Network Camera

User’s Guide
Software Version 2.1
Before operating the unit, please read this manual thoroughly and retain it for future reference.

SNC-WR630/WR632/WR600/WR602
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Overview

Features

- High-quality Full HD (1080P) real-time monitoring, up to 60 fps. (SNC-WR630/WR632)
- High-quality HD (1280 × 720) live images from camera can be monitored at a maximum frame rate of 60 fps. (SNC-WR600/WR602)
- Exmor CMOS sensor enables high-quality images for streaming.
- Wide dynamic range (View-DR) and 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 and camera tampering detection functions.
- Up to 20 users can view images from one camera at the same time.
- Date/time can be superimposed on the image.
- IEEE802.3at standard of HPoE (High Power over Ethernet) compliant. (SNC-WR630/WR600)
- HPoE+ 4 line power-supply compliant. (SNC-WR632/WR602)
- A high-speed pan/tilt mechanism maximum 700° rotation/second is equipped. This allows 360° panning and 220° tilting operability.
- Optical zoom of 30x and digital zoom of 12x high-magnification zoom functions are provided.
- Quick release function for easier installation or maintenance is provided.

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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-WR630 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.

System Requirements

The following computer environment is necessary for the computer to display images and the controls of the camera.
(April 2014)

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)*, Windows 8.1 Pro (32-bit version, 64-bit version)*
  Authorized editions:
    Windows XP: Professional
    Windows Vista: Ultimate, Business
    Windows 7: Ultimate, Professional
    Windows 8: Pro
    Windows 8.1: Pro

Microsoft DirectX 9.0c or higher

Web Browser
Windows Internet Explorer Ver. 7.0, Ver. 8.0, Ver. 9.0, Ver. 10.0*, Ver. 11.0*
Firefox Ver.19.0
Safari Ver.5.1
Google Chrome Ver.25.0

CPU
Intel Core i7, 2.8 GHz or higher

Memory
2 GB or more

Display
1600 × 1200 pixels or higher

* In case of Windows 8 or Windows 8.1, 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

The maximum of users on the network who can see a viewer concurrently is 20. However, if the transmission ability of the camera is overloaded, access to the camera may not be possible, even if there are fewer than 20 users. If monitoring with sound, the maximum number of users is 10.

Using the SSL function

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

When Internet Explorer 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 38) 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 monitor the camera image by logging in with the initial conditions set for this network camera. 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.

<table>
<thead>
<tr>
<th>Setting contents</th>
<th>Setting menu</th>
</tr>
</thead>
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<td>Video codec Tab (page 27)</td>
</tr>
<tr>
<td>Select the White balance mode according to the installation position.</td>
<td>White balance (page 26)</td>
</tr>
<tr>
<td>Select the brightness of the image sent from the camera.</td>
<td>Exposure (page 25)</td>
</tr>
<tr>
<td></td>
<td>Brightness (page 26)</td>
</tr>
<tr>
<td>Select the quality of the image sent from the camera.</td>
<td>Video codec Tab (page 27)</td>
</tr>
<tr>
<td>Select the view size of the image.</td>
<td>View size (page 12)</td>
</tr>
<tr>
<td>Select whether the audio from the external input is sent or not.</td>
<td>Audio Tab (page 28)</td>
</tr>
<tr>
<td>Synchronize the date and time of the camera with those of the computer.</td>
<td>Date &amp; time Tab (page 22)</td>
</tr>
<tr>
<td>Make the setting for sending the monitor image attached to an e-mail.</td>
<td>Mail Transfer Tab (page 56)</td>
</tr>
<tr>
<td>Set the user access right for the camera.</td>
<td>User Tab (page 36)</td>
</tr>
<tr>
<td>Set a place to be watched beforehand.</td>
<td>Preset position Tab (page 46)</td>
</tr>
</tbody>
</table>
Precautions for Preventing Access to the Camera by an Unintended Third Party

The camera may be accessed by an unintended third party on the network, depending on the usage environment. Changing the user name and password of the camera administrator from the default settings is highly recommended for security reasons. If the camera is accessed by an unintended third party, there may be an undesired effect, such as operations or settings to block monitoring, etc.

The camera can be fraudulently accessed in a network environment where a device is connected or connectable to the network without the administrator's permission, or a PC or other network device connected to the network can be used without any permission. Connect to these environments at your own risk. To prevent unauthorized access to the camera, set it according to the following steps.

Do not use the browser you use to set the camera to access other websites while you set or after setting the camera. You will remain logged in to the camera as long as the browser is open, so to prevent an unintended third party's use or execution of malicious programs, close the browser after you finish setting the camera.

How to set up

1. Set the network address of the camera using SNC toolbox.
   For details about how to use SNC toolbox, refer to the application guide.
   After this step, do not use SNC toolbox to change the network settings of the camera. Use SNC toolbox to search for the camera only.

2. Start the web browser and set the SSL function to Enable in the camera settings.
   For details, refer to “Setting the Security — Security Menu” in the Administrator menu on page 36.

3. Restart the web browser and access the camera again.

4. Set the user name and password of the administrator of the camera.
   For details, refer to “Setting the Security — Security Menu” in the Administrator menu on page 36.

5. Check the Referrer check checkbox.
   For details, refer to “Setting the Security — Security Menu” in the Administrator menu on page 36.

Hereafter, use the camera using the SSL connection. If you use the FTP still image sending function, the SSL function will be disabled, and communication content will not be coded. Do not use the FTP still image sending function if the camera is at risk of unauthorized access.

Note
The model on sale in China does not support the SSL function.
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 “Administrating the Camera” on page 21.

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.

<table>
<thead>
<tr>
<th>Function</th>
<th>Administrator</th>
<th>User</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monitor a live image</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>View the date and time</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Control the frame rate (JPEG mode only)</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Control the image view size</td>
<td>●</td>
<td>○</td>
</tr>
<tr>
<td>Save a still image and movie in the computer</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Switch the TCP/UDP transmission mode (Available in H.264 mode only)</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Perform the pan/tilt/zoom operation</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Receive audio</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Select the codec mode</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Control the setting menu</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Play the recorded file in the memory card</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Delete the recorded file in the memory card</td>
<td>●</td>
<td>●</td>
</tr>
</tbody>
</table>

● 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 36.
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.

   ![Address](http://192.168.0.100)

   The live viewer is displayed.

   **Display sample:**

   ![Live viewer screenshot]

   **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**

   1. **Notes**
   2. **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.
   3. **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.

   **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.
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

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 19)

Setting
Click to display the Administrator menu. (page 21) 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.

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, view 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.

Screen mode
Select Window or Full Screen.

View size
Selects the view size to be displayed. Click View size list box to select the view size. Select ×1/4 to display images, reduced to 1/4 of the size set in Image size. Select ×1/2 to display images, reduced to 1/2 of the size set in Image size. Select ×1 to display images set in Image size (page 27) of the Video / Audio menu. Select Full to display images according to the view size. Select Fit to display images according to the view 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, Windows 8 or Windows 8.1, 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, Windows 8 or Windows 8.1, 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 28) 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 15).

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

Focus control
To control the focus manually, set Focus mode of the PTZF control menu to Manual (page 46). To focus on a nearby object, press . To focus on a distant object, press .

By pressing , focus is set to the optimum position.

Panorama panel
Map view and Arctic view are displayed. You can switch the display. Click to display Map view and to display Arctic view.

Preset position panel
Displays only when one or more preset positions are stored in memory.

The registered preset position is displayed.
If you select a thumbnail when registering a preset position, it will be displayed with a thumbnail.

Select the Preset position name from the list. The camera will move to the preset position that you have stored in memory using the Preset position menu.

**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 18).

**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, click to adjust the camera direction to 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 moves to 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 change the camera direction.

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:**

![Monitor screen](image)

**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, click to adjust the camera direction to 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 moves to 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 change the camera direction.

The zoom operation using the mouse wheel is available in all modes.
Operating the Camera

There are three modes of camera operation: **Area zoom mode**, **Vector dragging mode** and **PTZ Control bar**. You can control pan/tilt, zoom and focus in either mode. The available functions for the camera operation modes vary according to the live viewer display. The available functions are as follows:

<table>
<thead>
<tr>
<th>Operation from control panel</th>
<th>ActiveX viewer</th>
<th>Plug-in free viewer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area zoom</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Vector dragging</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>PTZ control bar</td>
<td>X</td>
<td>O</td>
</tr>
</tbody>
</table>

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

You can operate the camera direction, zoom, and focus 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 🔄.

**Note**

When **Auto flip** set to **On** (page 45), if you hold 👈, 👉 or 👉 to make the direction of the camera pass through the point where it faces the ground, the auto flip function is activated, and the displayed picture is reversed.

### 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.)

- **Preset**
  
  Select a preset position to move the camera to the registered preset position. (Displayed only when a camera preset position is registered.)

- **Save still image button**
  
  Captures still images taken by the camera and saves them to the computer.
Operating the Camera

Zoom control
Click \( \text{W} \) to zoom out, and click \( \text{T} \) to zoom in. Zooming continues while the button remains pressed.

Focus control
To control the focus manually, set Focus mode of the PTZF control menu to Manual (page 46).
To focus on a nearby object, click \( \text{W} \). To focus on a distant object, click \( \text{T} \).
By clicking \( \text{One Press Focus} \), the focus is set to the optimum position.

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.

Notes
- When Zoom mode in the PTZF control menu is set to Full, zooming of the specified area stops at the T end of the optical zoom. If you want to zoom in further using the digital zoom, specify the area again.
- 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, 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.

Notes
- When Zoom mode in the PTZF control menu is set to Full, zooming of the specified area stops at the T end of the optical zoom. If you want to zoom in further using the digital zoom, specify the area again.
- 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.
Moving the camera to a preset position (Common operations in Area zoom and Vector dragging modes)

Select a preset position name from the Preset position panel. The camera will move to the preset position that you have stored in memory using the Preset position tab of the PTZF control menu (page 46).

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.

---

Controlling the Camera on a Panorama Image

In the panorama window, a 360° view around the camera is displayed as a panorama image. When you click on the displayed panorama image, the camera faces the clicked area.

**To create a panorama image**
Create the panorama image with the SNC toolbox. For details, refer the user’s guide of SNC toolbox.

**Tip**
The panorama image is a still picture converted from the image taken when you were going to create it with SNC toolbox. When the camera is moved or when the layout around the camera is changed, you should create the panorama image again.

**Facing the camera toward a specified point**

1. Create a panorama image with SNC toolbox and display it.

Two “Panorama Image” display formats are available: Map view and Arctic view. You can switch the display. Click ➔ to display Map view and ➕ to display Arctic view.

(The Illustration above is a simulated screen image of the panorama image. The displays may be different from the ones that appear in actual use.)
2 Click the point you want to watch in the panorama window. The camera is moved to face toward the clicked point, and the present image at the point is displayed in the monitor window.

**To rotate the panorama image**

To rotate the panorama image in accordance with the camera’s panning direction, set **Panorama mode** to **Rotate** in the PTZF control menu of the Administrator menu (page 46). The mark on the panorama image indicates the panning home position.

**Note**

The panorama image can be rotated only when a 360-degree panorama image has been created using SNC toolbox.

---

**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 (Real-time 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

Search panel

Specify the search period.

Start
Select the start time for searching.

End
Select the end time for searching.

Maximum search number
You can specify the maximum number of the search results.

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.

Range of the search results displayed in the list

Indicates the list of the total search results that is currently displayed.

Go to the next search result
Displays the next search results.

Go to the previous search result
Displays the previous search results.
Operating the Camera

**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.

**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.
**Administrating 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 10.

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

**Note on the display of menu options**
The setting menus of this unit will clearly display only the setting options that you can currently select. Grayed out options cannot be selected. Only supported functions are displayed.

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### 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 11.
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 22 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.

- **OK**
  Click this button to confirm the settings.

- **Cancel**
  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.

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### Configuration of the Administrator menu

**System**
Displays the System menu. (“Configuring the System — System Menu” on page 22)

**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 25)

**Network**
Displays the Network menu for setting the network connection. (“Configuring the Network — Network Menu” on page 33)
Administrating the Camera

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).

**Time setting**
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.

**Note**
When the CLOUD service is activated, you cannot set the time and cannot change the NTP server. If you want to set them, deactivate the CLOUD service.

**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.

**Manual time zone**
If you select **Manual** in Time zone, you can set a desired time zone that is not included in the list box. The input format is compliant with IEEE 1003.1 section 8.3 standard.

**Format:**
`stdoffset[dst[offset]][start[/time],end[/time]]`
- `std`: 3 to 100 character strings
- `offset`: time difference (displayed in +-)
- `dst`: name of summer time
- `offset`: offset of summer time, default time is 1 hour
- `start`: start date and time of summer time
- `end`: end date and time of summer time

Values in [ ] can be omitted.

For example:

In case of (UTC-06:00) Central Standard Time (USA and Canada):
`CentralStandardTime6DaylightTime1,M3.2.0,M11.1.0`

The name of the time zone is `CentralStandardTime` and the time difference is 6 hours. The name of the summer time is `DaylightTime`, and the summer time offset from the time difference is 1 hour, starting from the second week on Sunday in March until the first week on Sunday in November.

**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 21.

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**Installation Tab**

You can perform settings related to installation.

**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 21.
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 memory card**, 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-wr630.cfg” for SNC-WR630.

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

**Notes**
- With **Restore setting**, some items in the Network menu (page 33) cannot be restored.
- The following items cannot be stored or restored with **Backup setting data** or **Restore setting**.
  - audio files uploaded using the SNC audio upload tool
  - a panorama image recorded in the camera using Panorama Creator of SNC toolbox
  - a certificate to be used in the 802.1X function
  - a certificate to be used in the SSL function
  - thumbnail
  - superimpose logo

**Video & PT drive refresh**
Image distortion and misalignment of the pan/tilt position may occur during extended periods of use. Use this function to correct image distortion and pan/tilt misalignment. **Video & PT drive refresh** takes about 20 seconds to complete. Pan/tilt operations for the camera are performed automatically during the refresh operation. After refresh is completed, the pan/tilt position returns to that at the start of the refresh operation.

**Enable**
Check to use the refresh operation.

**Manual**
Click **Execute** to perform the refresh operation.
Schedule
Set time and date to perform the refresh operation periodically.

Notes
- Camera operation will be canceled when you run video & PT drive refresh while operating the camera.
- Position/shadow tours stops if video & PT drive refresh is running while you are running position/shadow tours.
  After video & PT drive refresh has been completed, the position/shadow tour restarts.
- The intelligent motion detection or camera tampering detection stops immediately if you execute video & PT drive refresh when the intelligent motion detection or camera tampering detection is set.
  After video & PT drive refresh is completed, the motion detection or camera tampering detection restarts.

Delete panorama image
Click Delete to delete panorama images set on this camera.

Delete voice alert file
Click Delete to delete all the audio files stored in the camera using the 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 56).
- Before deleting the audio file, set Voice alert to Off in the Execution Condition tab of the Action output menu (page 56).

Delete superimpose logo
Click Delete to delete the superimposed logo, specified by Position in 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.

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.

Access log Tab
The access record of the camera is displayed.
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.

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.
Full auto: The camera performs the gain, iris and shutter speed adjustments automatically.
Shutter priority: The camera performs the gain and iris adjustments automatically, and you can select the shutter speed.
**Iris priority:** The camera performs the gain and shutter speed adjustments automatically, and you can select the iris.

**Manual:** Adjust the gain, iris and shutter speed manually.

**Wide dynamic range (View-DR)**
In high-contrast scenes such as against a back light, this function reduces overexposure and underexposure. Select the checkbox to turn on the Wide dynamic range (View-DR) function.

**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.

**Defog**
The defog function improves visibility when there is fog.

**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**
Select the shutter speed from the list box. When **Mode** is set to **Full auto**, select from **Fastest** (maximum) and **Slowest** (minimum).

**Iris**
Select the iris from the list box.

**Gain**
Select the gain 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).

**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.

**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.

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

**Video out**
Set a signal to output the analog video from the video output terminal of the camera. You can select NTSC or PAL. When the video output mode is changed, the camera returns to the home position.
OK/Cancel
See “Buttons common to every menu” on page 21.

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

High framerate mode
When the setting is set to On, set the maximum frame rate to 60 fps (NTSC) or 50 fps (PAL).
When the setting is set to Off, the maximum frame rate is 30 fps (NTSC) or 25 fps (PAL).
When the high framerate mode is changed, the camera returns to the home position.

Notes
• When the setting is set to On, Image 2 may not be available, and Image 3 is not available.
• When the high framerate mode setting is changed, settings for Image 1, Image 2, and Image 3 are returned to the default settings.

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 the bitrate of Image 1 to 32000 kbps, set Image 2 and Image 3 to Off.
• If you set the bitrate of Image 1 to 16000 kbps or faster, set the bitrate of Image 2 and Image 3 below 4000 kbps.
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.

Notes
• Some parts of the screen may not be displayed depending on the image size.
• If the image size is 720 x 574 or 720 x 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.

Bit rate compression mode
Select CBR, VBR or Adaptive rate control.
If you want to keep the bit rate fixed, select CBR. If you want to keep the image quality fixed, select VBR.
If you select Adaptive rate control, the bit rate is automatically optimized for unstable network connections or wireless networks with a lot of interference.

Notes
• The frame rate or bit rate that is actually transmitted may be different from the set values depending on image size, scene, network environment.
• The Adaptive rate control cannot operate when the Plug-in free viewer is being used.
• If you want to use the Adaptive rate control, set the connection method in the live viewer to Unicast. If you set TCP as a connection method, the adaptive rate control will be disabled. For details, refer to “Switching Transmission Mode” in “Operating the Camera” on page 18.

Bit rate
When you set Image codec to H.264 and set Bit rate compression mode to CBR, the bit rate of the image transmission for a line can be set.
When the bit rate is set to a high level, a high image quality can be enjoyed.
Maximum bit rate limit
Enable the check box when Bit rate compression mode is set to VBR, to set the maximum value of the bit rate.

Max: Set the maximum value of the bit rate when the camera is operated with VBR.
Accept frame skip: If you enable the checkbox, the frame skip will be allowed for bit rate control.

Min, Max
Set the maximum and minimum bit rates that are adjusted with the adaptive rate mode when Bit rate compression mode is set to Adaptive rate control.

Image quality
If you set Image codec to JPEG, or Bit rate compression mode to VBR when Image codec is set to H.264, the image quality setting will be enabled.
Selectable values are from 1 to 10. When 10 is selected, the best image quality is achieved.

Bandwidth control
Limits the network bandwidth for the JPEG image data output from the camera when you set Image codec to JPEG.

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 21.

Audio Tab

Audio sending
Make settings for sending audio from the microphone input connector.

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

Audio in
Select microphone input or line input.

Mic volume
When the Audio in is set to microphone input, set the volume level of the audio input from the microphone input connector. It is adjustable from –10 to +10.

Audio codec
Select the codec type of audio from the microphone input connector. 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 the SNC audio upload tool, you can output audio that is input to the computer’s audio input terminal from a powered speaker connected to the line output jack 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 21.

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 size 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, text or camera direction.

Custom string

Describes the superimposed content for each position. For Type setting, codec is displayed as <codecinfo>, date & time is displayed as <datetime>, event is displayed as <event>, camera direction is displayed as <direction>, 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.
Camera direction: Displays the name of preset position.

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 21.

Day/Night Tab

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

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 day mode is set.

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.

**Sensor input**
Controls the day/night mode by synchronizing it with the sensor input. Select the synchronized sensor from **Sensor input 1**, **Sensor input 2**, **Sensor input 3** and **Sensor input 4**. While a sensor input is detected, the camera works in night mode.

**Status**
Displays the day/night function status.

**Near-IR compensation**
Adjust background light when using the IR lamp or where there is much near short infrared ray. Select the checkbox to increase the accuracy of auto-focus in night mode.

**OK/Cancel**
See “Buttons common to every menu” on page 21.

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**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.
- 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.

**Call**
Click the button to move the privacy mask set in **Position** to the center of the image.

**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.

**Notes**
- The mask cannot be set on the viewer by clicking **OK** if the camera is tilted beyond +65°.
- If you change the direction of the camera, the mask may not cover the object properly. Ensure the Privacy masking area is sized sufficiently beforehand.
- The color is common to every privacy mask. The color selected last is applied.
Privacy mask setting range
The setting range of the privacy mask is limited as follows:

Pan angle:

Tilt angle:

Notes
- The privacy mask area is a rectangle that is specified with respect to the center of the camera image. The privacy mask may not be set in areas close to the end of tilt operation.
- You can set 12 privacy masks. However, up to eight privacy masks can be displayed in the screen at one time. When nine or more privacy masks are set, masks will be displayed by number in ascending order.

OK/Cancel
See “Buttons common to every menu” on page 21.

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

**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.
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.

**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 21.

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### 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 **Network** and **QOS** tabs.

#### 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**: Depending on 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 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 21.

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.

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.
Move up
Increases the priority of the rule.
Select a rule from the QoS table to prioritize and click Move up.

Move down
Decreases the priority of the rule.
Select a rule from the QoS table to lower its priority and click Move 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 21.

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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 and Referrer check 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 the 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 10.

**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.

**Authentication mode**
Set the authentication method for user authentication.

**Basic authentication:** Use the basic access authentication.

**Digest authentication:** Use the digest access authentication.

**Note**
If you change the settings in Authentication mode, close the web browser and access again.

**OK/Cancel**
See “Buttons common to every menu” on page 21.

**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 21.

**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.
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.

**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 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 39. 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 40 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 (root 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 21.

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.

**OK/Cancel**
See “Buttons common to every menu” on page 21.

**Referrer check tab**
Referrer check checks if the web page which requires access is authorized when the camera is accessed. If the web page is not authorized, the camera denies access of the web page to the camera.
If you want to access from web pages other than the one that the camera provides, register their host names and port numbers in the **Exception list**.

**Referrer check**
Select the checkbox for the **Referrer check**.

**Exception list**
Register the hosts that are not targeted for the **Referrer check**.

**No.**
Select the registered numbers of the **Exception list**.

**Host name**
Type the host name or IP address of the PC that supplies the web page you want to register on the **Exception list**.

**Port No.**
Type the host name or the port number of the PC that supplies the web page you want to register on the **Exception list**.
Set
Register the values of the **Host name** and **Port No.** you typed to the list of the selected number.

Delete
Delete the contents of the list selected in No.

OK/Cancel
See “Buttons common to every menu” on page 21.

---

### Setting the PTZF control
— PTZF control Menu

When you click **PTZF control** in the Administrator menu, the PTZF control menu appears.
The PTZF control menu consists of the **PTZF control**, **Preset position**, **Preset tour** and **Serial** tabs.

#### PTZF control Tab

![PTZF control Tab Image]

#### PTZ mode
Select the pan/tilt control mode using the 8-direction arrow buttons (page 15) and the zoom control mode using the **W / T** buttons (page 16).
Select **Normal** or **Step**.

**Normal**: When you click the mouse button, the camera starts panning, tilting or zooming, and the operation continues while you hold down the mouse button. To stop the operation, release the mouse button.

**Step**: Each time you click the mouse button, the camera moves (pans, tilts or zooms). If you keep the mouse button held down for more than 1 second, the operation mode is temporarily changed to **Normal**. When you release the mouse button, camera operation stops and the **Step** mode is restored.

When you select **Step**, **Pan/Tilt level** and **Zoom level** are selectable.

**Pan/Tilt level**: Select the camera transition level from 1 to 10 by clicking the 8-direction arrow buttons for panning/tilting. Selecting 10 provides the maximum transition level.

**Zoom level**: Select the camera transition level from 1 to 10 by clicking **W / T** for zooming. Selecting 10 provides the maximum transition level.

#### Auto flip
This function automatically switches the tilt movement of the camera downward to upward when the camera tilts downward to the point where it faces the ground.
Enable
Select the checkbox to enable the auto flip function. When you hold ↓, ← or → on the control panel to make the direction of the camera pass through the point where it faces the ground, the auto flip function is activated, and the displayed picture is reversed. When you deselect the checkbox, the direction of the camera stops at the point where it faces the ground.

Latency
While Auto flip is set to On, set the time duration before restarting tilt when the direction of the camera has tilted completely downward. Selectable values are 0 sec., 0.5 sec. are 0.75 sec.

Panorama mode
Select to rotate or not rotate the panorama image displayed in the viewer in accordance with the pan movement of the camera.
Rotate: The panorama image rotates as the camera pans.
Fixed: The panorama image is fixed.

Zoom mode
Select the zoom mode.
Full: An image can be zoomed up to 30x optical zoom and 12x digital zoom, 360x zoom in total.
Optical: An image can be zoomed up to 30x optical zoom.

Focus mode
Select the focus mode.
Auto: The focus is automatically adjusted.
Manual: The focus can be adjusted by using the ↑, ↓, and One Push Focus buttons of the control panel displayed in the main viewer.

Focus near limit
Set the range at which to automatically focus. If a subject is nearer than the set range, it will not be focused.

Preset position Tab — Saving pan/tilt/zoom position
You can set up camera pan, tilt and zoom positions to 256 positions.

Preview screen
This screen is for monitoring images and setting preset.

Set
Click to save a selected position, such as pan, tilt or zoom positions in the preset. If Home is selected, the position you saved will be assigned as the home position.

Call
Move to the pan, tilt and zoom positions saved in the selected preset.

Reset
If you click this when Home is selected, the home position will be reset to the factory setting.

Add
Save the current pan, tilt and zoom positions as a new preset.

Remove
Delete the selected preset.

Rename
Change the name of a selected preset.

Thumbnail
Check this checkbox to registers a thumbnail. Select a radio button to determine whether to register the current camera image as a thumbnail or to register with a specified image. To specify an image, click Browse.
Preset tour Tab — Setting a preset tour

Up to 16 positions can be programmed, and the camera moves to the programmed positions sequentially (Tour). Up to five programs can be set as Tours A to E.

Preview screen
This screen is for monitoring images and configuring preset tour settings.

Tour
Check to enable the tour function.

Resume time on inactivity
This item becomes active when Tour is set to On. With this item, you can select whether you restart or stop the tour after it has stopped by manual pan, tilt or zoom operation or by camera movement to the preset position triggered by an alarm.

Select the checkbox to set the resume time on inactivity. Specify the wait time before the tour restarts, between 5 and 3600 seconds. The tour restarts automatically after the specified time has elapsed.

Tour A to Tour E
Configure Tour A to Tour E respectively. Select the checkbox to operate the tour.

Sequence
Set the sequence of the tour. The preset positions saved using the Preset position tab are displayed in the drop-down list at the bottom. Select the preset position, then click Add. The selected preset position is added in the Sequence list. Repeat this procedure to specify the preset positions in sequence. You can check the preset position by clicking Call. To delete the preset position, click to select it in the list and then click Delete. To change the order in the list, select the preset position and then click Move up or Move down. To delete all preset position, click Delete All.

Speed
Select the speed of camera movement between 1 and 23, or Fastest from the drop-down list. The camera moves faster with a higher number setting. The fastest speed is obtained with Fastest.

Stay time
Type a period of time during which the camera is to stay at each preset position, between 1 and 3600 seconds.

Preview
Previews the order of movements of the selected tour. The operation speed and stop time do not influence the preview operation.

Stop
Stops the preview in action.

OK/Cancel
See “Buttons common to every menu” on page 21.

Serial Tab
Perform settings to control the camera according to data which is input by peripheral devices via an external serial interface. This unit complies with the Pelco-D protocol. Make the settings according to the peripheral devices connected to the network.

Standard
Select RS422, RS485 (half-duplex) or RS485 (full-duplex).

Termination
Select the checkbox if you want to terminate it.

Camera ID
Specify the Camera ID of this unit.

OK/Cancel
See “Buttons common to every menu” on page 21.
Setting the Sensor input/ 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, Sensor input, 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;
Sensor input 1: The external sensor that is connected to sensor input 1 of the camera I/O port.
Sensor input 2: The external sensor that is connected to sensor input 2 of the camera I/O port.
Sensor input 3: The external sensor that is connected to sensor input 3 of the camera I/O port.
Sensor input 4: The external sensor that is connected to sensor input 4 of the camera I/O port.
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.

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.
Sensor input Tab — Set the sensor input 1/2/3/4

Sensor input mode
Set the direction of the detected input signal to the sensor input terminal of the camera.
Normally open: Triggers an alarm when the sensor input is short-circuited.
Normally closed: Triggers an alarm when the sensor input is open-circuited.

Notes
- Allow at least two seconds for the input signal to be detected; otherwise, some events may not be detected.
- When you use video streaming by SSL connection, set as follows. Some events may not be detected if the camera is not in the following conditions.
  - Set the Bit rate below 1 Mbps.
  - Set the Frame rate below 30 fps.
  - Use the video streaming below two transmissions at the same time.

OK/Cancel
See “Buttons common to every menu” on page 21.

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 21.

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.
- 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.
- When privacy masking is used, the motion detection function is not available for the mask areas.

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

Target Image
Select All PTZ position or Preset position.

All PTZ position
This is a common setting for both VMD and VMF settings regardless of the camera PTZ position.

Preset position
You can set the VMD and VMF settings for each preset position.

Selected preset
Displays the registered preset positions. Click a preset position to position the camera, then make the VMD and VMF settings for that position.

VMD settings
Detection area
Specify the effective scope of motion detection.
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 \[ \text{\textup{\icontext{N}}}, \] 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 vertexes 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 \[ \text{\textup{\icontext{N}}}, \] 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 50.

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 vertexes 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 vertexes 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 , 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 , 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.
  - Deselect the checkbox of Stabilizer in the Installation tab of the System menu.
- An inactive area cannot be specified.
- A horizontal face (leaning too far sideways) cannot be detected.
- Vertexes cannot be added or deleted. They are for specifying a rectangular area only.
- When the privacy masking is used, the motion detection function is not available for the mask areas.

Target Image
Select All PTZ position or Preset position.

All PTZ position
This is a common setting for the face detection settings regardless of the camera PTZ position.

Preset position
You can set the face detection settings for each preset position.

Selected preset
Displays the registered preset positions. Click a preset position to position the camera, then make the face detection settings for that position.

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 50)
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.

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.
IP address monitoring is not available for IPv6.

OK/Cancel
See “Buttons common to every menu” on page 21.
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, Alarm output, Edge Storage, Voice alert, HTTP alarm notification and FTP still image sending tabs.

### 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.
- **Alarm output 1**: Set the condition to control alarm output of the I/O port on the rear of the camera.
- **Alarm output 2**: Set the condition to control alarm output of the I/O port on the rear of the camera.
- **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.
- **Preset call**: Set the condition of preset call and the preset call number.
- **HTTP alarm notification 1**: Set the condition for the HTTP alarm notification to recipient 1.
- **HTTP alarm notification 2**: Set the condition for the HTTP alarm notification to recipient 2.
- **HTTP alarm notification 3**: Set the condition for the HTTP alarm notification to recipient 3.
- **FTP still image sending**: Set the condition for sending with the FTP still image sending function.

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

<table>
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<th>SMTP port number</th>
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<td>Recipient e-mail address 2</td>
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</tr>
<tr>
<td>Recipient e-mail address 3</td>
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</tr>
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</table>

### 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 64 characters.
An e-mail sent in response to alarm detection will indicate the type of alarm in the subject. (Sensor1) is added for sensor input 1 detection, (Sensor2) for sensor input 2 detection, (Sensor3) for sensor input 3 detection, (Sensor4) for sensor input 4 detection, (Tampering) for camera tampering 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 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 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 when a memory card problem or fan 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 21.

---

**Alarm output Tab — Setting the Alarm output**
You can perform setting in this menu to control the alarm output of the I/O port on the rear of the camera linked to alarm detection function.

**Tip**
For details on connection of peripheral devices to the alarm output of the I/O port, refer to the supplied Installation Manual.

**Duration**

**Duration 1, 2**
Enter the duration for which the alarm is output, between 1 sec. and 60 sec.

**Memory card trouble detection**
Set to output the alarm when trouble of the memory card is detected.

**Output port 1, 2**
Check the I/O port number that outputs the alarm when the trouble of memory card is detected.

**OK/Cancel**
See “Buttons common to every menu” on page 21.
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 memory card, stop the Edge Storage recording and turn off the power of the camera.
- Before using a memory card, format it by Format memory card in the Initialize tab of the System menu (page 24).
- A maximum of 4000 movie records can be saved to an memory card. If the checkbox of Overwrite is not selected when the number of records reaches 4000, new recordings cannot be made. If the checkbox of Overwrite is selected when the number of records reaches 4000, 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 recording H.264, the recorded data may become very large and the video/audio may be interrupted if the Adaptive rate control is set and other image codec except CBR is selected. Therefore, selecting CBR is recommended. If you select CBR, 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 or above, set the video codec as follows:
  - SNC-WR630/WR632: Set the Image quality below 2.
  - SNC-WR600/WR602: Set the Image quality below 5.
  - Set the Frame rate to 1 fps.
- When you record, set the Image codec 2 and Image codec 3 of the Video codec tab in the Video / Audio menu to Off.

Common setting

Memory card
Display the available free space of external memory.

Maintenance information
Displays the status of the memory card if you are using the memory card that corresponds to displaying Maintenance information.

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 memory card. These files will be saved in a folder tree as follows.
/sdcard/EdgeStoragePicture/00000000-999999999/
/00000000-999999999/ (Prefix)YYYYMMDhhmms0000001.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.

**Notes**
- You can record still images even if the video is specified with an image codec 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.
- A folder containing no still image files may appear.

**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).
Greenwich Mean Time will be included 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 28) 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 21.

**Voice alert Tab**

**Voice alert 1**
**File:** 1.wav
**Text:**
**Delete**
**Play**
**Repeat** 1

**Voice alert 2**
**File:** 2.wav
**Text:**
**Delete**
**Play**
**Repeat** 1

**Voice alert 3**
**File:** 3.wav
**Text:**
**Delete**
**Play**
**Repeat** 1

Set the voice alert function, to output audio from the speaker connected to the line output jack of the camera, when an alarm is triggered by the sensor input or detection functions.
Before using the voice alert function, you need to save the audio file to the camera using the SNC audio upload tool. You can download the application guide and SNC audio upload tool from the following URL.
http://www.sony.net/ipela/snc

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.

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 21.

HTTP alarm notification Tab
Set to notify a specified URL of an alarm when an event is detected.

HTTP alarm notification 1, 2, 3
Set up to 3 recipients who you want to notify of the alarm.

User name
Type the user name for authentication using up to 64 characters.

Password
Type the password for authentication using up to 64 characters.

Notification at the beginning of event detection
Select the checkbox for the alarm notification when the event detection starts.

URL
Type the recipient of the alarm.

Test
If you click Execute, the alarm will be notified manually regardless of whether an event is detected.

Notification at the end of event detection
Select the checkbox for the alarm notification when the event detection ends.

Note
If the VMF, Camera tampering detection, Face detection, HTTP alarm notification, Event condition are set as conditions for executing HTTP alarm notification, the Notification at the end of event detection cannot be set.

URL
Type the recipient of the alarm.

Test
If you click Execute, the alarm will be notified manually regardless of whether an event is detected.

Use Proxy
Select the check box if you use a proxy server.

Address
Type the address of the proxy server using up to 255 characters.

Port No.
Type the port number of the proxy server using up to 255 characters.

User name
Type the user name for proxy server authentication using up to 64 characters.

Password
Type the password for proxy server authentication using up to 64 characters.
OK/Cancel
See “Buttons common to every menu” on page 21.

FTP still image sending Tab
Set the items for the still file images that are recorded at alarm detection or recorded periodically and sent to the FTP server.

**Note**
While transferring the files with **FTP still image sending**, the frame rate and operability of the main viewer decrease.

FTP server
Set the items for the FTP server where files will be sent.

**Server name**
Type the FTP server name of the FTP server where you want to upload the files using up to 64 characters or type the IP address of the FTP server.

**User name**
Type the user name for the FTP server using up to 64 characters.

**Password**
Type the password for the FTP server using up to 64 characters.

**Passive mode**
Set whether to use the passive mode of the FTP server when you connect to the FTP server. If you select the checkbox, you can connect to FTP sever in passive mode.

Alarm sending

**Image to be sent**
Select the video codec mode for the image of alarm sending.
For detailed settings of video codec mode, see the Video codec tab in the Video / Audio menu.

**Remote path**
Type the path where the files will be sent using up to 64 characters.

**Image file name**
Type the file name of the image that you want to send to the FTP server using up to 10 alphanumeric characters, - (hyphen) and _ (underscore).

**Suffix**
Select a suffix to be added to the file name used when the image is sent.

**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.

**Sequence number**
A sequential 10-digit number 0000000001-4294967295 and a sequential 2-digit number are added to the image file name to be sent.

**Sequence number clear**
If you click Clear, the suffix of the **Sequence number** returns 1.

**Test**
If you click Execute, the image will be sent to the FTP server once for testing according to the settings of alarm sending.

Periodical sending

**Image to be sent**
Select the video codec mode of the image of periodical sending.
For detailed settings of video codec mode, see the Video codec tab in the Video / Audio menu.

**Remote path**
Type the path where the files will be sent using up to 64 characters.

**Image file name**
Type the file name of the image that you want to send to the FTP server using up to 10 alphanumeric characters, - (hyphen) and _ (underscore).

**Suffix**
Select a suffix to be added to the file name used when the image is sent.

**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.

**Sequence number**
A sequential 10-digit number 0000000001-4294967295 and a sequential 2-digit number are added to the image file name to be sent.
Sequence number clear
If you click Clear, the suffix of the Sequence number returns 1.

Test
If you click Execute, the image will be sent to the FTP server once for testing according to the settings of periodical sending.

Tour sync sending

Tour
Select the checkbox to sync the tour.

Image to be sent
Select the video codec mode for the image of tour sync sending.
For detailed settings of video codec mode, see the Video codec tab in the Video / Audio menu.

Remote path
Type the path where the files will be sent using up to 64 characters.

Image file name
Type the file name of the image that you want to send to the FTP server using up to 10 alphanumeric characters, - (hyphen) and _ (underscore).

Suffix
Select a suffix to be added to the file name used when the image 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.
Sequence number: A sequential 10-digit number 0000000001-4294967295 and a sequential 2-digit number are added to the image file name.

Sequence number clear
If you click Clear, the suffix of the Sequence number returns 1.

Test
If you click Execute, the image will be sent to the FTP server once for testing according to the settings of tour sync sending.

Manual sending

Image to be sent
Select the video codec mode of the image of manual sending.
For detailed settings of video codec mode, see the Video codec tab in the Video / Audio menu.

Remote path
Type the path where the files will be sent using up to 64 characters.

Image file name
Type the file name of the image that you want to send to the FTP server using up to 10 alphanumeric characters, - (hyphen) and _ (underscore).

Suffix
Select a suffix to be added to the file name used when the image 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.
Sequence number: A sequential 10-digit number 0000000001-4294967295 and a sequential 2-digit number are added to the image file name.

Sequence number clear
If you click Clear, the suffix of the Sequence number returns 1.

Send
If you click Execute, the image will be sent to the FTP server once for testing according to the settings of manual sending.

OK/Cancel
See “Buttons common to every menu” on page 21.
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 following actions; Mail Transfer (Event), Mail Transfer (Periodical), Alarm output (Event), Alarm output (Timer), Edge Storage movie, Edge Storage still image (Event), Edge Storage still image (Periodical), Day/Night, Voice alert, HTTP alarm notification (Event), Preset tour and FTP still image sending (Periodical).

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 21.

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.

Notes
- It may take time until the CLOUD service can be used after enabling it.
• The CLOUD service can be enable only when the NTP server is specified, and the time setting is set to Synchronize with NTP.

**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 21.
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), 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.

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.
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## Numerics

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