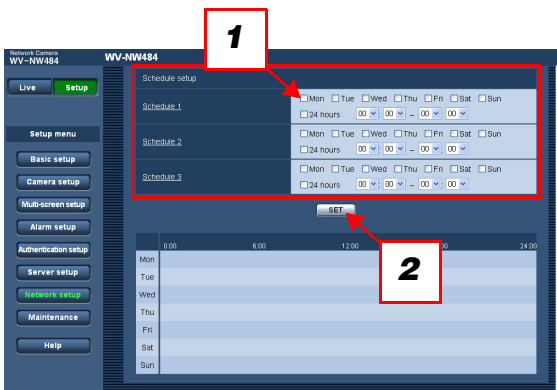
1 Clear the check box of a set day of the week.

2 Click the [SET] button after completing the settings. The result will be displayed at the bottom of the window.
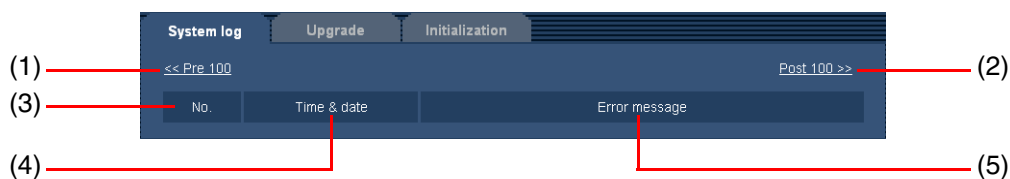

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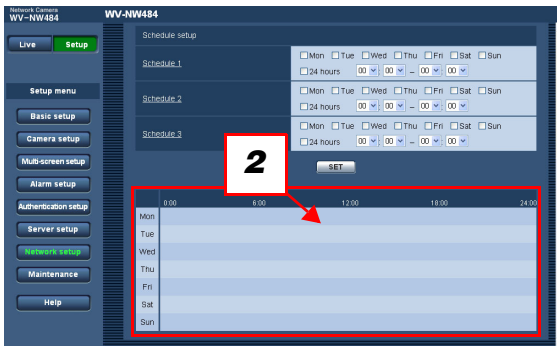
Maintenance of the Camera [Maintenance]

On this page, you can check the system log, upgrade the firmware, initialize the settings, and restart the camera.
The "Maintenance" page has three tabs: the [System log] tab, the [Upgrade] tab, and the [Initialization] tab.

Checking the system log [System log]

Click the [System log] tab of the "Maintenance" page.
Up to 100 system logs are displayed at a time. When the saved system logs have reached the maximum number, the newer logs will overwrite the older system logs.

| System log | Upgrade | Initialization |

(1) ── << Pre 100   Post 100 >> ── (2)
(3) ── No.   Time & date   Error message
(4) ─────────┘   └───────── (5)

No.	Item	Description
(1)	[<<Pre100] button	Click this button to display the previous 100 system logs in the currently displayed system log list.
(2)	[Post100>>] button	Click this button to display the next 100 system logs in the currently displayed system log list.
(3)	[No.]	This item displays the system log's serial number.
(4)	[Time & date]	This displays the time and date that the log occurred. **Note** • When "OFF" is set for [Time display] (→ page 9), the time and date of the logs are displayed in 24-hour format.
(5)	[Error message]	This item lists the descriptions of the system logs. For further information about system logs, see page 67.

Note
• When "Use" is set for "SD memory card" on the [SD memory card] tab of the "Basic setup" page, up to 4,000 system logs can be saved on the SD memory card.
• When "Not use" is set for "SD memory card", up to 100 system logs are saved to the camera's internal memory.
• When using the SD memory card, the logs will be saved even when the camera is turned off.
  When not using the SD memory card, the logs will be deleted when the camera is turned off.

Upgrading the Firmware [Upgrade]

Click the [Upgrade] tab of the "Maintenance" page.
On this page, the camera's firmware is checked and upgraded. For details on firmware upgrades, contact your retailer.
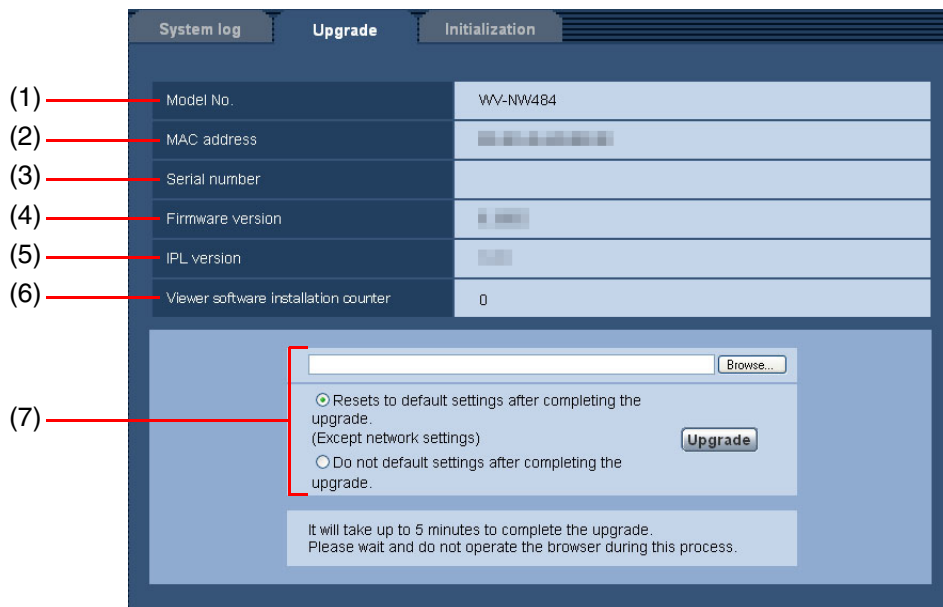
No.	Item	Description
(1)	[Model No.]	This item displays the model No. of the camera.
(2)	[MAC address]	This item displays the MAC address of the camera.
(3)	[Serial number]	This item displays the serial No. of the camera.
(4)	[Firmware version]	This item displays the firmware version.
(5)	[IPL version]	This item displays the version of the IPL (startup program).
(6)	[Viewer software installation counter]	This item displays the Installation frequency of Viewer software.
(7)	[File name]	Enter the name of the file to upgrade. Click the [Browse...] button to select the file from the file selection dialog.
	[Resets to default settings after completing the upgrade.]	Select this check box to initialize the settings when the firmware upgrade is completed.
	[Do not default settings after completing the upgrade.]	Select this check box to not initialize the camera when the firmware upgrade is completed.
	[Upgrade] button	Click this button to execute the upgrade.

• **How to upgrade the firmware**
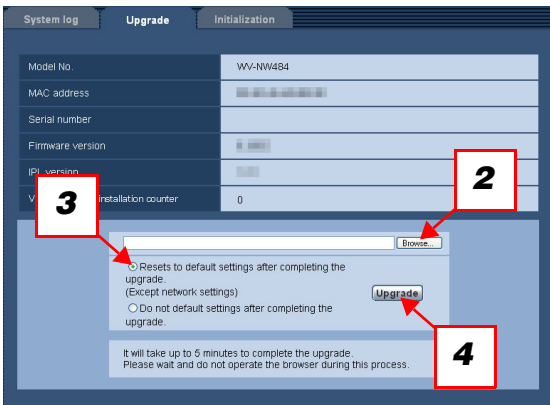
1 Contact the dealer and download the latest firmware to your PC's hard disk.

Important

• Designate the directory to save the firmware to using alphanumeric characters.

2 Click the [Browse...] button and designate the downloaded firmware.

3 Click the radio button for the desired option to determine whether or not to initialize the settings after the firmware upgrade is completed.

Note ....

• Read the "Readme" file provided with the firmware first and determine whether or not to initialize the settings after the firmware upgrade is completed.
....

4 Click the [Upgrade] button.
The firmware upgrade is executed and the confirmation window for initializing the data is displayed. If data is not to be initialized after the firmware upgrade, the confirmation window will not be displayed. After the firmware upgrade is completed, be sure to delete the temporary Internet files.

Important

• Upgrade the firmware using a PC in the same subnet as the camera.
• Follow the instructions from the dealer when upgrading the firmware.
• Use the designated file (extension: img) for the firmware upgrade.
• The name of the firmware to be used for the upgrade should be "nw484_xxxxx.img".
  * "xxxxx" indicates the version of the firmware.
• Do not turn the camera off during the firmware upgrade.
• Do not operate the web browser during the firmware upgrade.
• The following network settings will not be initialized when upgrading the firmware after selecting "Resets to default settings after completing the upgrade.".
  ON/OFF for DHCP, IP address, Net mask, Default gateway, HTTP port, Line speed, Total bit rate, Time & date
• The viewer software used on each PC should be licensed individually. For details on software licencing, contact your retailer.

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Initializing/restarting the camera [Initialization]

Click the [Initialization] tab of the "Maintenance" page.

On this page, the camera's settings and HTML files are initialized, and the camera is restarted.
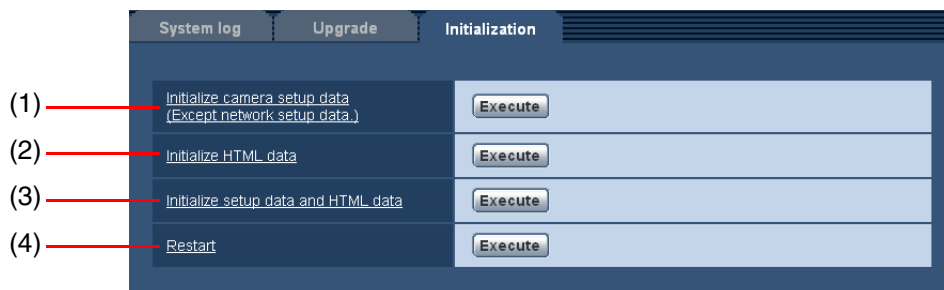
No.	Item	Description
(1)	[Initialize camera setup data (Except network setup data)]	Click the [Execute] button to return the camera's settings to the default. Note, however, that network settings will not be initialized.
(2)	[Initialize HTML data]	Click the [Execute] button to return the HTML files to the default.
(3)	[Initialize setup data and HTML data]	Click the [Execute] button to return the camera's settings and HTML files to the default. Note, however, that network settings will not be initialized.
(4)	[Restart]	Click the [Execute] button to restart the camera.

Note

• It is impossible to operate the camera for around 2 minutes after restarting the camera.

Network Security

Security functions provided on the camera

This camera is provided with the following security functions.

1. User authentication/host authentication access restrictions (authentication setup page)
    When "ON" is set for the user authentication/host authentication settings, users and PCs allowed to access the camera and the PC are restricted. (→ page 46)

2. Access restrictions based on changes to the HTTP port (network setup page)
    Illegal access is prevented by changing the HTTP port No. (→ page 52)

Note ....
*   This camera can no longer be accessed if user authentication fails (authentication error) from a PC with the same IP address 8 times or more in 30 seconds. Wait for a while before retrying to access the camera.
....

Important
*   Since there is a risk that image data, authentication information (user names and passwords), alarm mail information, FTP server information, DDNS server information and other information will leak onto the network, adopt measures such as restricting access by user authentication.

Viewing Help

If you want to know anything about operation or setup methods on screen, display the "Help" screen.

Displaying the Help screen

- **Setup screen**
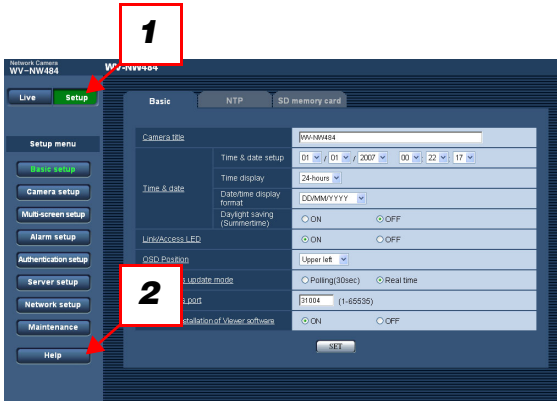
1 Click the [Setup] button.
  The setup screen is displayed.

2 Click the [Help] button.
  The "Help" screen is displayed.

- **Help screen**

Click the desired item to display a detailed explanation for the corresponding operation.

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About the Displayed System Log

Error indications relating to SMTP

Category	Indication	Description
POP3 server error	Authentication error	Entered user name or password may be incorrect. Check the mail settings.
	Cannot connect to POP3 server	• The IP address of the server may be incorrect. Check the IP address of the server. • The POP3 server may be down. Consult the network administrator.
SMTP server error	<SMTP> Authentication error.	Entered user name or password may be incorrect. Check the mail settings.
	Connection error to DNS server	• Settings for the DNS server may be incorrect. Check the DNS settings. • The DNS server may be down. Consult the network administrator.
	Cannot connect to SMTP server	• The IP address of the SMTP server may be incorrect. Check the IP address settings of the SMTP server. • The SMTP server may be down. Consult the network administrator.
Internal error	Undefined error	An error occurred in the mail function. Check the mail settings.

Error indications relating to FTP

Category	Indication	Description
FTP server error	Connection error to DNS server	• The FTP server may be down. Consult the network administrator. • The IP address of the FTP server may be incorrect. Check the IP address of the FTP server.
	Cannot connect to FTP server	
Connection error	File transfer error	• The FTP server settings may be incorrect. Check the FTP server settings. • The settings relating to the indicated item may be incorrect. Check the FTP server settings.
	Passive mode error	
	Log out failed	
	Directory change failed	
	User name and password are not correct	
Internal error	Undefined error	An error occurred in the FTP function. Check the FTP server settings.

Error indications relating to DDNS

Category	Indication	Description
Connection error	Cannot connect to DDNS server	• The designated IP address of the DDNS server may be incorrect. Check the DDNS settings. • The DDNS server may be down. Consult the network administrator.
	User name and password are not correct	Entered user name or password may be incorrect. Check the DDNS server settings.
	IP address update failed	IP address update error occurred in the DDNS server. Consult the network administrator.
Internal error	Undefined error	An error occurred in the DDNS function. Check the DDNS server settings.

Error indications relating to NTP

Category	Indication	Description
Connection error	Cannot connect to NTP server	• The IP address of the NTP server may be incorrect. Check the IP address of the NTP server. • The NTP server may be down. Consult the network administrator.
Internal error	Undefined error	• The designated IP address of the DNS server may be incorrect. Check the DNS server settings. • The DNS server may be down. Consult the network administrator.
Time synchronization with NTP succeeded	Succeeded in the update	Time was corrected successfully.

Troubleshooting

Before asking for repairs, check the symptoms on the following table.

Contact your dealer if a problem cannot be solved even after checking and trying the solution or if a problem is not described below.
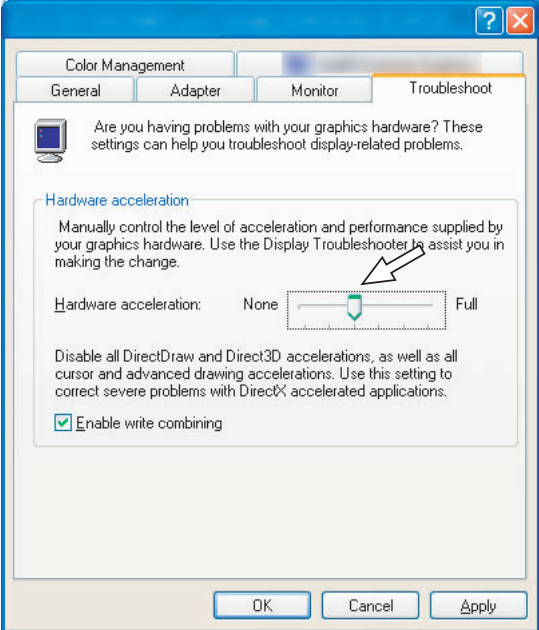
Symptom		Cause/solution	Reference pages
Cannot access from the browser.	▶	• **Is the LAN cable (Category 5) firmly connected to the network connector on the rear of the camera?**	Operating Instructions
	▶	• **Is the LINK LED lit?** When it is not lit, connection to a LAN may not be established or a network may not be working correctly. Check if the cables have any contact failure or if the wiring is correct or not.	Operating Instructions
	▶	• **Is the designated IP address valid for the camera?**	52
	▶	• **Are you accessing the wrong IP address?** Check the connection as follows: At the Windows command prompt enter > ping "IP address of the camera" When the NW484S replies, the camera is functioning normally. If not, try either of the following: • Restart the camera and change the IP address by using the Panasonic IP setup software within 20 minutes after the restart. • Restart the camera while holding down the [INITIAL SET] button on the camera. The camera will be initialized and the IP address will return to the default setting "192.168.0.10". After the camera is initialized, access the camera and set the IP address again. (When the camera is initialized, all of the settings of the camera previously configured on the setup menus will be initialized.)	Operating Instructions

Symptom		Cause/solution	Reference pages
Cannot access from the browser.	▶	• **Is the same IP address assigned to other devices?** • **Are there contradictions between the address and the network subnet to be accessed?** • **[When the camera and the PC are connected in the same subnet]** **Are the IP addresses of the camera and the PC set in a common subnet?** • **Or is "Use Proxy Server" for the settings of the browser checked?** When accessing the camera in the same subnet, we recommend entering the address of the camera in the "Don't Use Proxy For These Addresses" box. When the camera and the PC are connected in different subnets, check if the IP address of the default gateway set for the camera is correct.	—
	▶	• **Is the camera turned on?** Check if the AC/DC power supply or PoE power supply is correctly connected.	Operating Instructions
Cannot obtain images on the SD memory card.	▶	• **Is "Allow" selected for "FTP access" on the "Network setup" page?** If not, select "Allow".	52
No image is displayed.	▶	• **If the viewer software installed on the PC?** Install the viewer software on the PC.	Operating Instructions
	▶	• **Is the version of DirectX® 9.0c or later?** Check the version of DirectX® as follows: 1. Select [Run...] from the Start menu on the PC. 2. Enter "dxdiag" in the displayed dialog box and click the [OK] button. If the version of DirectX is older than 9.0c, obtain the latest version of DirectX® from Microsoft's web site.	—

Symptom		Cause/solution	Reference pages
Images are displayed blurry.	▶	• **Is there dust or dirt on the camera's dome?** Check if there is dust or dirt on the camera's dome.	—
	▶	• **Is the camera's dome dirty?** Clean off any dirt from the camera's dome.	—
	▶	• **Is the focus adjusted correctly?** If the camera gets out-of-focus during use, adjust the focus by setting back focus (ABF).	29
The image is not being refreshed.	▶	• **Depending on the type and version of your browser, there might be difficulties refreshing the picture and operating or controlling the camera.** We recommend using Microsoft® Internet Explorer® 6.0 SP2. When using Microsoft® Windows® 2000 Professional SP4, we recommend using Microsoft® Internet Explorer® 6.0.	—
	▶	• **Depending on the network environment in use, there might be difficulties displaying the picture.** Click the [Update] button of the browser to acquire the latest picture.	—
No image is displayed (or too dark).	▶	• **Is the brightness setting set at an appropriate level?** Click the "0" [Brightness] button.	Operating Manual
Images are displayed washed out.	▶	• **Is the brightness setting set at an appropriate level?** Click the "0" [Brightness] button.	Operating Manual
Flicker appears on the screen.	▶	• **Is the shutter speed set to "AUTO"?** When flickering cannot be corrected with the shutter speed set to "AUTO", set it to "1/100".	22
	▶	• **Is "ON" selected for "Super Dynamic Ⅲ"?** Set to "OFF".	22

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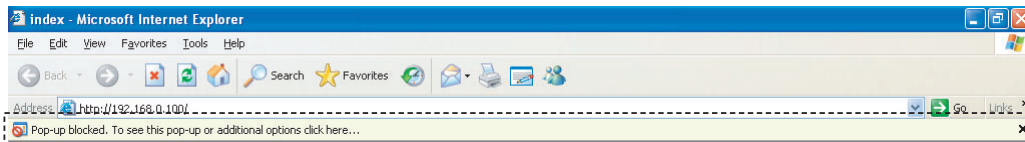| Symptom		Cause/solution	Reference pages
Images cannot be saved to SD memory card.	▶	• **Is the SD memory card inserted correctly?** Check if the SD memory card is inserted correctly.	Operating Instructions
	▶	• **Is the SD memory card formatted?** Format the SD memory card.	13
	▶	• **Is the write protect switch on the SD memory card set to "LOCK"?** When the write protect switch is set to "LOCK", available size/total size is indicated as "**********KB/**********KB" at "SD memory card" on the [SD memory card] tab. Cancel the lock and re-insert the SD memory card.	—
	▶	• **Is the SD memory card out of order?** The number of times that the SD memory card can be rewritten is limited. The SD memory card may be at the end of its product life if it has been frequently overwritten. Replace the SD memory card.	—
The Alarm occurrence indication button, the [AUX] button on the "Live" page do not display the current status in real time.	▶	• **Is the viewer software installed on the PC?** Check if the viewer software "Network Camera View3" is installed.	Operating Instructions
	▶	• **Is the OS in use Microsoft® Windows® 2000 Professional SP4?** Use Microsoft® Windows® XP Professional SP2 or Microsoft® Windows® XP HomeEdition SP2.	9
Cannot return to the "Live" page by pressing the [ESC] key when displaying images on a full screen.	▶	Press the [F5] key on the keyboard of the PC or click the [Live] button.	Operating Instructions
No live image is displayed.	▶		
An unnecessary title bar is displayed when displaying images on a full screen.	▶	Open the "Security" tab of "Internet options..." under "Tools" on the menu bar of Internet Explorer®. Then, add the IP address of the camera to "Trusted sites".	—
No image is displayed on a full screen.	▶	• **Was the [ESC] key pressed before images are displayed?** Close the browser window, for example, by pressing the [Alt] key and [F4] key simultaneously.	Operating Instructions

Symptom	Cause/solution	Reference pages
When displaying MPEG-4 images on multiple browser windows, images from multiple cameras are displayed in sequence on a single browser window.	• **This may occur due to the display adapter and driver combination on the PC you are using. When this has occurred, first update the driver of the display adapter to the latest version.** If updating the driver does not solve the problem, adjust the hardware acceleration as follows. The following is a description for when Microsoft® Windows® XP Professional SP2 is installed on the PC in use. 1. Right-click on the desktop and select "Properties" from the displayed pop-up menu. 2. Select [Setup] from "Display Properties", and then click the [Advanced] button. 3. Click the [Troubleshoot] tab and disable the DirectDraw acceleration by adjusting the level of "Hardware acceleration".	—

Symptom		Cause/solution	Reference pages
Images are not displayed or refreshed smoothly.	▶	Delete temporary Internet files as follows: 1. Select [Internet Options...] from [Tools] on the menu bar of Internet Explorer®. 2. Click the [Delete Files...] button in the "Temporary Internet files" section.	—
	▶	The anti-virus software's firewall function might be filtering the camera's port. Set the camera's HTTP port number so that the software does not block it.	—

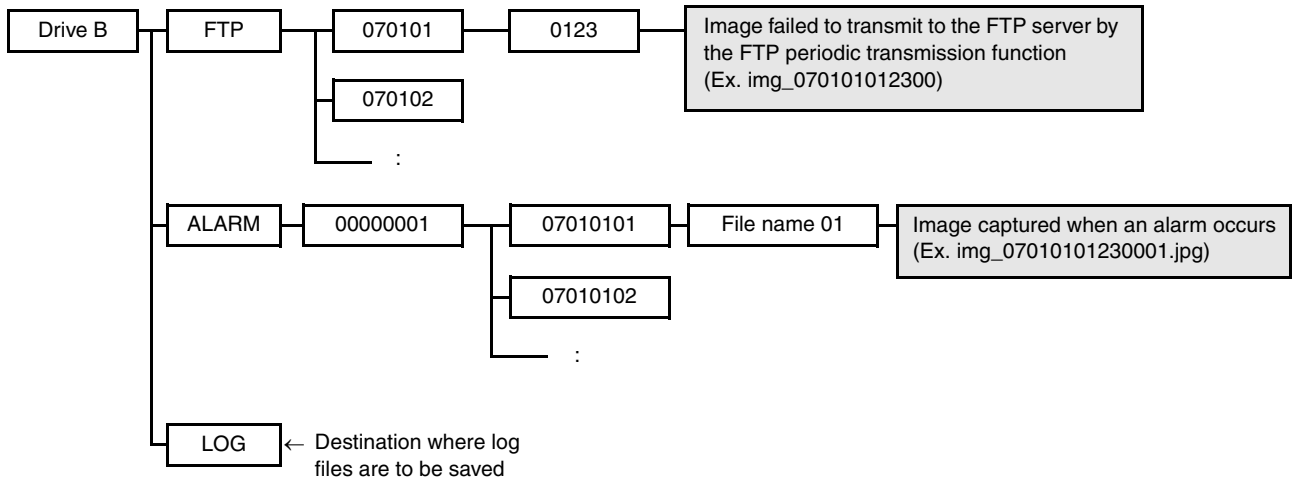## When using a PC on which Windows® XP Service Pack2 is installed

The following may occur during operation when using a PC on which Windows® XP SP2 is installed. Follow the instructions below when the following has occurred. By performing the following solutions, other applications and the security level may not be affected.

The "Information Bar" mentioned in the following symptom and solutions will be displayed just below the address bar in Internet Explorer® only when there is information to communicate.

← Information Bar

Symptom	Solutions	Reference pages
The following message is displayed on the information bar. "Pop-up blocked. To see this pop-up or additional options, click here..."	• **The pop-up was blocked.** Click the information bar and select "Always Allow Pop-ups from This Site...". The dialog window saying "Allow pop-ups from this site?" will be displayed. Click the [Yes] button.	—
The following message is displayed on the information bar. "This site might require the following Active X control: 'nwcv3setup.exe' from Panasonic Corporation Click here to install..."	Click the information bar and select "Install Active X Control". The "Security Warning" window will be displayed. Click the [Install] button on the displayed "Security Warning" window.	—
An unnecessary status bar or scroll bar is displayed on the pop-up window.	Click [Internet Options] on the Tools menu of Internet Explorer®, and then click the [Security] tab. Then, click the [Custom Level...] button to open the "Security Setting" window. Under "Miscellaneous", select "Enable" for "Allow script-initiated windows without size or position constraints". Click the [OK] button.	—

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Directory Structure of Drive B

```
Drive B ─── FTP ─────── 070101 ─────── 0123 ─────── Image failed to transmit to the FTP server by
        │            │                             the FTP periodic transmission function
        │            │  070102                      (Ex. img_070101012300)
        │            │
        │            └──── :
        │
        ├─── ALARM ── 00000001 ─── 07010101 ─── File name 01 ─── Image captured when an alarm occurs
        │                       │                               (Ex. img_07010101230001.jpg)
        │                       │  07010102
        │                       │
        │                       └──── :
        │
        └─── LOG ← Destination where log
                   files are to be saved
```

Glossary

\<A\>

ActiveX controls

Software component technology developed by Microsoft Corporation. ActiveX controls are downloaded from web servers via the Internet or Intranets, and provide functionality to Internet Explorer®. ActiveX controls are used to display animations on this network camera.

\<B\>

Bit rate

A unit for expressing how much data (bits) is processed or sent and received during a specific period of time. The bit rate is generally expressed as "bps" or bits per second. The bit rate is used to express how far video data or audio data has been compressed or how much data can be transmitted or received on a communications line in one second.

Broadband router

A device for interfacing networks on ADSL, optical fiber or other high-speed transmission lines

\<C\>

Cable modem

A device for connecting to the Internet. It is called a cable modem as it sends and receives computer information over cable TV line. It differs from regular modems that use a serial port in that it is connected to a PC via an Ethernet connection.

\<D\>

DDNS (Dynamic DNS)

A technology for dynamically translating DNS server information to enable the transfer of only differences in information between DNS servers (See "DNS").

DHCP (Dynamic Host Configuration Protocol)

A TCP/IP protocol that enables PCs to automatically get temporary or permanent IP addresses that are needed for accessing a network.

DNS (Domain Naming System)

The long lists of numbers or IP addresses that are used in network environments are difficult to remember, which makes them impractical. This is why PCs are given an easy-to-follow name (domain name) which is converted to an IP address before they are communicated with. The DNS mechanism provides translation between domain names and IP addresses.

\<F\>

Firewall

A means of security when using an external network such as the Internet. Generally, this is a combination of software and hardware that prevents a corporate network or LAN from being accessed from the outside.

fps (Frame Per Second)

Unit for expressing the number of images that can be displayed in one second. This is a measure of the quality of a video signal.

Frame rate

An indicator of the number of images that can be displayed in one second

FTP (File Transfer Protocol)

A typical protocol that is used for transferring files over the Internet.

Full duplex

A transmission mode that supports transmission in two directions simultaneously in bidirectional communications. This is achieved by providing independent lines exclusively for transmission and reception.

\<G\>

Gateway

The network device that is designated as the entrance and exit between two networks so that PC users on one network, for example, can access a host computer in another network such as an in-company LAN

Global IP address

The IP address that is assigned to each single device connected to the Internet. This address is always used for communications on the Internet. In contrast to this, there is the private (IP) address that can be freely assigned on in-company networks.

<H>

Half duplex

A transmission mode in which data can be transmitted in both directions but not at the same time. This is achieved by switching the transmission direction on a single communications line.

<I>

Internet

A massive network of PCs comprising inter-connected networks around the globe. To participate in the Internet, a contract with an operator called an "Internet service provider" is required.

IP address (Internet Protocol Address)

An ID number that is assigned to each single communication device and PC connected to an IP network such as the Internet or an Intranet. Network devices on the Internet must be assigned unique IP addresses.

IP masquerade (Network Address Port Translation)

A technology for sharing a single global address between two or more PCs. IP masquerading differs with NAT in that translation is performed down to the TCP/UDP port number to enable a simultaneous connection from two or more PCs by a single global address.

<J>

JPEG (Joint Photographic Experts Group)

A compression technique used in the compression of still image data.
The technique for continuously sending JPEG images is sometimes called MotionJPEG.

<L>

LAN (Local Area Network)

A communications network for connecting PCs, printers and other network devices in a relatively small area such as in a building or floor of a building or campus in which data is transferred.

<M>

MAC address (Media Access Control address)

The physical address that is uniquely assigned to each network device. Data is sent and received between devices based on this MAC address.

MPEG-4 (Moving Pictures Experts Group phase 4)

A technique used in the compression of moving picture data.

Multicast

Broadcasting of the same data from one device to a selected group of peer devices in a network

<N>

NAT (Network Address Translation)

A technology for sharing a single global address between two or more PCs.

NTP (Network Time Protocol)

A protocol developed to accurately maintain time of internal clocks for devices connected the Network.

<P>

Plug-in software

A program that adds extra features to a parent program

PoE (Power over Ethernet)

A technique for supplying power and data simultaneously over an Ethernet cable. PoE was standardized in June, 2003 as "IEEE802.3af". PoE allows cameras and other devices to be installed in locations that are difficult to supply with power.

PoE supplied hub

A switching hub that provids PoE functionality.

POP(3) (Post Office Protocol Version 3)

A protocol for receiving e-mail stored on a server on the Internet or an Intranet.

Port number

A sub or auxiliary address that is provided under the IP address to enable a simultaneous connection with two or more peers in Internet (TCP, UDP, etc.) communications

Primary DNS server

Normally, applicants for domain names must provide two servers, and this is the main server.

Private IP address

An IP address that is assigned for connection to a network such as a company LAN. Private IP addresses can be freely assigned in a company without having to apply for them. Note, however, that even if a PC is assigned a private IP address, that PC cannot access the Internet; it must pass via a router or other device that is assigned a global IP address.

Protocol

A set of rules governing the format of communications when exchanging various kinds of information and data with lots of different kinds of PCs. One such protocol on the Internet is "TCP/IP".

Proxy server

Software that runs on a PC located at the boundary between a company network and the Internet that acts as a proxy on behalf of trusted clients (in the company network) and untrusted hosts (on the Internet). Proxy servers allow connection to specific sites outside the company network and block illegal accessing of the company network from undesirable outside sites.

<Q>

QVGA

320 x 240 pixel resolution

<R>

Router

A device located at the boundary between different networks that performs the role of making sure that sent data reaches the target location on the destination network. If data on the network is addressed to an external network, routers send that data to the outside of the network after judging the optimum route by which to send that data.

<S>

SD memory card (Secure Digital memory card)

A compact, light removable external memory card that has a large data storage capacity.

Secondary (DNS) server

Normally, applicants for domain names must provide two servers, a primary and a secondary DNS server. If trouble occurs on the primary server, the secondary server takes over processing from the primary server.

SMTP (Simple Mail Transfer Protocol)

A TCP/IP protocol for sending e-mail on the Internet or an Intranet. SMTP is used for sending e-mail between servers and is used by clients to send e-mail to servers.

SMTP authentication (Simple Mail Transfer Protocol authentication)

SMTP mail transfer protocol appended with a user authentication function. Since it authenticates passwords with user accounts between SMTP servers and clients, both SMTP servers and clients must support SMTP authentication.

SMTP server (SMTP server)

A server that supports SMTP, currently the most widely used mail transfer protocol.

SNMP (Simple Network Management Protocol)

A protocol for monitoring and managing networked communications devices, such as routers, PCs, cameras and networkdisk recorders via a network.

Subnet

A small network or portion of a network that is part of a larger network. Large networks in corporations, for example, sometimes are broken down into smaller networks called "subnets" to make the network more manageable and lines used more efficiently.

Subnet mask

A 32-bit value for defining how many bits of the IP address in a subnet are to be used for the network address for network identification. The part of the subnet mask other than the network address is called the "host address" and this is used for identifying PCs in the subnet.

<T>

TCP/IP (Transmission Control Protocol/Internet Protocol)

The standard networking protocol for the Internet and Intranets.

Time zone

A country or region that uses standard time locally throughout that country or region is referred to as a "time zone."

<U>

Unicast

Transmission of data from one device to another having a specific IP address in a network

URL (Uniform Resource Locator)

An address for locating information resources such as documents and images on the Internet.

<V>

VGA (Video Graphics Array)

640 x 480 pixel resolution

VPN (Virtual Private Network)

A service that allows a public switched network to be used like a private network. VPN is being applied mainly at corporations as a new mode of communications replacing costly dedicated private networks. Some VPN services provide lines that are protected by authentication technology and encryption.

<W>

WAN (Wide Area Network)

A network comprising public switched lines and private lines that extend over a wide area to allow data transfer between PCs at geographically remote sites, such as a company headquarters and branches

Web browser

Software, such as Microsoft Corporation's Internet Explorer®, that lets you access resources on the World Wide Web.

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