Panasonic

Network Camera

Setup Instructions

Model No. WV-NF302E

Panasonic WV-NF302

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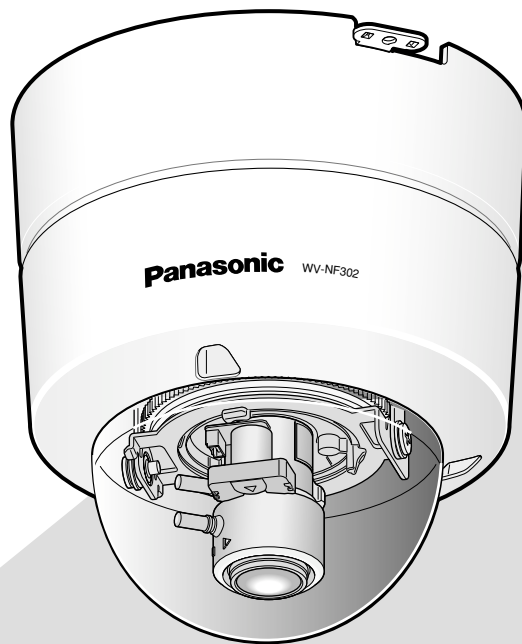
Before attempting to connect or operate this product,
please read these instructions carefully and save this manual for future use.

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

CONTENTS

Preface

About these operating instructions

There are 3 sets of operating instructions as follows.
- Installation guide
- Operating instructions
- Setup instructions

These setup Instructions contain descriptions of how to configure the settings using a PC via a network.
Refer to the installation guide for descriptions of how to install this product and of how to connect to a network.
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Viewer software

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

Important:
- The default setting of "Automatic installation of viewer software" is "On". Follow the instructions on page 66 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, reboot the PC.
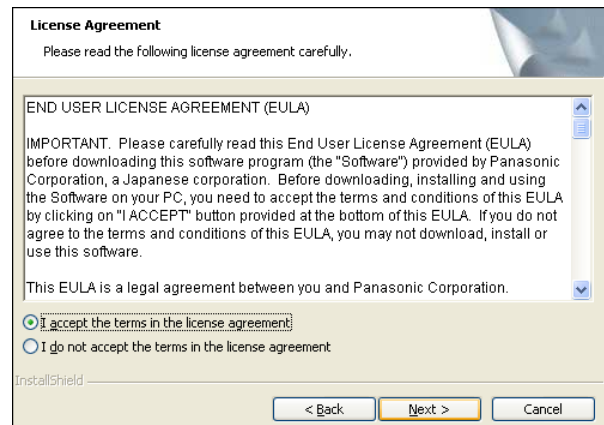
- The viewer software used on each PC should be licensed individually. The number of installations of the viewer software from the camera can be checked on the [Upgrade] tab of the "Maintenance" page (☞ page 55). Refer to your dealer for the software licensing.

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
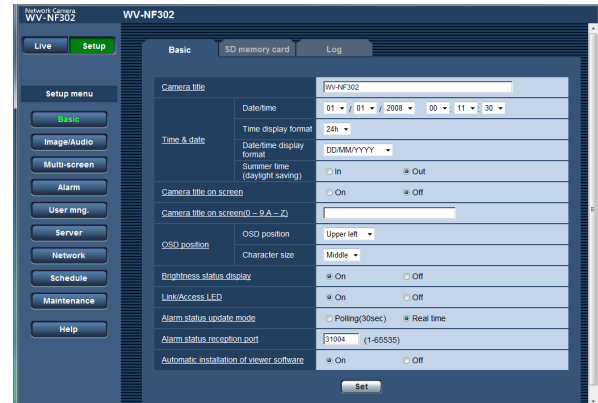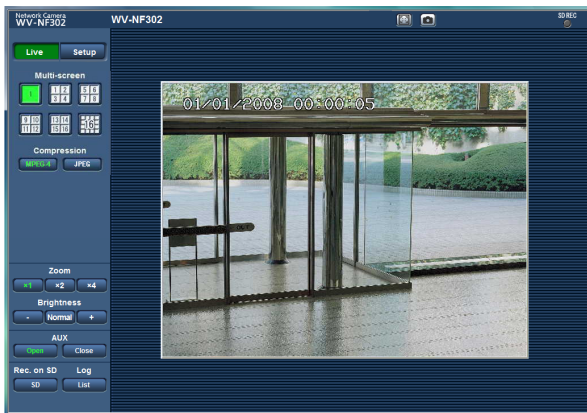
Step 1

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

Step 2

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

Step 3

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
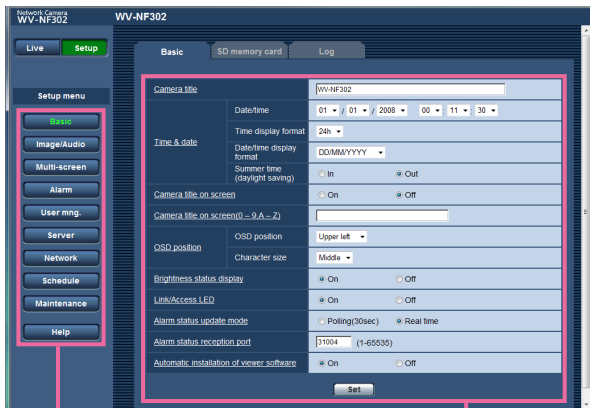
Menu buttons   Setup page

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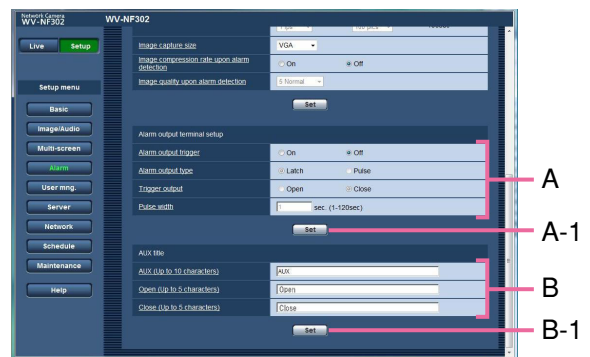
When completing the setting items in field A, click the [Set] button below field A (A-1). The edited setting items in field A will not be applied unless the [Set] button below field A (A-1) is clicked.
In the same manner as above, click the [Set] button below field B (B-1) when completing the setting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

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About the setup menu window

① [Live] button
② [Basic] button
③ [Image/Audio] button
④ [Multi-screen] button
⑤ [Alarm] button
⑥ [User mng.] button
⑦ [Server] button
⑧ [Network] button
⑨ [Schedule] button
⑩ [Maintenance] button
⑪ [Help] button

⑫ Status display area
⑬ Setup page
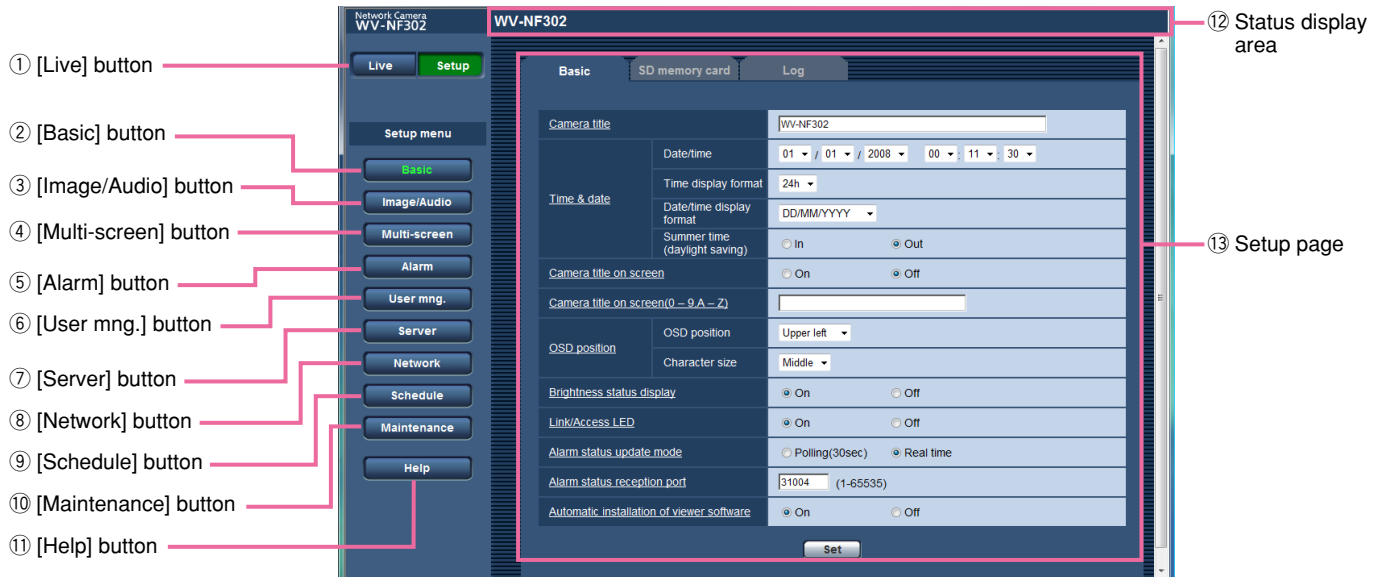
① **[Live] button**
Click this button to display the "Live" page.

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

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

④ **[Multi-screen] button**
Click this button to display the "Multi-screen" page. The cameras to be used for the multi-screen display can be registered on the "Multi-screen" page. Refer to page 30 for further information.

⑤ **[Alarm] button**
Click this button to display the "Alarm" 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" page. Refer to page 31 for further information.

⑥ **[User mng.] button**
Click this button to display the "User mng." page. The settings relating to the authentication such as users and PCs restrictions for accessing the camera can be configured on the "User mng." page. Refer to page 39 for further information.

⑦ **[Server] button**
Click this button to display the "Server" page. The settings relating to the mail server and the FTP server to which the camera accesses can be configured on the "Server" page. Refer to page 42 for further information.

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⑧ **Network** **[Network] button**
Click this button to display the "Network" page. The network settings and the settings relating to DDNS (Dynamic DNS), SNMP (Simple Network Management Protocol) and the FTP (File Transfer Protocol) periodic image transmission function can be configured on the "Network" page. Refer to page 45 for further information.

⑨ **Schedule** **[Schedule] 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 52 for further information.

⑩ **Maintenance** **[Maintenance] button**
Click this button to display the "Maintenance" page. System log check, firmware upgrade and reset of the settings to the default can be carried out on the "Maintenance" page. Refer to page 54 for further information.

⑪ **Help** **[Help] button**
Click this button to display the "Help" page. Refer to page 58 for further information.

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]

The basic settings such as time and date and camera name, and the settings relating to the SD memory card and the logs can be configured on the "Basic" page.
The "Basic" page has 3 tabs; the [Basic] tab, the [SD memory card] tab and the [Log] tab.

Configure the basic settings [Basic]

Click the [Basic] tab on the "Basic" 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.
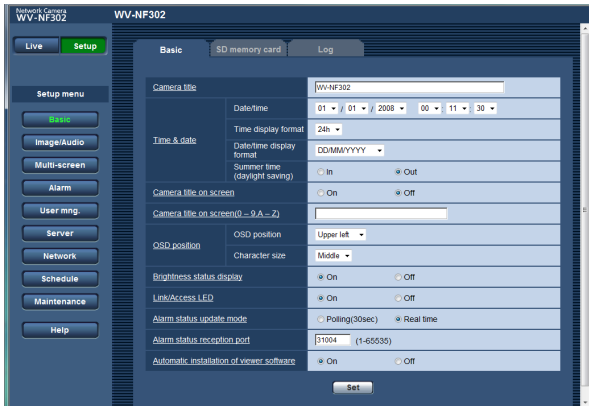
[Camera title]
Enter the title of the camera. Click the [Set] button after entering the title of the camera. The entered title will be displayed in the status display area.
Number of characters for the camera title: 0 - 20 characters
Default: WV-NF302

[Date/time]
Enter the current time and date. When "12h" is selected for "Time display format", "AM" or "PM" can be selected.
Available range: 01/01/2007 0:00:00 – 12/31/2035 23:59:59
(Example: When the recorder is manufactured in April of 2008, "Apr/01/2008 00:00:00" will be displayed as the default.)

[Time display format]
Select the time display format from "12h", "24h" and "Off". Enter the current hour reflecting this setting when entering the current time and date for "Date/time". To hide time and date, select "Off".
Default: 24h

[Date/time display format]
Select a date/time display format.
When "2008/04/01 13:10:00" is set for "Date/time" after selecting "24h" for "Time display format", time and date will be respectively displayed as follows.

DD/MM/YYYY: 01/04/2008 13:10:00
MM/DD/YYYY: 04/01/2008 13:10:00
DD/Mmm/YYYY: 01/Apr/2008 13:10:00
YYYY/MM/DD: 2008/04/01 13:10:00
Mmm/DD/YYYY: Apr/01/2008 13:10:00
Default: DD/MM/YYYY

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

[Camera title on screen]
Select "On" or "Off" to determine whether or not to display the camera title on images.
The camera title entered for "Camera title on screen (0-9, A-Z)" will be displayed at the position selected for "OSD position".
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)

[OSD position]
Select a position where time and date 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

[Character size]
Select a character size to display time and date on the "Live" page.
Large: The above information will be displayed with large size characters.
Middle: The above information will be displayed with middle size characters.
Small: The above information will be displayed with small size characters.
Default: Middle

[Brightness status display]
Select "On" or "Off" to determine whether or not to display the status of brightness on images displayed on the "Live" page when adjusting brightness.
On: Displays the status of brightness
Off: Does not display the status of brightness
Default: On

[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/focus assist 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. [Green]
- **SD memory card error LED:** This LED will light when the SD memory card is unavailable to save images. [Red]
- **Focus assist LED:** This LED will light when the focus assist function is activated or when the indication "BEST FOCUS" is displayed in the process of the focus adjustment using the focus assist function. [Red]

[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 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 reception 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 SD memory card [SD memory card]

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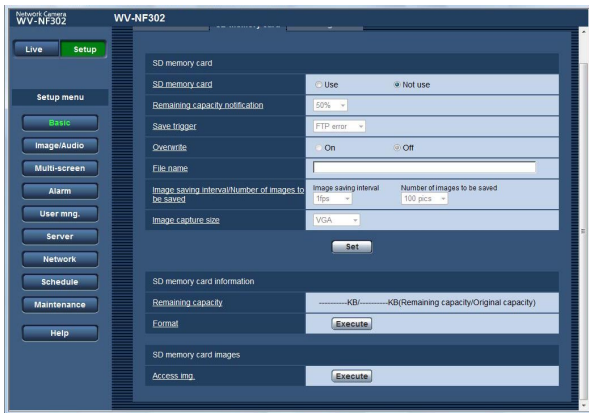
■ SD memory card

[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 multiple users are receiving images. 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.

[Remaining capacity notification]
When the "Mail notification" function or the "Panasonic alarm protocol" function is used to provide notification of the remaining capacity 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 capacity of the SD memory card reached the values above.
For example, notification will be provided each time the remaining capacity reaches 50%, 20%, 10%, 5% and 2% when "50%" is selected. Notification may not always be made at the very moment when the remaining capacity 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 image 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 45), 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

Note:
The overwrite setting will be as follows according to the "Save trigger" setting.
FTP error: Will not be overwritten
Alarm input: Will be overwritten
Manual: Can be determined by selecting "On" or "Off" for "Overwrite"

[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 img. trans.] tab of the "Network" page will be used for the file name of the image saved on the SD memory card.

[Image saving interval/Number of images to be saved]
• Image saving interval
When an alarm is sounded or manual saving is performed, select an image saving interval from the following.
0.1 fps/0.2 fps/0.33 fps/0.5 fps/1 fps
Default: 1 fps

• Number of images to be saved
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
Default: 100 pics

Note:
"Image saving interval/Number of images to be saved" can be configured only when "Alarm input" is selected for "Save trigger".

[Image capture size]
Select "QVGA", "VGA" or "1 280 x 960" 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 img. trans.] tab of the "Network" 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" page.

■ SD memory card information

[Remaining capacity]
Available capacity and the original capacity of the SD memory card will be displayed.
Depending on the status of the SD memory card, the indications will differ as follows.

Indication	Description
--------KB/--------KB	No SD memory card is inserted. Failed to obtain available capacity 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 37 and 38)

[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" page (☞ page 10) and "Off" for "FTP periodic image transmission" on the [FTP img. trans.] tab of the "Network" page (☞ page 50).
• 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 image 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 capacity may be smaller than the original capacity since the default directory is automatically created in the SD memory card.
• Compatible SD memory card is as follows.
  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.

■ SD memory card images

[Access img.]
Click the [Execute] button to access images saved on the SD memory card.

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: 1 280 x 960

Capacity of SD memory card	Image quality				
	0 (Super fine)	**1 (Fine)**	**2**	**3**	**4**
2 GB	Approx. 4 000 pics	Approx. 5 000 pics	Approx. 6 000 pics	Approx. 7 000 pics	Approx. 8 000 pics
1 GB	Approx. 2 000 pics	Approx. 2 500 pics	Approx. 3 000 pics	Approx. 3 500 pics	Approx. 4 000 pics
512 MB	Approx. 1 000 pics	Approx. 1 250 pics	Approx. 1 500 pics	Approx. 1 750 pics	Approx. 2 000 pics
256 MB	Approx. 500 pics	Approx. 625 pics	Approx. 750 pics	Approx. 875 pics	Approx. 1 000 pics
128 MB	Approx. 250 pics	Approx. 312 pics	Approx. 375 pics	Approx. 437 pics	Approx. 500 pics
64 MB	Approx. 125 pics	Approx. 156 pics	Approx. 188 pics	Approx. 219 pics	Approx. 250 pics

Capacity of SD memory card	Image quality				
	5 (Normal)	**6**	**7**	**8**	**9 (Low)**
2 GB	Approx. 10 000 pics	Approx. 14 000 pics	Approx. 16 000 pics	Approx. 18 000 pics	Approx. 20 000 pics
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

Image capture size: VGA

Capacity 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

Capacity 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

Capacity 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
Capacity 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

Access copy images saved on the SD memory card onto the PC [SD memory card images]

Click the [SD memory card] tab on the "Basic" page. (☞ pages 4 and 5: How to display/operate the setup menu)
The following are descriptions of how to access images saved on the SD memory card via a network.
It is necessary in advance to select "Allow" for "FTP access to camera" on the [Network] tab of the "Network" page (☞ page 46).

Important:
- It is impossible to access and copy images saved on the SD memory card when another user is simultaneously accessing images from the SD memory card.
- Depending on the settings of a proxy server or a firewall, it is impossible to access images via a network. In this case, refer to the network administrator.
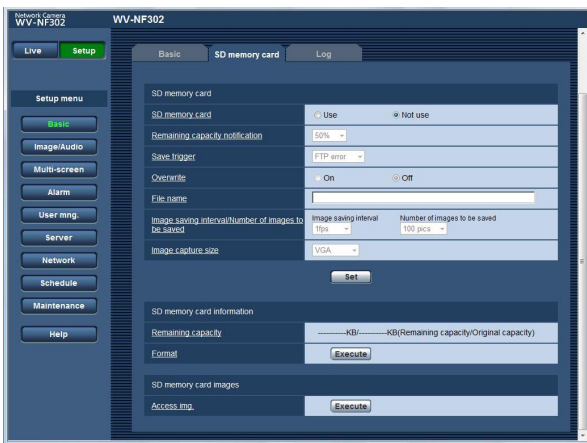
Step 1

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 on the SD memory card are to be saved will be displayed.

Step 3

Select the desired images or the folder to be copied onto the PC.
It is impossible to display the image to be copied on this window. Display the image after copying it on the PC.

Note:
When logging in the camera to access images, drive B will be displayed first.
Images are saved in different directories according to "Save trigger" ("Save trigger" - "Basic"-"SD memory card".).
Move to the directory corresponding to the desired images and copy them.
Refer to page 67 for further information about the directory structure.

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Configure the settings relating to the logs [Log]

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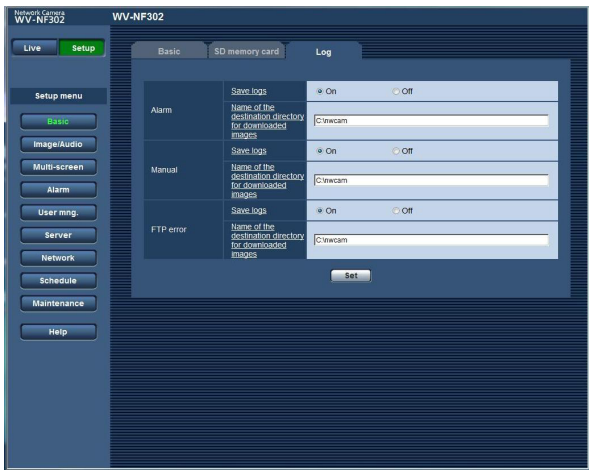
■ Alarm

[Save logs]
Select "On" or "Off" to determine whether to save the alarm logs.
On: Alarm logs will be saved.
Off: Alarm logs will not be saved.
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 3 000 logs will be kept. When more than 3 000 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 3 000 logs are filed since associated images are to be deleted when the logs are deleted.
		Other than "Alarm input"	Logs: Up to 3 000 logs will be kept. When more than 3 000 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.
Off	Use	Alarm input	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. **Note:** To display images on the SD memory card, it is necessary to copy them onto the PC first. (☞ page 15)
		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.

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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 3 000 logs will be kept. When more than 3 000 logs are filed, the older logs will be overwritten by the newer logs. 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 3 000 logs are filed since associated images are to be deleted when the logs are deleted.
			Off	Logs: Up to 3 000 logs will be kept. When more than 3 000 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 3 000 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 3 000.
		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. **Note:** To display images on the SD memory card, it is necessary to copy them onto the PC first. (☞ page 15)
			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 15)
		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 3 000 logs will be kept. When more than 3 000 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 3 000 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 3 000.
		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 15)
		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.

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Configure the settings relating to images and audio [Image/Audio]

The settings relating to JPEG/MPEG-4 images such as the settings of image quality, privacy zone, audio, etc. can be configured on this page.
The "Image/Audio" page has 3 tabs; the [JPEG/MPEG-4] tab, the [Image/Privacy] 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 "Image/Audio" page. (☞ pages 4 and 5: How to display/operate the setup menu)

■ JPEG

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.
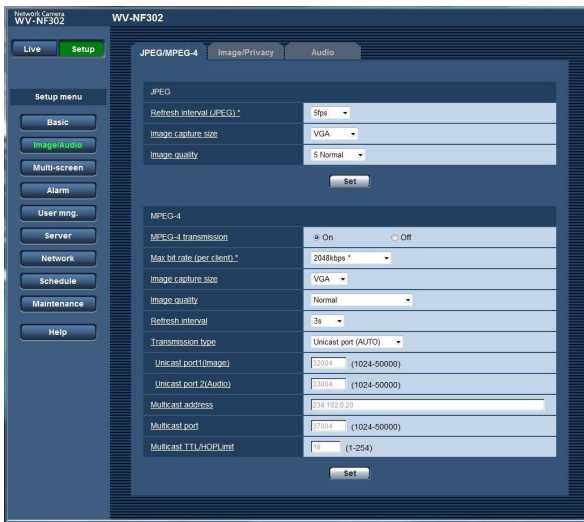
[Image capture size]
Select "QVGA", "VGA" or "1 280 x 960" for the image capture size of JPEG images.
Default: VGA

[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

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

Click the [JPEG/MPEG-4] tab on the "Image/Audio" page. (☞ pages 4 and 5: How to display/operate the setup menu)
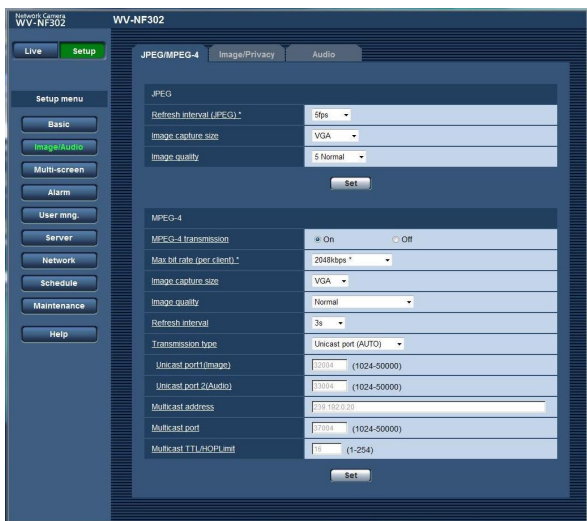Configure the settings relating to MPEG-4 image such as "Max bit rate (per client)", "Image capture size", "Image quality", etc. in this section. Refer to page 20 for further information about the settings relating to JPEG images.

[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 transmission interval of JPEG images may become longer than the set value when displaying JPEG images.

[Max bit rate (per client)*]
Select a MPEG-4 bit rate per a client from the following.
(Constant bit rate) 64 kbps/128 kbps */256 kbps */
512 kbps */1 024 kbps */1 536 kbps */2 048 kbps */
3 072 kbps */4 096 kbps */(frame rate priority)
4 096 kbps */unlimited *
Default: 2 048 kbps*

Note:

The MPEG-4 bit rate is synchronized with "Bandwidth control(bit rate)" on the [Network] tab of "Network" page (☞ page 46). 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 priority) 4096 kbps *" or "unlimited *" is selected for "Max bit rate (per client)*".

[Refresh interval]
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 16 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 16 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 68) Refer to the operating instructions of the router in use.

Multicast: No concurrent access limitation for a camera. Complete the entry field of "Multicast address", "Multicast port" and "Multicast TTL/HOPLimit" when transmitting MPEG-4 images with multicast.

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

Default: Unicast port (AUTO)

[Unicast port1 (Image)] *1
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)] *1
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] *2
Enter the multicast IP address.
Images and audio will be transmitted to the designated IP address.
Available IPv4 address: 224.0.0.0 - 239.255.255.255

Note:
Enter a multicast address after checking available multicast address.

Available IPv6 address: Multicast address starting from "FF"
Default: 239.192.0.20

[Multicast port] *2
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/HOPLimit] *2
Enter the multicast TTL/HOPLimit value.
Available value: 1 - 254
Default: 16

Important:
- 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.

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*1: It is necessary to designate the unicast port number when "Unicast port (MANUAL)" is selected for "Transmission type".
*2: It is necessary to designate the multicast IP address when "Multicast" is selected for "Transmission type".
*3: Images will not be transmitted for access using the different IP address version set for "Multicast address".

Configure the settings relating to images and the privacy zone [Image/Privacy]

Click the [Image/Privacy] tab on the "Image/Audio" 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/Privacy] tab.
The following are descriptions of how to configure the settings relating to image adjust, privacy zone, etc.
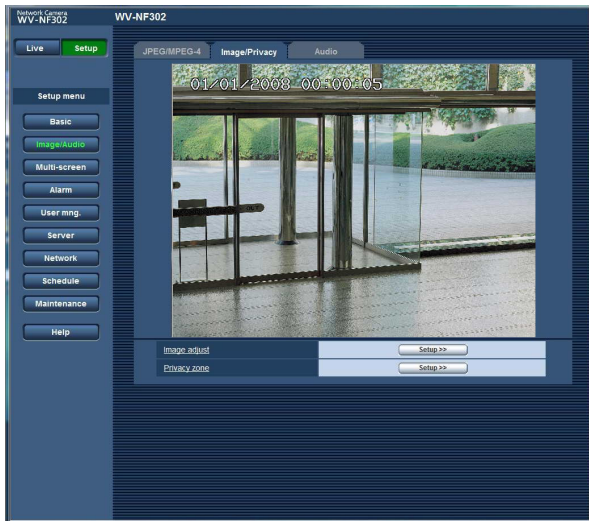
[Image adjust]
Click the [Setup >>] button to display the setup menu that can configure the settings relating to image quality. The setup menu will be displayed in a newly opened window. (☞ page 24)

[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 27)

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

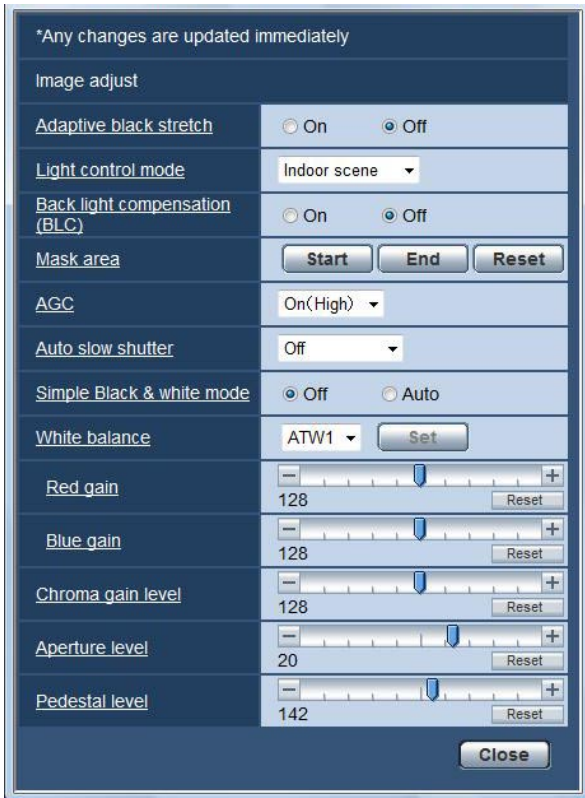Click the [Setup >>] button of "Image adjust" on the [Image/Privacy] tab of the "Image/Audio" page. (☞ page 23)
The settings relating to image quality can be configured with the setup menu displayed in a newly displayed window.
When the values are changed, the changed values will be applied immediately to the currently displayed image on the [Image/Privacy] tab.

*Any changes are updated immediately		
Image adjust		
Adaptive black stretch	○ On ◉ Off	
Light control mode	Indoor scene ▾	
Back light compensation (BLC)	○ On ◉ Off	
Mask area	Start End Reset	
AGC	On(High) ▾	
Auto slow shutter	Off ▾	
Simple Black & white mode	◉ Off ○ Auto	
White balance	ATW1 ▾ Set	
Red gain	128	Reset
Blue gain	128	Reset
Chroma gain level	128	Reset
Aperture level	20	Reset
Pedestal level	142	Reset

Close

[Adaptive black stretch]
Select "On" or "Off" to determine whether or not to activate the darkness compensation function.
The darkness compensation function can make darker parts of images brighter by digital image processing.

Important:
When "On" is selected for "Adaptive black stretch", noise in the darker parts may be increased, and parts around borders between the darker parts and the brighter parts may become darker/brighter than the other darker/brighter parts.

On: Compensates darkness.
Off: Does not compensate darkness.
Default: Off

[Light control mode]
Select the light control mode.

Note:
Illuminance may sometimes not be reduced in the "Indoor scene" mode depending on the installation environment. In this case, select "Outdoor scene".

Outdoor scene: Depending on the brightness level (illuminance), the iris will automatically be controlled together with the shutter speed adjustment to control light.
Indoor scene: The shutter speed will automatically be adjusted to prevent flicker caused by fluorescent light.
Default: Indoor scene

[Back light compensation (BLC)]
Select "On" or "Off" to determine whether or not to activate the back light compensation (BLC) function.
The back light compensation function can compensate back light by setting mask areas on brighter parts of images brighter.
On: Mask areas will be set automatically.
Off: Mask areas will not be set automatically. It is necessary to set them manually.
Default: Off

[Mask area]
When "Off" is selected for "Back light compensation (BLC)", it is possible to compensate for backlight by masking the brighter area.
Refer to page 26 for descriptions of how to mask.

[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)

[Auto slow shutter]
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.

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Off / Max.2/30s / Max.4/30s / Max.6/30s / Max.10/30s / Max.16/30s
Default: Off

Important:
When "On" is selected for "Auto slow shutter", frame rate may become lower. Noise or white dots (blemishes) may sometimes appear.

Note:
When "Max.16/30s" is selected, for example, sensitivity will automatically be increased up to x16.

[Simple Black & white mode]
Select switching between the color mode and the black & white mode.
Off: The color mode is selected.
Auto: The camera automatically switches between the color mode and the black & white mode in accordance with picture brightness (luminance). The black & white mode is selected when lighting is low, while the color mode is selected for bright lighting.
Default: Off

Notes:
• Indication of brightness (illuminance) as a trigger to switch from the color mode to the black & white mode: Approx. 2 lx (when "Auto" is selected)
• Time to complete the switch from the color mode to the white & black mode: Approx. 5 seconds

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[White balance]
Select a method of white balance adjustment from the following.
White color can be adjusted by "Red Gain" and "Blue Gain".
ATW1: Auto tracing white balance mode
The camera will constantly check the color temperature of the light source and adjust the white balance automatically.
Operating color 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 color 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 color temperature range is approx. 2 000 K – 10 000 K.
Default: ATW1

Notes:
• Under the following conditions, color may not be faithfully processed. In these cases, select "AWC".
• When shooting a subject whose major part is a thick color
• When shooting blue sky or sun at sunset
• When shooting a subject whose luminance is too low

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

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

[Chroma gain level]
Adjust the chroma level (color density).
When the cursor is moved in the "+" direction, the colors will become thicker. When the cursor is moved in the "–" direction, the colors will be thinner.
Click the [Reset] button to reset the color 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.
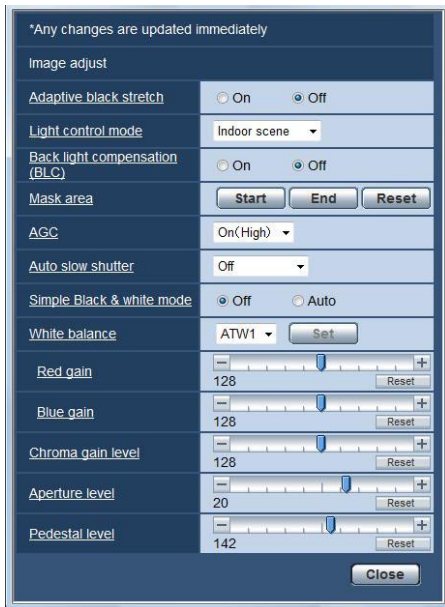
[Close] button
Click this button to close the "Image adjust" setup menu.

Set mask areas

When "Off" is selected for "Back light compensation (BLC)", it is possible to compensate for backlight by masking brighter areas.

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.
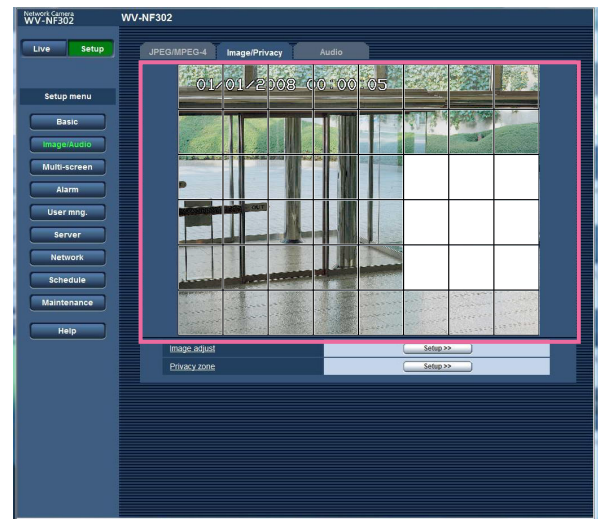
Step 2

Click the [Start] button of "Mask area".
→ Borders will appear and the image displayed on the [Image/Privacy] tab will be divided into 48 (6x8).
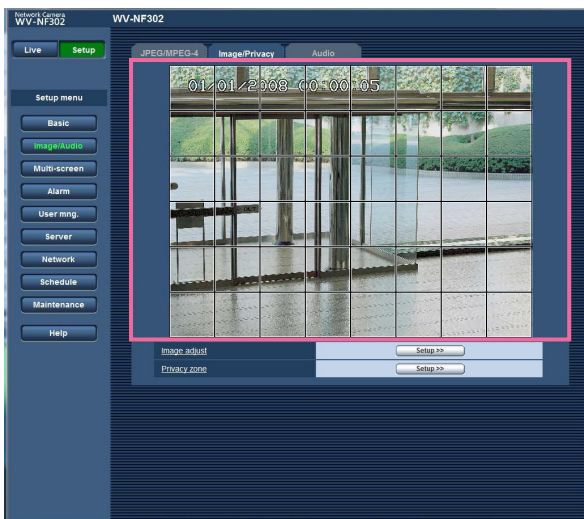
Step 4

Click the [End] button after completing masking areas.
→ The borders on the image displayed on the [Image/Privacy] tab will disappear.

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

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

Click the [Setup >>] button of "Privacy zone" on the [Image/Privacy] tab of the "Image/Audio" page. (☞ page 23)
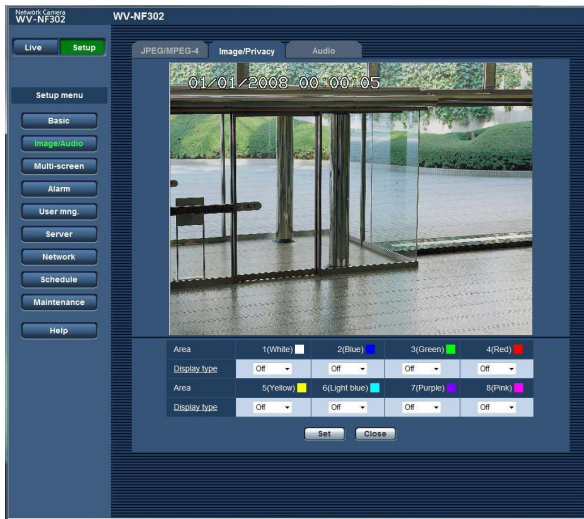When there is a zone that is not to be displayed, set the zone as a privacy zone to not to display. Up to 8 privacy zones can be set.

[Area]
Drag the mouse on the displayed image to select an area to be set as a privacy zone. It is possible to set a privacy zone even when overlapping on the other privacy zone.
When selecting a zone to create the first privacy zone on images, the selected zone will be set as privacy zone 1. The subsequently created privacy zones will be set in numerical order (2-8).

[Display type]
Select a display type 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

Note:
Set the privacy zone larger than the size of an object to be hidden.

[Set] button
The privacy zone setting will be saved and applied.

[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 "Image/Audio" page. (☞ pages 4 and 5: How to display/operate the setup menu)
The settings relating to audio can be configured on this page.

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.
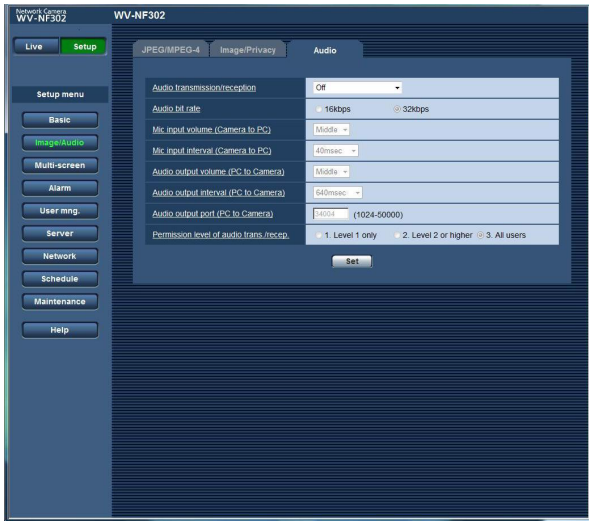
[Audio transmission/reception]
Select the communication mode used for audio data transmission/reception between the camera and the PC from the following.
Off: Does not receive/transmit audio between the camera and the PC. Therefore, the settings and controls relating to audio will be invalidated.
Mic 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" in the "MPEG-4" section of the [JPEG/MPEG-4] tab of the "Image/Audio" page (☞ page 21), it is impossible to carry out the audio transmission/reception while monitoring MPEG-4 image.
To carry out the audio transmission/reception, click the [JPEG] button on the "Live" page.

[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 "Bandwidth control(bit rate)" (☞ page 46) 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 transmitted from the camera.
High/Middle/Low
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 environment.

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

[Audio output interval (PC to Camera)]
Select an interval for audio transmission from the following.
160 msec/320 msec/640 msec/1 280 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 environment.
• Audio may temporarily be interrupted or noise may be heard the camera, or when multiple users are accessing concurrently. It may be possible to diminish the interruption or noise by setting a longer interval for "Audio output interval (PC to Camera)".
• Audio may sometimes not be heard depending on the network environment.

[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: 1 024 - 50 000 (Only even numbers 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 number.

[Permission level of audio trans./recep.]
Select an access level for audio transmission/reception from the following. Refer to page 39 for further information about the access level.
Level 1 only/Level 2 or higher/All users
Default: All users

# Configure the multi-screen settings [Multi-screen]

Assign cameras to be displayed on a multi-screen [Multi-screen setup]

The cameras to be used for the multi-screen display can be registered on this page.
Refer to the operating instructions (PDF) for descriptions of how to display images on a multi-screen.
The following cameras are applicable for the multi-screen display. (as of April 2008)
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
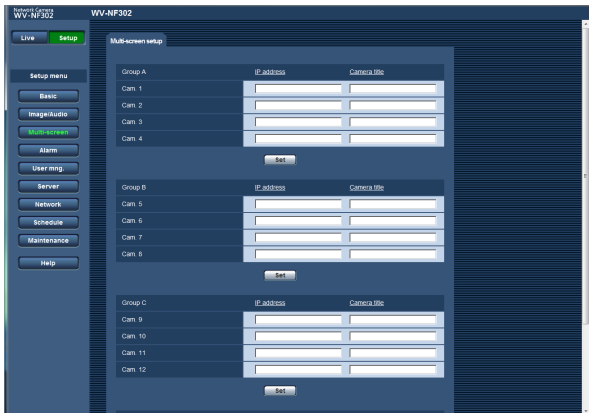
[Camera title]
Enter the title of the camera. The entered camera title will be displayed on a multi-screen.
Number of characters for the camera title: 0 - 20 characters

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: Enter "IP address of the camera:port number", for example:
  Example when entering an IPv4 address:
    192.168.0.10: 8080
  Example when entering an IPv6 address:
    [2001:db8:0:0:0:0:0:1]:8080
Number of characters for the IP address: 1 - 128 characters

Notes:
- 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 46)
- When using Windows XP SP2, enter an IPv4 address. Images from the camera may not be displayed correctly if an IPv6 address is entered.

Configure the alarm settings [Alarm]

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" page has 3 tabs; the [Alarm] tab, the [VMD area] tab and the [Notification] tab.
The terminal alarms indicate the EXT I/Os respectively (☞ Installation guide).

Configure the settings relating to the alarm [Alarm]

Click the [Alarm] tab on the "Alarm" page. (☞ pages 4 and 5: How to display/operate the setup menu)
Refer to pages 32 and 34 for further information about the settings relating to the alarm image and the alarm output terminal.

■ Alarm

The settings relating to the alarm can be configured in this section.
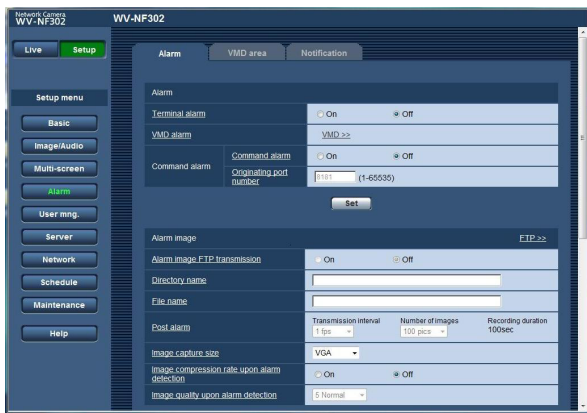
[Terminal alarm]
Determine whether or not to use the terminal alarm by selecting "On" or "Off".
On: Uses alarm.
Off: Does not use alarm.
Default: Off

[VMD alarm]
When the [VMD >>] button is clicked, the [VMD] tab page (☞ page 35) will be displayed.

[Command alarm]
• Command alarm
Determine whether or not to use the command alarm by selecting "On" or "Off".
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 alarm image

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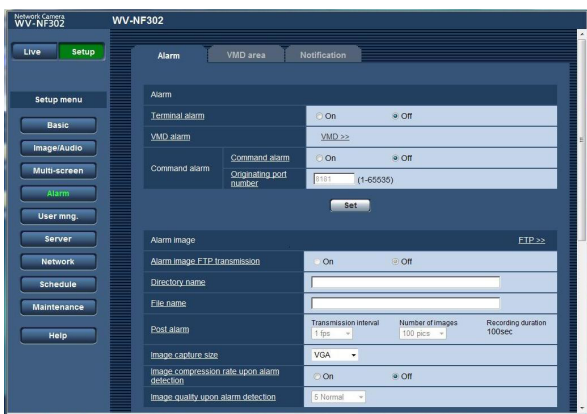
■ Alarm image

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 43)
Refer to pages 31 and 34 for further information about the settings relating to the alarm 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 10)
  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 33) If this happened, set the image refresh interval lower.
- Timing of notification or saving of image file may sometimes take some time when the transmission interval is set shorter or when multiple users are receiving images.
  In this case, set the transmission interval longer.

[FTP >>]
When "FTP >>" is clicked, the [FTP img. trans.] tab of the "Server" page will be displayed. (☞ page 43)

[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 name]
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

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• **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
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", "VGA" or "1 280 x 960" 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

[Image compression rate upon alarm detection]
Image quality can be changed upon an alarm occurrence.
On: Images will be transmitted with the image quality selected for "Image quality upon alarm detection".
Off: Does not use this function.
Default: Off

[Image quality upon alarm detection]
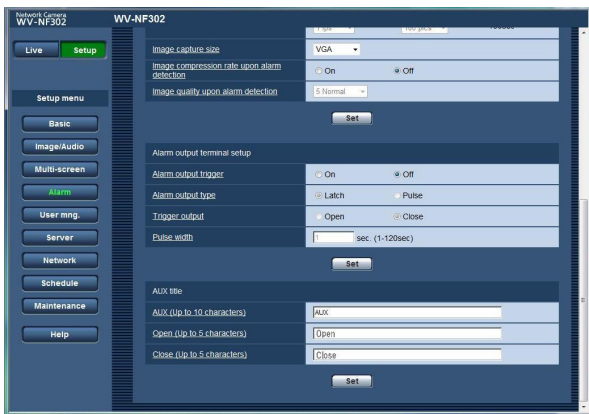0 Super fine/1 Fine/2/3/4/5 Normal/6/7/8/9 Low
Default: 5 Normal

Configure the settings relating to the alarm out terminal

Click the [Alarm] tab on the "Alarm" 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. Refer to pages 31 and 32 for further information about the settings relating to the alarm, and the alarm image.

[Alarm output trigger]
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

[Alarm output type]
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 "Trigger 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 "Trigger output" setting for the period set for "Pulse width".
Default: Latch

[Trigger 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: Close

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 type", select an alarm output terminal duration from the following.
Available pulse width: 1 - 120 sec
Default: 1 sec

■ AUX title

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.

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

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

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.

Set the VMD areas [VMD area]

Click the [VMD area] tab on the "Alarm" page. (☞ pages 4 and 5: How to display/operate the setup menu)
The video motion detection areas can be set on this page.
The following are descriptions of how to set areas to detect motion of objects using the VMD function.
Up to 4 areas can be set. When motion is detected in the set area, it will be regarded as an alarm.
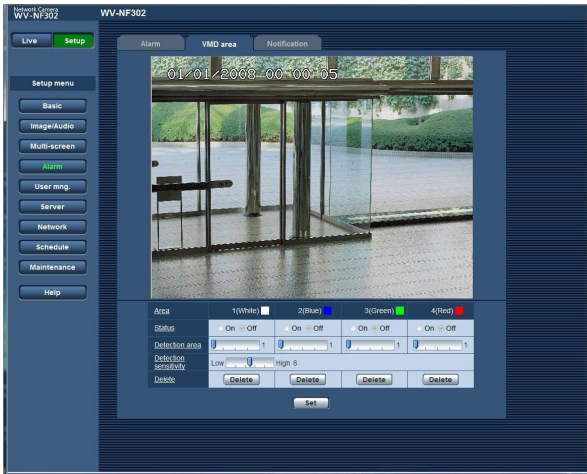
[Area]
When selecting an area to create the first VMD area on images, the selected area will be set as VMD area 1.
The subsequently created VMD areas will be set in numerical order (2-4).

[Status]
Select "On" or "Off" to determine whether or not to activate each VMD area.
On: Activates the respective VMD area
Off: Inactivates the respective VMD area
Default: Off

[Detection area]
Adjust the size of the VMD area using the slider.
The smaller the selected value is, the higher the sensitivity of VMD area becomes.
The current value (1-10) will be displayed on the right of the slider.
Available value: 1-10
Default: 1

[Detection sensitivity]
Adjust the sensitivity of motion detection in the VMD area using the slider.
The larger the selected value is, the more the sensitivity (responsiveness) of the VMD area increases.
The adjusted value will be applied to all of the VMD areas (1-4).
The current value (1-15) will be displayed on the right of the slider.
Available value: 1 (low)-15 (high)
Default: 8

[Delete] button
Click the [Delete] button respective to the VMD area to be deleted.
The outline of the VMD area will disappear.
Even after the outline of the VMD area disappeared, the respective VMD area will not be deleted until the [Set] button is clicked.

Notes:
- When motion is detected, the alarm occurrence indication button (☞ Operating instructions) will be displayed.
- When received a terminal alarm or a command alarm, the alarm occurrence indication button (☞ operating instructions) will be displayed.
- Even when "Real time" is selected for "Alarm status update mode" (☞ page 9) on the [Basic] tab page of the "Basic" page, notification of the VMD alarm may sometimes not be provided in real time depending on the network environment.
- Motion of objects can be detected only when motion range is larger than 1/192 (12 (V) x 16 (H)) of the screen.

Set the VMD areas

Create a VMD area by dragging the mouse on the screen.

(a) When selecting area to create the first VMD area on images, the selected area will be set as VMD area 1 (white) and the white border will be displayed.

(b) The subsequently created VMD areas will be set in numerical order (2-4) and the color of the outline of the areas indicates the respective VMD area number (2: blue, 3: green, 4: red).

(c) When the VMD area is created, "Status" of the created VMD area will be set to "On" automatically.
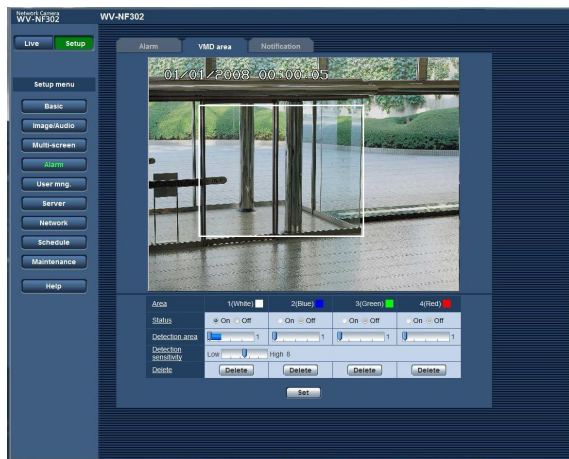
Step 2

Adjust the detection sensitivity using the slider.
• Available sensitivity level is 1 (low) - 15 (high).
• The adjusted detection sensitivity will be applied to all of the VMD areas.
• Status of motion detection will be displayed in the detection area according to the currently being displayed area and the detection sensitivity.
Change/adjust the detection area and the detection sensitivity according to your need.

Step 3

Click the [Set] button.
The edited settings will be applied.

Step 4

To invalidate the VMD area, click the [Set] button after selecting "Off" for "Status" of the VMD area to be invalidated.
• The outline of the invalidated VMD area will turn to a broken line.
• No alarm action will be performed even when motion is detected in the area.
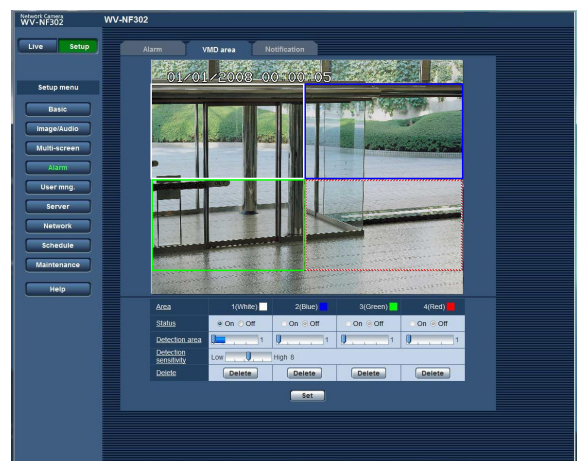
Step 5

To delete the VMD area, click the [Delete] button.
The outline of the respective VMD area will disappear.

Step 6
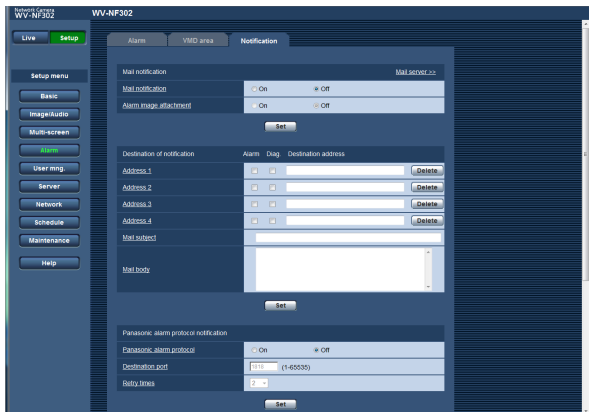
Click the [Set] button.
The edited settings will be applied.

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Configure the settings relating to the mail notification [Notification]

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

■ Mail notification

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 42)

[Mail server >>]
When "Mail server >>" is clicked, the [Mail] tab of the "Server" page will be displayed. (☞ page 42)

[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

[Alarm image attachment]
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" section on the [Alarm] tab (☞ page 33) will be applied to the size of the image to be attached.

■ Destination of notification

[Alarm]
[Diag.]
[Destination address]
Enter the destination 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 capacity of the SD memory card has been provided (☞ page 10)
 • When the SD memory card has become full
 • When mounting of the SD memory card failed
To delete the registered address, click the [Delete] button respective to the desired address.

Number of characters for the destination 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" page. (☞ pages 4 and 5: How to display/operate the setup menu)
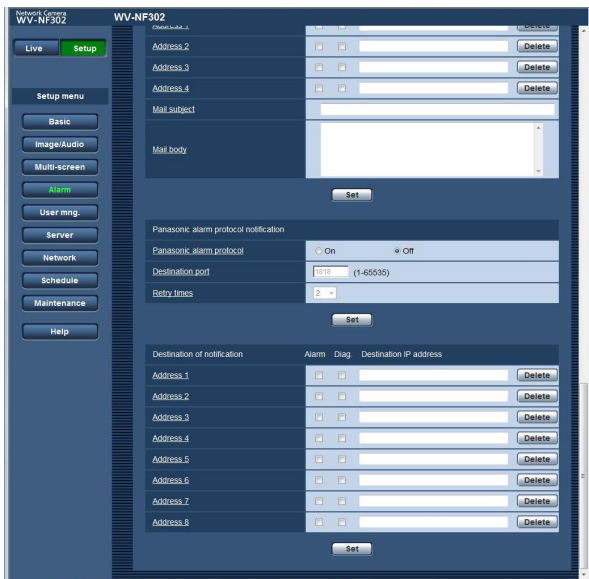
■ Panasonic alarm protocol notification

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

■ Destination of notification

[Alarm]
[Diag.]
[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 capacity of the SD memory card has been provided (☞ page 10)
- 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 [Delete] 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.
- Host name is not available to set as the destination IP address. Enter IPv4 address or IPv6 address for "Destination IP address".

Configure the settings relating to the authentication [User mng.]

The settings relating to the authentication such as users and PCs restrictions for accessing the camera can be configured on this page.
The "User mng." page has 3 tabs; the [User auth.] tab, the [Host auth.] tab and the [System] tab.

Configure the settings relating to the user authentication [User auth.]

Click the [User auth.] tab on the "User mng." 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 20 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.
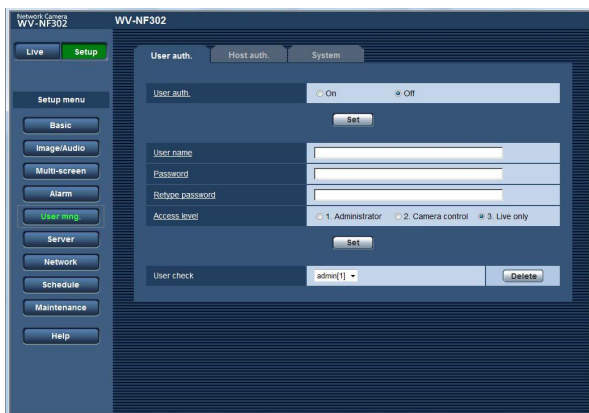
[User auth.]
Select "On" or "Off" to determine whether or not to authenticate the users.
Default: Off

[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

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


[User check]
By clicking [▼] of "User 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 [Delete] button after selecting the user to be deleted.

Configure the settings relating to the host authentication [Host auth.]

Click the [Host auth.] tab on the "User mng." 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.
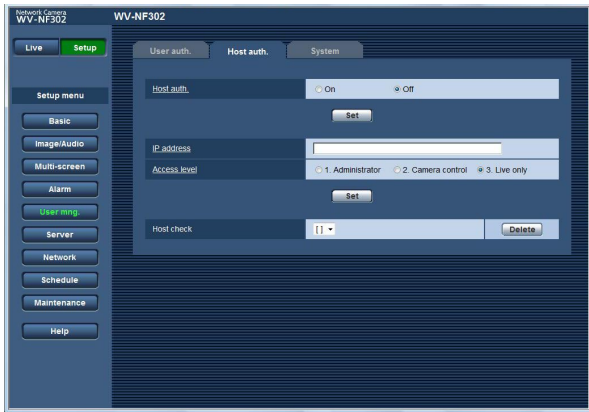
[Host auth.]
Select "On" or "Off" to determine whether or not to authenticate the host.
Default: Off

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 39 for further information about the access level.
**Default:** 3. Live only

[Host check]
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 [Delete] button after selecting the IP address to be deleted.

Configure the settings relating to the priority stream [System]

Click the [System] tab on the "User mng." page. (☞ pages 4 and 5: How to display/operate the setup menu)
Configuring the following settings for the priority stream (to transmit images to multiple users without changing image quality).
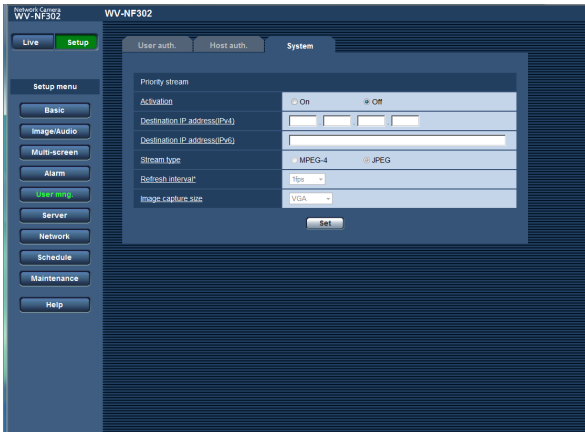
■ Priority stream

[Activation]
Select "On" or "Off" to determine whether or not to use the priority stream.
On: Use the priority stream.
Off: Do not use the priority stream.
Default: Off

Note:
When "On" is selected for "Activation" of "Priority stream", number of users who can access the camera will be limited.

[Destination IP address (IPv4)]
Enter the destination IPv4 address.

[Destination IP address (IPv6)]
Enter the destination IPv6 address.

[Stream type]
Select "MPEG-4" or "JPEG".
MPEG-4: MPEG-4 images will be transmitted.
JPEG: JPEG images will be transmitted.
Default: JPEG

[Refresh interval*]
Select the refresh interval from the following.
This setting is validated only when "JPEG" is selected for "Stream type".

Note:
The refresh interval may be longer than the set value when any value with an asterisk (*) on the right is selected.

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: 1 ftp

[Image capture size]
Select the image capture size from the following.
QVGA/VGA/1 280 x 960
Default: VGA

Configure the settings of the servers [Server]

The settings relating to the mail server and the FTP server can be configured on this page.
The "Server" page has 3 tabs; the [Mail] tab, the [FTP img. trans.] tab and the [NTP] tab.

Configure the settings relating to the mail server [Mail]

Click the [Mail] tab on the "Server" 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.
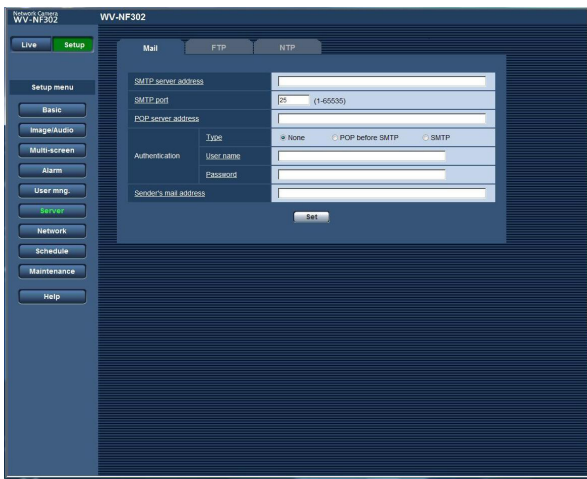
[SMTP server address]*
Enter the IP address or the host name of the SMTP
server used to send e-mails.
Number of characters for the SMTP server address:
1 - 128 characters

[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 "Authentica-
tion", 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" page. (☞ page 46)

[Authentication]
• Type
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 authen-
tication 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: 0 - 32 char-
acters

• Password
Enter the password to access the server.
Number of characters for the password: 0 - 32 char-
acters

[Sender's 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" 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.
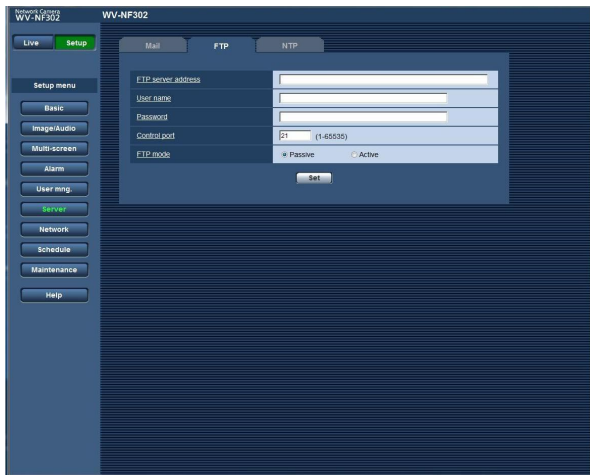
[FTP mode]
Select "Passive" or "Active" for the FTP mode.
Normally, select "Passive". When failure to establish the connection occurs, select "Active".
Default: Passive

[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" page.
    (☞ page 46)

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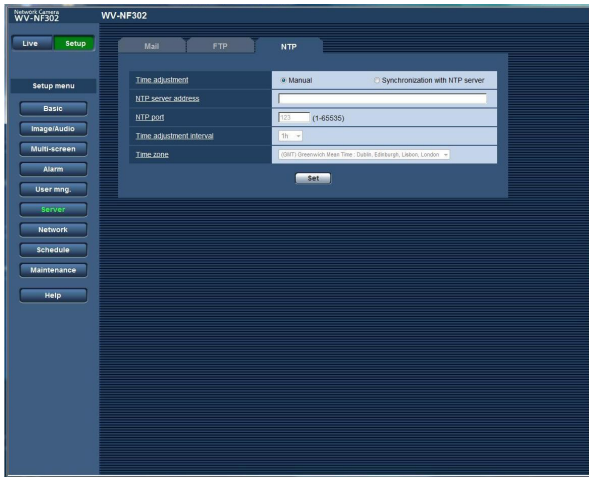Enter a control port number to be used for the FTP server.
Available port number: 1 - 65535
Default: 21

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Configure the settings relating to the NTP server [NTP]

Click the [NTP] tab on the "Server" 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.

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

[Time adjustment 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

[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: Time set on the [Basic] tab on the "Basic" 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

[NTP server address]
Enter the IP address or the host name of the NTP serv-
er.
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 set-
tings on the [Network] tab of the "Network" page.
(☞ page 46)

Configuring the network settings [Network]

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" page has 4 tabs; the [Network] tab, the [DDNS] tab, the [SNMP] tab and the [FTP img. trans.] tab.
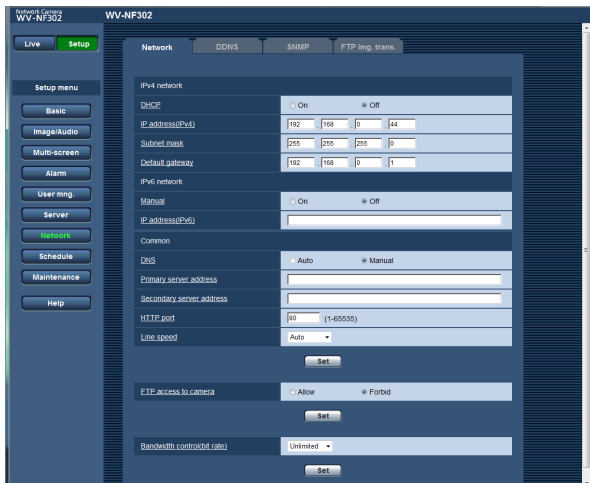
Configure the network settings [Network]

Click the [Network] tab on the "Network" 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
- Subnet mask
- Default gateway (when using the gateway server/router)
- HTTP port
- Primary DNS address, Secondary DNS address (when using DNS)

■ IPv4 network

[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.

Important:
When failed to assign IP address even when "On" is selected for "DHCP", IPv6 network will become unavailable.

Default: Off

[IP address(IPv4)]
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

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.

[Subnet 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

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.

■ IPv6 network

[Manual]
Select "On" or "Off" to determine whether or not to manually extract IPv6 prefix information from an IPv6 compatible router.
On: Enter IPv6 address manually.
Off: Manual entry of IPv6 address will become unavailable.
Default: Off

[IP address(IPv6)]
When "On" is selected for "Manual", it is necessary to enter IPv6 address manually.
Enter an address that is not being used for the other devices.

■ Common

[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 server address], [Secondary server address]
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.

[HTTP port]
Assign the port numbers independently.
The following port numbers are unavailable since they are already in use.
Available port number: 1 - 65 535
Default: 80

<Port numbers already in use>
20, 21, 23, 25, 42, 53, 67, 68, 69, 110, 123, 161, 162, 995, 10 669, 10 670

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

[Bandwidth control(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

Notes:
• When selecting "64 kbps", select "Off" for "Audio mode" on the "Audio" tab. (☞ page 28)
• Select "128 kbps" or a faster rate to carry out the live transmission of JPEG images and the FTP periodic image transmission simultaneously.
• When "Bandwidth control(bit rate)" 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" on the [JPEG/MPEG-4] tab (☞ page 20) or set "Image quality" of "JPEG" lower.

Notes:
- Refer to the network administrator for the addresses of each server.
- 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 HTTP port number for each camera and address translation by using the port forwarding function of the router. 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

WAN
Global address
vvv.xxx.yyy.zzz

Router

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" page. (☞ pages 4 and 5: How to display/operate the setup menu)
The settings relating to DDNS can be configured on this page.
When using the IPv4 network, it is necessary to configure the DDNS settings to access the camera via the Internet from the network environment of which the global address is obtained using the DHCP function.
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.
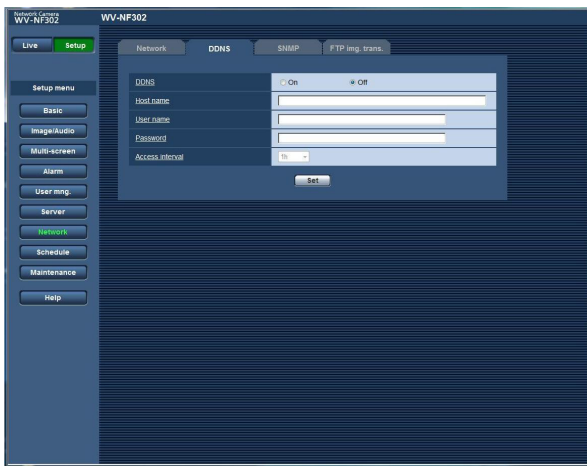
[Access interval]
Select the interval to access the DDNS server to check the IP address and the host name from the following.
1 min/10 min/30 min/1 hour/6 hours/24 hours
Default: 1 hour

[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.
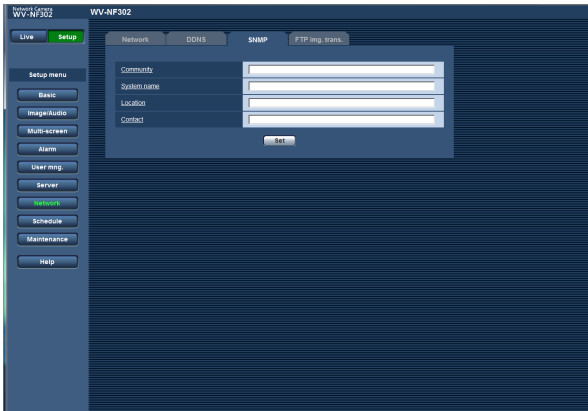**Number of characters for the user name:** 1 - 32 characters

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

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Configure the settings relating to SNMP [SNMP]

Click the [SNMP] tab on the "Network" 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]
Enter the mail address or the phone number of the SNMP manager.
Number of characters for "Contact": 0 - 255 characters
Default: None (blank)

[Community]
Enter the community name to be monitored.
Number of characters for "Community": 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.

[System name]
Enter a system name to be used to manage the camera with the SNMP function.
Number of characters for "System name": 0 - 32 characters
Default: None (blank)

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

Configure the settings relating to the FTP periodic image transmission [FTP img. trans.]

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

■ FTP periodic image transmission

The settings relating to the periodic image 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 43)
Refer to page 51 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 image transmission function will become unavailable.
- When "On" is selected for both the alarm image transmission function and the FTP periodic image transmission function, the alarm image transmission function will be given priority over the FTP periodic image 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 image transmission can be saved automatically on the SD memory card. (☞ page 10)
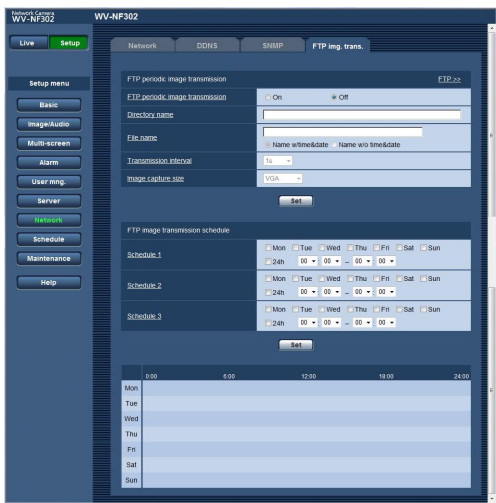
[FTP >>]
When "FTP >>" is clicked, the [FTP] tab of the "Server" page will be displayed. (☞ page 43)

[FTP periodic image transmission]
Select "On" or "Off" to determine whether or not to transmit images using the FTP periodic image transmission function.
When "On" is selected, it is necessary to configure the settings of the FTP server. (☞ page 43)
Default: Off

[Directory name]
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.
Name w/time&date: File name will be ["Entered file name" + "Time and date (year/month/day/hour/minute/second)" + "Serial number (starting from 00)"].
Name w/o time&date: File name will be the characters entered for "File name" only. When "Name w/o time&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)

[Transmission interval]
Select the interval for the FTP periodic image 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", "VGA" or "1 280 x 960" for the image capture size of the images to be transmitted using the FTP periodic image transmission.
Default: VGA

Configure the schedule settings of the FTP periodic image transmission

Click the [FTP img. trans.] tab on the "Network" page. (☞ pages 4 and 5: How to display/operate the setup menu)
The settings of schedules to transmit the alarm images to the FTP server can be configured on this page.
Refer to page 50 for how to configure the settings for the FTP periodic image transmission function.

How to configure the schedule settings
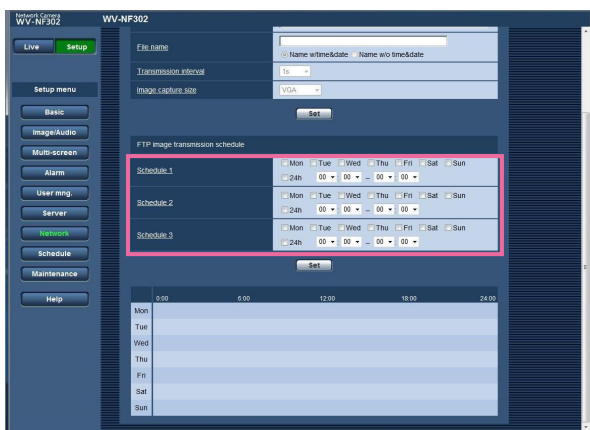
Step 1
Check the check box of the desired day of the week of "FTP image transmission schedule".
→ The selected day of the week will be validated for the schedule.

Step 2
To designate time, click [▼] and select the desired "hour" and "minute".
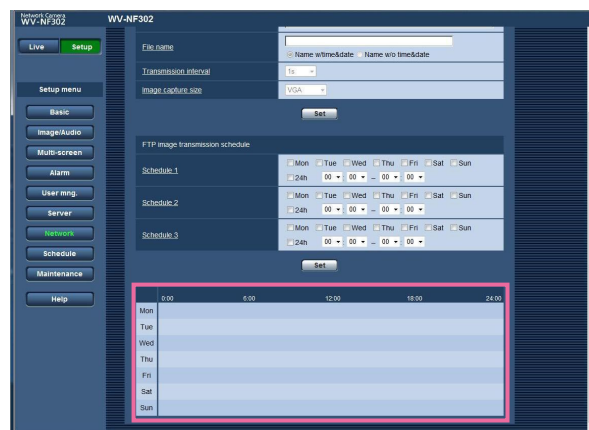When not designating time, check the checkbox of "24h".

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

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 window.

Configure the settings relating to the schedules [Schedule]

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.)

"Alarm permission" can be configured only when "On" is selected for any of "Terminal alarm" (☞ page 31), and "VMD permission" can be configured only when "On" is selected for "VMD alarm" (☞ page 31).

Up to 5 schedules can be set.

How to set the schedules

Step 1

Select an action to be assigned to the schedule from "Schedule mode".
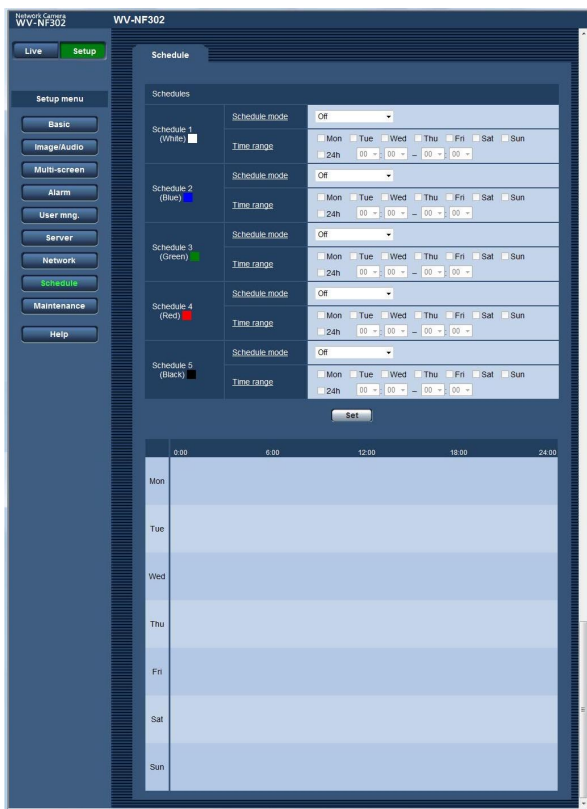
Off: No action will be taken for the respective schedule.

Alarm permission: Alarm input (terminal alarm) 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 auth." page of "User mng." (☞ page 39) can access the camera only in the period of schedule.

Default: Off

Notes:
- Select "On" for "User authentication" on the "User auth." page of "User mng." (☞ page 39) and "Off" for "Host authentication" on the "Host auth." page (☞ page 40) to validate "Access permission".
- The schedules displayed at the bottom of the window can be identified by colors assigned to each schedule.

Step 2

Select days of a week by checking the respective checkboxes.

→ Time range 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 "24h".

Step 4

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

Notes:
- When "Access permission" is selected for "Mode", select "On" for "User auth." (☞ page 39) and "Off" for "Host auth." (☞ page 40) respectively.
- The schedules displayed at the bottom of the window can be identified by colors 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 [Default reset] 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)
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.
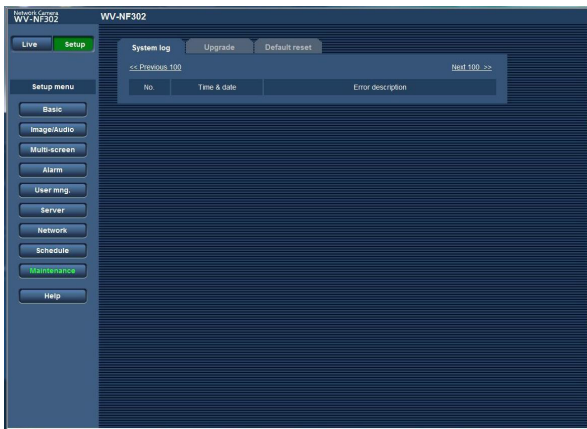
[Time & date]
Time and date at the error occurrence will be displayed.

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

[Error description]
The descriptions about the error will be displayed.
Refer to page 59 for further information about the system logs.

Notes:
- 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 10).
- 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 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.

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.
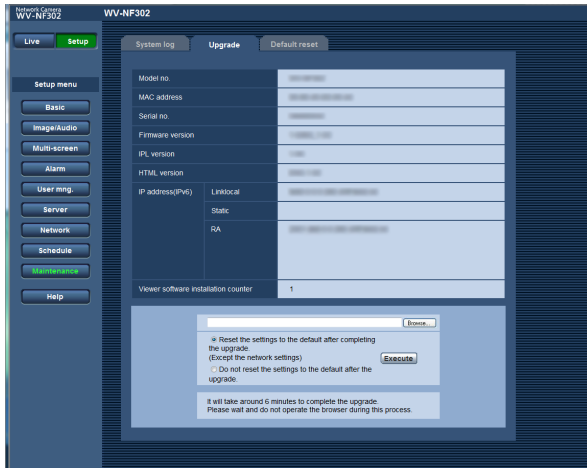
[Model no.], [MAC address], [Serial no.], [Firmware version], [IPL version], [HTML version], [IP address(IPv6)], [Viewer software installation counter]
Information of each item will be displayed.

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 reset the settings (except the network settings) to the default after completing the firmware upgrade.

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

Step 4

Click the [Upgrade] button.

→ The confirmation window will be displayed. When "Do not reset the settings to the default after the upgrade." is selected, the confirmation window will not be displayed.
   After completing the upgrade, delete temporary internet files. (☞ page 66)

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 "nf302_xxxxx.img". ("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 reset when upgrading the firmware after selecting "Reset the settings to the default after completing the upgrade. (Except network settings)".
   On/Off for DHCP, IP address, subnet mask, default gateway, HTTP port, line speed, bandwidth control (bit rate), time & date
 • The viewer software used on each PC should be licensed individually. Refer to your dealer for the software licensing.

Reset the settings/Reboot the camera [Default reset]

Click the [Default reset] tab of the "Maintenance" page. (☞ pages 4 and 5: How to display/operate the setup menu)
Reset of the settings and the HTML files (setup menus) of the camera and reboot of the camera can be performed on this page.
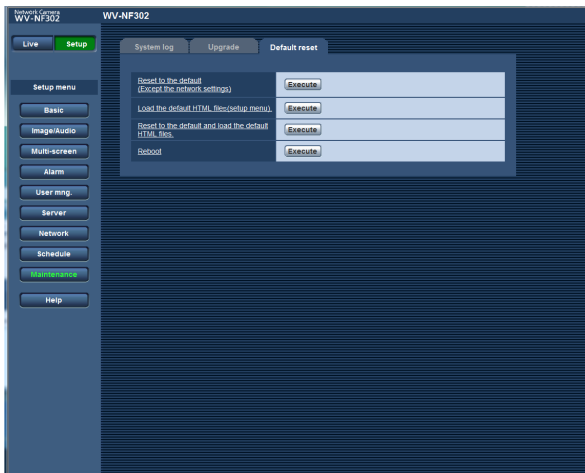
[Reset to the default (Except the network settings)]
Click the [Execute] button to reset the settings to the default. Note that the network settings will not be reset.

[Load the default HTML files(setup menu).]
Click the [Execute] button to reset the HTML files to the default.

[Reset to the default and load the default HTML files.]
Click the [Execute] button to reset the settings of the camera and the HTML files to the default. Note that the network settings will not be reset.

[Reboot]
Click the [Execute] button to reboot the camera.

Notes:
 • Do not operate and wait for around 2 minutes until the reset of the settings or the reboot of the camera is completed.
 • The [INITIAL SET] button on the camera is used to reset the network settings (☞ page 45). (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 memory card insertion after the reboot or a locked SD memory card insertion occurs. (☞ pages 37 and 38)

About the network security of the camera

Equipped security functions

The following security functions are featured in this camera.

① **Access restrictions by the host authentication and the user authentication**
It is possible to restrict users from accessing the camera by setting the host authentication and/or the user authentication to "On". (☞ pages 39 and 40)

② **Access restrictions by changing the HTTP port**
It is possible to prevent illegal access such as port scanning, etc. by changing the HTTP port number.
(☞ page 46)

Important:
Design and enhance security countermeasures to prevent leakage of information such as image data, authentication information (user name and password), alarm mail information, FTP server information, DDNS server information, etc.

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.

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
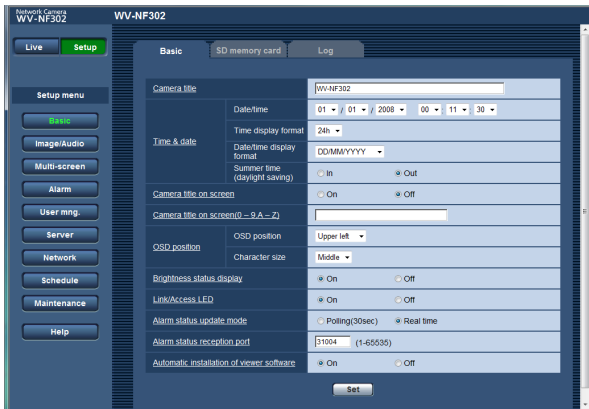
Step 1
Click the [Setup] button.
→ The setup screen is displayed.
Clicking an underlined item will display the "Help" pop-window. If is possible to configure the settings while displaying the "Help" pop-up window.

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

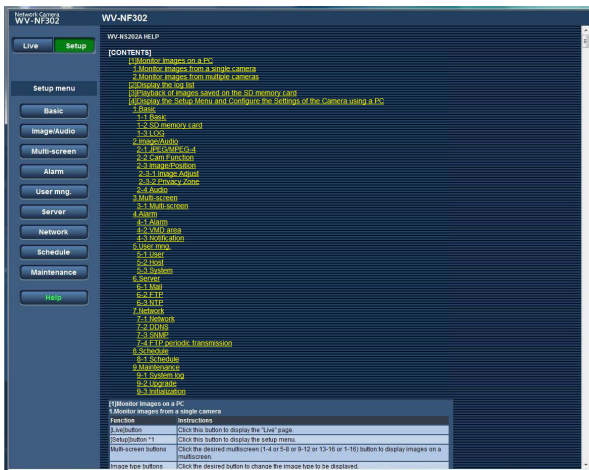| Category	Indication	Description
POP3 server error	Authentication error	Entered user name or password may be incorrect. Check if the mail settings are configured correctly.
	Failed to find POP3 server	• The IP address of the server may be incorrect. Check if the IP address of the server is configured 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 web 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 memory card slot of the camera 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?	45
	• 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-NF302 replies, the camera is functioning normally. If not, proceed either of the following. • Reboot the camera and change the IP address by using the Panasonic IP setup software within 20 minutes after the reboot.	–
	• Reboot the camera with use of the [INITIAL SET] button on the camera. The camera will be initialized and the IP address will return to the default setting "192.168.0.10". After the camera is initialized, access the camera and set the IP address again. (When the camera is initialized, all the settings of the camera previously configured on the setup menus will be initialized.)	Installation Guide

Symptom		Cause/solution	Reference pages
Cannot access from the web 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 web 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 to camera" on the [Network] tab of "Network" page? If not, select "Allow".	46
	▶	• Is the entered password correct? Restart the web browser and enter the password again.	13
	▶	• Access to the SD memory card may be failed. Restart the browser and retry to obtain images.	13
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? Check if the focus is adjusted correctly.	Installation Guide

| Symptom		Cause/solution	Reference pages
The image is not being refreshed.	▶	• Depending on the version of your browser, there might be difficulties refreshing the picture, etc.	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.	–
No image is displayed (or too dark).	▶	• Is the brightness setting set at an appropriate level? Click the [Reset] button of "Brightness".	Operation Instructions
Images are displayed washed out.	▶	• Is the brightness setting set at an appropriate level? Click the [Reset] button of "Brightness".	Operation 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
Flicker appears on the screen.	▶	• When flicker occurs frequently, select "Indoor scene" for "Light control mode".	24
Images cannot be saved on the SD memory card.	▶	• Is the SD memory card inserted correctly?	Installation Guide
	▶	• Is the SD memory card formatted?	11
	▶	• Isn't the write protect switch set to "LOCK"? When the write protect switch is set to "LOCK", available capacity/original capacity 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
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
The alarm occurrence indication 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.	Operation Instructions
Cannot download the log list.	▶	• Download of files using Internet Explorer may be disabled. Click "Internet Options" on the Tool menu of Internet Explorer®, and [Security] tab. Then, click the [Custom Level…] button to open the "Security Setting" window. Under "Download", select "Enable" for "Automatic prompting for file downloads". Click the [OK] button. The "Warning" window will be displayed. Click the [Yes] button.	–
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.	–

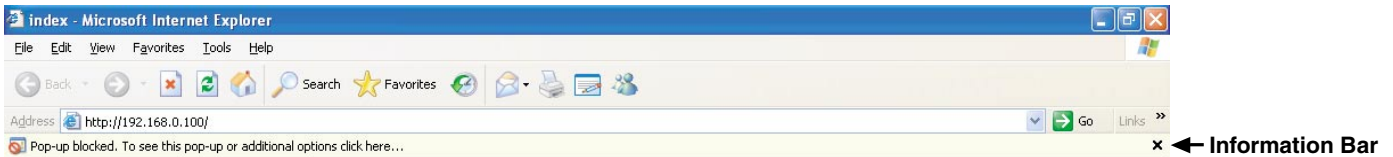| Symptom	Cause/solution	Reference pages
When displaying MPEG-4 images on two or more web browser windows, images from two or more cameras are displayed in sequence on a single browser window.	• This may occur due to the display adapter and driver combination. When this has occurred, first update the 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".	–
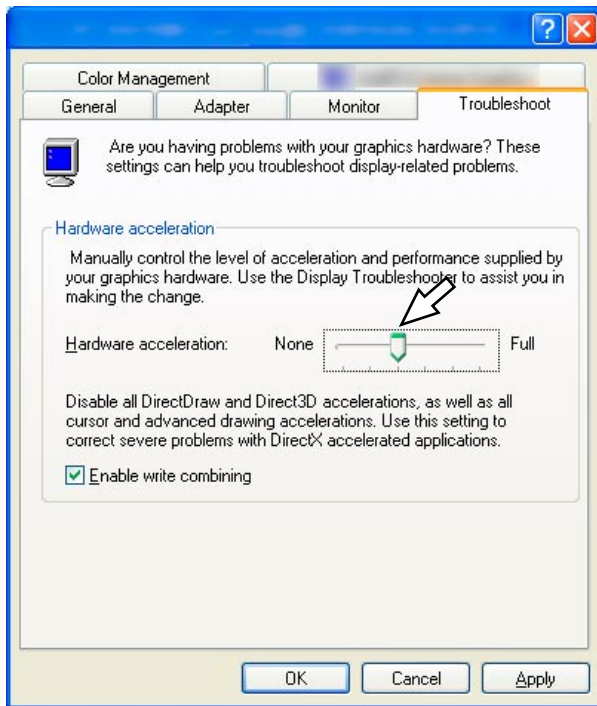
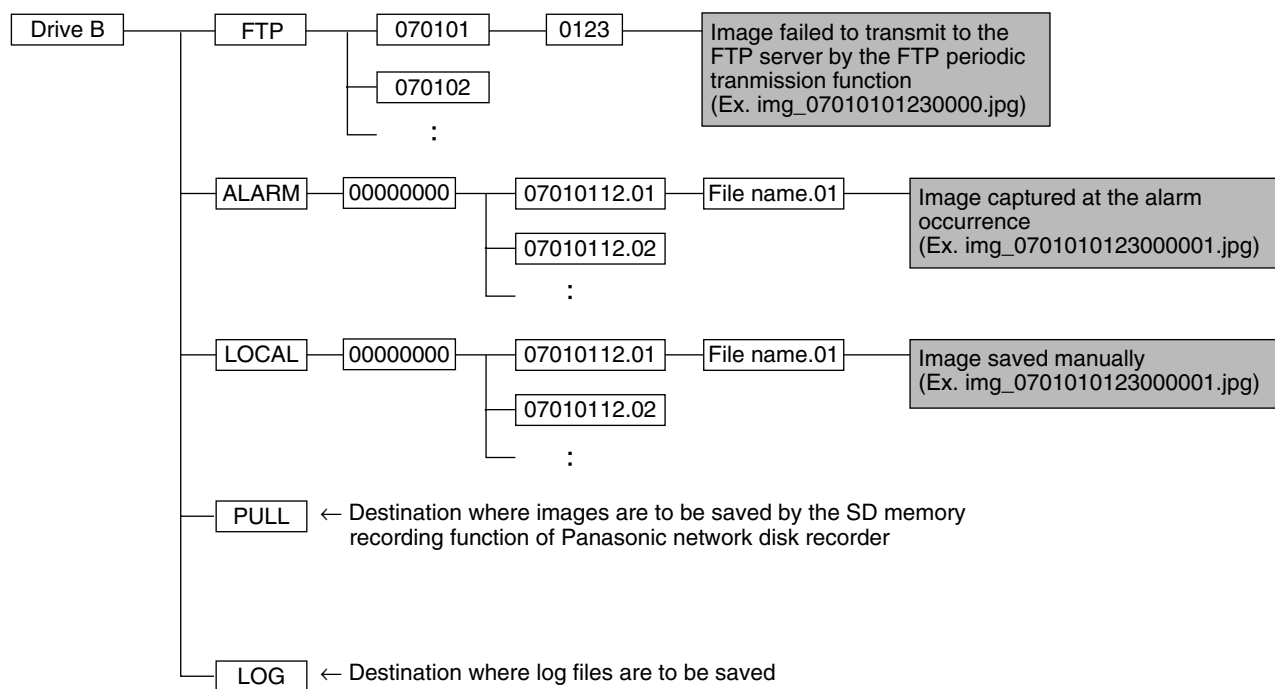Depending on the OS installed on the PC, the following may occur.
Follow the instructions below when the following has occurred. By performing the following solutions, other applications and the security level may not be affected.

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
```

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