

# Network Camera

## User's Guide

Before operating the unit, please read this manual thoroughly and retain it for future reference.

Software Version 1.7  
SNC-CX600W/CX600

# IPELA

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# Features

- High-quality HD (720P) real-time monitoring, up to 30 fps.
- Exmor CMOS sensor enables high-quality images for streaming.
- Visibility Enhancer enable clearer images for streaming in the high contrast environment.
- NR (XDNR) enables clearer images for streaming in the low lightness environment.
- Two video compression modes (video codecs) JPEG/ H.264 are supported.
- The maximum triple codec mode is available.
- “Edge Storage” for recording of video or audio signal based on alarm detection (such as network block), and same protocol real-time image streaming.
- Motion detection, passive infrared motion sensor and camera tampering detection functions.
- Up to 5 users can view images from one camera at the same time.
- Date/time can be superimposed on the image.
- PoE (Power over Ethernet) compliant (SNC-CX600).
- The recorded movie in the memory card can be played, saved, or deleted by using the browser.
- The camera image can be sent by using Wi-Fi. (SNC-CX600W)

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## How to Use This User's Guide

This User's Guide explains how to operate the Network Camera from a computer.

The User's Guide is designed to be read on the computer display.

This section gives tips on making the most of the User's Guide. Read it before you operate the camera.

### Jumping to a related page

When you read the User's Guide on the computer display, you can click on a sentence to jump to a related page.

### Software display examples

Note that the displays shown in the User's Guide are explanatory examples. Some displays may be different from the ones that appear in actual use.

The illustrations of the camera and menu display in the User's Guide show the SNC-CX600W as an example.

### Printing the User's Guide

Depending on your system, certain displays or illustrations in the User's Guide, when printed out, may differ from those that appear on your screen.

### Installation Manual (printed matter)

The supplied Installation Manual describes the names and functions of parts and controls of the Network Camera, connection examples, and how to set up the camera. Be sure to read the Installation Manual before hand.

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## System Requirements

The following computer environment is necessary for the computer to display images and the controls of the camera.

(September 2013)

### Common

#### OS

Microsoft Windows XP, Windows Vista (32bit version only), Windows 7 (32-bit version, 64-bit version), Windows 8 Pro (32-bit version, 64-bit version)\*

Authorized editions:

Windows XP: Professional

Windows Vista: Ultimate, Business

Windows 7: Ultimate, Professional

Windows 8: Pro

Microsoft DirectX 9.0c or higher

#### Web Browser

Windows Internet Explorer Ver. 7.0, Ver. 8.0, Ver. 9.0, Ver. 10.0\*

Firefox Ver.19.0

Safari Ver.5.1

Google Chrome Ver.25.0

#### CPU

Intel Core2 CPU, 2.13 GHz or higher

#### Memory

2 GB or more

#### Display

1600 × 1200 pixels or higher

\* In case of Windows 8, use the Internet Explorer desktop user interface (desktop UI) edition.

# Accessing the Camera Using the Web Browser

After the IP address has been assigned to the camera, check that you can actually access the camera using the Web browser installed on your computer.

- 1 Start the Web browser on the computer and type the IP address of the camera in the URL address bar.



The live viewer window is displayed.

## Display sample



### Note

- The maximum of users on the network who can see a viewer concurrently is 5. However, if the transmission ability of the camera is overloaded, access to the camera may not be possible, even if there are fewer than 5 users.
- When using a Wi-Fi network, it may take longer for the image to be transmitted.

## Using the SSL function

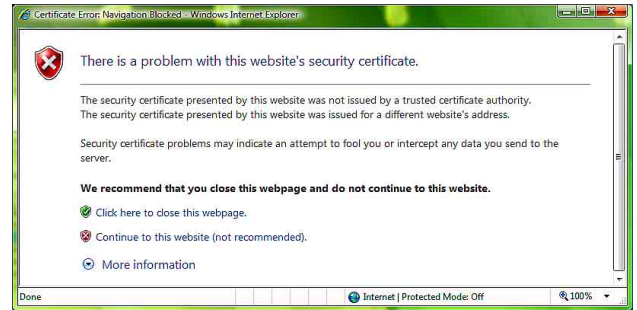
### Note

The model on sale in China does not support the SSL function.

### When Internet Explorer 7, Internet Explorer 8, Internet Explorer 9 or Internet Explorer 10 is used

When you enter the camera IP address, “Certificate Error” may appear according to the status of the certificate set on the camera. In this case, click **Continue to this website (not recommended)** to continue.

The live viewer window appears (in SSL communication).



### When “Allow HTTP connection for some clients” (page 35) is checked

To use HTTP and SSL connections separately to access, enter the following in the address box of the browser.

#### For HTTP connection

`http://192.168.0.100/index.html?lang=en`

#### For SSL connection

`https://192.168.0.100/index.html?lang=en`

### When the live viewer of the camera is displayed for the first time

“Security Warning” is displayed. When you click **Yes**, ActiveX control is installed and the live viewer is displayed.



### Notes

- If **Automatic configuration** is enabled in the Local Area Network (LAN) settings of Internet Explorer, the image may not be displayed. In that case, disable **Automatic configuration** and set the proxy server manually. For the setting of the proxy server, consult your network administrator.
- When you install ActiveX Control, you should be logged in to the computer as Administrator.

## Tip

The software is optimized for Internet Explorer using medium font.

### To display the viewer correctly

To operate the viewer correctly, set the security level of Internet Explorer to **Medium** or lower, as follows:

- 1** Select **Tools** from the menu bar for Internet Explorer, then select **Internet Options** and click the **Security** tab.
- 2** Click the **Internet** icon (when using the camera via the Internet), or **Local intranet** icon (when using the camera via a local network).
- 3** Set the slider to **Medium** or lower. (If the slider is not displayed, click **Default Level**.)

### When using antivirus software, etc., on the computer

- When you use antivirus software, security software, personal firewall or pop-up blocker on your computer, the camera performance may be reduced, for example, the frame rate for displaying the image may be lower.
- The Web page displayed when you log in to the camera uses JavaScript. The display of the Web page may be affected if you use antivirus software or other software described above on your computer.

# Basic Configuration by the Administrator

You can also set various functions according to the installing position, network conditions or purpose of the camera.

We recommend you configure the following items before monitoring images from the camera.

Setting contents	Setting menu
Set the format of the image sent from the camera.	Video codec Tab (page 24)
Select the White balance mode according to the installation position.	White balance (page 23)
Select the brightness of the image sent from the camera.	Exposure (page 23) Brightness (page 24)
Select the quality of the image sent from the camera.	Video codec Tab (page 24)
Select the view size of the image.	View size (page 11)
Select whether the audio from the external input is sent or not.	Audio Tab (page 25)
Synchronize the date and time of the camera with those of the computer.	Date & time Tab (page 20)
Make the setting for sending the monitor image attached to an e-mail.	Mail Transfer Tab (page 48)
Set the user access right for the camera.	User Tab (page 34)
Use Wi-Fi to make the setting for connecting the camera (SNC-CX600W)	Wi-Fi Tab (page 30)



## Operating the Camera

This section explains how to monitor the image from the camera using your Web browser.

The functions of the camera should be set by the Administrator. For the setting of the camera, see “Administering the Camera” on page 19.

## Administrator and User

This network camera identifies those who log in as the **Administrator** or **User**.

The **Administrator** can use all the functions of this network camera, including camera settings. The **User** can use the functions for monitoring the image and audio from the camera, and control the camera. The **Viewer mode** setting is used to restrict the user’s access rights. There are five types of users.

Each type of user can use the corresponding functions below.

Function	Administrator	User			
		Full	Pan/Tilt	Light	View
Monitor a live image	●	●	●	●	●
View the date and time	●	●	●	●	●
Control the frame rate (JPEG mode only)	●	●	–	–	–
Control the image view size	●	●	●	●	–
Save a still image and movie in the computer	●	●	●	●	–
Switch the TCP/UDP transmission mode (Available in H.264 mode only)	●	●	–	–	–
Perform the pan/tilt/zoom operation	●	●	●	–	–
Receive audio	●	●	●	●	●
Select the codec mode	●	●	●	●	–
Control the setting menu	●	–	–	–	–
Play the recorded file in the memory card	●	●	–	–	–
Delete the recorded file in the memory card	●	–	–	–	–

● Usable function

– Not usable function

The access rights of the administrator and the user can be set in “Setting the Security — Security Menu” of the Administrator menu on page 34.

# Logging in to System

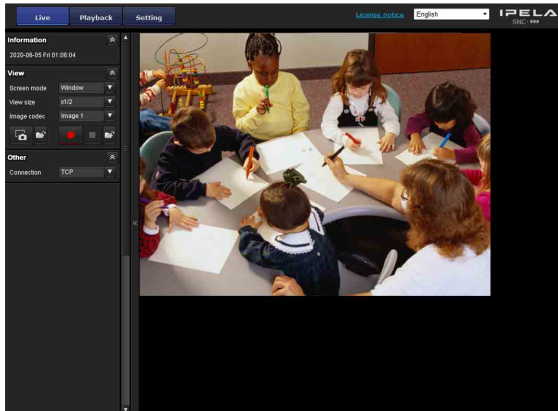
## Logging in as a user

- 1 Start the Web browser on your computer and type the IP address of the camera you want to monitor.



The live viewer is displayed.

### Display sample:



### Note

If the live viewer does not start correctly, the security level of the Internet Explorer may be set to higher than **Medium**. See “To display the viewer correctly” on page 7 and check the security level.

## About Viewers

You can use the following viewers.

### ActiveX viewer

This viewer can monitor the camera image in any of the **JPEG** and **H.264** video codecs. Two types of ActiveX viewer are available: Live viewer and Playback viewer. You must install this viewer when you access the viewer for the first time.

### When you display the viewer of the camera for the first time

When you access the network camera using ActiveX viewer for the first time, the **Security Warning** appears. Click **Yes** and install ActiveX Control. You can use all the functions of the viewer with ActiveX Control.

### Plug-in free viewer

This viewer enables a browser other than Internet Explorer to display images.

### Notes

- If **Automatic configuration** is enabled in the Local Area Network (LAN) Settings of Internet Explorer, the camera image may not be displayed. In that case, disable **Automatic configuration** and set the proxy server manually. For the setting of the proxy server, consult your network administrator.
- When you install ActiveX Control, you should be logged in to the computer as the Administrator.

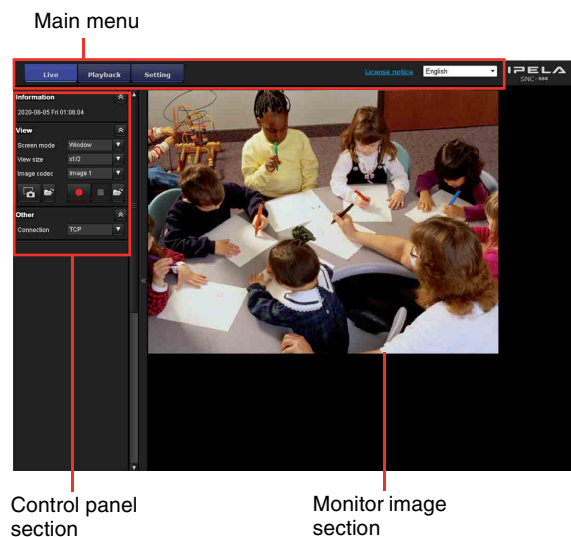
### Tip

Every page of this software is optimized for Internet Explorer in **Medium** font.

# Configuration of Live Viewer

This section explains the functions of the parts and controls of the live viewer. For a detailed explanation on each part or control, see the specified pages.

## Live viewer using ActiveX viewer



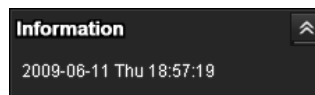
## Control panel section

You can drag the panels to the monitor screen and configure them.

To return to the operation panel, drag the panel and configure the operation panel.

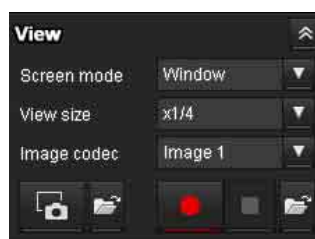
Click the to hide the detail setting menu or click it again to show the menu.

## Information panel



Check the date and time here.

## View panel



You can change the screen mode, size of the image, image codec mode and frame rate. Also, still images and movies can be saved (movie saving can also be stopped) from here. Microphone and audio output levels can be adjusted.

## Main menu

### Live viewer

Displays the ActiveX viewer or the Plug-in free viewer.

### Playback viewer

Click to play, save and delete the recorded movie in the memory card. (page 16)

### Setting

Click to display the Administrator menu. (page 19)  
You can operate this function only when logging in as the administrator.

### License notice

Displays the software consent agreement, etc.

### Language

Set language from pull-down.

### Screen mode

Select Window or Full Screen.

### View size

Select the view size to be displayed.

Click the **View size** list box to select the view size.

Select **x1/4** to display images, reduced to 1/4 of the size set in **Image size**.

Select **x1/2** to display images, reduced to 1/2 of the size set in **Image size**.

Select **x1** to display images set in **Image size** (page 24) of the Video / Audio menu.

Select **Full** to display images in full size.

Select **Fit** to display images in full size with fixed aspect ratio.

### Image codec

Select Image1, Image2 and Image3 of the video codec.

### Frame rate

(Displayed only when the camera image is in JPEG.)

Selects the frame rate to transmit images.


## Capture

Click to capture a still image shot by the camera and to store it in the computer. Click  to open the folder to be saved.

### Note

In the case of Windows VISTA, Windows 7 or Windows 8, if “Enable Protected Mode” is checked in Control Panel-Internet Option-Security, still images cannot be shot.

## Run/ Stop Save Video

Runs and stops Save Video. Click  to open the folder to be saved.

### Note




In the case of Windows VISTA, Windows 7 or Windows 8, if “Enable Protected Mode” is checked in Control Panel-Internet Option-Security, video content cannot be saved.

## Volume

Displays when **Enable** in the Audio tab of the Video / Audio menu is checked.



Use the slide bar to adjust the volume for sound output level.




When you click , the icon changes to  and the output from the speaker stops. To output sound from the speaker, click  again.

## Mic volume

Displays when **Audio upload** (page 25) in the Audio tab of the Video / Audio menu is set to **Enable**, and a user with audio enabled in the User tab of the Security menu accesses the device.



Use the slide bar to adjust the microphone volume.

When you click , the icon changes to  and the microphone input stops. To input the microphone, click  again.

## Camera control panel



This panel allows you to control the camera's pan/tilt/home position and zoom (page 14).

### Image action

Select the mode of operation from **Off**, **Area zoom** and **Vector dragging**.

### Pan/Tilt control

Click the arrow button the direction in which you want to move the camera. Keep it pressed to move the camera continuously.

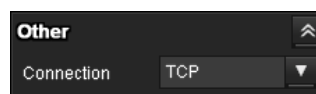
To return to the home position, click .

### Zoom control

Press **W** to zoom out, and press **T** to zoom in.

Zooming continues while the button remains pressed.

## Other panel



(The **Other** panel is displayed in the case of an H.264 image.)

You can switch between TCP and UDP (Unicast/Multicast).

Each click switches the transmission mode of the video/audio data between TCP mode, Unicast mode, and Multicast mode (page 15).

## Monitor image



The image shot by the camera is shown here. There are two modes for on-screen pan/tilt/zoom operation using a mouse: Area zoom mode and Vector dragging mode. In the Area zoom mode, clicking will pan or tilt the camera towards the center of the image. The Area zoom will move the camera in the direction that displays the area selected by the operator and zooms in at the same time. The operator can choose a part of the image to view and zoom in by surrounding an area with a frame by dragging the mouse. In the Vector dragging mode, the camera pans or tilts in the dragged direction. How long you drag the mouse determines the speed. Releasing the button on the mouse after dragging stops the panning or tilting of the camera. You can also use the camera control panel bar to pan or tilt. The zoom operation using the mouse wheel is available in all modes.

## Plug-in free viewer

### Live viewer using Plug-in free viewer

Display sample:



Control bar

Monitor screen

## Monitor screen

There are two modes for on-screen pan/tilt/zoom operation using a mouse: Area zoom mode and Vector dragging mode. A control bar is displayed on the screen. In the Area zoom mode, clicking will pan or tilt the camera towards the center of the image. The Area zoom will move the camera in the direction that displays the area selected by the operator and zooms in at the same time. The operator can choose a part of the image to view and zoom in by surrounding the area with a frame by dragging the mouse. In the Vector dragging mode, the camera pans or tilts in the dragged direction. How long you drag the mouse determines the speed. Releasing the button on the mouse after dragging stops the panning or tilting of the camera. You can also use the tool bar to pan or tilt. The zoom operation using the mouse wheel is available in all modes.

## Control bar

The following operation buttons are available.



- ▼ Setting  
You can set the streaming method, image size, frame rate, PTZ operation mode and image codec.
- ▶ Streaming start button  
Starts streaming. (Appears while stops streaming.)
- ⏸ Streaming stop button  
Stops streaming. (Appears while streaming.)
- 📷 Save still image button  
Captures still images taken by the camera and saves them to the computer.

## Using Solid PTZ function

You can operate the camera by using the Solid PTZ function, which provides panning, tilting and zooming by adjusting the position and zooming ratio from the maximum image size (1280 × 720), without moving the camera. There are three modes of camera operation: **Area zoom mode**, **Vector dragging mode** and **PTZ Control bar**. You can control pan/tilt and zoom in either mode. The available functions for the camera operation modes vary according to the live viewer display. The available functions are as follows.

	ActiveX viewer	Plug-in free viewer	
		JPEG	MJPEG
Operation from control panel	○	×	×
Area zoom	○	○	○
Vector dragging	○	○	○
PTZ control bar	×	○	○

### Notes

- Pan/Tilt limitation**  
 The solid PTZ function controls streaming by cropping or reducing a maximum size image. Thus, the more the camera zooms out, the less area to be panned or tilted, and becomes unavailable at the WIDE setting.
- Zoom limitation**  
 The solid PTZ function enables you to display an area of 1/16 the maximum image size (Aspect ratio: 1:4), when zoomed in at the TELE setting. An image cannot be enlarged beyond this.  
 And the whole area shot in the maximum image size will be displayed if the camera is zoomed out at the WIDE setting.  
 The solid PTZ function's zoom is performed digitally; therefore, some deterioration in image quality may be observed at the TELE setting.
- The Plug-in free viewer display method will be selected automatically.

## Controlling via the control panel (Operation common to Area zoom mode and Vector dragging mode)

You can operate the camera direction and zoom by using the control panel for the monitor image currently displayed.



### Pan/Tilt control

Click the arrow button in the direction in which you want to move the camera. Keep it pressed to move the camera continuously.

To return to the home position, click .

### Zoom control

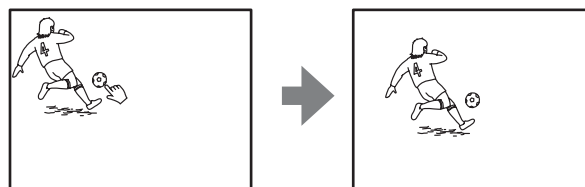
Click to zoom out, and click to zoom in. Zooming continues while the button remains pressed.

### Note

The four edges of the image may be dark depending on the zoom position. This is a phenomenon related to the structure of the camera, and does not cause a problem.

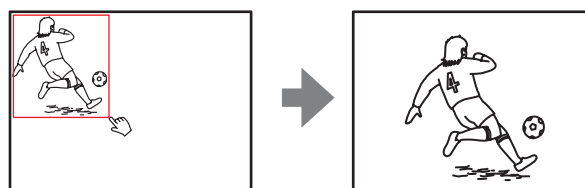
## Panning and tilting by clicking the monitor image (Area zoom mode only)

Click on the monitor image, and the camera moves so that the clicked portion is positioned at the center of the display.



## Panning, tilting and zooming by specifying the area (Area zoom mode only)

Click and hold the left button of the mouse on the monitor image, and drag the mouse diagonally to draw a red frame around the portion you want to enlarge. The camera moves so that framed portion is positioned at the center of the display and is zoomed in.

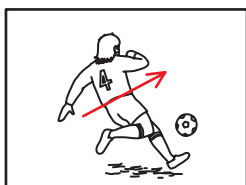


### Note

When the specified area is zoomed in, the center may be shifted or some portion of the image may appear out of the monitor image section. In this case, click the point you want to move to the center or click the arrow button on the camera control panel.

## Panning and tilting by dragging the screen (Vector dragging mode only)

When you click on the starting point on the image and drag to the end point, the camera pans/tilts in the direction of the arrow from the starting point to the end point. The speed of operation is determined by the length of arrow. Releasing the button on the mouse stops the panning/tilting of the camera.



## Using pan/tilt/zoom operations with the displayed control bar (PTZ Control bar only)



### Pan/Tilt operations

Click the arrow of the direction you wish to move the camera. Continue clicking on the arrow to keep moving the direction of the camera.

### Zoom operation

Click **-** to zoom out, click **+** to zoom in. The zoom operation continues while you are clicking on the button.

## Switching Transmission Mode

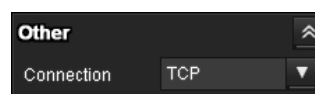
You can change the transmission mode for video/audio data.

This function can be used when the video codec mode is set to **H.264** and the ActiveX viewer in the live viewer is used.

### Note

The function may not operate correctly if you use personal firewall software or antivirus software on your computer. In that case, disable the software or select the TCP mode.

- 1 Select **TCP**, **Unicast** or **Multicast** from the **Connection** drop-down list in the Other panel.



**TCP:** This is normally selected.

When **TCP** is selected, HTTP communication is adopted for video/audio communications. HTTP is the protocol used for reading the usual Web page. In an environment capable of reading Web pages, you can watch or listen to video/audio by selecting the TCP port.

**Unicast:** When **Unicast** is selected, RTP (Realtime Transport Protocol) is adopted for video/audio communications. Since RTP is the protocol for running video/audio data, the video/audio playback is smoother than when TCP (HTTP) is selected. If a firewall is installed between the camera and the computer, or depending on the network environment, video/audio may not play back properly when **Unicast** is selected. In this case, select **TCP**.

**Multicast:** This protocol is selectable when **Multicast streaming** in the Streaming tab of the Video / Audio menu is set to **Enable**. When **Multicast** is selected as the transmission port, RTP (Real-time Transport Protocol) and UDP multicast techniques are adopted for video/audio transmission. By selecting it, the network transmission load of the camera can be reduced. If a router that does not correspond to a multicast or firewall is installed between the camera and the computer, video/audio may not play back properly. In this case, select **TCP** or **Unicast**.

## Note

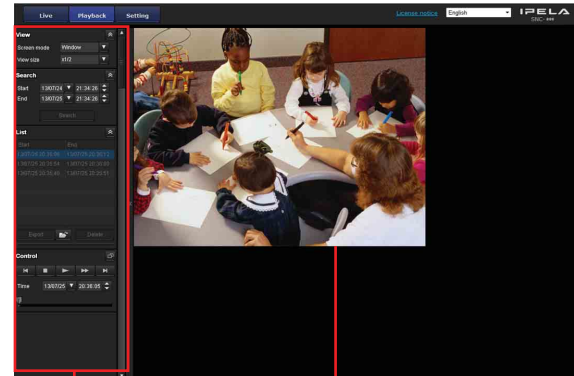
When connecting via a proxy server, neither **Unicast** nor **Multicast** can be selected.

# Playback viewer

You can play, save or delete the movies recorded in the memory card.

This function is available only in the following users.

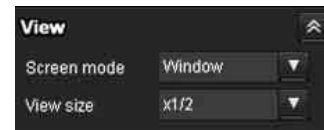
- Administrator
- When **Viewer mode** is set to **Full**



Control panel section

Monitor image section

## View panel



You can change the screen mode or size of the image.

### Screen mode

Select Window or Full Screen.

### View size

Select the view size to be displayed.

Click the **View size** list box to select the view size.

Select **x1/4** to display images, reduced to 1/4 of the size set in **Image size**.

Select **x1/2** to display images, reduced to 1/2 of the size set in **Image size**.

Select **x1** to display images set in **Image size** (page 24) of the Video / Audio menu.

Select **Full** to display images in full size.

Select **Fit** to display images in full size with fixed aspect ratio.



## Search panel



Specify the search period.

### Start

Select the start time for searching.

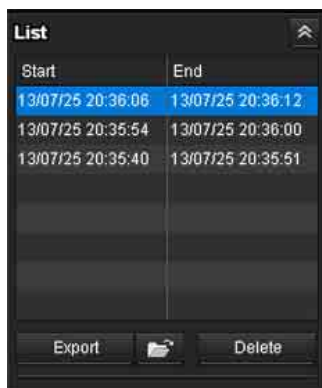
### End

Select the end time for searching.

### Search

Search for recorded movies in the specified period.


## Search results list



Displays the search results from the search panel. You can select the movie which you want to play, save or delete.

You can select multiple files for deletion by clicking those movies while pressing the control key.

### **Save recorded movie**

Save the selected movie to your computer. Click  to open the folder in which the movie is to be saved.

### **Delete recorded movie**

Delete the selected movie(s).


### **Note**

Only the administrator can delete movies. Deleted movies cannot be restored.

## Control panel (Basic)

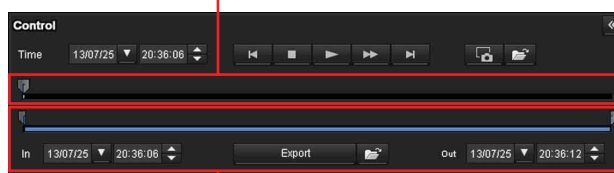


You can play, pause, stop, fast forward or jump the selected movie on the search results list. Also you can specify the start position for playback.

If you click the  button, the control panel (detail) is displayed.


## Control panel (Detail)

Specify the start position for playback



Specify the playback time

You can play, pause, stop, fast forward or jump the selected movie on the search results list. Also you can specify the start position for playback, playback time, save the movie or save the captured still image.

If you click the  button, the control panel (basic) is displayed.

### **Specify the start position for playback**

Move the start position by dragging the slider.

### **Time**



Specify the recorded date and time from which the movie will start playback.

### **Previous record**

Jump to the previous movie.

### **Stop button**

Click this button to stop a movie playing.

### **Play button**

Play the movie.

Click this button to play the movie at the normal speed after pressing the fast forward button.

### **Pause button**

Click this button to pause a movie playing.


**▶▶ Fast forward**

Click this button to fast forward the moving being played.

**▶ Next record**

Jump to the next movie.

**📷 Still image capture**

Save the capture of a recorded movie as a still image file to your computer. Click  to open the folder in which the movie is to be saved.


**Specify the playback time**

Specify the start and end position of the movie by moving the slider.

You can save the specified time to your computer.

You can also specify the start time to **In** and end time to **Out**.

**Export****Save selected part of recorded movie**

Save the part of movie which is specified by the playback time to your computer. Click  to open the folder in which the movie is to be saved.

---

## Monitor image



Play the selected movie from the search results list.

## Adminstrating the Camera

This section explains how to set the functions of the camera by the Administrator.

For details about monitoring the camera image, see “Operating the Camera” on page 9.

This section explains the basic operations and each option of the Administrator menu.

### Note on the display of menu options

Only supported functions are displayed.

## Basic Operations of the Administrator Menu

You can use the Administrator menu to set all functions to suit the user’s needs.

Click **Setting** in the viewer to display the Administrator menu.

### How to set up the Administrator menu

- 1 Log in to the homepage to display the viewer.  
For details, see “Logging in as a user” on page 10.
- 2 Click **Setting** on the main menu.  
The authentication dialog appears. Enter the user name and password for Administrator. The Administrator menu appears.  
The user name “admin” and password “admin” are set at the factory for the Administrator.  
Change the password from the factory setting for the security of your devices.
- 3 Click the menu name (example: System) on the left side of the Administrator menu.  
The clicked menu appears.

Example: “System” menu



- 4 Select the required tab above the menu, and set each setting option in the tab.

Example: “Date & time” tab of “System” menu



See page 20 for details of the menu tabs and setting options.

- 5 After setting, click **OK**.  
The settings you have made become active.

Click **Cancel** to nullify the set values and return to the previous settings.

### Buttons common to every menu

The following buttons are displayed on all the menus.



Click this button to confirm the settings.



Click this button to nullify the set values and return to the previous settings.

### General notes on menus

- One-byte katakana character is not valid for any text field, such as User name.
- After changing a setting on a menu, wait at least 30 seconds before turning off the power of the camera. If the power is turned off immediately, the new setting may not be stored correctly.
- If the camera settings are changed while watching the live viewer, some settings cannot be restored. To reflect the change on the opening live viewer, click **Refresh** on the Web browser.

### Configuration of the Administrator menu

#### System

Displays the System menu. (“Configuring the System — System Menu” on page 20)

#### Video / Audio

Displays the Video / Audio menu for setting the camera image and audio. (“Setting the Camera Image and Audio — Video / Audio Menu” on page 23)

#### Network

Displays the Network menu for setting the network connection. (“Configuring the Network — Network Menu” on page 29)

## Security

Displays the Security menu for setting the login user name and password to specify which computer(s) can connect to the camera. (“Setting the Security — Security Menu” on page 34)

## PTZ control

Displays the PTZ control menu. (“Setting the PTZ control — PTZ control Menu” on page 41)

## Action input

Displays the setting menu for all built-in detection functions. (“Setting the Camera tampering detection/ Motion detection — Action input Menu” on page 41)

## Action output

Displays the Action output menu for setting an action of the functions such as e-Mail (SMTP), Edge Storage and White LED. (“Setting the Action output — Action output Menu” on page 48)

## Schedule

Displays the Schedule menu for the e-Mail (SMTP) function, Voice alert function, White LED function, etc. (“Setting the Schedule — Schedule Menu” on page 53)

## CLOUD

Displays the setting menu for the CLOUD service. (“Setting the CLOUD service — CLOUD Menu” on page 53)

# Configuring the System

## — System Menu

When you click **System** in the Administrator menu, the System menu appears.

Use this menu to perform the principal settings of the software.

The System menu consists of the following tabs: **Information**, **Date & time**, **Installation**, **Initialize**, **System log** and **Access log**.

## Information Tab

### Model Name

The model name of the camera is displayed.

### Serial number

The serial number of the camera is displayed.

### Software version

The software version of the camera is displayed.

## Date & time Tab

### Current date & time

Displays the date and time set on the camera.

#### Note

After you have purchased the camera, be sure to check the date and time of the camera and set as necessary.

### PC clock

Displays the date and time set on your computer.

### Date & time format

Select the format of date and time to be displayed in the viewer from the drop-down list.

You can select the format between **yyyy-mm-dd hh:mm:ss** (year-month-day hour:minutes:seconds), **mm-dd-yyyy hh:mm:ss** (month-day-year hour:minutes:seconds), and **dd-mm-yyyy hh:mm:ss** (day-month-year hour:minutes:seconds).

## Adjust

Select how to set the day and time.

**Keep current setting:** Select if you do not need to set the date and time.

**Synchronize with PC:** Select if you want to synchronize the camera's date and time with the computer.

**Manual setting:** Select if you want to set the camera's date and time manually.

Select the year, month, date, hour, minutes and seconds from each drop-down list.

**Synchronize with NTP:** Select if you want to synchronize the camera's date and time with those of the time server called NTP server (Network Time Protocol).

Set the NTP server when **Synchronize with NTP** is selected.

### NTP server

Synchronize with the selected NTP server address.

## Time zone

Set the time difference from Greenwich Mean Time in the area where the camera is installed.

Select the time zone in the area where the camera is installed from the drop-down list.

### Automatically adjust clock for daylight saving time changes

When selected, the clock is automatically adjusted according to the daylight saving time of the selected time zone.

#### Note

If the time zone selected in **Time zone** is different from that set on the computer, the time is adjusted using the time zone difference and set on the camera.

## OK/Cancel

See "Buttons common to every menu" on page 19.

---

## Installation Tab

You can perform settings related to installation. After performing settings, the camera will be restarted.

### Stabilizer

Set the stabilizer function. Select the checkbox to display steadier images when the camera is installed in a place subject to vibration.

#### Notes

- When the stabilizer function is set, the angle of image taken will be smaller than usual.

- The stabilizer may not respond, depending on the amount of vibration.
- Be sure to set this function during the installation.
- Set the privacy masking position or the motion detection area, before setting the stabilizer.

## OK/Cancel

See "Buttons common to every menu" on page 19.

---

## Initialize Tab

### Reboot

Used when rebooting the system.

Click **Reboot**, and the message "This System will be rebooted. Are you sure?" appears. Click **OK** to reboot the camera. It takes about two minutes to restart.

### Factory default

Resets the camera to the factory settings.

### Retain current network settings

When this item is checked, only the current network settings will be retained after reset.

Click **Factory default**, and the message "This System will be rebooted. Are you sure?" appears.

When you click **OK**, the network indicator on the camera starts to blink. After adjustments of the default settings have finished, the camera reboots automatically. Do not turn off the camera until the camera reboots.

#### Tip

The camera can also be reset to the factory settings by turning on the power of this unit while pressing the reset button on the camera. For details, refer to the supplied Installation Manual.

### Format memory card

You can format a memory card (not supplied) inserted into the card slot of the camera. When you click **Format**, a confirming message appears. Click **OK** to start formatting. Any files and folders stored in the memory card will be deleted.

#### Notes

- Before formatting, set **Edge Storage movie** and **Edge Storage still image** in the Execution Condition tab of the Action output menu to **Off**, to write-protect the memory card.
- Do not activate the **Format memory card** function when no card is inserted into the card slot.

## Backup setting data

Saves the setting data of the camera in a file. Click **Save**, and follow the instructions on the Web browser to specify the folder and save the setting data of the camera.

The file name preset at the factory is “snc-cx600w.cfg” for SNC-CX600W.

## Restore setting

Loads the stored setting data of the camera. Click **Browse...** and select the file in which the setting data is stored. Click **OK**, and the camera is adjusted according to the loaded data.

## Restore privacy masking settings

If you select this, the stored setting data of the camera and the privacy masking data are loaded.

### Notes

- With **Restore setting**, some items in the Network menu (page 29) cannot be restored.
- The following items cannot be stored or restored with **Backup setting data** or **Restore setting**.
  - audio files uploaded using SNC audio upload tool
  - superimpose logo

## Delete voice alert file

Click **Delete** to delete all the audio files stored in the camera using SNC audio upload tool.

### Notes

- Clicking **Delete** deletes all the stored audio files simultaneously. To delete a specified audio file only, perform deletion of the audio file in the corresponding Execution Condition tab of the Action output menu (page 48).
- Before deleting the audio file, set **Voice alert** to **Off** in the Execution condition tab of the Action output menu (page 48).

## Delete superimpose logo

Click **Delete** to delete the superimposed logo, set in the Advance of the camera ID on the Superimpose tab of the Video / Audio menu, from the camera.

To set whether to show or hide the superimpose logo, you need to configure the setting under the Superimpose tab.

---

## Access log Tab

The access record of the camera is displayed. Click **Reload** to reload the latest data.

---

## System log Tab

The data of the software activity of the camera is recorded in this log. It includes data that is useful if a problem occurs.

Click **Reload** to reload the latest data.

# Setting the Camera Image and Audio

## — Video / Audio Menu

When you click **Video / Audio** in the Administrator menu, the Video / Audio menu appears.

Use this menu to set the functions of the camera.

The Video / Audio menu consists of the **Picture**, **Video codec**, **Audio**, **Superimpose**, **Day/Night**, **Privacy masking** and **Streaming** tabs.

### Note

**Day/Night** can be set for SNC-CX600 only.

## Picture Tab

You can set the color conditions, exposure, etc., of the camera.

### Preview screen

Preview the image and adjust the picture setting.

### Picture mode

Select the combination of image quality mode to suit the camera scene.

You can set the scene to **Standard**, **Situation Priority**, **Flickerless**.

When the dialog appears, click **OK** to apply the selected picture mode. You can change the settings of image quality individually.

### Standard

Set the image quality to suit variable scenes.

### Situation Priority

You can set the priority to **Moving object** or **Low noise**. Priority level can also be set.

**Moving object:** Stabilizes images.

**Low noise:** Reduces noise on images especially dark scenes.

### Flickerless

Select when you want to reduce the flicker on images. Set according to power frequency (50 Hz or 60 Hz) of the lighting you use.

### Exposure

Adjust the settings of exposure.

### Visibility Enhancer

Using the Visibility Enhancer function will make the darker part of a camera image brighter as well as automatically correct brightness and contrast to show bright parts clearly without overexposure.

### Backlight compensation

Select the checkbox to enable the backlight compensation function.

### Exposure compensation

Select the exposure correction value from the list box to adjust the target brightness for the automatic exposure setting. A larger value brightens the image, and a smaller value darkens the image.

### Auto gain Max. value

Limit the maximum value of gain-controlled automatic exposure control.

### Note

The value shown in the auto gain maximum rate is a standard value, and may differ from the actual one.

### Shutter speed

- Auto-controlled shutter speed automatically sets the exposure.
- Select the minimum and maximum shutter speeds from the list box.

## White balance

### Mode

Select the White balance mode.

**ATW:** Eliminating the influences caused by environmental illumination or lights, adjust the white balance automatically to reproduce original colors of the objects (approximately 2000 K to 10000 K).

**ATW-PRO:** Automatically adjusts the color to be closest to the image you are viewing (approximately 2500 K to 6000 K).

When **ATW** or **ATW-PRO** is selected, **R gain offset** and **B gain offset** become effective.

**Indoor:** Sets a white balance suitable for indoor photography.

**Outdoor:** Sets a white balance suitable for outdoor photography.

**Fluorescent lamp:** Sets a white balance suitable for photography under three-band fluorescent lighting with a neutral white color.

**Mercury lamp:** Sets a white balance suitable for photography under a mercury lamp.

**Sodium vapour lamp:** Sets a white balance suitable for photography under a high-pressure sodium vapor lamp.

**Metal halide lamp:** Sets a white balance suitable for photography under a metal halide lamp.

**White LED:** Sets a white balance suitable for photography under the light of white LEDs. When you use the camera's integrated LED light, the ATW setting is recommended.

**One push WB:** The **One push trigger** button becomes active. Click **On** to adjust the white balance instantly.

**Manual:** When this option is selected, **R gain** and **B gain** become active. Selectable gain values are from 0 to 4095.

## Picture

### NR (XDNR)

Select the level to reduce image noise. When you select **Off**, the NR function is not available.

### Brightness

Set the brightness. Select high values to make the image brighter, lower values to make the image darker.

### Saturation

Set the saturation. Select high values to make the image color stronger, lower values to make the image color weaker.

#### Notes

- The image color may not change if the subject is in a dark place.
- When the selected value is not 0, the image color may change after the brightness is changed.

### Sharpness

Set the sharpness. Select high values to make the image edges sharper, lower values to make the image edges smoother.

### Contrast

Set the contrast. Select high values to make the image contrast stronger, lower values to make the image contrast softer.

### OK/Cancel

See “Buttons common to every menu” on page 19.

## Video codec Tab

Use this tab to set the items for the video codec.

### Image 1, Image 2 and Image 3

Up to three image codec modes can be set. Configure the following setting for each image mode.

### Image codec

Select **H.264**, **JPEG** or **Off**. Note that Image 1 cannot be set to **Off**.

#### Note

The selectable size of images and frame rate for Image 2 and Image 3 may be limited, depending on the setting of codec type, image size, frame rate, and image quality for Image 1.

- The total of frame rate for Image 1, Image 2 and Image 3 should not exceed 60 fps.

If you set a value exceeding the standard, the following symptoms may occur.

- The image delays more than usual.
- The frame is skipped when playing an image.
- The voice is broken.
- The response of the camera to commands delays.

### Image size

You can select the size of images sent from the camera.

#### Note

If the image size is not 1280 × 720, the top and bottom part of the screen may not be displayed.

However, if the image size is 720 × 574 or 720 × 480, the full image is displayed but not in the 1:1 pixel aspect ratio.

### Frame rate

Set the frame rate of the image.

“fps” is a unit indicating the number of frames transmitted per second.

The frame rate of JPEG image can be changed by the setting of **Image quality**.

### I-picture interval

Set the I-picture insertion interval in seconds.

### H.264 profile

Set the profile setting for H.264 video codec to **high**, **main** or **baseline**. The video compression efficiency is **high**, **main** and **baseline** in sequence. The specified profile may not be available depending on the program you use. Select the profile which is suitable for your program.

### CBR

Selectable bit rates are CBR and VBR. Select CBR if you want to compress an image by constant bit rate. Select VBR if you want to maintain image quality. When you select On in the CBR drop-down list, CBR will be applied. When you select Off, VBR will be applied. When VBR is selected, you can set the image quality.



### Bit rate

Set the bit rate of H.264 image transmission for a line, when the CBR function is on. When the bit rate is set to a high level, better image quality can be enjoyed.

When you use a Wi-Fi network, we recommend setting the bit rate below 2000 kbps.

### Image quality

The image setting is available when you set the video codec to JPEG or H.264 with the VBR function On (selecting Off in the CBR drop-down list).

Selectable values are from **1** to **10**.

When **10** is selected, the best image quality is achieved.

The number that can be selected will be different depending on the setting.

### Bandwidth control

Limits the network bandwidth for the JPEG image data output from the camera.

#### Note

Audio may be interrupted depending on the selected bandwidth. In this case, select a wider bandwidth. This function is not available when the setting is set to **0**.

### OK/Cancel

See “Buttons common to every menu” on page 19.

## Audio Tab

### Audio sending

Make settings for sending audio from the microphone.

#### Enable

Select the checkbox if you want to send audio from the network camera.

#### Note

When you change the **Audio** setting, click **Refresh** on the Web browser to reflect the change on the opening live viewer page.

#### Mic volume

Set the volume level of the audio input from the microphone. It is adjustable from **-10** to **+10**.

#### Audio codec

Select the codec type of audio from the microphone. The bit rate may differ, depending on the codec type.

#### Note

No audio is output if the Plug-in free viewer is used.

### Audio upload

Using SNC audio upload tool, you can output audio that is input to the computer's audio input terminal from a powered speaker of the camera.

#### Enable

Select the checkbox to enable the audio upload function.

#### Volume

Set the speaker volume level from **-10** to **+10**.

### OK/Cancel

See “Buttons common to every menu” on page 19.

## Superimpose Tab

Select whether or not to superimpose the custom string and the character date & time on the image.

#### Notes

- For setting the superimposing, set **Image size1** in the Video codec tab of the Video / Audio menu to the maximum rate.
- Deselect the checkbox of **Stabilizer** in the Installation tab of the System menu. After setting superimpose, set the **Stabilizer** function again.

### Preview screen

Preview the image, and adjust the superimposed image. You can move the position of superimposed image displayed on the preview screen by drag and drop.

### Image

Select the video codec mode to set for the superimposed image.

The setting for the superimposed image is available if you select the checkbox next to the list box.

For details about the video codec mode, see the Video codec tab in the Video / Audio menu.

### Position

Select the number of the display position or logo, on the preview screen. When **Logo** is selected, the logo file setting is displayed.

## Note

Permissible logo file specifications;  
File format: PNG8 with alpha channel  
Image size: 160 × 120 or smaller  
Width (pixels): multiples of 16

When display position number 1, 2 or 3 is selected, the following setting menus appear.

## Type

Set the type of display information to codec, date & time, event or text.

## Custom string

Describes the superimposed content for each position. For Type setting, codec is displayed as <codeinfo>, date & time is displayed as <datetime>, event is displayed as <event>, and you can add a custom string.

**Codec:** Displays the video codec information.

**Date & time:** Displays the date and time.

**Event:** Displays the event alarm information.

**Text:** Displays the custom string.

## Text color

Select the font color of the superimposed text.

## Background color

Select the background color of the superimposed text.

## Alignment

Set the horizontal position of the superimposed text.

## Transparent

Select the background color transparent of the superimposed text. When you select Off, transparent is not available.

## Events displayed

Displays in the menu when the type is set to **Event**. Select the type of superimpose to be displayed for the event.

## OK/Cancel

See “Buttons common to every menu” on page 19.

---

## Day/Night Tab

**Supported model:** SNC- CX600

Use this tab to set the day/night function of the camera.

## Day/Night

### Mode

Select the day/night mode. This function has the following modes.

**Auto:** Normally works in day mode; switches automatically to night mode in a dark place.

### Threshold

This mode is available when **Auto** is selected. Set the brightness level when the night mode is set.

### Hold time

This mode is available when **Auto** is selected. Set the reaction time of changes in brightness.

**Manual:** Switch the day/night mode manually.

When you select **Manual** and the checkbox of the night mode is selected, the camera works in night mode. Otherwise, the camera works in day mode.

**Timer:** Normally the camera works in day mode. It switches to night mode at the time you set in **Timer** of **Day/Night** in the Schedule menu.

### Status

Displays the day/night function status.

### OK/Cancel

See “Buttons common to every menu” on page 19.

---

## Privacy masking Tab

Using the privacy masking enables you to hide images by masking specified parts of the images when streaming.

### Note

Perform the following before setting the privacy masking.

- Set **Image size1** in the Video codec tab of the Video / Audio menu to the maximum rate.
- Deselect the checkbox of **Image 1** in the PTZ control tab of the PTZ control menu.
- Deselect the checkbox of **Stabilizer** in the Installation tab of the System menu. After setting the privacy masking, set the **Stabilizer** function again.

### Preview screen

This screen is for monitoring images and configuring privacy masking.

You can move the position of the privacy mask displayed on the preview screen by drag and drop.

### Effect

Set the effect of privacy masks.

## Color

Specify the color of privacy masks. This setting is common to every privacy mask.

## Position

Select the number corresponding to the display position on the preview screen.

After completing the configuration, register by clicking **OK**.

## Clear

Click the button to delete the privacy mask set in **Position**.

## Clear all

Click the button to delete all privacy mask.

## Setting a privacy mask

Operate according to the following procedure to set a privacy mask in the position of your choice:

- 1** Select the number to register from the **Position** drop-down list.
- 2** Specify the privacy mask area by dragging the mouse on the preview screen.
- 3** Select the effect and color of the mask from the **Effect** and **Color** drop-down list.

### Note

The color is common to every privacy mask. The color selected last is applied.

- 4** Click **OK**.  
The mask is displayed on the preview screen.

## OK/Cancel

See “Buttons common to every menu” on page 19.

---

## Streaming Tab

Use this tab to set the items for the transmission by unicast or multicast.

### Unicast streaming

Specify the transmission port numbers of the H.264 video data and audio data to be used when **Unicast** is selected from the **Connection** drop-down list in the **Other** panel on the live viewer.

### Video port number 1, 2, 3

Specify the transmission port number of the H.264 video data. The default setting is 50000, 52000 or 54000.

Specify an even number from 1024 to 65534. Two port numbers (the number specified here and an odd number with 1 added to the specified number) are actually used for video data communication and control. When performing simultaneous multi-transmission, a different port number will be used for every transmission, based on the port number specified here.

The settings for Image 1, Image 2 and Image 3 apply to Video port number 1, 2 and 3 respectively.

### Audio port number

Specify the transmission port number of the audio data. It is initially set to 56000. Specify an even number from 1024 to 65534. Three port numbers (the number specified here and an odd number with 1 added to the specified number) are used for audio data communication and control. When operating multi-transmission at the same time, a different port number will be used in every transmission based on the port number specified here.

### Note

Specify different numbers for the video port number and the audio port number.

### RTSP video port number 1, 2, 3

Specify the H.264 video transmission port number used for RTSP unicast streaming. The default setting is 51000, 53000 or 55000. Specify an even number from 1024 to 65534. Two port numbers (the number specified here and an odd number with 1 added to the specified number) are actually used for video data communication and control. When performing simultaneous multi-transmission, a different port number will be used for every transmission, based on the port number specified here.

The settings for Image 1, Image 2 and Image 3 apply to RTSP video port number 1, 2 and 3 respectively.

### RTSP audio port number

Specify the audio transmission port number used for RTSP unicast streaming. The default setting is 57000. Specify an even number from 1024 to 65534. Two port numbers (the number specified here and an odd number with 1 added to the specified number) are actually used for audio data communication and control. When performing simultaneous multi-transmission, a different port number will be used for every transmission, based on the port number specified here.

## Multicast streaming

Set whether the camera uses multicast streaming for H.264 video data and audio data or not. It reduces the transmission load on the camera by having a computer of the same segment network receive the same transmitting data.

### Enable

Select the checkbox to allow multicast sending. When you select the checkbox, set **Multicast address**, **Video port number** and **Audio port number** properly.

### Multicast address 1, 2, 3

Type the multicast address used on the multicast streaming.

### Video port number 1, 2, 3

Specify the H.264 video transmission port number used for the multicast streaming. The default setting is 60000, 62000 or 64000. Specify an even number from 1024 to 65534. Two port numbers (the number specified here and an odd number with 1 added to the specified number) are used for video data communication and control.

The settings for Image 1, Image 2 and Image 3 apply to Video port number 1, 2 and 3 respectively.

### Audio port number

Specify the audio transmission port number used for the multicast streaming. It is initially set to 58000. Specify an even number from 1024 to 65534. Two port numbers (the number specified here and an odd number with 1 added to the specified number) are used for audio data communication and control.

### Note

Specify different numbers for the video port number and the audio port number.

### RTSP multicast address

Set the multicast address used on RTSP multicast streaming.

### RTSP multicast video port number 1, 2, 3

Specify the H.264 video transmission port number used for RTSP multicast streaming. The default setting is 61000, 63000 or 65000. Specify an even number from 1024 to 65534. Two port numbers (the number specified here and an odd number with 1 added to the specified number) are actually used for video data communication and control. When performing simultaneous multi-transmission, a different port number will be used for every transmission, based on the port number specified here.

The settings for Image 1, Image 2 and Image 3 apply to RTSP video port number 1, 2 and 3 respectively.

### RTSP multicast audio port number

Specify the audio transmission port number used for RTSP multicast streaming. The default setting is 59000. Specify an even number from 1024 to 65534. Two port numbers (the number specified here and an odd number with 1 added to the specified number) are actually used for audio data communication and control. When performing simultaneous multi-transmission, a different port number will be used for every transmission, based on the port number specified here.

### RTSP setting

Set the RTSP setting which cannot be set in the Unicast streaming setting and Multicast streaming.

### RTSP port No.

Set the port number used for RTSP streaming. The default setting is 554.

If you change the setting, the RTSP server will be rebooted.

### RTSP time out

Specify the time out of the Keep-Alive command by RTSP streaming. You can set the time out from **0** second to **600** seconds.

At the **0** setting, time out of the Keep-Alive command is not available.

### OK/Cancel

See "Buttons common to every menu" on page 19.

# Configuring the Network

## — Network Menu

When you click **Network** in the Administrator menu, the Network menu appears.

Use this menu to configure the network to connect the camera and the computer.

The Network menu consists of the following tabs:

**SNC-CX600W: Network, Wi-Fi and QoS**

**SNC-CX600: Network and QoS**

### Network Tab

This section provides the menus for connecting the camera through the network cable.

#### Status

##### MAC address

Displays the MAC address of the camera.

##### Ethernet status

Displays the current transmission rate.

##### Auto-MDI/MDIX

According to the port of the connected Ethernet device, automatically switches the port of the unit between MDI and MDI-X for transmission.

Displays the Ethernet port mode of the unit.

##### IP address

Displays the current IP address.

##### Subnet mask

Displays the current subnet mask.

##### Default gateway

Displays the current default gateway.

##### LinkLocal IP address

Displays the current link-local IP address.

##### Primary DNS server

Displays the current primary DNS server.

##### Secondary DNS server

Displays the current secondary DNS server.

##### IPv6 address 1, 2

Displays the current IPv6 address.

##### IPv6 default gateway

Displays the current IPv6 default gateway.

##### LinkLocal IPv6 address

Displays the current link-local IPv6 address.

#### IPv4 setting

Configure the IPv4 network setting.

##### To obtain the IP address automatically from a DHCP server

Select **Obtain an IP address automatically (DHCP)**.

The IP address, subnet mask, default gateway are assigned automatically.

##### Note

When you select **Obtain an IP address automatically (DHCP)**, make sure that a DHCP server is operating on the network.

##### To specify the IP address manually

Deselect **Obtain an IP address automatically (DHCP)**. Type the address in the **IP address**, **Subnet mask** and **Default gateway** boxes. **Host name** and **Domain suffix** are not available.

##### IP address

Type the IP address of the camera.

##### Subnet mask

Type the subnet mask.

##### Default gateway

Type the default gateway.

##### Host name

Type the host name of the camera to be transmitted to the DHCP server. This setting is valid only when **Obtain an IP address automatically (DHCP)** is selected.

##### Domain suffix

Type the domain suffix of the camera to be transmitted to the DHCP server. This setting is valid only when **Obtain an IP address automatically (DHCP)** is selected.

##### Note

The domain suffix is sent to the DHCP server as FQDN (Fully Qualified Domain Name) information when **Host name** is set.

#### IPv6 setting

Configure the IPv6 network setting.

**To obtain the IPv6 address automatically**

Select **Obtain IP address automatically**.

The IP address, prefix length, default gateway are assigned automatically.

**Note**

If you select **Obtain IP address automatically**, ask the network administrator whether an IPv6 address can be assigned.

This function is not available in a multi-prefix environment. The transmission may not work properly.

**To specify the IPv6 address manually**

Deselect **Obtain IP address automatically**. Type the address in the **IP address**, **Prefix length** and **Default gateway** boxes.

**IP address**

Type the IP address of the camera.

**Prefix length**

Type the prefix length value.

**Default gateway**

Type the default gateway.

**Common setting**

Configure the common setting for IPv4 and IPv6 network.

**HTTP port number**

Type the HTTP port number. Normally select 80.

**MTU**

Type the IP-MTU value for the Ethernet port.

**To obtain DNS server address automatically**

Select **Obtain DNS server address automatically**. The **Primary DNS server** and **Secondary DNS server** are assigned automatically.

**Note**

To obtain a DNS server address automatically, first enable **Obtain an IP address automatically (DHCP)** in the IPv4 setting, or **Obtain IP address automatically** in the IPv6 setting.

Ask the network administrator whether a DNS server address can be obtained automatically.

**To specify the DNS server address manually**

Deselect **Obtain DNS server address automatically**. Type the address in the **Primary DNS server** and **Secondary DNS server** boxes.

**Primary DNS server**

Type the IP address of the primary DNS server.

**Secondary DNS server**

Type the IP address of the secondary DNS server, if necessary.

**OK/Cancel**

See “Buttons common to every menu” on page 19.

**Wi-Fi Tab****Supported models: SNC-CX600W**

Use this tab to set the connection of the Wi-Fi network.

**Notes**

- A wired network and a Wi-Fi network cannot be used at the same time.
- The IP address of a Wi-Fi network will be assigned only when a wired network is not connected.

**Wi-Fi network connection check**

Displays the current connection status of a Wi-Fi network.

If the camera is connected to a Wi-Fi router, the display will be highlighted.

**SSID**

Displays SSID of the Wi-Fi router that can be connected to.

**Security**

Displays the current setting method as either authentication or encryption.

**None**

Connect to a Wi-Fi router without encryption.

**WEP**

Connect to a Wi-Fi router using WEP (Wired Equivalent Privacy).

**WPA/WPA2**

Connect to a Wi-Fi router by performing an authentication which is compliant to WPA/WPA2 (Wi-Fi Protected Access).

**Channel**

Displays the wireless channels of a Wi-Fi router that can be connected to.

## Signal

Displays the signal strength. If it is lower than 60%, improve the installation environment as follows:

- 1 Change the installation position of the camera.
- 2 Adjust the antenna angle of the Wi-Fi router.
- 3 Change the installation position of the Wi-Fi router.
- 4 Install a repeater.

### Note

The displayed signal intensity is an estimate. If the number is small, the connection may break easily.

## Refresh

Refresh the Wi-Fi network display.

### Note

When you click **Refresh**, video or images may be interrupted.

## Manual setting of a Wi-Fi network

You can set the connection of a Wi-Fi router manually. Before connecting, locate the Wi-Fi router setting information (SSID, authentication, encryption, key or password, etc.).

### Note

The connection may not be possible if you use the router that is not compliant with the Wi-Fi standard (802.11b/g/n).

## SSID

This is the identification for the Wi-Fi network connection.

## Security

Select authentication and encryption to combine with a Wi-Fi network connection.

### Note

Communication contents may be intercepted depending on the security setting.

## WPA/WPA2

Connect to the Wi-Fi network using WPA/WPA2 authentication. It is necessary to enter a **Passphrase**.

## WEP (Deprecated)

Type a WEP key (encryption key) of alphanumeric characters.

Communication contents may be intercepted because the security of WEP is weak. This setting is not recommended.

## None (Deprecated)

Connect to the Wi-Fi network without encryption.

Communication contents may be intercepted from an unencrypted connection. This setting is not recommended.

## WPS settings

Set WPS (Wi-Fi Protected Setup).

WPS is the standard of Wi-Fi Alliance to simply connect to a Wi-Fi network with security protection. Before connecting to the Wi-Fi network, check whether the Wi-Fi router is compliant with the WPS standard.

Click the WPS push button, or enter the 8-character PIN code for the Wi-Fi router.

## Wi-Fi network connection by WPS button

- 1 Refer the instruction manual of the Wi-Fi router, and enable the WPS function (button method).
- 2 Click **WPS**. Check the status whether it is **Connecting**.
- 3 The automatic setting between the Wi-Fi router and the camera starts. It takes up to two minutes to connect.
- 4 When the connection is complete, the status will be **Connected**.  
The status **Connection failure**. means the connection was not performed successfully. Check whether the WPS function of the Wi-Fi router is enabled. For details, refer to the instruction manual of the Wi-Fi router. If you still cannot connect, use "Manual setting of the Wi-Fi network."
- 5 An IP address for a Wi-Fi network will be assigned when the network cable of the camera is disconnected.

## Wi-Fi network connection by PIN code

- 1 Click **Generate** to generate the PIN code.
- 2 Enter the 8-character PIN code generated by step 1 to connect to the Wi-Fi router. For details on how to enter or connect, refer the instruction manual of the Wi-Fi router.

- 3 Click **Connect** to start the connection by PIN method. It takes up to two minutes to connect to WPS.
- 4 When the connection is complete, the status will be **Connected**.  
The status **Connection failure**, means the connection was not performed successfully. Check whether the WPS function of the Wi-Fi router is enabled. For details, refer to the instruction manual of the Wi-Fi router. If you still cannot connect, use “Manual setting of the Wi-Fi network.”
- 5 An IP address for a Wi-Fi network will be assigned when the network cable of the camera is disconnected.

---

## Connection status

Displays the setting status.

### MAC address

Displays the MAC address of the camera.

### IP address

Displays the current IP address.

### Subnet mask

Displays the current subnet mask.

### Default gateway

Displays the current default gateway.

### Primary DNS server

Displays the current primary DNS server.

### Secondary DNS server

Displays the current secondary DNS server.

### IPv4 setting

Configure the IPv4 network setting.

#### To obtain the IP address automatically from a DHCP server

Select **Obtain an IP address automatically (DHCP)**.

The IP address, subnet mask, default gateway are assigned automatically.

#### Note

When you select **Obtain an IP address automatically (DHCP)**, make sure that a DHCP server is operating on the network.

#### To specify the IP address manually

Deselect **Obtain an IP address automatically (DHCP)**. Type the address in the **IP address**, **Subnet mask** and **Default gateway** boxes. **Host name** and **Domain suffix** are not available.

#### IP address

Type the IP address of the camera.

#### Subnet mask

Type the subnet mask.

#### Default gateway

Type the default gateway.

#### Host name

Type the host name of the camera to be transmitted to the DHCP server. This setting is valid only when **Obtain an IP address automatically (DHCP)** is selected.

#### Domain suffix

Type the domain suffix of the camera to be transmitted to the DHCP server. This setting is valid only when **Obtain an IP address automatically (DHCP)** is selected.

#### Note

The domain suffix is sent to the DHCP server as FQDN (Fully Qualified Domain Name) information when **Host name** is set.

#### MTU

Type the IP-MTU value for the Ethernet port.

#### To obtain DNS server address automatically

Select **Obtain DNS server address automatically**. The **Primary DNS server** and **Secondary DNS server** are assigned automatically.

#### Note

To obtain a DNS server address automatically, first enable **Obtain an IP address automatically (DHCP)** in the IPv4 setting.

Ask the network administrator whether a DNS server address can be obtained automatically.

#### To specify the DNS server address manually

Deselect **Obtain DNS server address automatically**. Type the address in the **Primary DNS server** and **Secondary DNS server** boxes.

#### Primary DNS server

Type the IP address of the primary DNS server.



### Secondary DNS server

Type the IP address of the secondary DNS server, if necessary.

### OK/Cancel

See “Buttons common to every menu” on page 19.

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## QoS Tab

In this tab, you can mark the data traffic packets sent from the device and configure the settings for QoS control. Rules for the types of data traffic can be created using IPv4 address, port number, protocol, etc. A maximum of 10 rules can be registered.

### IPv4 QoS

#### Enable

Select the checkbox to configure the QoS setting for IPv4.

#### Rule

Used to register, edit and delete QoS.

#### No.

Select the number to use when registering on the QoS table.

When you select a registered number, the registered QoS information is displayed.

#### Network address

Enter the network address of the target on which to perform QoS.

#### Subnet

Enter the subnet mask values of the target on which to perform QoS.

#### Tip

The subnet mask value represents the number of bits from the left side of the network address.

#### Protocol

Select the protocol.

#### Port

Enter the port number for the data traffic of the device (e.g. HTTP:80).

#### DSCP

Set a value to mark the data traffic (0 ~ 63).

This value is set in the DSCP field included in the IP header of the data traffic.

### Set

Used when registering on the QoS table. QoS is set according to the following procedure:

- 1 Select **No.** from **No.** and enter the necessary conditions for **Network address**, **Subnet**, **Protocol** and/or **Port No.**.
- 2 Enter values in **DSCP**.
- 3 Click **Set** and configure the QoS.

### Delete

Select **No.** to delete the setting and click **Delete**.

### Up

Increases the priority of the rule.

Select a rule from the QoS table to prioritize and click **Up**.

### Down

Decreases the priority of the rule.

Select a rule from the QoS table to lower its priority and click **Down**.

### QoS table

Displays the list of registered QoS information. If multiple conditions match, the rule with the smallest number has priority.

### OK/Cancel

See “Buttons common to every menu” on page 19.

# Setting the Security

## — Security Menu

When you click **Security** in the Administrator menu, the Security menu appears.

The Security menu consists of the **User**, **Access limit**, **SSL**, **802.1X** tabs.

### User Tab

Set the user names and passwords of Administrator and up to 9 types of user (User 1 to User 9), and the viewer mode of each user.

#### Administrator, User 1 to 9

Specify **User name**, **Password**, **Re-type password** and **Viewer mode** for each user ID.

##### User name

Type a user name between 5 and 16 characters.

##### Password

Type a password between 5 and 16 characters.

##### Re-type password

To confirm the password, retype the password that you typed in the **Password** box.

##### Audio

Set whether to enable the audio output from the speaker of the camera, by using SNC audio upload tool. Select the checkbox to enable.

##### Note

When you want to set the audio output using the SNC audio upload tool, be sure to set **Audio upload** in the Audio tab of the Video / Audio menu to **Enable**.

##### Playback

Set whether to enable using the playback viewer. Select the checkbox to enable.

##### Viewer mode

When the user is authenticated for logging in the viewer, select the viewer mode to be displayed after authentication.

**Administrator:** The user can operate all functions in this mode.

**Full:** The user can operate all functions except deleting the recorded movie in the memory card.

**Pan/Tilt:** In addition to the **Light** mode, the user can operate pan/tilt/zoom.

**Light:** In addition to the **View** mode, the user can select the image size of the live viewer, select codec and capture a still image.

**View:** The user can only monitor the camera image.

For the functions available for each viewer mode, see “Administrator and User” on page 9.

### Viewer authentication

Set whether the user is authenticated or not when the viewer is displayed.

When the checkbox is selected, the viewer is displayed in accordance with the viewer mode of the authenticated user. When the checkbox is not selected, select the viewer mode of the viewer which is displayed without authentication from **Full**, **Light** or **View**.

### OK/Cancel

See “Buttons common to every menu” on page 19.

### Access limit Tab

This allows you to control which computers can have access to the camera.

Likewise, when using IPv6, security settings can be configured for each network.

#### Enable

Select the checkbox to enable the access limit.

#### Default policy

Select the basic policy of the limit from **Allow** and **Deny** for the computers specified in the Network address/Subnet 1 to Network address/Subnet 10 menus below.

#### Network address/Subnet 1 to Network address/Subnet 10

Type the network addresses and subnet mask values that you want to allow or deny access to the camera.

You can specify up to 10 network addresses and subnet mask values. For a subnet mask, type 8 to 32.

(In the case of IPv6, enter a value between 8 and 128.) Select **Allow** or **Deny** from the drop-down list on the right for each network address/subnet mask.

#### Tip

The subnet mask value represents the bit number from the left of the network address.

For example, the subnet mask value for “255.255.255.0” is 24.

If you set **192.168.0.0/24** and **Allow**, you can allow access from computers having an IP address between “192.168.0.0” and “192.168.0.255”.

**Note**

You can access the camera even from a computer having an IP address whose access right is set to **Deny**, if you enter the user name and password set for the **Administrator** boxes in the User menu.

**OK/Cancel**

See “Buttons common to every menu” on page 19.

**SSL Tab**

Configure the SSL or TLS function (called “SSL” hereafter). The settings allow the camera to communicate with the client PC by using SSL.

**Notes**


- The model on sale in China does not support the SSL function.
- When using the SSL function, always configure the settings after setting the date and time of the camera. If the date and time are not correctly set, it may cause browser connection problems.
- Reload the window when you change the SSL setting. Press the F5 key on the keyboard to reload.

**Common setting****SSL function**

Select **Enable** to use the SSL function.

When **Enable (Allow HTTP connection for some clients)** is selected, both HTTP and SSL connections are allowed. When **Enable** is selected, only SSL connection is allowed.

**When Internet Explorer 7, Internet Explorer 8, Internet Explorer 9 or Internet Explorer 10 is used**

When SSL session is established,  appears in the right of the address bar on your web browser.

**When you use SSL connection for the first time**

When you use SSL connection only with the SSL function **Enable**, you cannot access the camera if the SSL function does not work properly.

In this case, you must reset the camera to the factory settings. (All settings will be initialized.)

To avoid this, check that SSL connection is possible by performing the following steps.


- 1** Set the SSL function to **Enable (Allow HTTP connection for some clients)**.
- 2** Click **OK** to close the viewer and the setting window.

- 3** Display the viewer in SSL connection. Refer to “Using the SSL function” on page 6 for connection.
- 4** After confirming that SSL connection is possible, set the SSL function to **Enable**.

Even if the setting window or the browser is closed as SSL connection is impossible, http connection will be possible if **Enable (Allow HTTP connection for some clients)** is selected. First check the setting contents of SSL tab in http connection, then check the SSL connection again.

If **Enable (Allow HTTP connection for some clients)** is not selected, you will not be able to access the camera if SSL connection becomes impossible. In this case, turn on the power of the main unit while pressing the reset switch on the camera to initialize. For details, refer to the supplied Installation Manual.

**Note**

SSL connection will load the camera down; therefore, not all images may be downloaded, and the  mark may appear when the camera accesses the setting window from the browser. In this case, reload the window. Press the F5 key on the keyboard to reload.

**SSL server authentication****Certificate options**

Select an installation mode of the certificate.

**Use an external certificate:** Uses the certificate including private key information issued by a CA. The PKCS#12 and PEM formats are supported.

**Note**

SSL is not available when **Certificate options-Use an external certificate** is selected, or certificate and private key password is not set properly even SSL is set to “**Enable**”.

**Use a self-signed certificate (For test use):** This mode uses the certificate and private key pair generated by “Self-signed certificate generation” on page 36. Private key information corresponding to the certificate is stored in the camera. You do not need to install an external certificate. However, you cannot execute the existence proof that is one of the SSL functions for the following reasons.

- The private key generated in the camera is self-signed by the camera.
- A prepared value is set for a distinguished name (Common name, etc).
- The certificate is not issued by a trusted CA.

For reasons of security, we recommend using this mode only when there is no problem even if perfect security is not saved.

#### Notes

- When **Use a self-signed certificate (For test use)** is selected, the **Security Alert** dialog appears on the SSL connection with a browser. For details, refer to “Using the SSL function” (page 6).
- SSL connection may be impossible due to the type of certificate installed in the camera. In this case, refer to “How to install the CA certificate” on page 37 and install.

#### To import the certificate

Click **Browse...** to select the certificate to be imported. Click the OK button appearing on the dialog when you select the file, to import it to the camera.

#### Note

The import process becomes invalid if the selected file is not a certificate or the imported certificate is not allowed.

#### Self-signed certificate generation

A self-signed certificate can be generated in the camera to be used when **Use a self-signed certificate (For test use)** is selected from **Certificate options**.

Click **Generate** to generate a self-signed certificate in the camera. Clicking **Generate** again after **Generate** has been clicked once will update the self-signed certificate stored in the camera.

#### Note

Make sure to set the date and time on the camera correctly before performing this operation. If the date and time are not correctly set, it may cause browser connection problems. Before selecting **Generate** in **Self-signed certificate generation**, click **OK** to select **Use a self-signed certificate (For test use)** in **Certificate options**.

#### To display certificate information

When the certificate has been set in the camera correctly, its information appears on **Status**, **Issuer DN**, **Subject DN**, **Validity Period** and **Extended Key Usage**.

#### Status

Shows if the status of the certificate is valid or invalid. The following statuses are recognised.

**Valid:** The certificate is correctly stored and set.

**Invalid:** The certificate is not correctly stored and set. Possible causes are as follows:

- **Use an external certificate** is selected and the private key password included in the certificate is not specified correctly.
- **Use an external certificate** is selected and the private key password is specified in spite of the fact that the key pair in the certificate is not encrypted.
- **Use an external certificate** is selected and the key pair is not included in the certificate.
- **Use a self-signed certificate (For test use)** is selected without the self-signed certificate being generated.

#### Note

When the certificate to be imported is of PKCS#12 format and the private key password is not set correctly, <Put correct private key password> is displayed in the boxes of **Issuer DN**, **Subject DN**, **Validity Period** and **Extended Key Usage**.

Specify the correct private key password to confirm the information of the certificate.

#### To delete the imported certificate or self-signed certificate

Click **Delete** to delete the certificate or self-signed certificate imported to the camera.

#### Private key password

Type the password for the private key information included in the certificate using up to 50 characters. This text box is active only when **Certificate options** is set to **Use an external certificate**.

Leave the text box blank if the private key information included in the certificate is not encrypted.

If no private key password is set in the camera, an active text field is displayed and this allows a password to be entered.

If a private key password is already set, it is displayed as an inactive text field.

#### Reset

To change the private key password, click this button. The current password is cleared and the password text box becomes active to allow a new password entry.

#### Note

Click **Cancel** at the bottom of the menu if you want to cancel changing the private key password after clicking **Reset**. Doing so restores the other setting items in the Client certificate tab to the previous settings.

#### SSL client authentication

In this tab, you can manage the CA certificate needed for the camera to use the client authentication of the SSL function.

**Notes**

- When using the client authentication, the personal certificate must be successfully installed on the PC to use it. If this preparation cannot be performed, do not configure settings on this tab. Otherwise, you may not be able to connect to the camera.
- The setting of SSL client authentication is available only when SSL server authentication certificates are uploaded.

**Enable**

You can configure whether to enable the client authentication of the SSL function.

**Trusted CA certificate 1 to 4**

You can import a trusted CA certificate (route certificate, etc.) to the camera.

Up to four certificates from trusted CAs can be imported to the camera. Only PEM format is supported.

**To import the CA certificate**

- 1 Click **Browse...** to select the CA certificate to be saved in the camera.
- 2 Click the OK button appearing on the dialog. The selected file will be imported to the camera.

**Note**

Import process will be invalid if the selected file is not a CA certificate.

**To display the information of the CA certificate**

When the CA certificate has been saved in the camera correctly, its information appears on **Issuer DN**, **Subject DN**, **Validity Period**, and **Extended Key Usage** for your reference.

**To delete the CA certificate**

Click **Delete** to delete the selected CA certificate from the camera.

**Tip**

To enable a client certificate, it is recommended that the settings are configured following the procedure below:

- ① **Import the necessary CA certificate.**
- ② **Select the SSL client authentication checkbox and click OK.**

**Note**

When you set SSL client authentication to **Enable** and click **OK**, the camera will immediately operate to enable client authentication. Make sure that the personal certificate on your PC is successfully installed.

**OK/Cancel**

See “Buttons common to every menu” on page 19.

**How to install the CA certificate**

The camera may not be connected because the browser (Internet Explorer) does not display whether the certificate will be accepted or not due to the type of certificate. In this case, install the CA certificate as follows.

- 1 Save in the PC the certificate of CA which has signed the certificate to be installed in the camera. The extension of the certificate file is normally “.cer”. Double-click this file. The following **Certificate** dialog appears.



- 2 Click **Installation Certificate...**  
The **Certificate Import Wizard** appears.



- 3 Click **Next**.



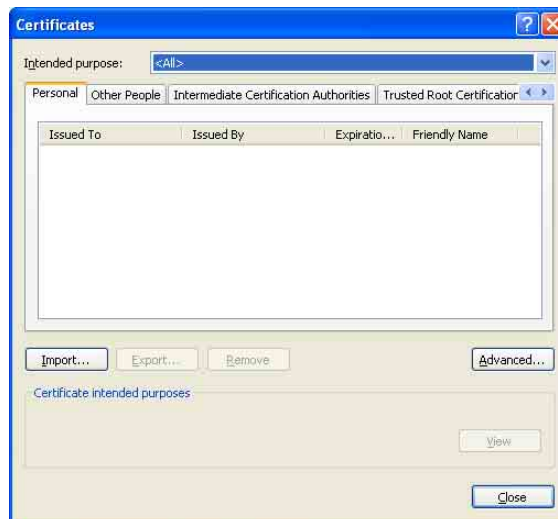
- 4 Select **Automatically selects the certificate store based on the type of certificate** and click **Next**. **Completing the Certificate Import Wizard** appears.



- 5 Check the contents, then click **Finish**.  
The CA certificate will be installed.

## To remove an installed CA certificate

- 1 In Internet Explorer, click in the order **Tools, Internet options, Content tab and Certificates**.  
The **Certificates** dialog appears.



- 2 Select the certificate you want to remove.  
The CA certificate is usually stored in **Trusted Root Certification Authorities**.
- 3 Click **Remove**.  
**Do you want to delete the certificate** appears to confirm.
- 4 Click **Yes**.  
The certificate will be removed.  
There may be a case that a certificate cannot be removed by the steps above due to the type of certificate. Check the installation condition and remove it following the steps below.

### Note

You need to log in as Administrator to perform these steps.

- 1 Open **Run...** of the Windows menu, then enter **mmc** and click **OK**.
- 2 Select **File** in the **Console 1** window and **Add/Remove Snap-in...** (when Windows XP Professional is used).  
**Add/Remove Snap-in...** dialog appears.
- 3 Click **Add** to display **Add Stand-alone Snap-in** dialog.  
You need to follow this step if using Windows XP Professional.

- 4 Select **Certificates** from the list, then click **Add**. **Certificate Snap-in** is displayed.
- 5 Select **Computer account** as the certificate administrated in this Snap-in, then click **Next**.
- 6 Select **Local Computer** as the computer administrated in this Snap-in, then click **Finish**.
- 7 Close **Add Standalone Snap-in** (for Windows XP Professional only) and **Add/Remove Snap-in...** dialogs.  
The items for administrating **Certificates** appears in the **Console Route** window.  
Confirm the relevant certificate, then remove it.

## 802.1X Tab

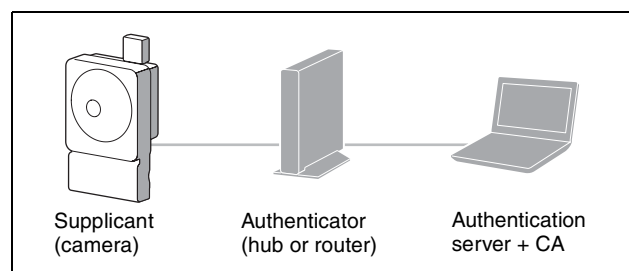
Configure the wired port-based authentication in compliance with the 802.1X standard.

### Notes

- To use the 802.1X authentication function, you need knowledge of the 802.1X authentication and digital certificate. To establish an 802.1X network, you need to configure the authenticator, authentication server and other elements. For details on these settings, refer to the manual of the corresponding equipment.
- When using the 802.1X authentication function, always configure the settings after setting the date and time of the camera. If the date and time are incorrect, port authentication may not be performed correctly.

## System configuration of 802.1X network

The following figure shows a general system configuration of an 802.1X network.



### Supplicant

A supplicant is a device that connects to the authentication server to join the network. This camera serves as a supplicant in the 802.1X network. The supplicant can enter the 802.1X network after appropriate authentication by the authentication server.

### Authenticator

An authenticator forwards certificate request data or response data that the supplicant or authentication server issues to the other party. Normally a hub, router or access point serves as an authenticator.

### Authentication server

An authentication server has a database of connecting users and verifies if the supplicant is a valid user or not. It can also be called RADIUS server.

### CA (Certificate Authority)

A CA issues and manages certificates of the authentication server (CA certificates) and user certificates. The CA is essential for certificate-based user authentication. Normally a CA is located inside an authentication server.

### Note

This camera supports EAP mode in which the supplicant and the server authenticate using the certificate. This mode requires a CA to issue the certificate.

## Common setting

### Enable

Select the checkbox to enable the 802.1X authentication function.

### EAP identity

Type the user name to identify the client in the 802.1X authentication server up to 250 characters.

### EAP password

A supplicant EAP password is needed to be inputted when PEAP is selected with EAP condition. The password can contain half-width letters and the length should be within 50 characters.

### Reset

To change the once set EAP password, click **Reset** and clear the current password. A new password can be entered.

### Note

After you click **Reset**, if you wish to cancel the EAP password change, click **Cancel** at the bottom of the screen. This will cancel other changes made to the settings.

### EAP method

You can select the authentication method used with the authentication server. This device supports TLS and PEAP.

**TLS:** By this method, the supplicant and the server authenticate each other using a certificate. This enables secure port authentication.

**PEAP:** By this method, an EAP password is used for the supplicant authentication and a certificate is used for server authentication.

## Client certificate

When TLS is selected as the EAP method, the client certificate is imported, displayed or deleted for the camera authentication.

### To import the client certificate

Click **Browse...** to select the client certificate to be imported.

Click the OK button appearing on the dialog, and the selected file will be imported to the camera.

#### Note

The import process becomes invalid if the selected file is not a client certificate or the imported client certificate is not allowed.

### To display the information of the client certificate

When the client certificate has been saved in the camera correctly, its information appears on **Status**, **Issuer DN**, **Subject DN**, **Validity Period** and **Extended Key Usage**.

**Status:** Shows if the status of the client certificate is valid or invalid.

**Valid** means the client certificate is correctly stored and set.

**Invalid** means the client certificate is not correctly stored and set.

Possible causes of **Invalid** are as follows:

- The private key password included in the client certificate is not specified correctly.
- The private key password is specified in spite of the fact that the key pair in the client certificate is not encrypted.
- The key pair is not included in the client certificate.

#### Note

When the client certificate to be imported is of PKCS#12 format and the private key password is not set correctly, “<Put correct private key password>” is displayed in the boxes of **Issuer DN**, **Subject DN**, **Validity Period** and **Extended Key Usage**. Specify the correct private key password to confirm the information of the certificate.

### To delete the client certificate

Click **Delete**, and the client certificate stored in the camera will be deleted.

### Private key password

Type the password for the private key information included in the client certificate using up to 50 characters.

Leave the text box blank if the private key information included in the client certificate is not encrypted.

If a private key password is already set, it is displayed as turned letters.

### Reset

To change the private key password, click this button.

The current password is cleared and the password text box is activated to allow new password entry.

#### Note

Click **Cancel** at the bottom of the screen if you want to cancel changing the private key password after clicking **Reset**. Doing so restores the other setting items in the Client certificate tab to their previous settings.

## CA certificate

You can import a trusted CA certificate (server certificate or route certificate) to the camera. Up to four certificates from trusted CAs can be imported to the camera. Only the PEM format is supported.

### To import the CA certificate

Click **Browse...** to select the CA certificate to be imported.

Click the OK button appearing on the dialog, and the selected file will be imported to the camera.

#### Note

Import process becomes invalid if the selected file is not a CA certificate.

### To display the information of the CA certificate

When the CA certificate has been saved in the camera correctly, its information appears on **Issuer DN**, **Subject DN**, **Validity Period** and **Extended Key Usage**.

### To delete the CA certificate

Click **Delete**, and the CA certificate stored in the camera will be deleted.



## Setting the PTZ control

### — PTZ control Menu

When you click **PTZ control** in the Administrator menu, the PTZ control menu appears.  
The PTZ control menu consists of the **Solid PTZ** tab.

#### Solid PTZ Tab

##### Solid PTZ

Select the checkbox to enable the Solid PTZ function. You can set Image 1, Image 2 and Image 3 separately.

##### Note

The Solid PTZ function is not available with Plug-in free viewer.

##### OK/Cancel

See “Buttons common to every menu” on page 19.

## Setting the Camera tampering detection/ Motion detection

### — Action input Menu

When you click **Action input** in the Administrator menu, the Action input Menu appears.

The Action input Menu consists of the **Event condition**, **Camera tampering detection**, **Motion detection**, **Face detection** and **Network disconnection** tabs.

#### When the Motion detection or Face detection tab is displayed for the first time

When you click **Motion detection** or **Face detection**, “Security Warning” is displayed. When you click **Yes**, ActiveX control is installed and the Motion detection or Face detection tab is displayed.

##### Notes

- If **Automatic configuration** is enabled in the Local Area Network (LAN) settings of Internet Explorer, the image may not be displayed. In that case, disable **Automatic configuration** and set the proxy server manually. For the setting of the proxy server, consult your network administrator.
- When you install ActiveX control, you should be logged in to the computer as Administrator.

#### Event condition Tab

Create event execute conditions for each action.

##### Event condition 1, 2, 3, 4, 5

Select the event condition.

You can combine the alarm using the following event execute conditions.

**and:** detect when both conditions happen within a specified interval regardless of the sequence.

**or:** detect when either condition happens.

**then:** detect when each of the conditions happen within a specified interval in sequence.

If you set the event condition to **None**, the following alarm 1, 2, 3 menus appear.

##### 1, 2, 3

Select the alarm.

Selectable alarms are as follows;

**Camera tampering detection:** The alarm is triggered if the camera detects tampering, such as direction shifting or spray.

**Motion detection:** The alarm is triggered by the motion detection function.

**VMF:** The alarm is triggered by the VMF function.

**Face detection:** The alarm is triggered by the face detection function.

**Network disconnection:** The alarm is triggered by disconnection to a specific IP address.

**Presence sensor:** The alarm is triggered by the presence sensor function.

#### Note

You cannot set **Camera tampering detection** and **Network disconnection** in the same event condition.

### Interval

Specify the interval time used when condition is set to **and**, then.

In the case the condition is set as 1 and 2, the system sounds an alarm when either 1 or 2 happens, and the other happens within the specified interval.

In the case the condition is set as 1 then 2, the system sounds an alarm when 1 happens, and then 2 happens within the specified interval.

If you select “or” condition, this setting will be ignored. The maximum duration to be set is 7200 seconds.

## Camera tampering detection Tab — Set the camera tampering detection

#### Notes

- Before using the camera tampering detection function, adjust the image first.  
If you adjust focus/zoom with the camera tampering detection function activated, detection may not be effective.
- Deselect the checkbox of **Stabilizer** in the Installation tab of the System menu. After setting the camera tampering detection, set the **Stabilizer** function again.

### Enable

Select the checkbox to activate the function to detect camera tampering, such as direction shifting or spray.

### Detection status

Display the tampering detection state of the time when Camera tampering detection tab is opened. To clear the detection status, click **Clear** button.

### OK/Cancel

See “Buttons common to every menu” on page 19.

## Motion detection Tab — Set the motion/VMF detection

Motion detection responds to moving objects in the camera image and triggers an alarm.

In VMF, an alarm sounds when motion is detected under the motion detection setting, entering or passing through a specified area or inspection line. An alarm also sounds when an object has been left or removed from a specified area or inspection line.

The detected object will be displayed on the monitor in the green frame. The removed object and left object will be displayed in the magenta frame.

When you click the Motion detection tab, a dialog appears. Enter the user name and password.

The factory setting of the user name and password for the Administrator is set to “admin”.

Change the password from the factory setting for the security of your devices.

#### Note

Perform the following before setting the motion detection.

- Set **Image size1** in the Video codec tab of the Video / Audio menu to the maximum rate.
- Deselect the checkbox of **Image 1** in the PTZ control tab of the PTZ control menu.
- Deselect the checkbox of **Stabilizer** in the Installation tab of the System menu.

## What is VMF

VMF is a function for detecting an object entering or passing through a specified area or inspection line, or when an object has been left or removed from a specified area or inspection line. Video/audio recording and/or audio file playback can be synchronized with this alarm. You can set the inspection methods to execute independently. Intrusion and Passing can also be set to execute in combination.

For example:

- An alarm sounds when an object enters areas A, B and C.
- An alarm sounds when an object passes through area A and enters area B.
- An alarm sounds when an object passes through areas A and B, and enters area C.
- An alarm sounds when an object enters area A, and passes through area B.

### Intrusion

When a moving object enters the designated area, an alarm sounds.

## Passing

A passage line is determined, and when a moving object passes the setting line, an alarm sounds.

## Left object

When a moving object has been left in the designated area, an alarm sounds.

## Removed object

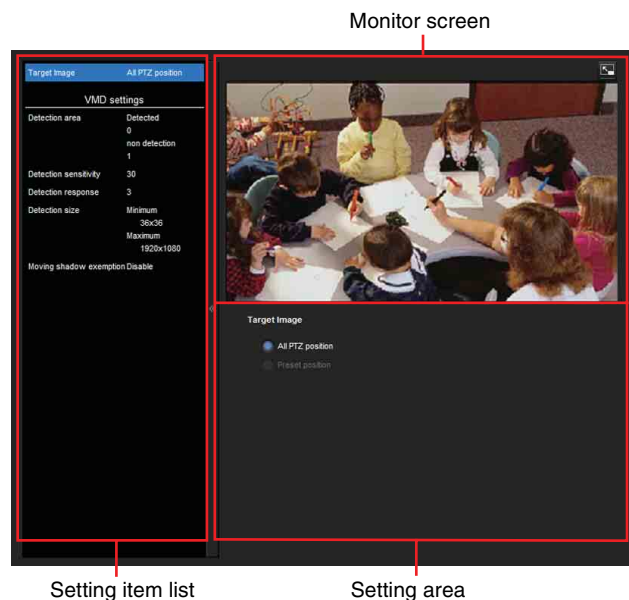
When a moving object has been removed from the designated area, an alarm sounds.

### Notes

- Before actual use, perform an operation test and confirm that the motion detection function works correctly.
- Even when privacy masking is used, the motion detection function operates based on the images before masking is processed.

## Setting items for motion detection

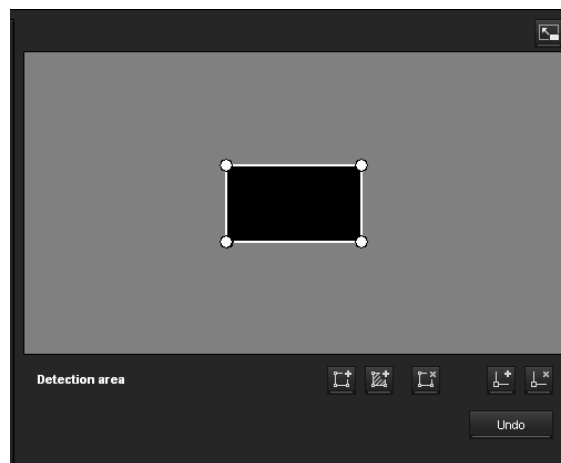
Use the settings tab to set the conditions for the motion detection function while observing camera images.



## VMD settings

### Detection area

Specify the effective scope of motion detection.



### Note

The frames shown on the monitor screen are not displayed on the image files sent or recorded with motion detection.

### Configuring the detection area

The following procedure is used to configure the motion detection area:

- 1 Use the following buttons to specify the active area(s) and inactive area(s).

#### Add detection area

Clicking this button will add an active area window in the center of the screen.

When you place the cursor on the area, the cursor changes to a crossed arrow, which you can drag to move the area.

When you place the cursor on the vertex of the area, the cursor changes to  $\leftrightarrow$ , which you can drag to move the vertex.

#### Add non detection area

Clicking this button will add an inactive area window in the center of the screen.

When you place the cursor on the area, the cursor changes to a crossed arrow, which you can drag to move the area.

When you place the cursor on the vertex of the area, the cursor changes to  $\leftrightarrow$ , which you can drag to move the vertex.

#### Delete Area

Clicking this button will change the cursor to a button. While the cursor is a button, click on a part of the area to delete that area.

After the deletion, the cursor will return to its original form. To exit this operation, click this button again.  
It is the same function as the button displayed under VMF settings.

 **Add vertex**

Clicking this button will change the cursor to a button. In that state, when you click on a part of the side of the area, a vertex is added to that point. After the addition, the cursor will return its original form. To exit this operation, click this button again.  
It is the same function as the button displayed in VMF settings.

 **Delete vertex**

Clicking this button will change the cursor to a button. In that state, when you click on a part of the vertex of the area, the vertex added to that point is deleted. After the deletion, the cursor will return its original form. To exit this operation, click this button again.  
It is the same function as the button displayed in VMF settings.

**Note**

The vertex can be moved in an outward direction but cannot be moved toward the inside of an area.

**Detection sensitivity**

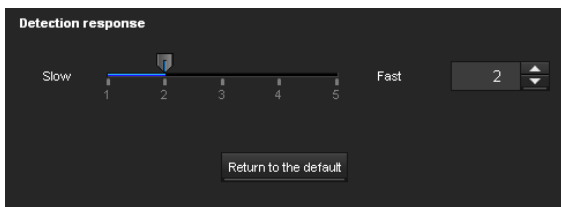
Set the sensitivity of motion detection.



A value from **1** to **256** can be specified.  
Clicking **Return to the default** changes the value to the default value.

**Detection response**

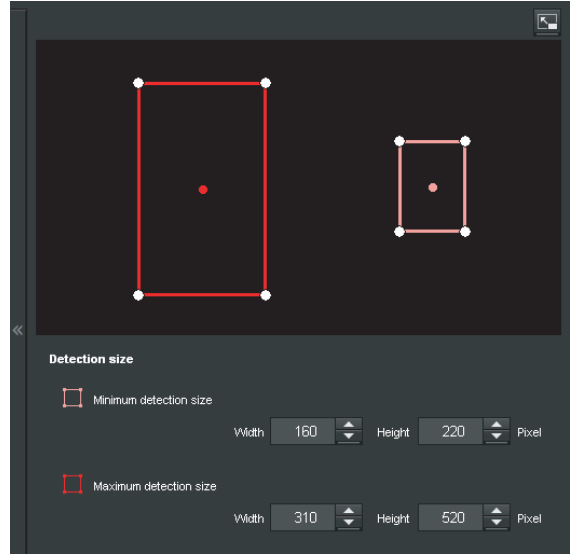
Set the response velocity of motion detection.




A value from **1** to **5** can be specified.  
Clicking **Return to the default** changes the value to the default value.

**Detection size**

Specify the minimum detection size and maximum detection size for motion detection. To specify the detection size, you can either enter values or drag the vertices of the area.



- The area size is measured in pixels.
- When you place the cursor on the area, the cursor changes to a crossed arrow, which you can drag to move to the minimum detection size area and maximum detection size area.
  - When you place the cursor on the vertex of the area, the cursor changes to . Drag and move the vertex to adjust the detection size.

**Moving shadow exemption**

Set ON/OFF for the moving shadow exemption function of motion detection.  
Selecting **Do not respond to shadows** will prevent the shadows of a moving object from being recognized as moving objects.  
Deselect the checkbox to disable the shadow removal function of motion detection.

**VMF settings**

Set the alarm to sound when the specified conditions (**Intrusion, Passing, Left object, Removed object**) of the motion detection occur. You can also set the order for Intrusion or Passing, and set the alarm to sound only when the specified conditions occur in sequence.

**Filter type**

Select the filter type from **Intrusion, Passing, Left object, Removed object** or **Off**.

### Time until left/removed object is detected

Enter the time you want to elapse before the alarm is triggered. This setting is available only when the filter type is set to **Left object** or **Removed object**.

### Filter settings

Settings for each filter can be edited here. The inspection line and active window are set to default values. Edit according to use.

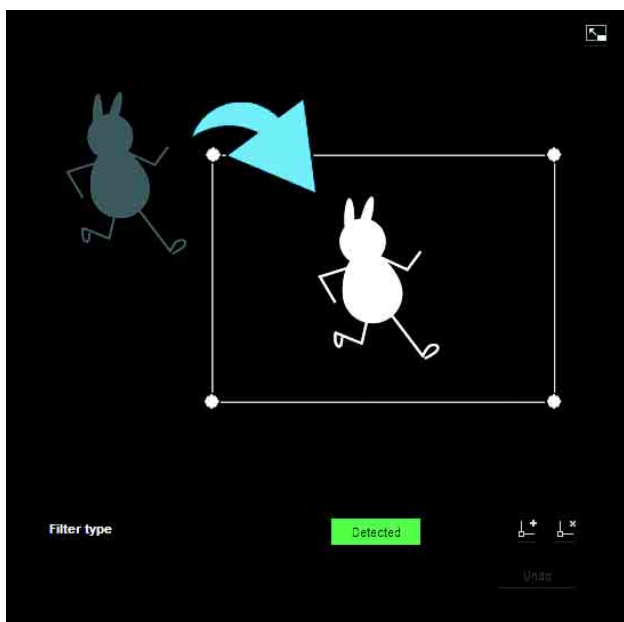
#### ■ VMF status indicator of each filter

The filter is on when the set filter type conditions (**Intrusion**, **Passing**, **Left object**, **Removed object**) are met.

#### Tip

The buttons displayed on the edit screen for filter is used in the same way as those for detection setting. See page 43.

### Intrusion



This criterion is for whether a moving object exists in the trigger area. Similar to an active window, a trigger area can also be moved and vertices can be moved, added or deleted.

### Passing



Edit the pass inspection line according to the following procedure:

#### Passing object trigger line

By default, one passing object trigger line is displayed. The number of vertices is 2.

Placing the cursor on the line will turn the cursor into a cross, and when you drag the line, the whole line will move.

Placing the cursor on the vertex will turn the cursor into  $\leftrightarrow$ , and when you drag the line, the vertex will move. The arrow displayed in the center of the passing object trigger line shows the direction of inspection. Trigger is performed when an object passes the passing object trigger position in this direction.

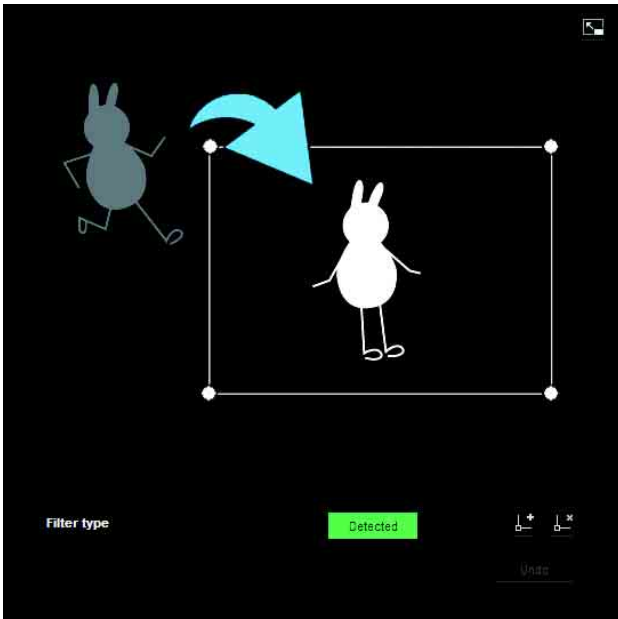
#### Trigger direction setting

Each time you click  $\leftrightarrow$ , the trigger direction toggles among the directions left, right and both.

#### Passing object trigger position

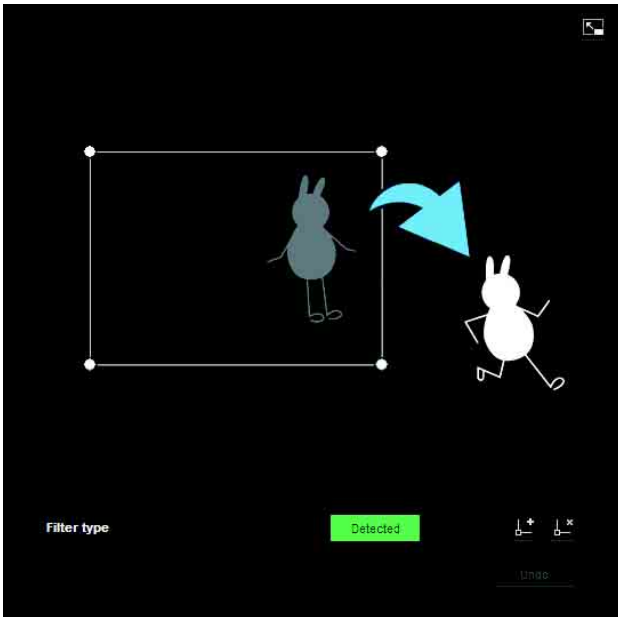
Select the passing object trigger position from **All sides**, **Left side**, **Top side**, **Right side** and **Bottom side**.

### Left object



This criterion is for whether a moving object has been left in the trigger area. Similar to an active window, a trigger area can also be moved and vertexes can be moved, added or deleted.

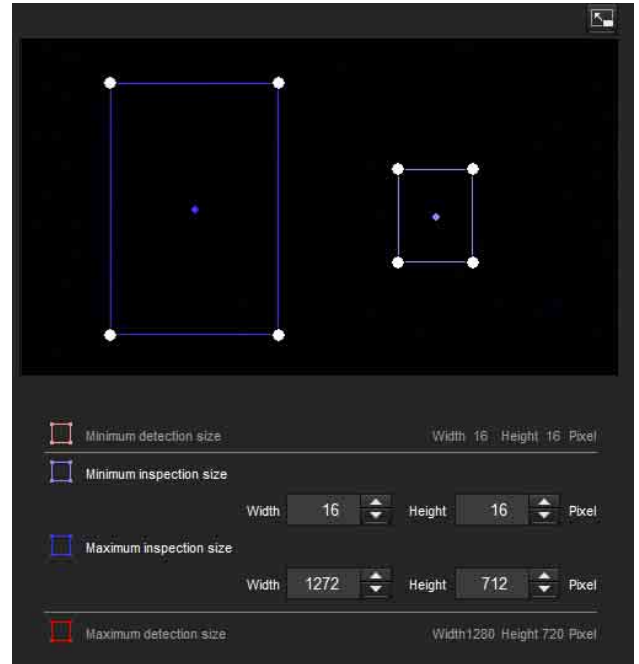
### Removed object



This criterion is for whether a moving object has been removed from the trigger area. Similar to an active window, a trigger area can also be moved and vertexes can be moved, added or deleted.

### Trigger size

Specify the minimum trigger size and maximum trigger size of motion. To specify the size, you can either enter values or drag the vertexes of the area.



The size of motion is measured in pixels.

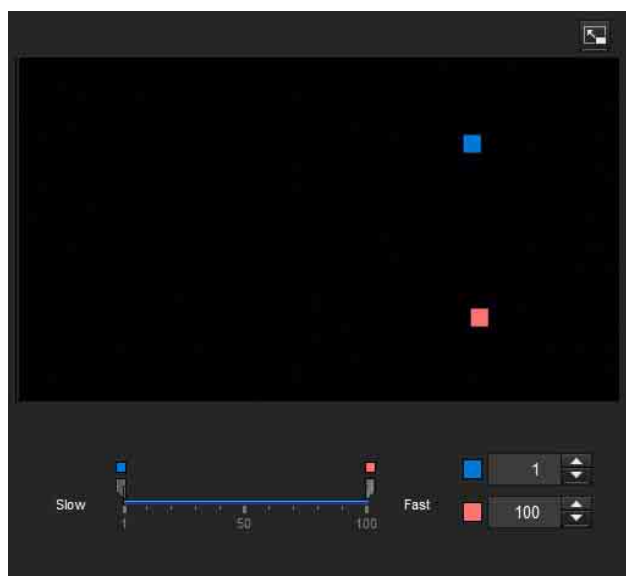
- When you place the cursor on the area, the cursor changes to a crossed arrow, which you can drag to move the minimum trigger size area and maximum trigger size area.
- Placing the cursor on the vertex of the minimum trigger size area or maximum trigger size area will change the cursor to  $\leftrightarrow$ , then you can drag the vertex to change the inspection size.

#### Tip

The minimum and maximum detection sizes configured in the VMD setting are displayed, but the size of the area cannot be modified from here.

## Trigger speed

Specify the minimum and maximum speeds to be detected.



- Min. speed and Max. speed can be specified within a scale of 100.
- The blue marker for minimum speed cannot be set to the right of the red marker for maximum speed.
- The squares indicating Min. speed and Max. speed move on the right and left sides of the preview screen.

### Note

The set value is only valid under the conditions of **Intrusion** or **Passing**.


## Matching decision

Select the filter type you want to match and check **Use as matching condition**.

Select Filter 1, Filter 2 and Filter 3 in the list box of **Matching decision**.

Set the alarm to sound when the specified maximum 3 conditions occur in sequence. If the conditions occur in a different order, the alarm will not sound. Select the condition from **Intrusion**, **Passing** or **None**.

### Filter order switching button

Clicking  switches the order of filter between the neighbouring methods.

e.g., If you click the button between 1 and 2, they will switch order. If you click the button between 2 and 3, they will switch order.

### Specifying the time


Specify the reference interval in seconds between 1 and 2, or 2 and 3.

For example, if 1 and 2 are set and “3 seconds” is specified, an alarm will sound when the inspection conditions of 2 are met within 3 seconds from when the inspection conditions of 1 are met.


## VMF status indicator of Matching decision

The indicator is on when the set filter type conditions are met.

### Full-screen display button

Click  to display the ActiveX area in full screen. Clicking again will show the normal display.

### Stretch bar

Click  to hide the menu list on the left and enlarge the preview screen. Clicking again will show the menu list as it was before.

### OK/Cancel

Click **OK** to finalize any changes made to the settings and send them to the camera.

If you click **Cancel**, changes made to the settings will be discarded and the screen will be reloaded with the current camera settings.

## Face detection Tab — Set the face detection

Face detection responds to faces in the camera image and triggers an alarm.

When you click the Face detection tab, a dialog appears. Enter the user name and password.

The factory setting of the user name and password for the Administrator is set to “admin”.

Change the password from the factory setting for the security of your devices.

### Notes

- Before actual use, perform an operation test and confirm that the face detection function works correctly.
- Perform the following before setting the face detection.
  - Set **Image size1** in the Video codec tab of the Video / Audio menu to the maximum rate.
  - Deselect the checkbox of **Image 1** in the PTZ control tab of the PTZ control menu.
  - Deselect the checkbox of **Stabilizer** in the Installation tab of the System menu.
- Some parts at the top and bottom cannot be set.
- An inactive area cannot be specified.
- A horizontal face (leaning too far sideways) cannot be detected.
- Vertices cannot be added or deleted. They are for specifying a rectangular area only.
- Even when privacy masking is used, the face detection function operates based on the images before masking is processed.

## Detection area

Specify the effective scope of face detection. You can set the area in the same way as the detection area setting in VMD settings. (page 43)

A maximum of ten detection areas can be set. Similar to the detection area setting in VMD settings, a trigger area and vertexes can also be moved.

## Detection sensitivity

Set the sensitivity of face detection. A value from 0 to 64 can be specified. Select low values to limit detection to the human face, or high values to also detect subjects that are similar the human face. This makes detection easier when the subject is far from the camera.

Clicking **Return to the default** changes the value to the default value.

## Detection size

Specify the minimum and maximum size of face detection. You can specify the size by specifying values or by dragging vertexes to choose the area.

## OK/Cancel

Click **OK** to finalize any changes made to the settings and send them to the camera.

If you click **Cancel**, changes made to the settings will be discarded and the screen will be reloaded with the current camera settings.

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## Network disconnection Tab — Monitoring the connection of a specified IP address

### Monitored IP address

Set the specific IP address of which the network connection status is to be monitored.

### OK/Cancel

See “Buttons common to every menu” on page 19.

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# Setting the Action output — Action output Menu

When you click **Action output** in the Administrator menu, the Action output menu appears.

The Action output Menu consists of the **Execution Condition, Mail Transfer, Edge Storage, Voice alert** and **White LED** tabs.

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## Execution Condition Tab

Set execute conditions for each action.

Set the action output execute conditions when the condition created in the Event condition tab is implemented.

**Mail Transfer:** Set the condition of mail transfer.

**Edge Storage movie:** Set the condition to record movies using the Edge Storage function.

**Edge Storage still image:** Set the condition to record still images using the Edge Storage function.

**Voice alert 1:** Set the condition of Voice alert 1 recorded in the camera.

**Voice alert 2:** Set the condition of Voice alert 2 recorded in the camera.

**Voice alert 3:** Set the condition of Voice alert 3 recorded in the camera.

**White LED:** Set the White LED lighting condition.

Only the Presence Sensor can be selected. The White LED lights up when it is dark.

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## Mail Transfer Tab — Setting the e-Mail (SMTP) Function

### SMTP Server

#### Notes

- You cannot send an audio file by using the e-mail sending function.
- The frame rate and operability on the viewer may be reduced while a file is being transmitted by the e-Mail (SMTP) function.

### SMTP server name

Type the SMTP server name using up to 64 characters, or the IP address of the SMTP server.

### SMTP port number

Enter a port number from 25 or 1024 to 65535. The standard port number is 25.



## Authentication

Select whether authentication is required when you send an e-mail.

**None:** No authentication is required when an e-mail is sent.

**SMTP:** Select when SMTP authentication is required.

**POP before SMTP:** Select when POP before SMTP authentication is required.

**Combination of POP before SMTP and SMTP:**

Select when both SMTP authentication and POP before SMTP authentication is required.

## POP mode

Select POP3 or APOP as the authentication method for POP authentication.

### Note

The model on sale in China does not support the APOP authentication.

## Wait time after POP

Set the waiting time in **POP before SMTP** before SMTP authentication after POP authentication is completed. Timeout can be set from 0 to 10,000 msec.

## POP server name

This is necessary when **POP before SMTP** is selected for **Authentication**.

Type the POP (receiving mail) server name using up to 64 characters, or type the IP address of the POP server. This setting is necessary when the SMTP server that sends e-mails performs authentication using the POP user account.

## POP port number

Enter a port number from 110 or 1024 to 65535. The standard port number is 110.

## Authentication mode

Select **Login** or **CRAM-MD5** as the authentication method for SMTP authentication.

### Note

The model on sale in China does not support the CRAM-MD5 authentication.

## User name, Password

Type the user name and password of the user who owns the mail account using up to 64 characters. This setting is necessary when the SMTP server that sends e-mails performs authentication.

## Address

### Recipient e-mail address 1, 2, 3

Type the recipient e-mail address using up to 64 characters.

You can specify up to three recipient e-mail addresses.

### Administrator e-mail address

Type the Administrator e-mail address using up to 64 characters.

This address is used for reply e-mails and sending system messages from the mail server.

## Content

### Subject

Type the subject/title of the e-mail.

The length for entering letters should be within 60 characters.

An e-mail sent in response to alarm detection will indicate the type of alarm in the subject. (Presence Sensor) is added for presence sensor detection, (Tampering) for camera interference detection, (VMD) for motion detection, (VMF) for VMF detection, (Disconnected) for network disconnection detection, (Face Detection) for face detection. (Event1 (Condition1)) is additionally available for event condition detection.

### Message

Type the text of the e-mail.

The length for entering letters should be within 384 characters.

## Event triggered execution

### File attachment

Set whether an image file (JPEG file) is to be attached to the e-mail or not.

When the checkbox is selected, the image file made using the settings below is attached. When the checkbox is deselected, only the message is sent.

### Image file name

Type the file name you want to assign to the image to be attached to an e-mail. You can use up to 10 alphanumeric characters, – (hyphen) and \_ (underscore) for naming.

The actual image file name will be the specified image file name with a suffix and the extension .jpg.

### Suffix

Select a suffix to be added to the file name used when the e-mail is sent.

**None:** The name of the sent file will be the image file name.

**Date & time:** The date & time suffix is added to the image file name.

The date & time suffix consists of last two-digits of the year (2 digits), month (2 digits), date (2 digits), hour (2 digits), minute (2 digits), second (2 digits), and sequential number (2 digits), thus adding 14-digit number to the image file name.

## Periodical execution

You can set to send e-mails periodically.

### Image file name

Type the file name of the image attached to the e-mail using up to 10 alphanumeric characters, – (hyphen) and \_ (under score).

The actual image file name will be the specified image file name with a suffix and the extension .jpg.

### Suffix

Select a suffix to be added to the file name used when the e-mail is sent.

**None:** The name of the sent file will be the image file name.

**Date & time:** The date & time suffix is added to the image file name.

The date & time suffix consists of last two-digits the year (2 digits), month (2 digits), date (2 digits), hour (2 digits), minutes (2 digits) and seconds (2 digits), and sequential number (2 digits), thus adding a 14-digit number to the image file name.

## Trouble sending

Set to send an e-mail if a problem is detected.

### Enable

Select the checkbox to enable the sending of problem reports.

### Continuous sending

Set whether to enable continuous e-mail sending.

When the checkbox is selected, an e-mail will be sent once an hour.

### Recipient e-mail address

Type the recipient's e-mail address within 64 characters.

### OK/Cancel

See “Buttons common to every menu” on page 19.

## Edge Storage Tab — Setting the Edge Storage movie and still image function

With Edge Storage, video or audio signal can be recorded from the alarm detection results, such as network block, recorded video and audio can be streamed with the same protocol as the real-time streaming.

### Notes

- The frame rate and operability on the viewer may be reduced during movie or still image recording.
- The actual interval of recording a still image may be longer than the interval you set.
- Stop the Edge Storage recording before you turn off the power of the camera with a memory card inserted.
- Before you remove or insert a card, stop the Edge Storage recording and turn off the power of the camera.
- Before using a memory card, format it using the computer, or by **Format memory card** in the Initialize tab of the System menu (page 21).
- A maximum of 500 movie records can be saved to an memory card. If the checkbox of **Overwrite** is not selected when the number of records reaches 500, new recordings cannot be made. If the checkbox of **Overwrite** is selected when the number of records reaches 500, the unit will begin to overwrite old records in ascending chronological order.
- Overwrite is not available for a memory card of less than 4 GB.
- When you record the H.246, set the video codec as follows:
  - Set the **Bit rate** below 2000 kbps.
  - Set the **Frame rate** below 30 fps.
  - Set the **I-picture interval** to 1 second.
- When you record the JPEG with image size 1280 × 720, set the video codec as follows:
  - Set the **Frame rate** to 1 fps.
  - Set the **Image quality** below 5.
- When you record, set the **Image codec 2** and **Image codec 3** of the **Video codec** tab in the Video / Audio menu to **Off**.
- When you set the image codec to VBR (CBR: Off) of H.264 and record it, the recorded data may become very large and the video/audio may be interrupted depending on the setting for recording and scene. Be sure to check the setting and environment of video codec before use.

## Common setting

### Memory card

Display the available free space of external memory.

## Overwrite

Select On to overwrite the file when there is insufficient memory space.

When you select the checkbox, overwrite is enabled. Old records will be overwritten in chronological order. When you deselect the checkbox, overwrite is prohibited, and no recording will be performed.

### Note

Records are overwritten in chronological order, regardless of whether they are movies or still images.

## Edge Storage still image

### Recording data

You can refer to still image files recorded in the card. These files will be saved in a folder tree as follows.  
/sdcard/EdgeStoragePicture/00000000-99999999/  
00000000-99999999/

(Prefix)YYYYMMDDhhmmss00000001.jpg

**Path:** Displays the path name of the recording still image file.

When you select a file, a still image will be displayed.

**Delete:** Click **Delete** to delete the selected folder or file.

If you select a folder, any files in the folder will also be deleted.

**Refresh:** Click **Refresh** to reload the latest data.

### Recording target

Select the video codec mode you want to record.

For detailed settings of video codec mode, see the Video codec tab in the Video / Audio menu.

### Note

You can record still images even if the image codec is set to H.264. Image quality setting for a still image can be changed only when the image codec is set to JPEG. If you want to change the image quality of recorded still images, change the image codec to JPEG.

### Image file name

The file name consists of three parts: a prefix, a file number and an extension.

Set the prefix of up to 30 alphanumeric characters. You can include - (hyphen) and \_ (underscore) in the prefix. The file number and extension are assigned automatically by the camera.

The file number consists of the year (4 digits), month (2 digits), date (2 digits), hour (2 digits), minutes (2 digits), seconds (2 digits), and a sequential number (8 digits).

The local time will be used in the file name. The extension is .jpg.

## Edge Storage movie

### Recording status

Display the current recording status.

The recording status will not be updated until the screen is refreshed.

Use the **Start Recording** and **Stop Recording** button to start or stop the recording manually.

### Note

When recording manually, do not set **Edge Storage movie** in the Execution Condition tab of the Action output menu to **Off**.

### Recording target

**Video:** Select the video codec mode you want to record.

For detailed settings of video codec mode, see the Video codec tab in the Video / Audio menu.

**Audio:** Set whether to record the audio signals input from the camera.

Select the checkbox to record.

### Note

Set **Audio sending** (page 25) in the Audio tab of the Video / Audio menu to **Enable**.

### Recording capacity

Displays the maximum recording time in the current camera setting of the video mode, image size, bit rate and frame rate.

**Pre-alarm period:** Displays the maximum recording time before the alarm is triggered.

**Post-alarm period:** Displays the maximum recording time after the alarm is triggered.

### Note

Maximum recording time varies depending on the image size and quality setting in the Video / Audio menu.

### Recording time

Set the recording time for the Pre-alarm image/audio and Post alarm image/audio.

**Pre-alarm period:** Type the recording time of the image/audio before alarm detection.

**Post-alarm period:** Type the recording time of the image/audio after alarm detection.

### OK/Cancel

See “Buttons common to every menu” on page 19.

## Voice alert Tab

Set the voice alert function, to output audio from the speaker of the camera, when an alarm is triggered by the detection functions.

### Note

Before using the voice alert function, you need to save the audio file to the camera using the SNC audio upload tool.

## Voice alert 1, 2, 3

Up to three voice alerts can be set. Configure the following setting for each voice.

### File

Displays the name of the audio file saved in the camera. “Not uploaded” is displayed dimly if no audio file is saved.

To delete the audio file saved in the camera, click **Delete**.

### Note

Before deleting an audio file, set **Voice alert 1, 2 or 3** to **Off**.

**Voice alert** is included in the Execution Condition tab of the Action output menu.

### Test

When an audio file is saved in the camera, you can check it by playing it back.

Click **Play** to play back the audio file.

### Repeat

Select playback repeat time from **1** to **3**.

### Notes

- If voice alert is actively linked with a different alarm type while another voice alert is occurring, the first voice alert is cancelled and the second one is output.
- When you play back a test, do not set **Voice alert** in the Execution Condition tab of the Action output menu to **Off**.
- If two or three audio files are set to be output simultaneously linked with the same alarm type, priority is given in the order **Voice alert 1, 2** then **3**.

## OK/Cancel

See “Buttons common to every menu” on page 19.

## White LED tab

Make the setting of the Illuminator level and lighting time of the Presence Sensor detection and White LED.

### Duration

Select the White LED lighting time from 5 seconds to 30 minutes.

### Tip

The lighting time will be extended if the Presence Sensor detection is continuing.

### Maximum strength

Select the White LED Illuminator level from 1 to 6. 1 is the weakest and 6 is the strongest one.

## OK/Cancel

See “Buttons common to every menu” on page 19.

## Setting the Schedule

### — Schedule Menu

When you click **Schedule** in the Administrator menu, the Schedule menu appears.  
The Schedule menu consists of the **Schedule** tab.

#### Schedule Tab

When you click the Schedule tab, the setting menu for each action is displayed.

You can set the schedule of the **Mail Transfer (Event)**, **Mail Transfer (Periodical)**, **Edge Storage movie**, **Edge Storage still image (Event)**, **Edge Storage still image (Periodical)**, **Day/Night**, **Voice alert** and **White LED** actions.

#### Note

**Day/Night** can be set for SNC-CX600 only.

#### Action

Displays an action name to set the schedule.

#### Always

Select the checkbox to always enable the specified condition for each action.

**Always** is not available for **Day/Night**.

#### Interval

You can set the interval of the action which is set to execute periodically.

#### Setting the schedule

You can set the schedule by arranging the schedule area of each action. Click on the area you want to set the schedule; 1 block for 1 hour. When you double-click on a selected area, the dialog of setting the start time and duration appears, and you can set the details.

If you want to delete a schedule you have set, select the schedule and press the delete key on your keyboard.

#### Note

When the execution condition of **Mail Transfer** is set to **Periodical**, the interval can be set from 30 minutes to 24 hours.

#### OK/Cancel

See “Buttons common to every menu” on page 19.

## Setting the CLOUD service

### — CLOUD Menu

When you click **CLOUD** in the Administrator menu, the CLOUD menu appears.  
The CLOUD menu consists of the **Setting** tab.

#### Note

The CLOUD service is not available in some regions.  
For details, contact an authorized Sony dealer.

#### Setting Tab

Set the CLOUD service setting.

#### Connection to the CLOUD server

Check the status of the connection to the server.  
You can confirm the status of the connection when the checkbox of CLOUD service is not selected.

#### Token

Enter the necessary Token to connect to the server.  
After selecting the **OK** button and the setting is finished, you cannot change the Token.

If you want to change the Token, delete it by selecting the **Delete** button, then click the **OK** button. You can then enter a new Token.

#### Delete

Delete the Token.

#### CLOUD service

#### Enable

Select the checkbox to enable the CLOUD service.  
When you enable this function, the video codec setting will be changed to the setting for the CLOUD service.

#### Note

It may take time until the CLOUD service can be used after enabling it.

#### Registered information

When the checkbox of CLOUD service is selected, the registered information appears.

#### Organization

The registered organization information appears.

#### Customer code

The registered customer code appears.

**Site code**

The registered site code appears.

**Connection status**

The connection status to the CLOUD service appears.

**OK/Cancel**

See “Buttons common to every menu” on page 19.



---

## Glossary

### ActiveX control

A component program object that can be used with web pages or other application programs. The technology for creating ActiveX control is part of software developed by Microsoft.

### Bandwidth control

To limit the amount of transmitted data.

### Bit rate

The rate at which data bits are transmitted.

### Capture

To send audio and video converted to digital data from video devices to a computer.

### CBR

CBR stands for Constant Bit Rate control. When you select this setting, bits will be consumed at a constant rate.

### Codec

Software/hardware for coding/decoding video and audio data.

### Contrast

The difference in tone between the lightest and darkest portions of the image.

### Default gateway

Device that can be used to access another network.

### DHCP server

Acronym for Dynamic Host Configuration Protocol server. The IP address of a terminal without an individual IP address can be automatically distributed by the Dynamic Host Configuration Protocol (DHCP). The DHCP server assigns the IP addresses to the terminals.

### Digital certificate

An electronic certificate that a CA (Certificate Authority) attests that a public key to cancel a secret code is issued by an authentic publisher.

### DNS server

Acronym for Domain Name System server. As an IP address required for connecting to the device on an IP network is numerical and difficult to remember, the Domain Name System was established. A domain name is alphabetic and is easier to remember. When a client computer uses a domain name to connect to another computer, it asks a DNS server to translate the name into the corresponding IP address. The client computer can then obtain the IP address of the computer to be connected.

### Frame rate

The number of frames of a moving image that can be transmitted per a second.

### HTTP port

A port used to communicate between the web server and the web client, such as a web browser.

### H.264

An image compression format. The standard written by the JVT (Joint Video Team) a joint organization for standardization (composed of ISO and ITU-T. H.264), is capable of transmitting video data at a higher compression rate than that of MPEG4.

### IP address

Acronym for Internet Protocol Address. An individual IP address is basically assigned to each piece of equipment connected to the Internet.

### JPEG

Acronym for Joint Photographic Expert Group. The still image compression technology or standards of ISO (International Organization for Standardization) and ITU-T. Popularly used as an image compression format on the Internet, etc.

### MAC address

A network address that uniquely identifies each LAN card.

### Multicast

The class D IP address assigned between 224.0.0.0 and 239.255.255.255. Using this IP address enables you to transmit the same data to multiple equipment.

### Network address

The portion that identifies the local network (subnet) in an IP address.

## Network bandwidth

Bit rate that can be used for networking.

## NTP server

Network time server that transmits and receives time information over the networks.

## Primary DNS server

One of the DNS servers that can first reply to a request by connected devices or other DNS servers.

## Proxy server

A server or software that acts as an intermediary between a local network and the Internet so that it can connect to the Internet in place of a computer on a local network.

## Saturation

The degree to which a color is pure.

## Secondary DNS server

Subsidiary DNS server used when a primary DNS server cannot be used.

## Sharpness

The degree to which the boundary of two portions is clearly distinguished.

## SMTP Server

A server for sending or relaying e-mail messages between servers.

## Solid PTZ

Zooming in/out function of an image without using an optical zooming function.

## SSL

Acronym for Secure Sockets Layer. This is a protocol developed by Netscape Communications Corporation to be used for communications of encrypted data on the Internet.

## Subnet mask

32-bit stream used to distinguish the subnet address from an IP address.

## TCP

Acronym for Transmission Control Protocol. A standard protocol used for Internet connection. Compared with the other protocol, UDP, TCP provides reliable communication but communication speed is slower.

## UDP

Acronym for User Datagram Protocol. A standard protocol used for Internet connection. Compared with the other protocol, TCP, UDP can transmit data faster, but reliable communication is not guaranteed.

## Unicast

Transmission of data to specified equipment on a network by specifying a single address.

## VBR

VBR stands for Variable Bit Rate control. When you select this setting, the bit rate will be adjusted to suit the camera scene.

## WEP

WEP stands for Wired Equivalent Privacy. It is encryption, compliant with the IEEE802.11 standard.

## WPA

WPA stands for Wi-Fi Protected Access. It is a standard for encryption developed by Wi-Fi Alliance, the trade group of wireless LAN. This encryption function compensates for WEP (Wired Equivalent Privacy) flaws.

## WPA2

WPA2 stands for Wi-Fi Protected Access 2. It is a standard for encryption developed by Wi-Fi Alliance, the trade group of wireless LAN. This encryption function has more strength than WPA.



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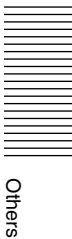
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