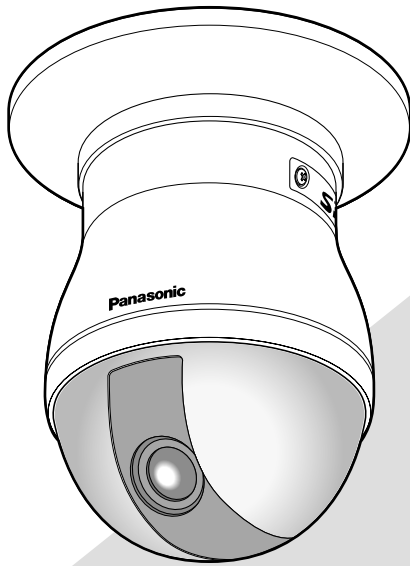# Panasonic

Network Camera

Setup Instructions

Model No. WV-NS950/G, WV-NS954E
WV-NW960/G, WV-NW964E

WV-NS950/G
WV-NS954E

WV-NW960/G
WV-NW964E

Before attempting to connect or operate this product,
please read these instructions carefully and save this manual for future use.

The model number is abbreviated in some descriptions in this manual.

CONTENTS

Preface

About these operating instructions

There are 3 sets of operating instructions for the WV-NS950/NS954, WV-NW960/NW964 as follows.
- Installation Guide
- Operating instructions
- Setup Instructions
- WV-NS950/NS954   Network camera (for indoor use)   (hereinafter WV-NS950 series)
- WV-NW960/NW964   Network camera (for outdoor use)   (hereinafter WV-NW960 series)

These Setup Instructions contain descriptions of how to operate this product* using a PC via a network and of how to configure the settings.

 * The screens used in these Setup Instructions show the case of WV-NS954.

Refer to the installation guide for descriptions of how to install this product and of how to connect to a network.
Adobe® Reader is required to read PDF. When the Adobe® Reader is not installed on the PC, download the latest Adobe® Reader from the Adobe web site and install it.

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- Mini SD is a trademark.
- Other names of companies and product contained in these operating instructions may be trademarks or registered trademarks of their respective owners.

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 74 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.
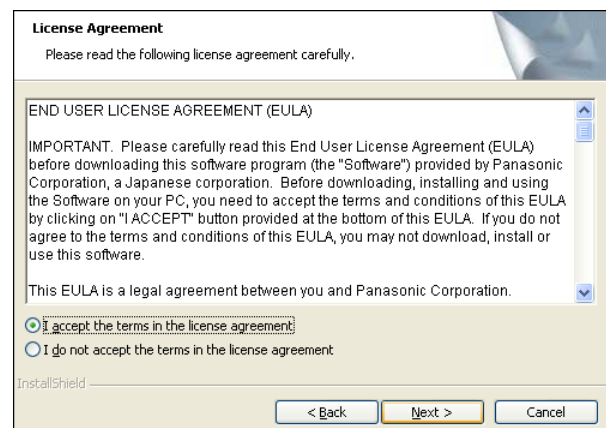
- The viewer software used on each PC should be licensed individually. The number of installations of the viewer software from the camera can be checked on the [Upgrade] tab of the "Maintenance" page (☞ page 63). Refer to your dealer for the software licensing.

Display the setup menu and configure the settings of the camera using a PC

The settings of the camera can be configured on the setup menu.
The setup menu is only operable by users whose access level is "1. Administrator".

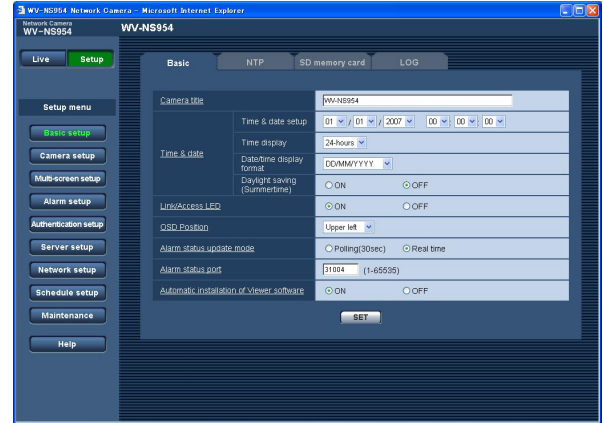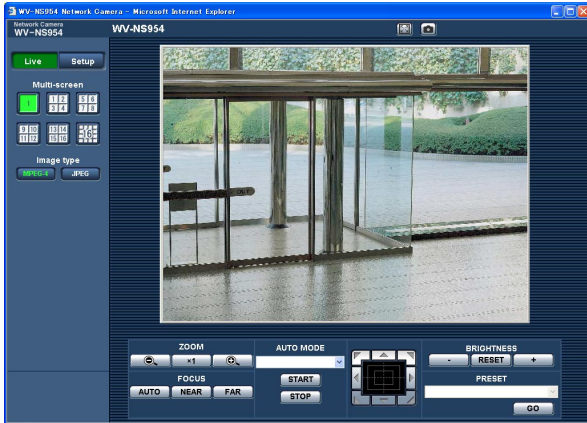## How to display the setup menu

Display the "Live" page. (☞ Operating instructions)

Click the [Setup] button on the "Live" page.
→ The window with the user name and password entry fields will be displayed.

Click the [OK] button after entering the user name and the password.

→ The setup menu will be displayed.
   Refer to the next page for further information about this menu.

How to operate the setup menu
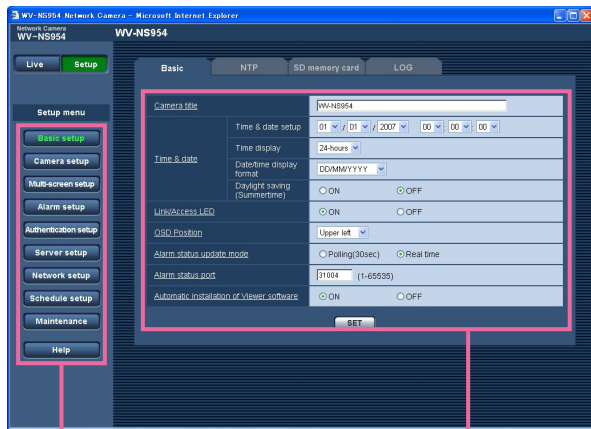
Menu buttons   Setup page

Step 1

Click the desired button in the frame on the left of the window to display the respective setup menu.
When there are tabs at the top of the setup page displayed in the frame on the right of the window, click the desired tab to display and configure the setting items relating to the name of the tab.

Step 2

Complete each setting item displayed in the frame on the right of the window.

Step 3

After completing each setting item, click the [SET] button to apply them.

Important:
When there are two or more [SET] buttons on the page, click the respective button to the edited setting item.
<Example>
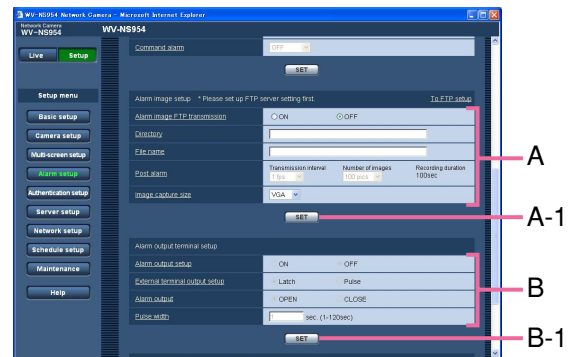
When completing the setting items in field A, click the [SET] button below field A (A-1). The edited setting items in field A will not be applied unless the [SET] button below field A (A-1) is clicked.
In the same manner as above, click the [SET] button below field B (B-1) when completing the setting items in field B.

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About the setup menu window

① [Live] button
② [Basic setup] button
③ [Camera setup] button
④ [Multi-screen setup] button
⑤ [Alarm setup] button
⑥ [Authentication setup] button
⑦ [Server setup] button
⑧ [Network setup] button
⑨ [Schedule setup] button
⑩ [Maintenance] button
⑪ [Help] button
⑫ Status display area
⑬ Setup page
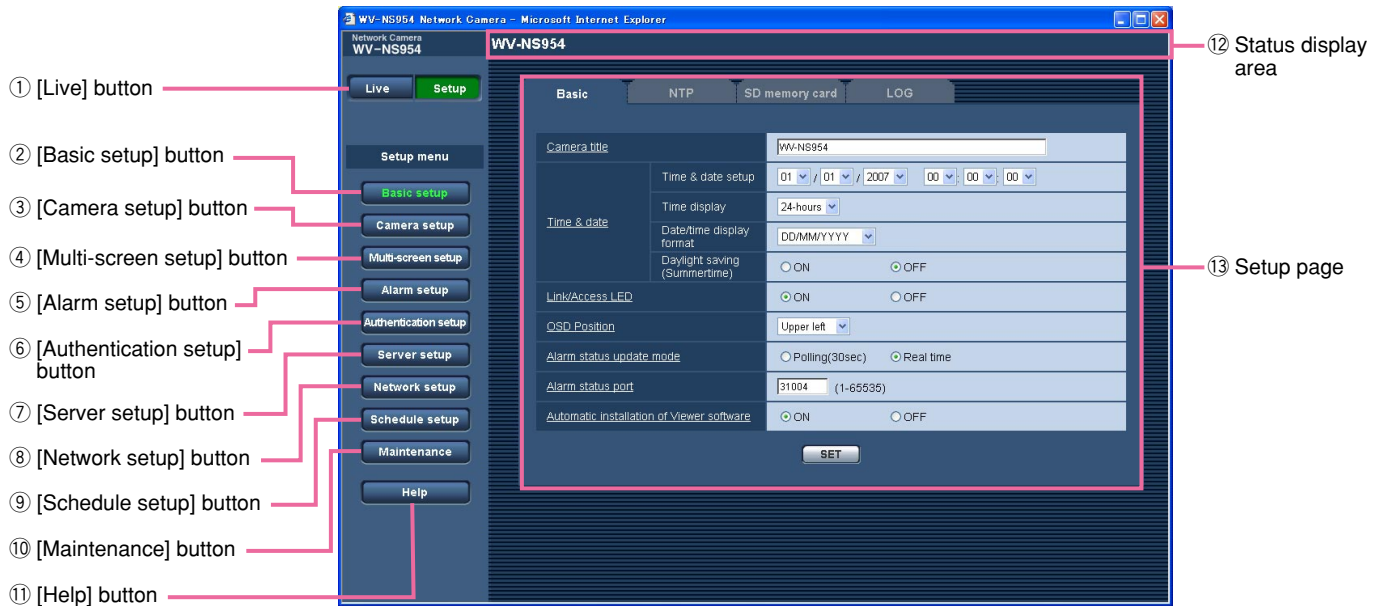
① **[Live] button**
Click this button to display the "Live" page.

② **[Basic setup] button**
Click this button to display the "Basic setup" page. The basic settings such as time and date and camera title, and the settings relating to the NTP server and the SD memory card can be configured on the "Basic setup" page. Refer to page 8 for further information.

③ **[Camera setup] button**
Click this button to display the "Camera setup" page. The settings relating to JPEG/MPEG-4 images and camera operation can be configured on the "Camera setup" page. Refer to page 20 for further information.

④ **[Multi-screen setup] button**
Click this button to display the "Multi-screen setup" page. The cameras to be used for the multi-screen display can be registered on the "Multi-screen setup" page. Refer to page 37 for further information.

⑤ **[Alarm setup] button**
Click this button to display the "Alarm setup" page. The settings relating to alarm occurrences such as settings for the alarm action at an alarm occurrence, the alarm occurrence notification, and the VMD area settings can be configured on the "Alarm setup" page. Refer to page 38 for further information.

⑥ **[Authentication setup] button**
Click this button to display the "Authentication setup" page. The settings relating to the authentication such as users and PCs restrictions for accessing the camera can be configured on the "Authentication setup" page. Refer to page 49 for further information.

⑦ **[Server setup] button**
Click this button to display the "Server setup" page. The settings relating to the mail server and the FTP server to which the camera accesses can be configured on the "Server setup" page. Refer to page 51 for further information.

⑧ **Network setup** **[Network setup] button**
Click this button to display the "Network setup" page. The network settings and the settings relating to DDNS (Dynamic DNS), SNMP (Simple Network Management Protocol) and the FTP (File Transfer Protocol) periodic transmission function can be configured on the "Network setup" page. Refer to page 53 for further information.

⑨ **Schedule setup** **[Schedule setup] button**
The "Schedule" page will be displayed.
On the "Schedule" page, it is possible to designate time zones to allow to receive alarm input or to allow to activate the video motion detection (VMD) function. Refer to page 61 for further information.

⑩ **Maintenance** **[Maintenance] button**
Click this button to display the "Maintenance" page. System log check, firmware upgrade and initialization of the setup menu can be carried out on the "Maintenance" page. Refer to page 62 for further information.

⑪ **Help** **[Help] button**
Click this button to display the "Help" page.

⑫ **Status display area**
The title of the camera whose settings are currently being configured will be displayed.

⑬ **Setup page**
Pages of each setup menu will be displayed. There are tabs for some setup menus. When the underlined item is clicked, the corresponding help page will be displayed.

# Configure the basic settings of the camera [Basic setup]

The basic settings such as time and date and camera name, and the settings relating to the NTP server and the SD memory card can be configured on the "Basic setup" page.
The "Basic setup" page has 4 tabs; the [Basic] tab, the [NTP] tab, the [SD memory card] tab and the [LOG] tab.

Configure the basic settings [Basic]

Click the [Basic] tab on the "Basic setup" page. (☞ pages 4 and 5: How to display/operate the setup menu)
The settings such as the camera name, time and date, etc. can be configured on this page.
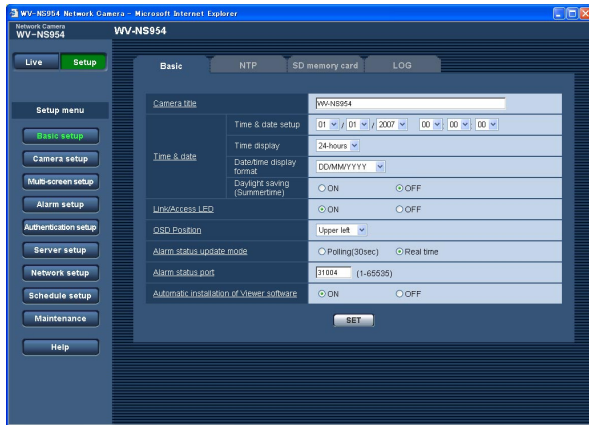
[Camera title]

Enter the title 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 - 20 characters
Default: WV-NS954 (The model number in use will be displayed.)

[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: 01/01/2007 0:00:00 – 12/31/2035 23:59:59

[Time display]

Select the time display format from "12-hours", "24-hours" and "OFF". Enter the current hour reflecting this setting when entering the current time and date for "Time & date setup". To hide time and date, select "OFF".
Default: 24-hours

[Date/time display format]

Select a date/time display format.
When "07/04/01 13:10:00" is set for "Time & date setup" after selecting "24-hours" for "Time display", time and date will be respectively displayed as follows.

DD/MM/YYYY: 01/04/2007 13:10:00
MM/DD/YYYY: 04/01/2007 13:10:00
DD/Mmm/YYYY: 01/Apr/2007 13:10:00
YYYY/MM/DD: 2007/04/01 13:10:00
Mmm/DD/YYYY: Apr/01/2007 13:10:00
Default: DD/MM/YYYY

[Daylight saving (Summertime)]

Select "ON" or "OFF" to determine whether or not to apply daylight saving time. Select "ON" or "OFF" to determine whether or not to apply daylight saving time.
ON: Applies summer time. An asterisk (*) will be displayed on the left side of the displayed time and date.
OFF: Does not apply summer time.
Default: OFF

[Link/Access LED]

Select "ON" or "OFF" to determine whether or not to light the link LED, the access LED, the SD memory card error LED and the power LED.
Select "ON" to check the operational status by lighting the LEDs. Select "OFF" to turn off the LEDs at all times.
Default: ON

Notes:
- **Link LED:** This LED will light when communication with the connected device is available. [Orange]
- **Access LED:** This LED will light when accessing a network. [Yellow]

- **SD memory card error LED:** This LED will light when the SD memory card is unavailable to save images. [Red]
- **Power LED:** This LED will light when the power is on. [Green]

[OSD Position]
Select a position where time and date, camera title, pre-set ID, panning/tilting angle, zoom ratio are to be displayed on the "Live" page.
Upper left: The above information will be displayed at the upper left corner of the main area on the "Live" page.
Lower left: The above information will be displayed at the lower left corner of the main area on the "Live" page.
Upper right: The above information will be displayed at the upper right corner of the main area on the "Live" page.
Lower right: The above information will be displayed at the lower right corner of the main area on the "Live" page.
Default: Upper left

[Alarm status update mode]
Select an interval of the camera status notification from the following.
When the status of the camera changes, the alarm occurrence indication button, the receiver button, the transmission button, the AUX button or the SD saving status indication button will be displayed to notify of the camera status.
Polling (30 sec): Updates the status each 30 seconds and provide notification of the camera status.
Real time: Provide notification of the camera status when the status has changed.
Default: Real time

Note:
Depending on the network environment, notification may not be provided in real time.

[Alarm status port]
When selecting "real time" for "Alarm status update mode", designate a port number to which the status change notification is to be sent.
Available port number: 1 - 65535
Default: 31004

[Automatic installation of Viewer software]
Determine whether or not to install the viewer software from this camera.
ON: Installs the viewer software from the camera automatically.
OFF: The viewer software cannot be installed from the camera.
**Default:** ON

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.

Configure the settings relating to the NTP server [NTP]

Click the [NTP] tab on the "Basic setup" page. (☞ pages 4 and 5: How to display/operate the setup menu)
The settings relating to the NTP server such as the NTP server address, port number, etc. can be configured on this page.
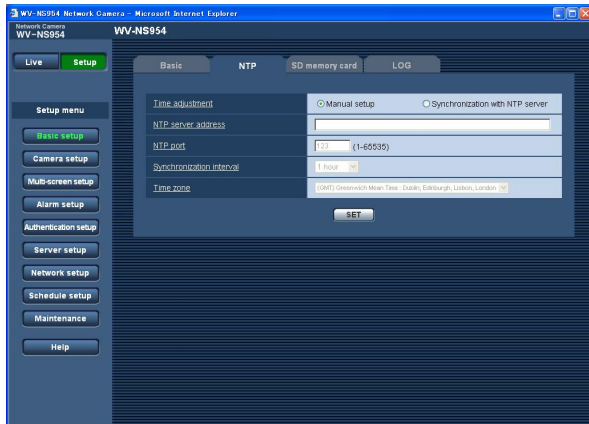
[Time adjustment]
Select the time adjustment method from the following.
Time adjusted by the selected method will be used as the standard time of the camera.
Manual setup: Time set on the [Basic] tab on the "Basic setup" page will be used as the standard time of the camera.
Synchronization with NTP server: Time automatically adjusted by synchronizing with the NTP server will be used as the standard time of the camera.
Default: Manual setup

[NTP server address]
Enter the IP address or the host name of the NTP server.
Number of characters for the NTP server address:
1 - 128 characters
Default: None (blank)

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 54)

[NTP port]
Enter a port number to be used for the NTP server.
Available port number: 1 - 65535
Default: 123

[Synchronization interval]
Select an interval (1 - 24 hours: in 1 hour intervals) of synchronization with the NTP server.
Default: 1 hour

[Time zone]
Select a time zone corresponding to the location where the camera is in use.
Default: (GMT) Greenwich Mean Time: Dublin, Edinburgh, Lisbon, London
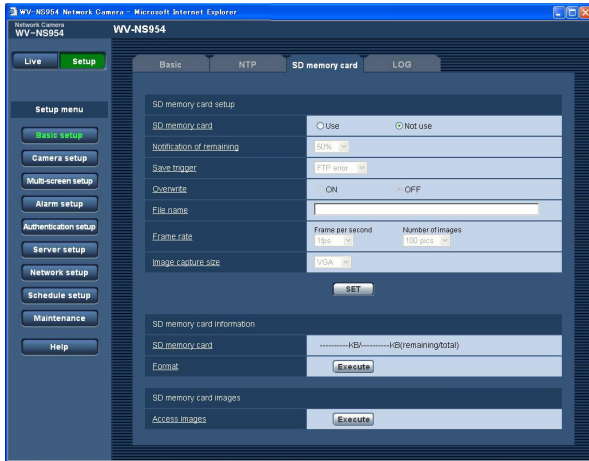
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Configure the settings relating to the SD memory card [SD memory card]

Click the [SD memory card] tab on the "Basic setup" page. (☞ pages 4 and 5: How to display/operate the setup menu)
The settings relating to the SD memory card can be configured on this page. A mini SD card is used for NW960 series.

■ SD memory card setup

[SD memory card]
Select "Use" or "Not use" to determine whether or not to use the SD memory card.
Default: Not use

Important:
- Before removing the SD memory card from the camera, it is necessary to select "Not use" first.
- After inserting the SD memory card, it is necessary to select "Use" to use the SD memory card.
- When playing or downloading images saved on the SD memory card, it is necessary to select "ON" for "Save logs" on the [LOG] tab (☞ page 16) in advance.
- When the configured image refresh interval is high, timing or interval of notification or recording may become inexact and notification or recording may not carried out as configured when images are transmitted by multiple users. (☞ page 41) If this happened, set the image refresh interval lower.
- There are limited times to overwrite on an SD memory card. When frequently overwritten, it may be at the end of product life. It is recommended to replace the SD memory card.

[Notification of remaining]
When the "E-mail notification" function or the "Panasonic alarm protocol" function is used to provide notification of the remaining space of the SD memory

card, select a level to be notified at from the following.
50 %/20 %/10 %/5 %/2 %
Default: 50 %

Note:
Notification will be provided each time the remaining space of the SD memory card reached the values above.
For example, notification will be provided each time the remaining space reaches 50%, 20%, 10%, 5% and 2% when "50%" is selected. Notification may not always be made at the very moment when the remaining space of the SD memory card has reached each value.

[Save trigger]
Select a trigger to save images on the SD memory card from the following.
FTP error: Saves images when images have failed to transmit to the FTP server by the FTP periodic transmission function.
Alarm input: Saves images at an alarm occurrence.
Manual: Saves images manually. (☞ Operating instructions)
Default: FTP error

Notes:
- Select "FTP error" when images are to be transmitted to the FTP server at an alarm occurrence.
- When using the DHCP function (☞ page 53), images will not be saved on the SD memory card until an IP address is assigned regardless of the "Save trigger" setting.

[Overwrite]
Determine whether or not to overwrite when the SD memory card becomes full.
This setting is available only when "Manual" is selected for "Save trigger".
ON: Overwrites when the SD memory card becomes full. (The oldest image is the first to be overwritten.)
OFF: Stops saving images on the SD memory card when the SD memory card becomes full.
Default: OFF

[File name]
Enter the file name used for the image to be saved on the SD memory card. The file name will be as follow.
File name: ["Entered file name" + "Time and date (year/month/day/hour/minute/second)"] + "Serial number"
Number of characters that can be entered for the file name: 1 - 8 characters

Note:
When "FTP error" is selected for "Save trigger", the file name entered for "File name" 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.

[Frame rate]
• Frame per second
When an alarm is sounded or manual saving is performed, select an image save interval from the following.
Select an image save interval from the following.
0.1 fps/0.2 fps/0.33 fps/0.5 fps/1 fps
Default: 1 fps

• Number of images
Select a 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
Default: 100 pics

Note:
"Frame rate" can be configured only when "Alarm input" is selected for "Save trigger".

[Image capture size]
Select "QVGA" or "VGA" for the size of the images to be saved on the SD memory card.
Default: VGA

Notes:
• When "FTP error" is selected for "Save trigger", images will be saved with the image capture size selected on the [FTP] tab of the "Network setup" page.
• When "Alarm input" is selected for "Save trigger", images will be saved with the image capture size selected on the [Alarm] tab of the "Alarm setup" page.

■ **SD memory card information**

[SD memory card]
Available size and the 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.

Indication	Description
--------KB/--------KB	No SD memory card is inserted. Failed to obtain available size due to error, etc.
********KB/********KB	The SD card memory is unformatted, or locked, etc.

Note:
When "OFF" is selected for "Overwrite" (☞ page 11) and the available size of the SD memory card has reached "0 KB", images will not be saved on the SD memory card. When the notification function is on, a notification mail will be sent to the registered addresses when the SD memory card becomes full. (☞ pages 47 and 48)

[Format]
To format the SD memory card, click the [Execute] button.

Important:
• Before formatting the SD memory card, it is necessary to select "Use" for "SD memory card" on the [SD memory card] tab of the "Basic setup" page (☞ page 11) and "OFF" for "FTP periodic transmission" on the [FTP] tab of the "Network setup" page (☞ page 58).
• Only format the SD memory card by clicking the [Execute] button on the setup menu. Otherwise, the following functions using the SD memory card may not work properly with this camera.

- Save/obtain images that failed to transmit to the FTP server using the FTP periodic transmission function
- Save/obtain alarm images
- Save/obtain images saved manually
- Save/obtain the alarm logs, the manual logs, the FTP error logs and the system logs
- Save/obtain images recorded using the SD memory recording function of Panasonic's network disk recorder.
- Play/download images on the SD memory card

- It is impossible to access the SD memory card during the process of formatting.
- All data saved on the SD memory card will be deleted when the SD memory card is formatted.
- Do not turn off the power of the camera during the process of formatting.
- After formatting the SD memory card, the available size may be smaller than the total size since the default directory is automatically created in the SD memory card.
- Compatible SD memory card is as follows. (A mini SD card is used for NW960 series.)
  SD memory card manufactured by Panasonic
  (64 MB, 128 MB, 256 MB, 512 MB, 1 GB, 2 GB)
- Use the SD memory card without changing the default condition, or use it after formatting in conformity with the SD specification.

Copy images saved on the SD memory card onto the PC [SD memory card images]

Click the [SD memory card] tab on the "Basic setup" page. (☞ pages 4 and 5: How to display/operate the setup menu)
The following are descriptions of how to copy images saved on the SD memory card onto the PC.
It is necessary in advance to select "Allow" for "FTP access" on the [Network] tab of the "Network setup" page
(☞ page 54).

Important:
 • It is impossible to copy images saved on the SD memory card when another user is simultaneously obtaining images from the SD memory card.
 • Depending on the settings of a proxy server or a firewall, images may not be obtained via a network. In this case, refer to the network administrator.
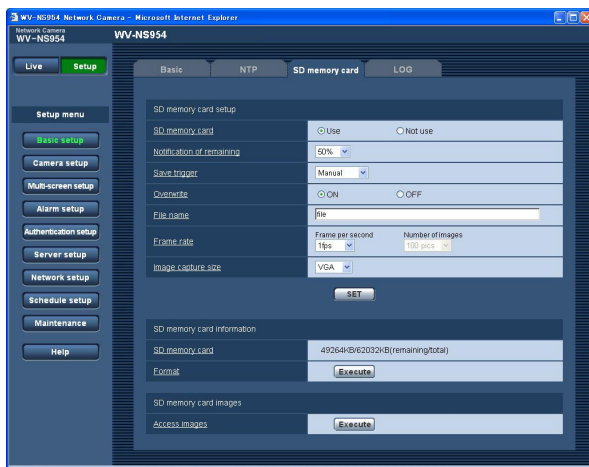
Step 1

Click the [Execute] button of "Access images".
→ The user authentication window will be displayed.
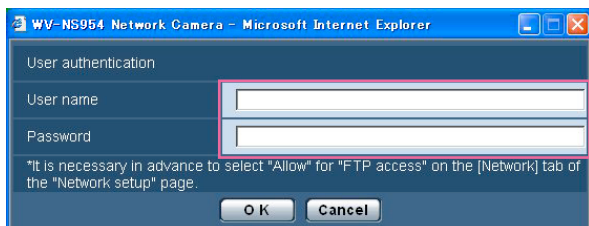
Step 2

Click the [OK] button after entering the user name and the password.
→ The folder in which images are to be saved will be displayed.

Step 3

Copy the desired images or the folder onto the PC.
It is impossible to display the image to be saved on this window. Display the image after saving it on the PC.

Note:
When logging in the camera to obtain images, drive B will be displayed first.
Images are saved in different directories according to "Save trigger" ("Save trigger" - "Basic setup"-"SD memory card".).
Move to the directory corresponding to the desired images and obtain them.
Refer to page 75 for further information about the directory structure.

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Possible number of images that can be saved on the SD memory card (as indications)

Important:
The numbers on 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 to the SD memory card.

Image capture size: VGA

Size of SD memory card	Image quality				
	0 (Super fine)	**1 (Fine)**	**2**	**3**	**4**
2 GB	Approx. 10 000 pics	Approx. 14 000 pics	Approx. 16 000 pics	Approx. 18 000 pics	Approx. 20 000 pics
1 GB	Approx. 5 000 pics	Approx. 7 000 pics	Approx. 8 000 pics	Approx. 9 000 pics	Approx. 10 000 pics
512 MB	Approx. 2 500 pics	Approx. 3 500 pics	Approx. 4 000 pics	Approx. 4 500 pics	Approx. 5 000 pics
256 MB	Approx. 1 250 pics	Approx. 1 750 pics	Approx. 2 000 pics	Approx. 2 250 pics	Approx. 2 500 pics
128 MB	Approx. 625 pics	Approx. 875 pics	Approx. 1 000 pics	Approx. 1 125 pics	Approx. 1 250 pics
64 MB	Approx. 312 pics	Approx. 437 pics	Approx. 500 pics	Approx. 562 pics	Approx. 625 pics

Size of SD memory card	Image quality				
	5 (Normal)	**6**	**7**	**8**	**9 (Low)**
2 GB	Approx. 22 000 pics	Approx. 26 000 pics	Approx. 28 000 pics	Approx. 30 000 pics	Approx. 32 000 pics
1 GB	Approx. 11 000 pics	Approx. 13 000 pics	Approx. 14 000 pics	Approx. 15 000 pics	Approx. 16 000 pics
512 MB	Approx. 5 500 pics	Approx. 6 500 pics	Approx. 7 000 pics	Approx. 7 500 pics	Approx. 8 000 pics
256 MB	Approx. 2 750 pics	Approx. 3 250 pics	Approx. 3 500 pics	Approx. 3 750 pics	Approx. 4 000 pics
128 MB	Approx. 1 375 pics	Approx. 1 625 pics	Approx. 1 750 pics	Approx. 1 875 pics	Approx. 2 000 pics
64 MB	Approx. 687 pics	Approx. 812 pics	Approx. 875 pics	Approx. 937 pics	Approx. 1 000 pics

Refer to the following for the possible numbers of images whose image capture size is QVGA.

Image capture size: QVGA

Size of SD memory card	Image quality				
	0 (Super fine)	**1 (Fine)**	**2**	**3**	**4**
2 GB	Approx. 24 000 pics	Approx. 26 000 pics	Approx. 27 000 pics	Approx. 28 000 pics	Approx. 30 000 pics
1 GB	Approx. 12 000 pics	Approx. 13 000 pics	Approx. 13 500 pics	Approx. 14 000 pics	Approx. 15 000 pics
512 MB	Approx. 6 000 pics	Approx. 6 500 pics	Approx. 6 750 pics	Approx. 7 000 pics	Approx. 7 500 pics
256 MB	Approx. 3 000 pics	Approx. 3 250 pics	Approx. 3 375 pics	Approx. 3 500 pics	Approx. 3 750 pics
128 MB	Approx. 1 500 pics	Approx. 1 625 pics	Approx. 1 687 pics	Approx. 1 750 pics	Approx. 1 875 pics
64 MB	Approx. 750 pics	Approx. 812 pics	Approx. 843 pics	Approx. 875 pics	Approx. 937 pics

| Size of SD memory card	Image quality				
	5 (Normal)	**6**	**7**	**8**	**9 (Low)**
2 GB	Approx. 32 000 pics	Approx. 36 000 pics	Approx. 38 000 pics	Approx. 40 000 pics	Approx. 42 000 pics
1 GB	Approx. 16 000 pics	Approx. 18 000 pics	Approx. 19 000 pics	Approx. 20 000 pics	Approx. 21 000 pics
512 MB	Approx. 8 000 pics	Approx. 9 000 pics	Approx. 9 500 pics	Approx. 10 000 pics	Approx. 10 500 pics
256 MB	Approx. 4 000 pics	Approx. 4 500 pics	Approx. 4 750 pics	Approx. 5 000 pics	Approx. 5 250 pics
128 MB	Approx. 2 000 pics	Approx. 2 250 pics	Approx. 2 375 pics	Approx. 2 500 pics	Approx. 2 625 pics
64 MB	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 the logs [LOG]

Click the [LOG] tab on the "Basic setup" page.(☞ pages 4 and 5: How to display/operate the setup menu)
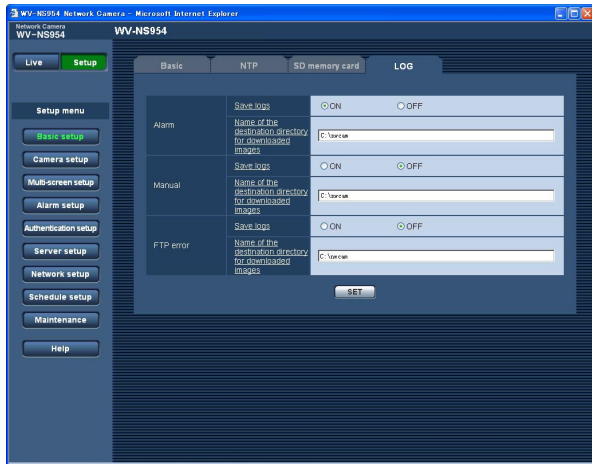
Important:
When "Without time and date" is selected for "File name" on the [FTP] tab on the "Network setup" page (☞ page 58), FTP error log and associated images will not be saved.
To save them, select "With time and date".

■ Alarm

[Save logs]
Select "ON" or "OFF" to determine whether to save the alarm logs.
ON: Saves the alarm logs
OFF: Does not save the alarm logs
Default: ON

[Name of the destination directory for downloaded images]
Enter the name of the destination directory to which images associated with the logs are to be downloaded.
For example, enter "C:\alarm" to designate the folder "alarm" under drive C.
Enter 3 to 128 characters.
Enter alphanumeric characters except the following:
    \ : / _

■ Manual

Select "ON" or "OFF" and designate the destination folder in the same manner as for "Alarm".

■ FTP error

Select "ON" or "OFF" and designate the destination folder in the same manner as for "Alarm".

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How the logs and images are saved depending on the settings for "Alarm"

[LOG] tab	[SD memory card] tab		Logs and associated images	
Alarm: Save logs	SD memory card	Save trigger		
ON	Use	Alarm input	Logs:	Up to 5 000 logs will be kept. When more than 5 000 logs are filed, the older logs will be overwritten by the newer logs. In this case, the oldest log is the first to be overwritten.
			Images:	Images associated with the logs will be saved. When available capacity of the SD memory card ran out, the older images will be overwritten by the newer images. Even when available capacity of the SD memory card is enough, the older images will be overwritten by the newer images when more than 5 000 logs are filed since associated images are to be deleted when the logs are deleted.
		Other than "Alarm input"	Logs:	Up to 5 000 logs will be kept. When more than 5 000 logs are filed, the older logs will be overwritten by the newer logs. In this case, the oldest log is the first to be overwritten.
			Images:	Images will not be saved.
	Not use	–	Logs:	Up to 1 000 logs will be kept. When more than 1 000 logs are filed, the older logs will be overwritten by the newer logs. In this case, the oldest log is the first to be overwritten. When the power of the camera is turned off, logs will be deleted.
			Images:	Images will not be saved. **Note:** To display images on the SD memory card, it is necessary to copy them onto the PC first. (☞ page 14)
OFF	Use	Alarm input	Logs:	Logs will not be saved.
			Images:	Images will be saved.
		Other than "Alarm input"	Logs:	Logs will not be saved.
			Images:	Images will not be saved.
	Not use	–	Logs:	Logs will not be saved.
			Images:	Images will not be saved.

How the logs and images are saved depending on the settings for "Manual"

[LOG] tab	[SD memory card] tab			Logs and associated images
Manual: Save logs	**SD memory card**	**Save trigger**	**Overwrite**	
ON	Use	Manual	ON	Logs: Up to 5 000 logs will be kept. When more than 5 000 logs are filed, the older logs will be overwritten by the newer logs. In this case, the oldest log is the first to be overwritten. Images: Images associated with the logs will be saved. When available capacity of the SD memory card ran out, the older images will be overwritten by the newer images. Even when available capacity of the SD memory card is enough, the older images will be overwritten by the newer images when more than 5 000 logs are filed since associated images are to be deleted when the logs are deleted.
			OFF	Logs: Up to 5 000 logs will be kept. When more than 5 000 logs are filed, no log will be filed newly anymore. Even when available capacity of the SD memory card ran out and it is not enough to save images, logs will be kept on being filed until it reaches 5 000 logs. Images: Images associated with the logs will be saved. When available capacity of the SD memory card ran out, saving of images will become impossible. Even when available capacity of the SD memory card is enough, images associated with logs will be kept on being saved until number of filed logs reaches 5 000.
		Other than "Manual"	–	Logs: Logs will not be saved. Images: Images will not be saved.
	Not use	–	–	Logs: Logs will not be saved. Images: Images will not be saved.
OFF	Use	Manual	ON	Logs: Logs will not be saved. Images: Images will be saved. When available capacity of the SD memory card ran out, the older images will be overwritten by the newer images. In this case, the oldest image is the first to be overwritten. **Note:** To display images on the SD memory card, it is necessary to copy them onto the PC first. (☞ page 14)
			OFF	Logs: Logs will not be saved. Images: Images will be saved. When available capacity of the SD memory card ran out, saving of images will become impossible. **Note:** To display images on the SD memory card, it is necessary to copy them onto the PC first. (☞ page 14)
		Other than "Manual"	–	Logs: Logs will not be saved. Images: Images will not be saved.

[LOG] tab	[SD memory card] tab			Logs and associated images
Manual: Save logs	SD memory card	Save trigger	Overwrite	
OFF	Not use	–	–	Logs: Logs will not be saved. Images: Images will not be saved.

How the logs and images are saved depending on the settings for "FTP error"

[LOG] tab	[SD memory card] tab		Logs and associated images
FTP error: Save logs	SD memory card	Save trigger	
ON	Use	FTP error	Logs: Up to 5 000 logs will be kept. When more than 5 000 logs are filed, no log will be filed newly anymore. Even when available capacity of the SD memory card ran out and it is not enough to save images, logs will be kept on being filed until it reaches 5 000 logs. Images: Images will be saved. When available capacity of the SD memory card ran out, saving of images will become impossible. Even when available capacity of the SD memory card is enough, images associated with logs will be kept on being saved until number of filed logs reaches 5 000.
		Other than "FTP error"	Logs: Logs will not be saved. Images: Images will not be saved.
	Not use	–	Logs: Logs will not be saved. Images: Images will not be saved.
OFF	Use	FTP error	Logs: Logs will not be saved. Images: Images will be saved. When available capacity of the SD memory card ran out, saving of images will become impossible. **Note:** To display images on the SD memory card, it is necessary to copy them onto the PC first. (☞ page 14)
		Other than "FTP error"	Logs: Logs will not be saved. Images: Images will not be saved.
	Not use	–	Logs: Logs will not be saved. Images: Images will not be saved.

Configure the settings relating to images and audio [Camera setup]

The settings relating to JPEG/MPEG-4 images and camera operations such as the settings of image quality, preset positions, audio, etc. can be configured on this page.
The "Camera setup" page has 4 tabs; the [JPEG/MPEG-4] tab, the [Cam Function] tab, the [Image/Position] tab and the [Audio] tab.

Configure the settings relating to JPEG/MPEG-4 images [JPEG/MPEG-4]

Click the [JPEG/MPEG-4] tab on the "Camera setup" page. (☞ pages 4 and 5: How to display/operate the setup menu)

■ JPEG setup

Configure the settings such as "Refresh interval (JPEG)*", "Image capture size" and "Image quality" on this section.
Refer to page 21 for further information about the settings relating to MPEG-4 images.
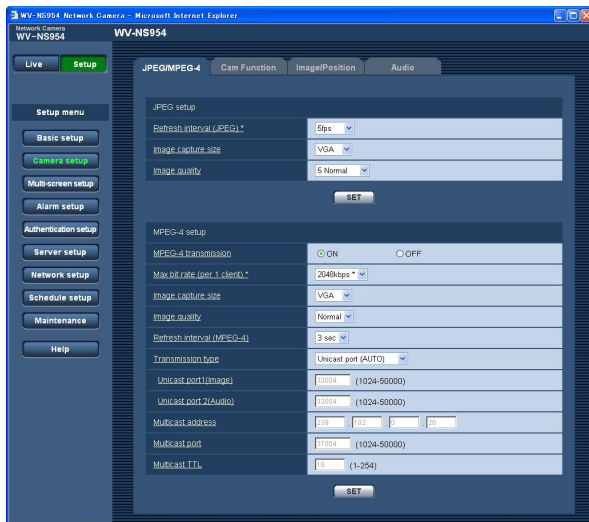
[Image capture size]
Select "QVGA" or "VGA" for the image capture size of JPEG images.
Default: VGA

[Image quality]
Select image quality of JPEG images from the following.
0 Super fine/1 Fine/2/3/4/5 Normal/6/7/8/9 Low
Default: 5 Normal

[Refresh interval (JPEG)*]
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 *
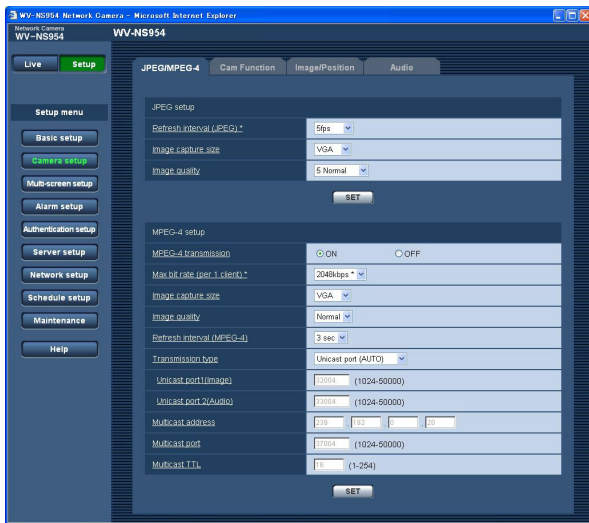**Default:** 5 fps

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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.

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■ MPEG-4 setup

Click the [JPEG/MPEG-4] tab on the "Camera setup" page. (☞ pages 4 and 5: How to display/operate the setup menu)

Configure the settings relating to MPEG-4 image such as "Max bit rate (per 1 client)", "Image capture size", "Image quality", etc. in this section. Refer to page 20 for further information about the settings relating to JPEG images. Refer to page 76 for how to configure settings to transmit MPEG-4 images via the Internet.

[MPEG-4 transmission]
Select "ON" or "OFF" to determine whether or not to transmit MPEG-4 images.
ON: Transmits MPEG-4 images.
OFF: Does not transmit MPEG-4 images.
Default: ON

Note:
When "ON" is selected for "MPEG-4" transmission, displaying of MPEG-4 images or JPEG images will be available. However, the refresh interval (JPEG) may be longer than the set value when displaying JPEG images.

[Max bit rate (per 1 client)*]
Select a MPEG-4 bit rate per a client from the following.
(Constant bit rate) 64 kbps/128 kbps */256 kbps */ 512 kbps */1024 kbps */1536 kbps */2048 kbps */ 3072 kbps */4096 kbps */(frame rate priority) 4096 kbps */unlimited *
Default: 2048 kbps *

Note:
The MPEG-4 bit rate is synchronized with "Total bit rate" on the [Network] tab of "Network setup" page (☞ page 54). For this reason, the bit rate may be lower than the value when any value with an asterisk (*) on the right is selected.

[Image capture size]
Select "QVGA" or "VGA" for the image capture size of MPEG-4 images.
Default: VGA

[Image quality]
Select the image quality of MPEG-4 images from the following.
Fine/Normal/Low
Default: Normal

Note:
This item is disabled when "(frame rate prioritized) 4096 kbps *" or "unlimited *" is selected for a bit rate per a client.

[Refresh interval (MPEG-4)]
Select an interval (I-frame interval; 0.2 - 5 seconds) to refresh the displayed MPEG-4 images.
If using under a network environment with frequent error occurrences, shorten the refresh interval for MPEG-4 to diminish image distortions. However, the refresh interval may be longer than the set value.
0.2 sec/0.33 sec/0.5 sec/1 sec/2 sec/3 sec/4 sec/5 sec
Default: 3 sec

[Transmission type]
Select a MPEG-4 transmission type from the following.
Unicast port (AUTO): Up to 8 users can access a single camera concurrently. "Unicast port1 (Image)" and "Unicast port2 (Audio)" will automatically be selected when transmitting images and audio from the camera.

When it is unnecessary to fix the port number for MPEG-4 image transmission such as when using in a particular LAN environment, it is recommended to select "Unicast port (AUTO)".

Unicast port (MANUAL): Up to 8 users can access a single camera concurrently. It is necessary to select "Unicast port1 (Image)" and "Unicast port2 (Audio)" manually to transmit images and audio from the camera.

It is possible to fix the port number of the router used for MPEG-4 image transmission via the Internet by setting "Unicast port (MANUAL)". (☞ page 76)
Refer to the operating instructions of the router in use.

Multicast: No concurrent access limitation for a camera.

Refer to Operating Instructions for further information about the maximum concurrent access number.

Default: Unicast port (AUTO)

[Unicast port1 (Image)]
Enter the unicast port number (used to transmit images from the camera).
Available port number: 1024 - 50000 (Only even numbers are available.)
Default: 32004

[Unicast port2 (Audio)]
Enter the unicast port number (used to transmit audio from the camera).
Available port number: 1024 - 50000 (Only even numbers are available.)
Default: 33004

[Multicast address]
Enter the multicast IP address.
Images and audio will be transmitted to the designated IP address.
Available IP address: 224.0.0.0 - 239.255.255.255
Default: 239.192.0.20

[Multicast port]
Enter the multicast port number (used to transmit images from the camera).
Available port number: 1024 - 50000 (Only even numbers are available.)
Default: 37004

[Multicast TTL]
Enter the multicast TTL value.
**Available value:** 1 - 254
Default: 16

Important:
• Depending on the PC in use for monitoring, the multicast port number may be already in use. In this case, it may be impossible to monitor images. Change the multicast port number.
• When transmitting an MPEG-4 image via a network, the transmitted image sometimes may not be displayed. In this case, refer to the network administrator.
• When two or more network interface cards are installed on the PC in use, the network interface card(s) not used for receiving images should be invalidated when displaying images using the multicast port.

Configure the settings relating to the camera title and the camera operations [Cam Function]

Click the [Cam Function] tab on the "Camera setup" page. (☞ pages 4 and 5: How to display/operate the setup menu)
Configure the settings relating to camera title and the camera operations on this page.
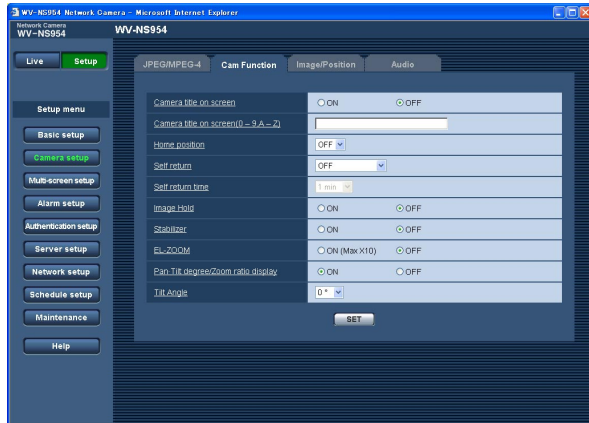
[Camera title on screen]
Select "ON" or "OFF" to determine whether or not to display the camera title on images.
Default: OFF

[Camera title on screen (0-9, A-Z)]
Enter the camera title to be displayed on images.
Number of characters for the camera title: 0 - 16 characters
Available characters: 0-9, A-Z and the following marks.
!"#$%&'()*+,-./:; =?
Default: None (blank)

Note:
When "ON" is selected, the entered camera title will be displayed at the position selected for "OSD Position" on the [Basic] tab of the "Basic setup" page. (☞ page 9)

[Home position]
A preset position (☞ page 30) can be set as the home position.
When a preset position is set as the home position, "H" will be displayed next to the preset position number.

[Self return]
When the time set for "Self return" has passed after manual operations of the camera, the camera will automatically be in the selected mode. This function is also

useful to automatically set the camera in a specific mode when the power of the camera is turned on.
OFF: The camera will not be in any mode.
Home position: When the set time has passed, the camera will move to the home position automatically.
Auto track: When the set time has passed, the camera will move to the home position and will start the auto track function. The camera will repeat this action (moves to the home position and starts the auto track function) afterward.
Auto pan: When the set time has passed, the camera will start the auto pan function.
Preset sequence: When the set time has passed, the camera will start the sequence function.
Patrol 1: When the set time has passed, the camera will start the patrol operation.
Default: OFF

Note:
The self return function works even when the setup menu is displayed.

[Self return time]
Select a waiting time (amount of time until the camera starts the selected operation after the end of the manual operations) from the following.
10 sec/20 sec/30 sec/1 min/ 2 min/3 min/5 min/10 min/ 20 min/30 min/60 min
Default: 1 min

[Image Hold]
Select "ON" or "OFF" to determine whether or not to hold the still image on the screen (that is displayed at the last moment before the camera started to move to a preset position) until the camera has moved to the preset position.
ON: A still image will be held on the screen until the camera has moved to the preset position.
OFF: Images from the camera will be displayed even when the camera is moving to the preset position.
Default: OFF

[Stabilizer]
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.
ON: Vibration is reduced.
OFF: Vibration is not reduced.
Default: OFF

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.
(☞ 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

[EL-ZOOM]
Select "ON" or "OFF" to determine whether or not to use the electronic zoom.
ON (Max X10): Images can be zoomed in on with the optical zoom (1x - 30x) and the electronic zoom (30x - 300x).
OFF: Does not use the electronic zoom.
Default: OFF

Notes:
• When "ON" is selected, zooming will stop when the zoom factor has reached 30x.
• When the zoom factor is increased to 30x (EL-zoom) or more, the image resolution will be lower.
• When the zoom factor is 30x or more, the setting of the preset positions will become unavailable.

[Pan·Tilt degree/Zoom ratio display]
Select "ON" or "OFF" to determine whether or not to display the current panning/tilting degree and the zoom factor on images when the camera is being operated manually.
ON: Displays the current panning/tilting degree and the zoom factor.
OFF: Does not display the current panning/tilting degree and the zoom factor.
Default: ON

Note:
When "ON" is selected, the panning/tilting degree and the zoom factor will be displayed at the position selected for "OSD Position" on the [Basic] tab of the "Basic setup" page. (☞ page 9)

[Tilt Angle]
Select the maximum degree for tilting from the following. (Level = 0°)
0°/–1°/–2°/–3°/–4°/–5°
Default: 0°

Note:
When "–5°" is selected for "Tilt Angle", the upper half of images will be hidden in the WIDE mode. When "ON" is selected for "Gain" (☞ page 23), some images become whitish due to the AGC effect.

Configure the settings relating to images and the preset positions [Image/Position]

Click the [Image/Position] tab on the "Camera setup" page. (☞ pages 4 and 5: How to display/operate the setup menu)

When the [SETUP>>] button of each setting item is clicked, the detailed settings menu will be displayed in a newly opened window. The detailed settings can be configured while monitoring images displayed on the [Image/Position] tab.

The following are descriptions of how to configure the settings relating to image quality, preset positions, auto pan, patrol, privacy zone, etc.
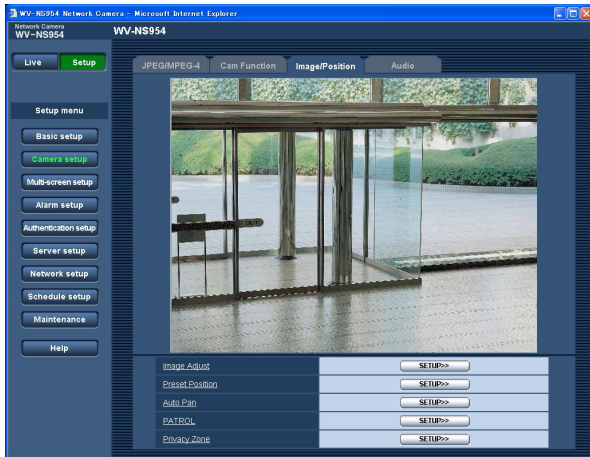
[Image Adjust]
Click the [SETUP>>] button to display the setup menu that can configure the settings relating to image quality. The setup menu will be displayed in a newly opened window. (☞ page 26)

[Preset Position]
Click the [SETUP>>] button to display the setup menu that can configure the settings relating to the preset positions. The setup menu will be displayed in a newly opened window. (☞ page 30)

[Auto Pan]
Click the [SETUP>>] button to display the setup menu that can configure the settings relating to the auto pan function. The setup menu will be displayed in a newly opened window. (☞ page 32)

[Patrol]
Click the [SETUP>>] button to display the setup menu that can configure the settings relating to the patrol function. The setup menu will be displayed in a newly opened window. (☞ page 33)

[Privacy Zone]
Click the [SETUP>>] button to display the setup menu that can configure the settings relating to the privacy zone. The setup menu will be displayed in a newly opened window. (☞ page 34)

Configure the settings relating to image quality ("Image Adjust" setup menu)

Click the [SETUP>>] button of "Image Adjust" on the [Image/Position] tab of the "Camera setup" page. (☞ page 25)
The settings relating to image quality can be configured with the setup menu displayed in a newly displayed window. When the values are changed, the changed values will be applied immediately to the currently displayed image on the [Image/Position] tab.

[Super Dynamic 3]
Select "ON" or "OFF" to determine whether to turn on or off super dynamic 3 (SUPER-D 3).
Refer to the next page for further information about SUPER-D 3.
ON: Turn on SUPER-D 3
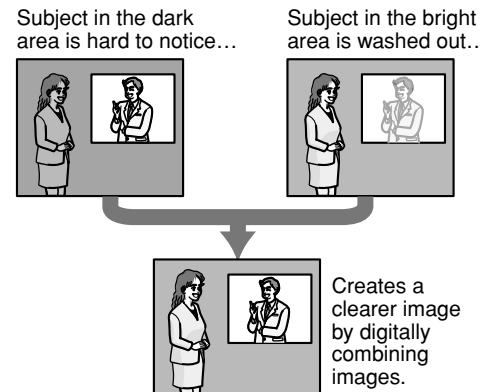**OFF:** Turn off SUPER-D 3
Default: OFF

Note:
In the following cases, turn off SUPER-D 3.
• When flickering appears or the colour changes on the screen
• When noise appears in the brighter area on the screen

About SUPER-D 3 (Super Dynamic function)
When there is wide variation between the illumination of light and dark areas of the location being monitored, the camera adjusts the lens iris in accordance with the brighter areas. This causes loss of detail in darker areas. Conversely, adjusting the lens brightness for the darker areas causes the brighter areas to become washed out. SUPER-D 3 digitally combines an image that is set up for a clear view of the brighter areas with an image that is set up for a clear view of the darker areas, creating a final image that preserves over-all detail.

Subject in the dark area is hard to notice…

Subject in the bright area is washed out..

Creates a clearer image by digitally combining images.

[Mask area]
When "OFF" is selected for "Super Dynamic 3", it is possible to compensate for backlight by masking the brighter area.
Refer to page 29 for descriptions of how to mask.

[Shutter]
Select the shutter speed from the following.
AUTO: Provides clearer images of bright objects outdoors since the shutter speed is adjusted automatically. Flickering caused by fluorescent lamps can also be compensated.
OFF: Fixed at 1/60 sec
1/100: Recommended when flickering caused by fluorescent lamp appears frequently.
Default: AUTO
Depending on the environment, flickering may not be compensated even when selecting "AUTO". When flickers appear frequently, set the shutter speed to "1/100".

[AGC]
Select a method of gain adjustment from the following.
ON (HIGH)/ON (MID)/ON (LOW): When the luminance of the subject becomes darker, gain will be automatically incremented and screen will become brighter. "HIGH", "MID" and "LOW" are indications of gain level.
OFF: Images will be captured with the fixed gain level.
Default: ON (HIGH)

[Sensitivity up]
The electronic sensitivity enhancement (sensitivity up) can be carried out by adjusting the storage time of CCD. The following are available for the sensitivity up.
OFF/x2 AUTO/x4 AUTO/x6 AUTO/x10 AUTO/
x16 AUTO/x32 AUTO
Default: OFF

Note:
When "x32 AUTO" is selected, for example, sensitivity will automatically be increased up to x32.

Important:
When the sensitivity up function is active, frame rate may become lower. Noise or white dots (blemishes) may sometimes appear.

[Black & white mode]
Select switching between the colour mode and the black & white mode.
ON: The black & white mode is selected.
OFF: The colour mode is selected.
AUTO: 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.
Default: OFF

[LEVEL]
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 the lighting around the camera is approximately 2 lx or lower.
Default: HIGH

[Wait time]
Select the interval before switching between the colour mode and black & white mode from the following.
10 sec/30 sec/1 min/5 min
Default: 30 sec

[White balance]
Select a method of white balance adjustment from the following.
White colour can be adjusted by "Red Gain" and "Blue Gain".
ATW1: Auto tracing white balance mode
The camera will constantly check the colour temperature of the light source and adjust the white balance automatically.
Operating colour temperature range is approx. 2 700 K – 6 000 K.
ATW2: Auto tracing white balance under a sodium lamp. The camera will adjust the white balance automatically under a sodium lamp.
Operating colour temperature range is approx. 2 000 K – 6 000 K.
AWC: Auto white balance control mode
Suitable for shooting where the light source is fixed and the light intensity is constant. Operating colour temperature range is approx. 2 000 K – 10 000 K.
Default: ATW1

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[Red Gain]

Adjust the red colour of images.
When the cursor is moved in the "+" direction, the red colour will become thicker. When the cursor is moved in the "–" direction, the red colour will be thinner. Click the [RESET] button to reset the colour to the default.

[Blue Gain]

Adjust the blue colour of images.
When the cursor is moved in the "+" direction, the blue colour will become thicker. When the cursor is moved in the "–" direction, the blue colour will be thinner. Click the [RESET] button to reset the colour to the default.

[DNR (Digital Noise Reduction)]

When this function (digital noise reduction) is active, noise may be automatically reduced under a low luminance. Select an effect level "LOW" or "HIGH" for the digital noise reduction.
HIGH: High DNR, afterimage remains
LOW: Low DNR, reduces afterimage
Default: HIGH

[Chroma gain level]

Adjust the chroma level (colour density).
When the cursor is moved in the "+" direction, the colours will become thicker. When the cursor is moved in the "–" direction, the colours will be thinner.
Click the [RESET] button to reset the colour to the default.

[Aperture level]

Adjust the aperture level (outline compensation).
Images will be sharper when the cursor is moved in the "+" direction, and will be softer when the cursor is moved in the "–" direction.
Click the [RESET] button to reset the level to the default.

[Pedestal level]

Adjust the black level of images by moving the cursor. When the cursor is moved to the "+" direction, images will become brighter. When the cursor is moved to the "–" direction, images will be darker.
Click the [RESET] button to reset the level to the default.

[CLOSE] button

Click this button to close the "Image Adjust" setup menu.

Set mask areas

When "OFF" is selected for "Super Dynamic 3", it is possible to compensate for backlight by masking brighter areas.
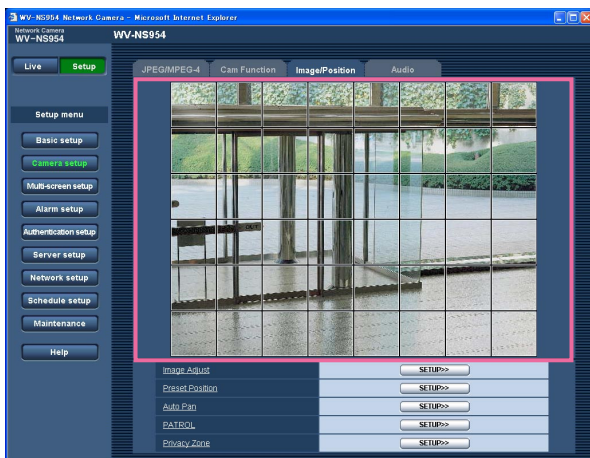
Step 1

Display the setup menu of "Image Adjust". (☞ page 26)

Step 2

Click the [START] button of "Mask area".

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

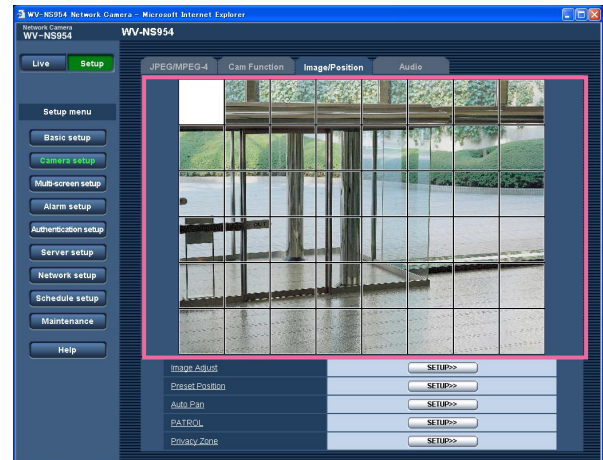### Step 3

Click the divided areas to be masked.

→ The clicked areas will be masked and will become white.
To cancel masking, click the area again.

Step 4

Click the [END] button after completing masking areas.

→ The borders on the image displayed on the [Image/Position] tab will disappear.

Note:

When the [RESET] button is clicked, masking for all the masked areas will be canceled.

Configure the settings relating to the preset positions ("Preset No." setup menu)

Click the [SETUP>>] button of "Preset Position" on the [Image/Position] tab of the "Camera setup" page. (☞ page 25)

It is possible to register, edit and delete the preset positions on this page.

When the focus, brightness, zoom factor are adjusted, the adjustment will be applied immediately to the currently displayed image on the [Image/Position] tab.

Depending on the environment (such as when the temperature is below 5 °C (41 °F), for example), the moving speed of the camera to the preset position may become slower.

Register the preset position

Step 1
Move the camera to the position to be registered as a preset position, and then select the desired preset position number.

Step 2
Click the [SET] button.
→ The selected preset position number will be displayed next to "Position No.".

Step 3
To display the preset ID on the "Live" page, select "ON" for "Preset ID" and enter the desired preset ID to be displayed. Then, click the [SET] button to apply the settings.

Step 4
The settings of "Auto focus", "Dwell time", "Super Dynamic 3" and "Mask area" can be configured for each position independently.

Notes:
- When the displayed image is being zoomed in more than x30, it is impossible to register the preset positions.
  Decrement the zoom ration less than x30 and try to register the preset positions again.
- It is impossible to register the preset positions during the digital flip operation. When the [SET] button is clicked, the camera will move and stop at the same position with the panning/tilting operation. Then, click the [SET] button again to register the preset position.

Edit the settings of the registered preset position

Step 1
Select the preset position number whose settings are to be edited.

Step 2
Click the [GO] button.

Step 3
When the camera reached the preset position, do steps 3-4 of "Register the preset position".

[Preset No.]

[SET] button: When the position of the camera is determined using the [ZOOM] buttons, the [FOCUS] buttons, the [BRIGHTNESS] buttons and the control pad/buttons, click this button after selecting the desired preset position number (1 - 256) from the pull-down menu.
The determined position will be newly registered as the preset position.

[DEL] button: When this button is clicked after selecting the preset position number to be deleted from the pull-down menu, the preset position will be deleted.

[GO] button: When this button is clicked after selecting the preset position number from the pull-down menu, the camera will move to the selected preset position and the registration information will be displayed on the "Preset No." setup menu. Images from the camera will be displayed on the [Image/Position] tab.

Note:
When registering the preset position, the camera may move slightly in the direction that the camera moved last. This is a normal operation.

■ Position No.

[Preset ID]
Select "ON" or "OFF" to determine whether to enable or disable the preset ID display. The preset ID display can be applied to each preset position.
ON: Displays the preset ID.
OFF: Does not display the preset ID.
Default: OFF

Note:
When "ON" is selected, the entered preset ID will be displayed at the position selected for "OSD Position" on the [Basic] tab of the "Basic setup" page.
(☞ page 9)

Important:
When "Preset ID (0-9, A-Z)" or "Preset ID" is edited, it is necessary to click the [SET] button to apply them.

[Preset ID (0-9, A-Z)]
Enter the preset ID to be displayed on images. The preset IDs can be applied to each preset position.

Available characters: 0-9, A-Z and the following marks.
!"#$%&'()*+,-./:; =?
Number of characters for the preset ID: 0 - 16 characters
Default: None (blank)

Note:
The entered preset ID will be displayed next to the preset position number on the pull-down menu. When "ON" is selected for "Preset ID", the preset ID will be displayed on images.

[Auto focus]
Select "AUTO" or "OFF" to determine whether to enable or disable the auto focus function after the camera has moved to a preset position. This function can be applied to each preset position.
AUTO: The auto focus function will be activated after moving to a preset position.
OFF: Does not activate the auto focus function after moving to a preset position.
Default: OFF

Note:
When the preset position is set to shoot the following objects, it is recommended to select "OFF" since the camera can focus on them quickly.
 • An object whose depth never changes
 • An object whose contrast is low
 • An object with high luminance such as a spotlight

[Dwell time]
Select a dwell time (duration the camera stops for at each preset position) for the preset sequence operation.
5 sec/10 sec/20 sec/30 sec
Default: 10 sec

[Super Dynamic 3]
Select "ON" or "OFF" to determine whether to turn on or off super dynamic 3 (SUPER-D 3). This function can be applied to each preset position.
ON: Turn on SUPER-D 3
OFF: Turn off SUPER-D 3
Default: OFF

[Mask area]
When "OFF" is selected for "Super Dynamic 3", it is possible to compensate for backlight by masking brighter areas.
Refer to page 29 for descriptions of how to mask.
This setting shall be performed after selecting a preset number and clicking the [GO] button.
ZOOM buttons

FOCUS buttons
BRIGHTNESS buttons
Control pad/buttons
Refer to Operating Instructions for descriptions of how to operate these buttons/pad.

Panning, tilting and zooming operations can also be carried out on the [Image/Position] tab.
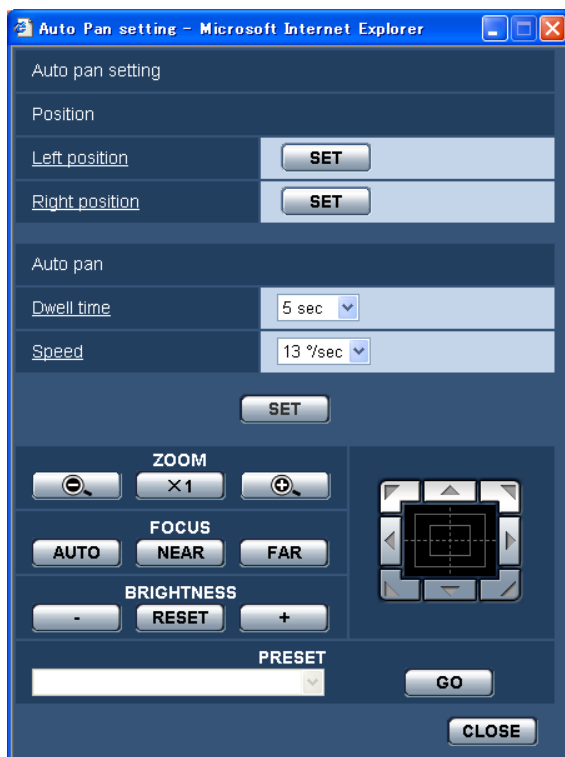
[CLOSE] button
Click this button to close the "Preset No." setup menu.

Configure the settings relating to the auto pan function ("Auto Pan" setup menu)

Click the [SETUP>>] button of "Auto Pan" on the [Image/Position] tab of the "Camera setup" page. (☞ page 25)
The settings relating to the auto pan function can be configured with the setup menu displayed in a newly displayed window.

■ Position
[Left position]
Move the camera to the desired point to be set as the left point of the auto panning using the control pad/buttons and adjust the image using the [ZOOM] buttons and the [FOCUS] buttons.
Then click the [SET] button to register the position as the left position.

[Right position]
Move the camera to the desired point to be set as the right point of the auto panning using the control pad/buttons, and then click the [SET] button to register the position as the right position.

Notes:
• Panning, tilting and zooming operations can also be carried out on the [Image/Position] tab.
• Adjusted zoom and focus position for the auto pan function will be applied when [SET] button of "Start position" is clicked. These adjustments will not be applied by clicking the [SET] button of "End position".

■ Auto pan
[Dwell time]
Select a dwell time at the left position and the right position from the following.
5 sec/10 sec/20 sec/30 sec
Default: 5 sec

[Speed]
Select a speed for the auto panning from the following.
3° /sec, 4° /sec, 5° /sec, 7° /sec, 10° /sec, 13° /sec, 18° /sec, 24° /sec
Default: 13° /sec

Note:
Even when the selected zoom factor is higher than 30x, the camera will start panning with 30x zoom factor.

Important:
• When "Dwell time" or "Speed" is edited, it is necessary to click the [SET] button to apply them.
• If these settings were configured during the auto pan operation, stop the auto panning once and resume the auto panning again.

ZOOM buttons
FOCUS buttons
BRIGHTNESS buttons

Control pad/buttons
Refer to Operating Instructions for descriptions of how to operate these buttons/pad.
Panning, tilting and zooming operations can also be carried out on the [Image/Position] tab.

[PRESET]
Select from registered preset items.

[GO] button
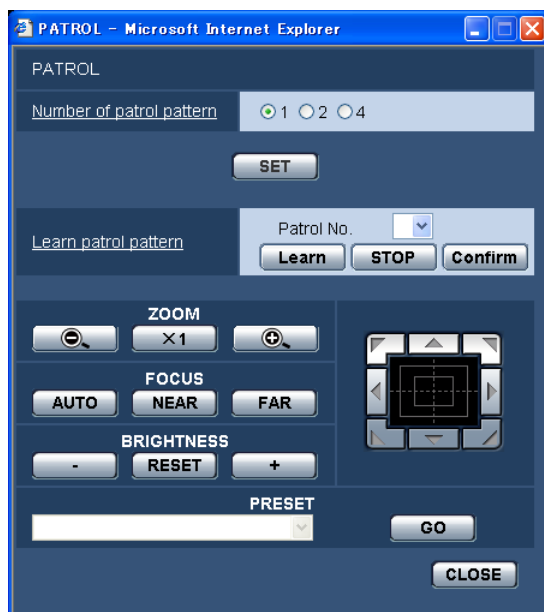The camera moves to the selected preset position.

[CLOSE] button
Click this button to close the "Auto pan" setup menu.

Configure the settings relating to the patrol function ("PATROL" setup screen)

Click the [SETUP>>] button of "PATROL" on the [Image/Position] tab.
The settings relating to the patrol function can be configured.

■ PATROL

[Number of patrol pattern]
The number of patrol pattern is selectable from the following.
The programmed time varies with the number of patrol pattern.
1: A 2-min. operation can be stored into Patrol 1.
2: A 1-min. operation can be stored into Patrol 1 and Patrol 2 each.
4: A 30-sec. operation can be stored into Patrol 1, Patrol 2, Patrol 3, and Patrol 4 each.

Note:
　　Changing the number of patrol pattern deletes the stored patrol operation or operations.

[Learn patrol pattern]
Click the [∨] button in the [Patrol No.] box to select a patrol number (1-4).

"*" at the right side of the patrol number indicates that the patrol operation is already stored.
Clicking the "Learn" button with the patrol number selected starts storing the camera operation. "LEARNING (OOOS)" appears in the center of the screen during operation storing.
　* "OOOS" shows the remaining available time.
　　Panning, tilting, zooming, and presetting are operated. Click the [STOP] button to stop storing while the camera action is stored, or to stop reenacting while the camera action is reenacted. Stop storing even if the remaining available time shows 0 second.
　　Clicking the "Confirm" button with the patrol number selected demonstrates the stored camera operation.

Note:
　　Storable camera operations are described below.
　　① At starting operation
　　　Pan position, tilt position, zoom position, focus position, brightness setting, super dynamic 3 setting, shutter speed setting, gain setting, electronic sensitivity enhancing, white balance setting, R volume setting, and B volume setting.
　　② At camera operation
　　　Pan position, tilt position, zoom position, focus position, brightness setting, and preset position moving

The auto focus function is disabled while the patrol operation is activated. At this moment, the focus is missed by zooming up from the WIDE side. This is one of the features of a zoom lens. Therefore, zooming from

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the TELE side allows users to obtain correct focus at storing zoom operation. The programmed quantity is selectable from the following. The patrol operation angle ranges from 0 degree to –90 degrees. The digital flip function is disabled.
ZOOM buttons
FOCUS buttons

BRIGHTNESS buttons
Control pad/buttons

[PRESET]
Refer to Operating Instructions for how to operate the buttons.

[CLOSE] button
Click this button to close the "PATROL" setup menu.

Configure the settings relating to the privacy zone ("Privacy Zone" setup menu)

Click the [SETUP>>] button of "Privacy Zone" on the [Image/Position] tab of the "Camera setup" page. (☞ page 25)
When there is a zone that is not to be displayed, set the zone as a privacy zone to not to display. Up to 8 privacy zones can be set.

Notes:
• Depending on the panning/tilting direction (especially when the tilting degree is 45 ° - 90 °) and the zooming factor, the area set as the privacy zone may become visible. Make sure that each of the set privacy zone is not visible after setting it.
• The privacy zone function does not work when the camera is in the process of warming-up just after turning on the power, or in the process of refreshing the position.
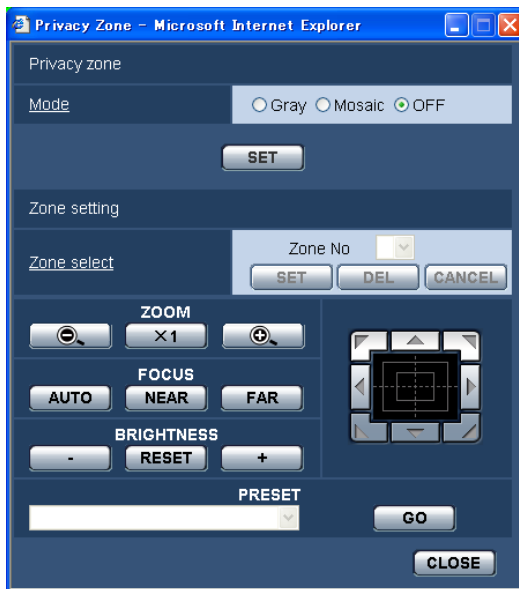
■ Privacy zone

[Mode]
Select a display mode of the privacy zone from the following.
Gray: The privacy zones will be displayed in gray.
Mosaic: The privacy zones will be displayed with a mosaic effect.
OFF: Does not display the privacy zones.
Default: OFF

■ Zone setting

[Zone select]
Click [∨] of "Zone No" and select a zone number (1-8) from the pull-down menu.
An asterisk (*) next to the zone number indicates that the privacy zone has already been set for the number.
A blinking mask will be displayed at the center of the image displayed on the [Image/Position] tab.
Operate the camera with the panning/tilting/zooming operations to cover the area to be covered by the blinking mask.
This setting is performed after operating the camera with the panning/tilting/zooming operations to determine the size and position for mask matching with hidden areas.
To delete the registered zone, click the [DEL] button after designating the desired zone number to be deleted.
Click the [CANCEL] button to cancel the application or to delete the setting.

Notes:
• Set the privacy zone larger than the size of an object to be hidden. To raise the precision of the privacy zone placement especially when the zoom is on the WIDE side, it is recommended to set the privacy zone with the zoom range between 1x and 3x.
• Panning, tilting and zooming operations can also be carried out on the [Image/Position] tab.

- When selecting "Zone No" after selecting "Gray" for "Mode", a mask will be displayed at the center of the image display area and will start blinking while changing its colour as follows.
Dark gray → Clear → Light gray → Clear → Dark gray...
When the other mask that had already been set is on the same zone, the mask that had previously been set will blink as follows.
Dark gray → Light gray
- When selecting "Zone No" after selecting "Mosaic" for "Mode", a mask will be displayed at the center of the image display area with a mosaic effect.
When the other mask that had already been set is on the same zone, the mask that had previously been set will be displayed in dark gray.

ZOOM buttons
FOCUS buttons
BRIGHTNESS buttons
Control pad/buttons
Refer to Operating Instructions for descriptions of how to operate these buttons/pad.

[PRESET]
Select from registered preset items.

[GO] button
The camera moves to the selected preset position.

[CLOSE] button
Click this button to close the "Privacy zone" setup menu.

Configure the settings relating to audio [Audio]

Click the [Audio] tab on the "Camera setup" page. (☞ pages 4 and 5: How to display/operate the setup menu)
The settings relating to audio can be configured on this page.
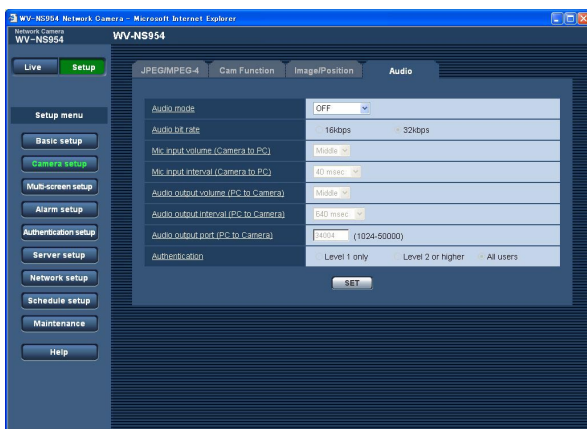
[Audio mode]
Select the communication mode used for audio data transmission/reception between the camera and the PC from the following.
OFF: Does not receive/transmit audio between the camera and the PC. Therefore, the settings and controls relating to audio will be invalidated.
Mic input: The PC receives audio data from the camera. Audio can be heard with images on the PC. Images and audio will not be synchronized.
Audio output: Audio data from the PC will be transmitted to the camera. Audio can be heard from the speaker connected to the camera.

Interactive (half duplex): Both reception and transmission are available. However, audio data cannot simultaneously be transmitted and received.
Interactive (full duplex): Both reception and transmission are simultaneously available.

Note:
Howling may be generated depending on usage conditions. If howling is generated, prevent sound generated by the PC from entering the PC microphone.

Default: OFF

Note:
When "Multicast" is selected for "Transmission type" of "MPEG-4 setup" in the "MPEG-4 setup" section of the [JPEG/MPEG-4] tab of the "Camera setup" page (☞ page 21), it is impossible to carry out the "Audio output" operation while monitoring MPEG-4 image. To carry out the "Audio output" operation, click the [JPEG] button.

[Audio bit rate]
Select "16 kbps" or "32 kbps" for the audio bit rate used to transmit/receive audio data.
Default: 32 kbps

Note:
>   When selecting a smaller value for "Total bit rate"
>   (☞ page 54) while putting a priority on the JPEG/
>   MPEG-4 image transmission, select "16 kbps" for
>   "Audio bit rate".

[Mic input volume (Camera to PC)]
Select a volume level on the PC to hear audio transmit-
ted from the camera.
Low/Middle/High
Default: Middle

[Mic input interval (Camera to PC)]
Select an interval for audio reception from the following.
20 msec/40 msec/80 msec/160 msec
Default: 40 msec

Note:
>   When a shorter interval is selected, the delay time
>   will be shorter. When a longer interval is selected,
>   audio interruption may be diminished even though
>   the delay time will be longer.
>   Select the interval according to the network environ-
>   ment.

[Audio output volume (PC to Camera)]
Select a volume level on the camera to hear audio
transmitted from the PC.
Low/Middle/High
Default: Middle

[Audio output interval (PC to Camera)]
Select an interval for audio transmission from the follow-
ing.
160 msec/320 msec/640 msec/1280 msec
Default: 640 msec

Notes:
> • When a shorter interval is selected, the delay time
>   will be shorter. When a longer interval is selected,
>   audio interruption may be diminished even though
>   the delay time will be longer.
>   Select the interval according to the network environ-
>   ment.
> • Audio may temporarily be interrupted or noise may
>   be heard when panning, tilting or zooming the cam-
>   era, or when multiple users are accessing concur-
>   rently. It may be possible to diminish the interruption
>   or noise by setting a longer interval for "Audio output
>   interval (PC to Camera)".

[Audio output port (PC to Camera)]
Enter the transmission port number (the port number on
the camera used to receive audio data transmitted from
the PC).
Available port number: 1024 - 50000 (Only even num-
>   bers are available.)
Default: 34004

Note:
>   The transmission port number entered for "Audio
>   output port (PC to Camera)" will be used only when
>   "Unicast (MANUAL)" is selected for "Transmission
>   type" (☞ page 21).
>   When "OFF" is selected for "MPEG-4 transmission"
>   (☞ page 21) or when "Unicast (AUTO)" or
>   "Multicast" is selected for "Transmission type", it is
>   not necessary to enter the transmission port num-
>   ber.

[Authentication]
Select an access level for audio transmission/reception
from the following. Refer to page 49 for further informa-
tion about the access level.
Level 1 only/Level 2 or higher/All users
Default: All users

Notes:
> • Images and audio will not be synchronized.
>   Therefore, images and audio may not always match.
> • Audio may be interrupted depending on the network
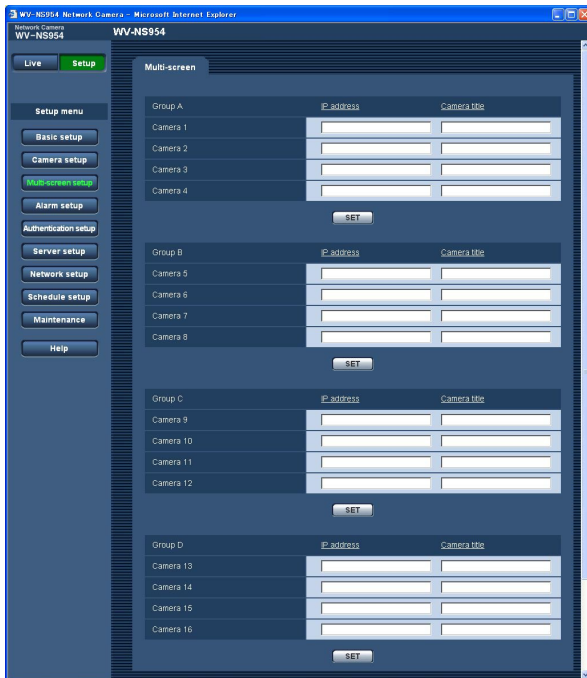>   environment.

Configures the multi-screen settings [Multi-screen setup]

The cameras to be used for the multi-screen display can be registered on this page.
Refer to Operating Instructions for descriptions of how to display images on a multi-screen.
The following cameras are applicable for the multi-screen display. (as of December 2007)
WV-NF284 series, WV-NS202 series, WV-NP240 series, WV-NP1000 series, WV-NW470S series, WV-NP472, WV-NS320 series, WV-NW484S series, WV-NS950 series, WV-NW960 series

[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 - 20 characters

Note:
When selecting a 16 split-screen, some characters of the camera title to be displayed may not be displayed.

[IP address]
Enter the IP address or the host name of the camera to be used for the multi-screen. 4 cameras can be registered as a group and up to 4 groups (16 cameras) can be registered.
When the HTTP port number for the camera had been changed, enter as follows: "IP address of the camera:port number", for example "192.168.0.10:8080".
Number of characters for the IP address: 1 - 128 characters

Note:
When using the host name, it is necessary to configure the DNS settings of the PC to be used for the multi-screen display. (☞ page 54)

Configure the alarm settings [Alarm setup]

The settings relating to alarm occurrences such as settings for the alarm action at an alarm occurrence, the alarm occurrence notification, and the VMD area settings can be configured on this page.
The "Alarm setup" page has 3 tabs; the [Alarm] tab, the [VMD area] tab and the [Notification] tab.
The terminal alarms 1, 2, and 3 indicate the EXT I/Os 1, 2, and 3, respectively (☞ Installation Guide).

Configure the settings relating to the alarm [Alarm]

Click the [Alarm] tab on the "Alarm setup" page. (☞ pages 4 and 5: How to display/operate the setup menu)

■ Alarm setup

The settings relating to the alarm can be configured in this section. Refer to pages 39, 41 and 42 for further information about the settings relating to the camera action at an alarm occurrence, the alarm image and the alarm output terminal.
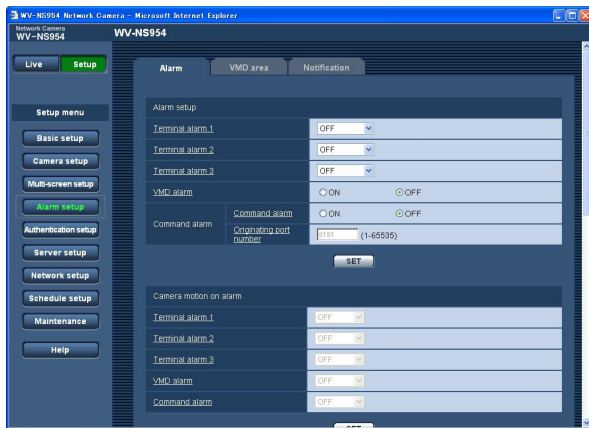
[Terminal alarm 1]
Determine whether or not to use a terminal alarm 1 by selecting "OFF", "Alarm input" or "Black & white input".
OFF: Does not use alarms.
Alarm input: Uses alarms.
Black & white input: Toggles between black & white and color in accordance with input.

Note:
When an input is provided to the Black & white input during patrol, the patrol action stops. If the patrol action is continued, select "Patrol 1" in the [Self return] box.

Default: OFF

[Terminal alarm 2]
Determine whether or not to use a terminal alarm 2 by selecting "OFF", "Alarm input" or "Alarm output".
OFF: Does not use alarms.
Alarm input: Uses alarms.

Alarm output: Alarm output will be carried out according to the settings for "Alarm output terminal setup" (☞ page 42).
Default: OFF

[Terminal alarm 3]
Determine whether or not to use a terminal alarm 3 by selecting "OFF", "Alarm input" or "AUX output".
OFF: Does not use.
Alarm input: Uses alarms.
AUX output: The AUX buttons will be displayed on the "Live" page.
Default: OFF

Note:
AUX is a camera terminal that allows users to operate (OPEN/CLOSE) at will from the "Live" page. For example, an operator can remotely control lights in a place where the camera is installed by connecting the terminal to the light controller.

[VMD alarm]
Select "ON" or "OFF" to determine whether or not to perform the alarm action using the VMD function. Refer to page 43 for descriptions of how to set the VMD areas.
Default: OFF

Important:
When the VMD alarm is set to "ON", the refresh interval for MPEG-4 and JPEG (QVGA) images becomes up to 15 fps.

[Command alarm]

Select "ON" or "OFF" to determine whether or not to use the command alarm.

The command alarm is the function that provides notification of a Panasonic protocol alarm from the other cameras. When "ON" is selected, alarm actions will be performed between multiple cameras.

Default: OFF

[Originating port number]

Select a port number to be used to receive the command alarm.

**Available port number:** 1 - 65535
Default: 8181

Configure the settings relating to the camera action at an alarm occurrence

Click the [Alarm] tab on the "Alarm setup" page. (☞ pages 4 and 5: How to display/operate the setup menu)

■ Camera motion on alarm

The settings relating to the camera action at an alarm occurrence can be configured in this section. Refer to pages 38, 41 and 42 for further information about the settings relating to the alarm, the alarm image and the alarm output terminal.
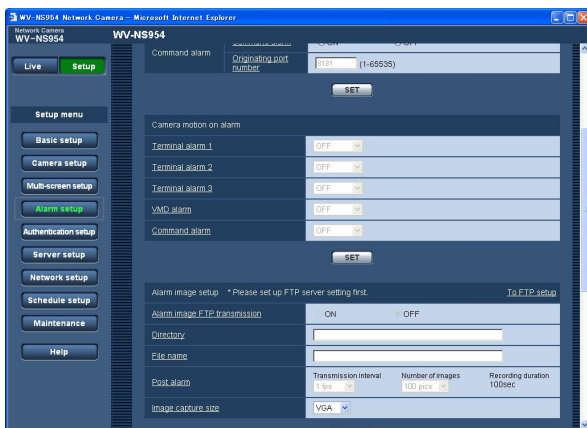
[Terminal alarm 1]

Select an action to be taken when a terminal alarm 1 is detected from the following.

OFF: Does not take any action even when a terminal alarm 1 is detected.

1-256: When the registered preset position is selected, the camera will move to the selected preset position when a terminal alarm 1 is detected.

Auto track: When a terminal alarm 1 is detected, the camera will start the auto tracking.
When the home position is set, the camera will start auto tracking after moving to the home position once.

Patrol 1: When a terminal alarm 1 is detected, the camera will start the patrol 1 operation.*

Default: OFF

[Terminal alarm 2]

Select an action to be taken when a terminal alarm 2 is detected from the following.

OFF: Does not take any action even when a terminal alarm 2 is detected.

1-256: When the registered preset position is selected, the camera will move to the selected preset position when a terminal alarm 2 is detected.

Auto track: When a terminal alarm 2 is detected, the camera will start the auto tracking.
When the home position is set, the camera will start auto tracking after moving to the home position once.

Patrol 2: When a terminal alarm 2 is detected, the camera will start the patrol 2 action.*

Default: OFF

[Terminal alarm 3]

Select an action to be taken when a terminal alarm 3 is detected from the following.

OFF: Does not take any action even when a terminal alarm 3 is detected.

1-256: When the registered preset position is selected, the camera will move to the selected preset position when a terminal alarm 3 is detected.

Auto track: When a terminal alarm 3 is detected, the camera will start the auto tracking.
When the home position is set, the camera will start auto tracking after moving to the home position once.

Patrol 3: When a terminal alarm 3 is detected, the camera will start the patrol 3 operation.*
Default: OFF

"AUX" is the terminal that can be switched between "OPEN" and CLOSE" from the "Live" page. It is useful when controlling the connected external device. For example, when it is necessary to control lighting at the camera location, connect a lighting control device to the terminal (AUX OUT) of the camera to remotely control lighting at the camera location.

[VMD alarm]
Select an action to be taken when a VMD alarm is detected from the following.
OFF: Does not take any action even when a VMD alarm is detected.
1-256: When the registered preset position is selected, the camera will move to the selected preset position when a VMD alarm is detected.
Auto track: When a VMD alarm is detected, the camera will start the auto tracking.
When the home position is set, the camera will start auto tracking after moving to the home position once.

Patrol 1: When an alarm is detected through the motion detector, the camera will start the patrol 1 action.*
Default: OFF

[Command alarm]
Select an action to be taken when a command alarm is detected from the following.
OFF: Does not take any action even when a command alarm is detected.
1-256: When the registered preset position is selected, the camera will move to the selected preset position when a command alarm is detected.
Auto track: When a command alarm is detected, the camera will start the auto tracking.
When the home position is set, the camera will start auto tracking after moving to the home position once.
Patrol 1: When a command alarm is detected, the camera will start the patrol 1 action.*
Default: OFF

* This content is displayed in the pull down window only when the patrol action is stored.

Configure the settings relating to the alarm image
Click the [Alarm] tab on the "Alarm setup" page. (☞ pages 4 and 5: How to display/operate the setup menu)
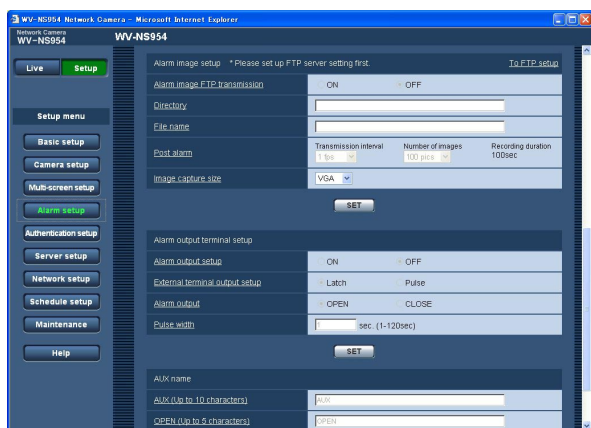
■ Alarm image setup

The settings relating to the alarm image to be transmitted to an FTP server can be configured in this section. The alarm image will be transmitted to an FTP server. To transmit alarm images to an FTP server, it is necessary to configure the settings in advance. (☞ page 52)
Refer to pages 38, 39 and 42 for further information about the settings relating to the alarm, the camera action at an alarm occurrence and the alarm output terminal.

Important:
• Depending on the network line speed or the network traffic, images may not be transmitted at the exact designated interval or period.
• When "Alarm input" or "Manual" is selected for "Save trigger" on the [SD memory card] tab, images will not be transmitted to the FTP server even when an alarm is detected. (☞ page 11)
When the configured image refresh interval is high, timing or interval of notification or recording may become inexact and notification or recording may not carried out as configured when images are transmitted by multiple users. (☞ page 41) If this happened, set the image refresh interval lower.

[To FTP setup]
When "To FTP setup" is clicked, the [FTP] tab of the "Server setup" page will be displayed. (☞ page 52)

[Alarm image FTP transmission]
Select "ON" or "OFF" to determine whether or not to transmit the alarm image to the FTP server.
Default: OFF

[Directory]
Enter the directory name where the 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 - 256 characters

[File name]
Enter the file name used for the alarm image to be transmitted to an FTP server. The file name will be as follows.
File name: ["Entered file name" + "Time and date (year/month/day/hour/minute/second)"] + "Serial number"
Number of characters for the file name: 1 - 32 characters

[Post alarm]
 • **Transmission interval**
   Select the transmission interval for the alarm image transmission to the FTP server from the following.
   0.1 fps/0.2 fps/0.33 fps/0.5 fps/1 fps
   Default: 1 fps

 • **Number of images**
   Select the number of images to be transmitted from the following.
   1 pic/2 pics/3 pics/4 pics/5 pics/6 pics/7 pics/8 pics/ 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
   Default: 100 pics

 • **Recording duration**
   Approximate time to be taken to save the set "number of images" with the set "transmission interval" will be displayed.

[Image capture size]
Select "QVGA" or "VGA" for the image capture size of images to be transmitted to the FTP server or of an image to be attached to the alarm mail.
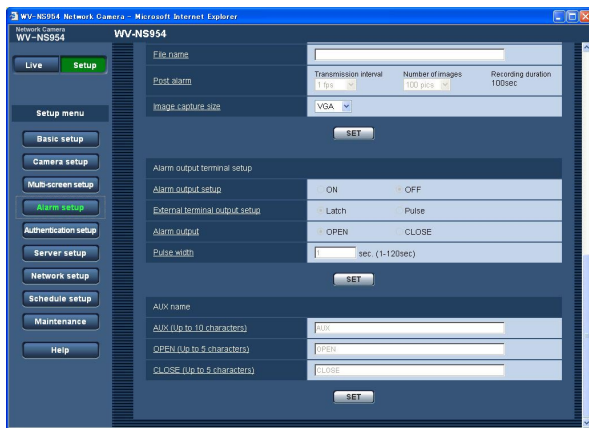**Default:** VGA

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Configure the settings relating to the alarm out terminal

Click the [Alarm] tab on the "Alarm setup" page. (☞ pages 4 and 5: How to display/operate the setup menu)

■ Alarm output terminal setup

The settings relating to the alarm out terminal can be configured in this section. The settings for the alarm output terminal can be configured only when "Alarm output" is selected for "Terminal alarm 2" of "Alarm setup". Refer to pages 38, 39 and 41 for further information about the settings relating to the alarm, the camera action at an alarm occurrence and the alarm image.

[Alarm output setup]
Select "ON" or "OFF" to determine whether or not to output the alarm signals to the alarm output terminal when an alarm is detected.
Default: OFF

[External terminal output setup]
Select "Latch" or "Pulse" for the alarm output terminal at an alarm occurrence.
Latch: When an alarm is detected, the alarm output terminal will be in the state selected for "Alarm output" until the alarm occurrence indication button is clicked.
Pulse: When an alarm is detected, the alarm output terminal will be in the state to the "Alarm output" setting for the period set for "Pulse width".
Default: Latch

[Alarm output]
Select "Open" or "Close" to determine whether to open or close the alarm output terminal when outputting the alarm signals.
OPEN: The alarm output terminal will open when outputting the alarm signals. (Normally close)
CLOSE: The alarm output terminal will close when outputting the alarm signals. (Normally open)
Default: OPEN

Note:
When "OPEN" is selected, the alarm signal will be output for around 20 seconds when the power of the camera is turned on.

[Pulse width]
When "Pulse" is selected for "Alarm output", select an alarm output terminal duration from the following.
Available pulse width: 1 - 120 sec
Default: 1 sec

■ AUX name

The names of "AUX", "OPEN" and "CLOSE" on the "Live" page can be changed.
The name of AUX is changeable only when the terminal alarm 3 is set to AUX.

[AUX (Up to 10 characters)]
Enter the name for "AUX" on the "Live" page.
Default: AUX

[OPEN (Up to 5 characters)]
Enter the name for "OPEN" of "AUX" on the "Live" page.
Default: OPEN

[CLOSE (Up to 5 characters)]
Enter the name for "CLOSE" of "AUX" on the "Live" page.
**Default:** CLOSE

Set the VMD areas [VMD area]

Click the [VMD area] tab on the "Alarm setup" page. (☞ pages 4 and 5: How to display/operate the setup menu)
The video motion detection areas can be set on this page.
The VMD areas can be set for each preset position (up to 256 areas). When motion is detected in the set area, the alarm action will be performed. The camera can be configured to take an alarm action even when the camera is not at the preset position.

Important:
• Areas used for the time and date display of "OSD position" (☞ page 9) cannot be used for the VMD areas.
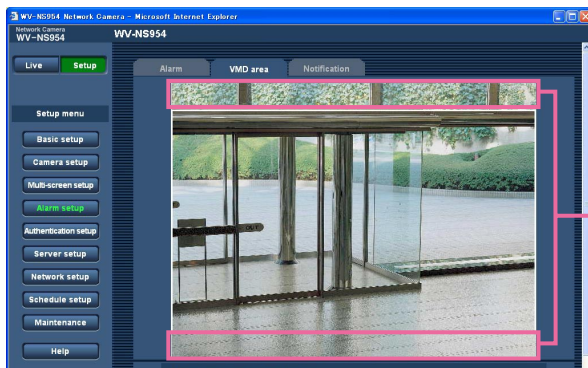

Areas used for the time and date display of "OSD position"

• It is possible to display the alarm occurrence indication button on the [VMD area] tab when motion is detected by the VMD function. (☞ Operating Instructions) Select "ON" for "VMD alarm" on the [Alarm] tab when the alarm occurrence indication button is to be displayed.
• The alarm occurrence indication button will be displayed when receiving a terminal alarm or a command alarm.
• Depending on the network environment, 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).
• When the electronic zoom setting is required, perform the VMD area setting after the electronic zoom setting.

Configure to detect motion in areas without the preset positions

Configure whether or not to detect motion when the camera is not at the preset position by setting the detection sensitivity. The sensitivity can be set by configuring "VMD area setting except Preset position". When determining whether to detect motion even when the camera is not at the preset position, all areas except areas used for the time and date display of "OSD position" will be subject to the detection. The VMD area setting is unavailable.
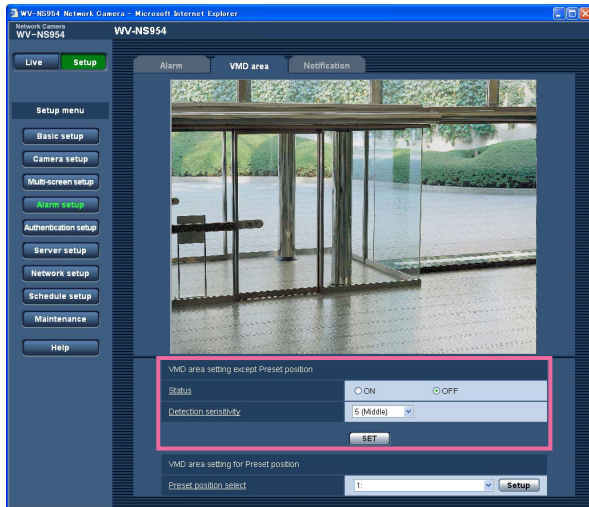
[Status]
Select "ON" or "OFF" to determine whether or not to carry out the VMD function.
ON: Carries out the VMD function
OFF: Does not carry out the VMD function
Default: OFF

[Detection sensitivity]
Select a sensitivity level in the detection area from the following.
1 (Super high)/2/3/4 (High)/5 (Middle)/6 (Low)
Default: Middle

Important:
Click the [SET] button after completing the settings. The setting will not be applied unless the [SET] button is clicked.
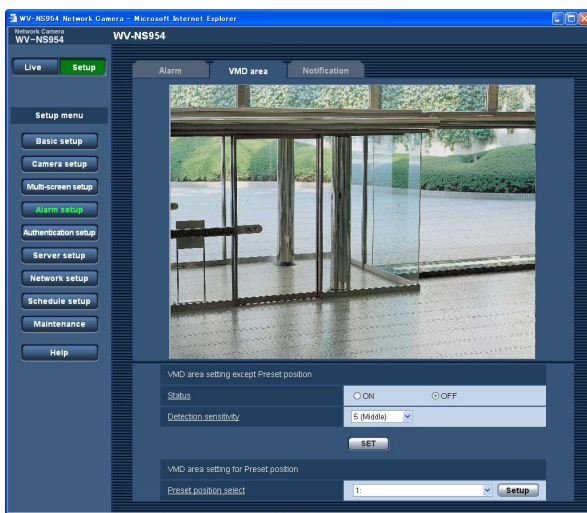
Set the VMD areas for each preset position

Important:
- The VMD function will be carried out only when the camera is at the preset position.
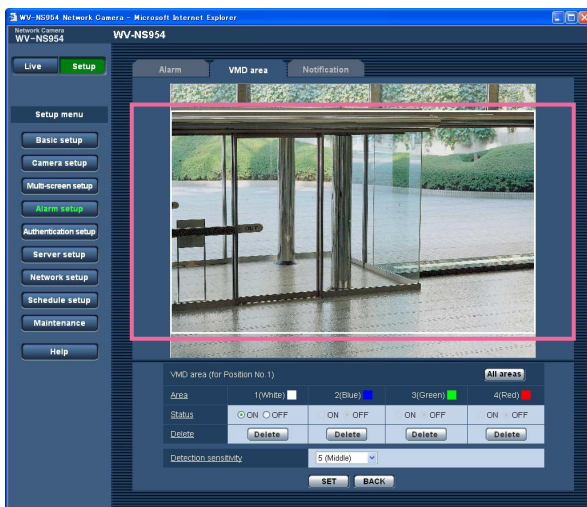- When the settings are being configured on the setup menu, sometimes the VMD function may not work correctly.

Step 1

Select a preset position number to which the VMD area is to be set from "Preset position select" of "VMD area setting for Preset position".

Step 2

Click the [Setup] button.
→ The VMD area setup window for the selected preset position number will be displayed.


Step 3

Set the video motion detection area by dragging the mouse on the screen.

When the [All areas] button is clicked, the whole area will become the VMD area and set as area 1 (white).
→ The designated area will become the VMD area and the outline will be displayed. When 2 - 4 VMD areas are set, each area will be numbered in order. The areas will be identified by the respective outline colours. When the VMD area is created, "Status" of the created VMD area will be set to "ON" automatically.
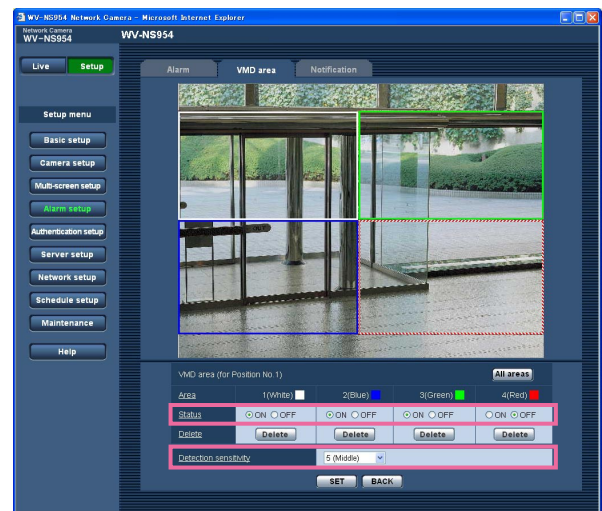
Step 4

Select "ON" or "OFF" for "Status" of each VMD area. When the [SET] button is clicked after selecting "OFF", the outline will become a broken line and no alarm action will be performed even when motion is detected in the area.

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Step 5

Select the detection sensitivity from the following. The selected detection sensitivity will be applied to all the VMD areas.
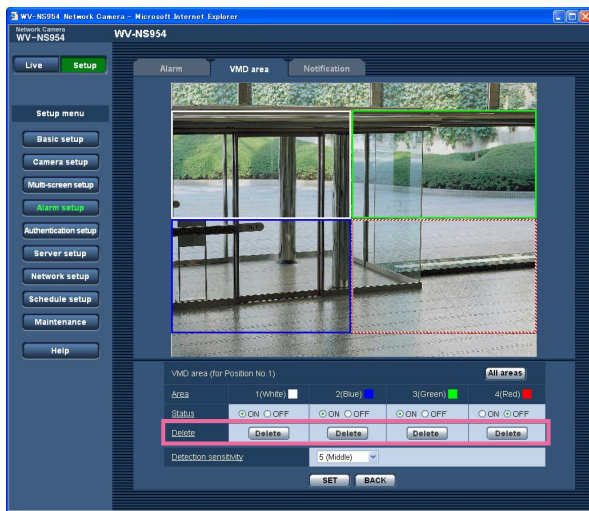1 (Super high)/2/3/4 (High)/5 (Middle)/6 (Low)
Default: Middle

Step 6

Click the [SET] button after completing the settings.

Important:

The setting will not be applied unless the [SET] button is clicked.

Delete the VMD area set for the designated preset position

Step 1

Display the VMD area setup window of the preset position number whose VMD area is to be deleted.
(☞ page 45)

Step 2

Click the [Delete] button respective to the area to be deleted.
→ The outline of the area will disappear.

Step 3

Click the [SET] button.
→ The deletion will be completed.

Important:

The deletion will not be completed unless the [SET] button is clicked.

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Configure the settings relating to the mail notification [Notification]

Click the [Notification] tab on the "Alarm setup" page. (☞ pages 4 and 5: How to display/operate the setup menu)

■ E-mail notification setup

The settings relating to the alarm mail can be configured in this section. To provide notification of an alarm occurrence by e-mail, it is necessary to configure the settings of the mail server. (☞ page 51)
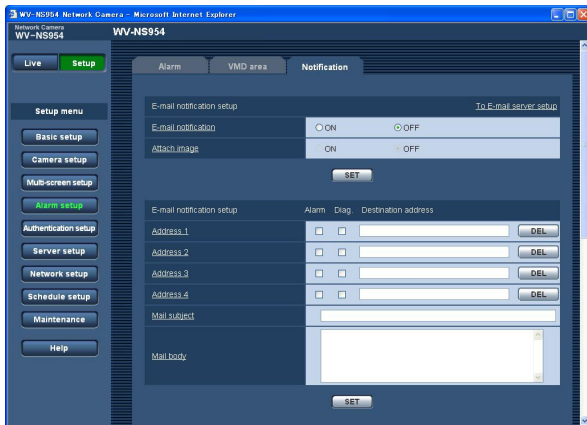
[To E-mail server setup]
When "To E-mail server setup" is clicked, the [Mail] tab of the "Server setup" page will be displayed.
(☞ page 51)

[E-mail notification]
Select "ON" or "OFF" to determine whether or not to provide notification of an alarm occurrence by e-mail at an alarm occurrence.
Default: OFF

[Attach image]
Select "ON" or "OFF" to determine whether or not to attach an image to the mail to be sent.
Default: OFF

Note:
The settings for "Image capture size" of the "Alarm image setup" section on the [Alarm] tab (☞ page 41) will be applied to the size of the image to be attached.

■ E-mail notification setup

[Destination address]
Enter the destination mail address. Up to 4 destination addresses can be registered.
To provide notification by e-mail when an alarm has occurred, check the "Alarm" checkbox respective to the desired address.
To provide notification by e-mail when any of the following has occurred, check the "Diag." checkbox respective to the desired address.
  • When notification of the remaining space of the SD memory card has been provided (☞ page 11)
  • When the SD memory card has become full
  • When mounting of the SD memory card failed
To delete the registered address, click the [DEL] button respective to the desired address.
Number of characters for the destination mail address: 3 - 128 characters

[Mail subject]
Enter the mail subject.
Number of characters for the mail subject: 0 - 50 characters

[Mail body]
Enter the mail body.
Number of characters for the mail body: 0 - 200 characters

Note:
Notification mail will be sent with the following message. (The message to be sent differs depending on the status of the SD memory card.)
 • "The SD memory card is full." (This message will be sent when the SD memory card becomes full.)
  • "The SD memory card cannot be recognized." (This message will be sent when the SD memory card has failed to mount.)

Configure the settings relating to Panasonic alarm protocol

Click the [Notification] tab on the "Alarm setup" page. (☞ pages 4 and 5: How to display/operate the setup menu)

■ Panasonic alarm protocol setup

The settings relating to Panasonic alarm protocol can be configured in this section.
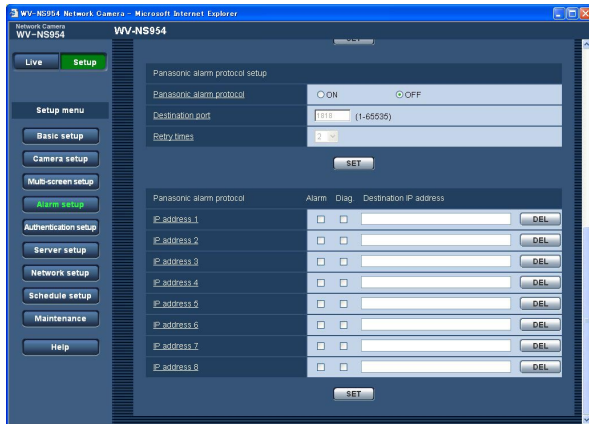
[Panasonic alarm protocol]
Select "ON" or "OFF" to determine whether or not to provide notification of an alarm occurrence by Panasonic alarm protocol when an alarm is detected.
Default: OFF

Note:

When "ON" is selected, notification of the alarm occurrence will be provided to the registered destination addresses in order (to IP address 1 first, to IP address 8 last).

[Destination port]
Select a destination port for the Panasonic alarm protocol from the following.
Available port number: 1 - 65535
Default: 1818

[Retry times]
Select a retry time for the Panasonic alarm protocol.
Available retry times: 0 - 30
Default: 2

■ Panasonic alarm protocol

[Destination IP address]
Enter the destination IP address of the Panasonic alarm protocol from the following. Host name is unavailable for the destination IP address. Up to 8 destination addresses can be registered.

To provide notification at an alarm occurrence to the desired IP address using Panasonic alarm protocol, check the "Alarm" checkbox respective to the desired IP address.

To provide notification using Panasonic alarm protocol when any of the following has occurred, check the "Diag." checkbox respective to the desired address.

  • When notification of the remaining space of the SD memory card has been provided (☞ page 11)
  • When the SD memory card has become full
  • When mounting of the SD memory card has failed

To delete the registered IP address, click the [DEL] button respective to the desired IP address.

Important:

Confirm that the destination IP addresses are registered correctly. When a registered IP address does not exist, notification may be delayed.

Configure the settings relating to the authentication [Authentication setup]

The settings relating to the authentication such as users and PCs restrictions for accessing the camera can be configured on this page.
The "Authentication setup" page has 2 tabs of the [User] tab and the [Host] tab.

Configure the settings relating to the user authentication [User]

Click the [User] tab on the "Authentication setup" page. (☞ pages 4 and 5: How to display/operate the setup menu)
The settings relating to the user authentication can be configured on this page. Up to 16 users can be registered.

Note:
When user authentication (authentication error) has failed to pass 8 times within 30 seconds using the same IP address (PC), access to the camera will be denied for a while.
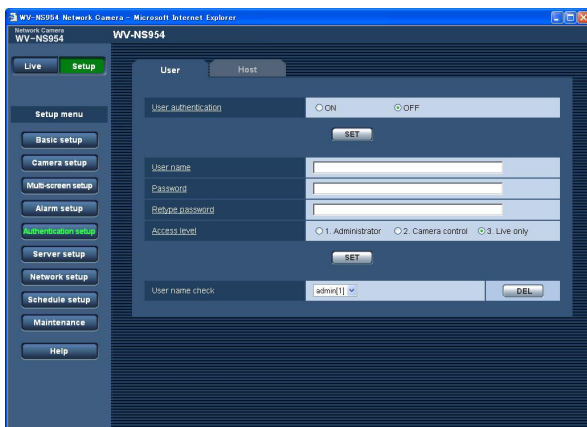
[User authentication]
Select "ON" or "OFF" to determine whether or not to authenticate the users.
Default: OFF

[User name]
Enter a user name.
Number of characters for the user name: 1 - 32 characters
Default: None (blank)

[Password] [Retype password]
Enter the password.
Number of characters for the password: 4 - 32 characters
Default: None (blank)

Note:
When the user name already in use is entered and the [SET] button is clicked, the respective user information will be overwritten.

[Access level]
Select the access level of the user from the following.
1. Administrator: Allowed all available operations of the camera.
2. Camera control: Allowed to display images from the camera and to control the camera. The camera setting configuration is unavailable.
3. Live only: Only displaying live images is available. The camera setting configuration and camera control are unavailable.
Default: 3. Live only

Note:
By clicking [∨] of "User name check", the registered user can be selected and the selected user's information can be checked.
The registered user will be displayed with the access level. (Example: admin [1])
To delete the registered user, click the [DEL] button after selecting the user to be deleted.

Important:
If all users whose access level is "1. Administrator" are deleted, it will be impossible to configure the settings.

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Configure the settings relating to the host authentication [Host]

Click the [Host] tab on the "Authentication setup" page. (☞ pages 4 and 5: How to display/operate the setup menu)
The settings to restrict PCs (IP address) from accessing the camera can be configured on this page.
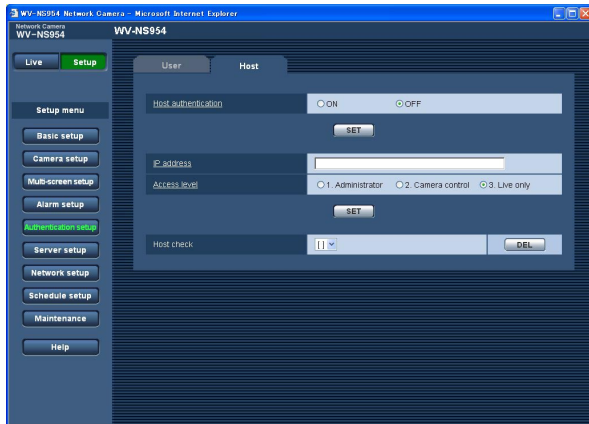
[Host authentication]
Select "ON" or "OFF" to determine whether or not to authenticate the host.
Default: OFF

Important:
Before configuring the host authentication, it is necessary to register 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 the hosts (IP addresses), it will be impossible to access the camera.

[IP address]
Enter the IP address of the PC to be allowed to access the camera.
Host name is unavailable for the IP address.

Notes:
• 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 the access level, the PCs whose IP address is between "192.168.0.0" - "192.168.0.255" can access the camera with the access level "2. Camera control".
• When the IP address already in use is entered and the [SET] button is clicked, the respective host information will be overwritten.

[Access level]
Select the access level of the host from the following.
1. Administrator/2. Camera control/3. Live only
Refer to page 49 for further information about the access level.
Default: 3. Live only

Note:
By clicking [∨] of "Host check", the registered host can be selected and the selected host's IP address can be checked.
The registered IP address will be displayed with the access level. (Example: 192.168.0.21 [1])
To delete the registered host, click the [DEL] button after selecting the IP address to be deleted.

Configure the settings of the servers [Server setup]

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

Configure the settings relating to the mail server [Mail]

Click the [Mail] tab on the "Server setup" page. (☞ pages 4 and 5: How to display/operate the setup menu)
The settings relating to the mail server used to send the alarm mail can be configured on this page.
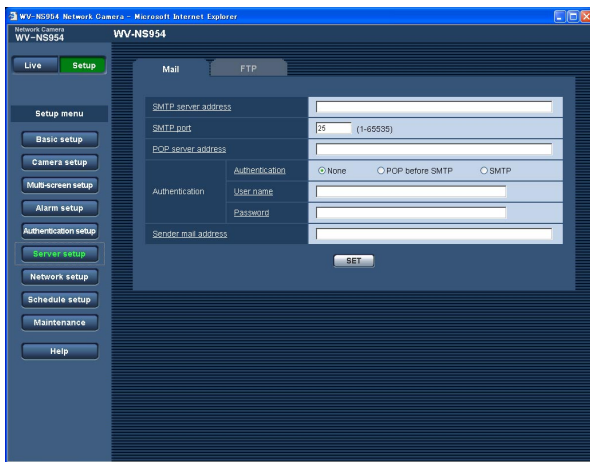
[SMTP server address]*
Enter the IP address or the host name of the SMTP server used to send e-mails.
Number of characters for the SMTP server address:
1 - 128 characters

[SMTP port]
Enter the port number to which e-mails are sent.
Available port number: 1 - 65535
Default: 25

[POP server address]*
When "POP before SMTP" is selected for "Authentication", enter the IP address or the host name of the POP server.
Number of characters for the POP server address:
1 - 128 characters

---

* Important:
When entering the host name for "SMTP server address/POP server address", it is necessary to configure the DNS settings on the [Network] tab of the "Network setup" page. (☞ page 54)

[Authentication]
Select the authentication method to send e-mails from the following.
None: It is not necessary to clear any authentication to send e-mails.
POP before SMTP: It is necessary to first clear the POP server authentication to use the SMTP server to send e-mails.
SMTP: It is necessary to clear the SMTP server authentication to send e-mails.
Default: None

Note:
When you don't know the authentication method to send e-mails, refer to the network administrator.

[User name]
Enter the user name to access the server.
Number of characters for the user name: 1 - 32 characters

[Password]
Enter the password to access the server.
Number of characters for the password: 0 - 32 characters

[Sender mail address]
Enter the mail address of a sender.
The entered mail address will be displayed in the "From" (sender) line of the sent mails.
Number of characters for the sender mail address:
3 - 128 characters

Configure the settings relating to the FTP server [FTP]

Click the [FTP] tab on the "Server setup" page. (☞ pages 4 and 5: How to display/operate the setup menu)
The settings relating to the FTP server used to transmit the alarm images can be configured on this page.
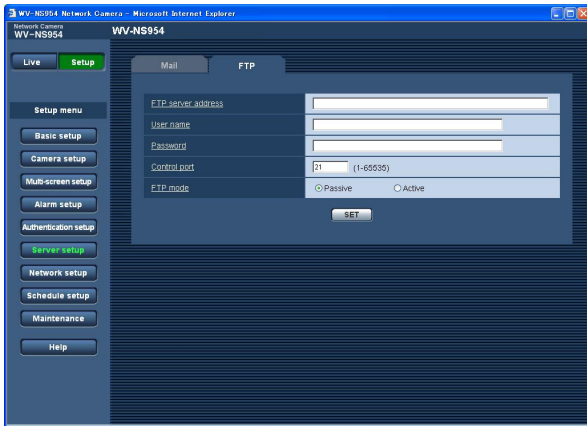
[FTP mode]
Select "Passive" or "Active" for the FTP mode.
Normally, select "Passive". When failure to establish the connection occurs, select "Active".
Default: Passive

[FTP server address]
Enter the IP address or the host name of the FTP server.
Number of characters for the FTP server address:
   1 - 128 characters

Important:

   When entering 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 54)

[User name]
Enter the user name (login name) to access the FTP server.
Number of characters for the user name: 1 - 32 characters

[Password]
Enter the password to access the FTP server.
Number of characters for the password: 0 - 32 characters

[Control port]
Enter a control port number to be used for the FTP server.
Available port number: 1 - 65535
Default: 21

Configuring the network settings [Network setup]

The network settings and the settings relating to DDNS (Dynamic DNS) and SNMP (Simple Network management Protocol) can be configured on this page.
The "Network setup" page has 4 tabs; the [Network] tab, the [DDNS] tab, the [SNMP] tab and the [FTP] tab.
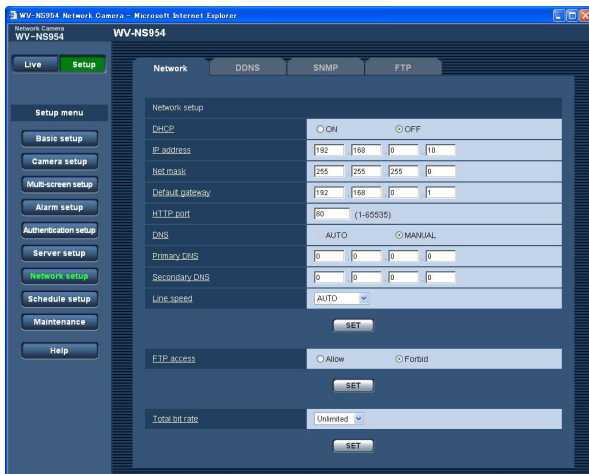
Configure the network settings [Network]

Click the [Network] tab on the "Network setup" page. (☞ pages 4 and 5: How to display/operate the setup menu)
The following information is required to configure the network settings.
Contact 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)

■ Network setup

[DHCP]
Select "ON" or "OFF" to determine whether or not to use the DHCP function.
Configure the DHCP server not to assign the same IP addresses used for the other network cameras and PCs whose IP address is unique. Refer to the network administrator for further information about the settings of the server.
Default: OFF

[IP address]
When not using the DHCP function, enter the IP address of the camera. Do not enter an IP address already in use (for the PCs and the other network cameras).
Default: 192.168.0.10

<Unavailable IP addresses>
  0.*.*.*
  ..*.0
  255.*.*.*
  ..*.255
  127.0.0.1
  Class D addresses (224.0.0.0 - 239.255.255.255)
  Class E addresses (240.0.0.0 - 255.255.255.255)

Note:
  These IP addresses are unavailable even when using the DHCP function. Refer to the network administrator for further information about the settings of the DHCP server.

[Net mask]
When not using the DHCP function, enter the net mask of the camera.
Default: 255.255.255.0

[Default gateway]
When not using the DHCP function, enter the default gateway of the camera.
Default: 192.168.0.1

<Unavailable IP addresses for the default gateway>
0.*.*.*
..*.0
255.*.*.*
..*.255
127.0.0.1
Class D addresses (224.0.0.0 - 239.255.255.255)
Class E addresses (240.0.0.0 - 255.255.255.255)

Note:
These IP addresses for the default gateway are unavailable even when using the DHCP function. Refer to the network administrator for further information about the settings of the DHCP server.

[HTTP port]
Assign the port numbers independently.
The following port numbers are unavailable since they are already in use.
Available port number: 1 - 65535
Default: 80

<Port numbers already in use>
20, 21, 23, 25, 42, 53, 67, 68, 69, 110, 123, 161, 162, 995, 10669, 10670

[DNS]
Select "AUTO" or "MANUAL" to determine whether or not to use the DNS. When "MANUAL" is selected, it is necessary to configure the settings for the DNS.
When using the DHCP function, it is possible to obtain the DNS address automatically by selecting "AUTO". Refer to the network administrator for further information about the settings.
Default: MANUAL

[Primary DNS], [Secondary DNS]
When "MANUAL" is selected for "DNS", enter the IP address of the DNS. Refer to the network administrator about the IP address of the DNS.

[Line speed]
Select the line speed for data transmission from the following. It is recommended to use the default setting "AUTO".
AUTO: Line speed will be applied automatically.
100M-FULL: 100 Mbps full-duplex
100M-HALF: 100 Mbps half-duplex
10M-FULL: 10 Mbps full-duplex
10M-HALF: 10 Mbps half-duplex
Default: AUTO

[FTP access]
Select "Allow" or "Forbid" to determine whether to allow or forbid the FTP access.
Default: Forbid

[Total bit rate]
Select the total bit rate for data transmission from the following.
Unlimited/64 kbps/128 kbps/256 kbps/512 kbps/ 1024 kbps/2048 kbps/4096 kbps
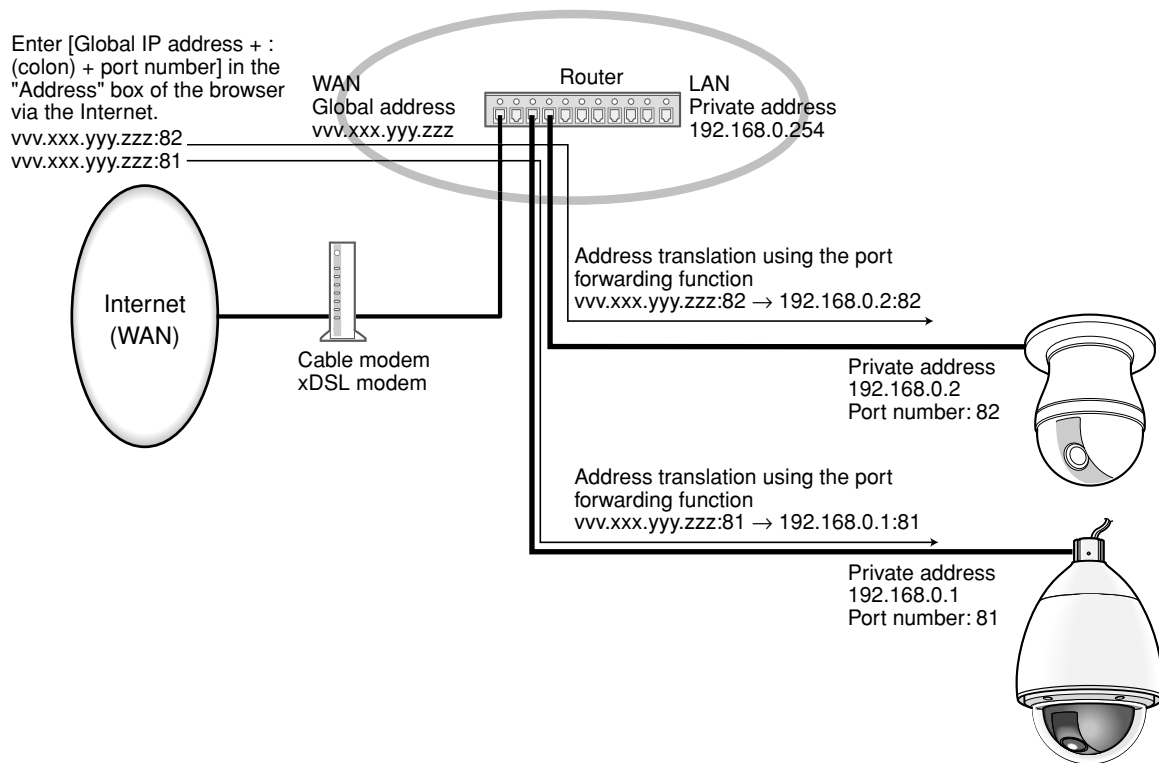**Default:** Unlimited

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Notes:
- When selecting "64 kbps", select "OFF" for "Audio mode" on the "Audio" tab. (☞ page 35)
- When "64 kbps" is selected, it is impossible to carry out the live transmission of JPEG images and the FTP periodic transmission simultaneously.
- When "Total bit rate" (☞ page 54) is set low, taking a picture using the one shot button may not function depending on the use environment.
  In this case, select "QVGA" for "Image capture size" of "JPEG setup" on the [JPEG/MPEG-4] tab (☞ page 20) or set "Image quality" of "JPEG setup" lower.

Notes:
- The port forwarding function changes a global IP address to a private IP address, and "Static IP masquerade" and "Network Address Translation (NAT)" have this function. This function is to be set in a router.
- To access the camera via the Internet by connecting the camera to a router, it is necessary to assign a respective port number for each camera and address translation by using the port forwarding function. For further information, refer to the operating instructions of the router in use.

Enter [Global IP address + : (colon) + port number] in the "Address" box of the browser via the Internet.
vvv.xxx.yyy.zzz:82
vvv.xxx.yyy.zzz:81

Router

WAN
Global address
vvv.xxx.yyy.zzz

LAN
Private address
192.168.0.254

Internet
(WAN)

Cable modem
xDSL modem

Address translation using the port forwarding function
vvv.xxx.yyy.zzz:82 → 192.168.0.2:82

Private address
192.168.0.2
Port number: 82

Address translation using the port forwarding function
vvv.xxx.yyy.zzz:81 → 192.168.0.1:81

Private address
192.168.0.1
Port number: 81

# Configure the settings relating to DDNS [DDNS]

Click the [DDNS] tab on the "Network setup" page. (☞ pages 4 and 5: How to display/operate the setup menu)
The settings relating to DDNS can be configured on this page.
When accessing the camera via the Internet from the network environment of which the global IP address is obtained using DHCP, the DDNS function is necessary.
When using the DDNS function, it is possible to access with "Host name registered in the DDNS server.nmdns.net".
To use the DDNS function, it is necessary to connect to the dedicated DDNS server. Refer to the web site for further information about the DDNS. Refer to the "Readme" file about the web site.
It is necessary to configure the host name, user name and password registered in the DDNS server.
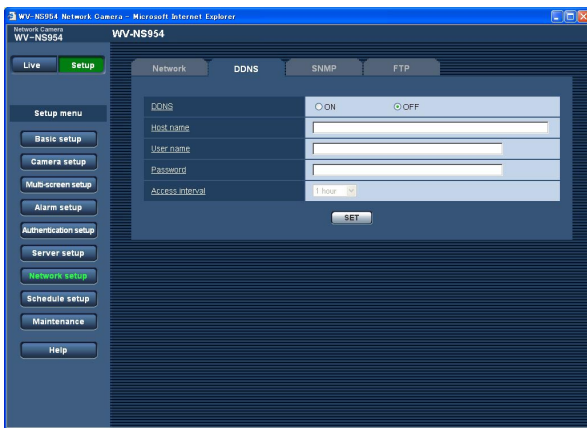
[Access interval]
Select the interval to access the DDNS server to check the IP address and the host name from the following.
1 min/10 min/30 min/1 hour/6 hours/24 hours
Default: 1 hour

[DDNS]
Select "ON" or "OFF" to determine whether or not to use the DDNS function.
Default: OFF

[Host name]
Enter the host name to be used.
Number of characters for the host name: 1 - 64 characters

[User name]
Enter the user name (login name) to access the DDNS server.
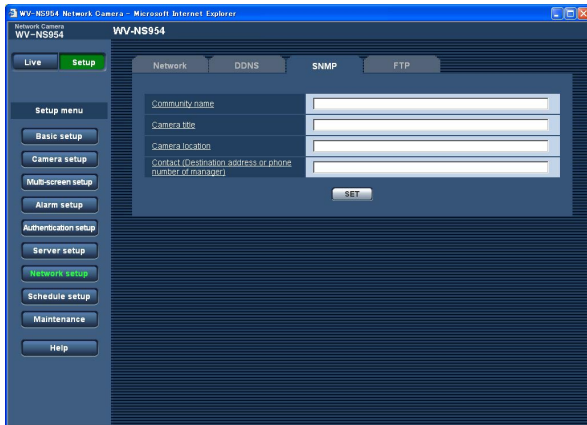**Number of characters for the user name:** 1 - 32 characters

[Password]
Enter the password to access the DDNS server.
Number of characters for the password: 0 - 32 characters

Configure the settings relating to SNMP [SNMP]

Click the [SNMP] tab on the "Network setup" page. (☞ pages 4 and 5: How to display/operate the setup menu)
The settings relating to SNMP can be configured on this page. It is possible to check the status of the camera by connecting to the SNMP manager. When using the SNMP function, contact the network administrator.

[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 - 255 characters
Default: None (blank)

[Community name]
Enter the community name to be monitored.
Number of characters for the community name:
0 - 32 characters
Default: None (blank)

Important:
When using the SNMP function, it is necessary to enter the community name. When no community name is entered, the SNMP function will not work.

[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 - 32 characters
Default: None (blank)

[Camera location]
Enter the name of the location where the camera is installed.
Number of characters for the camera location: 0 - 32 characters
Default: None (blank)

Configure the settings relating to the FTP periodic transmission [FTP]

Click the [FTP] tab on the "Network setup" page. (☞ pages 4 and 5: How to display/operate the setup menu)

■ FTP periodic transmission

The settings relating to the periodic transmission of images to an FTP server can be configured in this section. To transmit images to an FTP server periodically, it is necessary to configure the settings of the FTP server in advance. (☞ page 52)
Refer to page 59 for descriptions of how to configure schedules of image transmission.

Important:
- Depending on the network line speed or the network traffic, images may not be transmitted at the exact designated interval or period.
- When "Alarm input" or "Manual" is selected for "Save trigger" on the [SD memory card] tab, the FTP periodic transmission function will become unavailable.
- When "ON" is selected for both the alarm image transmission function and the FTP periodic transmission function, the alarm image transmission function will be given priority over the FTP periodic transmission function. 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, images that have failed to transmit using the FTP periodic transmission can be saved automatically on the SD memory card. (☞ page 11)
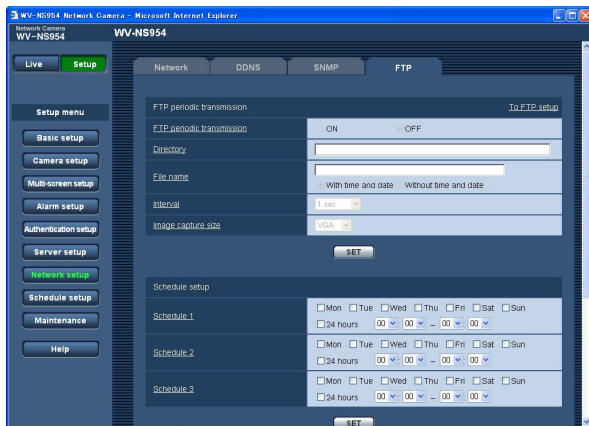
[To FTP setup]
When "To FTP setup" is clicked, the [FTP] tab of the "Server setup" page will be displayed. (☞ page 52)

[FTP periodic transmission]
Select "ON" or "OFF" to determine whether or not to transmit images using the FTP periodic transmission function.
When "ON" is selected, it is necessary to configure the settings of the FTP server. (☞ page 52)
Default: OFF

[Directory]
Enter the directory name 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 - 256 characters
Default: None (blank)

[File name]
Enter the file name (name of the image file to be transmitted) and select the naming option from the following.
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)"].
Without time and date: File name will be the characters entered for "File name" only. When "Without time and date" is selected, the file will be overwritten each time a file is newly transmitted.
Number of characters for the file name: 1 - 32 characters
Default: None (blank)

[Interval]
Select the interval for the FTP periodic transmission from the following.
1 sec/2 sec/3 sec/4 sec/5 sec/6 sec/10 sec/15 sec/
20 sec/30 sec/1 min/2 min/3 min/4 min/5 min/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
Default: 1 sec

[Image capture size]
Select "QVGA" or "VGA" for the image capture size of the images to be transmitted using the FTP periodic transmission.
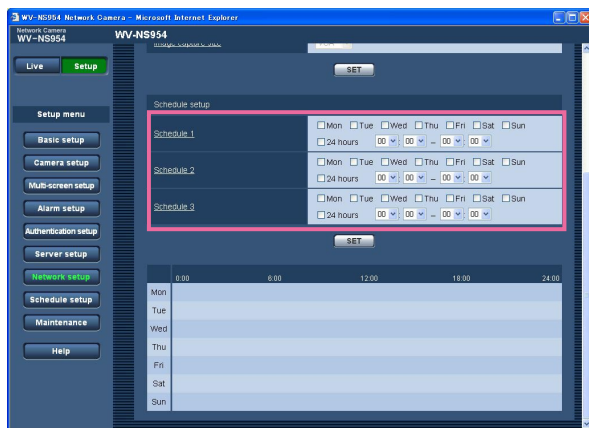**Default:** VGA

Configure the schedule settings of the FTP periodic transmission

Click the [FTP] tab on the "Server setup" page. (☞ pages 4 and 5: How to display/operate the setup menu)

■ Schedule setup

The schedule settings of the FTP periodic transmission can be configured in this section. Refer to page 58 for further information about the settings relating to the FTP periodic transmission.

How to configure the schedule settings

Step 3
Click the [SET] button after completing the settings.
→ The result will be displayed at the bottom of the window.
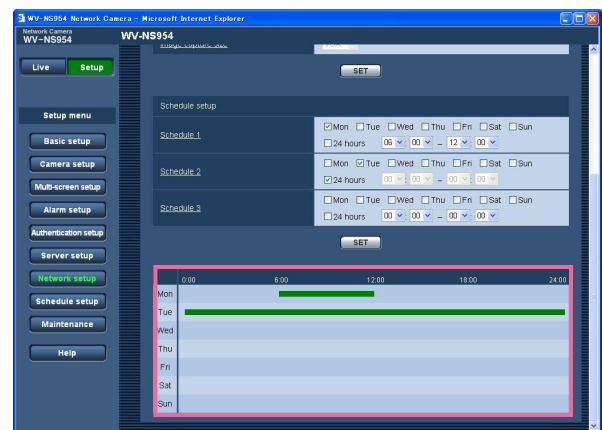

Step 1
Check the check box of the desired day of the week.
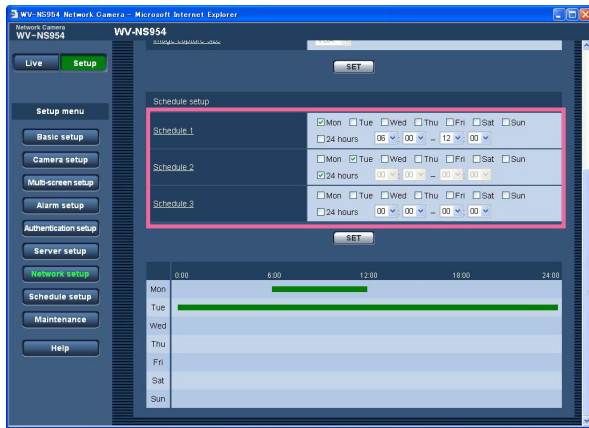→ The selected day of the week will be validated for the schedule.

Step 2
To designate time, click [∨] and select the desired "hour" and "minute".
When not designating time, check the checkbox of "24 hours".
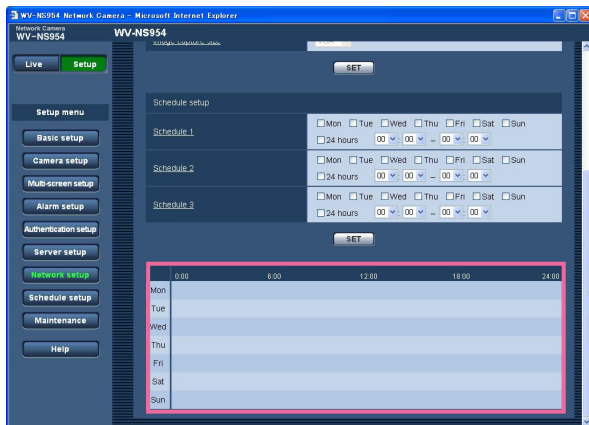
How to delete the set schedule

Step 1

Uncheck the check box of the set day of the week.

Step 2

Click the [SET] button after completing the settings.

→ The result will be displayed at the bottom of the win-
dow.

Configure the settings relating to the schedules [Schedule setup]

On the "Schedule" page, it is possible to determine time zones for when the following are available.
- Alarm permission (Alarm input will be received only in the specified time zone.)
- VMD permission (Video motion detection will be active only in the specified time zone.)
- Access permission (Access to the camera will be allowed only in the specified time zone.)
- Position refresh (Performing the position refresh will be allowed only in the specified time zone.)
- 1 - 256 (Moving the camera to the designated preset position will be allowed only in the specified time zone.)

"Alarm permission" can be configured only when "ON" is selected for any of "Terminal alarm 1", "Terminal alarm 2" and "Terminal alarm 3" (☞ page 39), and "VMD permission" can be configured only when "ON" is selected for "VMD alarm" (☞ page 39).

Up to 5 schedules can be set.

How to set the schedules

Step 1

Select an action to be assigned to the schedule from "MODE".
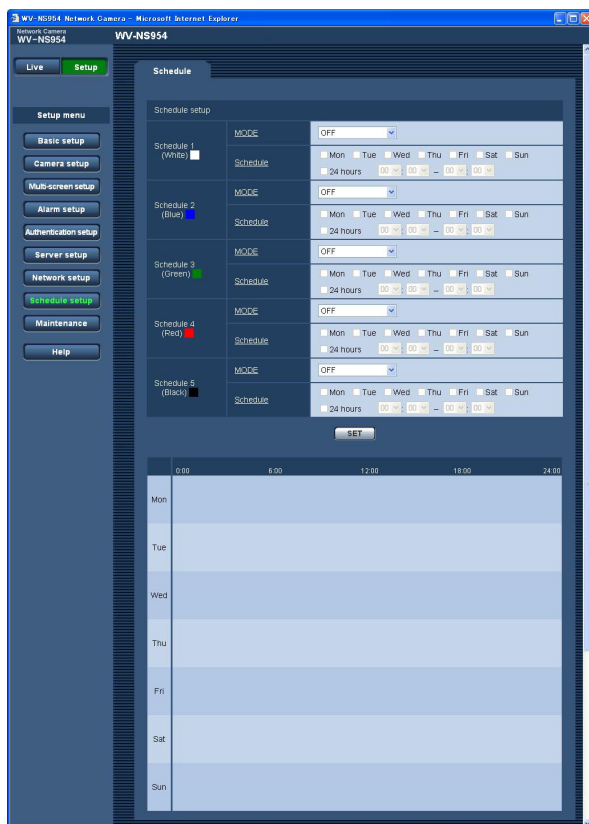
OFF: No action will be taken for the respective schedule.

Alarm permission: Alarm input (terminal alarm 1, 2 and 3) will be received during the period of the schedule.

VMD permission: The Video motion detection (VMD) function will be active during the period of the schedule.

Access permission: Users whose access level is set to 2 and 3 on the "User" page of "Authentication setup" (☞ page 49) can access the camera only in the period of schedule.

Position refresh: The camera position will be refreshed at the designated time in the schedule.

1 - 256: The camera will move to the designated preset position at the designated time in the schedule.

Default: OFF

Notes:
- Select "ON" for "User authentication" on the "User" page of "Authentication setup" (☞ page 49) and "OFF" for "Host authentication" on the "Host" page (☞ page 50) to validate "Access permission".
- When selecting "Position refresh", it is recommended to use together with the self return function (☞ page 23).

Step 2

Select days of a week by checking the respective checkboxes.
→ Time selection will become available.

Step 3

Click [∨] to select the start time and the end time of the schedule.
When unnecessary to specify the time zone in the selected day of the week, select "24 hours".

Step 4

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

Note:
The schedules displayed at the bottom of the window can be identified by colours assigned to each schedule.

Maintenance of the camera [Maintenance]

System log check, firmware upgrade, and initialization of the setup menu can be performed on this page.
The "Maintenance" page has 3 tabs; the [System log] tab, the [Upgrade] tab and the [Initialization] tab.

Check the system log [System log]

Click the [System log] tab of the "Maintenance" page. (☞ pages 4 and 5: How to display/operate the setup menu)
Up to 4 000 system logs can be saved on the SD memory card when the SD memory card is inserted after selecting "Use" for "SD memory card" on the [SD memory card] tab (☞ page 11).
When "Not use" is selected for "SD memory card", up to 100 system logs can be saved on the built-in memory of the camera.
When the saved system logs have reached the maximum number, the newer logs will overwrite the older system logs. In this case, the oldest log is the first to be overwritten.
The system logs will be displayed in group of 100 logs each.
When using the SD memory card, the logs will be saved even when the power of the camera is turned off. When not using the SD memory card, the logs will be deleted when the power of the camera is turned off.
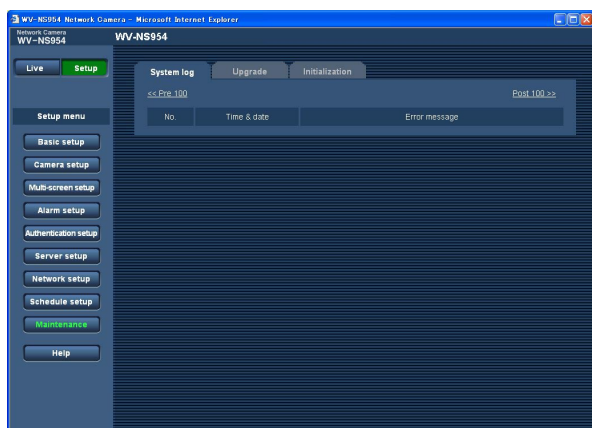
[Time & date]
Time and date at the error occurrence will be displayed.

Note:
When "OFF" is selected for "Time display" on the [Basic] tab (☞ page 8), time & date of logs will be displayed in 24-hour format.

[Error message]
The descriptions about the error will be displayed.
Refer to page 66 for further information about the system logs.

Upgrade the firmware [Upgrade]

Click the [Upgrade] tab of the "Maintenance" page. (☞ pages 4 and 5: How to display/operate the setup menu)
The current firmware can be checked and upgraded to the latest version on this page. Contact the dealer for further information about the firmware upgrade.
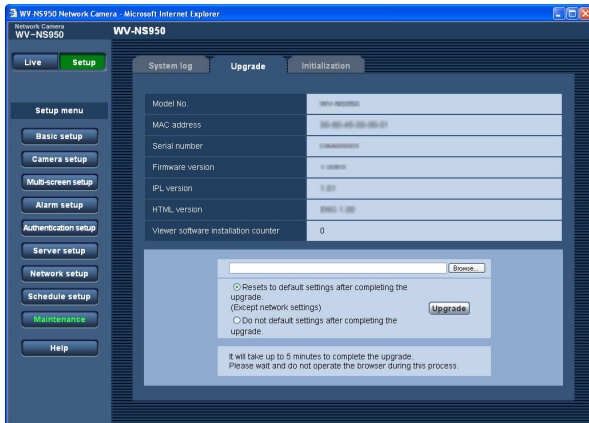
[Model No.], [MAC address], [Serial number], [Firmware version], [IPL version], [HTML version], [Viewer software installation counter]
Information of each item will be displayed.

How to upgrade the firmware

Step 1

Contact the dealer and download the latest firmware onto a PC.

Important:
A blank (space) cannot be used for the name of the directory where the downloaded firmware to be saved.

Step 2

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

Step 3

Click the radio button respective to the desired option to determine whether or not to initialize the settings after completing the firmware upgrade.

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

Step 4

Click the [Upgrade] button.
→ The confirmation window will be displayed. When "Do not default settings after completing the upgrade." is selected, the confirmation window will not be displayed.
After completing the upgrade, delete temporary internet files. (☞ page 74)

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 "ns954_xxxxx.img". (Use "ns954_xxxxx.img" even when the model in use is any of WV-NS950, WV-NW960 or WV-NW964.) ("xxxxx" indicates the version of the firmware.)
- Do not turn off the power of the camera during the upgrade process.
- Do not operate the web browser (including adjusting the window size) during the upgrade process.
- The following network settings will not be initialized when upgrading the firmware after selecting "Resets to default setting after completing the upgrade. (Except network settings)".
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. Refer to your dealer for the software licensing.

Initialize/restart the camera [Initialization]

Click the [Initialization] tab of the "Maintenance" page. (☞ pages 4 and 5: How to display/operate the setup menu)
Initialization of the settings and data of the camera and restarting of the camera can be performed on this page.
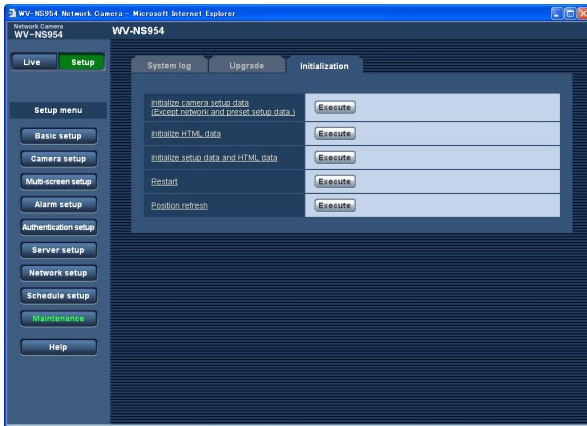
[Initialize camera setup data (Except network and preset setup data)]
Click the [Execute] button to reset the settings to the default. Note that the network settings and the preset position setting will not be reset.

[Initialize HTML data]
Click the [Execute] button to reset the HTML files to the default.

[Initialize setup data and HTML data]
Click the [Execute] button to reset the settings of the camera and the HTML files to the default. Note that the network settings and the preset position setting will not be reset.

[Restart]
Click the [Execute] button to restart the camera.

[Position refresh]
The camera position can be refreshed. When the camera has moved from the correct home/preset position during normal use, use this function to correct the camera position.

Notes:
 • Please wait for approx. 2 minutes before starting operation if initialization, restart, or position refresh was performed.
 • The DIP switch on this unit is used for initialization of the network setting (☞ page 53). (Refer to the Installation Guide.)
 • The notification function allows users to provide the notification of the error to the specified mail address and an original alarm destination when an error such as no SD card loaded after restart or a locked SD card loaded occurs. (☞ pages 47 and 48)

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
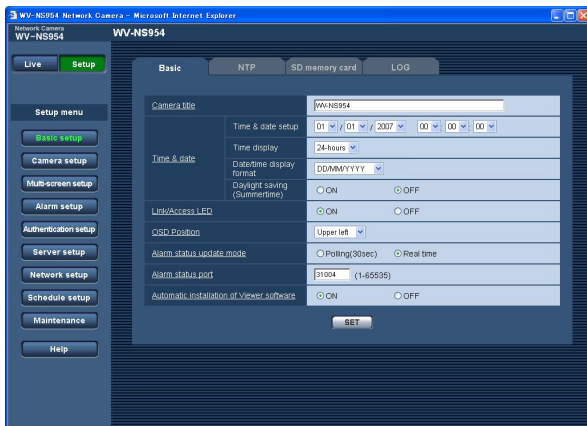
Step 1

Click the [Setup] button.
→ The setup screen is displayed.
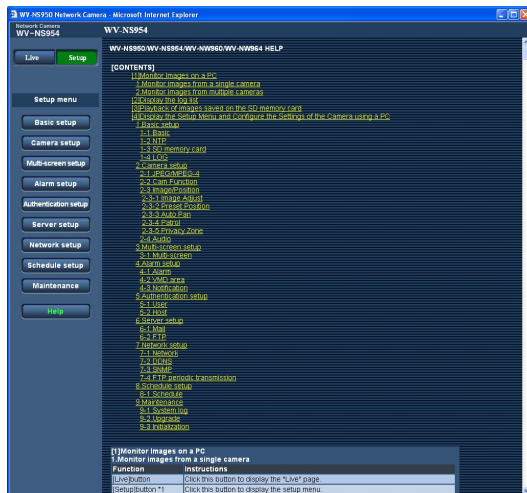Clicking an underlined item win display the "Help" pop-window. If is possible to configure the settings while displaying the "Help" pop-up window.

Step 2

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

Help screen

Step 3

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

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 if the mail settings are configured correctly.
	Failed to find POP3 server	• The IP address of the server may be incorrect. Check if the IP address of the server is configured correctly. • The POP3 server may be down. Ask the network administrator.
SMTP server error	SMTP authentication error	Entered user name or password may be incorrect. Check if the mail settings are configured correctly.
	Failed to resolve mail server address from DNS	• The designated IP address of the DNS may be incorrect. Check if the DNS settings are configured correctly. • The DNS server may be down. Ask the network administrator.
	Failed to find SMTP server	• The IP address of the server may be incorrect. Check if the IP address of the server is configured correctly. • The SMTP server may be down. Ask the network administrator.
Internal error	Other error	An error occurred in the mail function. Check if the mail settings are configured correctly.

Error indications relating to FTP

Category	Indication	Description
FTP server error	Failed to resolve FTP server address from DNS	• The FTP server may be down. Ask the network administrator.
	Failed to find FTP server	• The IP address of the server may be incorrect. Check if the IP address of the server is configured correctly.
Connection error	Transmission error	• The FTP server settings may be incorrect. Check if the FTP settings are configured correctly. • The settings relating to the indicated item may be incorrect. Check if the FTP settings are configured correctly.
	Passive mode error	
	Failed to log out	
	Failed to change the directory	
	Password error for the entered user name	
Internal error	Other error	An error occurred in the FTP function. Check if the FTP settings are configured correctly.

Error indications relating to DDNS

Category	Indication	Description
Connection error	No response from the server	• The designated IP address of the DDNS may be incorrect. Check if the DDNS settings are configured correctly. • The DDNS server may be down. Ask the network administrator.
	Password error for the entered user name	Entered user name or password may be incorrect. Check if the DDNS settings are configured correctly.
	IP address updated error	IP address update error occurred in the DDNS server. Ask the network administrator.
Internal error	Other error	An error occurred in the DDNS function. Check if the DDNS settings are configured correctly.

Error indications relating to NTP

Category	Indication	Description
Connection error	No response from the server	• The IP address of the server may be incorrect. Check if the IP address of the server is configured correctly. • The NTP server may be down. Ask the network administrator.
Internal error	Other error	• The designated IP address of the DNS may be incorrect. Check if the DNS settings are configured correctly. • The DNS server may be down. Ask the network administrator.
Time adjustment synchronizing with NTP succeeded.	Auto time adjustment succeeded.	Time correction succeeded.

Error indications relating to login

Category	Indication	Description
Login	User name or IP address	• The login user name will be displayed when "ON" is selected for "User authentication". • The IP address of the PC currently accessing to the camera will be displayed when "ON" is selected for "Host authentication".

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 the problem is not described below.
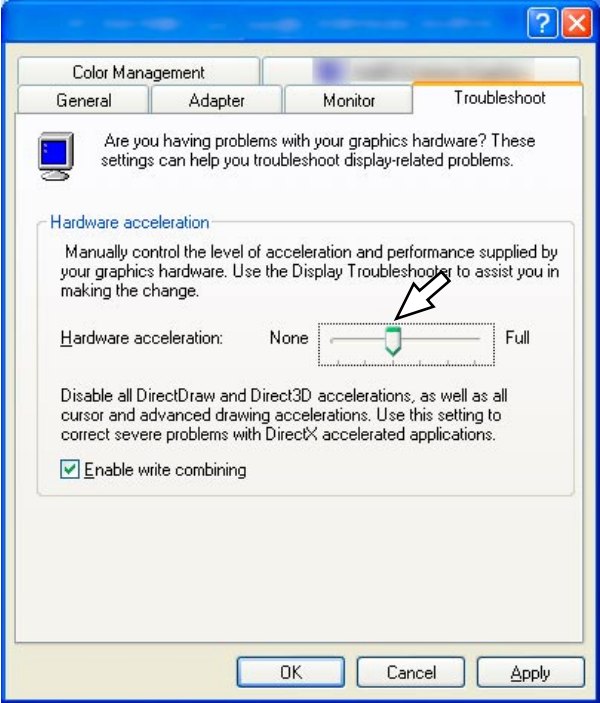
Symptom	Cause/solution	Reference pages
Cannot access from the browser.	▶ • Is the LAN cable (category 5) firmly connected to the network connector of the camera?	Installation Guide
	▶ • Is the link LED beside the SD card slot for NS950 series or in the main unit for NW960 series lit? When it is not lit, connection to a LAN may not be established or a network may be not working correctly. Check if the cables have any contact failure or if the wiring is correct or not.	Installation Guide
	▶ • Is the power of the camera on? Check if the power of the camera is turned on.	Installation Guide
	▶ • Are the set IP addresses valid?	53
	▶ • Are you accessing the wrong IP address? Check the connection as follows: With the Windows command prompt, > ping "IP address of the camera" When the WV-NS950 series (WV-NW960 series) replies, the camera is functioning normally. If not, proceed 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 with use of the DIP switch. 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 the settings of the camera previously configured on the setup menus will be initialized.)	– Installation Guide
	▶ • When the heater unit is installed and use is started in environments of −10°C {14°F} or below, normal images may not be obtained immediately after the camera is started up. In this case, wait for the camera to warm up (about 2 hours or more) before turning the power on again. When using this camera in cold region, it is recommended to select "AUTO" for "Line speed" after rebooting the camera.	54 Installation Guide

Symptom		Cause/solution	Reference pages
Cannot access from the browser.	▶	• Is the same IP address provided 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, it is recommended to enter the address of the camera in the "Don't Use Proxy For These Addresses" box. <When the camera and the PC are connected in the different subnet> Is the IP address of the default gateway set for the camera correct?	–
Cannot obtain images on the SD memory card.	▶	• Is "Allow" selected for "FTP access" on the [Network] tab of "Network setup" page? If not, select "Allow".	54
	▶	• Is the entered password correct? Restart the web browser and enter the password again.	14
	▶	• Access to the SD memory card may be failed. Restart the browser and retry to obtain images.	14
No image is displayed.	▶	• Is the viewer software installed on a PC? Install the viewer software on a PC.	3, 9 Installation Guide
	▶	• Is the version of DirectX 9.0c or later? Check the version of DirectX as follows. 1. Select "Run…" from the start menu of Windows®. 2. Enter "dxdiag" in the displayed dialog box and click the [OK] button. If the version of DirectX is older than 9.0c, upgrade it.	–
Images are displayed blurry.	▶	• Is there dust or dirt on the lens? Check if there is dust or dirt on the lens.	–
	▶	• Is the focus adjusted correctly? Adjust the focus correctly by clicking the focus buttons.	Operating Instructions

Symptom		Cause/solution	Reference pages
Images are displayed blurry.	▶	• When defocusing is caused by the camera position being moved, carry out the position refresh to correct the focus.	64
Noise is present on images.	▶	• The slip ring may be dirty. Perform position refresh. Assign the position refresh function to a schedule, and it is also recommended to clean the slip ring of the camera periodically.	–
Upper side of images are hidden (become black) when the tilt angle of the camera is almost level.	▶	• This is not malfunction. (This is caused by the shape of the inner cover an inner cover provided to an optional bracket.) Angle limitation by specifying the tilt range can reduce this symptom.	27, Installation Guide
The image is not being refreshed.	▶	• Depending on the version of your browser, there might be difficulties refreshing the picture and operating the camera.	Installation Guide
	▶	• Depending on the traffic of the network or the concentration of access to the camera, there might be difficulties displaying the camera picture. Request the camera picture using the browser such as by pressing the [F5] key, etc.	–
The camera does not move onto the preset position exactly.	▶	• When the camera position is moved from the preset position after turning on the power of the camera, execute the refresh position function from the [Initialization] tab of the "Maintenance" page. When "Position refresh" is set for the created schedule, the camera position will be corrected periodically.	61, 64
	▶	• Is any part of the camera worn out? When the camera does not move to the exact position frequently, the driving parts may be worn out. Contact the dealer for assistance.	Installation Guide

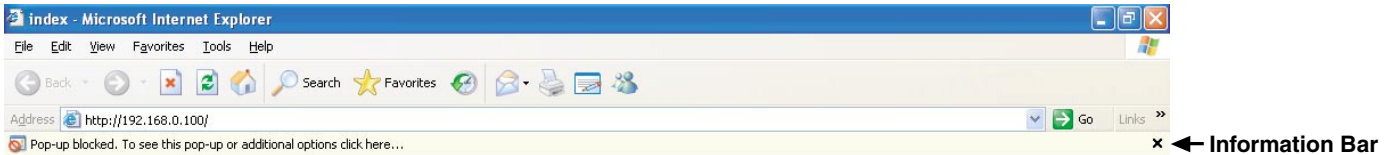| Symptom		Cause/solution	Reference pages
The camera does not automatically move to the previous position when turning on the power of the camera.	▶	• If the camera always moves to a specific position after turning on the power of the camera, register that position as the home position when convenient. The camera will automatically move to the registered position using the self return function when turning on the power of the camera.	23
No image is displayed (or too dark).	▶	• Is the brightness setting set at an appropriate level? Click the [RESET] button of "BRIGHTNESS".	Operating Instructions
Images are displayed washed out.	▶	• Is the brightness setting set at an appropriate level? Click the [RESET] button of "BRIGHTNESS".	Operating Instructions
Cannot adjust the focus correctly.	▶	• Is there dust or dirt on the transparent part (over the lens) of the dome cover (camera shell)? Clean the transparent part of the dome cover.	Installation Guide
	▶	• Are objects hard to focus on with the auto focus function? Adjust the focus manually.	Operating Instructions
Flicker appears on the screen.	▶	• When flickers appear frequently, set the shutter speed to "AUTO" or "1/100".	27
	▶	• Is "ON" selected for "Super Dynamic 3" ? Set to "OFF".	26
Images cannot be saved on the SD memory card.	▶	• Is the SD memory card inserted correctly?	Installation Guide
	▶	• Is the SD memory card formatted?	12
	▶	• Isn't the write protect switch set to "LOCK"? When the write protect switch is set to "LOCK", available size/total size indication of the SD memory card will be "**********KB/**********KB".	–
	▶	• Isn't the SD memory card out of order? There are limited times to overwrite on an SD memory card. When frequently overwritten, it may be at the end of product life. It is recommended to replace the SD memory card.	–

Symptom	Cause/solution	Reference pages
The AUTO MODE (OFF, home position, auto track, auto pan, preset sequence) of the camera changes.	▶ • Check the settings for the self return function.	23
Cannot transmit audio to the camera.	▶ • Are the microphone and the speaker connected correctly and firmly? Confirm that they are connected correctly and firmly.	Installation Guide
	▶ • Is the viewer software installed on the PC? Confirm that the viewer software "Network Camera View3" is installed.	3, 9 Installation Guide
	▶ • Are images displayed on a full screen? Audio will not be transmitted when displaying images on a full screen.	Operating Instructions
The alarm occurrence indication button, the receiver button, the transmission button, the AUX buttons and the SD recording status indicator on the "Live" page do not display the current status in real time.	▶ • Is the viewer software installed on the PC? Confirm that the viewer software "Network Camera View3" is installed.	3, 9 Installation Guide
No image is displayed on the "Live" page.	▶ • Press the [F5] key on the keyboard of the PC or click the [Live] button.	Operating Instructions
Images are not displayed or not refreshed smoothly.	▶ • Delete temporary internet files as follows. 1. Select "Internet Options…" from "Tools" on the menu bar of Internet Explorer®. The "Internet Options" window will be displayed. 2. Click the [Delete Files…] button in the "Temporary Internet files" section on the [General] tab.	–
	▶ • The firewall function of the anti-virus software may be filtering the port of the camera.Exclude the port number of the camera from the list of the port numbers to be filtered by the anti-virus software.	–

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Symptom	Cause/solution	Reference pages
When displaying MPEG-4 images on two or more browser windows, images from two or more cameras are displayed in sequence on a single browser window.	• This may occur due to the display adapter and driver combination. 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 are descriptions for when Microsoft 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 "Settings" 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". 	–
When MPEG-4 image is being displayed, no frame border is displayed to indicate the selected area.	• When the DirectDraw acceleration is disabled by adjusting the level of "Hardware acceleration", no frame border will be displayed to indicate the selected area.	–

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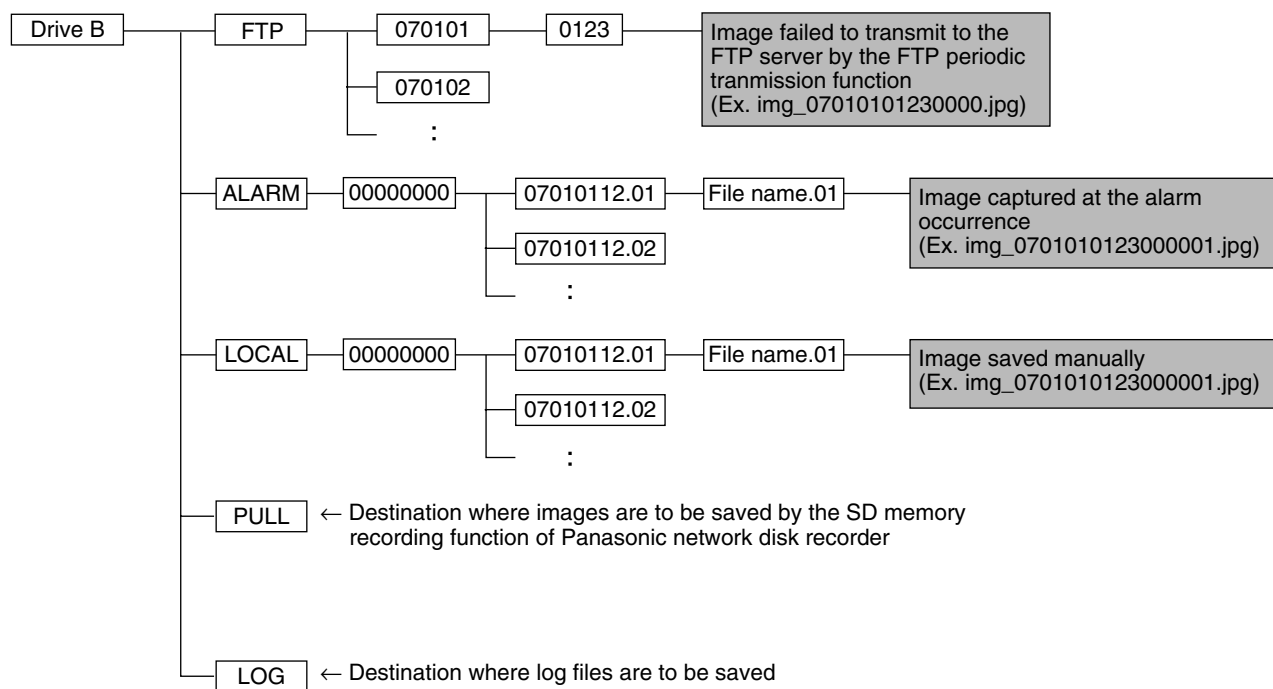## When using a PC on which Windows® XP Service Pack2 (SP2) is installed

The following may occur during operation when using a PC on which Windows® XP Service Pack2 (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" expressed in the following symptom and solutions will be displayed just below the address bar 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…"	▶	• 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. The "Warning" window will be displayed. Click the [Yes] button.	–

Directory structure of drive B

```
Drive B ──┬── FTP ──────┬── 070101 ──── 0123 ──── Image failed to transmit to the
          │             │                          FTP server by the FTP periodic
          │             ├── 070102                 tranmission function
          │             │                          (Ex. img_07010101230000.jpg)
          │             └──    :
          │
          ├── ALARM ── 00000000 ──┬── 07010112.01 ── File name.01 ── Image captured at the alarm
          │                       │                                  occurrence
          │                       ├── 07010112.02                    (Ex. img_0701010123000001.jpg)
          │                       └──    :
          │
          ├── LOCAL ── 00000000 ──┬── 07010112.01 ── File name.01 ── Image saved manually
          │                       │                                  (Ex. img_0701010123000001.jpg)
          │                       ├── 07010112.02
          │                       └──    :
          │
          ├── PULL   ← Destination where images are to be saved by the SD memory
          │           recording function of Panasonic network disk recorder
          │
          └── LOG    ← Destination where log files are to be saved
```

Setting example of the router

This camera transmits MPEG-4 images using UDP protocol.
To display MPEG-4 images using a router, it is necessary to configure the settings (UDP port setup) of both the camera and the router as below.

Step 1

Configure "MPEG-4 setup" of the camera as follows.
① Transmission type: Unicast port (MANUAL)
② Unicast port1 (Image): 32004
③ Unicast port2 (Audio): 33004

Step 2

Configure the router ① to which the camera is connected as follows.
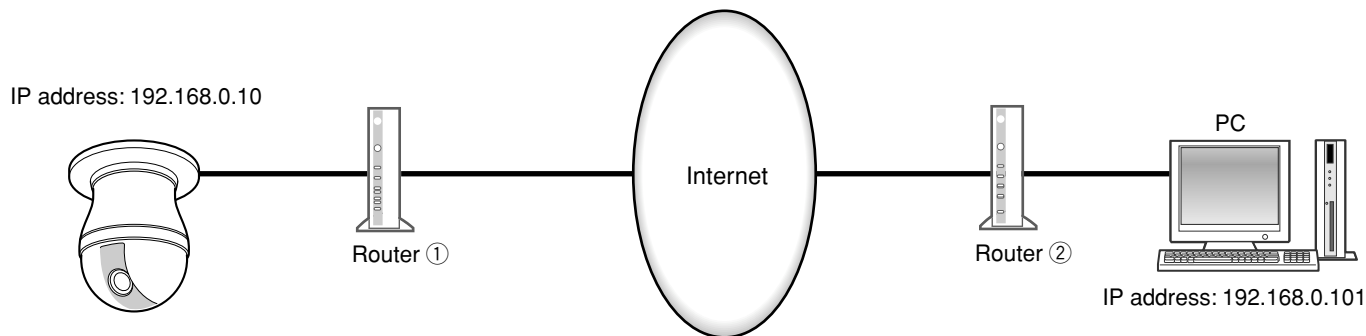
Address mapping table

Group	LAN IP address	LAN port		WAN IP address	Protocol
Camera	192.168.0.10	TCP port: 80	<--->	WAN IP address of the router	HTTP (TCP port: 80)
	192.168.0.10	UDP port: 32004	<--->	WAN IP address of the router	UDP port: 32004
	192.168.0.10	UDP port: 33004	<--->	WAN IP address of the router	UDP port: 33004

Step 3

Configure the router ② to which the PC is connected as follows.

Address mapping table*

Group	WAN IP address	Protocol		LAN IP address	LAN port
PC	WAN IP address of the router	UDP port: 33004	<--->	192.168.0.101	UDP port: 33004
	WAN IP address of the router	UDP port: 32004	<--->	192.168.0.101	UDP port: 32004

IP address: 192.168.0.10

Internet

Router ①

Router ②

PC

IP address: 192.168.0.101

* The address mapping table is the example for when using a typical router.
  Depending on the manufacturer of the router, it may be described as "static IP masquerade".