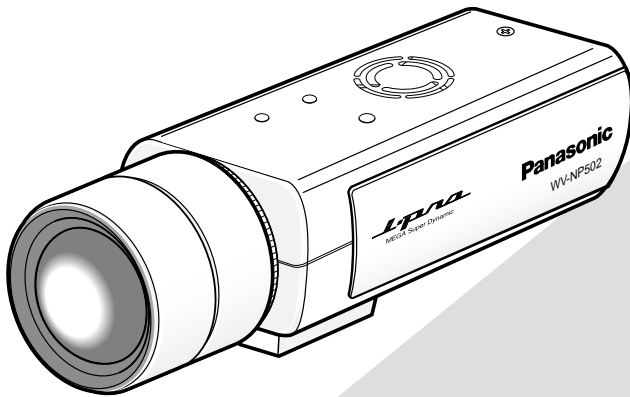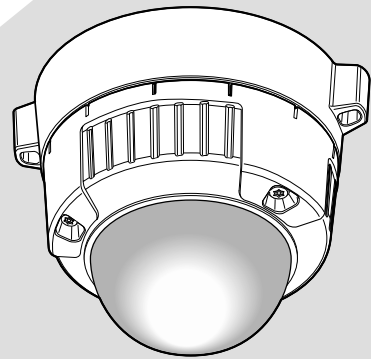**Panasonic**®

Operating Instructions

Network Camera

Model No. **WV-NP502**
WV-NW502S

WV-NP502

WV-NW502S

(Lens is option for WV-NP502.)

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

No model number suffix is shown in this manual.

CONTENTS

Preface

About the user manuals

The user manuals consist of 2 portions: Operating Instructions (PDF) and Installation Guide.
The Operating Instructions contain descriptions of how to operate this product* using a PC via a network and of how to configure the settings.
- WV-NP502:   Network camera (for indoors)
- WV-NW502S: Network camera (for under eave installation)
  * The windows displayed in these instructions represent WV-NP502.

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

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- Adobe and Reader are either registered trademarks or trademarks of Adobe Systems Incorporated in the United States and/or other countries.
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Abbreviations

The following abbreviations are used in these operating instructions.
Microsoft® Windows Vista® Business SP1 (32-bit) is described as Windows Vista.
Microsoft® Windows® XP Professional SP3 and Microsoft® Windows® XP Home Edition SP3 are described as Windows XP.
Windows® Internet Explorer® 7.0 and Microsoft® Internet Explorer® 6.0 are described as Internet Explorer.
Both SD memory card and SDHC memory card are described as SD memory card.

Viewer software

It is necessary to install the viewer software "Network Camera Viewer4" to display images on a PC. This software can be installed directly from the camera or by double clicking "nwcv4setup.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 93 when the message is displayed on the information bar of the browser.
- When the "Live" page is displayed for the first time, the install wizard of the ActiveX control required to display images from the camera will be displayed. Follow the instructions of the wizard.
- When the install wizard is displayed again even after completing the installation of the ActiveX, restart the PC.
- The viewer software used on each PC should be licensed individually. The number of installations of the viewer software from the camera can be checked on the [Upgrade] tab of the "Maintenance" page (☞ page 82). Refer to your dealer for the software licensing.

Monitor images on a PC

The following are descriptions of how to monitor images from the camera on a PC.

Monitor images from a single camera

Step1
Start up the web browser.

Step 2
Enter the IP address designated using the Panasonic IP setup software in the address box of the browser.

Example when entering an IPv4 address:
http://URL registered using IPv4 address
http://192.168.0.10/

Example when entering an IPv6 address:
http://URL registered using IPv6 address
http://[2001:db8::10]/

<Example of IPv4 access>

<Example of IPv6 access>
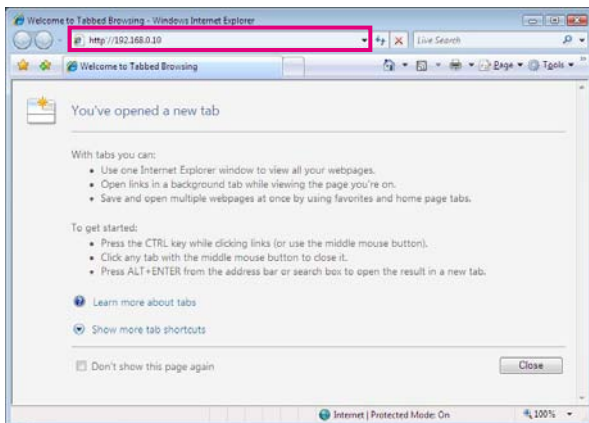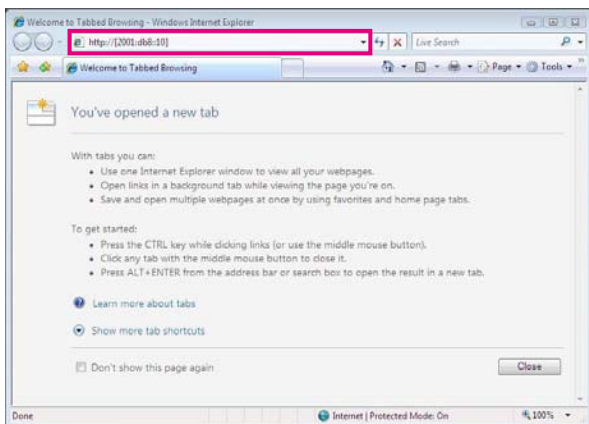
Important:
- When the HTTP port number is changed from "80", enter "http://IP address of the camera + : (colon) + port number" in the address box of the browser. (Example: http://192.168.0.11:8080)
- When the PC is in a local network, configure the proxy server setting of the web browser (under "Internet Options…" under "Tools" of the menu bar) to bypass the proxy server for the local address.

Step 3
Press the [Enter] key on the keyboard.
→ The "Live" page will be displayed. Refer to page 7 for further information about the "Live" page.

When "On" is selected for "User auth.", the authentication window will be displayed before displaying live images for the user name and password entries. The default user name and password are as follows.
User name: admin
Password: 12345

Important:
- To enhance the security, change the password for the user name "admin". It is recommended to change this password periodically.
- When displaying multiple H.264 (or MPEG-4) images on a PC, images may not be displayed depending on the performance of the PC.

Note:
- When "H.264" is selected for "Video encoding format", H.264 video will be displayed. When "MPEG-4" is selected, MPEG-4 images will be displayed.
- The maximum number of concurrent access user is 14 including users who is receiving H.264 (or MPEG-4) images and users who is receiving JPEG images. Depending on the set values for "Bandwidth control (bit rate)" and "Max bit rate (per client)", the maximum concurrent access number may be less than 14 users. When 14 users are concurrently accessing, the access limit message will be displayed for users who subsequently attempt to access. When "Multicast" is selected for "Transmission type" of "H.264" (or "MPEG-4"), only the first user who accessed to monitor H.264 (or MPEG-4) images will be included in the maximum number. The second and subsequent users who are monitoring H.264 (or MPEG-4) images will not be included in the maximum number.
- When "On" is selected for "H.264 transmission" (or "MPEG-4 transmission") (☞ pages 37 and 40), H.264 (or MPEG-4) images will be displayed. When "Off" is selected, a JPEG image will be displayed. It is possible to display a JPEG image even when "On" is selected for "H.264 transmission" (or "MPEG-4 transmission"). In this case, the refresh interval of JPEG images will be limited to up to 15 fps.
- The refresh interval may become longer depending on a network environment, PC performance, photographic subject, access traffic, etc.

<Refresh interval of JPEG images>
When "On" is selected for "H.264 transmission" (or "MPEG-4 transmission")
When "1.3 mega pixel" is selected for "Image capture mode"
- JPEG (VGA or QVGA): 15 fps
- JPEG (1280x960): 10 fps

When "3 mega pixel" is selected for "Image capture mode"
- JPEG (VGA): 15 fps
- JPEG (1280x960): 10 fps
- JPEG (2048x1536): 1 fps

When "Off" is selected for "H.264 transmission" (or "MPEG-4 transmission")
When "1.3 mega pixel" is selected for "Image capture mode"
- JPEG (1280x960, VGA or QVGA): 30 fps
  When "3 mega pixel" is selected for "Image capture mode"
- JPEG (1280x960, VGA): 15 fps
- JPEG (2048x1536): 5 fps

About the "Live" page
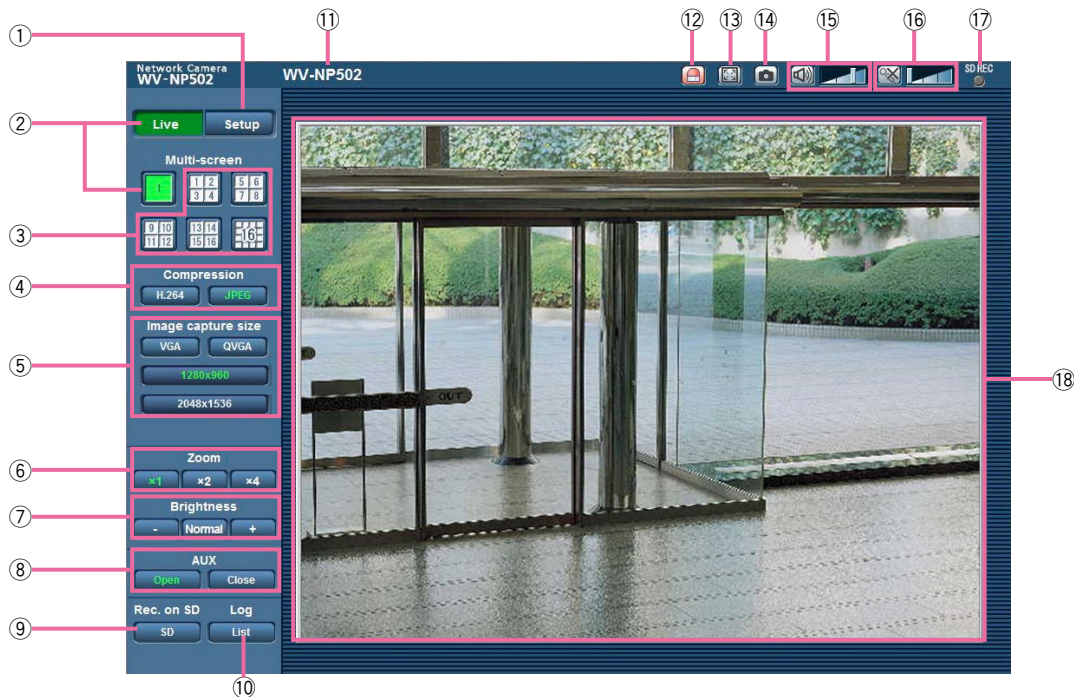
① [Setup] button (*1)
Displays the setup menu. The button will turn green and the setup menu will be displayed.

② [Live] button
Displays the "Live" page. The button will turn green and the "Live" page will be displayed.

③ [Multi-screen] buttons
Images from multiple cameras can be displayed on a multi-screen by registering cameras on the setup menu. (☞ page 53)

④ [Compression] buttons
[H.264]/[MPEG-4] button: The letters "H.264" (or "MPEG-4") on the button will turn green and an H.264 (or MPEG-4) image will be displayed. When "On" is selected for "H.264 transmission" (or "MPEG-4 transmission") of "H.264(1)" (or "MPEG-4(1)"), , the [H.264] (or [MPEG-4]) button will be displayed. (☞ pages 37 and 40)
[JPEG] button: The letters "JPEG" on the button will turn green and JPEG image will be displayed.

⑤ [Image capture size] buttons
These buttons will be displayed only when a JPEG image is displayed.
[VGA] button: The letters "VGA" will turn green and images in the main area will be displayed in VGA size.
[QVGA] button: The letters "QVGA" will turn green and images in the main area will be displayed in QVGA size.
[1280x960] button: The letters "1280x960" will turn green and images in the main area will be displayed in 1 280 x 960 (pixels). Depending on the window size of the web browser, it may become smaller than 1 280 x 960 pixels.
[2048x1536] button: The letters "2048x1536" will turn green and images in the main area will be displayed in 2 048 x 1 536 (pixels). Depending on the window size of the web browser, it may become smaller than 2 048 x 1 536 pixels.

Note:
• The [2048x1536] button will be displayed only when "3 mega pixel" is selected for "Image capture mode". The [QVGA] button will be displayed only when "1.3 mega pixel" is selected for "Image capture mode".

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⑥ **[Zoom] buttons**
  [x1] button: The letter "x1" will turn green and images in the main area will be displayed at x1.
  [x2] button: The letter "x2" will turn green and images in the main area will be displayed at x2.
  [x4] button: The letter "x4" will turn green and images in the main area will be displayed at x4.

⑦ **[Brightness] buttons (*2)**
  [–] (darker) button: The displayed image will be darker.
  [Normal] button: The adjusted brightness will return to the default brightness.
  [+] (brighter) button: Image will be brighter.

⑧ **[AUX] buttons (*2)**
  [Open] button: The letters "Open" on the button will turn green and the status of AUX connector will be open.
  [Close] button: The letters "Close" on the button will turn green and the status of the AUX connector will be closed.

⑨ **[Rec. on SD] button (*2)**
  This button will be displayed only when "Manual" is selected for "Save trigger" on the setup menu. (☞ page 27)
  Click this button to manually record images on the SD memory card. Refer to page 11 for descriptions of how to manually record images on the SD memory card.

⑩ **[Log] button (*1)**
  [List] button will become available only when "On" is selected for "Save logs" on the setup menu. (☞ page 32)
  When this button is clicked, the log list will be displayed and images saved on the SD memory card can be played.
  Refer to page 15 for further information about the log list and for how to play images on the SD memory card.

⑪ **Camera title**
  The camera title entered for "Camera title" on the [Basic] tab will be displayed. (☞ page 24)

⑫ **Alarm occurrence indication button (*2)**
  This button will be displayed and will blink when an alarm has occurred. When this button is clicked, the alarm output terminal will be reset and this button will disappear. (☞ page 12)

⑬ **Full screen button**
  Images will be displayed on a full screen. To return to the "Live" page, press the [Esc] key.

⑭ **One shot button**
  Click this button to take a picture (a still picture). The picture will be displayed on a newly opened window. When right-clicking on the displayed image, the pop-up menu will be displayed. It is possible to save the image on the PC by selecting "Save" from the displayed pop-up menu.
  When "Print" is selected, printer output is enabled.

⑮ **Mic input button (*3)**
  Turns on/off the audio reception (hear audio from the camera on a PC).
  This button will be displayed only when "Mic input", "Interactive(Full-duplex)" or "Interactive(Half-duplex)" is selected for "Audio transmission/reception" on the setup menu. (☞ page 51)
  When this button is clicked, the button will turn into the 🔇 button and audio from the camera will not be heard. Audio volume can be adjusted (Low/Middle/High) by moving the volume cursor 📶.

⑯ **Audio output button (*3)**
  Turns on/off the audio transmission (play audio from the PC on the camera speaker).
  This button will be displayed only when "Audio output", "Interactive(Full-duplex)" or "Interactive(Half-duplex)" is selected for "Audio transmission/reception" on the setup menu. (☞ page 51)
  The button will blink during the audio transmission. When this button is clicked, the button will turn into the 🔇 button and audio from the PC will not be heard. Audio output volume can be adjusted (Low/Middle/High) by moving the volume cursor 📶.

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Note:
- When a user is using the audio transmission function with "Interactive(Half-duplex)" selected, the receiver button and the transmission button will be inoperable for the other users. When "Interactive (Full-duplex)" is selected, the transmission button is inoperable for other users.
- Possible duration of audio transmission is up to 5 minutes per transmission. When 5 minutes have passed, the audio transmission will automatically stop. To turn the audio transmission function on, click the [Audio output] button again.
- When the camera is restarted, the adjusted volume level (for both the audio transmission and reception) will return to the level that had been set on the [Audio] tab on the setup menu. (☞ page 51)
- Actual volume level will change in three steps even though the volume cursor can be adjusted minutely.

⑰ **SD recording status indicator**
The status of the SD recording can be checked with this indicator.
When the SD recording starts, the SD recording status indicator will light red. It will go off when the SD recording stops.
This indicator will be displayed only when "Manual" is selected for "Save trigger" on the setup menu. (☞ page 27)

⑱ **Main area**
Images from the camera will be displayed in this area.
The current time and date will be displayed according to the settings configured for "Time display format" and "Date/time display format". (☞ page 24)
When clicking a desired point while displaying live images at x2 or x4 in the main area, the camera will move to locate the clicked point at the center of the main area.

*1 Only operable by users whose access level is "1. Administrator".
*2 Only operable by users whose access level is "1. Administrator" or "2. Camera control" when "On" is selected for "User auth." (☞ page 66).
*3 Operable by users who belong to the access level selected for "Permission level of audio trans./recep." on the [Audio] tab of the "Image/Audio" page. Refer to page 66 for further information about the access level.

Note:
- When operated by a lower access level user, images displayed on the screen may be changed temporarily. This does not affect operation of the camera.
- A zoom operation can be performed using the mouse wheel.

Monitor images from multiple cameras

Images from multiple cameras can be displayed on a multi-screen. Images from 4 cameras (up to 16 cameras) can be displayed simultaneously. To display images on a multi-screen, it is necessary to register cameras in advance. 4 cameras can be registered as a group and up to 4 groups (16 cameras) can be registered. (☞ page 53)

Important:
- When simultaneously displaying images from 16 cameras on a multi-screen, panning, tilting and zooming are unavailable.
- When displaying images from 4 cameras on a multi-screen, panning, tilting and zooming operations are available only for images from the Panasonic PTZ network cameras.
- Only JPEG images can be displayed on a multi-screen. Audio will not be heard.
- When the power is turned off or the LAN cable is disconnected while displaying images, displaying images on a multi-screen from the "Live" page will become unavailable.

Step1

Click the desired [Multi-screen] button.

→ Images from the registered cameras will be displayed on a selected multi-screen (screen can be split up to 16 areas). The following are instructions when displaying on a 4-split screen.
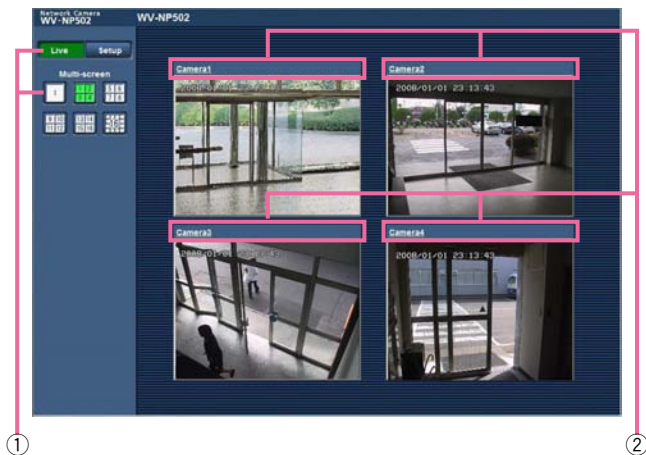
① To display images on a single screen, click the [Live] button.
② Click a camera title. Live images from the camera corresponding to the clicked camera title will be displayed on the "Live" page of the newly opened window.

Record images on the SD memory card manually

Images displayed on the "Live" page can be recorded on the SD memory card manually.
This button is operable only when "Manual" is selected for "Save trigger" on the setup menu. (☞ page 27)
Images recorded on the SD memory card can be copied onto the PC. (☞ page 29)

Step1

Display the "Live" page. (☞ page 7)

Step 2

Click the [SD] button in the "SD memory card" box.
→ The SD recording window will open.

Step 3

Click the [Start] button to start recording images on the SD memory card.
The SD recording status indicator will light red while images are being recorded on the SD memory card.
→ The save interval (frame rate) can be configured on the [SD memory card] tab of the "Basic" page. (☞ page 26)

Step 4

Click the [Stop] button to stop saving images on the SD memory card.

Step 5

Click the [Close] button to close the window.

Action at an alarm occurrence

The alarm action (camera action at an alarm occurrence) will be performed when the following alarms occur.

Alarm type

Terminal alarm: When connecting an alarm device such as a sensor to the EXT I/O connector of the camera, the alarm action will be performed when the connected alarm device is activated.
VMD alarm: When motion is detected in the set VMD area, the alarm action will be performed.
 * VMD stands for "Video Motion Detection".
Command alarm: When a Panasonic alarm protocol is received from the connected device via a network, the alarm action will be performed.

Action at an alarm occurrence

Display the alarm occurrence indication button on the "Live" page. (☞ page 8)
The alarm occurrence indication button will be displayed on the "Live" page at an alarm occurrence.

Important:
- When "Polling(30 sec)" is selected for "Alarm status update mode" (☞ page 25), the alarm occurrence indication button will be refreshed in 30-second intervals. For this reason, it may take a maximum of 30 seconds until the alarm occurrence indication button is displayed on the "Live" page at an alarm occurrence.

Notify of alarm occurrences to the device connected to the alarm connector
It is possible to output signals from the alarm connector on the rear of the camera and sound the buzzer when an alarm occurs. The settings for the alarm output can be configured in the "Alarm output terminal setup" section of the [Alarm] tab of the "Alarm" page. (☞ page 54)

Transmit an image onto a server automatically
An alarm image can be transmitted at an alarm occurrence to the server designated in advance. The settings required to transmit an alarm image to a server can be configured in the "Alarm image" section of the [Alarm] tab of the "Alarm" page (☞ page 54) and the [FTP] tab of the "Server" page (☞ page 70).

Important:
- Select "FTP error" for "Save trigger" on the [SD memory card] tab when using the SD memory card. When "Alarm input" or "Manual" is selected for "Save trigger", an alarm image will not be transmitted at an alarm occurrence to the FTP server.

Notify of alarm occurrences by e-mail
Alarm mail (alarm occurrence notification) can be sent at an alarm occurrence to the e-mail addresses registered in advance. Up to 4 addresses can be registered as recipients of the alarm mail. An alarm image (still picture) can be sent with the alarm mail as an attached file. The settings for alarm mail can be configured in the "Mail notification" section of the [Notification] tab of the "Alarm" page (☞ page 61) and the [Mail] tab of the "Server" page (☞ page 69).

Notify of alarm occurrences to the designated IP addresses (Panasonic alarm protocol notification)
This function is available only when a Panasonic device, such as the network disk recorder, is connected to the system. When "On" is selected for "Panasonic alarm protocol notification", the connected Panasonic device will be notified that the camera is in the alarm state. The settings for Panasonic alarm protocol can be configured in the Panasonic alarm protocol section of the [Notification] tab of the "Alarm" page. (☞ page 62)

Transmit images onto an FTP server

Images can be transmitted to an FTP server. By configuring the following settings, transmission of images captured at an alarm occurrence or captured at a designated interval to an FTP server will become available.

Important:
- When using this function, set the user name and the password to access the FTP server to restrict users who can log into the FTP server.
- To transmit images to the FTP server, select "Not use" for "SD memory card", or select "FTP error" for "Save trigger" on the [SD memory card] tab of the "Basic" page.

Transmit an alarm image at an alarm occurrence (Alarm image transmission)

An alarm image can be transmitted at an alarm occurrence to the FTP server. To transmit alarm images to an FTP server, it is necessary to configure the settings in advance.
The settings for the FTP server can be configured on the [FTP] tab of the "Server" page. (☞ page 70)
The alarm image transmission function can be turned on/off in the "Alarm image" section of the [Alarm] tab of the "Alarm" page. (☞ page 54)

Note:
- Depending on the network traffic, the number of the transmitted images may not reach the set number of images to be transmitted.
- Alarm images failed to be transmitted to the FTP server at an alarm occurrence will not be saved on the SD memory card.

Transmit images at a designated interval or period (FTP periodic image transmission)

Images can be transmitted at a designated interval or period. To transmit images at a designated interval or period, it is necessary to configure the settings in advance.
The settings for the FTP server can be configured on the [FTP] tab of the "Server" page. (☞ page 70)
It is possible to determine whether or not to use the FTP periodic image transmission function and to configure the settings relating to alarm images and the schedule on the [FTP img. trans.] tab of the "Network" page. (☞ page 77)

Note:
- Depending on the line speed or the traffic, images may not be transmitted at the designated interval.
- 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. Therefore, images may not be transmitted at the interval designated on the "FTP periodic image transmission" setting.

Save images on the SD memory card when images fail to transmit using the FTP periodic image transmission function

Images that have failed to transmit using the FTP periodic image transmission can be saved automatically on the SD memory card. Images saved on the SD memory card can be obtained from the [SD memory card] tab of the "Basic" page. (☞ page 26)

To use the SD memory recording function featured in Panasonic's network disk recorder, select "Off" for "FTP periodic image transmission" (☞ page 77) and "FTP error" for "Save trigger" (☞ page 27).

We make no guarantee for any damages of files on the SD memory card incurred by malfunction or error occurrence in files saved in the SD memory card regardless of what the cause may be.

Display the log list

The setting items of the cameras will be displayed in list form.
- Alarm log: Logs of the alarm occurrences such as time and date of the alarm occurrences and the alarm type will be displayed.
- Manual log: Logs filed when images have been manually recorded on the SD memory card will be displayed.
- FTP trans. error log: Logs filed when the FTP periodic image transmission function has failed will be displayed.

Each log list can be displayed only when "On" is selected for "Save logs" on the [Log] tab of the "Basic" page (☞ page 32) respectively.

Step1

Display the "Live" page. (☞ page 7)

Step 2

Click the [List] button.
→ The log list will be displayed in a newly opened window (log list window).

Number of the listed logs
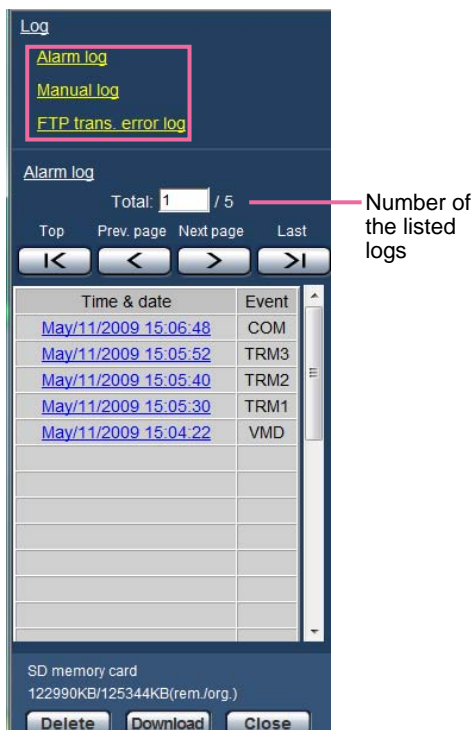
Important:
- Only a single user can operate the log list window. Other users cannot access the log list window.

Note:
- When "Not use" is selected for "SD memory card", the error log list of manual saving and the FTP periodic image transmission function will not be displayed.

Step 3

Click the desired log type listed below "Log" to display the log list.
→ The log list of the selected log type will be displayed.

Note:
- When saved images are on the SD memory card, clicking the time and date of the alarm occurrence will display the respective images. (☞ page 17)

About the log list window

[Number of the listed logs]
Total number of the logs of the selected log type and a number of the log being displayed on the top of the log list will be displayed.

Note:
- Enter the desired log number and press the [Enter] key on the keyboard. The log of the designated number will be displayed on the top of the log list.

[Top] button
Click this button to display the log listed at the top.

[Prev. page] button
Click this button to display the previous page of the log list.

Note:
- When the mouse button is held down while placing the mouse pointer on the [Prev. page] button, the displayed log number will be decremented.
  When the mouse button is released, the decrement of the log number will stop and the log number displayed at the moment when the mouse button is released will be the top of the currently displayed page.

[Next page] button
Click this button to display the next page of the log list.

Note:
- When the mouse button is held down while placing the mouse pointer on the [Next page] button, the displayed log number will be incremented.
  When the mouse button is released, the increment of the log number will stop and the log number displayed at the moment when the mouse button is released will be the top of the currently displayed page.

[Last] button
Click this button to display the log listed at the bottom.

[Time & date]
Time and date when each log has been filed will be displayed.

Note:
- When "Off" is selected for "Time display format" (☞ page 24), time and date of alarm occurrence will be displayed in 24-hour format.

- The recording timing of logs are as follows.
  Alarm log: Alarm occurrence time and date will be filed as a log.
  Manual log: Time and date when recording of images onto the SD memory card started will be filed as a log. When recording are performed sequentially, logs will be filed every one hour.
  FTP trans. error log: Logs will be filed every one hour.

[Event]
The event type will be displayed.
The event types will be displayed only when displaying the alarm log list.
TRM1: Alarm by alarm input to terminal 1
TRM2: Alarm by alarm input to terminal 2
TRM3: Alarm by alarm input to terminal 3
VMD: Alarm by VMD alarm
COM: Alarm by command alarm

[SD memory card]
Available capacity and the original capacity of the SD memory card will be displayed.
The displayed descriptions are the same descriptions displayed as "Remaining capacity" on the [SD memory card] tab. (☞ page 28)

[Delete] button
Click this button to delete the currently displayed log list. When using the SD memory card, images associated with the log list will also be deleted.

Important:
- When many images are saved on the SD memory card, it will take some time to complete the deletion.
- In the process of the deletion, only logs will be saved, and it is impossible to save images newly.
- Do not turn off the power of the camera until the deletion is complete.
  When the power of the camera is turned off in the process of the deletion, some images may remain on the SD memory card.
  In this case, click the [Delete] button on the same log list window used to delete the logs.

[Download] button
Click this button to download all logs of the selected log list as a file onto the PC.

[Close] button
Click this button to close the log list window.

Playback of images on the SD memory card

When clicking a time and date listed on the log list window, the "Live" page will turn to the "Playback" page.
When images associated with the clicked time and date are on the SD memory card, the first image of them will be displayed.

Important:
- Refresh interval of images may become slow during playback or download.
- When many images are saved on the SD memory card, it may take time to display images on the "Playback" page.
- Even when the size of the images saved on the SD memory card is "QVGA" or "1280x960", the images will be played in VGA size on the "Playback" page.
  Therefore, images may look coarse on the "Playback" window.
- When playing images by selecting an FTP error log on the log list, images may not be played in order of images recorded on the SD memory card if they have been recorded on the SD memory card with selected value for the "Transmission interval" setting on the [FTP img. trans.] tab is "1min" or less.
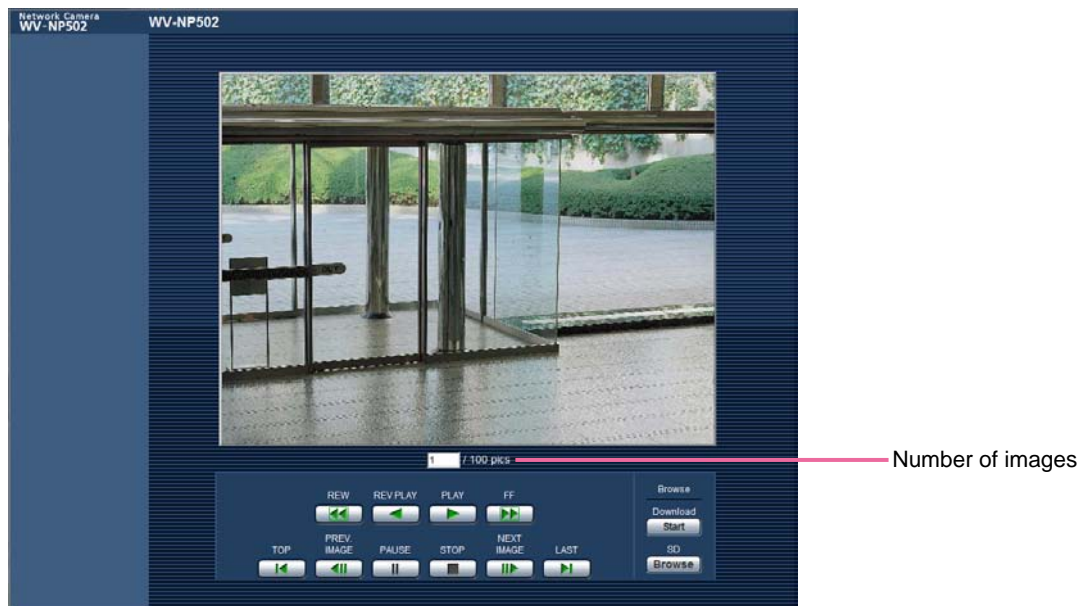
Number of images

About the playback page

Number of images
When clicking a time and date listed on the log list window, total number of images associated with the clicked time and date, and the number of the currently displayed image will be displayed.

Note:
- Enter the desired number of image and press the [Enter] key on the keyboard. The image of the designated number will be displayed.

[REW] button
Each time the button is clicked, the playback speed will change.
When the [PLAY] button or the [REV PLAY] button is clicked during fast playback/fast reverse playback, playback speed will return to the normal playback speed.

[REV PLAY] button
Images will be played in reverse sequential order.

[PLAY] button
When this button is clicked, images will be played in sequential order.

[FF] button
Each time the button is clicked, the playback speed will change.
When the [PLAY] button or the [REV PLAY] button is clicked during fast playback/fast reverse playback, playback speed will return to the normal playback speed.

[TOP] button
The first image will be displayed.

[PREV IMAGE] button
The previous frame will be displayed and paused when this button is clicked during playback.
Each time this button is clicked during pausing, the frame previous to the currently displayed frame will be displayed.

Note:
• When the mouse button is held down while the mouse pointer is on this button, the image number will be incremented.
  When the mouse button is released, the decrementing of the image number will stop and the image corresponding to the currently displayed number will be displayed.

[PAUSE] button
Playback will be paused when this button is clicked during playback. Playback will resume when this button is clicked during pausing.

[STOP] button
Playback will stop and the "Playback" window will turn to the "Live" page.

[NEXT IMAGE] button
The next frame will be displayed and paused when this button is clicked during playback.
Each time this button is clicked during pausing, the frame next to the currently displayed frame will be displayed.

Note:
• When the mouse button is held down while the mouse pointer is on this button, the image number will be incremented.
  When the mouse button is released, the increment of the image number will stop and the image number displayed at the moment when the mouse button is released will be displayed.

[Last] button
The last image will be displayed.

■ SD card

[Start] button
The selected image will be downloaded onto the PC.
Before downloading images, designate the destination directory in advance. (☞ page 32)
The following window will be displayed when the [Start] button is clicked.
Select the image to be downloaded, and then click the [OK] button.

All: All images saved at the selected time and date will be downloaded.
Current image: Only the currently displayed image will be downloaded.
Download range: Images in the designated range of number of images will be downloaded.
  Enter a number of the image to be downloaded, and then click the [OK] button.

Note:
• When the [Cancel] button is clicked in the process of the download, the download will be canceled.
  In this case, images already downloaded before clicking the [Cancel] button will be saved on the PC.

[Browse] button
When successfully logged in after the user authentication process, a folder on the SD memory card in which images are saved will be displayed. (☞ page 29)

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About the network security

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 66 and 67)

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 73)

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.

Display the setup menu from a PC

The settings of the camera can be configured on the setup menu.

Important:
- The setup menu is only operable by users whose access level is "1. Administrator". Refer to page 66 for how to configure the access level.

How to display the setup menu

Step1

Display the "Live" page. (☞ page 7)

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 page 22 for further information about this menu.
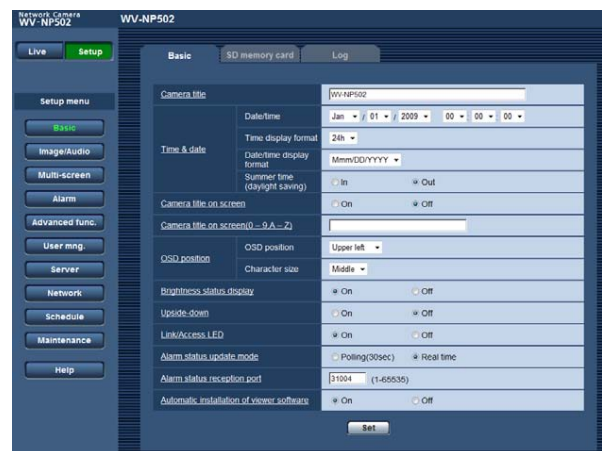
How to operate the setup menu
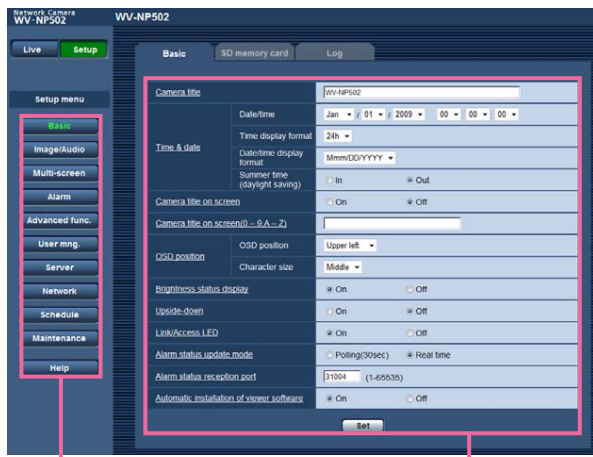
Menu buttons   Setup page

Step1

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>
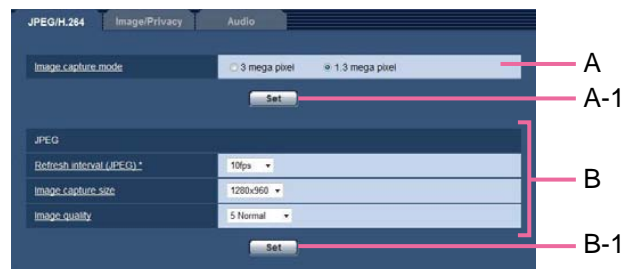
When completing the setting items in field A, click the [Set] button (A-1) below field (A).
The edited settings in field A will not be applied unless the [Set] button (A-1) below field (A) is clicked.
In the same manner as above, click the [Set] button (B-1) below field B when completing the setting items in field B.

About the setup menu window

① [Live] button
② [Basic] button
③ [Image/Audio] button
④ [Multi-screen] button
⑤ [Alarm] button
⑥ [Advanced func.] button
⑦ [User mng.] button
⑧ [Server] button
⑨ [Network] button
⑩ [Schedule] button
⑪ [Maintenance] button
⑫ [Help] button
⑬ Status display area
⑭ Setup page
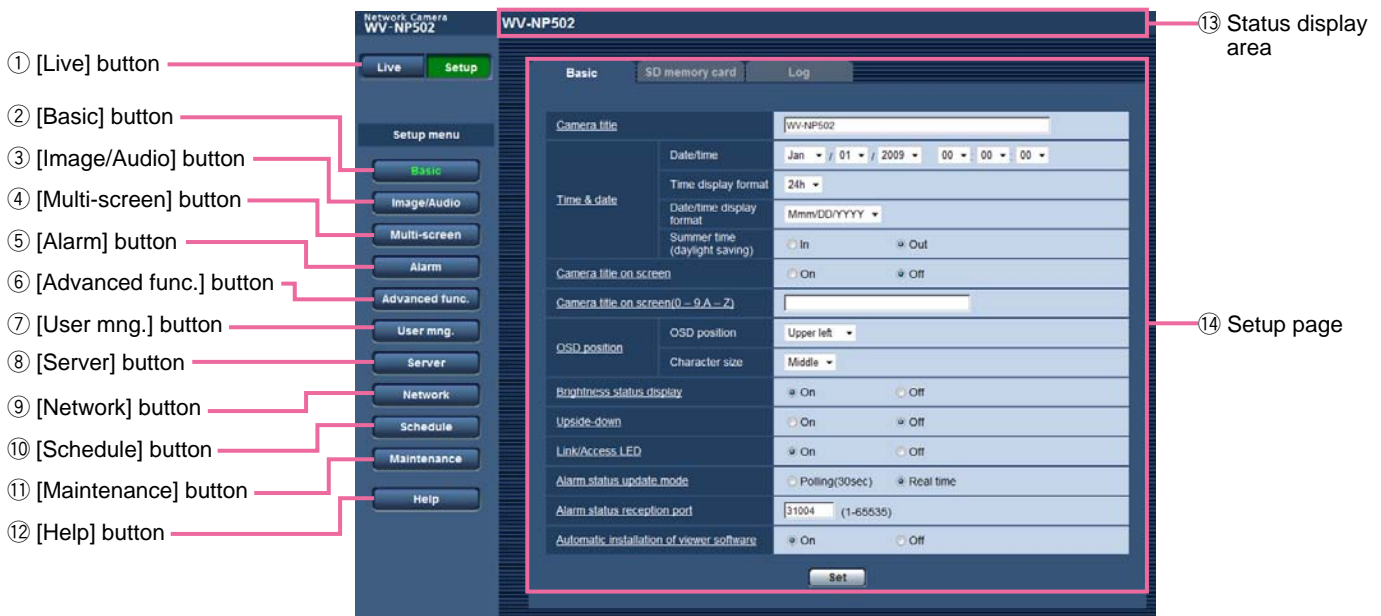
① **[Live] button**
Displays the "Live" page.

② **[Basic] button**
Displays 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. (☞ page 24)

③ **[Image/Audio] button**
Displays the "Image/Audio" page. The settings relating to image capture size and image quality of JPEG/H.264 (or MPEG-4) camera images can be configured on the "Image/Audio" page. (☞ page 36)

④ **[Multi-screen] button**
Displays the "Multi-screen" page. The cameras from which images are to be displayed on a multi-screen can be registered on the "Multi-screen" page. (☞ page 53)

⑤ **[Alarm] button**
Displays 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. (☞ page 54)

⑥ **[Advanced func.] button**
Displays the "Advanced func." page. The setting relating to the XML notification, destinations of information about the face detection and the settings relating to the face detection can be configure on the "Advanced func." page. (☞ page 63)

⑦ **[User mng.] button**
Displays 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. (☞ page 66)

⑧ **[Server] button**
Displays the "Server" page. The settings relating to the mail server, the FTP server and the NTP server to which the camera accesses can be configured on the "Serve" page. (☞ page 69)

⑨ **[Network] button**
Displays 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 transmission can be configured on the "Network" page. (☞ page 72)

⑩ **[Schedule] button**
Displays the "Schedule" page. On the "Schedule" page, it is possible to designate time zones to allow to receive alarm input or to allow to activate the VMD detection function. (☞ page 80)

⑪ **[Maintenance] button**
Displays the "Maintenance" page. System log check, firmware upgrade and initialization of the setup menu can be carried out on the "Maintenance" page. (☞ page 81)

⑫ **[Help] button**
Displays the "Help" page. (☞ page 84)

⑬ **Status display area**
The title of the camera whose settings are currently being configured will be displayed.

⑭ **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 camera title, time and date, 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 20 and 21: How to display/operate the setup menu)
The settings such as the camera title, time and date, etc. can be configured on this page.
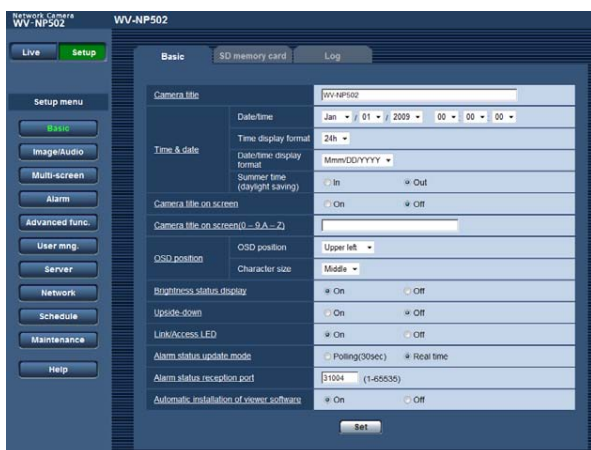
[Camera title]
Enter the title of the camera. Click the [Set] button after entering the title of the camera. The entered title will be displayed in the status display area.
Available number of characters: 0 - 20 characters
Default: WV-NP502
    (WV-NW502S appears for WV-NW502S.)

[Date/time]
Enter the current time and date. When "12h" is selected for "Time display format", "AM" or "PM" can be selected.
Available range: Jan/01/2008 0:00:00 - Dec/31/2035 23:59:59

[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 "2009/04/01 13:10:00" is set for "Date/time" after selecting "24h" for "Date/time display format", time and date will be respectively displayed as follows.
DD/MM/YYYY: 01/04/2009 13:10:00
MM/DD/YYYY: 04/01/2009 13:10:00
DD/Mmm/YYYY: 01/Apr/2009 13:10:00
YYYY/MM/DD: 2009/04/01 13:10:00
Mmm/DD/YYYY: Apr/01/2009 13:10:00
Default: Mmm/DD/YYYY

[Summer time (daylight saving)]
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 the screen.
When "On" is selected, the character string 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 a character string to be displayed on the image.
Available number of characters: 0 - 16 characters
Available characters: 0-9, A-Z and the following marks.
    !"# $% &'()*+,-./:; =?
Default: None (blank)

[OSD position]
• OSD position
Select the position where the time and date and a character string to be displayed on the image of 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 the character size of the entered character string to be displayed at the selected OSD position on the image of the "Live" page.
Large: The character size will become large size.
Middle: The character size will become standard size.
Small: The character size will become small size.
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.
Default: On

[Upside-down]
Select "On" or "Off" to determine whether or not to display vertical-flip images.
Default: Off

[Link/Access LED]
Determine whether or not to use the following LEDs.
Select "On" to use the following LEDs to check the operational status by lighting them.
Select "Off" to turn off the LEDs at all times.
  • Power LED
  • Link LED
  • Access LED
  • SD memory card error LED/ABF LED
Default: On

Note:
  • **Power LED [Green]:** This LED will light when the power is on.
  • **Link LED [Orange]:** This LED will light when communication with the connected device is available.
  • **Access LED [Green]:** This LED will light when accessing a network.
  • **SD memory card error LED/ABF LED [Red]:** Lights when an error occurred in the SD memory card. This LED will blink in the process of the auto back focus function and blinking will stop when the focus adjustment is complete.

[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 indicator will be displayed to notify of the camera status.
Polling(30sec): 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 - 65 535
Default: 31 004

[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

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Configure the settings relating to the SD memory card [SD memory card]

Click the [SD memory card] tab on the "Basic" page. (☞ pages 20 and 21: 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: Use

Important:
- Select "Not use" when operating without a SD memory card.
- 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 32) in advance.

- When the image refresh interval is short, notification/recording timing or interval may become incorrect. Notification/recording may also not be performed correctly as configured when multiple users are receiving images. In this case, set the refresh interval longer.
- There are limited times to overwrite on an SD memory card. When having a high frequency of overwriting, the lifetime of the SD memory card may become shorter.

[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.
Default: FTP error

Note:
• Select "FTP error" when images are to be transmitted to the FTP server at an alarm occurrence.

[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 follows.
File name: ["Entered file name" + "Time and date (year/month/day/hour/minute/second)"] + "Serial number"
Available number of characters: 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 "Alarm input" or "Manual" is selected for "Save trigger", select an interval (frame rate) of saving images on the SD memory card from the following.
0.1fps/0.2fps/0.33fps/0.5fps/1fps
Default: 1fps

• Number of images to be saved
Select a number of alarm images to be saved on the SD memory card from the following.
10pics/20pics/30pics/50pics/100pics/200pics/300pics/500pics/1000pics/2000pics/3000pics
Default: 100pics

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

[Image capture size]
When "Manual" is selected for "Save trigger", determine the resolution of image to be saved on the SD memory card from "QVGA", "VGA" or "1280x960".
Default: VGA

Note:
• 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.
• "QVGA" is available only when "1.3 mega pixel" is selected for "Image capture mode".

■ SD memory card information

[Remaining capacity]

Total capacity and remaining capacity of the SD memory card will be displayed.
Depending on the status of the SD memory card, the size indications will differ as follows.

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

Note:
• When "Off" is selected for "Overwrite" 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 61 and 62)

[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 26) and "Off" for "FTP periodic image transmission" on the [FTP img. trans.] tab of the "Network" page (☞ page 77).
• Use the SD memory card after formatting it using the [SD memory card] tab.
  If using the SD memory card that has not been formatted on the [SD memory card] tab, the following functions may not work correctly.
    • 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.
• Recommended SD memory card
  Manufactured by Panasonic
  SDHC memory card:
      4 GB, 8 GB, 16 GB, 32 GB
  SD memory card:
      64 MB, 128 MB, 256 MB, 512 MB, 1 GB, 2 GB
  (except miniSD card and microSD card)
• Use a SD memory card formatted compliant with the SD memory card standard at the default.

■ SD memory card images

[Access img.]

Images on the SD memory card can be obtained. Click the [Execute] button. Refer to page 29 for how to access images.

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 20 and 21: How to display/operate the setup menu)
The following are descriptions of how to copy images saved on the SD memory card onto the PC. It is necessary in advance to select "Allow" for "FTP access to camera" on the [Network] tab of the "Network" page. (☞ page 73)
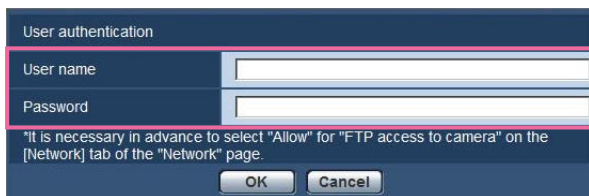
Important:
• It may sometimes be impossible to operate when another user is accessing images on the SD memory card. In this case, retry later.
• Depending on the settings of a proxy server or a firewall, images may not be obtained via a network. In this case, refer to the network administrator.

Step1

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

Step 2

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

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".
  Move to the directory corresponding to the desired images and copy them.
  Refer to page 95 for further information about the directory structure.

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 280x960

Capacity of SD/SDHC memory card	Image quality				
	0(Super fine)	1(Fine)	2	3	4
32 GB	Approx. 64 000 pics	Approx. 80 000 pics	Approx. 96 000 pics	Approx. 112 000 pics	Approx. 128 000 pics
16 GB	Approx. 32 000 pics	Approx. 40 000 pics	Approx. 48 000 pics	Approx. 56 000 pics	Approx. 64 000 pics
8 GB	Approx. 16 000 pics	Approx. 20 000 pics	Approx. 24 000 pics	Approx. 28 000 pics	Approx. 32 000 pics
4 GB	Approx. 8 000 pics	Approx. 10 000 pics	Approx. 12 000 pics	Approx. 14 000 pics	Approx. 16 000 pics
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/SDHC memory card	**Image quality**				
	5(Normal)	6	7	8	9(Low)
32 GB	Approx. 160 000 pics	Approx. 224 000 pics	Approx. 256 000 pics	Approx. 288 000 pics	Approx. 320 000 pics
16 GB	Approx. 80 000 pics	Approx. 112 000 pics	Approx. 128 000 pics	Approx. 144 000 pics	Approx. 160 000 pics
8 GB	Approx. 40 000 pics	Approx. 56 000 pics	Approx. 64 000 pics	Approx. 72 000 pics	Approx. 80 000 pics
4 GB	Approx. 20 000 pics	Approx. 28 000 pics	Approx. 32 000 pics	Approx. 36 000 pics	Approx. 40 000 pics
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/SDHC memory card	Image quality				
	0(Super fine)	1(Fine)	2	3	4
32 GB	Approx. 160 000 pics	Approx. 224 000 pics	Approx. 256 000 pics	Approx. 288 000 pics	Approx. 320 000 pics
16 GB	Approx. 80 000 pics	Approx. 112 000 pics	Approx. 128 000 pics	Approx. 144 000 pics	Approx. 160 000 pics
8 GB	Approx. 40 000 pics	Approx. 56 000 pics	Approx. 64 000 pics	Approx. 72 000 pics	Approx. 80 000 pics
4 GB	Approx. 20 000 pics	Approx. 28 000 pics	Approx. 32 000 pics	Approx. 36 000 pics	Approx. 40 000 pics
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/SDHC memory card	Image quality				
	5(Normal)	6	7	8	9(Low)
32 GB	Approx. 352 000 pics	Approx. 416 000 pics	Approx. 448 000 pics	Approx. 480 000 pics	Approx. 512 000 pics
16 GB	Approx. 176 000 pics	Approx. 208 000 pics	Approx. 224 000 pics	Approx. 240 000 pics	Approx. 256 000 pics
8 GB	Approx. 88 000 pics	Approx. 104 000 pics	Approx. 112 000 pics	Approx. 120 000 pics	Approx. 128 000 pics
4 GB	Approx. 44 000 pics	Approx. 52 000 pics	Approx. 56 000 pics	Approx. 60 000 pics	Approx. 64 000 pics
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

Image capture size: QVGA

Capacity of SD/SDHC memory card	Image quality				
	0(Super fine)	1(Fine)	2	3	4
32 GB	Approx. 384 000 pics	Approx. 416 000 pics	Approx. 432 000 pics	Approx. 448 000 pics	Approx. 480 000 pics
16 GB	Approx. 192 000 pics	Approx. 208 000 pics	Approx. 216 000 pics	Approx. 224 000 pics	Approx. 240 000 pics
8 GB	Approx. 96 000 pics	Approx. 104 000 pics	Approx. 108 000 pics	Approx. 112 000 pics	Approx. 120 000 pics
4 GB	Approx. 48 000 pics	Approx. 52 000 pics	Approx. 54 000 pics	Approx. 56 000 pics	Approx. 60 000 pics
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. 14 500 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/SDHC memory card	Image quality				
	5(Normal)	6	7	8	9(Low)
32 GB	Approx. 512 000 pics	Approx. 576 000 pics	Approx. 608 000 pics	Approx. 640 000 pics	Approx. 672 000 pics
16 GB	Approx. 256 000 pics	Approx. 288 000 pics	Approx. 304 000 pics	Approx. 320 000 pics	Approx. 336 000 pics
8 GB	Approx. 128 000 pics	Approx. 144 000 pics	Approx. 152 000 pics	Approx. 160 000 pics	Approx. 168 000 pics
4 GB	Approx. 64 000 pics	Approx. 72 000 pics	Approx. 76 000 pics	Approx. 80 000 pics	Approx. 84 000 pics
2 GB	Approx. 32 000 pics	Approx. 36 000 pics	Approx. 38 000 pics	Approx. 40 000 pics	Approx. 42 000 pics
1 GB	Approx. 16 000 pics	Approx. 18 000 pics	Approx. 19 000 pics	Approx. 20 000 pics	Approx. 21 000 pics
512 MB	Approx. 8 000 pics	Approx. 9 000 pics	Approx. 9 500 pics	Approx. 10 000 pics	Approx. 10 500 pics
256 MB	Approx. 4 000 pics	Approx. 4 500 pics	Approx. 4 750 pics	Approx. 5 000 pics	Approx. 5 250 pics
128 MB	Approx. 2 000 pics	Approx. 2 250 pics	Approx. 2 375 pics	Approx. 2 500 pics	Approx. 2 625 pics
64 MB	Approx. 1 000 pics	Approx. 1 125 pics	Approx. 1 187 pics	Approx. 1 250 pics	Approx. 1 312 pics

Configure the settings relating to the logs [Log]

Click the [Log] tab on the "Basic" page. (☞ pages 20 and 21: How to display/operate the setup menu)
The settings relating to the log list can be configured in this section.
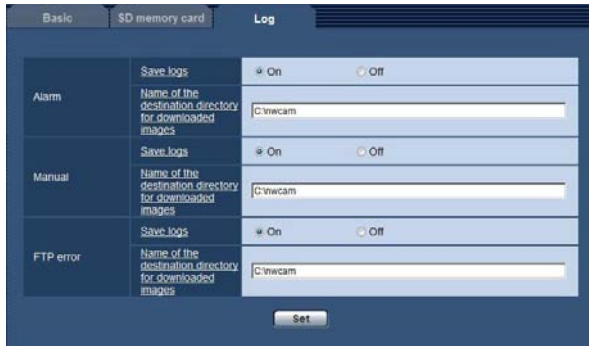
■ Alarm

Settings for the alarm log list can be performed.

[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.
Available number of characters: 3 - 128 characters
Available characters: Alphanumeric characters, the slash (/), the backslash (\), the colon (:) and the underscore (_).

■ Manual

Configure the settings relating to manual saving of the log list.
Select "On" or "Off" and designate the destination folder in the same manner as for "Alarm".

■ FTP error

Perform the settings for the FTP error log list.
Select "On" or "Off" and designate the destination folder in the same manner as for "Alarm".

Important:
- When "Name w/o time&date" is selected for "File name" on the [FTP img. trans.] tab on the "Network" page, FTP error log and associated images will not be saved.
  To save them, select "Name w/time&date". (☞ page 77)

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

[Log] tab	[SD memory card] tab		Logs and associated images
Alarm: Save logs	SD memory card	Save trigger	
On	Use	Alarm input	Logs: Up to 5 000 logs will be kept. When more than 5 000 event logs are filed, the older event logs will be over-written by the newer event logs. 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. Even when available capacity of the SD memory card is enough, the older images will be overwritten by the newer images when more than 5 000 logs are filed since associated images are to be deleted when the logs are deleted.
		Other than "Alarm input"	Logs: Up to 5 000 logs will be kept. When more than 5 000 logs are filed, the older logs will be overwritten by the newer logs. In this case, the oldest log is the first to be overwritten. Images: Images will not be saved.
	Not use	–	Logs: Up to 1 000 logs will be kept. When more than 1 000 logs are filed, the older logs will be overwritten by the newer logs. In this case, the oldest log is the first to be overwritten. When the power of the camera is turned off, logs will be deleted. Images: Images will not be saved.
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. * To display images on the SD memory card, it is necessary to copy them onto the PC first. (☞ page 29)
		Other than "Alarm input"	Logs: Logs will not be saved. Images: Images will not be saved.
	Not use	–	Logs: Logs will not be saved. Images: Images will not be saved.

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

[Log] tab	[SD memory card] tab			Logs and associated images	
Manual: Save logs	**SD memory card**	**Save trigger**	**Overwrite**		
On	Use	Manual	On	Logs:	Up to 5 000 logs will be kept. When more than 5 000 logs are filed, the older logs will be overwritten by the newer logs. In this case, the oldest log is the first to be overwritten.
				Images:	Images will be saved. When available capacity of the SD memory card ran out, the older images will be overwritten by the newer images. Even when available capacity of the SD memory card is enough, the older images will be overwritten by the newer images when more than 5 000 logs are filed since associated images are to be deleted when the logs are deleted.
			Off	Logs:	Up to 5 000 logs will be kept. When more than 5 000 logs are filed, no log will be filed newly anymore. Even when available capacity of the SD memory card ran out and it is not enough to save images, logs will be kept on being filed until it reaches 5 000 logs.
				Images:	Images will be saved. When available capacity of the SD memory card ran out, saving of images will become impossible. Even when available capacity of the SD memory card is enough, images associated with logs will be kept on being saved until number of filed logs reaches 5 000.
		Other than "Manual"	–	Logs: Images:	Logs will not be saved. Images will not be saved.
	Not use	–	–	Logs: Images:	Logs will not be saved. 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. * To display images on the SD memory card, it is necessary to copy them onto the PC first. (☞ page 29)
			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. * To display images on the SD memory card, it is necessary to copy them onto the PC first. (☞ page 29)
		Other than "Manual"	–	Logs: Images:	Logs will not be saved. Images will not be saved.
	Not use	–	–	Logs: Images:	Logs will not be saved. Images will not be saved.

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

[Log] tab	[SD memory card] tab		Logs and associated images	
FTP error: Save logs	SD memory card	Save trigger		
On	Use	FTP error	Logs:	Up to 5 000 logs will be kept. When more than 5 000 logs are filed, no log will be filed newly anymore. Even when available capacity of the SD memory card ran out and it is not enough to save images, logs will be kept on being filed until it reaches 5 000 logs.
			Images:	Images will be saved. When available capacity of the SD memory card ran out, saving of images will become impossible. Even when available capacity of the SD memory card is enough, images associated with logs will be kept on being saved until number of filed logs reaches 5 000.
		Other than "FTP error"	Logs: Images:	Logs will not be saved. Images will not be saved.
	Not use	–	Logs: Images:	Logs will not be saved. 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. * To display images on the SD memory card, it is necessary to copy them onto the PC first. (☞ page 29)
		Other than "FTP error"	Logs: Images:	Logs will not be saved. Images will not be saved.
	Not use	–	Logs: Images:	Logs will not be saved. Images will not be saved.

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

The settings relating to JPEG, H.264 and MPEG-4 images such as the settings of image quality, audio, etc. can be configured on this page.
The "Image/Audio" page has 3 tabs; the [JPEG/H.264] tab (or [JPEG/MPEG-4] tab), the [Image/Privacy] tab and the [Audio] tab.

Configure the settings relating to JPEG images [JPEG/H.264] (or [JPEG/MPEG-4])

Click the [JPEG/H.264] tab (or [JPEG/MPEG-4] tub) on the "Image/Audio" page. (☞ pages 20 and 21: How to display/operate the setup menu)

[Image capture mode]
Select "3 mega pixel" or "1.3 mega pixel" for "Image capture mode".

Default: 1.3 mega pixel

Important:
- When this setting is changed, the camera will reboot automatically.
- Check the following before changing "Image capture mode" from "1.3 mega pixel" to "3 mega pixel".
  - "QVGA" is not selected for "Image capture size" of "JPEG".
  - "QVGA" is not selected for "Image capture size" of "SD memory card". (☞ page 27)
  - "QVGA" is not selected for "Image capture size" of "Alarm image". (☞ page 55)
  - "QVGA" is not selected for "Image capture size" of "FTP periodic image transmission". (☞ page 77)
  - "On" is not selected for "Activation" of "Priority stream", and "JPEG" is not selected for "Stream type". (☞ page 68)
- Check the following before changing "Image capture mode" from "3 mega pixel" to "1.3 mega pixel".
  - "2048x1536" is not selected for "Image capture size" of "JPEG".

■ JPEG

Configure the settings such as "Refresh interval (JPEG)*", "Image capture size" and "Image quality" on this section. Refer to page 37 and 40 for further information about the settings relating to H.264 (or MPEG-4) images.

[Refresh interval (JPEG) *]
Select an interval to refresh the displayed JPEG image from the following.
0.1fps/0.2fps/0.33fps/0.5fps/1fps/2fps/3fps/5fps/6fps/10fps/15fps */30fps *
Default: 10fps

Note:
- When "On" is selected for "H.264 transmission" (or "MPEG-4 transmission"), the refresh interval may be longer than the set value when any value with an asterisk (*) on the right is selected.

[Image capture size]
Select "QVGA", "VGA", "1280x960" or "2048x1536" for the image capture size of JPEG images.
Default: 1280x960

Note:
- "2048x1536" is available only when "3 mega pixel" is selected for "Image capture mode".
- "QVGA" is available only when "1.3 mega pixel" is selected for "Image capture mode".

[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

Configure the settings relating to H.264 images [JPEG/H.264]

Click the [JPEG/H.264] tab on the "Image/Audio" page. (☞ pages 20 and 21: How to display/operate the setup menu)

[JPEG/H.264] tab will be displayed when "H.264" is selected for "Video encoding format".

Configure the settings relating to H.264 image such as "Max bit rate (per client)", "Image capture size", "Image quality", etc. in this section.

Refer to page 40 and 36 for the settings relating to MPEG-4 images and JPEG images respectively.

[Video encoding format]

Select "H.264" or "MPEG-4" for the video encoding format.

H.264: H.264 will be set for the video encoding format. The subsequent setting items will be for H.264. The tab name will be changed to [JPEG/H.264].

MPEG-4: MPEG-4 will be set for the video encoding format. The subsequent setting items will be for MPEG-4. (☞ page 40) The tab name will be changed to [JPEG/MPEG-4].

Default: H.264

■ H.264(1) · H.264(2)

[H.264 transmission]

Select "On" or "Off" to determine whether or not to transmit H.264 images.

On: Transmits H.264 images.

Off: Does not transmit H.264 images.

Default: On

Note:
- When "On" is selected for "H.264 transmission" in "H.264(1)", displaying of both H.264 images and JPEG images on the "Live" page will become available.
- When "On" is selected for "H.264 transmission" in "H.264(1)" and "H.264(2)", H.264 images are viewable using other devices with each setting.
- When "On" is selected for "H.264 transmission" in "H.264(1)" or "H.264(2)", the transmission interval of JPEG images may sometimes become longer.

[Internet mode (over HTTP)]

Select "On" when transmitting H.264 images via the Internet. It is possible to transmit H.264 images without changing the broadband router settings configured for JPEG image transmission.

On: H.264 images and audio will be transmitted using the HTTP port. Refer to page 73 for further information about the HTTP port number settings.

Off: H.264 images and audio will be transmitted using the UDP port.
Default: Off

Note:
- When "On" is selected, only "Unicast port (AUTO)" will be available for "Transmission type".
- When "On" is selected, it may take time to start displaying H.264 images.
- When "On" is selected, H.264 images may not be displayed depending on the number of the concurrent access user and audio data availability, etc.
- When "On" is selected, only IPv4 access is available.
- When "On" is selected for either "H.264(1)" or "H.264(2)", only "Off" and "Mic input" are available for "Audio transmission/reception".
- When "On" is selected for either "H.264(1)" or "H.264(2)", the maximum concurrent access number is equal to or less than 10 users.

[Image capture size]
Select "QVGA", "VGA" or "1 280 x 960" for the image capture size of H.264 images.
Default: H.264(1): 1280x960
          H.264(2): VGA

[Transmission priority]
Select "Constant bit rate" or "Frame rate" for the H.264 transmission mode.
Constant bit rate: H.264 images will be transmitted with the bit rate selected for "Max bit rate (per client) *".
Frame rate: H.264 images will be transmitted with the frame rate selected for "Frame rate".
Default: Constant bit rate

Note:
- When "Frame rate" is set for "Transmission priority", number of users who can access the camera may be limited more (may become less than 10).

[Frame rate]
Select a frame rate for H.264 images from the following.
1fps/3fps/5fps */7.5fps */10fps */15fps */20fps */30fps *
Default: 30fps *

Note:
- When "Frame rate" is selected for "Transmission priority", this setting is available.
- "Frame rate" is synchronized with "Max bit rate (per client)*". For this reason, the frame rate may be lower than the specified value when any value marked with an asterisk (*) is selected.

[Max bit rate (per client) *]
Select a H.264 bit rate per a client from the following.
64kbps/128kbps */256kbps */384kbps */512kbps */ 768kbps */1024kbps */1536kbps */2048kbps */ 3072kbps */4096kbps */8192kbps */Unlimited *
Default: H.264(1): 4096kbps *
          H.264(2): 1536kbps *

  * "8192kbps" is available only when the image capture size is "1280x960".
  * "64kbps" and "128kbps" are available only when the image capture size is "QVGA" or "VGA".
  * "Unlimited *" is available only when "Frame rate" is selected for "Transmission priority".

Note:
- The H.264 bit rate is synchronized with "Bandwidth control(bit rate)" on the [Network] tab of "Network" page (☞ page 73). For this reason, the bit rate may be lower than the value when any value with an asterisk (*) on the right is selected.
- When "8192 kbps *" or "Unlimited *" is selected, the number of users who can access H.264 images will be limited to "1". (Only a single user can access H.264 images.)
- It is impossible to select "Unlimited *" for both "H.264(1)" and "H.264(2)".

[Image quality]
Select the image quality of H.264 images from the following.
Fine/Normal/Low
Default: Normal

Note:
- When "Constant bit rate" is selected for "Transmission priority", this setting is available.

[Refresh interval]
Select an interval (I-frame interval; 0.2 - 5 seconds) to refresh the displayed H.264 images.
If using under a network environment with frequent error occurrences, shorten the refresh interval for H.264 to diminish image distortions. However, the refresh interval may be longer than the set value.
0.2s/0.33s/0.5s/1s/2s/3s/4s/5s
Default: 3s

[Transmission type]
Select a MPEG-4 transmission type from the following.
Unicast port (AUTO): Up to 14 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 H.264 image transmission such as when using in a particular LAN environment, it is recommended to select "Unicast port (AUTO)".
Unicast port (MANUAL): Up to 14 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 H.264 image transmission via the Internet by setting "Unicast port (MANUAL)" (☞ page 74). Refer to the operating instructions of the router in use.
Multicast: Unlimited number of users can access a single camera concurrently. Complete the entry field of "Multicast address", "Multicast port" and "Multicast TTL/HOPLimit" when transmitting H.264 images with multicast.
  * Refer to page 6 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
Available IPv6 address: Multicast address starting with "FF"
Default: H.264(1): 239.192.0.20
        H.264(2): 239.192.0.21

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

[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

Note:
• When audio is transmitted from the camera, the port number to be used will be the multicast port number plus "1 000".

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

Important:
• When transmitting an H.264 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".

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

Click the [JPEG/MPEG-4] tab on the "Image/Audio" page. (☞ pages 20 and 21: How to display/operate the setup menu)

The [JPEG/MPEG-4] tab will be displayed when "MPEG-4" is selected for "Video encoding format". (☞ page 37)

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 37 and 36 for the settings relating to H.264 images and JPEG images respectively.

■ MPEG-4(1) · MPEG-4(2)

[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" in "MPEG-4 (1)", displaying of both MPEG-4 images and JPEG images on the "Live" page will become available.
- When "On" is selected for "MPEG-4 transmission" in "MPEG-4(1)" and "MPEG-4(2)", MPEG-4 images are viewable using other devices with each setting.
- When "On" is selected for "MPEG-4 transmission" in "MPEG-4(1)" or "MPEG-4(2)", the transmission interval of JPEG images may sometimes become longer.

[Internet mode (over HTTP)]

Select "On" when transmitting MPEG-4 images via the Internet. It is possible to transmit MPEG-4 images without changing the broadband router settings configured for JPEG image transmission.

On: MPEG-4 images and audio will be transmitted using the HTTP port. Refer to page 73 for further information about the HTTP port number settings.

Off: MPEG-4 images and audio will be transmitted using the UDP port.

Default: Off

Note:
- When "On" is selected, only "Unicast port (AUTO)" will be available for "Transmission type".
- When "On" is selected, it may take seconds to start displaying MPEG-4 images.
- When "On" is selected, MPEG-4 images may not be displayed depending on the number of the concurrent access users and audio data availability, etc.

- When "On" is selected, only IPv4 access is available.
- When "On" is selected for either "MPEG-4(1)" or "MPEG-4(2)", only "Off" and "Mic input" are available for "Audio transmission/reception".
- When "On" is selected for either "MPEG-4(1)" or "MPEG-4(2)", the maximum concurrent access number is equal to or less than 10 users.

[Image capture size]
Select "QVGA" or "VGA" for the image capture size of MPEG-4 images.
Default: MPEG-4(1): VGA
           MPEG-4(2): VGA

[Transmission priority]
Select "Constant bit rate" or "Frame rate" for the MPEG-4 transmission mode.
Constant bit rate: MPEG-4 images will be transmitted with the bit rate selected for "Max bit rate (per client) *".
Frame rate: MPEG-4 images will be transmitted with the frame rate selected for "Frame rate".
Default: Constant bit rate

Note:
When "Frame rate" is set for "Transmission priority", number of users who can access the camera may be limited more (may become less than 10).

[Frame rate]
Select a frame rate for MPEG-4 images from the following.
1fps/3fps/5fps */7.5fps */10fps */15fps */20fps */30fps *
Default: 30fps *

Note:
- When "Frame rate" is selected for "Transmission priority", this setting is available.
- "Frame rate" is synchronized with "Max bit rate (per client)*". For this reason, the frame rate may be lower than the specified value when any value marked with an asterisk (*) is selected.

[Max bit rate (per client) *]
Select a MPEG-4 bit rate per a client from the following.
64kbps/128kbps */256kbps */384kbps */512kbps */
768kbps */1024kbps */1536kbps */2048kbps */
3072kbps */4096kbps */Unlimited *

Default: MPEG-4(1): 2048kbps *
           MPEG-4(2): 2048kbps *
 * "Unlimited *" is available only when "Frame rate" is selected for "Transmission priority".

Note:
- The MPEG-4 bit rate is synchronized with "Bandwidth control(bit rate)" on the [Network] tab of "Network" page (☞ page 73). For this reason, the bit rate may be lower than the value when any value with an asterisk (*) on the right is selected.
- When "Unlimited *" is selected, the number of users who can access MPEG-4 images will be limited to "1". (Only a single user can access MPEG-4 images.)
- It is impossible to select "Unlimited *" for both "MPEG-4(1)" and "MPEG-4(2)".

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

Note:
- When "Constant bit rate" is selected for "Transmission priority", this setting is available.

[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.
0.2s/0.33s/0.5s/1s/2s/3s/4s/5s
Default: 3s

[Transmission type]
Select the transmission type of MPEG-4 images from the following.
Unicast port (AUTO): Up to 14 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 14 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 74).

Refer to the operating instructions of the router in use.

Multicast: Unlimited number of users can access a single camera concurrently. Complete the entry field of "Multicast address", "Multicast port" and "Multicast TTL/HOPLimit" when transmitting MPEG-4 images with multicast.

* Refer to page 6 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

Available IPv6 address: Multicast address starting with "FF"

Default: MPEG-4(1): 239.192.0.20
　　　　　MPEG-4(2): 239.192.0.21

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

[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

Note:
• When audio is transmitted from the camera, the port number to be used will be the multicast port number plus "1 000".

[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".

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

Click the [Image/Privacy] tab on the "Image/Audio" page. (☞ pages 20 and 21: 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, back focus and privacy zone.
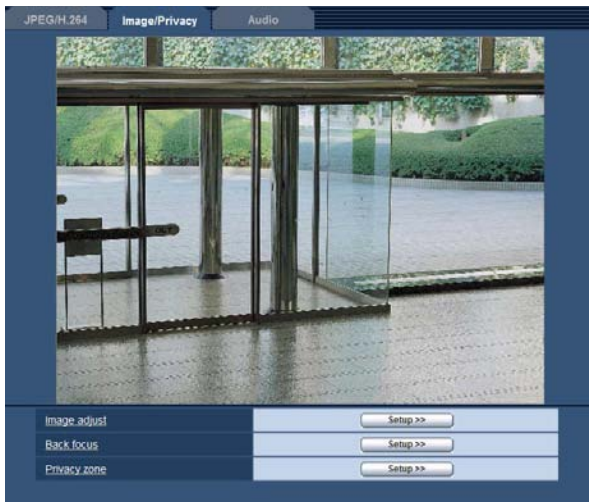
[Image adjust]
Click the [Setup >>] button to display the setup menu that can configure the settings relating to image quality. The setup menu will be displayed in a newly opened window. (☞ page 44)

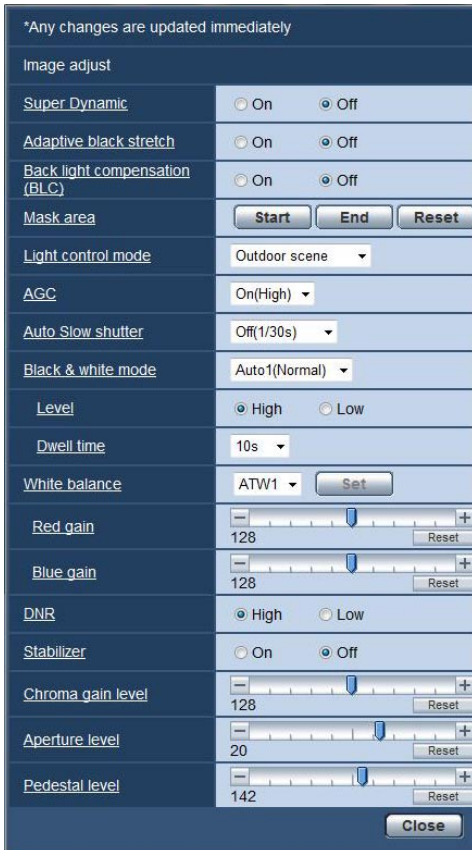**[Back focus]**
Click the [Setup >>] button to display the setup menu that can configure the settings relating to back focus. The setup menu will be displayed in a newly opened window. (☞ page 49)

[Privacy zone]
Click the [Setup >>] button to display the setup menu that can configure the settings relating to privacy zone. The setup menu will be displayed in a newly opened window. (☞ page 50)

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 43)
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 to the currently displayed image on the [Image/Privacy] tab.

*Any changes are updated immediately	
Image adjust	
Super Dynamic	○ On ● Off
Adaptive black stretch	○ On ● Off
Back light compensation (BLC)	○ On ● Off
Mask area	Start End Reset
Light control mode	Outdoor scene ▼
AGC	On(High) ▼
Auto Slow shutter	Off(1/30s) ▼
Black & white mode	Auto1(Normal) ▼
Level	● High ○ Low
Dwell time	10s ▼
White balance	ATW1 ▼ Set
Red gain	— |▮| + 128 Reset
Blue gain	— |▮| + 128 Reset
DNR	● High ○ Low
Stabilizer	○ On ● Off
Chroma gain level	— |▮| + 128 Reset
Aperture level	— |▮| + 20 Reset
Pedestal level	— |▮| + 142 Reset
	Close

[Super Dynamic]

Select "On" or "Off" to determine whether or not to activate the super dynamic function.
Refer to the following descriptions about the super dynamic function.
On: The super dynamic function will work.
Off: The super dynamic function will not work.
Default: Off

Note:
- When the following are observed depending on the light condition, select "Off" for "Super Dynamic".
  - When flickering appears or the color changes on the screen
  - When noise appears in the brighter area on the screen

- The super dynamic function is available only when "1.3 mega pixel" is selected for "Image capture mode" on the [JPEG/H.264] (or [JPEG/MPEG-4]) tab.
- This setting is available only when "Outdoor scene" or "Indoor scene" is selected for "Light control mode".
- When "Super Dynamic" is set to "On", the minimum illumination is the same in the mode of 3 mega pixel. Refer to the installation guide for further information about the specifications.

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

Subject in the dark area is hard to notice...   Subject in the bright area is washed out...

Creates a clearer image by digitally combining images

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[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.
Default: Off

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.
- When "On" is selected for "Super Dynamic", the "Adaptive black stretch" setting is unavailable.

[Back light compensation (BLC)]
Select "On" or "Off" to determine whether or not to activate the back light compensation (BLC) function. When "On" is selected for "Super Dynamic", this setting is unavailable.
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 "Super Dynamic" and "Back light compensation(BLC)", it is possible to compensate for backlight by masking brighter areas.
Refer to page 48 for information on how to set the mask area.

[Light control mode]
Select the light control mode from the following.
Outdoor scene: Depending on the brightness level (illuminance), the iris will automatically be controlled together with the shutter speed adjustment to control light. When shooting a bright subject such as outdoor, etc., select this parameter. Be aware that flicker may occur when a subject is under fluorescent lighting.
Indoor scene: The shutter speed will automatically be adjusted to prevent flicker caused by fluorescent light.
ELC: This selection is suitable for use of a lens with fixed iris or manual iris.

Fix shutter: The selected value will be set as the fixed shutter speed.
3/100 fix, 2/100 fix, 1/100 fix, 1/250 fix, 1/500 fix, 1/1 000 fix, 1/2 000 fix, 1/4 000 fix, 1/10 000 fix
Default: Outdoor scene

Note:
- When a faster shutter speed is selected, it is possible to capture a fast moving object with less blur.
- When a faster shutter speed is selected, the sensitivity will become lower. Smear also may appear under bright light condition.
- When "On" is selected for "Super Dynamic", only "Outdoor scene" and "Indoor scene" are available.

[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 recording duration.
Off(1/30s) / Max. 2/30s / Max. 4/30s / Max. 6/30s / Max. 10/30s / Max. 16/30s
Default: Off(1/30s)

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.

[Black & white mode]
Select switching between the color mode and the black & white mode from the following.
Off: The color mode is selected.
On: The black & white mode is selected.
Auto1(Normal): The camera automatically switches between the color mode and the black & white mode in accordance with picture brightness (luminance). The black & white mode will automatically be selected when the lighting condition becomes darker, while the color mode will automatically be selected when it becomes brighter.
Auto2(IR Light): Suitable when using near-infrared light source at night.
Auto3(Super Chroma Compensation (SCC)): Suitable to keep the color mode even under darker light condition.
The color mode will be carried on by the super chroma compensation (SCC) function even under illumination that is lower than Auto 1.
Default: Auto1(Normal)

Super Chroma Compensation (SCC) function
This function achieves faithful color images using the proprietary color compensation technology that reproduce images even under low illumination where it is usually difficult to capture objects faithfully.

Note:
• Since the color compensation technology is used for Auto 3, some colors may look different from the actual objects depending on the light condition.

[Level]
Select the threshold illuminance level (brightness) to switch between the color mode and the black & white mode.
The descriptions about the following threshold illuminance levels are given when "1.3 mega pixel" is selected for "Image capture mode" and "Off" is selected for "Super Dynamic".
• When "Black & white mode" is set to "Auto1" or "Auto2"

Low: Switches from the color mode to the black & white mode when the ambient brightness (illuminance) of the camera is approx. 2 lx or less.
High: Switches from the color mode to the black & white mode when the ambient brightness (illuminance) of the camera is approx. 6 lx or less.

• When "Black & white mode" is set to "Auto3"
Low: Carries on the color mode by activating the super chroma compensation function when the ambient brightness (illuminance) of the camera is approx. 2 lx or less.
When the color temperature of the object becomes approx. 3 500 K or lower, the color mode will be switched to the black & white mode.
High: Carries on the color mode by activating the super chroma compensation function when the ambient brightness (illuminance) of the camera is approx. 6 lx or less.
When the color temperature of the object becomes approx. 3 500 K or lower, the color mode will be switched to the black & white mode.
Default: High

[Dwell time]
Select a wait time for switching between the color mode and the black & white mode from the following.
2s/10s/30s/1min
Default: 10s

[White balance]
Select a method of white balance adjustment from the following.
White color can be adjusted by "Red gain" and "Blue gain".
ATW1: Selects the automatic 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: Selects the automatic tracing white balance mode 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: Selects the automatic 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

[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.
Default: 128

[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 red color will be thinner.
Click the [Reset] button to reset the color to the default.
Default: 128

[DNR]
The digital noise reduction function reduces noise automatically under the condition of low illuminance. Select an effect level "Low" or "High" for the digital noise reduction.
High: High DNR, afterimage remains
Low: Low DNR, reduces afterimage
Default: High

[Stabilizer]
Select "On" or "Off" to determine whether or not to activate the image stabilizer.
Default: Off

[Chroma gain level]
Adjusts 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 level to the default.
Default: 128

[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.
Default: 20

[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.
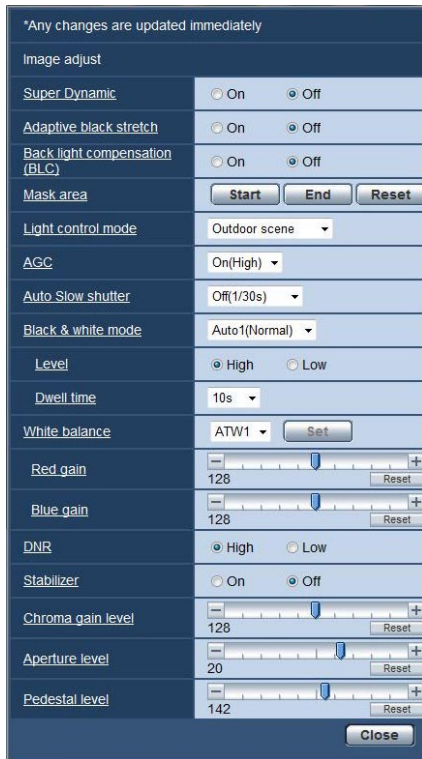**Default:** 142

[Close] button
Click this button to close the "Image adjust" setup menu.

Set mask areas

When "Off" is selected for "Super Dynamic" and "Back light compensation(BLC)", it is possible to compensate for backlight by masking brighter areas.
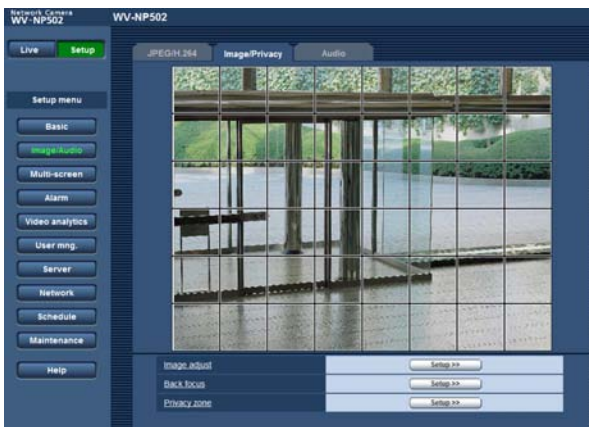
Step1

Display the "Image adjust" setup menu. (☞ page 44)

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 3

Click the divided areas to be masked.

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

Step 4

Click the [End] button after completing masking areas.

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

Note:

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

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Back focus setting (Back focus setup menu)

Click the [Setup >>] button of "Back focus" on the [Image/Privacy] tab of the "Image/Audio" page. (☞ page 43)
Adjust the back focus by moving the CCD of the camera to the appropriate position.
Manual and auto adjustment are available.
The auto back focus function also allows users to correct out of focus when changing between color and black & white images.
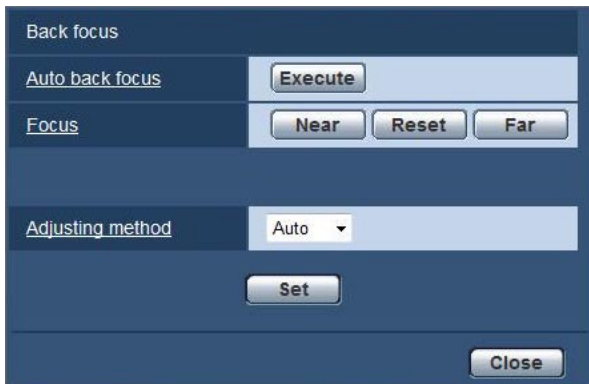
[Close] button
Click this button to close the back focus setup menu.

[Auto back focus]
The auto back focus function starts to automatically adjust back focus based on a subject located in the center of the screen by clicking the [Execute] button.

[Focus]
The back focus can be adjusted manually.
[Near] button: Click this button to adjust the focus to the "Near" side.
[Reset] button: Click this button to reset the focus to the default.
[Far] button: Click this button to adjust the focus to the "Far" side.

[Adjusting method]
Select the back focus adjustment method upon switching between the color mode and the black & white mode.
Auto: Adjusts the back focus function automatically and corrects out of focus when switching between color and black & white images.
**Preset:** Performs the preset movement to each specified back focus position when switching between color and black & white images. The preset position is the back focus position specified last time, which was automatically memorized for each of color images and black & white images.
Fix: Fixes the position after adjusting the back focus either automatically or manually.
Default: Auto

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 43)
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.
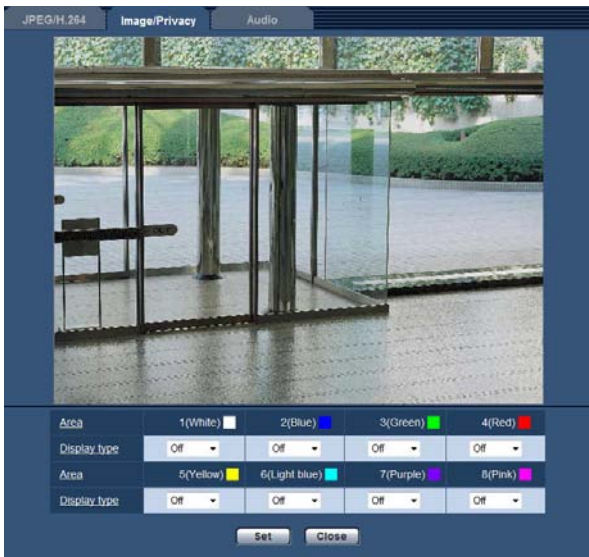
[Area]

The privacy zone will be set when an area is designated by dragging the mouse. Each zone can be overlapped. Up to 8 privacy zones can be created and they will be numbered in the order of creation.

[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.

[Close] button

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

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Configure the settings relating to audio [Audio]

Click the [Audio] tab on the "Image/Audio" page. (☞ pages 20 and 21: How to display/operate the setup menu)
The settings relating to audio can be configured on this page.

Note:
- 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.
Default: Off

Note:
- Howling may be generated depending on usage conditions. If howling is generated, prevent sound generated by the PC from entering the PC microphone.
- When "Multicast" is selected for "Transmission type" on the [JPEG/H.264] (or [JPEG/MPEG-4]) tab of the "Image/Audio" page, audio output will become unavailable during monitoring H.264 (or MPEG-4) images.

To transmit audio from a PC to the camera, click the [JPEG] button on the "Live" page.
- When "On" is selected for "Internet mode (over HTTP)" on the [JPEG/H.264] (or [JPEG/MPEG-4]) tab of the "Image/Audio" page, audio transmission will become unavailable. To transmit audio, select "Off" for "Internet mode (over HTTP)".

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

Note:
- When selecting a smaller value for "Bandwidth control(bit rate)" (☞ page 73) while putting a priority on the JPEG/H.264 (or MPEG-4) image transmission, select "16kbps" for "Audio bit rate".

[Mic input volume (Camera to PC)]
Select a volume level on the PC to hear audio transmitted from the camera.
Mic High: The volume level will become high. This setting will be applied when audio is input to the camera using a microphone.
Mic Middle: The volume level will become middle. This setting will be applied when audio is input to the camera using a microphone.
Mic Low: The volume level will become low. This setting will be applied when audio is input to the camera using a microphone.
Line High: The volume level will become high. This setting will be applied when audio is input to the camera using the Line input.
Line Middle: The volume level will become middle. This setting will be applied when audio is input to the camera using the Line input.
Line Low: The volume level will become low. This setting will be applied when audio is input to the camera using the Line input.
Default: Mic Middle

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

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.
160msec/320msec/640msec/1280msec
Default: 640msec

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 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: 1024 - 50000 (Only even numbers are available.)
Default: 34 004

Note:
• The transmission port number entered for "Audio
output port (PC to Camera)" will be used only when
"Unicast port (MANUAL)" is selected for
"Transmission type" (☞ page 39 and 41).
When "Off" is selected for "H.264 transmission" (or
"MPEG-4 transmission") (☞ page 37 and 40) or
when "Unicast port (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.
1. Level 1 only/2. Level 2 or higher/3. All users
Default: 3. All users

Configure the multi-screen settings [Multi-screen]

The cameras from which images are to be displayed on a multi-screen can be registered on the "Multi-screen" page.
(☞ pages 20 and 21: How to display/operate the setup menu)

[Camera title]
Enter the title of the camera. The entered camera title will be displayed on a multi-screen.
Available number of characters: 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 of which images are to be displayed had been changed, enter as follows:
Example of entry:
  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
Available number of characters: 1 - 128 characters

Note:
- When using the host name, it is necessary to configure the DNS settings of the PC to be used for the multi-screen display. (☞ page 73)
- 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 VMD area settings, and the alarm occurrence notification can be configured on this page.
The "Alarm" page has 3 tabs; the [Alarm] tab, the [VMD area] tab and the [Notification] tab.

Configure the settings relating to the alarm action [Alarm]

Click the [Alarm] tab on the "Alarm" page. (☞ pages 20 and 21: How to display/operate the setup menu)
The settings relating to the alarm can be configured in this section. Refer to pages 55 and 57 for further information about the settings relating to the alarm and the alarm output terminal.

Note:
- AUX is a camera terminal that allows users to operate (Open/Close) arbitrarily 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.
- Refer to the installation guide for further information about input/output terminals.

■ Alarm

[Terminal 1]
Determine how to use terminal 1.
Alarm input: Receives alarms.
Black & white input: Receives the black & white switchover input. (When the input is set to On, the black & white mode is activated.)
Off: Not used.
Default: Off

[Terminal 2]
Determine how to use terminal 2.
Alarm input: Receives alarms.
Alarm output: Alarm output will be carried out according to the settings for "Alarm output terminal setup" (☞ page 57).
Off: Not used.
Default: Off

[Terminal 3]
Determine how to use terminal 3.
Alarm input: Receives alarms.
AUX output: AUX output will be supplied. The [AUX] buttons will be displayed on the "Live" page.
Exposure output: The CCD exposure timing pulse output is provided. (The close output is provided only during CCD exposure.)
Off: Not used.
Default: Off

[VMD alarm]
When clicking "VMD >>", the [VMD area] tab of the "Alarm" page will be displayed.

[Command alarm]
Select "On" or "Off" to determine whether or not to receive the command alarm.
The command alarm is the function that provides notification of a Panasonic protocol alarm from the other cameras. When "On" is selected, alarm actions will be performed between multiple cameras.
Default: Off

[Originating port number]
Select a port number to be used to receive the command alarm.
Available range: 1 - 65 535
Default: 8 181

# Configure the settings relating to the alarm image [Alarm]

Click the [Alarm] tab on the "Alarm" page. (☞ pages 20 and 21: How to display/operate the setup menu)
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 70)
Refer to pages 54 and 57 for further information about the settings relating to the alarm action 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 27)
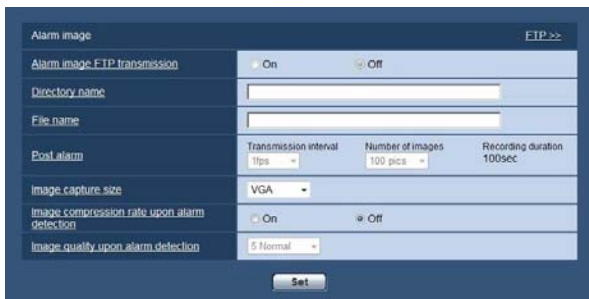
■ Alarm image

[FTP >>]
When "FTP >>" is clicked, the [FTP] tab of the "Server" page will be displayed. (☞ page 70)

[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.
Available number of characters: 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"
Available number of characters: 1 - 32 characters

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

• Number of images
Select the number of images to be transmitted from the following.
1pic/2pics/3pics/4pics/5pics/6pics/7pics/8pics/9pics/10pics/20pics/30pics/50pics/100pics/200pics/300pics/500pics/1000pics/2000pics/3000pics
Default: 100pics

• 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 "1280x960" 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

Note:
- "QVGA" is available only when "1.3 mega pixel" is selected for "Image capture mode".

[Image compression rate upon alarm detection]
Select "On" or "Off" to determine whether or not to
change the image quality upon alarm detection.
On: Images will be transmitted with the image quality
selected for "Image quality upon alarm detection".
Off: Does not change the image quality upon alarm
detection.
Default: Off

[Image quality upon alarm detection]
Image quality can be changed upon an alarm occur-
rence. Select the image quality from the following.
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 output terminal [Alarm]

Click the [Alarm] tab on the "Alarm" page. (☞ pages 20 and 21: How to display/operate the setup menu)
The settings relating to the alarm output terminal can be configured in this section. The settings for the alarm output terminal can be configured only when "Alarm output" is selected for "Terminal 2" of "Alarm". Refer to pages 54 and 55 for further information about the settings relating to the alarm action, and the alarm image.

■ Alarm output terminal setup

[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 range: 1 - 120sec
Default: 1sec

Change the AUX name [Alarm]

Click the [Alarm] tab on the "Alarm" page. (☞ pages 20 and 21: How to display/operate the setup menu)
The names of "AUX", "Open" and "Close" on the "Live" page can be changed.

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

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

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

Set the VMD areas [VMD area]

Click the [VMD area] tab on the "Alarm" page. (☞ pages 20 and 21: How to display/operate the setup menu)
The video motion detection areas can be set on this page.
Up to 4 areas can be set. When motion is detected in the set area, it will be regarded as an alarm.

Important:
- The alarm occurrence indication button (☞ page 8) will be displayed when motion is detected by the VMD function.
- The alarm occurrence indication button will be displayed when receiving an alarm input of a terminal alarm or a command alarm.
- Depending on the network environment, notification may be delayed even when "Real time" is selected for "Alarm status update mode" on the [Basic] tab of the "Basic" page (☞ page 25).
- The motion detection function is not the dedicated function to prevent thefts, fires, etc. We are not responsible for any accidents or damages occurring in case.

[Area]
When selecting a VMD area in the screen, it will be numbered as area 1. (Subsequent areas will be numbered in the order of selection.)

[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.
Default: 1

[Detection sensitivity]
Adjust the sensitivity of motion detection in the VMD area using the slider. The settings can be configured for each area individually. The larger the value is set, the higher the sensitivity level becomes.
The current value (1 (low) - 15 (high)) will be displayed below the slider.
Default: 8

[Delete] button
Click the [Delete] button corresponding to the area to be deleted. The outline of the selected area will be deleted.

[Light detection control]
Select "On" or "Off" to determine whether or not to detect video motion affected by brightness change such by a dimming level control.
Default: Off

Important:
- "Light detection control" may not work when brightness change is too small.
- When "On" is selected for "Light detection control", the video motion detection may sometimes not be performed even when detecting a subject moving over the whole screen.

■ VMD information addition

[Information addition]

Select "On" or "Off" to determine whether or not to add VMD information to image data.

The VMD information can be searched by Panasonic network disk recorders (WJ-ND400 series). Refer to the operating instructions of the connected devices for further information about the functions and settings.

Default: Off

Set the VMD areas

Important:
• When the settings are being configured on the setup menu, sometimes the VMD function may not work correctly.

Step1

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

→ The designated area will become the VMD area "1(White)" and the outline will be displayed. When 2 - 4 VMD areas are set, each area will be numbered in order. The areas will be identified by the respective outline colors. The "Status" of the outline to be set for the area will become "On".

Step 2

Adjust "Detection area" and "Detection sensitivity" using the slide bar. Refer to page 59 for further information about the "Detection sensitivity" and "Detection area". The currently displayed area and its detection sensitivity will be displayed in the "Detection area" section. Change areas and the settings of "Detection area" and "Detection sensitivity" as necessary.

Step 3

Click the [Set] button after completing the settings.

Important:
• The setting will not be applied unless the [Set] button is clicked.

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 dotted line. When the VMD area is invalidated, no alarm will occur even when a motion can be recognized in the area.

Step 5

To delete the VMD area, click the [Delete] button corresponding to the area to be deleted.

→ The outline of the respective VMD area will disappear.

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

Configuration of the settings relating to the mail notification [Notification]

Click the [Notification] tab on the "Alarm" page. (☞ pages 20 and 21: How to display/operate the setup menu)
The settings relating to the alarm mail can be configured. It is necessary to configure the settings of the mail server to perform the mail notification. (☞ page 69)
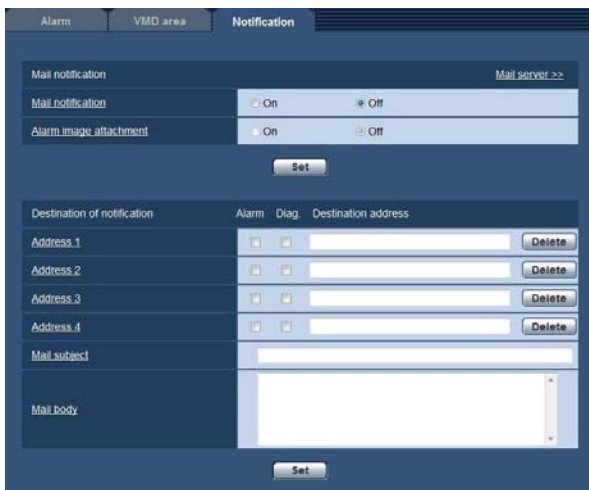
■ Mail notification

[Mail server >>]
When "Mail server >>" is clicked, the [Mail] tab of the "Server" page will be displayed. (☞ page 69)

[Mail notification]
Select "On" or "Off" to determine whether or not to provide notification by e-mail according to the settings for the "Alarm" and "Diag." checkboxes of "Destination of notification" below.
  • When an alarm is detected ("Alarm")
  • When a notification of the remaining capacity of the SD memory card has been provided ("Diag.")
  • When the SD memory card has become full ("Diag.")
  • When the SD memory card cannot be recognized ("Diag.")
Default: Off

[Alarm image attachment]
Select "On" or "Off" to determine whether or not to attach an image to the mail to be sent when an alarm is detected.
Default: Off

Note:
  • The settings for "Image capture size" of the "Alarm image" section on the [Alarm] tab (☞ page 55) will be applied to the size of the image to be attached.

■ Destination of notification

[Address 1] - [Address 4]
Enter the destination mail address. Up to 4 destination addresses can be registered.
"Alarm" checkbox: When the checkbox is checked, the mail notification will be performed upon an alarm occurrence.
"Diag." checkbox: When the checkbox is checked, the mail notification will be provided in the following cases.
  • When notification of the remaining capacity of the SD memory card has been provided
  • When the SD memory card has become full
  • The SD memory card cannot be recognized
"Destination address": Enter the destination address.
To delete the registered address, click the [Delete] button respective to the desired address.
Available number of characters: 3 - 128 characters

[Mail subject]
Enter the mail subject.
Available number of characters: 0 - 50 characters

[Mail body]
Enter the mail body.
Available number of characters: 0 - 200 characters

Note:
  When the SD memory card becomes full, notification mail will be sent with the following message.
    • When the SD memory card has become full:
      "The SD memory card is full."
    • When mounting of the SD memory card failed:
      "The SD memory card cannot be recognized."

Configure the settings relating to Panasonic alarm protocol [Notification]

Click the [Notification] tab on the "Alarm" page. (☞ pages 20 and 21: How to display/operate the setup menu)
The settings relating to Panasonic alarm protocol can be configured in this section.

■ Panasonic alarm protocol notification

[Panasonic alarm protocol]

Select "On" or "Off" to determine whether or not to provide notification by Panasonic alarm protocol according to the settings for the "Alarm" and "Diag." checkboxes of "Destination of notification" below.
- When an alarm is detected ("Alarm")
- When a notification of the remaining capacity of the SD memory card has been provided ("Diag.")
- When the SD memory card has become full ("Diag.")
- When the SD memory card cannot be recognized ("Diag.")

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 range: 1 - 65 535
Default: 1 818

[Retry times]

Select a retry time for the Panasonic alarm protocol.
Available range: 0 - 30
Default: 2

■ Destination of notification

[Address 1] - [Address 8]

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

"Alarm" checkbox: When the checkbox is checked, the Panasonic alarm notification will be provided upon an alarm occurrence.

"Diag." checkbox: When the checkbox is checked, notification using Panasonic alarm protocol will be provided in the following cases.
- When notification of the remaining capacity of the SD memory card has been provided
- When the SD memory card has become full
- The SD memory card cannot be recognized

"Destination IP address": Enter the destination address.

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 destination does not exist, notification may be delayed.

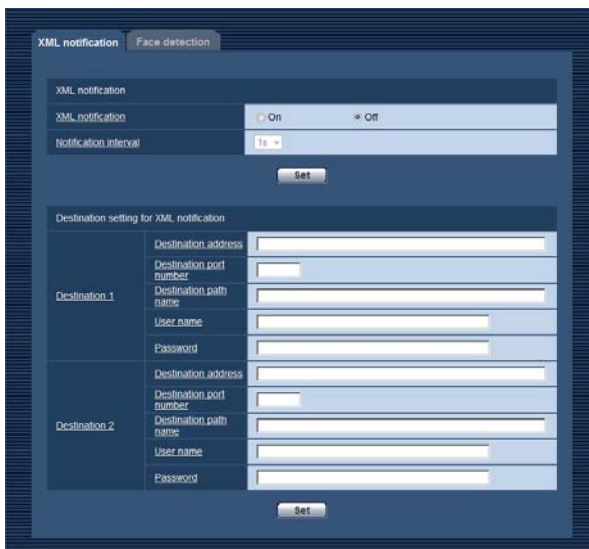# Configure the setting relating to the image recognition [Advanced func.]

The setting relating to the XML notification, destinations of information about the face detection and the settings relating to the face detection can be configure on the "Advanced func." page.
The "Advanced func." page has 2 tabs; the [XML notification] tab and the [Face detection] tab.

Configure the settings relating to the XML notification [XML notification]

Click the [XML notification] tab on the "Advanced func." page.
The settings relating to the XML notification can be configured in this section. The XML notification is a function to notify a server or others of face detection information in the XML format.

■ XML notification

[XML notification]
Select "On" or "Off" to determine whether or not to notify
face detection information using XML.
Default: Off

[Notification interval]
Select "1s" or "2s" for the notification interval.
Default: 1s

Configuration of the destination settings of the face detection [XML notification]

Click the [XML notification] tab on the "Advanced func." page.
The settings relating to the XML notification can be configured. The XML notification is the function notifies of a server, etc. face detection information in XML format.

■ Destination setting for XML notification

[Destination 1] [Destination 2] [Destination address]
Configure the IP address or host name of the destination for XML notification of the face detection information.

[Destination port number]
Configure the port number settings for XML notification of the face detection information.

[Destination path name]
Configure the settings for the destination directory to be used for the XML notification of the face detection.

[User name]
Enter a user name.
Available number of characters: 0 - 32 characters
Default: None (blank)

[Password]
Enter a password.
Available number of characters: 0 - 32 characters
**Default:** None (blank)

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Configuration of the settings relating to the face detection [Face detection]

Click the [Face detection] tab on the "Advanced func." page.
The settings relating to displaying the frame to be used for the face detection and the settings relating to the face detection information attached to the image can be configured.

Important:

- The face detection function shall not guarantee the detection of faces in an image. The face detection accuracy varies with imaging conditions.
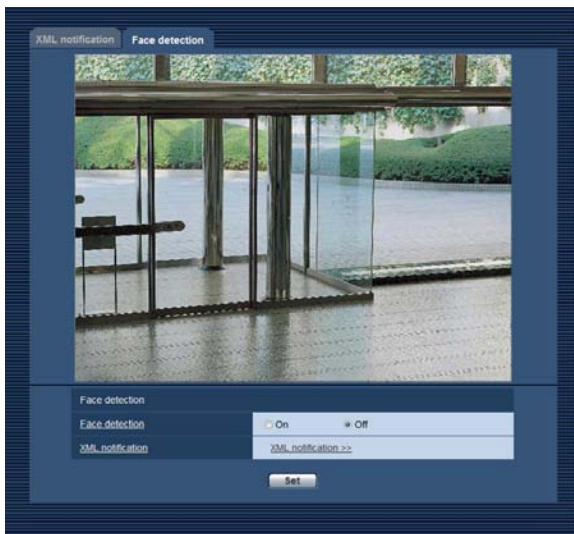
■ Face detection

[Face detection]

Determine whether or not to enable the face detection function.

On: Information about the face detection frame will be attached and the test frame will be displayed on the image of this page.

Off: Information about the face detection frame will not be attached. No face detection frame will be displayed on the image of this page.

Default: Off

Important:

- When "Mosaic" is selected for "Display type" of "Privacy zone", the face detection function may sometimes be triggered (the face detection frame will be displayed).

[XML notification]

The destination settings of the face detection information can be configured.
When clicking "XML notification", the [XML notification] tab will be displayed. (☞ page 64)

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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 the "User mng." 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 20 and 21: How to display/operate the setup menu)
The settings relating to the user authentication can be configured on this page. Up to 18 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.
Available number of characters: 1 - 32 characters
Default: None (blank)

[Password] [Retype password]
Enter a password.
Available number of characters: 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

[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 20 and 21: How to display/operate the setup menu)
The restriction settings of PCs (IP address) from accessing the camera can be configured on this page.
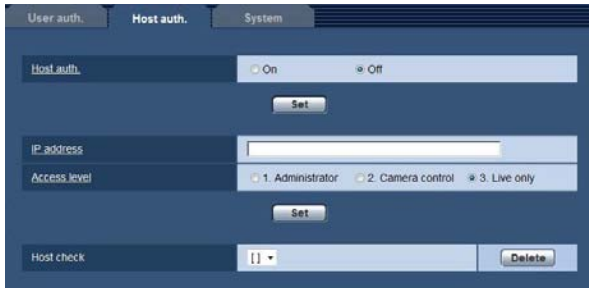
[Host auth.]
Select "On" or "Off" to determine whether or not to authenticate the host.
Default: Off

[IP address]
Enter the IP address of the PC to be allowed to access the camera. Host name cannot be entered for the IP address.

Note:
• When "IP address/subnet mask" is entered, it is possible to restrict PCs in each subnet.
   For example, when "192.168.0.1/24" is entered and "2. Camera control" is selected for 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 66 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 20 and 21: How to display/operate the setup menu)
The description below is the configuration of the priority stream that can transmit images without deteriorating the image quality and refresh interval even when multiple users access concurrently.

■ Priority stream

[Activation]
Select "On" or "Off" to determine whether or not to 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(1)]
Enter the first destination IP address.

[Destination IP address(2)]
Enter the second destination IP address.

[Stream type]
Select either "JPEG", "H.264/MPEG-4(1)" or "H.264/MPEG-4(2)".
JPEG: JPEG images will be transmitted.
H.264/MPEG-4(1): H.264 (1) (or MPEG-4(1)) images will be transmitted.
H.264/MPEG-4(2): H.264 (2) (or MPEG-4(2)) images will be transmitted.
Default: JPEG

Note:
• "JPEG" is available only when "1.3 mega pixel" is selected for "Image capture mode".

[Refresh interval*]
Select the refresh interval from the following.
This setting is validated only when "JPEG" is selected for "Stream type".
0.1fps/0.2fps/0.33fps/0.5fps/1fps/2fps/3fps/5fps/6fps/10fps/15fps */30fps *
Default: 1fps

Note:
• When "On" is selected for "H.264 (or MPEG-4) transmission", the transmission interval may be longer than the set value when any value with an asterisk (*) on the right is selected.

[Image capture size]
Select the image capture size from the following.
This setting is validated only when "JPEG" is selected for "Stream type".
QVGA/VGA/1280x960
Default: 1280x960

Configure the settings of the servers [Server]

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

Configure the settings relating to the mail server [Mail]

Click the [Mail] tab on the "Server" page. (☞ pages 20 and 21: 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.

Important:
• When a terminal that receives e-mails is not compatible with UTF-8 encode, it is impossible to receive alarm mails correctly.

[SMTP server address]
Enter the IP address or the host name of the SMTP server used to send e-mails.
Available number of characters: 1 - 128 characters

[SMTP port]
Enter the port number to which e-mails are sent.
Available port number: 1 - 65 535
Default: 25

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

Important:
• When entering the host name for "SMTP server address" or "POP server address", it is necessary to configure the DNS settings on the [Network] tab of the "Network" page. (☞ page 73)

[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 authentication to send e-mails.
Default: None

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

• User name
Enter the user name to access the server.
Available number of characters: 0 - 32 characters

• Password
Enter the password to access the server.
Available number of characters: 0 - 32 characters

[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.
Available number of characters: 3 - 128 characters

Configure the settings relating to the FTP server [FTP]

Click the [FTP] tab on the "Server" page. (☞ pages 20 and 21: 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 it is impossible to connect after selecting "Passive", try to connect after selecting "Active".
Default: Passive

[FTP server address]
Enter the IP address or the host name of the FTP server.
Available number of characters: 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 73)

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

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

[Control port]
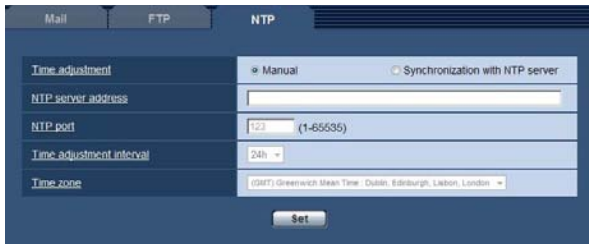Enter a control port number to be used for the FTP server.
Available port number: 1 - 65 535
Default: 21

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Configure the settings relating to the NTP server [NTP]

Click the [NTP] tab on the "Server" page. (☞ pages 20 and 21: How to display/operate the setup menu)
The settings relating to the NTP server such as the NTP server address, port number, etc. can be configured on this page.

[Time adjustment]
Select the time adjustment method from the following. Time adjusted by the selected method will be used as the standard time of the camera.
Manual: 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 server.
Available number of characters: 1 - 128 characters
Default: None (blank)

Important:
• When entering the host name for "NTP server address", it is necessary to configure the DNS settings on the [Network] tab of the "Network" page. (☞ page 73)

[NTP port]
Enter a port number of the NTP server.
Available port number: 1 - 65 535
Default: 123

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

[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

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 the "Network" 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 20 and 21: 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.
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:**
>   • Multiple 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 subnet 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:**
>   • Multiple 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 configure the IP address for IPv6 network (IPv6 address).
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", manual entry of the IPv6 address is required.
Do not enter an address already in use.

Note:
- When connecting to the manually configured IPv6 address beyond the router, use an IPv6 compatible router and turn on the automatic IPv6 address assignment function. In this case, it is necessary to configure IPv6 address including prefix information provided from the IPv6 compatible router. Refer to the operating instructions of the router in use for further information.

■ Common

[DNS]
Determine how to set the address of the DNS server by selecting "Auto" (obtain the address automatically) or "Manual" (enter the address of the DNS server). 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 server.
Refer to the network administrator about the IP address of the DNS server.

Note:
- It is impossible to use both an IPv4 DNS server and an IPv6 DNS server.

[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, 554, 995, 10 669, 10 670, 59 000 - 59 999, 60 000 - 61 000

[Line speed]
Select the line speed for data transmission from the following. It is recommended to use with the default "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/64kbps/128kbps/256kbps/384kbps/512kbps/768kbps/1024kbps/2048kbps/4096kbps/8192kbps
Default: Unlimited

Note:
- When selecting "64kbps", select "Off" for "Audio transmission/reception" on the [Audio] tab. (☞ page 51)
- Select "128kbps" 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/H.264] (or [JPEG/MPEG-4]) tab or set "Image quality" of "JPEG" lower.

[Easy IP Seup accommodate period]
Select "20min" or "Unlimited" to determine how long the network setting operation using the Panasonic IP setting software can be allowed.
**20min:** The network setting operation using the Panasonic IP setting software is allowed for 20 minutes.
Unlimited: The network setting operation using the Panasonic IP setting software is allowed without time limitation.
Default: 20min

Note:
- 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.
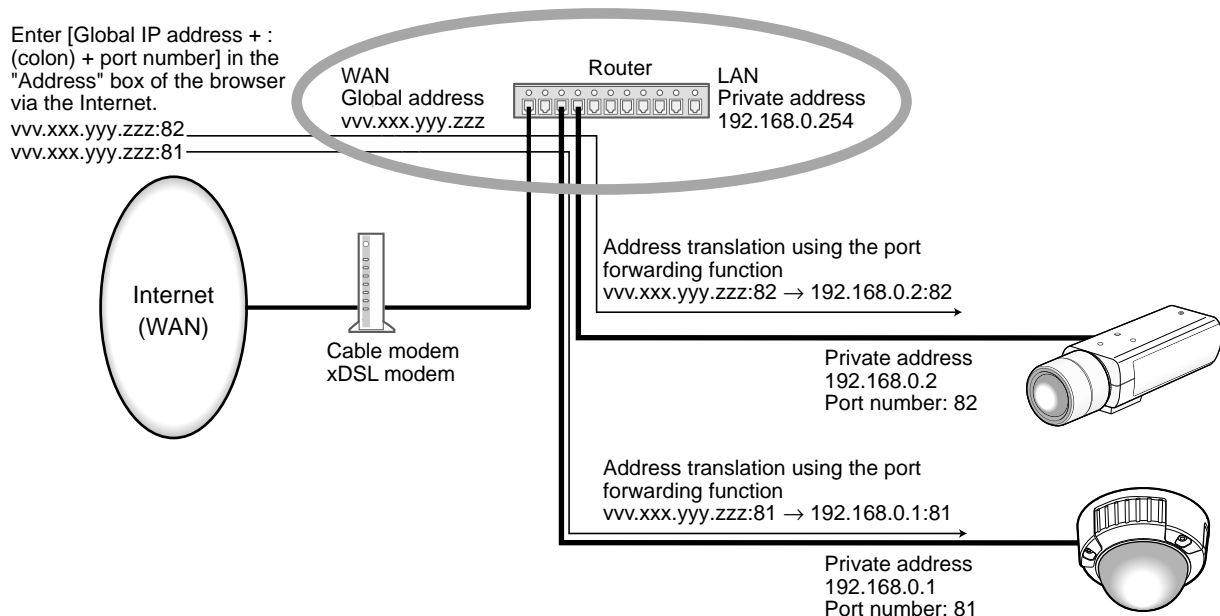
Configure the settings relating to DDNS [DDNS]

Click the [DDNS] tab on the "Network" page. (☞ pages 20 and 21: How to display/operate the setup menu)
When communicating using IPv4, obtain a global IP address from the DHCP server. To access this camera via the Internet, it is necessary to configure the settings for the DDNS 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 on the provided CD-ROM for the web site address.
It is necessary to configure the host name, user name and password registered in the DDNS server.

[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.
Available number of characters: 1 - 64 characters

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

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

[Access interval]
Select the interval to access the DDNS server to check the IP address and the host name from the following.
1min/10min/30min/1h/6h/24h
Default: 1h

Configure the settings relating to SNMP [SNMP]

Click the [SNMP] tab on the "Network" page. (☞ pages 20 and 21: 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.

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

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

[Contact]
Enter the mail address or the phone number of the SNMP manager.
Available number of characters: 0 - 255 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 20 and 21: How to display/operate the setup menu)
The settings relating to the periodic transmission of images to an FTP server can be configured on this page. To transmit images to an FTP server periodically, it is necessary to configure the settings of the FTP server in advance. (☞ page 70) Refer to page 78 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 27)

■ FTP periodic image transmission

[FTP >>]
When "FTP >>" is clicked, the [FTP] tab of the "Server" page will be displayed. (☞ page 70)

[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 70)
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.

Available number of characters: 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.
Available number of characters: 1 - 32 characters
Default: None (blank)

[Transmission interval]
Select the interval for the FTP periodic image transmission from the following.
1s/2s/3s/4s/5s/6s/10s/15s/20s/30s/1min/2min/3min/4min/5min/6min/10min/15min/20min/30min/1h/1.5h/2h/3h/4h/6h/12h/24h
Default: 1s

[Image capture size]
Select "QVGA", "VGA" or "1280x960" for the image capture size of images to be transmitted.
Default: VGA

Note:
• "QVGA" is available only when "1.3 mega pixel" is selected for "Image capture mode".

Configure the schedule settings of the FTP periodic image transmission [FTP img. trans.]

Click the [FTP img. trans.] tab on the "Network" page. (☞ pages 20 and 21: How to display/operate the setup menu)
The schedule settings of the FTP periodic image transmission can be configured in this section. Refer to page 77 for further information about the settings relating to the FTP periodic image transmission.

How to set the schedules

Step1

Check the check box of the desired day of the week of "FTP image transmission schedle".

→ 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.

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How to delete the set schedule

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

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 configure the settings relating to schedules as follows.
   • Alarm permission (Alarm input will be received only in the specified schedule.)
   • VMD permission (Video motion detection will be active only in the specified schedule.)
   • Access permission (Access to the camera will be allowed only in the specified schedule.)
(☞ pages 20 and 21: How to display/operate the setup menu)
Up to 5 schedules can be set.

Step1

Select an action to be assigned to the schedule from "Schedule mode". "Off" is selected at the default.
Off: No action will be taken for the respective schedule.
Alarm permission: Alarm input (terminal alarm 1, 2 and 3) will be received during the period of the schedule.
VMD permission: The Video motion detection (VMD) function will be active during the period of the schedule.

Access permission: Users whose access level is set to 2 and 3 on the [User auth.] tab of "User mng." page (☞ page 66) can access the camera only in the period of schedule.

Note:
   • Select "On" for "User auth." on the [User auth.] tab of "User mng." page (☞ page 66) and "Off" for "Host auth." on the "Host auth." page (☞ page 67) to validate "Access permission".

Step 2

Select days of a week by checking the respective checkboxes.

Step 3

Click [▼] to select the start time and the end time of the schedule.
When not designating time, check the checkbox of "24h".

Step 4

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

Note:
   • The schedules displayed at the bottom of the window can be identified by 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 20 and 21: How to display/operate the setup menu)
Up to 4 000 system logs can be saved on the SD memory card when the SD memory card is inserted after selecting "Use" for "SD memory card" on the [SD memory card] tab (☞ page 26).
When "Not use" is selected for "SD memory card", up to 100 system logs can be saved on the built-in memory of the camera.
When the saved system logs have reached the maximum number, the newer logs will overwrite the older system logs. In this case, the oldest log is the first to be overwritten.
The system logs will be displayed in group of 100 logs each.
When using the SD memory card, the logs will be saved even when the power of the camera is turned off. When not using the SD memory card, the logs will be deleted when the power of the camera is turned off.

[Next 100 >>]
When clicking "Next 100 >>", the next 100 system logs will be displayed.

[<< Previous 100]
When clicking "<< Previous 100", the previous 100 system logs will be displayed.

[No]
The serial number of the system log will be displayed.

[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 24), time & date of logs will be displayed in 24-hour format.

[Error description]
The descriptions about the error will be displayed.
Refer to page 85 for further information about the system logs.

Upgrade the firmware [Upgrade]

Click the [Upgrade] tab of the "Maintenance" page. (☞ pages 20 and 21: 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.

Step1
Contact the dealer and download the latest firmware onto a PC.

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

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

Step 3
Click the radio button respective to the desired option to determine whether or not to initialize the settings after completing the firmware upgrade.

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

Step 4
Click the [Execute] 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 91)

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 "np502_xxxxx.img". (The same holds true for WV-NW502S.)
  * ("xxxxx" indicates the version of the firmware.)
• Do not turn off the power of the camera during the upgrade process.
• Do not perform any operation during upgrading and wait until it completes.
• 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 the 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 20 and 21: How to display/operate the setup menu)
The settings and the HTML data of the camera can be initialized 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.
It is impossible to operate the camera for around 2 minutes after the initialization.

[Load the default HTML files (setup menu).]
Click the [Execute] button to reset the HTML files to the default.
It is impossible to operate the camera for around 2 minutes after the initialization.

[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.
It is impossible to operate the camera for around 2 minutes after the initialization.

[Reboot]
Click the [Execute] button to reboot the camera. It is impossible to operate the camera for around 2 minutes after rebooting the camera.

Note:
- To initialize the network settings (☞ page 72), turn on the power of the camera while holding down the [INITIAL SET] button on the camera. The settings including the network settings will be initialized. Wait around 2 minute after releasing the button. The camera will start up and the settings including the network settings will be initialized.
- 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 61 and 62)

Viewing Help

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

Displaying the Help screen

Step1

Click the [Setup] button.
→ The setup screen is displayed.

Clicking an underlined item win display the "Help" pop-window. It is possible to configure the settings while displaying the "Help" pop-up menu.
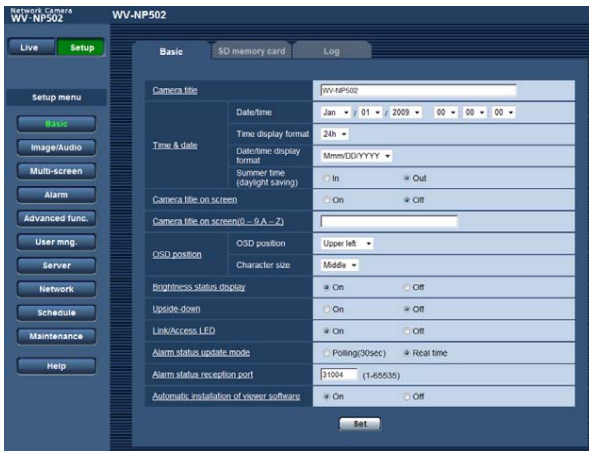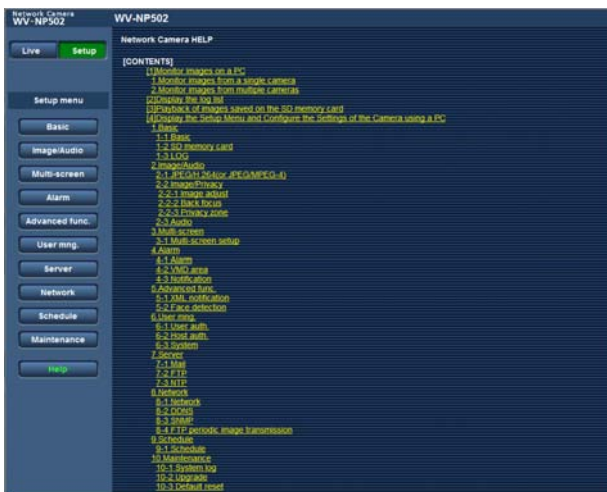
Step 2

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

Step 3

When clicking an item, descriptions corresponding to the clicked item will be displayed.

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 the 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	Authentication error.	• Entered user name or password may be incorrect. Check if the mail settings are configured correctly.
	Failed to resolve the 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 the 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	Undefined 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 the FTP server address from DNS.	• The FTP server may be down. Ask the network administrator.
	Failed to find the FTP server.	• The IP address of the server may be incorrect. Check if the IP address of the server is configured correctly.
Connection error	File transfer 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.	
	Log out failed.	
	Failed to change the directory.	
	User name or password isn't correct.	
Internal error	Undefined 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 DDNS 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.
	User name or password isn't correct.	• Entered user name or password may be incorrect. Check if the DDNS settings are configured correctly.
	IP address update failed.	• IP address update error occurred in the DDNS server. Ask the network administrator.
Internal error	Undefined 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 NTP 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	Undefined error.	• An error occurred in the NTP function. Check if the NTP settings are configured correctly.
Synchronizing with NTP succeeded.	NTP update 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 auth.". • The IP address of the PC currently accessing to the camera will be displayed when "On" is selected for "Host auth.".

Troubleshooting

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

Contact your dealer if a problem cannot be solved even after checking and trying the solution in the table or a problem is not described below.

Symptom	Cause/solution	Reference pages
Cannot access from the web browser.	• Is the LAN cable (category 5 or better) firmly connected to the network connector of the camera?	Installation Guide
	• Is the link LED 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?	72
	• Are you accessing the wrong IP address? Check the connection as follows With the Windows command prompt, > ping "IP address of the camera" If there is reply from the recorder, the connection is normal. 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 restart. • Reboot the camera while holding 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.)	– 72
	• Is "554" selected for the HTTP port number? For the HTTP port number, select a port number other than the following port numbers used by the camera. The number used by the camera: 20, 21, 23, 25, 42, 53, 67, 68, 69, 110, 123, 161, 162, 554, 995, 10 669, 10 670, 59 000 - 59 999, 60 000 - 61 000	73

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? It is necessary in advance to select "Allow" for "FTP access to camera" on the [Network] tab of the "Network" page.	73
	▶	• Is the entered password correct? Restart the web browser and enter the password again.	66
	▶	• Access to the SD memory card may be failed. Restart the browser and retry to obtain images.	–
No image is displayed.	▶	• Is the viewer software installed on the PC? Install the viewer software on a PC.	4
	▶	• 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.	–

Symptom		Cause/solution	Reference pages
No image is displayed on the "Live" page.	▶	• When "Every time I visit the webpage" is not selected for "Check for newer versions of stored pages:" in the "Temporary Internet Files" section, images sometimes may not be displayed on the "Live" page. In this case, do the following. (1) Select "Internet Options…" from "Tools" on the menu bar of Internet Explorer. The "Internet Options" window will be displayed. (2) When using Internet Explorer 7.0 Click the [Settings] button in the "Browsing history" section on the [General] tab, and then select "Every time I visit the webpage" for "Check for newer versions of stored pages:" in the "Temporary Internet Files" section on the "Temporary Internet Files and History Settings" window. (3) When using Internet Explorer 6.0 Click the [Settings…] button in the "Temporary Internet files" section on the [General] tab, and then select "Every visit to the page" for "Check for newer versions of stored pages:" on the "Settings" window.	–
Images are displayed blurry.	▶	• Is the focus adjusted correctly? Check if the focus is adjusted correctly.	Installation Guide
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 [Normal] button of [Brightness].	8
Images are displayed washed out.	▶	• Is the brightness setting set at an appropriate level? Click the [Normal] button of [Brightness].	8
Flicker appears on the screen.	▶	• When flicker occurs frequently, select "Indoor scene" for "Light control mode".	45

Symptom		Cause/solution	Reference pages
Images cannot be saved on the SD memory card.	▶	• Is the SD memory card inserted correctly? Check if the SD memory card is inserted correctly.	Installation Guide
	▶	• Is the SD memory card formatted? Format the SD memory card.	28
	▶	• Isn't the write protect switch set to "LOCK"? When the write protect switch is set to "LOCK", available size/total size indication of the SD memory card to be displayed on the [SD memory card] tab 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.	–
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 View4" is installed.	4
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 View4" is installed.	4
	▶	• Is "Real time" selected for "Alarm status update mode"?	25
No image is displayed on the "Live" page.	▶	• Press the [F5] key on the keyboard of the PC or click the [Live] button.	7
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.	–

Symptom	Cause/solution	Reference pages
Images are not displayed or not refreshed smoothly.	▶ • Delete temporary internet files as follows. (1) Select "Internet Options…" under "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.	–
No LED lights.	▶ • Is "Off" selected for "Link/Access LED" on the "Basic" page? Select "On" for "Link/Access LED".	25
H.264 (or MPEG-4) images are not displayed.	▶ • When "Network Camera View4" is deleted from a PC on which both the viewer software "Network Camera View3" and "Network Camera View4" are installed, H.264 (or MPEG-4) images may not be displayed. In this case, delete "Network Camera View3" from the PC and then install "Network Camera View4".	4

| Symptom	Cause/solution	Reference pages
When displaying H.264 (or 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 Windows XP 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". 	–
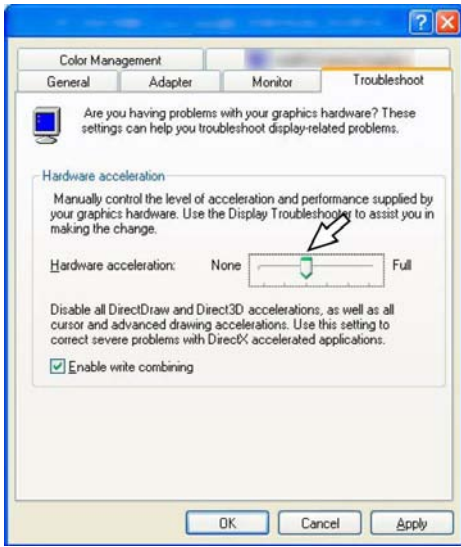
Depending on the OS installed on the PC, the following may occur.
Follow the instructions below when the following has occurred. By performing the following solutions, other applications and the security level may not be affected.
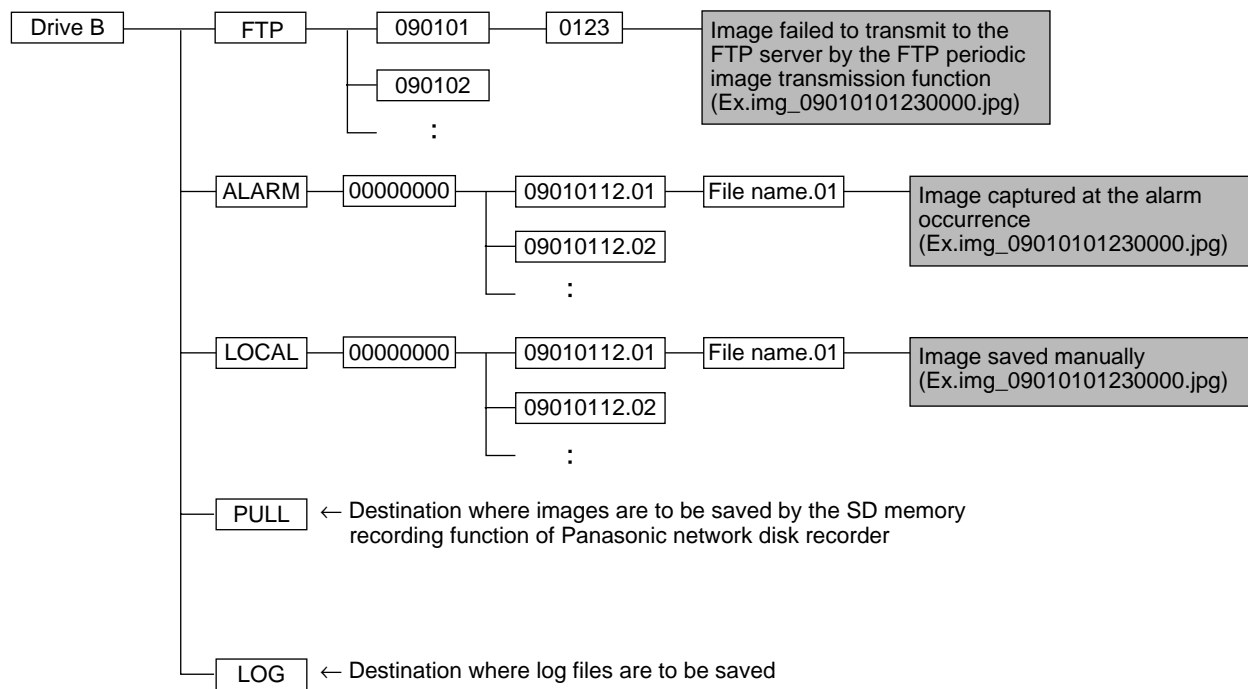
The "Information Bar" expressed in the following symptom and solutions will be displayed just below the address bar only when there is information to communicate.

← **Information Bar**

Symptom		Cause/solution	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 ActiveX control 'nwcv4setup.exe' from 'Panasonic Corporation'. Click here to install..." "Pop-up blocked. To see this pop-up or additional options, click here…"	▶	• Click the information bar and select "Install ActiveX 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…" under "Tools" of the menu bar of Internet Explorer®, and then click the [Security] tab. Click "Internet" in the "Select a Web content zone to specify its security settings:" section. 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. When the warning window is displayed, click the [Yes] button.	–

Symptom		Cause/solution	Reference pages
Images are not fit in the frames.	▶	• When "120 DPI" is not selected for "DPI setting", they may not be displayed correctly. Click the [Settings] tab on the "Properties" window of "Screen" (in the control panel), and then click the [Advanced] button. Change the "DPI setting" to "Large size (120 DPI)".	–

Directory structure of drive B

```
Drive B ──┬── FTP ──┬── 090101 ── 0123 ── [ Image failed to transmit to the
          │         │                        FTP server by the FTP periodic
          │         ├── 090102              image transmission function
          │         │                       (Ex.img_09010101230000.jpg) ]
          │         └──  :
          │
          ├── ALARM ── 00000000 ──┬── 09010112.01 ── File name.01 ── [ Image captured at the alarm
          │                       │                                    occurrence
          │                       ├── 09010112.02                     (Ex.img_09010101230000.jpg) ]
          │                       └──  :
          │
          ├── LOCAL ── 00000000 ──┬── 09010112.01 ── File name.01 ── [ Image saved manually
          │                       │                                    (Ex.img_09010101230000.jpg) ]
          │                       ├── 09010112.02
          │                       └──  :
          │
          ├── 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
```