

Panasonic

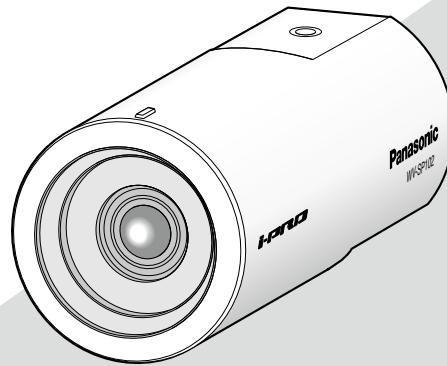
Operating Instructions

Network Camera

Model No. **WV-SP105, WV-SP102**
WV-SP105E, WV-SP102E



WV-SP105



WV-SP102

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

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

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Preface

About the user manuals

There are 2 sets of operating instructions for the WV-SP105, WV-SP102 (NTSC model), WV-SP105E, WV-SP102E (PAL model) as follows.

- Installation Guide: Explains how to install and connect devices.
- Operating Instructions (PDF): Explains how to perform the settings and how to operate this camera.

Adobe® Reader® is required to read these operating instructions (PDF) 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.

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

The screens used in these operating instructions show the case of WV-SP105 (NTSC model).

About notations

The following notations are used when describing the functions limited for specified models.

The functions without the notations are supported by all models.

SP105 : The functions with this notation are available when using the model WV-SP105.

SP102 : The functions with this notation are available when using the model WV-SP102.

Trademarks and registered trademarks

- Microsoft, Windows, Windows Vista, Windows Media, Internet Explorer, ActiveX, and DirectX are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.
- Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation.
- Adobe, the Adobe logo, and Reader are either registered trademarks or trademarks of Adobe Systems Incorporated in the United States and/or other countries.
- All other trademarks identified herein are the property of their respective owners.

Abbreviations

The following abbreviations are used in these operating instructions.

Microsoft® Windows® 7 Professional (64-bit) and Microsoft® Windows® 7 Professional (32-bit) are described as Windows 7.

Microsoft® Windows Vista® Business SP1 (32-bit) is described as Windows Vista.

Microsoft® Windows® XP Professional SP3 is described as Windows XP.

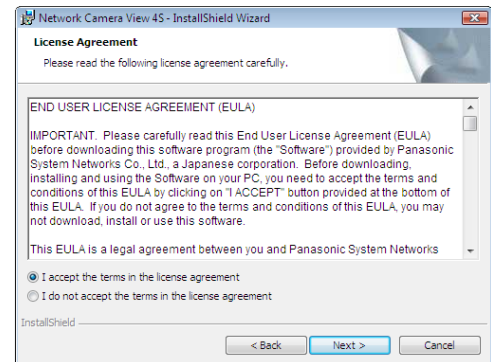
Windows® Internet Explorer® 8.0, Windows® Internet Explorer® 7.0 and Microsoft® Internet Explorer® 6.0 are described as Internet Explorer.

Viewer software

- It is necessary to install the viewer software "Network Camera View 4S" to display images on a PC. This software can be installed directly from the camera or by double clicking "nwcw4Ssetup.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 63 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 54). 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

Step 1

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

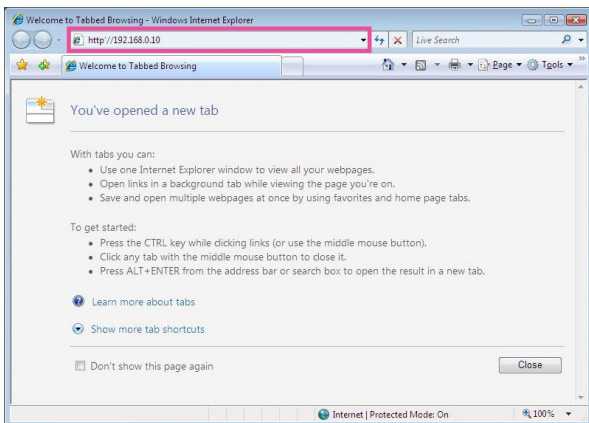
http://192.168.0.10/

Example when entering an IPv6 address:

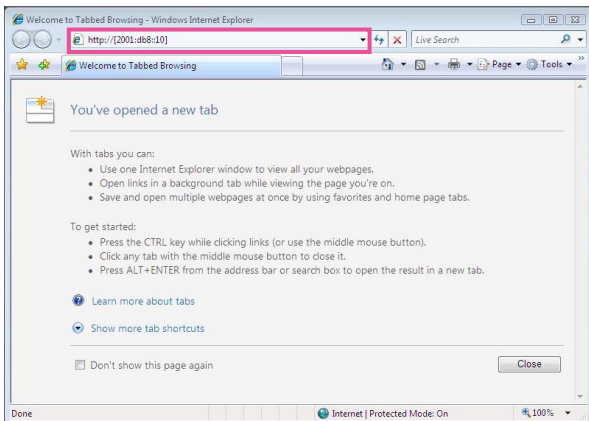
http://URL registered using IPv6 address

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: If the port number is set to "8080": 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 images on a PC, images may not be displayed depending on the performance of the PC.
-

Note:

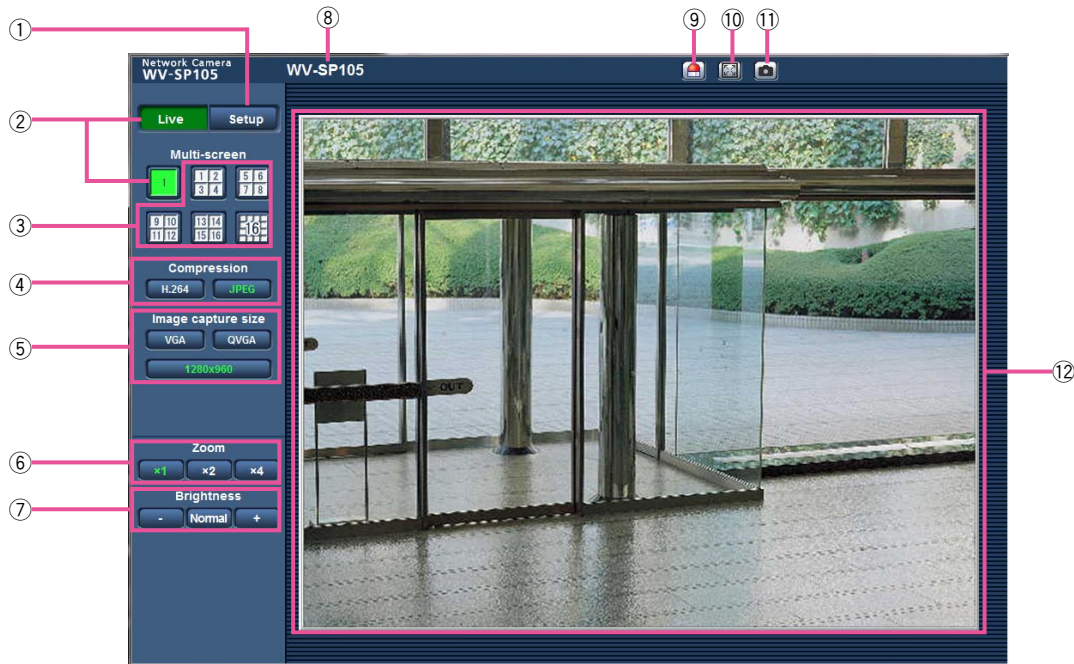
- The maximum number of concurrent access user is 14 including users who is receiving H.264 images and users who are receiving JPEG images. Depending on the set values for "Bandwidth control(bit rate)" and "Max bit rate (per client)*", the maximum concurrent access number may be less than 14 users. When 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", only the first user who accessed to monitor H.264 images will be included in the maximum number.
- When "On" is selected for "H.264 transmission" (☞ page 20), H.264 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". In this case, the refresh interval of JPEG images will be limited to 5 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": Max. 5 fps

When "Off" is selected for "H.264 transmission": Max. 30 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

Display the "Live" page. The button will turn green and the "Live" page will be displayed.

③ [Multi-screen] button

Images from multiple cameras can be displayed on a multi-screen by registering cameras on the setup menu. (☞ Page 9)

④ [Compression] buttons

[H.264] button: The letters "H.264" on the button will turn green and H.264 image will be displayed. When "On" is selected for "H.264 transmission", the [H.264] button will be displayed. (☞ Page 20)

[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: SP105

The letters "1280x960" will turn green and images in the main area will be displayed in 1280 x 960 (pixels).

[640x360] button: The letters "640x360" will turn green and images in the main area will be displayed in 640 x 360 (pixels).

[320x180] button: The letters "320x180" will turn green and images in the main area will be displayed in 320 x 180 (pixels).

[1280x720] button: SP105

The letters "1280x720" will turn green and images in the main area will be displayed in 1280 x 720 (pixels).

Note:

- The buttons [VGA] and [QVGA] are displayed only when "4:3" is selected for "Aspect ratio".
 - The buttons [640x360] and [320x180] are displayed only when "16:9" is selected for "Aspect ratio".
 - When "1280x960" or "1280x720" is selected for the image capture size, it may become smaller than the actual size depending on the window size of the web browser.
-

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 Camera title

The camera title entered for "Camera title" on the [Basic] tab will be displayed. (☞ Page 17)

⑨ Alarm occurrence indication button*2

This button will be displayed and will blink when an alarm has occurred. When this button is clicked, the button will disappear. (☞ Page 10)

⑩ Full screen button

Images will be displayed on a full screen. (The aspect ratio of displayed images will be adjusted in accordance with the monitor.) To return to the "Live" page, press the [Esc] key.

⑪ 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.

⑫ 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 17)
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 38).

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.
 - Depending on the PC in use, the top and bottom of the images may be displayed out of alignment.
-

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 30)

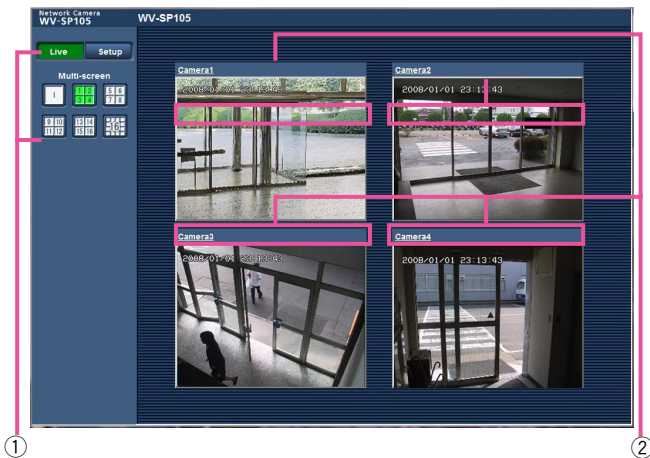
Important:

- When displaying images on a 16-screen, panning, tilting and zooming operations become unavailable for images from the Panasonic PTZ cameras.
- When displaying images on a 4-screen, panning, tilting and zooming operations become available only for images from the Panasonic PTZ cameras. Refer to the "Readme" file on the provided CD-ROM for further information about the compatible PTZ cameras and their versions.
- 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.
- When displaying the image on a multi-screen and "16:9" is selected for "Aspect ratio", the image will be displayed altered vertically to the aspect ratio of "4:3".

Step 1

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.

Action at an alarm occurrence

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

Alarm type

- 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(30sec)" is selected for "Alarm status update mode" (🔗 page 18), 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.
-

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 on the [Alarm] tab of the "Alarm" page (🔗 page 32) and the [FTP] tab of the "Server" page (🔗 page 41).

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 on the [Notification] tab of the "Alarm" page (🔗 page 36) and the [Mail] tab of the "Server" page (🔗 page 41).

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 37)

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.
-

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 42)

The alarm image transmission function can be turned on/off in the "Alarm image" section of the [Alarm] tab of the "Alarm" page. (☞ Page 32)

Note:

- Depending on the network traffic, the number of the transmitted images may not reach the set number of images to be transmitted.
-

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 42)

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 50)

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.
-

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 38 and 39)
- 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 45)

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. Perform the countermeasure such as the access restriction using the user authentication.
 - After the camera is accessed by the administrator, make sure to close the browser for added security.
 - Change the administrator password periodically for added security.
-

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 38 for how to configure the access level.

How to display the setup menu

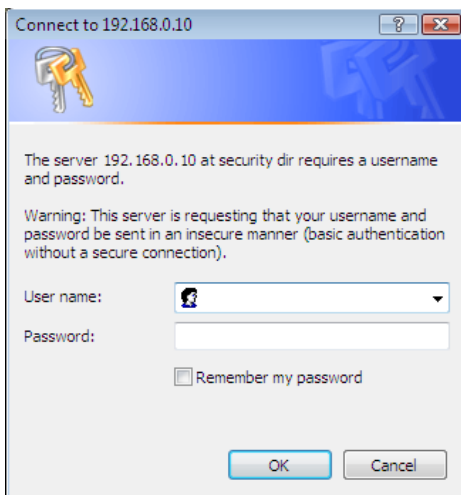
Step 1

Display the "Live" page. (Page 5)

Step 2

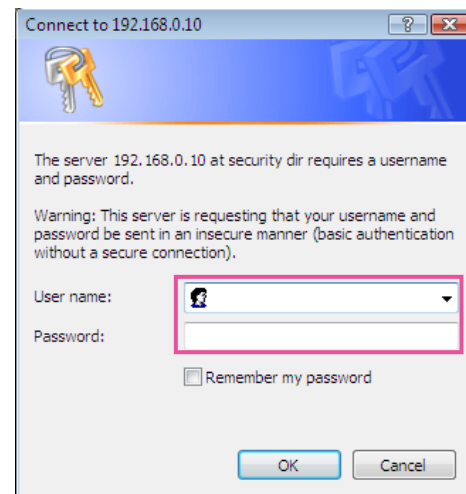
Click the [Setup] button on the "Live" page.

→ The window with the user name and password entry fields will be displayed.

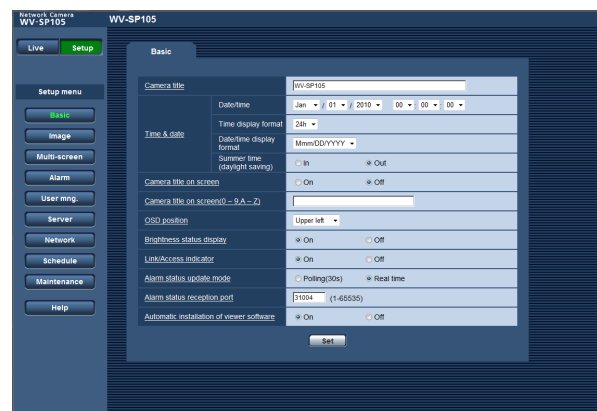


Step 3

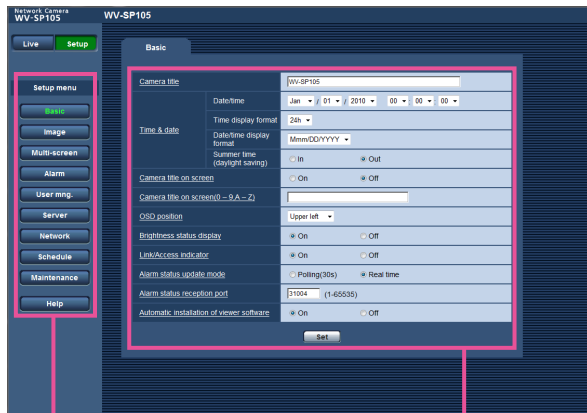
Click the [OK] button after entering the user name and the password.



→ The setup menu will be displayed. Refer to page 15 for further information about this menu.



How to operate the setup menu



Menu buttons

Setup page

Step 1

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

Step 2

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

Step 3

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

Important:

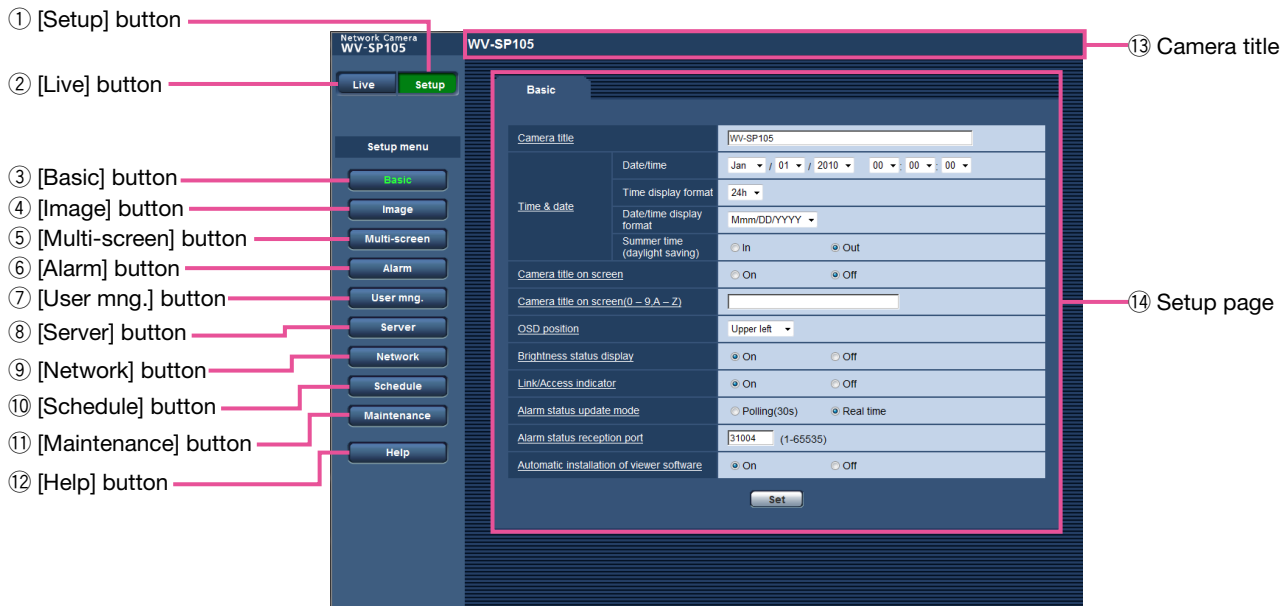
- When there are two or more [Set] and [Execute] buttons on the page, click the respective button to the edited setting item.

<Example>



When completing the setting items in field A, click the [Set] button (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 **[Setup] button**
Displays the setup menu.
- ② **[Live] button**
Display the "Live" page.
- ③ **[Basic] button**
Displays the "Basic" page. The basic settings such as time and date and camera title can be configured on the "Basic" page. (☞ Page 17)
- ④ **[Image] button**
Displays the "Image" page. The settings relating to image capture size and image quality of JPEG/H.264 camera images can be configured on the "Image" page. (☞ Page 19)
- ⑤ **[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 30)
- ⑥ **[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 31)
- 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 38)
- 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 41)
- 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 44)

⑩ **[Schedule] button**

Displays the "Schedule" page. On the "Schedule" page, it is possible to designate time zones to allow to activate the VMD detection function or allow to access the cameras. (☞ Page 52)

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 53)

⑫ **[Help] button**

Displays the "Help" page. (☞ Page 56)

⑬ **Camera title**

The title of the camera whose settings are currently being configured will be displayed.

⑭ **Setup page**

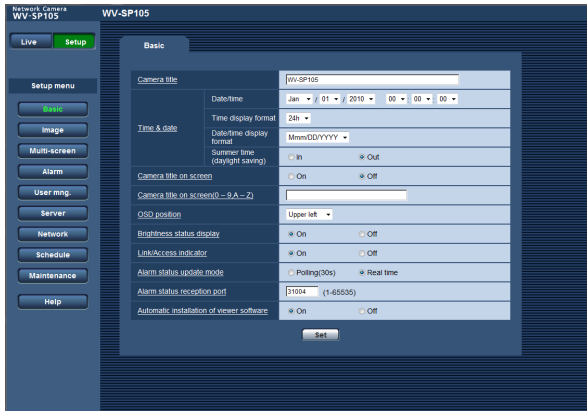
Pages of each setup menu will be displayed. There are tabs for some setup menus. When the underlined item is clicked, the corresponding help page will be displayed.

Configure the basic settings of the camera [Basic]

The basic settings such as camera title and time and date can be configured on the "Basic" page.

Configure the basic settings [Basic]

Click the [Basic] tab on the "Basic" page. (Pages 13 and 14: 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 camera title field.

Available number of characters: 0 - 20 characters

Default: Varies as follows depending on the model in use.

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WV-SP102

[Date/time]

Enter the current time and date. When "12h" is selected for "Time display format", "AM" or "PM" can be selected.

Available range: 01/01/2010 00:00:00 - 31/12/2035 23:59:59

Important:

- Use an NTP server when the more accurate time & date setting is required for the system operation. (Page 43)

[Time display format]

Select the time display format from "24h", "12h" 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 "2010/04/01 13:10:00" is set for "Date/time" after selecting "24h" for "Date/time display format", time & date will be respectively displayed as follows.

DD/MM/YYYY: 01/04/2010 13:10:00

MM/DD/YYYY: 04/01/2010 13:10:00

DD/Mmm/YYYY: 01/Apr/2010 13:10:00

YYYY/MM/DD: 2010/04/01 13:10:00

Mmm/DD/YYYY: Apr/01/2010 13:10:00

Default: DD/MM/YYYY (PAL model)

Mmm/DD/YYYY (NTSC model)

[Summer time(daylight saving)]

Select "In" or "Out" to determine whether or not to apply daylight saving time. Configure this setting if the summer time (daylight saving time) is applied in the location where the camera is in use.

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]

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

[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

[Link/Access indicator]

Determine whether or not to use the following indicators. Select "On" to use the following indicators to check the operational status by lighting them.

Select "Off" to turn off the indicators at all times.

- Power indicator
- Link indicator
- Access indicator

Default: On

Note:

- **Power indicator (green):**
This indicator will light when the power is on.
 - **Link indicator (orange):**
This indicator will light when communication with the connected device is available.
 - **Access indicator (Green):**
This indicator will light when accessing a network.
-

[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 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.

Refer to the help window to information about the unavailable port number.

Available port number: 1 - 65535

Default: 31004

[Automatic installation of viewer software]

Determine whether or not to install the viewer software from this camera.

On: Installs the viewer software from the camera automatically.

Off: The viewer software cannot be installed from the camera.

Default: On

Important:

- It is impossible to display images when the viewer software "Network Camera View 4S" is not installed on the PC.
 - The number of the viewer software installations can be checked on the [Upgrade] tab of the "Maintenance" page.
-

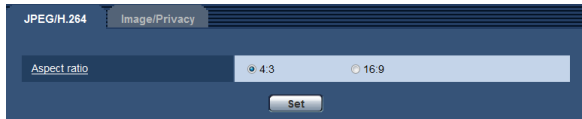
Configure the settings relating to images [Image]

The settings relating to JPEG and H.264 images such as the settings of image quality, etc. can be configured on this page.

The "Image" page has 2 tabs; the [JPEG/H.264] tab and the [Image/Privacy] tab.

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

Click the [JPEG/H.24] tab on the "Image" page. (☞ Pages 13 and 14: How to display/operate the setup menu)



[Aspect ratio]

Select "4:3" or "16:9" for the aspect ratio.

Default: 4:3

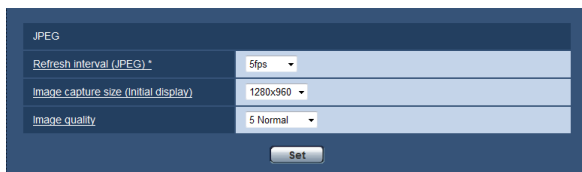
Note:

- i-PRO Series does not support aspect ratio of "16:9", if not specified (as of October 2010).
- Image adjustment functions are activated for the angle of view in the aspect ratio of 4:3 even while "16:9" is being selected for "Aspect ratio". Area masking under the backlight compensation (BLC) function can be set only when the aspect ratio is "4:3".

If the aspect ratio is changed to "16:9" after setting of the backlight compensation function, the setting of area masking is maintained.

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

Click the [JPEG/H.24] tab on the "Image" page. (☞ Pages 13 and 14: How to display/operate the setup menu)



■ JPEG

Configure the settings such as "Refresh interval (JPEG)*", "Image capture size" and "Image quality" on this section. Refer to page 20 for further information about the settings relating to H.264 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*/ 12fps* (PAL model)/ 15fps*/ 30fps*

Default: 5fps

Note:

- When "On" is selected for "H.264 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 (Initial display)]

Select the image capture size to display the JPEG image on the "Live" page for the first time.

- When "4:3" is selected for "Aspect ratio"
QVGA/ VGA/ 1280 x 960*¹
- When "16:9" is selected for "Aspect ratio"
320x180/ 640x360/ 1280 x 720*¹

Default: 1280x960*¹
VGA*²

*¹ SP105

*² SP102

[Image quality]

Specify the image quality of JPEG images.

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.24] tab on the "Image" page. (Pages 13 and 14: How to display/operate the setup menu)

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 19 for further information about the settings relating to JPEG images.

The screenshot shows a configuration page for H.264 settings. It is divided into two sections, H.264(1) and H.264(2), each with a 'Set' button at the bottom. The settings for both sections are as follows:

Setting	Value
H.264 transmission	On
Internet mode (over HTTP)	On
Image capture size	1280x960
Transmission priority	Constant bit rate
Frame rate*	30fps
Max bit rate (per client)*	4096kbps
Image quality	Normal
Transmission type	Unicast port (AUTO)
Unicast port	32004 (1024-50000)
Multicast address	239.192.0.20
Multicast port	37004 (1024-50000)
Multicast TTL/HOPLimit	16 (1-254)

■ 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 H.264 images or JPEG images on the "Live" page will be 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 will be transmitted using the HTTP port. Refer to page 45 for further information about the HTTP port number settings.

Off: H.264 images 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 availability, etc.
 - When "On" is selected, only IPv4 access is available.
 - 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 the image capture size from the following.

- When "4:3" is selected for "Aspect ratio"
H.264(1): QVGA/ VGA/ 1280 x 960^{*1}
H.264(2): QVGA/ VGA
- When "16:9" is selected for "Aspect ratio"
H.264(1): 320x180/ 640x360/ 1280x720^{*1}
H.264(2): 320x180/ 640x360

Default:

H.264(1): 1280x960^{*1}
VGA^{*2}
H.264(2): VGA

^{*1} **SP105**

^{*2} **SP102**

[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.
-

[Frame rate*]

Select a frame rate for H.264 images from the following.
1fps/ 3fps/ 5fps*/ 7.5fps*/ 10fps*/ 12fps* (PAL model)/
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* **SP105** / Unlimited*

Default:

H.264(1): 4096kbps* **SP105**
1536kbps* **SP102**
H.264(2): 1536kbps*

* "8192kbps*" is available only when the image capture size is "1280x960" or "1280x720".

* "64kbps" and "128kbps" are available only when the image capture size is "QVGA", "VGA", "320x180", or "640x360".

* "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 45). 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 H.264 images will be limited to "1".
 - 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(Image quality priority)/ Normal/ Low(Motion priority)

Default: Normal

Note:

- When "Constant bit rate" is selected for "Recording 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 the transmission type of H.264 images from the following.

Unicast port (AUTO): Up to 14 users can access a single camera concurrently. "Unicast port1(Image)" will automatically be selected when transmitting images 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)" manually to transmit images 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 46). 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: H.264(1): 32004
H.264(2): 32014

[Multicast address]*2

Enter the multicast IP address.

Images 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

[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 depending on the settings of a proxy server or a firewall. 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.
-

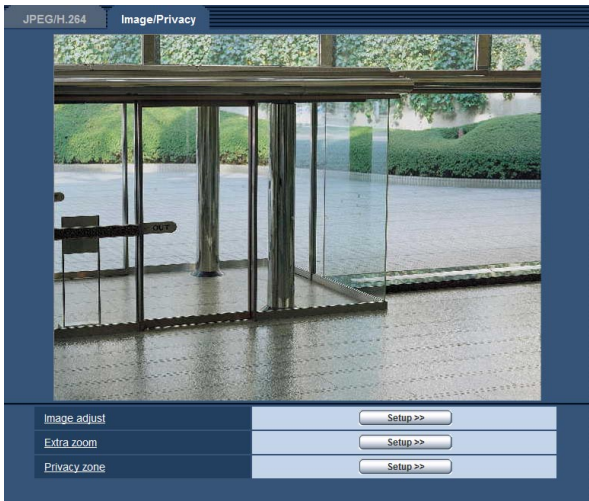
*1 It is necessary to designate the unicast port number when "Unicast port (MANUAL)" is selected for "Transmission type".

*2 It is necessary to designate the multicast IP address when "Multicast" is selected for "Transmission type".

Configure the settings relating to image quality, extra zoom and the privacy zone [Image/Privacy]

Click the [Image/Privacy] tab on the "Image" page. (☞ Pages 13 and 14: 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 quality, extra zoom 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 24)

[Extra zoom] **SP105**

Click the [Setup >>] button to display the setup menu that can configure the settings relating to extra zoom. The setup menu will be displayed in a newly opened window. (☞ Page 28)

[Privacy zone]

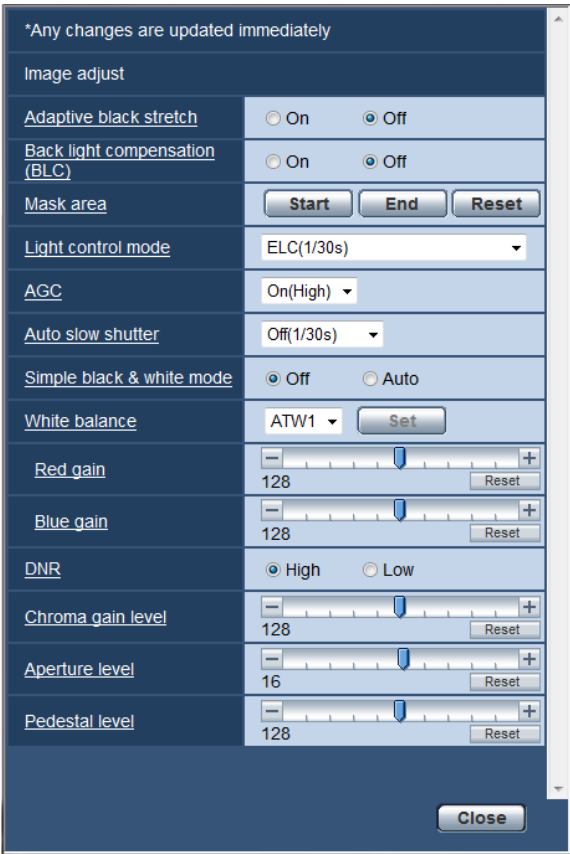
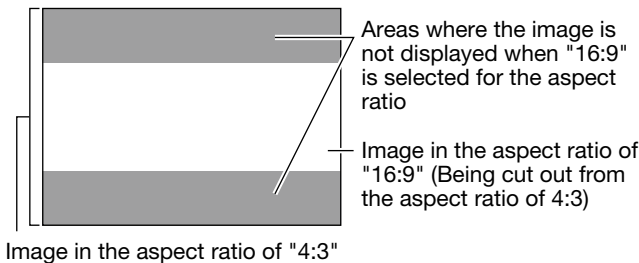
Click the [Setup >>] button to display the setup menu that can configure the settings relating to privacy zone. (☞ Page 29)

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 "Camera" page. (Page 23)
The settings relating to image quality can be configured with the setup menu displayed in a newly displayed window. When the values are changed, the changed values will be applied to the currently displayed image on the [Image/Privacy] tab.

Important:

- When the aspect ratio of JPEG/H.264 is "16:9", an image clipped from an image of aspect ratio 4:3 is displayed as shown in the drawing below. Therefore, image adjustment functions are affected by the brightness of hidden areas even when the aspect ratio is "16:9".



[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.

On: Activates the darkness compensation function.
Off: Deactivates the darkness compensation function.
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.

[Back light compensation(BLC)]

Select "On" or "Off" to determine whether or not to activate the back light compensation (BLC) function. The back light compensation function can compensate back light by setting mask areas on brighter parts of images brighter.

On: Mask areas will be set automatically.
Off: Mask areas will not be set automatically. It is necessary to set them manually.
Default: Off

[Mask area]

When "Off" is selected for "Back light compensation(BLC)", it is possible to compensate for backlight by masking brighter areas. Refer to page 27 for information on how to set the mask area.

[Light control mode]

Select the light control mode from the following.

Indoor scene (50 Hz)

Indoor scene (60 Hz):

Flicker caused by fluorescent lighting will be automatically compensated. Select 50 Hz or 60 Hz corresponding to the location where the camera is in use.

ELC (Maximum exposure time): The lighting control will be automatically performed by adjusting shutter speed in the range of ELC.

ELC(1/30s)/ ELC(3/100s)/ ELC(3/120s)/ ELC(2/100s)/
ELC(2/120s)/ ELC(1/100s)/ ELC(1/120s)/ ELC(1/250s)/
ELC(1/500s)/ ELC(1/1000s)/ ELC(1/2000s)/
ELC(1/4000s)/ ELC(1/8000s)*1/ ELC(1/10000s)*2

Default: ELC(1/30s)

Note:

- The shorter the maximum exposure time is (-> 1/8000s*1, 1/10000s*2), the higher possibility to capture a fast moving object with less blur.
- When a faster shutter speed is selected, the sensitivity will become lower. When a faster shutter speed is selected, flickering may happen.
- In case flickering happens, it may be improved by configuring the following settings.
In the area of 50 Hz power supply frequency:
3/100s, 2/100 s, 1/100s
In the area of 60 Hz power supply frequency:
3/100s, 2/120 s, 1/100s
When flickering still remains, set flicker-less mode.
- Under extremely strong lighting, flickering may happen even when "Indoor scene" is selected for "Light control mode".
When the brightness (illuminance) level on the screen is set to a relatively low level with the [Brightness] buttons, flickering may frequently happen.
- In such cases, either of the following can reduce flickering.
- Moderate the illumination intensities of objects by changing the camera direction.
- Set the brightness (illuminance) level on the screen to a brighter level with the [Brightness] buttons.

*1 **SP105**

*2 **SP102**

[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 MOS.

The following are available for the recording duration.
Off(1/30s), Max. 2/30s, Max. 3/30s*2, Max. 4/30s, Max. 6/30s*1, Max. 8/30s*2, Max. 10/30s*1, Max. 16/30s*1

Default: Off(1/30s)

*1 **SP105**

*2 **SP102**

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.
- When "Gain" is set to "Off" or ELC (maximum exposure time) is set to other than 1/30, "Auto slow shutter" is set to Off (1/30 s).

[Simple black & white mode]

Select switching between the color mode and the black & white mode from the following.

Off: The color mode is selected.

Auto: Switches from color to black-and-white images when the ambient brightness (illuminance) of the camera is approx.4 lx or less.

Default: Off

[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. 2700 K - 6000 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. 2000 K - 6000 K.

AWC: Selects the automatic white balance control mode. This adjustment is suitable for a location where a light source is stable. Operating color temperature range is approx. 2000 K - 10000 K.

Default: ATW1

Note:

- Under the following conditions, color may not be faithfully processed. In these cases, select "AWC".
 - When shooting a subject whose major part is a thick color
 - When shooting blue sky or sun at sunset
 - When shooting a subject whose luminance is too low
 - When "AWC" is selected, click the [Set] button.
-

[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 "High" or "Low" for the digital noise reduction.

High: High DNR, afterimage remains

Low: Low DNR, reduces afterimage

Default: High

[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 color 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 color to the default.

Default: 16

[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 color to the default.

Default: 128

[Close] button

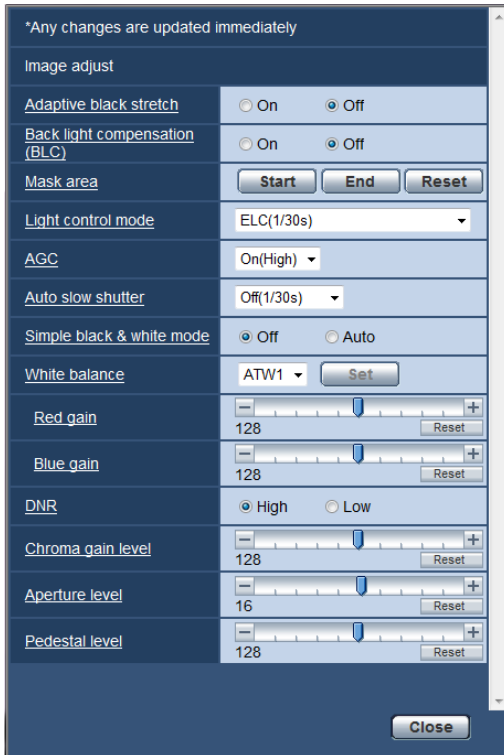
Click this button to quit the "Image adjust" setup menu.

Set mask areas

When "Off" is selected for "Back light compensation(BLC)" (see page 24), it is possible to compensate for backlight by masking brighter areas.

Step 1

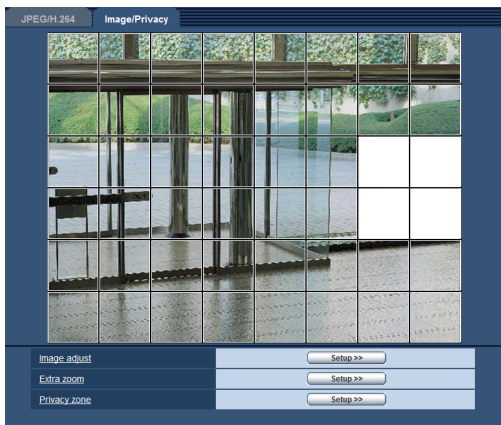
Display the "Image adjust" setup menu. (see Page 24)



Step 2

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

→ Borders will appear and the image displayed on the [Image/Privacy] tab will be divided.



It will be divided into 48 (6x8) **SP105**

It will be divided into 16 (4x4) **SP102**

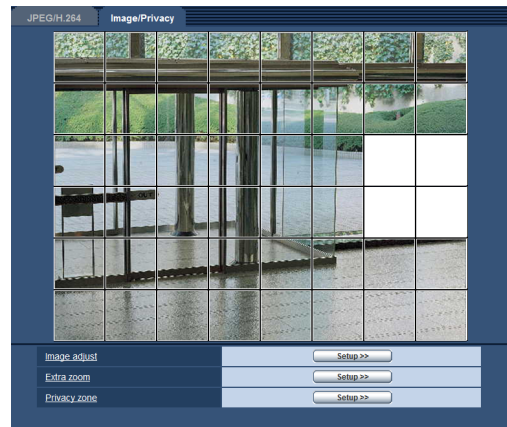
Note:

- When the aspect ratio is "4:3", areas can be masked. If the aspect ratio is changed to "16:9" after completion of area masking, the setting of area masking is maintained.

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.

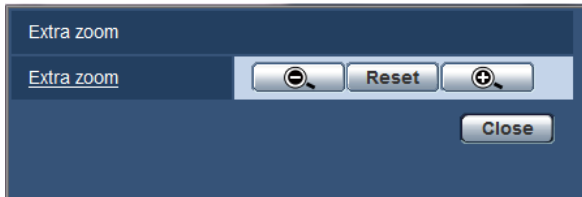
Note:

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

Extra zoom setting (Extra zoom setup menu)

SP105

Configure the settings relating to the extra zoom.



[Extra zoom]

Up to 2x Extra zoom can be set. Extra zoom can be adjusted in 10 steps.

[+] button

The extra zoom factor will be incremented up to 2x.

[-] button

The extra zoom factor will be decremented by 1x.

[Reset] button

Reset the extra zoom factor that has been set to 1x.

[Close] button

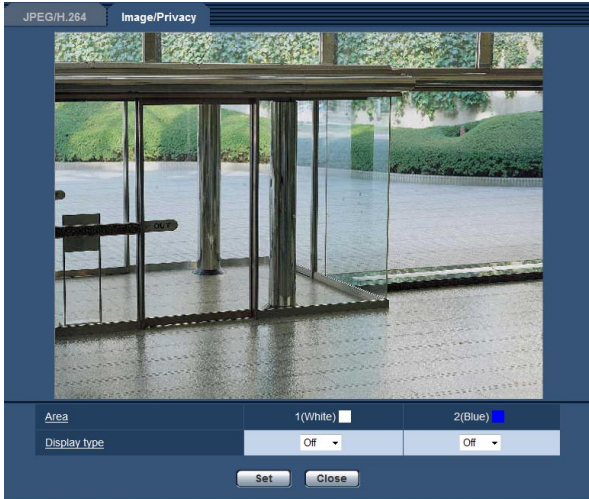
Click this button to close the extra zoom setup menu.

Important:

- The extra zoom factor cannot be adjusted properly after configuring the settings of mask area (☞ page 27), privacy zone (☞ page 29) and/or VMD area (☞ page 33). To prevent that, perform each of these settings after setting the extra zoom factor.
-

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 "Camera" page. (Page 23)
When there is a zone that is not to be displayed, set the zone as a privacy zone to not to display. Up to 2 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 2 privacy zones can be created.

Note:

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

[Display type]

Select a display type of the privacy zone from the following.

Gray: The privacy zones will be displayed in gray.

Off: Does not display the privacy zones.

Default: Off

[Setup] button

The edited settings will be applied.

Note:

- The actual privacy zone may sometimes be larger than the area designated by dragging the mouse.
-

[Close] button

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

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 13 and 14: How to display/operate the setup menu)

The screenshot shows a web interface titled "Multi-screen setup". It contains four sections, each for a different group of cameras (Group A, Group B, Group C, and Group D). Each section has a table with columns for "IP address" and "Camera title".

Group A	IP address	Camera title
Cam. 1		
Cam. 2		
Cam. 3		
Cam. 4		

Below each table is a "Set" button.

Group B	IP address	Camera title
Cam. 5		
Cam. 6		
Cam. 7		
Cam. 8		

Below each table is a "Set" button.

Group C	IP address	Camera title
Cam. 9		
Cam. 10		
Cam. 11		
Cam. 12		

Below each table is a "Set" button.

Group D	IP address	Camera title
Cam. 13		
Cam. 14		
Cam. 15		
Cam. 16		

Below each table is a "Set" button.

[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.
- Even when "16:9" is selected for "Aspect ratio", the multi-screen is displayed in 4:3.

[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:db8:0:0:0:0:1]: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.

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 13 and 14: How to display/operate the setup menu)

The settings relating to the alarm can be configured in this section.

Alarm		VMD area	Notification
Alarm			
VMD alarm		VMD >>	
Command alarm		☐ On ☒ Off	
Originating port number		8181 (1-65535)	
Set			

■ Alarm

[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.

Refer to the help window to information about the unavailable port number.

Available range: 1 - 65535

Default: 8181

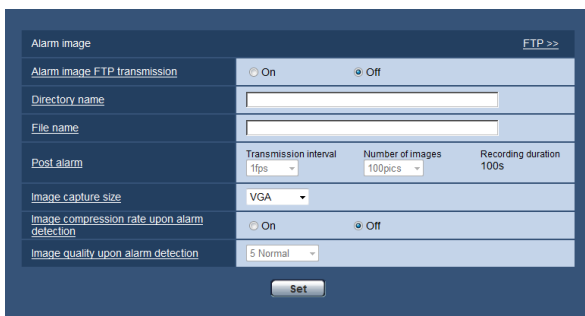
Configure the settings relating to the alarm image [Alarm]

Click the [Alarm] tab on the "Alarm" page. (☞ Pages 13 and 14: 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 42)

Important:

- Depending on the network line speed or the network traffic, images may not be transmitted at the exact designated interval or period.



■ Alarm image

[FTP >>]

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

[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 the capture size of images to be transmitted to the FTP server or of an image to be attached to the alarm mail.

When "4:3" is selected for "Aspect ratio"

QVGA/ VGA/ 1280x960*1

When "16:9" is selected for "Aspect ratio"

320x180/ 640x360/ 1280x720*1

Default: VGA

*1 **SP105**

[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 occurrence. 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 VMD settings [VMD area]

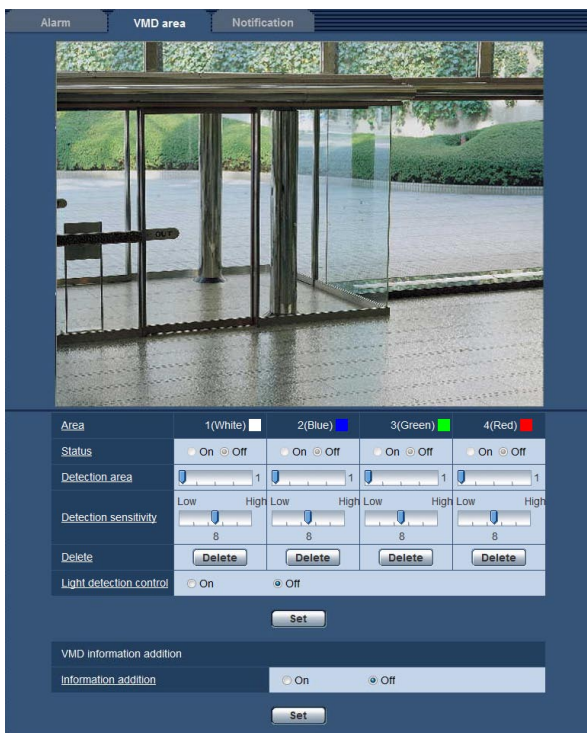
Click the [VMD area] tab on the "Alarm" page. (☞ Pages 13 and 14: How to display/operate the setup menu)

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 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" page (☞ page 18).
- 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.

[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 "Lighting detection suspension", the video motion detection may 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 [VMD area]

Set the areas to activate the VMD function.

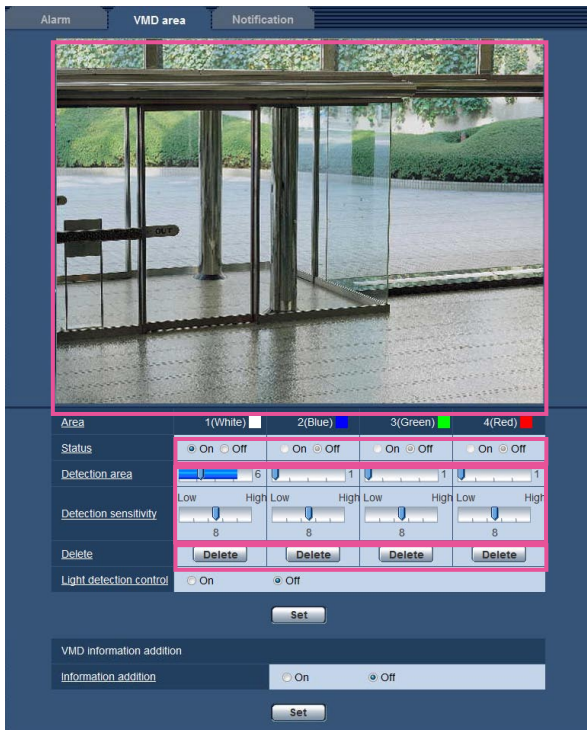
Important:

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

Step 1

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 slider.

"Detection area" can be adjusted by moving the slider between the left end position and the center position.

"Detection sensitivity" can be adjusted by moving the slider between the left end position and the right end position.

Refer to page 33 for further information about the "Detection sensitivity" and "Detection area".

Note:

- When "Detection area" cannot be adjusted properly by moving the slider, adjust "Detection sensitivity" while checking the motion detection status.

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.

Step 6

Click the [Setup] 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 13 and 14: 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 41)

■ Mail notification

[Mail server >>]

When "Mail server >>" is clicked, the [Mail] tab of the "Server" page will be displayed. (☞ Page 41)

[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.

Default: Off

[Alarm image attachment]

Select "On" or "Off" to determine whether or not to attach an image to the mail to be sent.

Default: Off

Note:

- The settings for "Image capture size" of the "Alarm image" section on the [Alarm] tab (☞ page 32) will be applied to the size of the image to be attached.

■ Destination of notification

[Address 1] to [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.

"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

Configure the settings relating to Panasonic alarm protocol

[Notification]

Click the [Notification] tab on the "Alarm" page. (☞ Pages 13 and 14: How to display/operate the setup menu)
The settings relating to Panasonic alarm protocol can be configured in this section.

Destination of notification	Alarm	Destination IP address
Address 1	☐	Delete
Address 2	☐	Delete
Address 3	☐	Delete
Address 4	☐	Delete
Address 5	☐	Delete
Address 6	☐	Delete
Address 7	☐	Delete
Address 8	☐	Delete

■ Panasonic alarm protocol notification

[Panasonic alarm protocol]

Select "On" or "Off" to determine whether or not to provide notification by e-mail according to the settings for the "Alarm" checkboxes of "Destination of notification" below.

- When an alarm is detected ("Alarm")

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.

Refer to the help window to information about the unavailable port number.

Available range: 1 - 65535

Default: 1818

[Retry times]

Select a retry time for the Panasonic alarm protocol.

Available range: 0-30

Default: 2

■ Destination of notification

[Address 1] to [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.

"Destination IP address" checkbox: 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 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.

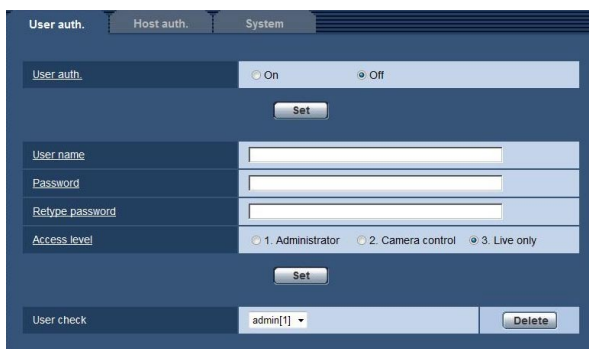
Configure the settings relating to the user authentication [User auth.]

Click the [User auth.] tab on the "User mng." page. (Pages 13 and 14: 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 unit 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.

- Administrator:** Allowed all available operations of the camera.
- Camera control:** Allowed to display images from the camera, to perform the brightness control for the camera and to hide the alarm occurrence indication button. The camera setting configuration is unavailable.
- 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 13 and 14: 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 unit 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 38 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 13 and 14: 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 unit may be limited.

Note:

- When "On" is selected for "H.264 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 the image capture size from the following.

When "4:3" is selected for "Aspect ratio"

QVGA/ VGA/ 1280x960^{*1}

When "16:9" is selected for "Aspect ratio"

320x180/ 640x360/ 1280x720^{*1}

This setting is validated only when "JPEG" is selected for "Stream type".

Default: 1280x960^{*1}

VGA^{*2}

^{*1} SP105

^{*2} SP102

[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(1)" or "H.264(2)".

JPEG: JPEG images will be transmitted.

H.264(1): H.264(1) images will be transmitted.

H.264(2): H.264(2) images will be transmitted.

Default: JPEG

[Refresh interval*]

Select the refresh interval from the following.

This setting is validated only when "JPEG" is selected for "Stream type".

0.1fps/ 0.2fps/ 0.33fps/ 0.5fps/ 1fps/ 2fps/ 3fps/ 5fps/
6fps*/ 10fps*/ 12fps* (PAL model)/ 15fps*/ 30fps*

Default: 1fps

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 13 and 14: 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. Refer to the help window to information about the unavailable port number.

Available port number: 1 - 65535

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 45)
-

[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 13 and 14: 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 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 45)

[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.

Refer to the help window to information about the unavailable port number.

Available port number: 1-65535

Default: 21

[FTP mode]

Select "Passive" or "Active" for the FTP mode.

Normally, select "Passive". When it is impossible to connect after select "Passive", try to connect after selecting "Active".

Default: Passive

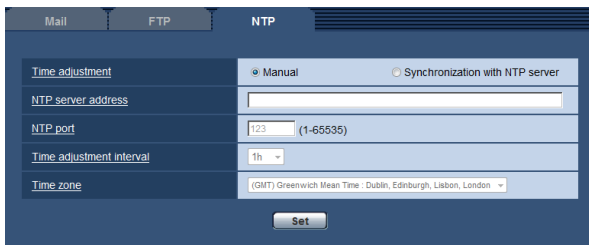
Configure the settings relating to the NTP server [NTP]

Click the [NTP] tab on the "Server" page. (☞ Pages 13 and 14: 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.

Important:

- Use an NTP server when the more accurate time & date setting is required for the system operation.
-



[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 45)
-

[NTP port]

Enter a port number of the NTP server.

Refer to the help window to information about the unavailable port number.

Available port number: 1 - 65535

Default: 123

[Time adjustment interval]

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

Default: 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

Configure 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 13 and 14: 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)

The screenshot shows the 'Network' configuration page with the following settings:

- IPv4 network**
 - DHCP: ☐ On ☒ Off
 - IP address(IPv4): 192.168.0.10
 - Subnet mask: 255.255.255.0
 - Default gateway: 192.168.0.1
- IPv6 network**
 - Manual: ☐ On ☒ Off
 - IP address(IPv6):
- Common**
 - DNS: ☐ Auto ☒ Manual
 - Primary server address:
 - Secondary server address:
 - HTTP port: 80 (1-65535)
 - Line speed: Auto
- FTP access to camera**: ☐ Allow ☒ Forbid
- Bandwidth control(bit rate)**: Unlimited
- Easy IP Setup accommodate period**: ☒ 20min ☐ Unlimited

■ 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 an IPv6 address manually.

Off: Manual entry of an 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: 1-65535

Default: 80

<Port numbers already in use>

20, 21, 23, 25, 42, 53, 67, 68, 69, 110, 123, 161, 162, 554, 995, 10669, 10670, 59000 - 61000

[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/ 1024 kbps/ 2048kbps/ 4096kbps/ 8192kbps

Default: Unlimited

Note:

- 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] tab or set "Image quality" of "JPEG" lower.

[Easy IP Setup 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.

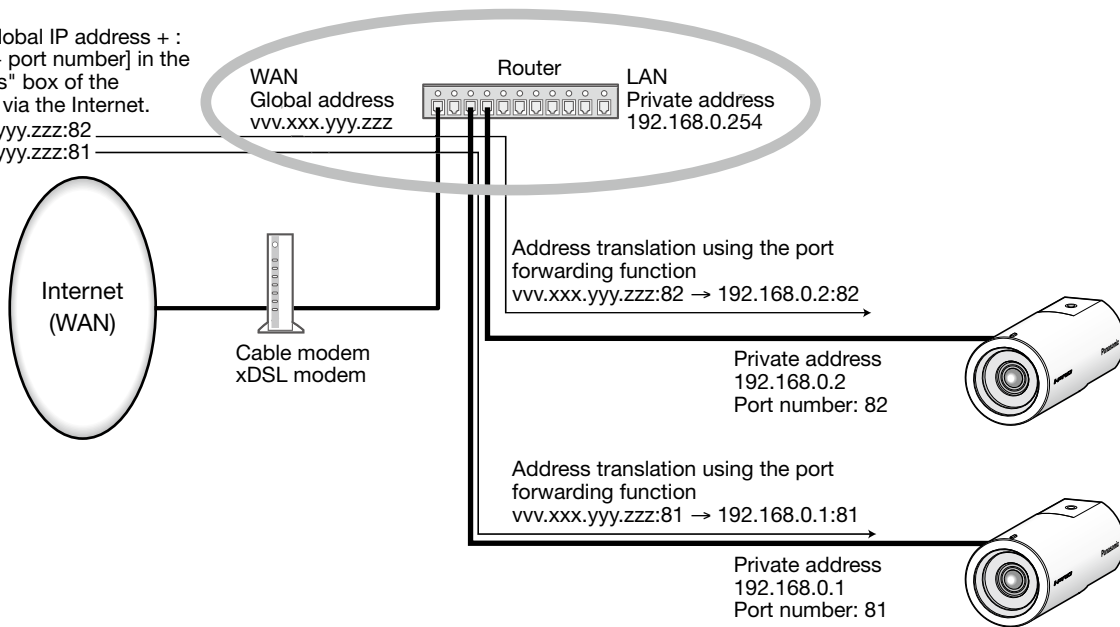
Unlimited: The network setting operation using the Panasonic IP setting software is allowed without time limitation.

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.

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



Configure the settings relating to DDNS [DDNS]

Click the [DDNS] tab on the "Network" page. (☞ Pages 13 and 14: How to display/operate the setup menu)
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.

The screenshot shows a web interface for configuring DDNS. At the top, there are tabs for "Network", "DDNS", "SNMP", and "FTP img. trans.". The "DDNS" tab is selected. Below the tabs, there is a section for "DDNS" with a radio button to toggle "On" or "Off". Below this, there are four input fields: "Host name", "User name", "Password", and "Access interval". The "Access interval" field has a dropdown menu currently showing "1h". At the bottom of the form is a "Set" button.

[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

Default: None (blank)

[User name]

Enter the user name (login name) to access the DDNS server.

Available number of characters: 1 - 32 characters

Default: None (blank)

[Password]

Enter the password to access the DDNS server.

Available number of characters: 0 - 32 characters

Default: None (blank)

[Access interval]

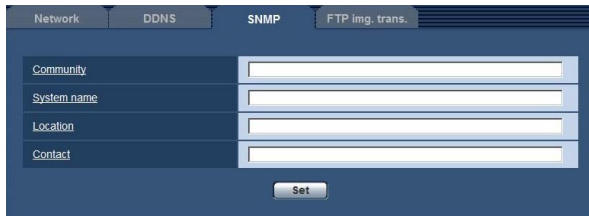
Select the interval to access the DDNS server to check the IP address and the host name from the following.

1min/ 10min/ 30min/ 1h/ 6h/ 24h

Default: 1h

Configure the settings relating to SNMP [SNMP]

Click the [SNMP] tab on the "Network" page. (☞ Pages 13 and 14: 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)

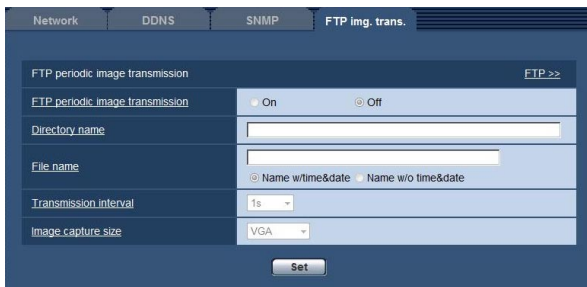
Configure the settings relating to the FTP periodic image transmission [FTP img. trans.]

Click the [FTP img. trans.] tab on the "Network" page. (☞ Pages 13 and 14: 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 42). Refer to page 50 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 "On" is selected for both of 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.



■ FTP periodic image transmission

[FTP >>]

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

[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 42)

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 the capture size of images to be transmitted from the following.

When "4:3" is selected for "Aspect ratio"

QVGA/ VGA/ 1280x960*¹

When "16:9" is selected for "Aspect ratio"

320x180/ 640x360/ 1280x720*¹

Default: VGA

*¹ **SP105**

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

Click the [FTP img. trans.] tab on the "Network" page. (Pages 13 and 14: 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 49 for further information about the settings relating to the FTP periodic image transmission.

How to set the schedules

Step 1

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

→ The selected day of the week will be validated for the schedule.

Step 2

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

When not designating time, check the checkbox of "24h".

Step 3

Click the [Set] button after completing the settings.

→ The result will be displayed at the bottom of the window.

How to delete the set schedule

FTP image transmission schedule

Schedule 1

☒ Mon

☒ Tue

☒ Wed

☒ Thu

☒ Fri

☐ Sat

☐ Sun

24h

09

00

-

17

30

Schedule 2

☒ Mon

☒ Tue

☒ Wed

☒ Thu

☒ Fri

☒ Sat

☒ Sun

24h

23

00

-

07

00

Schedule 3

☐ Mon

☐ Tue

☐ Wed

☐ Thu

☐ Fri

☒ Sat

☒ Sun

24h

00

00

-

00

00

Set

0:006:0012:0018:0024:00

Mon

Tue

Wed

Thu

Fri

Sat

Sun

Step 1

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

Step 2

Click the [Set] button after completing the settings.
→ The schedule of the selected day of the week is deleted.

FTP image transmission schedule

Schedule 1

☐ Mon

☐ Tue

☐ Wed

☐ Thu

☐ Fri

☐ Sat

☐ Sun

24h

00

00

-

00

00

Schedule 2

☐ Mon

☐ Tue

☐ Wed

☐ Thu

☐ Fri

☐ Sat

☐ Sun

24h

00

00

-

00

00

Schedule 3

☐ Mon

☐ Tue

☐ Wed

☐ Thu

☐ Fri

☐ Sat

☐ Sun

24h

00

00

-

00

00

Set

0:006:0012:0018:0024:00

Mon

Tue

Wed

Thu

Fri

Sat

Sun

Configure the settings relating to the schedules [Schedule]

On the "Schedule" page, it is possible to configure the settings relating to schedules as follows.

- 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.)

The "Schedule" page has only the [Schedule] tab.

Up to 5 schedules can be set.

The screenshot displays the 'Schedule' configuration interface. It features a list of five schedules, each with a color-coded icon and a name: Schedule 1 (White), Schedule 2 (Blue), Schedule 3 (Green), Schedule 4 (Red), and Schedule 5 (Black). For each schedule, there are two settings: 'Schedule mode' and 'Time range'. Schedule 1 has 'Schedule mode' set to 'Off' and 'Time range' set to '24h'. Schedules 2, 3, 4, and 5 also have 'Schedule mode' set to 'Off' and 'Time range' set to '24h'. Below the schedule list is a 'Set' button. At the bottom of the page is a calendar view showing the days of the week (Mon to Sun) with time slots from 0:00 to 24:00.

Step 1

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.

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 authentication] tab (page 38) 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 38) and "Off" for "Host auth." on the "Host auth." page (page 39) 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]

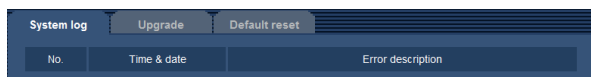
System log check, firmware upgrade, and initialization of the setup menu can be performed on this page. The "Maintenance" page has 3 tabs; the [System log] tab, the [Upgrade] tab and the [Default reset] tab.

Check the system log [System log]

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.

When the power of the camera is turned off, logs will be deleted.



System log		
Upgrade Default reset		
No.	Time & date	Error description

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

[Error description]

The descriptions about the error will be displayed.

Refer to page 57 for further information about the system logs.

Upgrade the firmware [Upgrade]

Click the [Upgrade] tab of the "Maintenance" page. (☞ Pages 13 and 14: 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.

Step 1

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

Important:

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

Step 2

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

Step 3

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

Note:

- Note that the settings cannot be restored after an initialization is operated.

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.

Important:

- After completing the upgrade, delete temporary internet files. (☞ Page 61)
- Upgrade the firmware using a PC in the same sub-net as the unit.
- Follow the instructions from the dealer when upgrading the firmware.
- Use the designated file (extension: img) for the firmware upgrade.
- Use the designated file, sp105_XXXX.img, for the firmware upgrade.
* ("XXXX" 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 13 and 14: 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 44), turn off the power of the camera, then turn on the power again while holding down the [INITIAL SET] button on the unit for 5 seconds. Wait around 2 minutes after releasing the button. The camera will start up and the settings including the network settings will be initialized. Do not turn off the power of the camera around 2 minutes just after turning on the power.
 - The system log (☞ page 53) will be deleted when the initialization of the setup data is performed or the camera is restarted.
-

Viewing Help

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

Displaying the Help screen

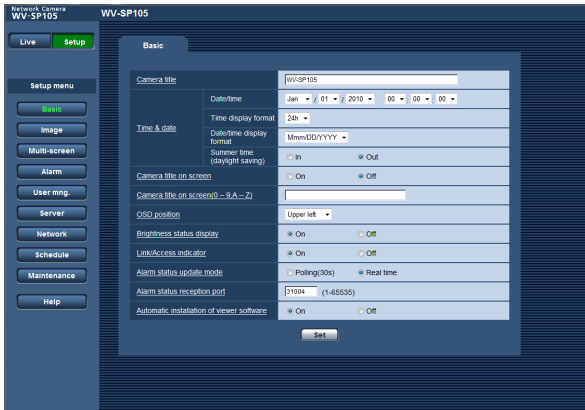
Step 1

Click the [Setup] button.

→ The setup screen is displayed.

Step 3

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

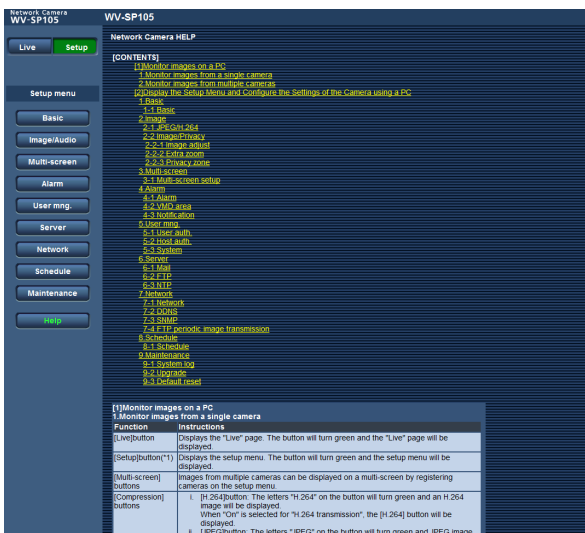


Clicking an underlined item will display the "Help" pop-up window. It is possible to configure the settings while displaying the "Help" pop-up menu.

Step 2

Click the [Help] button.

→ The "Help" screen is displayed.



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.
	Passive mode error.	
	Log out failed.	The settings relating to the indicated item may be incorrect. Check if the FTP settings are configured correctly.
	Failed to change the directory.	
Internal error	User name or password isn't correct.	An error occurred in the FTP function. Check if the FTP settings are configured correctly.
	Undefined error.	

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 updated 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 unit will be displayed when "On" is selected for "Host auth.".

Troubleshooting

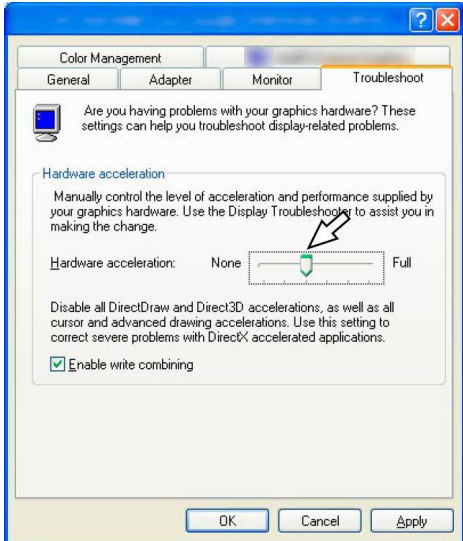
Before asking for repairs, check the symptoms with the following table.

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 indicator 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?	44
	- 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 camera, 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.)	Installation Guide
	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, 10669, 10670, 59000 - 61000.	45

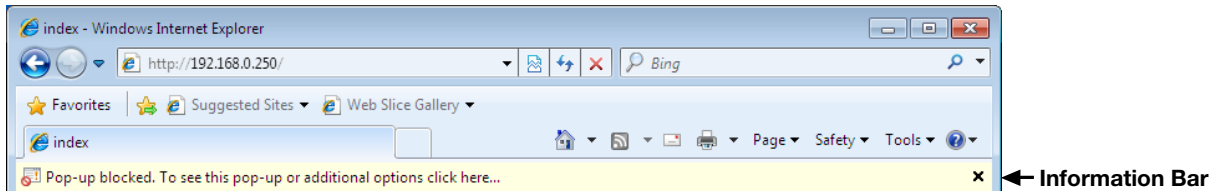
Symptom	Cause/solution	Reference pages
Cannot access from the web browser.	Is the same IP address provided to other devices? Are there contradictions between the address and the network subnet to be accessed? <When the camera and the PC are on the same subnet> Are the IP addresses of the camera and the PC set in a common subset? 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?	—
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.	—
	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..." under "Tools" on the menu bar of Internet Explorer. The "Internet Options" window will be displayed. (2) When using Internet Explorer 7.0 or Internet Explorer 8.0 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. 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.	—

Symptom	Cause/solution	Reference pages
The image is not being refreshed.	Depending on the version of your browser, there might be difficulties refreshing the picture, etc.	Installation Guide
	Depending on the traffic of the network or the concentration of access to the camera, there might be difficulties displaying the camera picture. Request the camera picture using the browser such as by pressing the [F5] key, etc.	—
No image is displayed (or too dark).	Is the brightness setting set at an appropriate level? Click the [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 (50 Hz)" or "Indoor scene (60 Hz)" for "Light control mode".	24
The alarm occurrence indication button 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 View 4S" is installed.	4
	Is "Real time" selected for "Alarm status update mode"?	18
No image is displayed on the "Live" page.	Press the [F5] key on the keyboard of the PC or click the [Live] button.	7
Images are not displayed or not refreshed smoothly.	- Delete temporary internet files as follows. - Select "Internet Options..." under "Tools" on the menu bar of Internet Explorer. The "Internet Options" window will be displayed. - 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.	—
	Depending on the PC or network line in use, images may temporarily not be refreshed. However, it does not indicate any malfunction if the normal status is recovered at the next frame or refresh interval.	—
No indicator lights.	Is "Off" selected for "Link/Access indicator" on the "Basic" page? Select "On" for "Link/Access indicator".	18
H.264 images are not displayed.	When "Network Camera View 4S" is deleted from a PC on which both the viewer software "Network Camera View 3" and "Network Camera View 4S" are installed, H.264 images may not be displayed. In this case, delete "Network Camera View 3" from the PC and then install "Network Camera View 4S".	4

Symptom	Cause/solution	Reference pages
When displaying H.264 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. - Right-click on the desktop and select "Properties" from the displayed pop-up menu. - Select "Settings" from "Display Properties", and then click the [Advanced] button. - 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.



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 Active X control 'nwc4Ssetup.exe' from 'Panasonic System Networks Co.,Ltd.'. Click here to install..."	Click the information bar and select "Install Active X Control". The "Security Warning" window will be displayed. Click the "Install" button on the displayed "Security Warning" window.	–
An unnecessary status bar or scroll bar is displayed on the pop-up window.	Click "Internet Options..." 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.	–
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)".	–

For U.S. and Canadian fields:

**Panasonic System Networks Company of America,
Unit of Panasonic Corporation of North America**

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For customer support, call 1.800.528.6747
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For European and other fields:

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<http://panasonic.net>

Importer's name and address to follow EU rules:

Panasonic Testing Centre
Panasonic Marketing Europe GmbH
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