

**ii·PRO**

# Operating Instructions

## Network Disk Recorder

Model No. **WJ-NX200K**



**HDMI**<sup>®</sup>  
HIGH-DEFINITION MULTIMEDIA INTERFACE

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

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

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# Preface

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## About the user manuals

There are 4 manuals provided for the WJ-NX200K as follows.

- Installation Guide: Contains procedures how to install/connect this product, and descriptions of easy configurations.
- Important Information (PDF): Contains preface, precautions, and major operating controls and their functions and specifications.
- Operating Instructions (PDF: this document): Contains descriptions of how to operate this product with a PC. Make sure to read them when installing the recorder.  
This document is intended for recorder software versions V1.10 and later.
- Quick Reference Guide: Contains descriptions of how to configure the basic settings and how to use the major functions.

Adobe® Reader® is required to read the PDF files (the setup instructions and the operating instructions) on the provided CD-ROM.

When Adobe® Reader® is not installed on the PC, download the latest Adobe® Reader® from the Adobe web site and install it.

"NX200" shown in the instructions and illustrations used in these operating instructions indicate the WJ-NX200K. Refer to "readme.txt" on the provided CD-ROM for further information about the optional dedicated software, compatible network cameras (hereinafter, cameras) and their versions.

Refer to our website ([https://i-pro.com/global/en/surveillance/training\\_support/support/technical\\_information](https://i-pro.com/global/en/surveillance/training_support/support/technical_information)) for latest information about the compatible cameras and functions to be added or changed by firmware upgrade.

The external appearance in the document may differ from the actual product within no influence range on operation due to improvement of the product.

## Abbreviations

The following abbreviations are used in this manual.

Microsoft® Windows® 8.1 is described as Windows 8.

Microsoft® Windows® 7 is described as Windows 7.

Windows® Internet Explorer® 11 is described as Internet Explorer.

Network cameras are described as cameras.

## About the settings and operation of the recorder

- The recorder can be operated using the provided mouse connected to the USB port on the front side of the recorder and the soft keyboard. Refer to "Basic operations" of Installation Guide for the operation of the mouse and the soft keyboard.
- The camera settings are automatically done in accordance with recording settings of the recorder once the camera is registered in the recorder. If you directly change settings related to image and audio of the camera registered in the recorder, the settings may differ from those of the recorder or some functions may not work properly.
- It is also possible to perform settings and some operations of the recorder from the web browser. Refer to "Lists of the setting items" on page 76 for setting items via the web browser and "List of operation items" on page 145 for operational items via the web browser. Refer to page 153 and following pages for the operation.
- This documents is sub headed in each applicable page such as "Setup via recorder's main monitor", "Operation via recorder's main monitor", "Setup on browser" and "Operation via PC web browser".
- This document explains settings and operation of the recorder using 16 cameras as examples.



# Restrictions when using this product

When using this product, some functions have the following restrictions. Before using this product, keep the following in mind.

## When displaying live images from the camera

- Black screen may be displayed for the first several seconds (\*) when the following operations are performed while displaying live images.
  - When live images are displayed (by switching camera, etc.)
  - When image is zoomed in or out

## When playing recorded images

- First several seconds (\*) may be skipped when the following operations are performed while playing recorded images.
  - When cameras are switched
  - When image is zoomed in or out (When zooming into/out of a paused recorded image, an image occurring several seconds before or after the displayed image may be zoomed in.)
  - When the playback button is clicked again while playing images
  - When the first frame is displayed by starting the frame by frame playback during pausing
- Playback may be performed in several seconds intervals (\*) when the following operations are performed. Refer to the description of operations during playback on pages 127 and 169 for how to control playback.
  - Reverse playback
  - Fast playback/Fast reverse playback
  - Reverse frame playback
- When playing images by designating date & time, playback may start from a point several seconds\* before/after the specified time or from the first frame of the next record.
- When the latest recorded image is played, playback may start from a point several seconds before/after a point that is 10 seconds before the latest recorded image. The playback may be paused some ten seconds after the start of the playback depending on the volume of recorded image data.
- When the frame rate is set to 25 ips ~ 60 ips, recorded images may not be played smoothly.
- If the recorder cannot continue playback due to a large load, it stops the playback and returns to the live display.

## When recording images

- The actual time of recording trigger (event occurrence time, start time of the schedule recording, etc.) and the recording start time (time displayed on the recording event list) may not exactly be the same.
- When pre-event recording is set to be performed, the recording may not be performed as the set duration.
- If the frame rate is set to switch during the event recording or the emergency recording, it may take a few seconds to switch the rate depending on the refresh cycle interval.

## When copying images

Copying of recorded images may start from a point several seconds (\*) before the designated start time when copying recorded images.

## When downloading recorded images

Downloading of recorded images may start from a point several seconds (\*) earlier than the designated start time.

\* Time (seconds) differs depending on the refresh interval setting of the camera (0.2 - 5 seconds). In the recorder, the refresh interval setting of the camera is set to 1 second at the camera registration. Refer to the operating instructions of the camera for information about the refresh interval setting.

## When using a USB memory stick/ external storage device

After a USB memory stick is inserted, it may take time to recognize the medium. It also may take time if the capacity size of the inserted media is large.

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## When using the web browser

- If the camera is set to high frame rate and high resolution, update of images may take time or images may be displayed intermittently. If the camera is used with the following settings, the above may be improved by using a PC described in the specifications.

### **[Setting examples]**

1-screen display Image capture size:  
FHD (1920×1080), frame rate: 60 ips,  
image quality: XF

1-screen display Image capture size:  
HD (1280×720), frame rate: 60 ips,  
image quality: XF

4-screen display Image capture size:  
HD (1280×720), frame rate: 30 ips,  
image quality: XF

### **[Specifications]**

CPU: Intel® Core™ i7 6700 or better

Memory: 8 GB (4 GB×2) or more

# Before using this product

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## Motion detection (VMD) function

The motion detection (VMD) function of cameras detects motions referring to changes of luminance (brightness) in areas set in advance.

The motion detection function will not effectively work in the following situations or may sometimes be malfunctioning.

- When there is a very little difference in luminance (brightness) between a background and a subject
- When brightness of images is low such as at night
- When a subject moves very slow
- When a subject is very small
- When the amount of rays of light incidence changes frequently such as at a window or outdoors.
- When light such as sunlight or car headlight comes from outside
- When a fluorescent lamp flickers
- When a subject has depth

When configuring the motion detection settings, check the function performance both in daytime and at night after appropriately configuring the area settings and the sensitivity settings according to the camera installation conditions and possible movement of subjects. When the detection function does not work or false detection occurs, use a sensor separately. Refer to the operating instructions of the camera for further information.

## Time display of recorded images

When displaying recorded images, the displayed date & time may sometimes skips. This is not a malfunction. The displayed date & time on the monitor and the recorder may sometimes not be exactly the same. This is also not malfunction.

## Response to the mouse operations

While this recorder is processing multiple operations at the same time, the response to the operations from the connected mouse may temporarily become slow. This is not a malfunction.

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## Black screen displayed when playing recorded images

In the following cases, a black screen may be displayed during playing recorded images. However, this is not a malfunction.

- When changing cameras or screen patterns during playback or pausing
- When skipping/reverse skipping during playback
- When fast forwarding/reverse fast forwarding during playback
- When the latest recorded image is played while displaying images on a multiscreen\*
- When changing the selected camera during the multi-screen display
- When going to the next recording event list by fast forwarding/reverse fast forwarding or skipping/reverse skipping during playback
- When playback operation is affected by another operation (such as when receiving multiple alarms sequentially or while copying is being performed simultaneously)

\* Some camera images go black depending on the data volume.

## Recording operation

The recorder can connect up to 16\* cameras and record their images on the HDD.

The following recording operations are available.

- Schedule recording: Recording that is automatically performed at the designated time range on the designated day(s) of the week
- Event recording: Recording that is automatically performed when an event occurs (such as terminal alarm/camera site alarm/command alarm, etc.)
- Emergency recording: Gives priority to recording video and audio at emergency using the external switch connected to the emergency record input terminal of the recorder.

\* When registering the license for 16 cameras by the additional camera kit.

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### Important:

- Recording may not be performed for around 3 seconds in the following cases. However, this is not a malfunction.
    - When the settings are changed and the setup menu is closed during recording
- 

## Event type

The following event recording types are displayed in list form on the web browser:

SCH: Schedule recording

EMR: Emergency recording

SD: SD backup rec.

The following are detailed event recording types.

COM: Displayed when a command alarm occurred

TRM: Displayed when a terminal alarm occurred

CAM: Displayed when a camera site alarm occurred

PRE: Pre-event recording

# Configure the basic settings [Basic setup]

The basic settings of the recorder such as date & time and recording mode, etc. can be configured on the "Basic setup" page.

The "Basic setup" page provides access to the [Date/Language], [Camera] and [REC & event] pages.

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**Note:**

- Refer to "Configure the minimum settings [Easy Start]" of the Installation Guide for the [Quick setup] - [Easy Start] of the setup menu.
- 

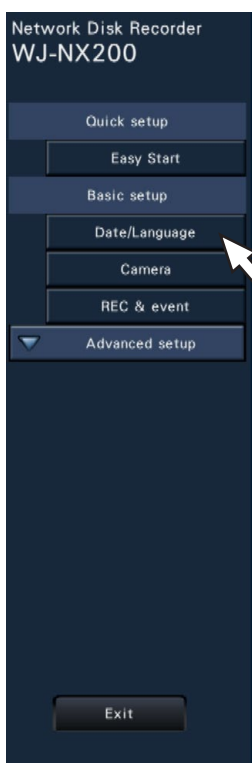
## Display the basic setup pages

Click the desired button on the setup menu.

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**Note:**

- The setup menu can be displayed by clicking the [Setup] button on the operation panel of the operation screen.
- 



[Date/Language] button: Displays the "Date/Language" page. Perform settings such as date & time and daylight saving time.

[Camera] button: Displays the "Camera" page. Perform registration and setup of network cameras.

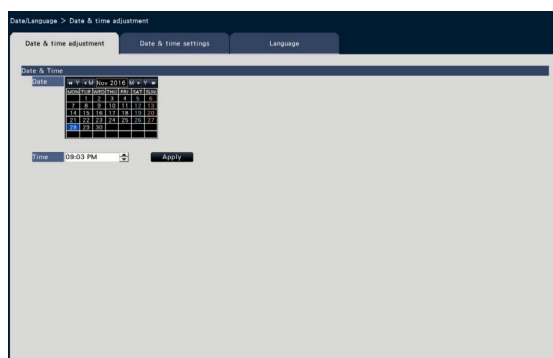
[REC & event] button: Displays the "REC & event" page. Configure the recording schedules and event actions.

## Set up date & time and language [Date/Language]

The "Date/Language" page has the [Date & time adjustment], [Date & time settings] and [Language] tabs.

## [Date & time adjustment] tab

Set the current date & time.



### ■ Date & time

#### [Date]

Set the current date. Select the year, month and day from the calendar.

[<<Y]/[Y>>] button: Selects the previous or next year.

[<M]/[M>] button: Selects the previous or next month.

#### [Time]

Set the current time.

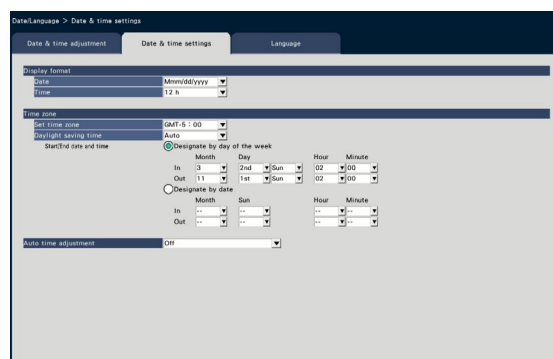
---

#### Important:

- Click the [Apply] button after setting the date & time. →The second will be set to "00".
- 

## [Date & time settings] tab

Perform settings such as date & time format, time zone, daylight saving time, and time adjustment method.



### ■ Display format

Select a display format for the current date & time.

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#### Note:

- "Date & time display" on the [Camera setup] tab (Page 17) corresponds to the display format settings on this tab.
- 

#### [Date]

Select a date/time display format. (Example: March 1, 2014)

yyyy/mm/dd: 2014/03/01

Mmm/dd/yyyy: Mar/01/2014

dd/Mmm/yyyy: 01/Mar/2014

mm/dd/yyyy: 03/01/2014

dd/mm/yyyy: 01/03/2014

**Default:** Mmm/dd/yyyy

#### [Time]

Select a time display format. (Example: 3 o'clock in the afternoon)

24 h: 15:00:00

12 h: 03:00:00 PM

**Default:** 12 h

### ■ Time zone

Select the time zone and shift to/from daylight saving time.

#### [Set time zone]

Select your time zone.

GMT-12:00 - GMT+13:00

**Default:** GMT-5:00

#### [Daylight saving time]

Determine how to switch to/from daylight saving time. The asterisk "\*" will be displayed before date & time during daylight saving time.

Out: Does not apply daylight saving time.

Auto: Automatically applies daylight saving time based on the pre-set Start/End date and time of daylight saving time.

**Default:** Auto



# [Setup via recorder's main monitor]

## [Start/End date and time]

Set up the rule of the Start/End date and time of daylight saving time.

It is displayed when "Auto" is selected in "Daylight saving time".

Select "Designate by day of the week" or "Designate by date" as a method to assign the starting (In) and ending (Out) date and time of daylight saving time.

### Important:

- Setting is impossible when the interval between start (In)/end (Out) is less than an hour.

## [Auto time adjustment]

Select a method of auto clock adjustment from the following.

Off: Does not adjust the time automatically.

Slave: Receives a signal from the ALARM/CONTROL connector on the rear panel of the recorder and adjusts the clock. When the signal is received and if the clock is within 29 minutes  $\pm$  the hour, the time will be adjusted to 00 minutes 00 seconds.

Master: Outputs a signal from ALARM/CONTROL connector on the rear panel of the recorder and adjusts time of other equipment. When you select "Master", the setting of "Operation time and date" to set the time for time adjustment will be displayed.

**Default:** Off

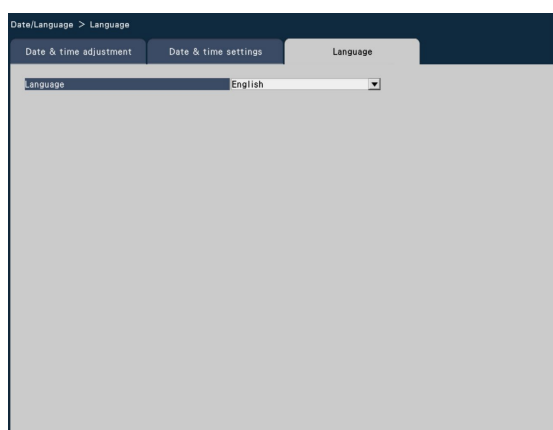
## [Operation time and date]

Set time to output a signal from ALARM/CONTROL connector. It is displayed when you select "Master" of the "Auto time adjustment".

**Default:** 00:00

## [Language] tab

Select the display language for the main monitor and for the web browser on the PC.



### [Language]

Japanese/ English/ Français/ Español/ Deutsch/  
Italiano/ Русский/ Português/ ไทย/ 中文

**Default:** English

## Camera setup [Camera]

The "Camera" page has the [Camera registration] tab, the [Camera setup] tab and the [Advanced setup] tab.

### [Camera registration] tab

Perform settings such as the network settings of the camera (IP address and port number), and the display position on the main monitor.

When performing the initial settings, displays camera information detected/set on the "Easy Start".



### [Change the display position of camera]

The camera numbers can be interchanged. When the [Setup >] button is clicked, the "Change the display position of camera" window opens to edit the settings. (☞ Page 16)

### [Detect cameras]

The cameras connected to a network can be detected for registration. (☞ Page 13)

### [Management of camera user]

Set a user name/password of the camera in the camera. (☞ Page 14)

### [Registered information]

Change the "Model", "Option", "Address" and "Compression".

When the [Setup >] button is clicked, the "Registered information" window opens to edit the settings.

(☞ Page 15)

In the event of communication trouble with the camera, one of the following error messages is displayed for "Error information".

Connection error: The communication with the camera disconnected.

Authentication error: The user authentication of the camera failed.

Camera error: The response from the camera is incorrect.

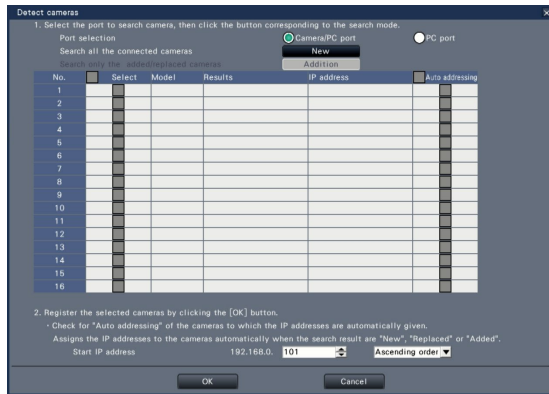
---

#### Note:

- When an error message is displayed, check the camera connections and settings (☞ operating instructions of the camera). If the problem cannot be solved, refer to "Easy Start" of Installation Guide and register the camera again.
-

## Detect cameras for registration [Detect cameras]

Clicking the [Setup >] button of "Detect cameras" on the [Camera setup] tab will display the following window. After editing the settings, click the [OK] button to save the settings and return to the [Camera registration] tab.



### Note:

- Before the settings, register the cameras into the network. Even though it is possible to detect up to 192 cameras, the number of cameras that can be registered is the same number as registered licenses.

### [Port selection]

Select the port to which the camera to be detected is connected.

### [New] button

Deletes all the current settings and searches all the connected cameras. The models, results of the detected cameras and IP addresses will be displayed.

### [Addition] button

Detects only the added or replaced cameras. The models, results of the detected cameras and IP addresses will be displayed.

### [No.]

Shows a number of detected cameras in order of the IP address. The maximum number of detectable cameras will be 192 units.

### [Select]

Mark the checkboxes of cameras to register. The vacant number will be fulfilled by the subsequent camera.

### [Model]

When our cameras are used, the model numbers will be displayed.

### [Results]

New: Displayed when the camera is newly connected to the recorder.

Replaced: Displayed when the camera has been replaced by another one.

Added: Displayed when the camera connection is added to the recorder.

Registered: Displayed when the camera has already been registered.

Lost: Displayed when the registered camera is not detected.

Blank: No camera is detected.

### [IP address]

Displays the IP addresses configured for the detected cameras.

### [Auto addressing]

The IP addresses of the cameras whose checkboxes are marked will be automatically configured.

### [Start IP address]

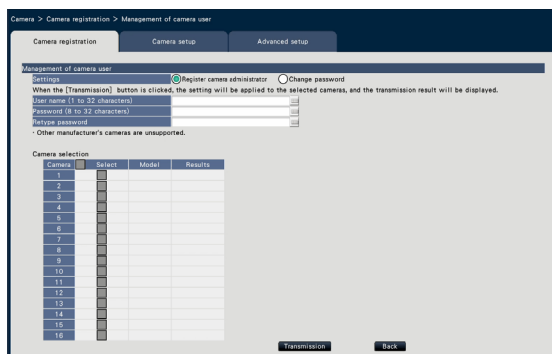
Specify the start IP address and order when setting the IP address automatically.

### Note:

- It is impossible to register cameras in other networks via the same router.
- For the security enhancement, changing of the IP address of the camera will become impossible when 20 minutes have passed after the power is turned on. Refer to the operating instructions of the camera for further information.
- When "On" is selected for the "DHCP" setting of the detected cameras, the recorder will forcibly change the setting to "Off" to give the IP addresses automatically.
- If the IP address of the camera is set to be assigned automatically, an IP address will be assigned to the camera when the [OK] button is clicked. In this case, the default gateway (Page 50) of the recorder is set to the default gateway of the camera.
- Click the [Cancel] button to return to the [Camera registration] tab without applying the camera detection result.

## Change the password of camera [Management of camera user]

Click the [Setup >] button of "Management of camera user" on the [Camera registration] tab to display the following screen.



### Note:

- For user name and password, enter those of camera administrator rights according to the specifications of the camera. (Please refer to the operating instructions of the camera.)
- The entered user name and password are set as registered information of the applicable camera when the settings to the camera is completed.
- Click [Exit] button when you set the user name and password.

### [Settings]

Select items to set up.

Register camera administrator: Registers a user name and password to a camera whose administrator is not registered. Enter a user name/password.

### Note:

- Cameras that already have the User name/Password registered cannot register another User name/Password.

Change password: Changes the password of the camera user registered to the recorder only. Enter a password.

### ■ Camera selection

Select the camera to which the settings are sent.

Mark the checkbox of the camera to which the set user name and password are sent.

(When "Register camera administrator" is selected in the "Settings", you cannot select cameras whose administrators have already been registered.)

### [Transmission] button

Transmit the settings to the camera. Once transmission is completed and the setting has been applied to the camera, "OK" will be displayed in the "Results" field. If the display reads "Authentication error", etc., the camera connection or the setting may have failed.

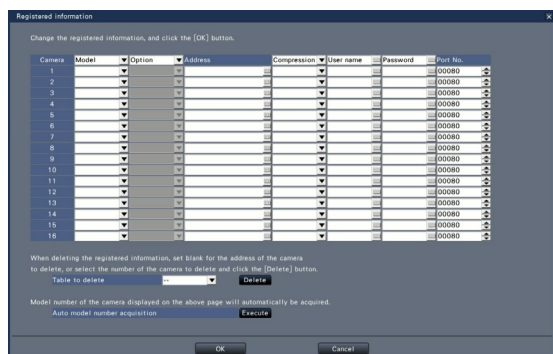
### [Back] button

Click the button after completing the settings. The screen returns to the [Camera registration] tab.

## Change the registered information [Registered information]

Click the [Setup >] button for "Registered information" on the [Camera registration] tab to display the following items.

After editing the settings, click the [OK] button to save the settings and return to the [Camera registration] tab.



### [Camera]

Up to 16 cameras can be connected. By registering the licenses, number of the cameras can be increased to 9 or 16.

### [Model]

The model of a registered camera will be displayed. (Blank: Camera is not registered)

Click the [▼] button to select the camera model from the camera categories. Refer to the "readme.txt" on the provided CD-ROM for camera categories. It is unnecessary to change it for normal use.

### [Option]

Assign the operational mode of the camera having a specific function due to the difference in function of the camera.

### [Address]

An address already in use will be displayed. The address can be changed using the on-screen keyboard. Enter up to 255 alphanumeric characters including hyphens (-) and periods (.).

#### Note:

- Entering "http://" is not necessary if the host name is entered.

### [Compression]

Select the image compression method.

H.265(1)/ H.265(3)/ H.265(4)/ H.264(1)/ H.264(3)/  
H.264(4)/ MJPEG

#### Note:

- Assignment example by the application of camera stream
  - ① Recording by compression of H.264, 1-screen live display, browser display: H.264(1)
  - ② Sub-stream recording by compression of H.264, live multi-screen display: H.264(2)
  - ③ Recording by compression of H.264 or H.265, 1-screen live display, browser display: H.264(1), H.264(3), H.264(4), H.265(1), H.265(3), H.265(4)
  - ④ Sub-stream recording by compression of H.264 or H.265, live multi-screen display: H.264(2), H.265(2)
- When selecting "MJPEG" for "Compression", the live image transmission rate and the frame rate will be changed automatically to "5 ips". (☞ Page 35)
- When selecting "H.264(n)" or "H.265(n)" for "Compression", it will become possible to select "XF" in the image quality setting.
- Depending on the model of the camera, the camera may reboot when the compression method is changed. The reboot will be detected as a communication error, but that is not a malfunction.

### [User name]

Enter the user name for accessing the cameras and logging in using the on-screen keyboard (☞ Installation Guide Page 8). Register the user name whose access level is "Administrator".

### [Password]

Enter the password to be used for the user whose name has been registered as "User name" (☞ Installation Guide Page 8). (Up to 32 alphanumeric characters)

### [Port No.]

Set a port number from 1 - 65535 for use by the camera.  
**Default:** 80

#### Note:

- Enter the port number in five digits, right aligned. (Example: When the port number is 80, enter "00080".) The leading zeros are omitted here.

# [Setup via recorder's main monitor]

## [Table to delete]

To delete registration information or remove a previously connected camera, either select the camera number and click the [Delete] button, or delete the IP address of the respective camera.

## [Auto model number acquisition]

Click the [Execute] button to acquire the model number from the camera registered for this product and update the model number information.

When the acquired model number is different from the registered one, as the image capture size is changed to the default, reset the image capture size in [REC & event]-[Recording setup] again.

## Interchange camera numbers [Change the display position of camera]

Click the [Setup >] button for "Change the display position of camera" on the [Camera registration] tab to display the following items.



The registered camera is displayed on the screen from the left top to right in order of 1, 2, ...16. To interchange camera numbers, drag the camera image to be moved with the mouse and drop on the desired position. If the camera titles are to be interchanged as well, mark the "Also change camera titles" checkbox.

## [Refresh] button

Obtain the latest camera image after interchanging cameras.

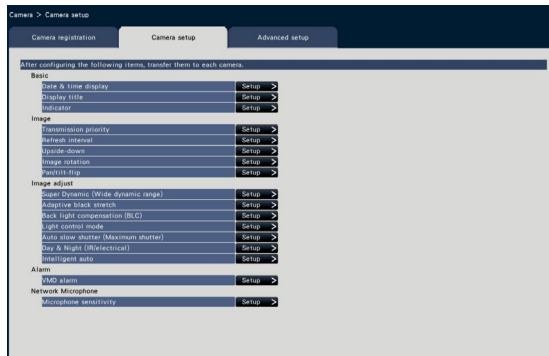
## [Back] button

Save the settings and return to the [Camera registration] tab.



## [Camera setup] tab

Transmit the date & time and text displayed on an image, the refresh rate, the VMD alarm and the Light control mode etc. settings to the camera. Click the [Setup >] button for each item to open the respective setup window.



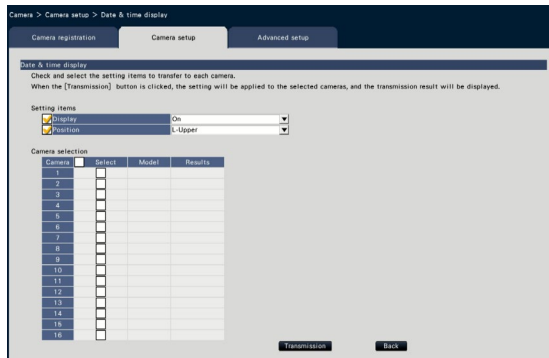
### Note:

- The settings of some models of our cameras only can be configured. Refer to the "readme.txt" on the provided CD-ROM about the supported cameras. Some functions are not supported depending on the models of the connected cameras. For further information about detailed specifications, refer to the operating instructions of the cameras in use.
- It is impossible to check the current settings using this recorder.

## Set up date & time display [Date & time display]

Select the date & time display position for each camera and transmit it to the cameras to change the camera settings.

Clicking the [Setup >] button for "Date & time display" on the [Camera setup] tab will display the following items.



### ■ Setting items

#### [Display]

Choose whether or not to display the date & time. If date & time display is activated, date & time will be displayed on camera images and will also be recorded with the recorded images.

To transmit the settings to the camera, mark this item, and select either of the following.

On: Date & time displayed

Off: Date & time not displayed

---

#### Note:

- The display format corresponds to the settings on the [Date & time settings] tab (Page 10).
- 

#### [Position]

Select the position to display the date & time on the images.

If the setting is to be transmitted to the camera, mark this item to select the display position.

L-Upper/ L-Lower/ R-Upper/ R-Lower

---

#### Note:

- The position to display the title edited on "Display Title" (Page 19) is the same as the "Position" selected here to display the date & time edited on "Date & time display".
- 

### ■ Camera selection

Select the camera to which the date & time display setting is to be sent. Mark the checkbox of the camera to which the setup information is to be transmitted.

#### [Transmission] button

Transmit the date & time setting to the camera.

Once transmission is completed and the setting has been applied to the camera, "OK" will be displayed in the "Results" field. If the display reads "Authentication error", etc., the camera connection or the setting may have failed.

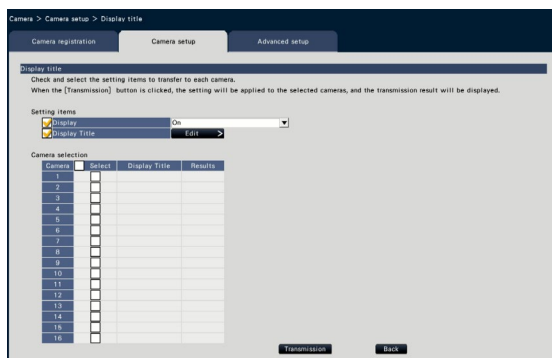
#### [Back] button

Click the button after completing the settings. The screen returns to the [Camera setup] tab.

## Set up OSD [Display Title]

Determine whether to display the title and select the title to display for each camera, the settings will be changed after the settings have been transmitted to the camera.

Clicking the [Setup >] button for "Display Title" on the [Camera setup] tab will display the following items.



### ■ Setting items

#### [Display]

Select whether or not to display the title on camera images. If title display is activated, the title will be displayed on camera images and will also be recorded with the recorded images.

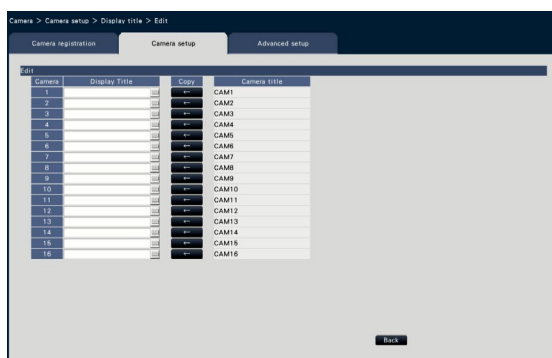
To transmit the settings to the camera, mark this item, and select either of the following.

On: Title displayed

Off: Title not displayed

#### [Display Title]

To transmit the settings to the camera, mark this item, and edit the title displayed on the image. Clicking the [Edit >] button will display the following title editing window:



#### • [Display Title]

Enter a character string to be displayed on the image using the on-screen keyboard. (☞ Installation Guide Page 8) (Up to 16 alphanumeric characters)

Available characters: 0-9, A-Z, ! # \$ % ( ) \* + , - . / : ; = ?

#### • [Camera title]

Display the camera title registered on the [Main monitor] tab of the monitor page (☞ Page 46).

#### • [Copy] button

The camera title registered on the [Main monitor] tab of the monitor page can be used as display title. Clicking this button will copy the camera title to the "Display Title" field.

#### • [Back] button

Click the button after completing the settings. This will close the window.

### ■ Camera Selection

Select the camera to which the setting of the "Display title" is to be sent.

Mark the checkbox of the camera to which the setup information is to be transmitted.

#### [Transmission] button

Transmit the setting of the "Display title" to the camera.

Once transmission is completed and the setting has been applied to the camera, "OK" will be displayed in the "Results" field.

If the display reads "Authentication error", etc., the camera connection or the setting may have failed.

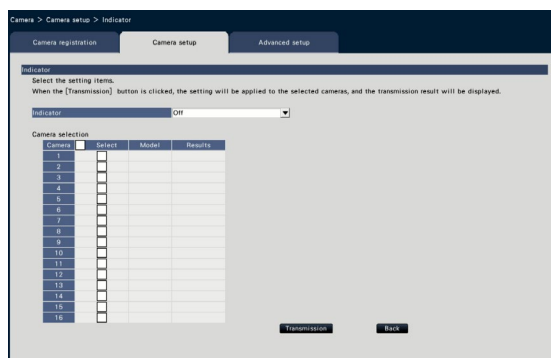
#### [Back] button

Click the button after completing the settings. The screen returns to the [Camera setup] tab.

## Set up how to turn on or off the indicators [Indicator]

Select how to turn on or off the link indicator, access indicator or status indicators for each camera and transmit the information to the cameras to change the camera settings. Refer to the operating instructions of the camera for further information.

Clicking the [Setup >] button for "Indicator" on the [Camera setup] tab will display the setup page.



### [Indicator]

On: All the indicators will light in accordance with the status.

On (Access): Only the live indicator will light when images are viewed.

Off: All the indicators will light off.

### ■ Camera Selection

Select the camera to which the "Indicator" setting is to be sent.

Mark the checkbox of the camera to which the setup information is to be transmitted.

### [Transmission] button

Transmit the setting of the "Indicator" to the camera. Once transmission is completed and the setting has been applied to the camera, "OK" will be displayed in the "Results" field.

If the display reads "Authentication error", etc., the camera connection or the setting may have failed.

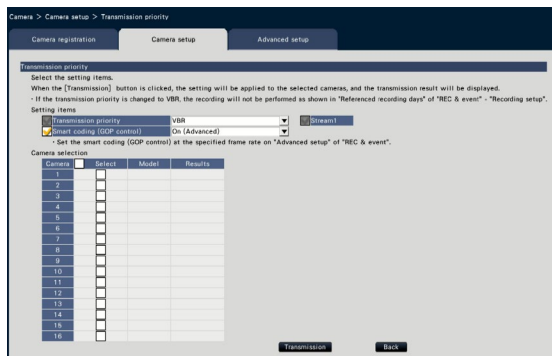
### [Back] button

Click the button after completing the settings. The screen returns to the [Camera setup] tab.

## Set the camera image transmission priority [Transmission priority]

Select the transmission priority setting for each camera and transmit the information to the cameras to change the camera settings.

Clicking the [Setup >] button for "Transmission priority" on the [Camera setup] tab will display the setup page.



### ■ Setting items

#### [Transmission priority]

Select the transmission mode for H.264/H.265 images from the following.

The "Transmission priority" will be configured based on the markings of the checkboxes of "Stream1" and "Stream2".

**Frame rate:** H.264/H.265 images will be transmitted with the frame rate specified in "Frame rate".

**Advanced VBR:** H.264 images will be transmitted with the frame rate specified in "Frame rate".

When this parameter is selected, this product transmits images while adjusting the average of transmission amount in the period specified in "Control time period" to match it to the specified bit rate.

**VBR:** Transmits H.264/H.265 images with the frame rate specified in "Frame rate" and the image quality level specified in "Image quality" kept. The image quality is fixed and the storage capacity varies according to the "Image quality" setting and conditions of the object.

#### Note:

- Set up the transmission mode again when the camera is changed on the camera registration screen or change of the camera is detected.

#### [Burst tolerance level]

Select the allowance of "Max bit rate (per client)" for the H.264 bit rate from the following when the transmission priority is "Advanced VBR".

High, Middle, Low

#### [Control time period]

Select the period of controlling H.264 bit rate to be recorded from the following when the transmission priority is "Advanced VBR".

1 h, 6 h, 24 h, 1 week

#### [Priority setting]

Set which to prioritize, the "Frame rate" or the "Image quality", when the transmission priority is the "Frame rate".

**Frame rate priority:** Prioritizes the frame rate. The image quality may vary according to the object.

**Image quality priority:** Reduces the change in the image quality. The frame rate may be slower depending on the object.

#### [Smart coding (GOP control)]

Set whether to use the GOP control or not when the transmission priority is set to the "VBR".

**Off:** Does not use the GOP control.

**On (Advanced):** Can reduce the data amount when the motion in the image is less.

### ■ Camera Selection

Select the camera to which the setting of the "Transmission priority" is to be sent.

Mark the checkbox of the camera to which the setup information is to be transmitted.

#### [Transmission] button

Transmit the setting of the "Transmission priority" to the camera.

Once transmission is completed and the setting has been applied to the camera, "OK" will be displayed in the "Results" field.

If the display reads "Authentication error", etc., the camera connection or the setting may have failed.

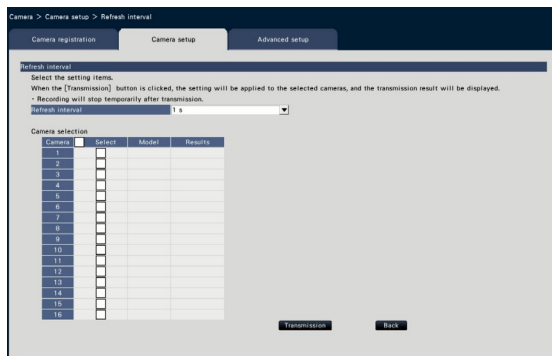
#### [Back] button

Click the button after completing the settings.

The screen returns to the [Camera setup] tab.

## Set up the refresh interval [Refresh interval]

Select the image refresh interval for each camera and transmit it to the cameras to change the camera settings. Clicking the [Setup >] button for "Refresh interval" on the [Camera setup] tab will display the setup page.



### [Refresh interval]

Select an interval to update the image display. If used in a network environment where frequent errors occur, shorten the refresh interval to reduce image distortions. However, the refresh interval may be longer than the set value.

0.2 s/ 0.5 s/ 1 s/ 2 s/ 3 s

#### Note:

- Set up the refresh interval again when the camera is changed on the camera registration screen or change of the camera is detected.

### ■ Camera Selection

Select the camera to which the setting of the "Refresh interval" is to be sent.

Mark the checkbox of the camera to which the setup information is to be transmitted.

### [Transmission] button

Transmit the setting of the "Refresh interval" to the camera.

Once transmission is completed and the setting has been applied to the camera, "OK" will be displayed in the "Results" field.

If the display reads "Authentication error", etc., the camera connection or the setting may have failed.

### [Back] button

Click the button after completing the settings.

The screen returns to the [Camera setup] tab.

#### Important:

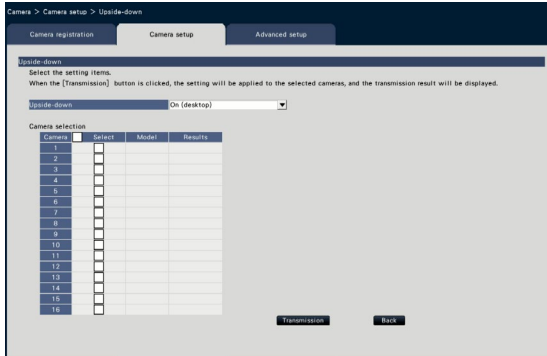
- Image transmission from the camera will temporarily be canceled and no image will be recorded during this period if the setting to change the refresh interval is transmitted to the camera.



## Set up the method of camera installation [Upside-down]

Select the method of installation for each camera and transmit the information to the cameras to change the camera settings.

Clicking the [Setup >] button for "Upside-down" on the [Camera setup] tab will display the setup window.



### [Upside-down]

On (desktop): Select this when the camera is to be installed with the dome side up.

Off (ceiling): Select this when the camera is to be installed with the dome side down.

Wall: Select this when the camera is to be installed on a wall.

### ■ Camera Selection

Select the camera to which the setting of the "Upside-down" is to be sent.

Mark the checkbox of the camera to which the setup information is to be transmitted.

### [Transmission] button

Transmit the setting of the "Upside-down" to the camera.

Once transmission is completed and the setting has been applied to the camera, "OK" will be displayed in the "Results" field.

If the display reads "Authentication error", etc., the camera connection or the setting may have failed.

### [Back] button

Click the button after completing the settings. The screen returns to the [Camera setup] tab.

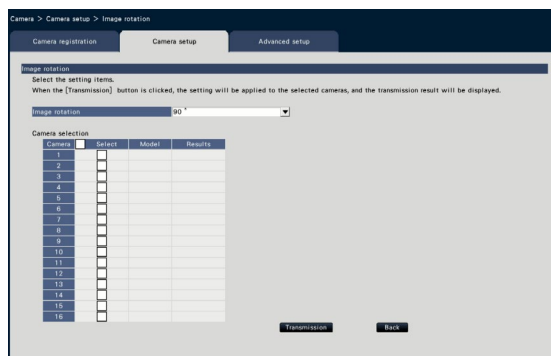
---

#### Note:

- To flip the camera image vertically, select the "Off (ceiling)".
  - If a fisheye camera is registered, "Off (ceiling)" will be set. Select "Wall" to install the camera on the wall.
-

## Set the image rotation of camera [Image rotation]

Select the image rotation for each camera and transmit it to the camera to change the camera settings. Clicking the [Setup >] button for "Image rotation" on the [Camera setup] tab will display the setup window.



### [Image rotation]

- 0 °(Off): Does not rotate the image.
- 90 °: Rotates the image by 90 °.
- 180 °(Upside-down): Inverses the image upside-down.
- 270 °: Rotates the image by 270 °.

### ■ Camera Selection

Select the camera to which the setting of the "Image rotation" is to be sent. Mark the checkbox of the camera to which the setup information is to be transmitted.

### [Transmission] button

Transmit the setting of the "Image rotation" to the camera.

Once transmission is completed and the setting has been applied to the camera, "OK" will be displayed in the "Results" field.

If the display reads "Authentication error", etc., the camera connection or the setting may have failed.

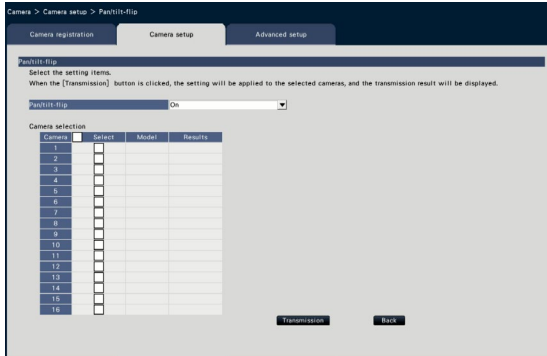
### [Back] button

Click the button after completing the settings. The screen returns to the [Camera setup] tab.

## Set up pan/tilt-flip [Pan/tilt-flip]

Select the pan/tilt-flip function for each camera and transmit the information to the cameras to change the camera settings.

Clicking the [Setup >] button for "Pan/tilt-flip" on the [Camera setup] tab will display the setup page.



### [Pan/tilt-flip]

Select whether or not to activate the pan/tilt-flip function that can achieve camera controllability equal to 360° endless cameras.

On: The pan/tilt-flip function will work.

Off: The pan/tilt-flip function will not work.

### ■ Camera Selection

Select the camera to which the setting of the "Pan/tilt-flip" is to be sent.

Mark the checkbox of the camera to which the setup information is to be transmitted.

### [Transmission] button

Transmit the setting of the "Pan/tilt-flip" to the camera.

Once transmission is completed and the setting has been applied to the camera, "OK" will be displayed in the "Results" field.

If the display reads "Authentication error", etc., the camera connection or the setting may have failed.

### [Back] button

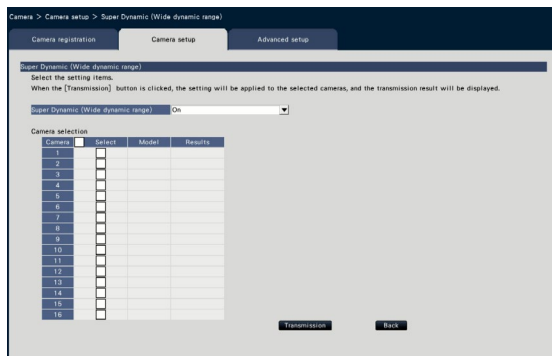
Click the button after completing the settings.

The screen returns to the [Camera setup] tab.

## Set up Super Dynamic [Super Dynamic (Wide dynamic range)]

Select the Super Dynamic function for each camera and transmit the information to the cameras to change the camera settings.

Clicking the [Setup >] button for "Super Dynamic (Wide dynamic range)" on the [Camera setup] tab will display the setup page.



### [Super Dynamic (Wide dynamic range)]

Select "On" or "Off" to determine whether or not to activate the super dynamic function.

On (High): The super dynamic function will work.

When "On (High)" is selected, the tone level will be compensated to emphasize the contrast.

On: The super dynamic function will work. When "On" is selected, the tone level will be compensated to emphasize the sensitivity.

Off: The super dynamic function will not work.

### ■ Camera Selection

Select the camera to which the setting of the "Super Dynamic" is to be sent.

Mark the checkbox of the camera to which the setup information is to be transmitted.

### [Transmission] button

Transmit the setting of the "Super Dynamic" to the camera.

Once transmission is completed and the setting has been applied to the camera, "OK" will be displayed in the "Results" field.

If the display reads "Authentication error", etc., the camera connection or the setting may have failed.

### [Back] button

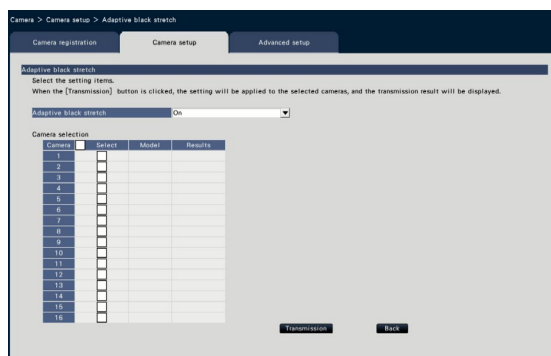
Click the button after completing the settings.

The screen returns to the [Camera setup] tab.

## Set the adaptive black stretch function of the camera [Adaptive black stretch]

Determine whether to enable the adaptive black stretch function for each camera. The settings will be changed after the settings have been transmitted to the camera.

Clicking the [Setup >] button for "Adaptive black stretch" on the [Camera setup] tab will display the setup window.



### [Adaptive black stretch]

By using the adaptive black stretch function, dark area in the image will turn brighter by the digital image processing.

On: The adaptive black stretch function will be enabled.

Off: The adaptive black stretch function will be disabled.

### ■ Camera Selection

Select the camera to which the setting of the "Adaptive black stretch" is to be sent.

Mark the checkbox of the camera to which the setup information is to be transmitted.

### [Transmission] button

Transmit the setting of the "Adaptive black stretch" to the camera.

Once transmission is completed and the setting has been applied to the camera, "OK" will be displayed in the "Results" field.

If the display reads "Authentication error", etc., the camera connection or the setting may have failed.

### [Back] button

Click the button after completing the settings.

The screen returns to the [Camera setup] tab.

---

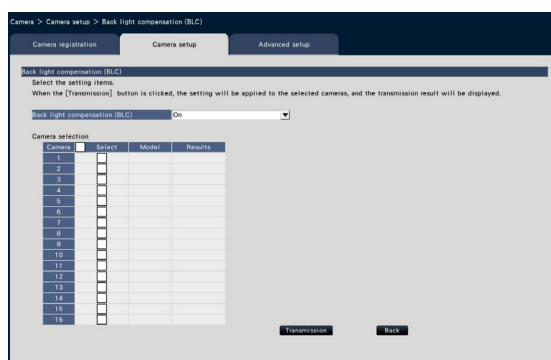
#### Important:

- When "On" is selected for "Adaptive black stretch", noise in dark area in image may increase and the periphery of the border between the dark area and the bright area will be displayed brighter/darker than the other brighter/darker area in the image.
-

## Set the back light compensation function of the camera [Back light compensation (BLC)]

Determine whether to enable the back light compensation function for each camera. The settings will be changed after the settings have been transmitted to the camera.

Clicking the [Setup >] button for "Back light compensation (BLC)" on the [Camera setup] tab will display the setup window.



### [Back light compensation (BLC)]

When "On" is selected for "Super Dynamic", this function is not available.

The back light compensation function masks the brighter area in image and compensates exposure in silhouette created by back light.

On: Mask area will automatically be set.

Off: Mask area will not be set automatically. It is necessary to set mask areas manually.

### ■ Camera Selection

Select the camera to which the setting of the "Back light compensation (BLC)" is to be sent.

Mark the checkbox of the camera to which the setup information is to be transmitted.

### [Transmission] button

Transmit the setting of the "Back light compensation (BLC)" to the camera.

Once transmission is completed and the setting has been applied to the camera, "OK" will be displayed in the "Results" field.

If the display reads "Authentication error", etc., the camera connection or the setting may have failed.

### [Back] button

Click the button after completing the settings.

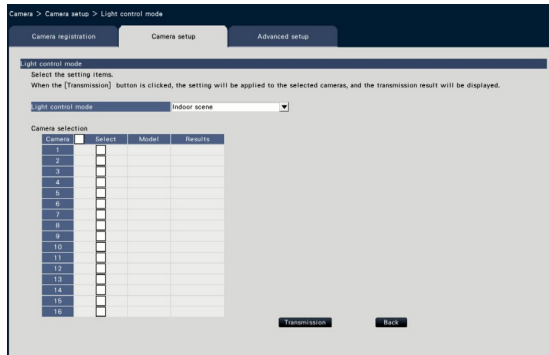
The screen returns to the [Camera setup] tab.



## Set up Light control mode [Light control mode]

Select how to control the amount of light for each camera and transmit the information to the cameras to change the camera settings.

Clicking the [Setup >] button for "Light control mode" on the [Camera setup] tab will display the setup page.



### [Light control mode]

**Outdoor scene:** Depending on the brightness level (illuminance), the iris will automatically be controlled together with the shutter speed adjustment to control light.

**Indoor scene (50Hz):** The shutter speed will automatically be adjusted to prevent flicker caused by fluorescent light. (For the 50 Hz areas)

**Indoor scene (60Hz):** Same as "Indoor scene" above. (For 60 Hz areas)

**ELC:** The iris will automatically be controlled with the shutter speed adjustment to control light.

### ■ Camera Selection

Select the camera to which the setting of the "Light control mode" is to be sent.

Mark the checkbox of the camera to which the setup information is to be transmitted.

### [Transmission] button

Transmit the setting of the "Light control mode" to the camera.

Once transmission is completed and the setting has been applied to the camera, "OK" will be displayed in the "Results" field.

If the display reads "Authentication error", etc., the camera connection or the setting may have failed.

### [Back] button

Click the button after completing the settings. The screen returns to the [Camera setup] tab.

---

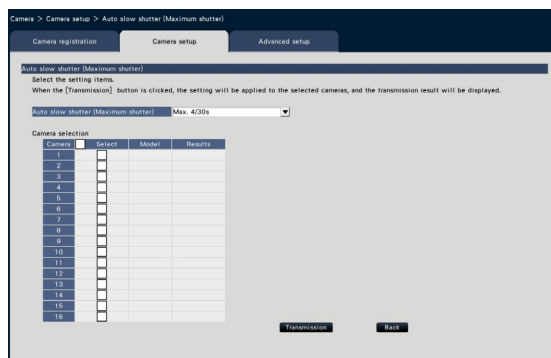
### Note:

- When "Outdoor scene" is selected, flicker may occur when a subject is under fluorescent lighting.

## Set the automatic slow shutter of the camera [Auto slow shutter (Maximum shutter)]

Select the auto slow shutter setting for each camera and transmit the information to the cameras to change the camera settings.

Clicking the [Setup >] button for "Auto slow shutter (Maximum shutter)" on the [Camera setup] tab will display the setup page.



### Note:

- When "Max. 16/30s" is selected, the electronic sensitivity will automatically be enhanced up to 16 times.
- When "Off" is selected for "AGC", this function is not available. Refer to the operating instructions of the camera for further information.

### [Auto slow shutter (Maximum shutter)]

The auto slow shutter adjusts the sensor storage time to enhance the electronic sensitivity.

The following are available setting values.

Off (1/30s)/ Max. 2/30s/ Max. 4/30s/ Max. 6/30s/  
Max. 10/30s/ Max. 16/30s

### ■ Camera Selection

Select the camera to which the setting of the "Auto slow shutter" is to be sent.

Mark the checkbox of the camera to which the setup information is to be transmitted.

### [Transmission] button

Transmit the setting of the "Auto slow shutter" to the camera.

Once transmission is completed and the setting has been applied to the camera, "OK" will be displayed in the "Results" field.

If the display reads "Authentication error", etc., the camera connection or the setting may have failed.

### [Back] button

Click the button after completing the settings.

The screen returns to the [Camera setup] tab.

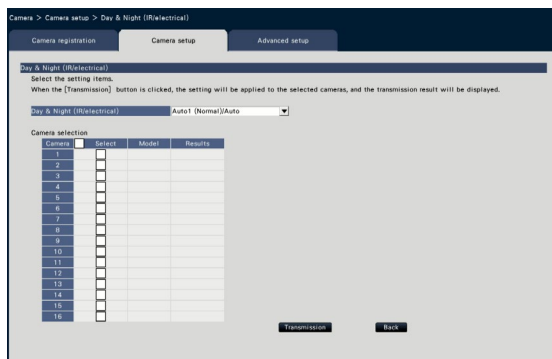
### Important:

- When the auto slow shutter is set, the frame rate may drop. Noise or white dots (scratches) may also be seen in image.

## Set the black and white switchover of the camera [Day & Night (IR/electrical)]

Select the day and night setting for each camera and transmit the information to the cameras to change the camera settings.

Clicking the [Setup >] button for "Day & Night (IR/electrical)" on the [Camera setup] tab will display the setup window.



### [Day & Night (IR/electrical)]

Select a method of how to switch between B/W image and color image from the following.

Off: Color images will always be taken.

On: B/W images will always be taken.

On (IR Light On): B/W images will always be taken. Use it at night time or using near-IR lighting.

Auto1 (Normal)/Auto: Depending on the image brightness (illuminance), the system automatically switches from/ to the color image to/from B/W image.

It switches to the color mode when the light source is bright and to the monochrome mode when the light source is not bright.

Auto2 (IR Light): Use it at night time or when using near-IR light source.

Auto3 (Super Chroma Compensation (SCC)): Use it if you want to keep the color image even if the light source is not bright. Super Chroma Compensation (SCC) function keeps the color image under the lower illuminance than "Auto1 (Normal)".

---

#### Note:

- "On", "Auto2" and "Auto3" can be selected for cameras having "Day & Night (electrical)" only, but they are not operable.
- 

### ■ Camera Selection

Select the camera to which the setting of the "Day & Night (IR/electrical)" is to be sent.

Mark the checkbox of the camera to which the setup information is to be transmitted.

### [Transmission] button

Transmit the setting of the "Day & Night (IR/electrical)" to the camera.

Once transmission is completed and the setting has been applied to the camera, "OK" will be displayed in the "Results" field.

If the display reads "Authentication error", etc., the camera connection or the setting may have failed.

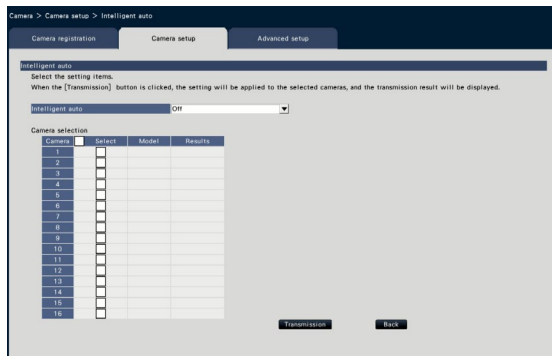
### [Back] button

Click the button after completing the settings.

The screen returns to the [Camera setup] tab.

## Set the intelligent auto of camera [Intelligent auto]

Select the intelligent auto for each camera and transmit it to the camera to change the camera settings. Clicking the [Setup >] button for "Intelligent auto" on the [Camera setup] tab will display the setup window.



### [Intelligent auto]

Set whether or not to turn on the intelligent auto function. The intelligent auto is a function to judge the scene (back light, outside, night view), people's faces, objects in motion, stop the lens down automatically and adjust the shutter speed and contrast to improve visibility of people's faces and objects in motion.

Off: Does not use the intelligent auto function

On: Uses the intelligent auto function

### ■ Camera Selection

Select the camera to which the setting of the "Intelligent auto" is to be sent. Mark the checkbox of the camera to which the setup information is to be transmitted.

### [Transmission] button

Transmit the setting of the "Intelligent auto" to the camera.

Once transmission is completed and the setting has been applied to the camera, "OK" will be displayed in the "Results" field.

If the display reads "Authentication error", etc., the camera connection or the setting may have failed.

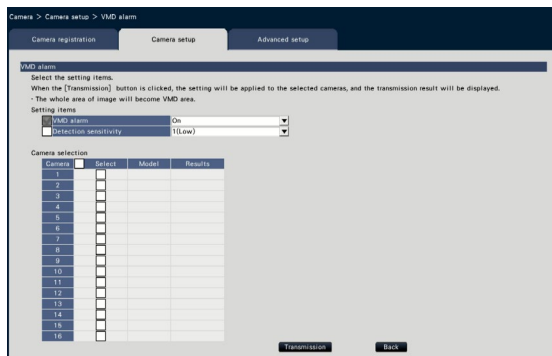
### [Back] button

Click the button after completing the settings. The screen returns to the [Camera setup] tab.

## Set up VMD alarm [VMD alarm]

Select the VMD function for each camera and transmit the information to the cameras to change the camera settings.

Clicking the [Setup >] button for "VMD alarm" on the [Camera setup] tab will display the setup page.



### [VMD alarm]

Select whether or not to use the VMD (VMD: Video Motion Detection) alarm function when a change (movement) is detected in the image. Refer to the operating instructions of the camera in use for how to configure the VMD alarm.

On: Detects alarms.

Off: Does not detect alarms.

### [Detection sensitivity]

To transmit the settings to the camera, mark this item, and select either of the following.

1(Low) - 15(High)

### ■ Camera Selection

Select the camera to which the setting of the "VMD alarm" is to be sent. Mark the checkbox of the camera to which the setup information is to be transmitted.

### [Transmission] button

Transmit the setting of the "VMD alarm" to the camera.

Once transmission is completed and the setting has been applied to the camera, "OK" will be displayed in the "Results" field. If the display reads "Authentication error", etc., the camera connection or the setting may have failed.

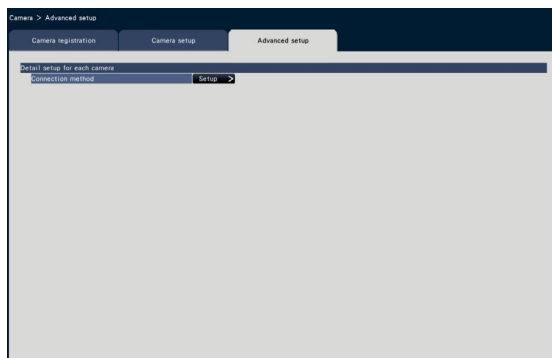
### [Back] button

Click the button after completing the settings. The screen returns to the [Camera setup] tab.

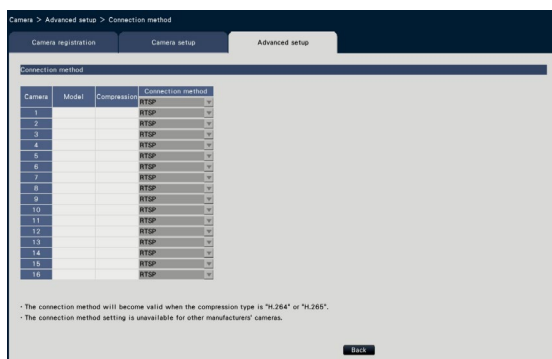
## [Advanced setup] tab

Set the connection method of the camera.

Clicking the [Setup >] button of "Connection method" under the [Advanced setup] tab displays the setup screen.



## ■ Connection method



## [Connection method]

Set the connection method for each camera.

RTP: Connects with the RTP.

RTSP: Connects with the RTSP. It is used for local camera connection and others.

Internet mode: Connects in the Internet mode. It is used to connect remote cameras or for other connection.

---

### Note:

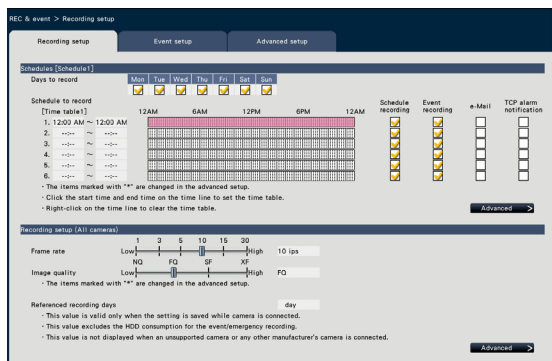
- The connection method will become valid when our camera is the i-pro series and the compression type is H.264/H.265.
-

## Set up recording/events [REC & event]

The "REC & event" page has 3 tabs; the [Recording setup] tab, the [Event setup] tab and the [Advanced setup] tab.

### Recording setup tab [Recording setup]

Configure the settings relating to schedule recording. Set the day(s), time table(s), frame rate and image quality for recording.



#### ■ Schedules

Recording will be performed according to the schedules set in advance. Select the day(s) of the week and the time table(s).

#### [Days to record]

Select the day(s) of the week to record. Mark the checkbox(es) of the day(s) of the week to record.

#### [Schedule to record]

6 time tables can be set up for "[Time table1]". The time bar indicates 24 hours in steps of 15 minutes. Click the desired position on the time bar to designate the start and end time. When the time is designated, the time bar turns red.

#### Note:

- At the default, schedule recording and event recording have been set for 24 hours on Time table1. To delete the designated start and end time, right-click the timetable.
- The recording time table can be set by dragging the start and end time on the time bar with the mouse.
- Be sure to set so that there is no overlap between the 6 time tables. When attempting to set the same time as already set on another time bar, the time immediately before or after the overlapping time will be set.
- Within the same time table, event recording has priority over schedule recording.

#### [Schedule recording]

Mark the checkbox (es) if you want to carry out the schedule recording based on the set time bar.

#### [Event recording]

Mark the checkbox (es) if you want to carry out event recording based on the set time bar. The recorder does not record the image even if the alarm occurs during time in which the event recording is not set.

#### [e-Mail]

To send an alarm e-mail when an event occurs, mark this item. The event recording must be checked to set this item.

Refer to "Configure the settings relating to the mail notification [e-Mail]" (☞ Page 54) for the setting of the destination.

#### [TCP alarm notification]

Mark the checkbox of this item to automatically transmit information on an event that occurs to a PC using the TCP alarm notification. The event recording must be checked to set this item.

Refer to "Configure the TCP alarm notification settings [TCP alarm notification]" (☞ Page 55) for the setting of the address.

#### [Advanced >] button

The "Advanced schedule setup" page will be displayed. In addition to 6 schedule recordings, 6 event recordings can be set up. The schedule settings can be set up to 16 patterns. (☞ Page 36)

#### ■ Recording setup (All cameras)

Set the recording frame rate and image quality. The settings will be applied to all cameras.

#### [Frame rate]

Select the recording frame rate.

1 ips/ 3 ips/ 5 ips/ 10 ips/ 15 ips/ 30 ips

**Default:** 10 ips

## Important:

- For a camera whose compression method is [MJPEG], "10 ips / 15 ips / 30 ips" cannot be selected.
- If a camera whose compression method is [MJPEG] is included, [MJPEG] camera is set to "5 ips" even if "10 ips / 15 ips / 30 ips" is set by slider bar of frame rate setting. You can confirm the current setting value with [Advanced setup >] in Recording setup (All cameras).

## [Image quality]

Select the recording image quality.

- NQ (Normal): Standard quality
- FQ (Fine): High quality
- SF (Super Fine): Super fine quality
- XF (Extra Fine): Extra fine quality

**Default:** FQ

## Important:

- For a camera whose compression method is [MJPEG], "XF" cannot be set.
- If a camera whose compression method is [MJPEG] is included, [MJPEG] camera is set to "SF" even if "XF" is set by slider bar of image quality setting. You can confirm the current setting value with [Advanced setup >] in Recording setup (All cameras).

## [Referenced recording days]

Calculates and displays the total number of days for which recording on the hard disk drives is available.

## Note:

- The referenced recording days will be displayed correctly only when the settings have been saved while the recorder has recognized the camera correctly.
- The referenced recording days will be calculated based on the assumption that recording is started on Monday. The special day settings are not taken into account.
- This value excludes the HDD consumption for the event/emergency recording.
- If a camera manufactured by other than ours is used, the value of "Referenced recording days" will not be displayed.
- "\*" preceding an item indicates that the item has been changed on the "Advanced recording setup" page.
- When configured to perform recording in high resolution and high quality, recording may sometimes not be performed at the specified rate. When there may be possibility to fail recording at the specified rate while using only our cameras, the confirmation window will be displayed.

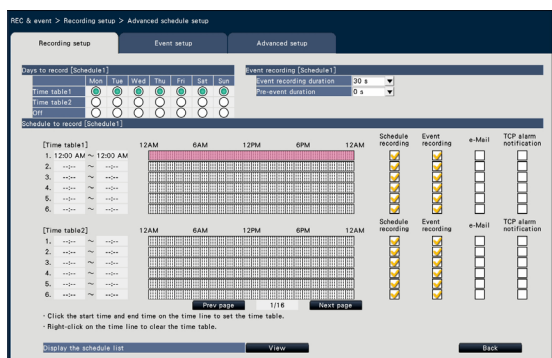
## [Advanced >] button

The "Advanced recording setup" will be displayed. Each camera can be set up separately for recording. (Page 38)

## Configure the advanced settings for schedule recording [Advanced schedule setup]

Up to 16 schedule patterns can be set. Up to 6 time zones of the schedule recording or event recording can be set for each schedule.

Clicking the [Advanced >] button in the "Schedules" field will open the "Advanced schedule setup" page.



## ■ Days to record

Select the actions to be taken on each day of the week based on a time table. [●] indicates the selected state, [○] the unselected state.

Time table1: Recording according to Time table1.

Time table2: Recording according to Time table2.

Off: Neither schedule nor event recording will take place.

## ■ Event recording

Set the recording duration in the event that an alarm occurs and the recording duration before an alarm occurs.

## [Event recording duration]

Set the recording duration in the event that an alarm occurs.

2 s / 5 s / 10 s / 20 s / 30 s / 1 min / 2 min / 3 min / 5 min / 10 min / 15 min



# [Setup via recorder's main monitor]

Manual: Recording will continue while receiving an alarm input signal. Recording will be performed for at least 8 seconds.

Ext.: Alarm output will continue until the alarm action is reset.

**Default:** 30 s

## [Pre-event duration]

Set the recording duration before an alarm occurs.

0 s/ 5 s/ 10 s/ 15 s

**Default:** 0 s

### Note:

- The actual recording time may sometimes be longer than the duration selected for this setting.
- A 15 second pre-event recording is available when the bit rate setting of the camera is 4 Mbps. Time of the pre-event recording may be shorter than the set time if the image is recorded in high resolution over 4 Mbps, high image quality and high rate.
- Pre-event recording is not performed when "0 s" is selected.
- When images are set to be recorded together with audio, the audio may not be recorded at the beginning of the pre-event recording.

## ■ Schedule to record

Two time tables can be set.

[Schedule recording] (📖 Page 35)

[Event recording] (📖 Page 35)

[e-Mail] (📖 Page 35)

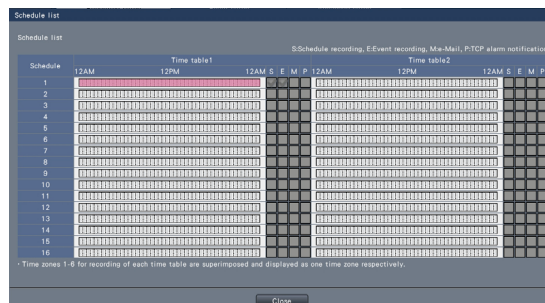
[TCP alarm notification] (📖 Page 35)

[Prev page] / [Next page]

The schedule settings to be configured will be switched over.

## [Display the schedule list.]

Display each time table from Schedule 1 to Schedule 16 and settings of the schedule recording, event recording, etc. The schedule list will be displayed when clicking [View] button.



Time zones from 1 to 6 of each time table are superimposed and displayed.

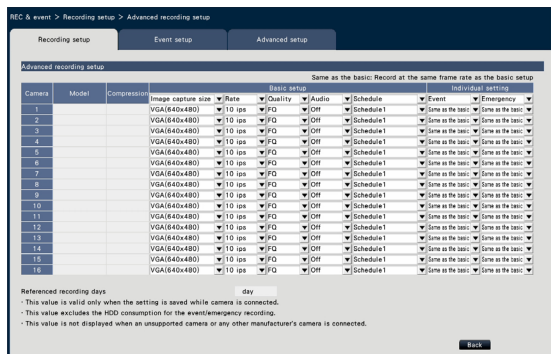
## [Back] button

Click the button after completing the settings. The screen returns to the [Recording setup] tab.

## Set up recording for individual cameras [Advanced recording setup]

Set up items such as the image capture size, frame rate and image quality for individual cameras.

Clicking the [Advanced >] button on the [Recording setup (All cameras)] tab will open the advanced setup page.



### [Model]

The model number of the connected camera will be displayed.

(Blank: Camera is not registered)

### [Compression]

The compression method selected when registering camera will be displayed.

### [Image capture size]

Select a resolution for images to be recorded.

<When the aspect ratio is 4:3>

VGA(640×480)/ SVGA(800×600)/  
SXVGA(1280×960)/ UXGA(1600×1200)/  
QXGA(2048×1536)/ 5M(2560×1920)/  
12M(4000×3000)

<When the aspect ratio is 16:9>

HVGAW(640×360)/ HD(1280×720)/  
FHD(1920×1080)/ WQHD(2560×1440)/  
4KUHD(3840×2160)

<When the aspect ratio is 1:1>

1.6M(1280×1280)/ 4M(2048×2048)/  
5M(2192×2192)/ 8M(2816×2816)/ 9M(2992×2992)

<When the aspect ratio is 9:16>

0.2M(360×640)/ 1M(720×1280)/ 2M(1080×1920)

When the aspect ratio is set to 9:16, the image is rotated by 90°. If you want to rotate the image by 270°, select 270° at "Set the image rotation of camera [Image rotation]". (Page 24)

### Important:

- The available image capture sizes may differ depending on the model of the camera and the compression method.

### Note:

- When configured to perform recording in high resolution and high quality, recording may sometimes not be performed at the specified rate.
- Depending on the model of the camera, the camera may reboot when the image capture size is changed. The reboot will be detected as a communication error, but that is not a malfunction.

### [Rate] (Frame rate) (Page 35)

### Note:

- The 25 ips/ 50 ips/ 60 ips is available depending on the camera model and settings of compression and image capture size.
- The images of "60 ips (50 ips)" can be displayed in one screen if a monitor compatible with 1920×1080 p/ 60 Hz (1920×1080 p/ 50 Hz) is used as a main monitor. (The images on the main monitor other than 1-screen and on the sub monitor are displayed in "30 ips (25 ips)".)

### [Quality] (Image quality) (Page 36)

### [Audio]

Select whether or not to record audio together with images.

On(AAC-LC): Audio will be recorded. (AAC-LC format)

On: Audio will be recorded. (G.726 format)

Off: Audio will not be recorded.

**Default:** Off

### [Schedule]

Select a schedule in which the desired recording to be performed is included.

Schedule1 : Recording will be performed according to the settings for schedule1.

Schedule16: Recording will be performed according to the settings for schedule16.

**Default:** Schedule1

### [Event]

Select the frame rate of the event recording.

1 ips/ 3 ips/ 5 ips/ 10 ips/ 15 ips/ 25 ips/ 30 ips/  
(Same as the basic)

**Default:** Same as the basic

## [Emergency]

Set the frame rate of the emergency recording.

1 ips/ 3 ips/ 5 ips/ 10 ips/ 15 ips/ 25 ips/ 30 ips/  
(Same as the basic)

**Default:** Same as the basic

### Note:

- If the rate of the basic settings is 50 ips or 60 ips, the settings of the event recording and the emergency recording will be the same as the rate or the basic setting and displayed as "Same as the basic". In this case, the settings of the event recording and emergency recording cannot be changed.
- The rates of recorded images set to 5 ips/ 10 ips/ 15 ips become 4.2 ips/ 8.3 ips/ 12.5 ips respectively if any of the basic setup, the event recording or the emergency recording of the same camera is set to 25 ips.
- If the SD backup rec. or the SD recording function of the camera is used, set the frame rate of the event recording and the emergency recording to "Same as the basic".

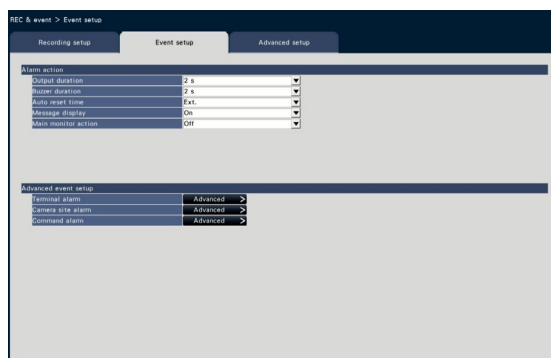
[Referenced recording days] (☰ Page 36)

## [Back] button

Click the button after completing the settings. The screen returns to the [Recording setup] tab.

## Configure event-related settings [Event setup] tab

Configure event-related settings such as the alarm output duration and buzzer duration.



### ■ Alarm action

Configure alarm-related items such as alarm output duration and alarm auto reset.

#### [Output duration]

Select the output duration for the alarm signal output from the terminal on the recorder's rear panel when an alarm occurs. When "0 s" is selected, alarm signals will not be output.

0 s/ 2 s/ 5 s/ 10 s/ 20 s/ 30 s/ 1 min

Ext.: Alarm output will continue until the alarm action is reset. Refer to the "Cancel the alarm action" (☰ Page 122) for further information about how to cancel the alarm action.

Rec.: Output of the alarm signal will continue during event recording.

**Default:** 2 s

#### [Buzzer duration]

Set the duration of the buzzer sound when an alarm occurs. When "0 s" is selected, the buzzer will not sound.

0 s/ 2 s/ 5 s/ 10 s/ 20 s/ 30 s/ 1 min

Ext.: The buzzer will keep on sounding until the alarm action is reset. Refer to the "Cancel the alarm action" (☰ Page 122) for further information about how to cancel the alarm action.

Rec.: The buzzer will keep on sounding during event recording.

**Default:** 2 s

#### [Auto reset time]

Set the time for automatically resetting the alarm action.  
2 s/ 5 s/ 10 s/ 20 s/ 30 s/ 1 min/ 3 min/ 5 min

Ext.: The alarm action will not automatically reset. Refer to the "Cancel the alarm action" (☰ Page 122) for further information about how to cancel the alarm action.

**Default:** Ext.

---

**Note:**

- If the time set for "Output duration" or "Buzzer duration" is longer than that set for "Auto reset time", the time set for "Auto reset time" will be applied.

---

**[Message display]**

Select whether or not to display a message on a PC connected to a network when an alarm occurs.

On: Display a message.

Off: Does not display a message.

**Default:** On

---

**[Main monitor action]**

While the main monitor is displaying the operation window, select whether or not to switch to 1-screen display in association with alarm occurrence.

On: Switch the monitor display in association with alarm occurrence.

On(ACK/RESET): Switches the monitor display linking with the alarm confirmation and resetting.

Off: Does not switch the monitor display.

**Default:** Off

---

**Note:**

- When "On(ACK/RESET)" is selected, the monitor will not be switched and keeps displaying the same camera images even when a different alarm occurred while the main monitor action is enabled. When the alarm reset signal is input to the ALARM/CONTROL connector, the monitor switches and shows the different camera images. If multiple alarms occur while the main monitor action is enabled, the camera number will be memorized in sequence.
  - The images from the camera selected for "Recording camera" of "Advanced setup" are displayed on a 1-screen.
  - The main monitor action will not be activated while recorded images are being played back or the setup menu is being displayed.
  - When the auto reset time have passed, it will return to the previously displayed screen. (When the mouse is operated while the main monitor action is being taken, it will not return to the previously displayed screen.)
- 

**[Event type]**

Displayed when "On" or "On(ACK/RESET)" is selected for "Main monitor action".

A event type to be linked is selected.

**[Display]**

Displayed when "On" or "On(ACK/RESET)" is selected for "Main monitor action".

It selects the display in which the main monitor action to be displayed.

Ctrl screen: Displays in the Ctrl screen.

Wide view: Displays in the Wide view.

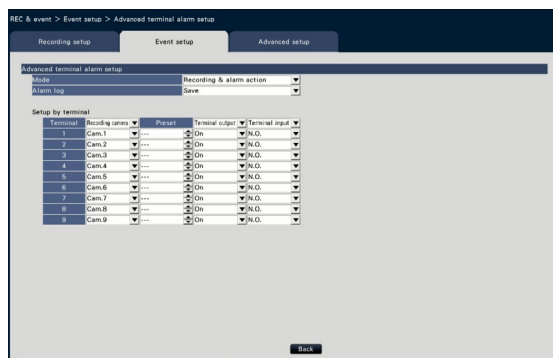
**■ Advanced event setup**

Configure advanced settings for individual alarm types (terminal alarm, camera site alarm, and command alarm). Clicking the [Advanced >] button for each item will open the respective "Advanced setup".

## Set up terminal alarm [Advanced terminal alarm setup]

Configure the settings relating to the recording triggered by an alarm signal supplied to the ALARM/CONTROL connector of the recorder from an external alarm device such as a door sensor.

Configure the necessary settings for each alarm input terminal of the ALARM/CONTROL connector on the rear panel of the recorder.



### ■ Advanced terminal alarm setup

#### [Mode]

Select the action to be taken when an alarm signal is supplied.

Recording & alarm action: Performs all event actions according to the settings.

Recording only: Only recording, filing of event logs, and moving the camera to a preset position will be performed.

Off: Only filing of event logs will be performed.

**Default:** Recording & alarm action

#### [Alarm log]

Determine whether or not to save the alarm log.

Save: Logs will be saved.

Not save: Logs will not be saved.

**Default:** Save

#### [Setup by terminal]

Set up individual terminals numbered from 1 to 9.

#### [Recording camera]

Select the camera for recording. When "Off" is selected, recording will not be performed.

All: Applies all the registered cameras for recording.

**Default:** Camera number associated with the terminal number

---

#### Note:

- When many cameras are registered and "All" is selected for "Recording camera", the start of alarm recording may be delayed depending on the cameras. It is recommended to perform pre-event recording.

#### [Preset]

Select the camera preset position (001 to 256) to which the camera is to be moved when an alarm signal is received. If "---" is selected, the camera will not be moved to a preset position.

#### [Terminal output]

Choose whether or not to output an alarm signal from the alarm output terminal of the ALARM/CONTROL connector on the recorder's rear panel when an alarm signal is received.

On: Outputs the alarm signals from the alarm output terminal.

Off: Does not output alarm signals.

**Default:** On

#### [Terminal input]

Select the terminal status for supplying an alarm signal to the alarm terminal.

N.O. (Normally Open): Signals will be supplied when short-circuited.

N.C. (Normally Close): Signals will be supplied when open-circuited.

**Default:** N.O.

#### [Back] button

Click the button after completing the settings. The screen returns to the [Event setup] tab.

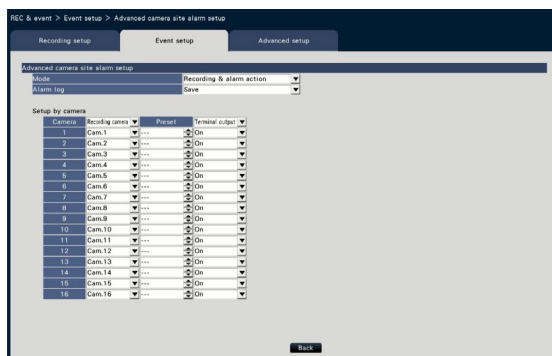
---

#### Note:

- Refer to the "Operate the camera" section (📖 Page 110) for further information about the camera preset positions.
-

## Set up camera site alarm [Advanced camera site alarm setup]

Set up the action to be taken when a TCP alarm notification received from a camera triggers camera site alarm.



Refer to the "Set up terminal alarm [Advanced terminal alarm setup]" section (Page 41) for further information about the items available for "Advanced camera site alarm setup"; "Mode" and "Alarm log", and also "Recording camera", "Preset" and "Terminal output" under "Setup by camera".

### [Back] button

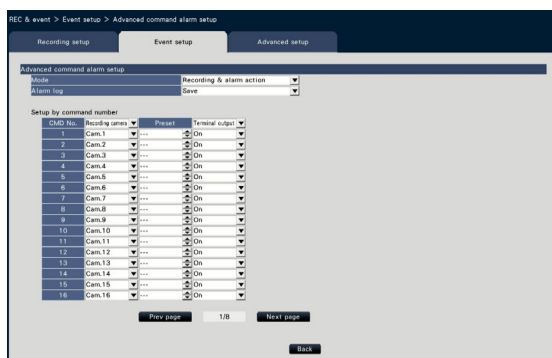
Click the button after completing the settings. The screen returns to the [Event setup] tab.

### Note:

- If the event recording time (Page 36) is shorter than alarm deactivation time set from the camera, the event recording may not be done for alarms which continuously occur.

## Set up command alarm [Advanced command alarm setup]

Set up the action to be taken when a command alarm signal received from a PC that is connected via a network protocol triggers command alarm.



Refer to the "Set up terminal alarm [Advanced terminal alarm setup]" section (Page 41) for further information about the items available for "Advanced command alarm setup"; "Mode" and "Alarm log", and also "Recording camera", "Preset" and "Terminal output" under "Setup by command number".

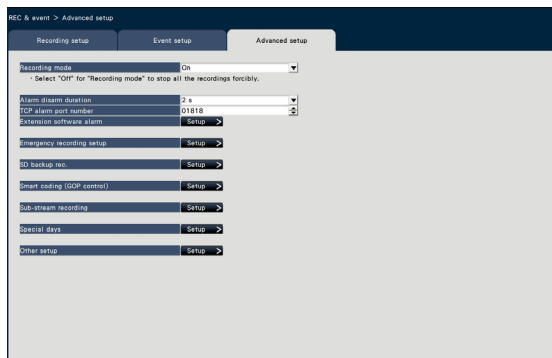
### [Back] button

Click the button after completing the settings. The screen returns to the [Event setup] tab.



## Configure the advanced settings for recording and events [Advanced setup]

Configure the special settings related to recording on this tab. Set up the recording mode, alarm disarm duration and TCP alarm port number (the port number for incoming site alarm).



### [Recording mode]

Determine whether or not to stop all recording actions. Set to "Off", primarily to stop access to the HDD before turning off the power.

On: Performs recording.

Off: Stops all recording actions.

**Default:** On

### Important:

- If "Off" is selected, be sure to return the setting to "On" when resuming operation.

### [Alarm disarm duration]

Set the period to suspend event actions for the case that the same kind of event (terminal alarm, camera site alarm, command alarm) occurs repeatedly at the same camera.

2 s/ 3 s/ 5 s/ 10 s

**Default:** 2 s

### [TCP alarm port number]

Specify the number of the port to be used for receiving site alarm.

**Default:** 1818

### Note:

- Enter the port number in five digits, right aligned. (Example: When the port number is 80, enter "00080".) The leading zeros are omitted here.
- The following numbers, the HTTP port number, the HTTPS port number, the FTP port number and the port number of the port forwarding are unavailable. 20, 21, 23, 25, 42, 53, 67, 68, 69, 79, 80, 105, 110, 123, 161, 162, 443, 546, 547, 995, 10001, 10002, 10003, 10004, 10005, 10006, 10007

### [Recording time of emergency recording]

Select a recording duration for the emergency recording.

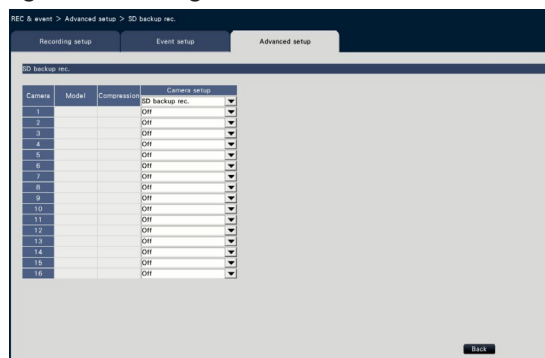
30 s/ 1 min/ 3 min/ 5 min/ 10 min/ 15 min/ 30 min  
Manual: Records only while the connected external switch is being pressed. It records at least 8 seconds.

Ext.: Alarm output will continue until the alarm action is reset.

**Default:** 30 s

### [SD backup rec.]

Set whether to save the image on the SD memory card or not when the communication is disconnected during the recording.



On: Uses the SD memory backup function.

Off: Does not use the SD memory backup function.

**Default:** Off

### SD backup rec.

The SD memory backup is a function to save images on the SD memory card inserted in the camera when the recorder fails to communicate with the camera during the set recording time.

The SD memory backup is only available if the camera supports the SD memory recording and the compression is set to H.264/H.265.

The SD memory recording is done by the registered compression of the camera.

### Note:

- If the camera is set to "Not use" the SD memory card or the SD memory card is not inserted (including insufficient insertion), error messages are displayed some times in a day and recording is paused for about 20 seconds.
- If the SD backup rec. function is used, set the operation mode of the SD memory card to "Overwrite On" from the camera side.

# [Setup via recorder's main monitor]

## Acquire the image saved on the SD memory card

Acquire the image saved on the SD memory card to the recorder and record it to the HDD.

Acquisition of images from the SD memory card is automatically done a quarter past every hour.

(0:15, 1:15, ...23:15)

You can check whether the recorder is acquiring the SD memory data on the "Status display area".

### Important:

- When the recording starting time set on the schedule has arrived without communication between the camera and the recorder, the SD memory backup will not be executed.
- Do not set the SD memory backup function to the same camera from multiple network disk recorders.
- The recording time of the acquired SD memory data will be time of the camera. Adjust time of the camera and the recorder using the NTP function and the camera time auto synchronization function. If time is not adjusted, the SD memory backup may not be available.

### Note:

- All images may not be acquired at one time due to the time between time tables of the schedule and the total capacity of the images. The remaining images will be acquired at the subsequent acquisition time.
- The image is not acquired during the following cases. Playing the image/HTTP downloading/Emergency recording
- If the following operations occur during acquiring the SD memory data, the acquisition is paused. Communication failure with the camera while acquiring SD memory data/Entering in HDD management page of [Advanced setup]

## [Smart coding (GOP control)]

Select when you use the smart coding (GOP control) function of the camera.



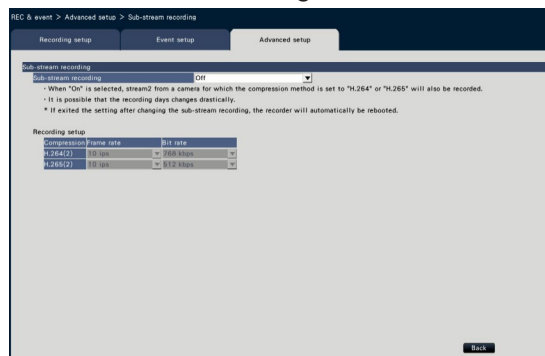
On (Advanced): Uses the smart coding.

Off: Does not use the smart coding.

Refer to "readme.txt" for model numbers and version information of cameras that have the smart coding (GOP control) function.

## [Sub-stream recording]

Set the sub-stream recording\*.



## [Sub-stream recording]

Set On/Off of the sub-stream recording\*.

On: Uses the sub-stream recording.

Off: Does not use the sub-stream recording.

**Default:** Off

## [Frame rate]

Select the frame rate of the sub-stream recording.

1 ips/ 3 ips/ 5 ips/ 10 ips

**Default:** 10 ips

## [Bit rate]

Select the bit rate of the sub-stream recording.

64 kbps, 128 kbps, 256 kbps, 384 kbps,  
512 kbps, 768 kbps

**Default:** H.264(2) 768 kbps, H.265(2) 512 kbps

### Note:

- The sub-stream means H.264(2) or H.265(2).

\* The sub-stream recording is a function to record low-resolution image (less data volume) in addition to the normal live image/recording image from cameras. Use it when you want to play back image efficiently while the unit is recording the high resolution image.

## The sub-stream recording is used for the following application.

- Playback on a 16-screen during use of the recorder monitor
- Multi-display during use of image monitoring software (narrow band)



# [Setup via recorder's main monitor]

## [Special days]

Assign a schedule of another day individually as a special day.

For example, if you set "January 1st" to "Sunday", the recording will be performed as on Sunday, no matter which day of the week January 1st is actually on.

The following screen of the special day will be displayed when the [Setup >] button is clicked.



## [Month] [Day]

Select a date that you want to set as a special day.

## [Mode]

Select a day whose schedule you want to use.

**Default:** None

## ■ Other setup



## [Make the frame rate of the pre-event recording to the frame rate of the event recording]

Check to set the frame rate of the pre-event recording to the frame rate of the event recording. Uncheck to return the frame rate to the standard settings (the frame rate of the schedule recording). The setting is only effective for our cameras.

## [Do not send the bit rate setting to a camera for which the same frame rate is set for the basic setup, event recording and emergency recording]

The bit rate setting is not sent to the camera for which the same frame rate is set for each recording when it is checked. The setting is only effective for our cameras.

# Configure the settings relating to monitors [Monitor]

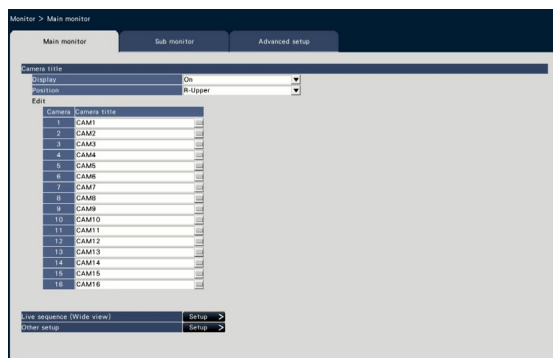
The settings relating to the display of the main monitor or sub-monitor connected to the recorder are configured on the setup menu - the "Advanced setup" - the "Monitor" page.

The settings relating to image switching such as multiscreen display and sequence display of live images are also configured on this page.

The "Monitor" page has 3 tabs; the [Main monitor] tab, the [Sub monitor] tab and the [Advanced setup] tab. The settings relating to the display of the web browser can be set on the [Web browser] tab of the "Monitor" page on the setup menu of the web browser. (☞ Page 188)

## Set up the main monitor [Main monitor]

Perform settings relating to the main monitor display such as the display position of the camera title.



### ■ Camera title

#### [Display]

Determine whether or not to display the camera title on the main monitor.

On: Displays the camera title.

Off: Does not display the camera title.

**Default:** On

#### [Position]

Select the position to display the camera title on images.

L-Upper/ L-Lower/ R-Upper/ R-Lower

**Default:** R-Upper

#### [Camera title]

Enter a camera title to display for each camera using the on-screen keyboard (☞ Installation Guide page 8). (Up to 16 characters)

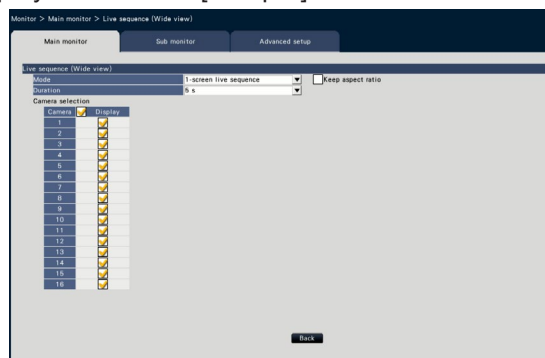
#### Note:

- When using together with the date and time display to be set on the camera (☞ Page 18) or OSD (Display Title, ☞ Page 19), adjust the position to be displayed to not to overlap with them.
- The camera title configured on this setting will not be embedded on recorded images.

### ■ Live sequence (Wide view)

Set the sequence of the wide view screen on the main monitor.

The following live sequence (Wide view) screen will be displayed when the [Setup >] button is clicked.



#### [Mode]

Select a screen pattern of the sequence.

1-screen live sequence/4-screen live sequence/

9-screen live sequence/16-screen live sequence

**Default:** 1-screen live sequence

#### [Keep aspect ratio]

Select whether to change the aspect ratio of the displayed area if the aspect ratio of the image is different from the displayed area.

Checked: Keep aspect ratio (Does not change the ratio automatically).

Not checked: Does not keep aspect ratio (Changes the ratio automatically).

**Default:** Not checked

#### [Duration]

Set the interval (duration) for switching camera images.

3 s/ 5 s/ 10 s

**Default:** 5 s

## Note:

- Some cameras may take time to display images and the screen may be switched before images are displayed if the duration is short. In that case, set a longer time for the switching interval.

## [Camera selection]

Select the cameras to be included in the sequence display.

Mark the checkbox next to the desired camera. The selected cameras will be displayed in numerical order.

## Note:

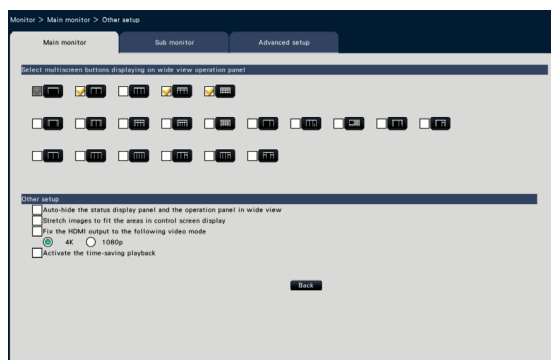
- The selected cameras are displayed from the top in the 4-screen, 9-screen and 16-screen live sequence.
- The number of selected camera is within the number of split screens, it displays without switching the cameras.

## [Back] button

Click the button after completing the settings. The screen returns to the [Main monitor] tab.

## ■ Other setup

Click [Setup >] button to display the following screen.



## [Select multiscreen buttons displaying on wide view operation panel]

The button whose checkbox is marked will be displayed on the wide view operation panel.

## ■ Other setup

### [Auto-hide the status display panel and the operation panel in wide view]

Mark the checkbox to display or hide the status display panel and the operation panel in wide view in association with whether the mouse cursor is displayed or hidden.

## [Stretch images to fit the areas in control screen display]

Mark the checkbox to enlarge the vertical size of images with the aspect ratio of 16:9 to fit into the image display area on the control screen.

## Note:

- If the image is expanded by this setting, the camera operation or the motion detection search in the image may not function as the specified coordinates or area.

## [Fix the HDMI output to the following video mode]

Fixes the signal system of the HDMI output when it is checked. The signal system is selectable from 4K and 1080p.

## Note:

- 4K output is p/30Hz(4K/30p). Depending on your monitor, "ERROR" may be displayed, but you can still use this product without problems.

## [Activate the time-saving playback]

Mark the checkbox to activate the time-saving playback and play the recorded image up to 4 times faster if there is no movement in the recorded image. (For playback by the operation of the recorder) (Page 132)

## Important:

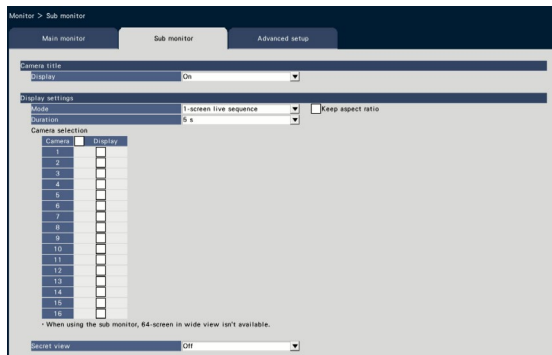
- To use the time-saving playback, cameras that support the motion detection search function are necessary. Refer to the "readme.txt" on the provided CD-ROM about the supported cameras. Refer to the operating instructions of the camera in use for further information.

## [Back] button

Click the button after completing the settings. The screen returns to the [Main monitor] tab.

## Configure the settings relating to sub monitors [Sub monitor]

Set up the sub monitor by selecting the camera images to display, the image display duration, etc.



### ■ Camera title

#### [Display]

Set whether to display the camera title on the sub monitor.

On: Displays the camera title

Off: Does not display the camera title

**Default:** On

### ■ Display settings

Set the display sequence for camera images (image switching).

#### [Mode]

Select how to display images from the cameras.

1-screen live sequence: Images from the cameras will sequentially be switched and displayed on 1-screen.

4-screen live sequence: Images from the cameras will sequentially be switched and displayed on 4-screen.

9-screen live sequence: Images from the cameras will sequentially be switched and displayed on 9-screen.

16-screen live sequence: Images from the cameras will sequentially be switched and displayed on 16-screen.

Switch by alarm terminal input: Switches camera 1 to 9 to display images on 1-screen according to the signal input triggered by the terminal alarms from terminal 1 to 9.

#### [Keep aspect ratio]

Select whether to change the aspect ratio of the displayed area if the aspect ratio of the image is different from the displayed area.

Checked: Keep aspect ratio (Does not change the ratio automatically)

Not checked: Does not keep aspect ratio (Changes the ratio automatically)

**Default:** Not checked

#### [Duration]

Set the interval (duration) for switching camera images.

3 s / 5 s / 10 s

**Default:** 5 s

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#### Note:

- The terminal status (N.O. or N.C.) for supplying an alarm signal to the alarm terminal depends on the settings for "Terminal input" of "Advanced terminal alarm setup" (Page 41).
  - Some cameras may take time to display images and the screen may be switched before images are displayed if the duration is short. In that case, set a longer time for the switching interval.
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#### [Camera selection]

Select the cameras to be included in the sequence display.

Mark the checkbox next to the desired camera. The selected cameras will be displayed in numerical order.

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#### Note:

- The selected cameras are displayed from the top in the 4-screen, 9-screen and 16-screen live sequence.
  - The number of selected camera is within the number of split screens, it displays without switching the cameras even if the live sequence is selected.
-

## [Secret view]

Secret view is a function that causes the camera image displayed on a 1-screen or the selected camera image on a multiscreen on the main monitor to be displayed as a black screen on the sub monitor.

Determine whether or not to use secret view.

On: Enables the secret view function.

Off: Disables the secret view function.

**Default:** Off

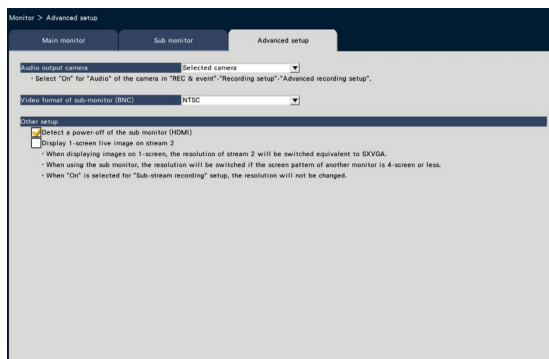
---

### Note:

- While "1-screen live sequence" is being performed, the secret view images will be skipped (not displayed).
  - The image on the sub monitor may momentarily go black when images are switched on the main monitor.
- 

## Configure other settings relating to monitors [Advanced setup]

Configure the audio output setting of the monitor and select the video format sent to the sub monitor.



### [Audio output camera]

The camera channel whose audio is output from the recorder will be fixed. To fix the camera channel, select the camera whose audio is to be output from the recorder.

Selected camera: Does not fix the camera channel (The recorder will output the audio of the camera whose images are being displayed.)

Cam.1 - Cam.16: Fixes the camera channel (The recorder will always output the audio of the selected camera.)

**Default:** Selected camera

### [Video format of sub-monitor (BNC)]

Select NTSC system/PAL system as analogue video to the sub monitor (BNC).

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### Note:

- If you want the audio output from the monitor, set "On" in "Audio" of the "Advanced recording setup" (Page 38).
- 

### ■ Other setup

#### [Detect a power-off of the sub monitor (HDMI)]

When the sub monitor is to be used and the checkbox is marked, the error action will be taken if the sub monitor is disconnected or the power is off.

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### Note:

- Depending on the monitor, it may not be detected even if the power switch of the monitor is turned off.
- 

#### [Display 1-screen live image on stream 2]

Mark the checkbox to display 1-screen live image on stream 2.

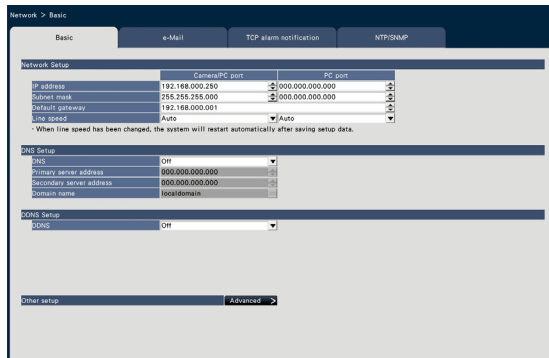
## Configure the settings relating to network [Network]

The settings relating to the network of the recorder are configured on the setup menu - the "Advanced setup" menu - the "Network" page.

The "Network" page has [Basic], [e-Mail], [TCP alarm notification] and [NTP/SNMP] tabs.

### Configure the basic network settings [Basic]

The basic settings relating to the network can be configured on this tab.



#### Note:

- Enter the address octets and port numbers right-aligned. (Example: When the port number is 80, enter "00080".) The leading zeros are omitted here.

#### ■ Network Setup

Configure the network settings of the recorder.

##### [IP address]

The IP address of the recorder will be displayed. To change the IP address, click the [▲]/[▼] button.

**Default:** 192.168.0.250 [Camera/PC port]  
0.0.0.0 [PC port]

##### [Subnet mask]

Select the subnet mask in accordance with the recorder's network environment. Enter in the same way as the IP address.

**Default:** 255.255.255.0 [Camera/PC port]  
0.0.0.0 [PC port]

##### [Default gateway]

Select the address for the default gateway in accordance with the recorder's network environment. Enter in the same way as the IP address.

**Default:** 192.168.0.1

#### [Line speed]

Specify the line speed for data transmission.

Auto: Line speed will be applied automatically.

100M-Full: 100 Mbps full-duplex

100M-Half: 100 Mbps half-duplex

10M-Full: 10 Mbps full-duplex

10M-Half: 10 Mbps half-duplex

**Default:** Auto [Camera/PC port]

Auto [PC port]

#### Important:

- When the setup menu is closed after changing the line speed, the recorder will automatically reboot.

#### ■ DNS Setup

The settings relating to DNS (Domain Name System) can be configured on this tab.

##### [DNS]

Determine whether or not to use the DNS.

Off : Does not use the DNS.

Manual: When using DNS, it is possible to search IP addresses by host name.

**Default:** Off

## [Primary server address]

## [Secondary server address]

When the DNS is used, select the IP addresses for the primary and secondary DNS server. Enter in the same way as the IP address.

**Default:** 0.0.0.0

## [Domain name]

Enter the domain name of the recorder. The first character of the domain name should be an alphabetical character.

Enter 3 to 63 alphanumeric characters including hyphens (-) and periods (.).

**Default:** localdomain

## ■ DDNS Setup

Select the DDNS service to determine whether or not to use DDNS.

Off: Does not use the DDNS function.

Viewnetcam.com: Uses the "Viewnetcam.com" service.

**Default:** Off

## Note:

- "Viewnetcam.com" is a Dynamic DNS service designed for use with our network cameras. Refer to the "Viewnetcam.com" website (<http://www.viewnetcam.com/>) for further information about the service.

## When using the "Viewnetcam.com" service

The screenshot shows a web-based configuration interface for a network recorder. The 'Basic' tab is selected, and the 'Network Setup' section is active. Under 'Network Setup', fields for IP address, Subnet mask, Default gateway, and Line speed are visible. Below this, the 'DDNS Setup' section is expanded, showing 'DNS' set to 'Off', 'Primary server address' and 'Secondary server address' both set to '000.000.000.000', and 'Domain name' set to 'localdomain'. The 'DDNS Setup' section also includes a dropdown for 'Personal/Product URL' set to 'Viewnetcam.com', a text field for 'Your account link', and a dropdown for 'Access interval' set to '1 h'. A note at the bottom states: 'Access the URL displayed on "Your account link" using a web browser connected to the Internet to set the Viewnetcam.com settings.'

## [Personal(Product) URL]

The URL of the camera registered for "Viewnetcam.com".

When accessing the menu again after performing the initial settings, the temporary URL will be displayed.

## [Your account link]

The URL of the registration window for the "Viewnetcam.com" service will be displayed.

Register the information in the registration window to enroll in the "Viewnetcam.com" service.

## [Access interval]

Select the interval to access the "Viewnetcam.com" service server to check the IP address and the host name from the following.

10 min/ 20 min/ 30 min/ 40 min/ 50 min/ 1 h

**Default:** 1 h



## Procedure to register information for the "Viewnetcam.com" service

### Step 1

Access the URL displayed on "Your account link" from the PC connected to the Internet.

→ The registration window for "Viewnetcam.com" will be displayed.

### Step 2

Register the information for "Viewnetcam.com" by following the instructions of the wizard.

→ When the registration window is not displayed, check that the PC is being connected to the Internet, and click the reload button of the browser. When the message is displayed to inform that the registration is successful, close the registration window.

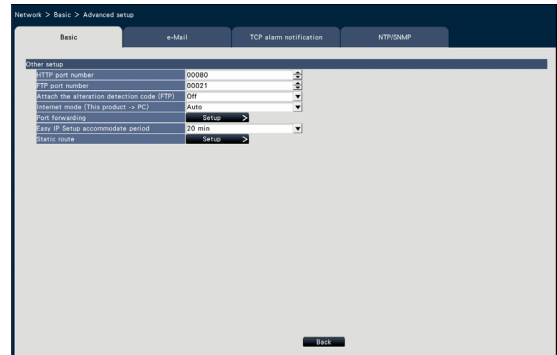
The URL selected at the time of registration can be used for recorder access. However, this URL is unavailable when accessing the recorder from the PC connected to the same network (LAN).

#### Note:

- When the registration for the "Viewnetcam.com" service is completed, the URL of the recorder registered for "Personal(Product) URL". It may take up to around 30 minutes until the URL of the registered recorder is validated.
- To cancel the enrollment in the "Viewnetcam.com" service, access the "Viewnetcam.com" website (<http://www.viewnetcam.com/>) later.
- It is possible to check the information registered for the "Viewnetcam.com" service by accessing the URL displayed beside "Your account link". When the URL is not displayed, check that the recorder is being connected to the Internet, exit the menu, and display this tab again to check the information.
- If access often fails due to the change in the global address of router, set a smaller value for "Access interval".

### Other setup

Click the [Advanced >] button to set bandwidth control, HTTP port number, and FTP port number. The setup menu (advanced) will be displayed.



### Other setup

#### [HTTP port number]

Specify the HTTP port number to be used to send images from the recorder.

It is unnecessary to change it for normal use.

1 - 65535

**Default:** 80

#### Note:

- Depending on the network settings, network communication may not be established if the HTTP port number has been changed. In this case, refer to the administrator of each network.
- The following numbers, the HTTPS port number, the FTP port number, the site alarm receive port number and the port number of the port forwarding are unavailable.  
20, 21, 23, 25, 42, 53, 67, 68, 69, 79, 105, 110, 123, 161, 162, 443, 546, 547, 995, 10001, 10002, 10003, 10004, 10005, 10006, 10007



## [FTP port number]

Designate the FTP port number of the recorder. It is unnecessary to change it for normal use.

1 - 65535

**Default:** 21

### Note:

- The following numbers, the HTTP port number, the HTTPS port number, the site alarm receive port number and the port number of the port forwarding are unavailable.  
20, 23, 25, 42, 53, 67, 68, 69, 79, 80, 105, 110, 123, 161, 162, 443, 546, 547, 995, 10001, 10002, 10003, 10004, 10005, 10006, 10007

## [Attach the alteration detection code (FTP)]

Determine whether or not to attach the alteration detection code to the recorded images to be downloaded from an FTP server.

Off: Does not attach the alteration detection code.

On: Attaches the alteration detection code.

**Default:** Off

## [Internet mode (This product → PC)]

Set this to transmit the camera live image (H.264/H.265) via the Internet. It can transmit the H.264/H.265 image with the settings of the broad band router kept the same as the JPEG image transmission.

On: Uses the HTTP port to transmit the image and audio.

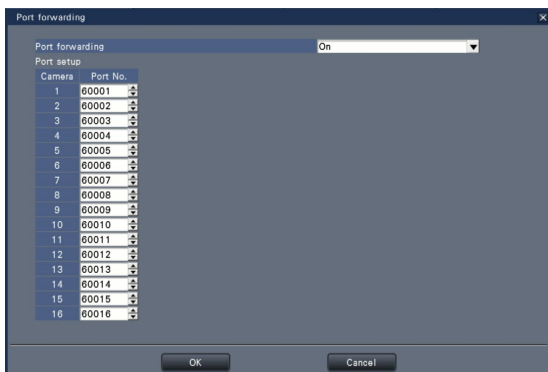
Off: Uses the UDP port to transmit the image and audio.

Auto: Uses the HTTP port to transmit the image and audio if the network address of the destination is different from that of the recorder.

**Default:** Off

## ■ Port forwarding

Click the [Setup >] button to set the port forwarding.



## [Port forwarding]

Set whether to enable the port forwarding or not.

On: Sets the port forwarding.

Off: Does not set the port forwarding.

## [Port setup]

Set the port number of each camera between 1 to 65535 if the port forwarding is set.

**Default:** Cam.1 60001 ~ Cam.16 60016

### Note:

- The following numbers, the HTTP port number, the HTTPS port number, the FTP port number, the site alarm receive port number and the port number of other port forwarding are unavailable.  
20, 21, 23, 25, 42, 53, 67, 68, 69, 79, 80, 105, 110, 123, 161, 162, 443, 546, 547, 995, 10001, 10002, 10003, 10004, 10005, 10006, 10007

## [Easy IP Setup accommodate period]

Set time to enable operation of the network settings from the dedicated software to 20 minutes or unlimited from the launch of the recorder.

20 min: Enables operation to change the IP address of the recorder from the dedicated software for 20 minutes only after the launch of the recorder.

Unlimited: Always enables operation to change the IP address of the recorder from the dedicated software.

**Default:** 20 min

## [Back] button

Click this button after completing the settings.

## Configure the settings relating to the mail notification [e-Mail]

The settings of alarm mail notice, the settings of warning mail (☞ Page 189) and the settings to use the mail functions can be configured on this tab.



### [SMTP server address]

Enter an IP address or a name of the SMTP server to send e-mails. The name of the SMTP server is available only when "Manual" is selected for "DNS" on the [Basic] tab accessed from the "Advanced setup" menu - the "Network" page of the setup menu. Enter up to 255 alphanumeric characters including hyphens (-) and periods (.).

### [SMTP port number]

Enter the port number of the SMTP server.

1 - 65535

**Default:** 25

### [POP server address]

Enter an IP address or name of the POP server to be used for POP before SMTP authentication. The name of the POP server is available only when "Manual" is selected for "DNS" on the [Basic] tab accessed from the "Advanced setup" menu - the "Network" page of the setup menu. Enter up to 255 alphanumeric characters including hyphens (-) and periods (.).

### [Authentic method]

Select the authentication method to send e-mails from the following.

None/ POP before SMTP/ SMTP

**Default:** None

### [Authentic method - User name]

Enter the user name to be required for the authentication. Enter up to 32 alphanumeric characters excluding "&" listed in the description of "Note".

### [Authentic method - Password]

Enter the password to be required together with the user name for the authentication. Enter up to 32 alphanumeric characters excluding "&" listed in the description of "Note". An entered character for the password will be displayed as "\*".

### Note:

- Available characters are as follows.

A B C D E F G H I J K L M N O P Q R S T U V W X  
Y Z a b c d e f g h i j k l m n o p q r s t u v w x y z  
0 1 2 3 4 5 6 7 8 9 ! # \$ % & ' ( ) \* + , - . / : ; < = > ?  
@ [ ¥ ] ^ \_ ` { | } ~

### [Sender's address]

Enter the mail address of a sender. Entered mail addresses will be displayed in the "From" (sender) line. Enter up to 127 alphanumeric characters including hyphens (-), periods (.), @, and \_.

**Default:** NWDR

### [Security]

Alarm mails or warning mails will be encrypted and transmitted. Authentication method will be set to "SMTP" if it is not set to "Off". Set the user name and password for the authentication.

Off / SMTP over SSL / STARTTLS

**Default:** Off

### [Destination address - Address1 - Address4]

Enter the mail addresses of the recipients of the alarm mail and the warning mail (☞ Page 189). Enter up to 255 alphanumeric characters including hyphens (-), periods (.), @, and \_.

Check the desired mail type (Warning/Alarm) to be sent.

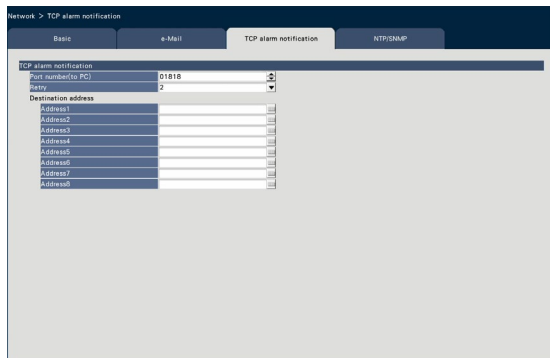
Up to 4 destination addresses can be registered.

## Configure the TCP alarm notification settings [TCP alarm notification]

The settings to notify the PC of the event and error information when an event or an error occurs can be configured on this tab.

To display the event and error information, it is necessary that the software (option) is installed on the recipient PC.

Refer to the "readme.txt" on the provided CD-ROM for details on the software.



### [Port number(to PC)]

Enter the port number of the recipient PCs.

It is usually not necessary change the default.

**Default:** 1818

### [Retry]

Set the number of retry attempts for the transmission to the PC.

0 - 8 (times) (In steps of times)

**Default:** 2

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### Note:

- If the transmission to the PC fails, increase the number of retry attempts.

### [Destination address - Address1 - Address8]

Enter the addresses of the recipient PCs. Enter the IP address or host name for "Address1" - "Address8".

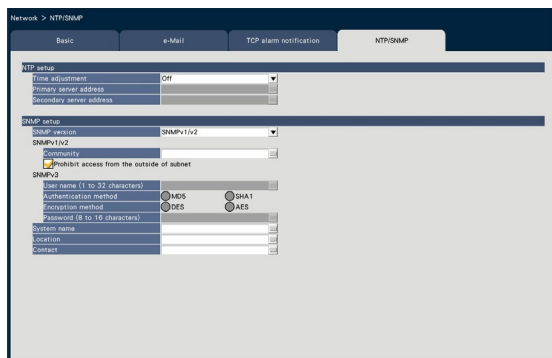
The host name is available only when "Manual" is selected for "DNS" on the [Basic] tab accessed from the "Advanced setup" menu - the "Network" page of the setup menu.

Up to 8 destination addresses can be registered.

Enter up to 255 alphanumeric characters including hyphens (-) and periods (,).

## Configure the settings relating to NTP/SNMP synchronization [NTP/SNMP]

The settings to synchronize the system clock with the NTP (Network Time Protocol) and SNMP (Simple Network Management Protocol) server can be configured on this tab.



### ■ NTP setup

#### [Time adjustment]

Select "On" or "Off" to determine whether or not to adjust the time according to the NTP server.

On: Adjusts the time automatically.

Off: Does not adjust the time automatically.

**Default:** Off

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#### **Important:**

- Inaccuracy of time stamp on recorded images due to inaccurate clock adjustment of this product may cause operational problems. When the system operation requires an accurate time setting, use the NTP auto time adjustment using an NTP server.

#### [Primary server address]

#### [Secondary server address]

Enter the address or name of the NTP server when adjusting the time using the NTP server.

The name of the NTP server is available only when "Manual" is selected for "DNS" on the [Basic] tab accessed from the "Advanced setup" menu - the "Network" page of the setup menu.

Enter up to 255 alphanumeric characters including hyphens (-) and periods (.).

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#### **Note:**

- Entering "http://" is not necessary if the server name is entered.

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#### **Important:**

- It is possible to run the recorder as an NTP server to be referred by the cameras. In this case, set the port number of the camera to "123". Refer to the operating instructions of the connected camera for information on how to configure the settings of the camera.

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### ■ SNMP setup

Set this item to check the status of the recorder by connecting to the SNMP server.

Enter the items using the alphanumeric characters listed in "Note" (Page 54) and symbols.

#### [Community]

Enter a name used for SNMP authentication (up to 32 alphanumeric characters).

#### [System name]

Enter a name (up to 255 alphanumeric characters) for management of the recorder by the SNMP system.

Example: No.1

#### [Location]

Enter a location where the recorder is installed. (up to 255 alphanumeric characters)

Example: 2F

#### [Contact]

Enter the contact information such as a mail address of an administrator of this recorder. (up to 255 alphanumeric characters)

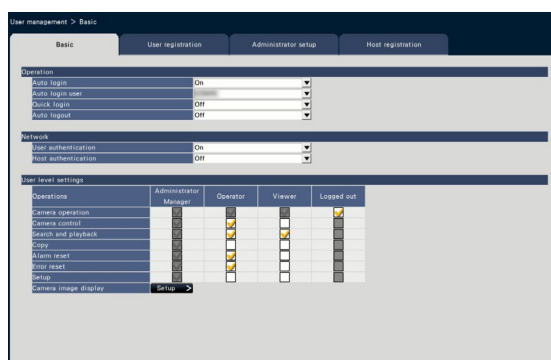
## Configure the settings relating to the user management [User management]

The settings such as user authentication On/Off, administrator registration and operation levels can be configured on the setup menu - the "Advanced setup" menu - the "User management" page.

The "User management" page has [Basic], [User registration], [Administrator setup] and [Host registration] tabs.

### Configure the basic settings relating to user management [Basic]

The settings relating to login when using the mouse, user authentication for network operations, and user levels can be configured on this tab.



#### ■ Operation

Configure the settings to enable auto login when turning on the recorder.

#### [Auto login]

Select "On" or "Off" to determine whether or not to activate the auto login function.

On: Logs in to the recorder automatically.

Off: Does not log in to the recorder automatically.

Login is required when operating the recorder from the logout status.

**Default:** On

#### [Auto login user]

When "On" is selected for "Auto login", the users registered as auto login users in this setting can log in to the recorder automatically. An auto login user should be one of the users registered in the recorder.

**Default:** (Administrator)

#### [Quick login]

Select "On" or "Off" to determine whether to enter or select the user name.

Off: User name needs to be entered.

On: Login by selecting a displayed user name.

**Default:** Off

#### [Auto logout]

Set the time to wait until auto logout when no operations are made while displaying live images.

Off: Does not logout to the recorder automatically.

After 1 min/ After 3 mins/ After 5 mins/

After 30 mins

**Default:** Off

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#### Note:

- When "On" is selected for "Auto login", the user will not be logged out automatically even if other values than "Off" is selected for "Auto logout". When logout is performed (see Page 98), login will be automatically performed by the user registered in "Auto login user".
  - To prevent inappropriate operations, it is recommended to select settings other than "Off" for "Auto logout".
- 

#### ■ Network

Determine whether or not to require user authentication for operating the recorder from a PC.

#### [User authentication]

Select "On" or "Off" to determine whether or not to authenticate the user.

On: Login followed by user authentication

Off: Login without user authentication

**Default:** On

#### [Host authentication]

Determine whether to enable or disable the host authentication.

On: Login followed by host authentication.

Off: Login without the host authentication.

**Default:** Off

## ■ User level settings

Set up the operations allowed at each user level (Administrator/Manager/Operator/Viewer) by marking the respective checkboxes. To stop a user from operating certain functions, do not check the respective function. The setting for the administrator cannot be changed. The system can also be set up to allow only live operation (image switching) after logout.

### Note:

- Only a user logged in as "Administrator/Manager" can change the user level settings.
- At the default, operations allowed at the user level are as follows:
  - Administrator/Manager: Possible to perform all the operations (Administrators)
  - Operator: Possible to perform a part of the settings of the recorder and alarm reset (Head of operators)
  - Viewer: Possible to monitor or play the images (Operators)

\* Administrators and managers can perform all operations. The difference between an administrator and a manager is that an administrator has priority over a manager; if both perform the same operation at the same time, that of the administrator will have priority.

- The screenshot shows the default.
- When a user tries to operate a function that is not checked (restricted function), the login window may sometimes be displayed to prompt a user with the required user level to log in.

## Restrictable operations

It is possible to allow or restrict the following operations for each user.

Operation	Description
Camera operation	Camera images displayed on the main monitor can be changed.
Camera control	Camera control such as panning and tilting can be performed.
Search and playback	Recorded images can be played back and searched by VMD search.
Copy	Recorded images can be copied to storage media such as a USB.
Alarm reset	An alarm action can be canceled.
Error reset	An error action can be canceled.
Setup	Setup menus can be displayed and the settings can be configured.
Camera image display	The image and audio data of all cameras can be displayed/output. To set up the display of camera images, click the [Setup >] button. (☞ Set up the user level for individual cameras)

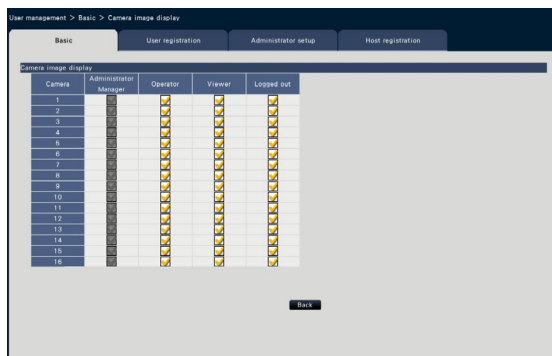
\* It is recommended to restrict "Setup" to the administrator.

\* Even if "Setup" is set to be available to each user, there will be some operations restricted to the administrator only.

## Set up the user level for individual cameras

Select the cameras allowed for operation by each user level (operator/viewer/logged out) by marking the respective checkboxes.

Remove the check mark from any cameras not to be displayed. The setting for the administrator/manager cannot be changed.

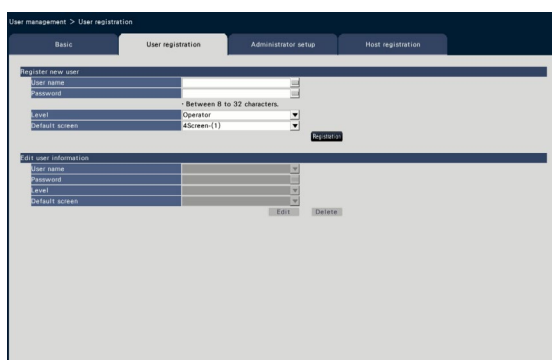


### [Back] button

Click the button after completing the settings. The screen returns to the [Basic] tab.

## Register, edit or delete the user information [User registration]

Use this tab to register, edit or delete user names and passwords.



### ■ Register new user

Register user information such as a user name, password and operation level.

The maximum number of users that can be registered is 32.

### [User name]

Enter the user name using the on-screen keyboard (see Installation Guide Page 8). The user name must be between 1-32 characters including the half-width alphanumeric and the symbol.

### [Password]

Enter the user password using the on-screen keyboard (see Installation Guide Page 8). The password must be between 8-32 characters including the half-width alphanumeric and the symbol. Use at least two types of characters among alphabet, numbers and symbols. The registered password will be displayed as "\*\*\*\*\*" regardless of what is entered.

---

### Important:

- For enhanced security, change the password on a regular basis.
  - If you forget the administrator name and the password, the recorder must be initialized (repair).
-

## [Level]

Display the operation level of a user.

Operable functions can be set on the [Basic] tab

(☞ Page 57).

Manager/ Operator/ Viewer

\* Administrator and manager both have the same level, but the administrator has the higher priority.

**Default:** Operator

## [Default screen]

Select a startup screen to be displayed after login.

Cam.1/ ... / Cam.16/ 4Screen-(1)/ ... /

4Screen-(4)/ 9Screen-(1)/ 9Screen-(2)/

16Screen-(1)/ Sequence(Wide view)/

1Screen(Wide view)/ 4Screen(Wide view)/

9Screen(Wide view)/ 16Screen(Wide view)

(Refer to the "Operation window" section (☞ Page 95)

for further information about each setting value.)

**Default:** 4Screen-(1)

---

## Note:

- When a monitor that is not selected in the "Monitor" - "Main monitor" - "Other setup" is set as the default screen, "4Screen-(1)" will be displayed as the default screen.
  - When "9Screen", "16Screen" or any of wide view screen is selected, the default screen on the web browser of the PC will be set to 4-screen with live images from camera 1 to 4.
- 

## [Registration] button

Select this button to newly register the edited user information.

## ■ Edit user information

Edit or delete the user information that has been registered.

Select the user whose user information is to be edited or deleted. To edit items, proceed as for new user registration.

## [Edit] button

Registers the edited user information.

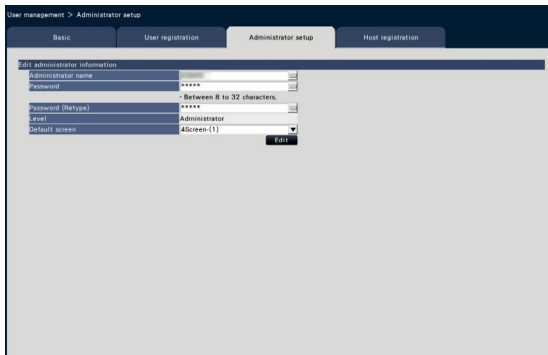
## [Delete] button

Deletes the selected user.



## Edit the administrator information [Administrator setup]

The administrator information relating to the password and default screen, etc. can be registered on this tab.



### [Administrator name]

Enter the administrator name using the on-screen keyboard (☞ Installation Guide Page 8). The administrator name must be between 1-32 characters including the half-width alphanumeric and the symbol.

### [Password]

Enter the administrator password using the on-screen keyboard (☞ Installation Guide Page 8). The password must be between 8-32 characters including the half-width alphanumeric and the symbol. Use at least two types of characters among alphabet, numbers and symbols.

The registered password will be displayed as "\*\*\*\*\*" regardless of what is entered.

---

### Important:

- For enhanced security, change the password on a regular basis.
- 

### [Password (Retype)]

Enter the password that has been set for "Password" again for confirmation.

### [Level]

Display the operation level of an administrator. It is impossible to change the setting value for an administrator. "Administrator" has been set for the administrator.

### [Default screen]

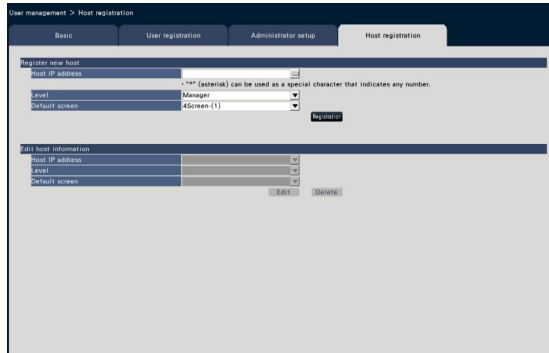
Select a startup screen to be displayed after login.  
(☞ Page 60)

### [Edit] button

Register the edited administrator information.

## Register, edit or delete host [Host registration]

Register, edit or delete the host information of the PC which can access to the recorder via the Internet.



### ■ Register new host

Register the host information that uses the recorder such as the host IP address and the operation level. Up to 32 hosts can be registered.

#### [Host IP address]

Enter the IP address.

- Enter the IP address in half width digits from 0 to 255.
- "\*" can be used as a special character representing all numbers.
- "0.0.0.0" and "\*.\*.\*" cannot be registered.

#### [Level]

Select an operation level.

(Refer to the "User registration" for the setting contents).

**Default:** Manager

#### [Default screen]

Select a startup screen to be displayed after login on the web browser.

Cam.1/ ... / Cam.16/ 4Screen-(1)/ ... / 4Screen-(4)

**Default:** 4Screen-(1)

#### [Registration] button

Registers the set host information as a new.

### ■ Edit host information

Change or delete the registered host information.

Select a host information to change or delete on [Host IP address]. To edit items, proceed as for new user registration.

#### [Edit] button

Registers the edited user information.

#### [Delete] button

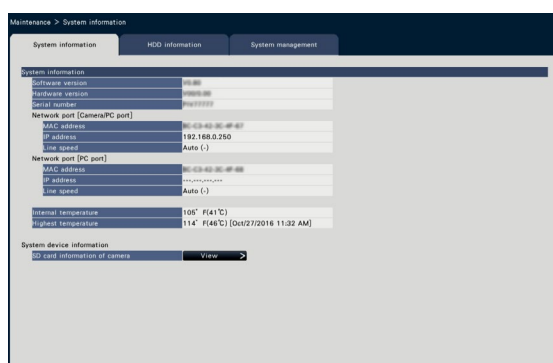
Deletes the selected user.

# Configure the settings relating to maintenance [Maintenance]

The version of the recorder and disk information is displayed, and the settings relating to hard disk drives can be configured on the setup menu - the "Advanced setup" menu - the "Maintenance" page. It is also possible to initialize the setup data of the setup pages, check the system logs and register the license on this page. The "Maintenance" page has [System information], [HDD information] and [System management] tabs.

## Check the system information such as the version [System information]

The version (of the software and hardware), serial number, network information (MAC address, IP address, line speed), temperature inside the recorder and highest temperature inside the recorder, etc. are displayed on this tab.

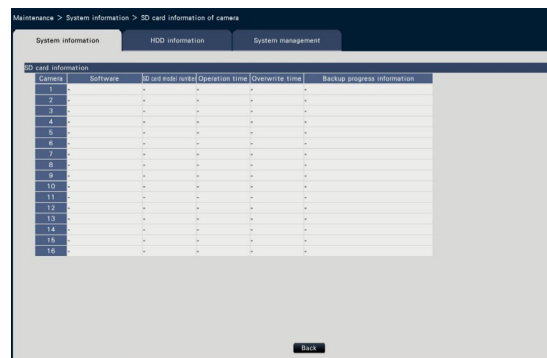


**Note:**

- System information will not be updated while the "Maintenance" page is being displayed.
- Besides the setting value for "Line speed", the actual line speed will be displayed in "( )".
- The current temperature in the body is higher than the ambient temperature due to a temperature increase of internal parts.
- The temperature increase of internal parts varies according to the load on equipment.
- The thermal error makes an error action to prevent failure or unsafety of equipment when temperature of internal parts (such as HDD and CPU) exceeds the specified temperature.

■ **SD card information of camera**

The SD card information and the SD memory backup progress of the camera in which the SD memory backup is set are displayed. Click [View >] button to display the following screen.



- [Software] Displays the software version of the camera.
- [SD card model number] Displays the model number of the SD memory card used for the camera.
- [Operation time] Displays the operation time of the SD memory card used for the camera.
- [Overwrite time] Displays the number of the overwriting of the SD memory card used for the camera.
- [Backup progress information] Displays the progress of the SD memory backup.

Date & time display: Date and time of the image being acquired from the SD memory card of the camera.

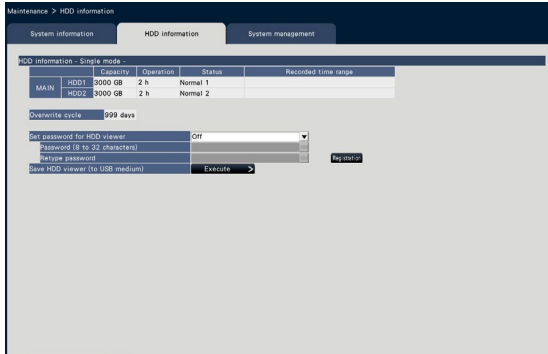
- : No image data to be acquired from the SD memory card of the camera is available.

**Note:**

- Read "readme.txt" in the CD-ROM provided with the recorder for applicable cameras.

## Confirm the hard disk drive information [HDD information]

Capacity of the hard disk drive and the running time of this product, time range of the recorded images, etc. will be displayed.



### Note:

- HDD information will not be updated while the "Maintenance" page is being displayed.
- The recovery progress information is displayed next to the HDD operation mode display during mirroring recovery.

### [Operation mode of HDD]

Operation mode of HDD will be displayed. Refer to page 74 for further information.

### [Capacity]

Displays the capacities of the hard disk drives.

### [Operation]

Displays the operating time of the hard disk drives.

### [Status]

Displays the statuses of the hard disk drives.

- Normal: Hard disk drives that are operating normally. The number indicates the order of use.
- Playback-only: Hard disk drives for playback use only (Recording is unavailable.)
- Removed: Hard disk drives that are excluded from operation due to fault
- Error: Hard disk drives that have become faulty during the format process
- Blank: No HDD connected
- Added: HDD cannot be used until it is formatted

### [Recorded time range]

Displays the time range of the images recorded on the hard disk drives.

### [Overwrite cycle]

Calculates and indicates the overwriting cycle of the hard disk drives, based on the past recording performance (the date & time of the oldest recorded data, the current date & time and the capacity of the hard disk drive).

### Note:

- While overwriting recording is being performed, the overwriting cycle will be calculated based on the date & time of the oldest recorded data and that of the newest recorded data.
- The more often the recording was performed in the past, the more accurate the calculation of overwriting cycle will be.
- When the recording conditions are changed or when data is automatically deleted, the overwriting cycle will not be indicated accurately.

### [Set password for HDD viewer]

Set whether you will assign a password to the HDD mounted on the recorder. Setting it to "On" allows you to set a password to the HDD when removing HDD. When you use a HDD with a password set in HDD viewer, you need to enter the password.

On: Sets a password for the HDD.

Off: Does not set a password for the HDD.

**Default:** Off

### Important:

- Removing the HDD without the removal process of the HDD (Page 73), the password is not set in the HDD.

### [Password]

Assign a password for HDD viewer using the on-screen keyboard. The password must be between 8-32 characters including the half-width alphanumeric and the symbol. Use at least two types of characters among alphabet, numbers and symbols. The set password will be displayed as "\*\*\*\*\*" regardless of what is entered.

### Important:

- If you forget the password of the removed HDD, you cannot play back the HDD in HDD viewer.

### **[Retype password]**

Enter the password that has been set for "Password" again for confirmation.

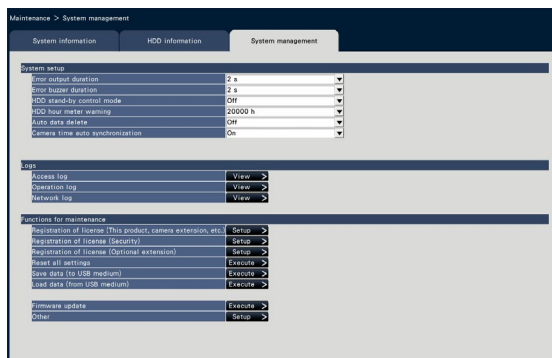
### **[Save HDD viewer (to USB medium)]**

Save HDD viewer to a USB medium (external storage device). Click the [Execute >] button to display the confirmation window to start saving. HDD viewer is saved under the USB medium drive as a compressed file (NX\_HDD\_Viewer.zip). Unzip the file to use it. The operating instructions of HDD viewer are available on our following website.

[https://i-pro.com/global/en/surveillance/documentation\\_database](https://i-pro.com/global/en/surveillance/documentation_database)

## Configure the settings and operations relating to the system [System management]

The settings relating to the actions at an error occurrence and auto data deletion from hard disk drives can be configured on this tab. It is also possible to display the logs on this page. In addition, general maintenance, such as license registration, setting initialization and firmware upgrade, can be performed on this tab.



### ■ System setup

#### [Error output duration]

Select the duration to output a signal to notify the external devices of an error (HDD error, camera error, recorder error, recording error or network error). When "0 s" is selected, the signal is not output.

0 s/ 2 s/ 5 s/ 10 s/ 20 s/ 30 s/ 1 min

Ext.: When "Ext." is selected, the signal will keep on being output until the error is reset.

**Default:** 2 s

#### Note:

- Refer to the "Cancel the error action" section (Page 122) for how to reset the error.

#### [Error buzzer duration]

Configure the settings to sound a buzzer at an error occurrence. When "0 s" is selected, buzzer will not sound.

0 s/ 2 s/ 5 s/ 10 s/ 20 s/ 30 s/ 1 min

Ext.: When "Ext." is selected, the buzzer that started sounding at an error occurrence will keep on sounding until the buzzer is stopped.

**Default:** 2 s

#### Note:

- Refer to the "Stop buzzer beeping" (Page 121) for further information about how to stop buzzer beeping.

#### [HDD hour meter warning]

If the operation time of a hard disk drive reaches a specified level, a warning will be performed. When "Off" is selected, warning will not be performed.

Off/ 10000 h/ 20000 h/ 30000 h/ 40000 h/ 50000 h

**Default:** 20000 h

#### [Auto data delete]

Select to determine how many days should have passed from the recorded day to delete data automatically from the hard disk drive.

Off/ 1 day/ 2 days/ 3 days/ 4 days/ 5 days/ 6 days/ 7 days/ 8 days/ 9 days/ 10 days/ 14 days/ 30 days/ 45 days/ 60 days/ 90 days/ 120 days/ 150 days/ 180 days/ 184 days

**Default:** Off (Does not delete the data automatically.)

#### [Camera time auto synchronization]

When a date changes, the clock of the cameras will be synchronized with the clock of this product.

On: Synchronized

Off: Not synchronized

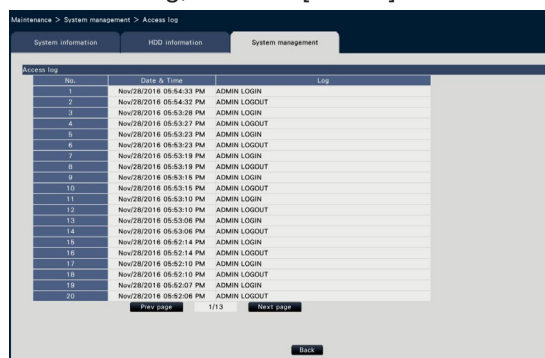
**Default:** On

### ■ Logs

The following logs can be checked.

- Access log: Logs of accessing the recorder
- Operation log: Logs of operating the recorder
- Network log: Logs of network errors

To check each log, click the [View >] button.



#### About the access log

The date & time when logged in/out for the recorder, the user name, and the IP address will be displayed. Up to 500 logs are saved.

When more than 500 logs are filed, the older logs will be overwritten by the newer logs. In this case, the oldest log is the first to be overwritten.

\*\*LOGIN/\*\*LOGOUT: A user has logged in/out the recorder.

\*\* indicates a user name or an IP address.

## About the operation log

The operation log displays specific operations of the recorder and their dates and time in a list.

Up to 500 logs are saved.

When more than 500 logs are filed, the older logs will be overwritten by the newer logs.

CONFIG LOGIN / CONFIG LOGOUT: A host has logged in/out the "HDD management" page.

UPDATE SETTINGS: Settings have been changed.

POWER ON: The power of the recorder has been turned on.

POWER ON(UPDATE): The recorder is rebooted after the software is updated.

POWER ON(RESTART SWITCH): The recorder is rebooted by pushing the Restart button.

BEFORE TIME CHANGE MANUALLY: Before the system clock has been changed

AFTER TIME CHANGE MANUALLY: Just after the system clock has been changed

BEFORE TIME CHANGE BY NTP: Before the system clock has been changed by NTP

AFTER TIME CHANGE BY NTP: Just after the system clock has been changed by NTP

HDD FORMAT: The HDD has been formatted.

RESET ALL SETTINGS: The settings have been reset.

POWER ON (MAINTENANCE): The recorder has been rebooted by the operation of the setting menu.

RESET HIGHEST TEMPERATURE: The highest temperature information has been cleared.

## About the network log

The network error logs (occurrence date & time and error details) will be displayed in list form.

Up to 100 logs are saved. When more than 100 logs are filed, the older logs will be overwritten by the newer logs. In this case, the oldest log is the first to be overwritten. Refer to page 90 for further information about the error logs.

---

### Note:

- Information will not be updated while logs are being displayed.
- 

## ■ Functions for maintenance

License is added to operate the recorder. In addition, settings and operations are also performed for maintenance of the recorder.

### [Registration of license (This product, camera extension, etc.)]

To use the recorder, it is necessary to obtain the "Registration Key" from the key management system and to register the license. Up to 16 cameras can be added by registering the license of the additional camera kit.

Contact your dealer for additional cameras. Clicking the [Setup >] button will open the registration window to register the license. (☞ Page 68)

### [Registration of license (Security)]

The registration of the secure communication license allows you to perform secure communication with up to 16 cameras. Contact your dealer for secure communication.

Click the [Setup >] button to display the license registration screen. For setting details, refer to the "Operating Instructions Secure Communication Kit" on the provided CD-ROM.

### [Registration of license (Optional extension)]

You can activate the optional functions by registering additional licenses.

Click the [Setup >] button to display the registration window of license.

### [Reset all settings]

Initializes the setting data. Click the [Execute >] button to display the confirmation window for starting initialization.

---

### Note:

- The following setting items will not be reset to the default or loaded.
    - HTTP port number
    - FTP port number
    - Network port
    - DNS Setup
    - License number
- 

### [Save data (to USB medium)]

Saves the setting data on the USB medium. Click the [Execute >] button to display the confirmation window to start saving.



## [Load data (from USB medium)]

Loads the setting data saved on a USB medium (external storage device) into the recorder. Click the [Execute >] button to display confirmation window to start loading.

---

### Important:

- Click the [Set] button to save the settings and leave the menu after loading data.
- 

## [Firmware update]

Loads the software saved on a USB medium (external storage device) into the recorder to upgrade the firmware. Click the [Execute >] button to display the confirmation window to start initializing. Only an administrator can execute the firmware update.

---

### Note:

- Usage time varies depending on the capacity of the USB medium or the recording content. Retry again later if you fail in operation.
  - Do not operate the recorder with multiple USB medium connected.
  - Use the USB medium formatted in exFAT, FAT (FAT 16) or FAT 32.
  - USB medium recognized by this recorder can be formatted by the recorder. Refer to page 142 for the format procedures.
  - USB medium with password authentication or requiring a dedicated driver or with the encryption function are not available.
  - Contact your dealer for further information about the firmware update.
- 

### [Other]

The page to save the maintenance data will open. (☞ Page 70)

## Register the licenses for the recorder and the additional camera [Registration of license]

The licenses to operate the recorder and to add cameras are registered. The license for 9 cameras are included when purchasing the recorder. Cameras can be added to 16 units by adding the license.

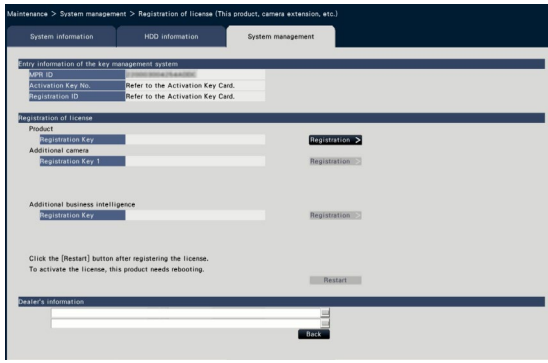
To register the options, the "Registration Key" that can be obtained from the Key Management System is required. Refer to the provided "Activation Key Card" to obtain the "Registration Key" of this product. Refer to the "Activation Key Card" of the additional camera kit (WJ-NXE20, WJ-NXE20W) for how to obtain the "Registration Key" to add cameras.

---

### Important:

- After registering the "Registration Key" for the recorder or that for the Additional Business Intelligence Kit, be sure to click the [Restart] button to reboot the recorder. The license will not be effective before the recorder is rebooted.
    - When the Registration Key of this product is registered
    - When the Registration Key of the additional camera is registered
    - When the license of the concurrent user license kit is added
  - The added cameras shall be registered on "Easy start" (☞ Installation Guide Page 29). Each setting value is the default. Configure each setting according to your needs.
-





## [Entry information of the key management system]

This is the ID number required to obtain the "Registration Key". The Activation Key Card provided with the recorder describes how to access the key management system.

## [Registration of license]

Register the "Registration Key" to operate the recorder and activate the extra functions.

## [Product - Registration Key]

Enter the "Registration Key" obtained from the key management system. When the [Registration >] button next to the entry field is clicked, the registration window to register the license. When using the recorder for the first time, be sure to register the "Registration Key".

## [Additional camera - Registration Key 1]

To add cameras, enter the registration key of the additional camera kit. Registering the registration key, the number of connected cameras is increased as follows.

WJ-NXE20, WJ-NXE20W	
No Registration Key	9
Registration Key 1	16

Refer to the "Activation Key Card" of the additional camera kit for how to obtain the "Registration Key" to add cameras. The registration window will be displayed when the [Registration >] button on the right side of the field is clicked.

## [Additional business intelligence - Registration Key]

When you use the additional business intelligence function, enter the registration key of the Additional Business Intelligence Kit. Refer to the Operating Instructions of the Additional Business Intelligence Kit (WJ-NXF02, WJ-NXF02W) for the detailed setting methods and operations of the additional business intelligence function.

## [Dealer's information]

Up to two pieces of information, such as a dealer name and its telephone number, can be registered using the on-screen keyboard (see Installation Guide Page 8). Registration is possible for a maximum of 32 characters for each entry field.

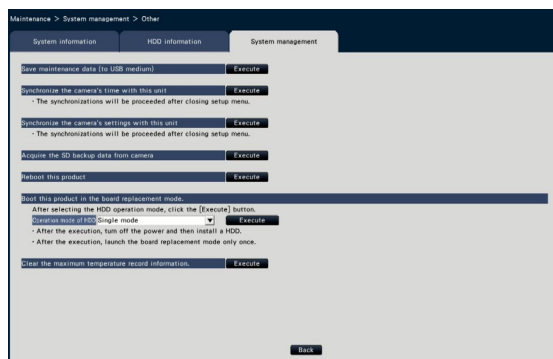
Click the [Restart] button after entering the items. The recorder will reboot, and the settings will be applied.

## [Back] button

By clicking this button when license is not activated or when only "Dealer's information" is changed, the display will return to the [System management] tab.

## Execute functions for special maintenance and service [Other]

All logs can be saved on the USB medium (external storage device) or the date and time of the camera can be synchronized with this product.



### [Save maintenance data (to USB medium)]

Save all logs on the USB medium (external storage device).

Saving of the logs will start by executing on the confirmation window displayed by clicking the [Execute] button.

#### Note:

- Do not operate the recorder with multiple USB medium connected.
- Use the USB medium formatted in exFAT, FAT (FAT 16) or FAT 32.
- USB medium recognized by this recorder can be formatted by the recorder. Refer to page 142 for the format procedures.
- USB medium with password authentication or requiring a dedicated driver or with the encryption function are not available.
- Usage time varies depending on the capacity of the USB medium or the recording content. Retry again later if you fail in operation.

### [Synchronize the camera's time with this unit]

Time and date of all the registered cameras will be synchronized with the clock of this product. The time and date synchronization will be executed when the setting is completed after executing on the confirmation window displayed by clicking the [Execute] button.

### [Synchronize the camera's settings with this unit]

Reconfigure the settings of all the registered cameras based on the setting information of this product. The time and date synchronization will be executed when the setting is completed after executing on the confirmation window displayed by clicking the [Execute] button.

#### Important:

- Since this setting will change the settings of all cameras, please take an extra caution in case that the settings of each camera are customized individually.

### [Acquire the SD backup data from camera]

Starts to acquire the image (SD memory data) recorded on the SD memory card of the camera in which the SD memory backup is set.

### [Reboot this product]

Reboots the recorder.

### [Boot this product in the board replacement mode.]

Used to replace the board.

#### Note:

- The board replacement mode is used during maintenance. Do not use it in ordinary operation.
- Contact your dealer for the board replacement.

### [Clear the maximum temperature record information.]

Clears the highest temperature record information.

## Manage the hard disk drives [HDD management]

The operations relating to the hard disk drives such as checking the capacity of each recording area and formatting the drives can be performed on the "HDD management" page of the setup menu - the "Advanced setup" menu.

### Important:

- All other operations such as recording and playback will stop when the "HDD management" page is displayed.
- Displaying the "HDD management" page forcibly logs out any other users currently logged in to the recorder.

## How to display the "HDD management" page

### Step 1

Click the [HDD management] button of the setup menu - the "Advanced setup" menu.

→ The window with the administrator name and password entry fields will be displayed. The window is also displayed when a user has already logged in as the administrator.

### Step 2

Click the [OK] button after entering "Administrator name" and "Password" of an administrator.



→ The "HDD management" page will be displayed.

Click the [Operation] button to return from the "HDD management" page to the operation screen.



## Check the hard disk drive information [General]

The capacities, operation time and statuses of the hard disk drives are displayed.



Refer to the setup menu - the "Advanced setup" menu - the "Maintenance" page - the [HDD information] tab for further information about the items displayed on the [HDD information] tab. (Page 64)

## Format the hard disk drives [Format HDD]

Hard disk drives are formatted. It is necessary to initialize the HDD after replacing the HDD.

### Important:

- When a hard disk drive is formatted, all the recorded images will be erased.

### Step 1

Click the [Execute >] button for "Format HDD" on the [General] tab - [HDD management] page.

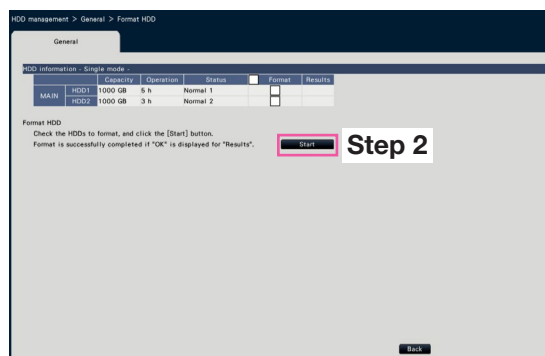
→ The window to format hard disk drives will be displayed.

### Step 2

Check the hard disk drives to format in the "Format" field, and click the [Start] button. To start formatting, click the [OK] button on the confirmation window displayed.

When "OK" is displayed on the "Results" field, click the [Back] button.

When "Error" is displayed, format the hard disk drives again.



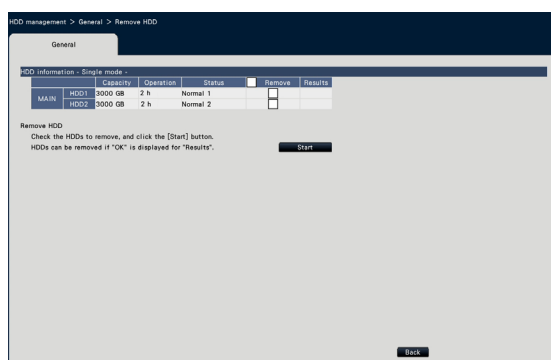
## About the removal process and the link process of hard disk drives

When replacing hard disk drives, it is necessary to perform the removal process/ the link process. Be sure to consult the dealer for the removal, installation, and the related process of hard disk drives.

### Remove the HDD [Remove HDD]

#### Step 1

Click [Execute >] on the [Remove HDD].  
→ The HDD removing screen will be displayed.



#### Step 2

Check the HDDs to remove, and click the [Start] button.  
The HDDs can be removed when "OK" is displayed in the "Results" field. Click the [Back] button.

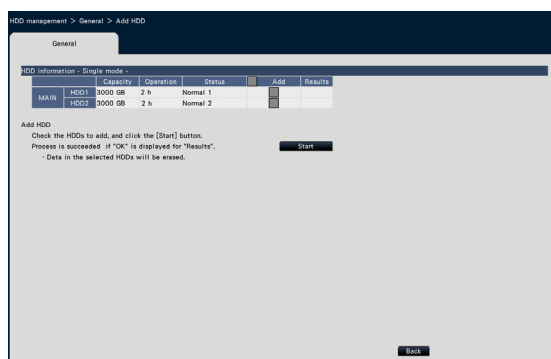
#### Note:

- If a password is assigned for HDD viewer, the HDD is also assigned with a password.

### Add the HDD [Add HDD]

#### Step 1

Click [Execute >] on the [Add HDD].  
→ The HDD adding screen will be displayed.



#### Step 2

Check the HDDs to add, and click the [Start] button.  
The process is completed when "OK" is displayed in the "Results" field and the HDDs are ready for recording. Click the [Back] button.

#### Important:

- When the link process is performed, the data will be erased.

## About the change of the HDD operational mode

### About the HDD operational mode

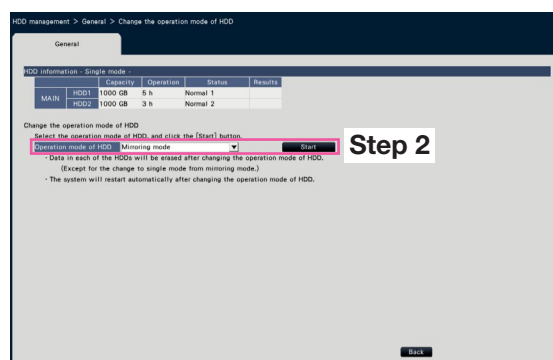
- Single mode: Images and audio from the cameras will be recorded on the HDD of this product.
- Mirroring mode: The same images and audio from the cameras will be recorded on the 2 HDDs of this product.
- When one of the 2 HDDs is replaced with a new one, it is possible to copy data on the other HDD to the replaced HDD.

## Change the operation mode of HDD [Change the operation mode of HDD]

### Step 1

Click the [Execute >] button on the "Change the operation mode of HDD" section.

→ The "Change the operation mode of HDD" window will be displayed.



### Step 2

Select the desired operation mode of HDD, and then click the [Start] button.

### Important:

- When the operational mode of HDD is changed (except the case that the operational mode is changed from the mirroring mode to the single mode), all data on the HDDs will be erased.
- The capacity of the HDD in the mirroring mode will become almost half if compared with the single mode.
- When the operational mode of HDD is changed from the mirroring mode to the single mode, the status of the HDD will turn to "Playback-only".
- When "Operation mode of HDD" is changed, the recorder will be automatically rebooted.

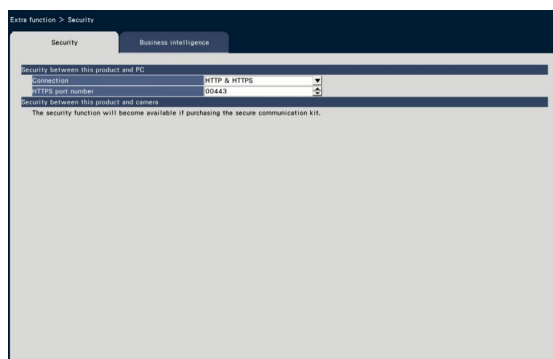
### Note:

- When one of the HDDs is replaced in the mirroring mode, "Add" will be displayed in the status information section of "HDD information". The newly replaced HDD will start working in the mirroring mode when "Add HDD" is executed. In this case, all data on the replaced HDD will be erased.

## Configure the settings relating to the extra functions [Extra function]

Set the security and the additional business intelligence function settings on the extra function page of [Advanced setup] on the setup menu.

Refer to the Operating Instructions of the Secure Communication Kit for the detailed setting methods and operations of the secure communication function. Refer to the Operating Instructions of the Additional Business Intelligence Kit (WJ-NXF02, WJ-NXF02W) for the detailed setting methods and operations of the additional business intelligence function.



### ■ Security between this product and PC

Connect the recorder and the PC with the HTTPS. The HTTPS encodes the access to the recorder and enhances the safety of the communication.

#### [Connection]

Set the connection.

HTTP & HTTPS: The HTTP and HTTPS connections are available.

HTTPS: The HTTPS connection is only available.

**Default:** HTTP & HTTPS

#### [HTTPS port number]

Set the port number used for the HTTPS.

1 - 65535

**Default:** 443

---

#### Note:

- The following numbers, the HTTP port number, the site alarm receive port number and the port number of the port forwarding are unavailable.  
20, 21, 23, 25, 42, 53, 67, 68, 69, 79, 80, 105, 110, 123, 161, 162, 546, 547, 995, 10001, 10002, 10003, 10004, 10005, 10006, 10007
-

# Lists of the setting items (Setup menu)

## Quick setup (Easy Start)

Setting item (including those of the "Advanced setup" menu)	Available range	Default	
Date & time adjustment	2016/1/1 0:00 - 2037/12/31 23:59	20nn/mm/1 0:00 ("nn" and "mm" are calculated base on the serial number of the recorder.)	
Set time zone	GMT-12:00, GMT-11:00, GMT-10:00, GMT-9:00, GMT-8:00, GMT-7:00, GMT-6:00, GMT-5:00, GMT-4:30, GMT-4:00, GMT-3:30, GMT-3:00, GMT-2:00, GMT-1:00, GMT, GMT+1:00, GMT+2:00, GMT+3:00, GMT+3:30, GMT+4:00, GMT+4:30, GMT+5:00, GMT+5:30, GMT+5:45, GMT+6:00, GMT+6:30, GMT+7:00, GMT+8:00, GMT+9:00, GMT+9:30, GMT+10:00, GMT+11:00, GMT+12:00, GMT+13:00	GMT-5:00	
Activate the Daylight saving time	Checked/Not checked	Checked	
Recording setup (The same setting for all cameras)	Frame rate	1 ips, 3 ips, 5 ips, 10 ips, 15 ips, 30 ips	10 ips
	Image quality	NQ, FQ, SF, XF	FQ
	Audio	Off, On, On(AAC-LC)	Off
	Referenced recording days	(Calculated result will be displayed.)	(Calculated result will be displayed.)

## Basic setup

(Remarks: "●" are the setting items configured on "Easy Start". "◎" are the setting items configured from the web browser. "★" are the setting items only configurable with web browser.)

Menu/Tab	Setting item (including those of the "Advanced setup" menu)	Available range	Default	Remarks	
Date/Language					
Date & time adjustment	Date & Time	2016/1/1 0:00 - 2037/12/31 23:59	20nn/mm/1 0:00 ("nn" and "mm" are calculated base on the serial number of the recorder.)	● ◎	
Date & time settings	Display format	Date	yyyy/mm/dd, Mmm/dd/yyyy, dd/Mmm/yyyy, mm/dd/yyyy, dd/mm/yyyy	Mmm/dd/yyyy ◎	
		Time	24 h, 12 h	12 h ◎	
	Time zone	Set time zone	Refer to "Set time zone" of "Quick setup (Easy Start)".	Refer to "Set time zone" of "Quick setup (Easy Start)".	◎
		Daylight saving time	Out, Auto	Auto	◎
		Start/End date and time	Designate by day of the week, Designate by date	Designate by day of the week	◎
		Start/End date and time (Designate by day of the week) In/Out	00:00 Monday, 1st week of January ~ 23:59 the last Sunday of December	In: The last Sunday in March, 1:00 this year and subsequent years. Out: The last Sunday in October, 1:00 this year and subsequent years.	◎
		Start/End date and time (Designate by date) In/Out	1/1 00:00 ~ 12/31 23:59	In: --/-- --:-- Out: --/-- --:--	◎



Menu/Tab	Setting item (including those of the "Advanced setup" menu)	Available range	Default	Remarks
Date & time settings	Auto time adjustment	–	Off, Slave, Master	⊙
	Operation time and date	00:00 ~ 23:00	00:00	⊙
Language	Language	Japanese/ English/ Français/ Español/ Deutsch/ Italiano/ Русский/ Português/ ไทย/ 中文 (Web browser: Japanese/ English/ Français/ Español/ Deutsch/ Italiano/ Russian/ Português/ Thai/ Chinese)	English (Web browser: English)	⊙

#### Camera

Camera registration	Model		(Indication only)	(Indication only)	⊙
	Address		(Indication only)	(Indication only)	⊙
	Compression		(Indication only)	(Indication only)	⊙
	Error information		(Indication only)	(Indication only)	⊙
	Registered information	Model/Option	Corresponding camera number/Option	(Blank)	⊙
		Address	(Address)	(Blank)	⊙
		Compression	H.265(1), H.265(3), H.265(4), H.264(1), H.264(3), H.264(4), MJPEG	(Blank)	⊙
User name		(Text will be entered.)	(Blank)	⊙	
Password		(Text will be entered.)	(Blank)	⊙	
	Port No.	(Port No.)	80	⊙	
Camera setup	Date & time display	Display (check box)	Checked/Not checked		
		Display (drop-down list)	Off, On		
		Position (check box)	Checked/Not checked		
		Position (drop-down list)	L-Upper, L-Lower, R-Upper, R-Lower		
		Camera selection	Checked/Not checked		
	Display title	Display (check box)	Checked/Not checked		
		Display (drop-down list)	Off, On		
		Display Title (check box)	Checked/Not checked		
		Display Title	(Text will be entered.)		
		Camera selection	Checked/Not checked		
	Indicator	Indicator	On, On (Access), Off		
		Camera selection	Checked/Not checked		
	Transmission priority	Setting items (Transmission priority)	Frame rate, Advanced VBR, VBR		
		Stream1	Checked/Not checked		
		Stream2	Checked/Not checked		
		Setting items (Priority setting)	Checked/Not checked		
		Priority setting	Image quality priority, Frame rate priority		
		Setting items (Burst tolerance level)	Checked/Not checked		
		Burst tolerance level	High, Middle, Low		

Menu/Tab	Setting item (including those of the "Advanced setup" menu)		Available range	Default	Remarks
Camera setup	Transmission priority	Setting items (Control time period)	Checked/Not checked		
		Control time period	1 h, 6 h, 24 h, 1 week		
		Setting items (Smart coding (GOP control))	Checked/Not checked		
		Smart coding (GOP control)	Off, On (Advanced)		
		Camera selection	Checked/Not checked		
	Refresh interval	Refresh interval	0.2 s, 0.5 s, 1 s, 2 s, 3 s		
		Camera selection	Checked/Not checked		
	Upside-down	Upside-down	On (desktop), Off (ceiling), Wall		
		Camera selection	Checked/Not checked		
	Image rotation	Image rotation	0 °(Off), 90 °, 180 °(Upside-down), 270 °		
		Camera selection	Checked/Not checked		
	Pan/tilt-flip	Pan/tilt-flip	Off, On		
		Camera selection	Checked/Not checked		
	Super Dynamic (Wide dynamic range)	Super Dynamic (Wide dynamic range)	Off, On, On (High)		
		Camera selection	Checked/Not checked		
	Adaptive black stretch	Adaptive black stretch	Off, On		
		Camera selection	Checked/Not checked		
	Back light compensation (BLC)	Back light compensation (BLC)	Off, On		
		Camera selection	Checked/Not checked		
	Light control mode	Light control mode	Outdoor scene, Indoor scene (50Hz), Indoor scene (60Hz), ELC		
		Camera selection	Checked/Not checked		
	Auto slow shutter (Maximum shutter)	Auto slow shutter (Maximum shutter)	Off (1/30 s), Max. 2/30s, Max. 4/30s, Max. 6/30s, Max. 10/30s, Max. 16/30s		
		Camera selection	Checked/Not checked		
	Day & Night (IR/electrical)	Day & Night (IR/electrical)	Off, On, On (IR Light On), Auto1 (Normal)/Auto, Auto2 (IR Light), Auto3 (SCC)		
		Camera selection	Checked/Not checked		
	Intelligent auto	Intelligent auto	Off, On		
		Camera selection	Checked/Not checked		
VMD alarm	VMD alarm	Off, On			
	Detection sensitivity	1(Low), 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15(High)			
	Camera selection	Checked/Not checked			
Microphone sensitivity	Microphone sensitivity	0 High sensitivity, 1, 2, 3 Default, 4, 5 Low sensitivity	1		
	Microphone selection	Checked/Not checked			
Advanced setup	Connection method		RTP, RTSP, Internet mode	RTSP	◎

Menu/Tab	Setting item (including those of the "Advanced setup" menu)	Available range	Default	Remarks		
REC & event						
Recording setup	Schedule1 Days to record	Mon, Tue, ..., Sun	Checked/Not checked	Checked		
	Schedule1 Schedule to record	Time table1	Schedule bar	--:-- , 00:00 - 24:00	Schedule bar 1: 00:00 - 24:00 Schedule bar 2 ~ Schedule bar 6: --:-- - -:--	
			Schedule recording	Checked/Not checked	Checked	
			Event recording	Checked/Not checked	Checked	
			e-Mail	Checked/Not checked	Not checked	
			TCP alarm notification	Checked/Not checked	Not checked	
Recording setup (All cameras)	Frame rate		1 ips, 3 ips, 5 ips, 10 ips, 15 ips, 30 ips	10 ips	●	
	Image quality		NQ, FQ, SF, XF	FQ	●	
	Referenced recording days		(Calculated result will be displayed.)	(Calculated result will be displayed.)		
Schedule1 Advanced setup	Days to record (Mon, Tue, ..., Sun)		Time table1, Time table2, Off	Time table1	◎	
	Event recording	Event recording duration	2 s, 5 s, 10 s, 20 s, 30 s, 1 min, 2 min, 3 min, 5 min, 10 min, 15 min, Manual, Ext.	30 s	◎	
		Pre-event duration	0 s, 5 s, 10 s, 15 s	0 s	◎	
	Schedule to record	Time table1- Schedule bar		--:-- , 00:00 - 24:00	Schedule bar 1: 00:00 - 24:00 Schedule bar 2 ~ Schedule bar 6: --:-- - -:--	◎
		Time table1- Schedule recording		Checked/Not checked	Checked	◎
		Time table1- Event recording		Checked/Not checked	Checked	◎
		Time table1- e-Mail		Checked/Not checked	Not checked	◎
		Time table1- TCP alarm notification		Checked/Not checked	Not checked	◎
		Time table2- Schedule bar		--:-- , 00:00 - 24:00	Schedule bar 1 ~ Schedule bar 6: --:-- - -:--	◎
		Time table2- Schedule recording		Checked/Not checked	Checked	◎
		Time table2- Event recording		Checked/Not checked	Checked	◎
		Time table2- e-Mail		Checked/Not checked	Not checked	◎
		Time table2- TCP alarm notification		Checked/Not checked	Not checked	◎
		Display the schedule list.		(Indication only)	(Indication only)	

Menu/Tab	Setting item (including those of the "Advanced setup" menu)	Available range	Default	Remarks		
Recording setup	Schedule2 ~ Schedule16 Advanced setup	Days to record (Mon, Tue, ..., Sun)	Time table1, Time table2, Off	Time table1	⊙	
		Event recording	Event recording duration	2 s, 5 s, 10 s, 20 s, 30 s, 1 min, 2 min, 3 min, 5 min, 10 min, 15 min, Manual, Ext.	30 s	⊙
			Pre-event duration	0 s, 5 s, 10 s, 15 s	0 s	⊙
		Schedule to record	Time table1- Schedule bar	--:-- , 00:00 - 24:00	Schedule bar 1 ~ Schedule bar 6: --:-- - -:--	⊙
			Time table1- Schedule recording	Checked/Not checked	Checked	⊙
			Time table1- Event recording	Checked/Not checked	Checked	⊙
			Time table1- e-Mail	Checked/Not checked	Not checked	⊙
			Time table1- TCP alarm notification	Checked/Not checked	Not checked	⊙
			Time table2- Schedule bar	--:-- , 00:00 - 24:00	Schedule bar 1 ~ Schedule bar 6: --:-- - -:--	⊙
			Time table2- Schedule recording	Checked/Not checked	Checked	⊙
			Time table2- Event recording	Checked/Not checked	Checked	⊙
			Time table2- e-Mail	Checked/Not checked	Not checked	⊙
			Time table2- TCP alarm notification	Checked/Not checked	Not checked	⊙
			Display the schedule list.	(Indication only)	(Indication only)	
Advanced recording setup	Model		(Registered information will be displayed.)	(Registered information will be displayed.)	⊙	
	Compression	(Registered information will be displayed.)	(Registered information will be displayed.)	⊙		
	Image capture size	When the aspect ratio is 4:3 VGA(640×480)/ SVGA(800×600)/ SXVGA(1280×960)/ UXGA(1600×1200)/ QXGA(2048×1536)/ 5M(2560×1920)/ 12M(4000×3000) When the aspect ratio is 16:9 HVGAW(640×360)/ HD(1280×720)/ FHD(1920×1080)/ WQHD(2560×1440)/ 4KUHD(3840×2160) When the aspect ratio is 1:1 1.6M(1280×1280)/ 4M(2048×2048)/ 5M(2192×2192)/ 8M(2816×2816)/ 9M(2992×2992) When the aspect ratio is 9:16 0.2M(360×640)/ 1M(720×1280)/ 2M(1080×1920)	VGA(640×480)	⊙		

Menu/Tab	Setting item (including those of the "Advanced setup" menu)	Available range	Default	Remarks	
Recording setup	Advanced recording setup	Rate	1 ips, 3 ips, 5 ips, 10 ips, 15 ips, 25 ips, 30 ips, 50 ips, 60 ips	10 ips	⊙
		Quality	NQ, FQ, SF, XF	FQ	⊙
		Audio	[Camera] Off, On, On(G.711)*, On(AAC-LC) [Network Microphone] Off, Cam.1, ..., Cam.16	Off	⊙
		Schedule	Schedule1, Schedule2, ..., Schedule16	Schedule1	⊙
		Event	1 ips, 3 ips, 5 ips, 10 ips, 15 ips, 25 ips, 30 ips, Same as the basic	Same as the basic	⊙
		Emergency	1 ips, 3 ips, 5 ips, 10 ips, 15 ips, 25 ips, 30 ips, Same as the basic	Same as the basic	⊙
		Referenced recording days	(Calculated result will be displayed.)	(Calculated result will be displayed.)	⊙
Event setup	Alarm action	Output duration	0 s, 2 s, 5 s, 10 s, 20 s, 30 s, 1 min, Ext., Rec.	2 s	⊙
		Buzzer duration	0 s, 2 s, 5 s, 10 s, 20 s, 30 s, 1 min, Ext., Rec.	2 s	⊙
		Auto reset time	2 s, 5 s, 10 s, 20 s, 30 s, 1 min, 3 min, 5 min, Ext.	Ext.	⊙
		Message display	Off, On	On	⊙
		Main monitor action	Off, On, On(ACK/RESET)	Off	⊙
		Event type	Checked/Not checked	Terminal alarm: Checked Camera site alarm: Checked Command alarm: Checked	⊙
		Display	Ctrl screen, Wide view	Ctrl screen	⊙
	Advanced terminal alarm setup	Mode	Off, Recording only, Recording & alarm action	Recording & alarm action	⊙
		Alarm log	Save, Not save	Save	⊙
		Setup by terminal (Recording camera)	Off, Cam.1, ..., Cam.16, All	Camera number associated with the terminal number	⊙
		Setup by terminal (Preset)	001 - 256, ---	---	⊙
		Setup by terminal (Terminal output)	Off, On	On	⊙
		Setup by terminal (Terminal input)	N.O., N.C.	N.O.	⊙
	Advanced camera site alarm setup	Mode	Off, Recording only, Recording & alarm action	Recording & alarm action	⊙
		Alarm log	Save, Not save	Save	⊙
Setup by camera (Recording camera)		Off, Cam.1, ..., Cam.16	Camera number	⊙	
Setup by camera (Preset)		001 - 256, ---	---	⊙	
Setup by camera (Terminal output)		Off, On	On	⊙	

\* Only selectable while not our camera is connected.

Menu/Tab	Setting item (including those of the "Advanced setup" menu)		Available range	Default	Remarks
Event setup	Advanced command alarm setup	Mode	Off, Recording only, Recording & alarm action	Recording & alarm action	⊙
		Alarm log	Save, Not save	Save	⊙
		Setup by command number (Recording camera)	Off, Cam.1, ..., Cam.16	Camera number	⊙
		Setup by command number (Preset)	001 - 256, ---	---	⊙
		Setup by command number (Terminal output)	Off, On	On	⊙
Advanced setup	Recording mode		Off, On	On	⊙
	Alarm disarm duration		2 s, 3 s, 5 s, 10 s	2 s	⊙
	TCP alarm port number		(Port No.)	1818	⊙
	Recording time of emergency recording		30 s, 1 min, 3 min, 5 min, 10 min, 15 min, 30 min, Manual, Ext.	30 s	⊙
	SD backup rec.		Off, On	Off	⊙
	Smart coding (GOP control)		Off, On (Advanced)	Off	⊙
	Sub-stream recording	Sub-stream recording	Off, On	Off	⊙
		Frame rate	1 ips, 3 ips, 5 ips, 10 ips	10 ips	⊙
		Bit rate	64 kbps, 128 kbps, 256 kbps, 384 kbps, 512 kbps, 768 kbps	768 kbps (H.264(2)) 512 kbps (H.265(2))	⊙
	Special days		1/1 ~ 12/31 Day: Mon, Tue, Wed, Thu, Fri, Sat, Sun	---	⊙
	Other setup	Make the frame rate of the pre-event recording to the frame rate of the event recording	Checked/Not checked	Not checked	⊙
Do not send the bit rate setting to a camera for which the same frame rate is set for the basic setup, event recording and emergency recording		Checked/Not checked	Not checked	⊙	

## Advanced setup

Menu/Tab	Setting item (including those of the "Advanced setup" menu)	Available range	Default	Remarks	
Monitor					
Main monitor	Camera title	Display	Off, On	On	⊙
		Position	L-Upper, L-Lower, R-Upper, R-Lower	R-Upper	⊙
		Camera title	(Text will be entered.)	CAM1, ..., CAM16	⊙
	Live sequence (Wide view)	Mode	1-screen live sequence, 4-screen live sequence, 9-screen live sequence, 16-screen live sequence	1-screen live sequence	⊙
		Keep aspect ratio	Checked/Not checked	Not checked	⊙
		Duration	3 s, 5 s, 10 s	5 s	⊙
		Camera selection	Checked/Not checked	Checked	⊙
	Other setup	Select multiscreen buttons displaying on wide view operation panel			⊙
		1-screen	Checked/Not checked	Checked, Fixed	⊙
		4-screen	Checked/Not checked	Checked	⊙
		6-screen	Checked/Not checked	Not checked	⊙
		9-screen	Checked/Not checked	Checked	⊙
		16-screen	Checked/Not checked	Checked	⊙
		1-screen (pillar box)	Checked/Not checked	Not checked	⊙
		4-screen (pillar box)	Checked/Not checked	Not checked	⊙
		9-screen (pillar box)	Checked/Not checked	Not checked	⊙
		12-screen (pillar box)	Checked/Not checked	Not checked	⊙
		16-screen (pillar box)	Checked/Not checked	Not checked	⊙
		3-screen (unequally divided)	Checked/Not checked	Not checked	⊙
		9-screen (unequally divided)	Checked/Not checked	Not checked	⊙
		16-screen (unequally divided)	Checked/Not checked	Not checked	⊙
		3-screen (mixed ratio)	Checked/Not checked	Not checked	⊙
		4-screen (mixed ratio)	Checked/Not checked	Not checked	⊙
		2-screen (vertical)	Checked/Not checked	Not checked	⊙
		3-screen (vertical)	Checked/Not checked	Not checked	⊙
		4-screen (vertical)	Checked/Not checked	Not checked	⊙
		5-screen (vertical)	Checked/Not checked	Not checked	⊙
		6-screen (vertical)	Checked/Not checked	Not checked	⊙
	7-screen (vertical)	Checked/Not checked	Not checked	⊙	
	Other setup			⊙	
	Auto-hide the status display panel and the operation panel in wide view	Checked/Not checked	Not checked	⊙	
Stretch images to fit the areas in control screen display	Checked/Not checked	Not checked	⊙		

Menu/Tab	Setting item (including those of the "Advanced setup" menu)		Available range	Default	Remarks
Main monitor	Other setup	Fix the HDMI output to the following video mode	Checked/Not checked	Not checked	⊙
		Fix the HDMI output to the following video mode	4K, 1080p	4K	⊙
		Activate the time-saving playback	Checked/Not checked	Not checked	⊙
Sub monitor	Camera title	Display	Off, On	On	⊙
	Display settings	Mode	1-screen live sequence, 4-screen live sequence, 9-screen live sequence, 16-screen live sequence, Switch by alarm terminal input	1-screen live sequence	⊙
		Keep aspect ratio	Checked/Not checked	Not checked	⊙
		Duration	3 s, 5 s, 10 s	5 s	⊙
		Camera selection	Checked/Not checked	Not checked	⊙
		Secret view	Off, On	Off	⊙
Web browser	Group display of camera tree	Group display	Off, On	Off	★
		Group title	(Text will be entered.)	G1: Group1, ..., G8: Group8	★
		Grouping	G1, G2, G3, G4, G5, G6, G7, G8	Cam.1 ~ Cam.16: G1	★
Advanced setup	Audio output camera		Selected camera, Cam.1, ..., Cam.16	Selected camera	⊙
	Video format of sub-monitor (BNC)		NTSC, PAL	NTSC	⊙
	Other setup	Detect a power-off of the sub monitor (HDMI)	Checked/Not checked	Checked	⊙
		Display 1-screen live image on stream 2	Checked/Not checked	Not checked	⊙
<b>Network</b>					
Basic	Network Setup [Camera/PC port]	IP address	(IP address)	192.168.0.250	⊙
		Subnet mask	(IP address)	255.255.255.0	⊙
		Default gateway	(IP address)	192.168.0.1	⊙
		Line speed	Auto, 100M-Full, 100M-Half, 10M-Full, 10M-Half	Auto	⊙
	Network Setup [PC port]	IP address	(IP address)	0.0.0.0	⊙
		Subnet mask	(Subnet mask)	0.0.0.0	⊙
		Default gateway	(Common settings with the Camera/PC port)	192.168.0.1	⊙
		Line speed	Auto, 100M-Full, 100M-Half, 10M-Full, 10M-Half	Auto	⊙
	DNS Setup	DNS	Off, Manual	Off	⊙
		Primary server address	(IP address)	0.0.0.0	⊙
		Secondary server address	(IP address)	0.0.0.0	⊙
		Domain name	(Text will be entered.)	localdomain	⊙
	DDNS Setup	DDNS	Off, Viewnetcam.com	Off	⊙
	Other setup	HTTP port number	(Port No.)	80	⊙
		FTP port number	(Port No.)	21	⊙
		Attach the alteration detection code (FTP)	Off, On	Off	⊙
		Internet mode (This product → PC)	Off, On, Auto	Off	⊙



Menu/Tab	Setting item (including those of the "Advanced setup" menu)		Available range	Default	Remarks
Basic	Other setup	Port forwarding	Off, On	On	⊙
		Port setup	(Port No.)	60001 (Cam.1) ~ 60016 (Cam.16)	⊙
		Easy IP Setup accommodate period	20 min, Unlimited	20 min	⊙
e-Mail	e-Mail setup	SMTP server address	(Text will be entered.)	(Blank)	⊙
		SMTP port number	(Port No.)	25	⊙
		POP server address	(Text will be entered.)	(Blank)	⊙
		Authentic method	None, POP before SMTP, SMTP	None	⊙
		User name	(Text will be entered.)	(Blank)	⊙
		Password	(Text will be entered.)	(Blank)	⊙
		Sender's address	(Text will be entered.)	NWDR	⊙
		Security	Off, SMTP over SSL, STARTTLS	Off	⊙
		Destination address (Address)	(Text will be entered.)	(Blank)	⊙
		Destination address (Warning)	Checked/Not checked	Checked	⊙
		Destination address (Alarm)	Checked/Not checked	Checked	⊙
TCP alarm notification	TCP alarm notification	Port number(to PC)	(Port No.)	1818	⊙
		Retry	0, ..., 8	2	⊙
		Destination address (Address)	(Text will be entered.)	(Blank)	⊙
NTP/SNMP	NTP setup	Time adjustment	Off, On	Off	⊙
		Primary server address	(Text will be entered.)	(Blank)	⊙
		Secondary server address	(Text will be entered.)	(Blank)	⊙
	SNMP setup	Community	(Text will be entered.)	(Blank)	⊙
		System name	(Text will be entered.)	(Blank)	⊙
		Location	(Text will be entered.)	(Blank)	⊙
		Contact	(Text will be entered.)	(Blank)	⊙
<b>User management</b>					
Basic	Operation	Auto login	Off, On	On	⊙
		Auto login user	(Select from the registered user names.)	(Administrator)	⊙
		Quick login	Off, On	Off	⊙
		Auto logout	Off, After 1 min, After 3 mins, After 5 mins, After 30 mins	Off	⊙
	Network	User authentication	Off, On	On	⊙
		Host authentication	Off, On	Off	⊙
	User level settings	Camera operation	Checked/Not checked	Manager: (Checked, Fixed) Operator: (Checked, Fixed) Viewer: (Checked, Fixed) Logged out: Checked	⊙
		Camera control	Checked/Not checked	Manager: (Checked, Fixed) Operator: Checked Viewer: Not checked Logged out: (Not checked, Fixed)	⊙
		Search and playback	Checked/Not checked	Manager: (Checked, Fixed) Operator: Checked Viewer: Checked Logged out: (Not checked, Fixed)	⊙

Menu/Tab	Setting item (including those of the "Advanced setup" menu)	Available range	Default	Remarks	
Basic	User level settings	Copy	Checked/Not checked	Manager: (Checked, Fixed) Operator: Not checked Viewer: Not checked Logged out: (Not checked, Fixed)	⊙
		Alarm reset	Checked/Not checked	Manager: (Checked, Fixed) Operator: Checked Viewer: Not checked Logged out: (Not checked, Fixed)	⊙
		Error reset	Checked/Not checked	Manager: (Checked, Fixed) Operator: Checked Viewer: Not checked Logged out: (Not checked, Fixed)	⊙
		Setup	Checked/Not checked	Manager: (Checked, Fixed) Operator: Not checked Viewer: Not checked Logged out: (Not checked, Fixed)	⊙
		Camera image display	Checked/Not checked	Manager: (Checked, Fixed) Operator: Checked Viewer: Checked Logged out: Checked	⊙
User registration	Register new user	User name	(Text will be entered.)	(Blank)	⊙
		Password	(Text will be entered.)	(Blank)	⊙
		Level	Manager, Operator, Viewer	Operator	⊙
		Default screen*	Cam.1, ... , Cam.16, 4Screen-(1), ... , 4Screen-(4), 9Screen-(1), 9Screen-(2), 16Screen-(1), Sequence(Wide view), 1Screen(Wide view), 4Screen(Wide view), 9Screen(Wide view), 16Screen(Wide view)	4Screen-(1)	⊙
Administrator setup	Edit administrator information	Administrator name	(Text will be entered.)	(Blank)	⊙
		Password	(Text will be entered.)	(Blank)	⊙
		Password (Retype)	(Text will be entered.)	(Blank)	⊙
		Level	Administrator	Administrator	⊙
		Default screen*	Cam.1, ... , Cam.16, 4Screen-(1), ... , 4Screen-(4), 9Screen-(1), 9Screen-(2), 16Screen-(1), Sequence(Wide view), 1Screen(Wide view), 4Screen(Wide view), 9Screen(Wide view), 16Screen(Wide view)	4Screen-(1)	⊙
Host registration	Register new host	Host IP address	(IP address)	(Blank)	⊙
		Level	Manager, Operator, Viewer	Manager	⊙
		Default screen*	Cam.1, ... , Cam.16, 4Screen-(1), ... , 4Screen-(4)	4Screen-(1)	⊙

\* The available range of the default screen differs according to the number of camera licenses.

Menu/Tab	Setting item (including those of the "Advanced setup" menu)	Available range	Default	Remarks	
Maintenance					
System information	Software version	(Indication only)	(Indication only)	⊙	
	Hardware version	(Indication only)	(Indication only)	⊙	
	Serial number	(Indication only)	(Indication only)	⊙	
	Network port [Camera/PC port]	MAC address	(Indication only)	(Indication only)	⊙
		IP address	(Indication only)	(Indication only)	⊙
		Line speed	(Indication only)	(Indication only)	⊙
	Network port [PC port]	MAC address	(Indication only)	(Indication only)	⊙
		IP address	(Indication only)	(Indication only)	⊙
		Line speed	(Indication only)	(Indication only)	⊙
	Internal temperature	(Indication only)	(Indication only)	⊙	
	Highest temperature	(Indication only)	(Indication only)	⊙	
	SD card information of camera	Software	(Indication only)	(Indication only)	⊙
		SD card model number	(Indication only)	(Indication only)	⊙
		Operation time	(Indication only)	(Indication only)	⊙
Overwrite time		(Indication only)	(Indication only)	⊙	
Backup progress information		(Indication only)	(Indication only)	⊙	
HDD information	Capacity	(Indication only)	(Indication only)	⊙	
	Operation	(Indication only)	(Indication only)	⊙	
	Status	(Indication only)	(Indication only)	⊙	
	Recorded time range	(Indication only)	(Indication only)	⊙	
	Overwrite cycle	(Indication only)	(Indication only)	⊙	
	Set password for HDD viewer	Off, On	Off	⊙	
	Password	(Text will be entered.)	(Blank)	⊙	
	Retype password	(Text will be entered.)	(Blank)	⊙	
	Save HDD viewer (to USB medium)	(None)	(None)		
	Download HDD viewer	(None)	(None)	★	
System management	System setup	Error output duration	0 s, 2 s, 5 s, 10 s, 20 s, 30 s, 1 min, Ext.	2 s	⊙
		Error buzzer duration	0 s, 2 s, 5 s, 10 s, 20 s, 30 s, 1 min, Ext.	2 s	⊙
		HDD hour meter warning	Off, 10000 h, 20000 h, 30000 h, 40000 h, 50000 h	20000 h	⊙
		Auto data delete	Off, 1 day, ..., 10 days, 14 days, 30 days, 45 days, 60 days, 90 days, 120 days, 150 days, 180 days, 184 days	Off	⊙
		Camera time auto synchronization	Off, On	On	⊙
	Logs	Access log (Date & Time / Log)	(Indication only)	(Indication only)	⊙
		Operation log (Date & Time / Log)	(Indication only)	(Indication only)	⊙
		Network log (Date & Time / Log)	(Indication only)	(Indication only)	⊙
	Entry information of the key management system	MPR ID	(None)	(Unique number given to the device)	⊙
		Activation Key No.	(None)	Refer to the Activation Key Card.	
		Registration ID	(None)	Refer to the Activation Key Card.	

Menu/Tab	Setting item (including those of the "Advanced setup" menu)		Available range	Default	Remarks
System management	Registration of license	Product-Registration Key	(Text will be entered.)	(Blank)	⊙
	Additional camera	Registration Key 1	(Text will be entered.)	(Blank)	⊙
	Additional business intelligence	Registration Key	(Text will be entered.)	(Blank)	⊙
	Dealer's information		(Text will be entered.)	(Blank)	⊙
	Secure communication	Registration Key 1~16	(Text will be entered.)	(Blank)	⊙
		Total number of licenses	(Indication only)	(Indication only)	⊙
	Functions for maintenance	Reset all settings	(None)	(None)	⊙
		Save data (to USB medium)	(None)	(None)	
		Load data (from USB medium)	(None)	(None)	
		Firmware update	(None)	(None)	⊙
		Save maintenance data (to USB medium)	(None)	(None)	
		Synchronize the camera's time with this unit	(None)	(None)	⊙
		Synchronize the camera's settings with this unit	(None)	(None)	⊙
		Acquire the SD backup data from camera	(None)	(None)	⊙
Reboot this product		(None)	(None)	⊙	
Boot this product in the board replacement mode.		Single mode, Mirroring mode	(None)	⊙	
Clear the maximum temperature record information.	(None)	(None)	⊙		
HDD management					
General	HDD information	Capacity	(Indication only)	(Indication only)	⊙
		Operation	(Indication only)	(Indication only)	⊙
		Status	(Indication only)	(Indication only)	⊙
		Recorded time range	(Indication only)	(Indication only)	⊙
	Format HDD	HDD information (Capacity)	(Indication only)	(Indication only)	⊙
		HDD information (Operation)	(Indication only)	(Indication only)	⊙
		HDD information (Status)	(Indication only)	(Indication only)	⊙
		HDD information (Format)	Checked/Not checked	Not checked	⊙
		HDD information (Results)	(Indication only)	(Indication only)	⊙
	Remove HDD	HDD information (Capacity)	(Indication only)	(Indication only)	⊙
		HDD information (Operation)	(Indication only)	(Indication only)	⊙
		HDD information (Status)	(Indication only)	(Indication only)	⊙

Menu/Tab	Setting item (including those of the "Advanced setup" menu)		Available range	Default	Remarks	
General	Remove HDD	HDD information (Remove)	Checked/Not checked	Not checked	⊙	
		HDD information (Results)	(Indication only)	(Indication only)	⊙	
	Add HDD	HDD information (Capacity)	(Indication only)	(Indication only)	⊙	
		HDD information (Operation)	(Indication only)	(Indication only)	⊙	
		HDD information (Status)	(Indication only)	(Indication only)	⊙	
		HDD information (Add)	Checked/Not checked	Checked	⊙	
		HDD information (Results)	(Indication only)	(Indication only)	⊙	
		Change the operation mode of HDD	HDD information (Capacity)	(Indication only)	(Indication only)	⊙
	HDD information (Operation)		(Indication only)	(Indication only)	⊙	
	HDD information (Status)		(Indication only)	(Indication only)	⊙	
	HDD information (Results)		(Indication only)	(Indication only)	⊙	
	Operation mode of HDD		Single mode, Mirroring mode	Mirroring mode	⊙	
	Extra function					
	Security	Security between this product and PC	Connection	HTTP & HTTPS, HTTPS	HTTP & HTTPS	⊙
			HTTPS port number	(Port number)	443	⊙
Security between this product and camera*		Connection	HTTP, HTTPS	HTTP	⊙	
		Port number	(Port number)	443	⊙	
		Data encryption setting	Off, On	Off	⊙	
Business intelligence	Face matching	Face matching alarm	Off, On	Cam.1: Off, Cam.2: Off	⊙	
		Face matching output	Off, On	Cam.1: On, Cam.2: On	⊙	
		Usage pattern	Non-shared, Share	Cam.1: Non-shared, Cam.2: Non-shared	⊙	
		Alarm log	Save, Not save	Save	⊙	
	Statistics	Accumulate statistics data	Off, On	Cam.1: Off, Cam.2: Off	⊙	
		Usage pattern	Non-shared, Share	Cam.1: Non-shared, Cam.2: Non-shared	⊙	
	Face registration	Registration list-Sensitivity	1(Low), 2, 3, 4, 5(High)	3		
		Registration list-Face image	(None)	(None)		
		Registration list-Appearance	(None)	(None)		
		Registration list-Name	(Text will be entered.)	"Person01", ... , "Person100"		
		Registration list-Matching	On, Off	Off		
	Concurrent user license	Concurrent user license	Client Identifier/Date&Time/Status	(Indication only)	(Indication only)	⊙

\* When registering the secure communication kit (option) license.

# About the error logs and the network logs

## Error logs

This section describes the display contents on the status display panel of the main monitor, the logs of error occurrence (error logs) and their details.

The display contents of each error logs are common between the main monitor and the web browser.

- "y" indicates the HDD (hard disk drive) number.
- "f" indicates the cooling fan number.
- "cc" indicates the camera number.

Description	Display of the status display panel	Error log	Output from connector
Thermal error warning	Thermal error: MAIN	Thermal error: MAIN	Recorder error
FAN warning	Fan error: MAIN f	Fan error: MAIN f	Recorder error
NW camera error detection	Communication error: Cam.cc	Communication error: Cam.cc	Camera error
NW camera error recovery	–	Communication recovered: Cam.cc	–
NW camera error detection (audio)	Audio communication error: Cam.cc	Audio communication error: Cam.cc	Camera error
NW camera error recovery (audio)	–	Audio communication recovered: Cam.cc	–
Video loss (Notification of video input signal loss occurred on the encoder)	Video loss: Cam.cc	Video loss: Cam.cc	Camera error
Video loss recovery (Notification of video input signal loss recovered on the encoder)	–	Video recovered: Cam.cc	–
Recording error detection	Recording error	Recording error (RCA) Recording error (AGT): Cam.cc Recording error (WCK): Cam.cc	HDD error / Recording error output
SMART warning	SMART warning: MAIN-y	SMART warning: MAIN-y	HDD error / Recording error output
Slow response	Slow response: MAIN-y	Slow response: MAIN-y	HDD error / Recording error output
HDD hour meter warning	Hour meter warning: MAIN-y	Hour meter warning: MAIN-y	HDD error / Recording error output
HDD skip*	–	HDD skip: MAIN-y	–
HDD write error	–	Write error: MAIN-y	–
HDD read error	–	Read error: MAIN-y	–
Remove auto links (per HDD)	HDD removed: MAIN-y	HDD logically removed: MAIN-y	HDD error / Recording error output
HDD format error	Format error: MAIN-y	Format error: MAIN-y	HDD error / Recording error output
HDD removal error (Properly recognized HDD was removed without proper operations.)	Swap warning: MAIN-y	Swap warning: MAIN-y	HDD error / Recording error output
Reboot (Related to CPU)	–	System reboot (Related to CPU)	–

Description	Display of the status display panel	Error log	Output from connector
Reboot (Related to DEC)	–	System reboot (Related to DEC)	–
Failed to write data on the media	Copy error	Write error: USB	–
Failed to read the data from the media	–	Read error: USB	–
Copy media FULL	–	No available space: USB	–
Number of data on the copy medium exceeded	–	Over limitation: USB	–
NW link error	Network link error	Network link error: Camera/ PC port Network link error: PC port	Network error
Line speed warning (When line speed becomes "Half" while "Auto" is being set)	Line speed warning	Line speed warning: Camera/PC port Line speed warning: PC port	–
When time is not adjusted due to the time difference of 1000 second or more from the NTP server	Skip time adjustment	Skip time adjustment	–
Failed to resolve an address of TCP alarm notification from DNS	–	Address error: TCP ALARM	Network error
No response from a notified address of TCP alarm notification	–	No response: TCP ALARM	Network error
Undefined error of TCP alarm notification	–	Other error: TCP ALARM	Network error
Complete mirroring recovery	–	Complete mirroring recovery	–
Undetected sub monitor	Undetected sub monitor	Undetected sub monitor	–
Camera SD Card error	Backup error: Cam.cc	[SD]Card error: Cam.cc	Camera error
Camera SD Write start failure	Backup error: Cam.cc	[SD]Start error: Cam.cc	Camera error
Camera SD Write end failure	Backup error: Cam.cc	[SD]End error: Cam.cc	Camera error
Camera SD List failure	Backup error: Cam.cc	[SD]Get list error: Cam.cc	Camera error
Camera SD Image acquisition failure	Backup error: Cam.cc	[SD]Get image error: Cam.cc	Camera error
Camera SD Image delete failure	Backup error: Cam.cc	[SD>Delete image error: Cam.cc	Camera error
Camera SD Accumulated recording time warning	SD life warning: Cam.cc	[SD]Long-term use warning: Cam.cc	Camera error
Camera SD Overwrite warning	SD life warning: Cam.cc	[SD]Overwrite warning: Cam.cc	Camera error
Camera SD Access error	SD access warning: Cam.cc	[SD]Access warning: Cam.cc	Camera error
Camera hardware error	Hardware error: Cam.cc	Hardware error: Cam.cc	Camera error
Wiper rubber replacement notice	Wiper rubber: Cam.cc	Wiper rubber: Cam.cc	Camera error
NW camera error detection (video)	Communication error: Cam.cc	Communication error: Cam.cc	Camera error
NW camera error recovery (video)	–	Video communication recovered: Cam.cc	–
Recorder login error	Login error	Login error	–

\* "HDD skip" is the function that continues recording on another hard disk drive even if an error occurs, such as an HDD write error.

# About the network log

This section describes the details on the network logs and their details. The network logs are displayed by selecting the "Maintenance" page - [System management] tab - [Network log] on the setup menu. Contents to be displayed are the same as when using the web browser.

Description	Network log	Output from connector
E-mail transmission complete	<SMTP>MAIL_SEND	-
SMTP authentication error	<SMTP>SMTP_ATTEST_ERR	Network error
POP3 authentication error	<SMTP>POP3_ATTEST_ERR	Network error
Failed to resolve POP3 server address from DNS	<SMTP>POP3_ADD_ERR	Network error
Failed to find POP3 server	<SMTP>POP3_SVR_ERR	Network error
Failed to resolve SMTP server address from DNS	<SMTP>SMTP_ADD_ERR	Network error
Failed to find SMTP server	<SMTP>SMTP_SVR_ERR	Network error
MAIL FROM command error	<SMTP>MAIL_FROM_ERR	Network error
RCPT TO command error	<SMTP>RCPT_TO_ERR	Network error
Other errors for SMTP	<SMTP>OTHER_ERR	Network error
FTP server transfer complete	<FTP>SVR_FWD_OK	-
Other error for FTP	<FTP>OTHER_ERR	Network error
Synchronization with the NTP server complete	<NTP>GET_TIME_OK	-
Failed to resolve NTP server address from DNS	<NTP>SVR_ADD_ERR	Network error
Synchronization with the NTP server failed (Time is not synchronized.)	<NTP>TIME_INVALID	Network error
Failed to adjust the time	<NTP>SET_TIME_ERR	Network error
Failed to find NTP server	<NTP>SVR_ERR	Network error
Other errors for NTP	<NTP>OTHER_ERR	Network error
Password error for SNMP user name	<SNMP>USER_PASS_ERR	Network error
SNMP object inquiry failure	<SNMP>OBJ_ERR	Network error
Other errors for SNMP	<SNMP>OTHER_ERR	Network error
Password error for HTTP user name	<HTTP>USER_PASS_ERR	Network error
HTTP download failure	<HTTP>DOWNLOAD_ERR	Network error
HTTP request invalid	<HTTP>REQUEST_ERR	Network error
Other errors for HTTP	<HTTP>OTHER_ERR	Network error



## Operation window

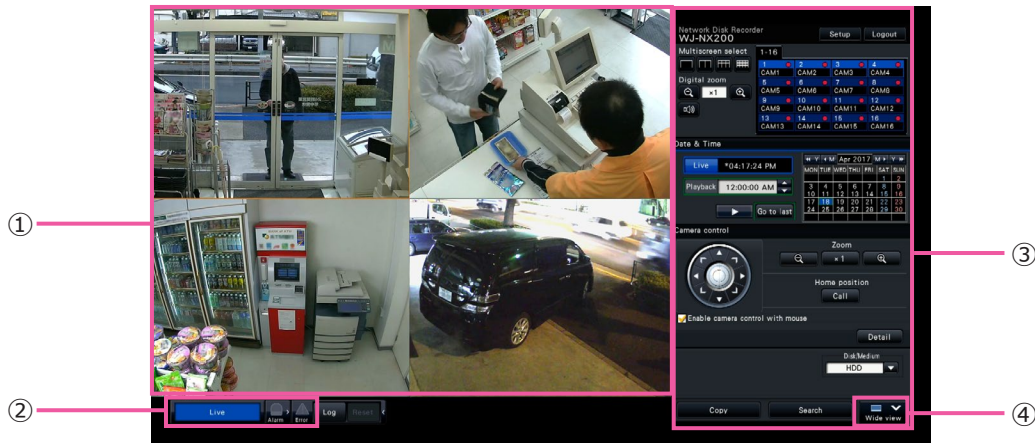
The recorder can be operated using the provided mouse connected to the mouse connection port on the recorder. When operating the recorder using a web browser, refer to "Network" (Page 148).

### Main monitor (A monitor to display the live image, the playback image and the setup menu)

The main monitor is used to switch between the control screen and the wide view.

### Ctrl screen

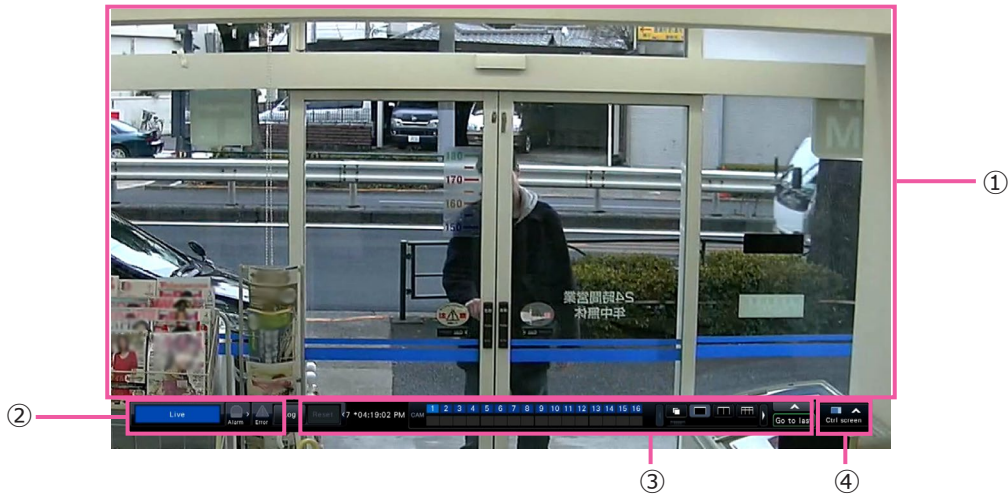
This screen will be displayed after startup. Main operations of this product can be performed on this screen.



- ① **Image display area**  
Displays images from the camera. (Page 100)
- ② **Status display panel**  
Displays the statuses of the recorder. Also displays alarm/error status and remedies. (Page 96)
- ③ **Operation panel, Date & time operation panel, Camera control panel**  
Used to switch between screens, to play back recordings, operate the camera and so on. Displays the current date & time.
- ④ **[Wide view] button**  
Switches the main monitor to wide view display.

## Wide view display

This view offers a large image display area, especially suited for monitoring live images. However, operations are restricted.



① **Image display area**  
Displays images from the camera. (☞ Page 100)

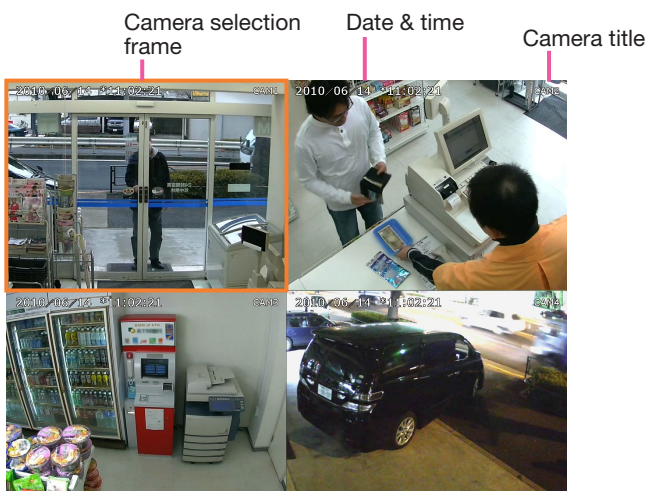
② **Status display panel**  
Displays the statuses of the recorder. Also displays alarm/error status and remedies. (☞ Page 96)  
When clicking alarm button or error button, this panel may be displayed overlapped on the operation panel.

③ **Operation panel**  
Switches between screens and screen patterns, playback recordings and so on.  
Displays the current date & time.

④ **[Ctrl screen] button**  
Switches the main monitor to control screen display.

## Image display area

Playback images and live images will be displayed.



### Camera title/date & time

The set camera title will be displayed. The display position can be selected from upper-left ("L-Upper"), lower-left ("L-Lower"), upper-right ("R-Upper") and lower-right ("R-Lower"). The default display position is "R-Upper". (Default: Upper right). Date & time will be displayed as set on the camera. The magnification is displayed around the camera title during zoom display in wide view.

### Camera selection frame

Displays the camera being operated. When using 1-screen/4-screen display (☞ Pages 106 and 107), the cameras can be operated with the mouse.

## Image display area

The number of images that can be displayed on the multiscreen differs for the control screen and the wide view screen.

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### Note:

- It is possible to select whether to display or hide the wide view multi-screen selection button. Refer to the "Set up the main monitor" section (☞ Page 46) for further information.
- 

The startup screen to be displayed upon login in the image display area (default screen) can be set for each login user.

The available screens that can be set as the default screen are as follows. Refer to page 60 for how to configure the default screen.

Cam.1, ..., Cam.16:	Each camera displayed on a 1-screen
4Screen-(1):	Camera 1 to 4 displayed on a 4-screen
⋮	
4Screen-(4):	Camera 13 to 16 displayed on a 4-screen
9Screen-(1):	Camera 1 to 9 displayed on a 9-screen
9Screen-(2):	Camera 10 to 16 displayed on a 9-screen
16Screen-(1):	Camera 1 to 16 displayed on a 16-screen
Sequence(Wide view):	Live sequence in wide view
1screen(Wide view):	1-screen display in wide view
4screen(Wide view):	4-screen display in wide view
9screen(Wide view):	9-screen display in wide view
16screen(Wide view):	16-screen display in wide view

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### Note:

- If any of the default screen other than "Cam.1" - "Cam.16" or "4Screen-(1)" - "4Screen-(4)" is selected, the 4-screen that automatically displays images from camera 1 to camera 4 will become the default screen of the web browser on the PC.
-

## About the status display panel

### Normal operation


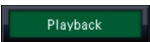

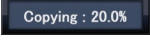
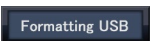


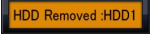
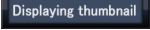


### In case of alarm/error (When the associated buttons are displayed)



#### ① Status display area

Recorder status indications and their details are shown in the table below. In the event that the recorder enters several statuses at the same time, these are displayed in their order of priority. If both statuses have the same priority, the one that occurred last will be displayed.

Status	Description	Example	Priority
Live	Live images are being displayed.		6 (Low)
During playback	Recorded images are being played.		6
Downloading SD data	Indicates that SD memory data is being obtained from camera.		4
Copying	Data is being copied. Copying progress is displayed in %.		3
Formatting USB	USB medium is being formatted.		3
In the alarm state	Indicates an alarm occurrence. Detailed information of the alarm will be displayed.		2
Emergency recording	Emergency recording is on.		2
In the error state	Indicates that an error has occurred. A detailed description of the error content will be displayed.		1
Displaying thumbnail	Thumbnail search screen is being displayed.		0 (High)

#### ② Alarm buttons

Indicate that an alarm has occurred. Turn red in the alarm state. Clicking the buttons will toggle between displaying/not displaying buttons such as the alarm log button and the alarm reset button.

#### ③ Error button

Indicate that an error has occurred. Turn yellow in the error state. Clicking the buttons will toggle between displaying/not displaying buttons such as the error log button and the error reset button.

### ④ Alarm log display button

The alarm log are displayed on the operation panel of the control screen. Up to 1000 alarm logs are saved. When more than 1000 logs are filed, the older logs will be overwritten by the newer logs. In this case, the oldest log is the first to be overwritten.

### ⑤ Alarm reset button

Cancels the alarm action. If the recording time of emergency recording is set to "Ext.", the emergency recording will be stopped. Clickable only in the alarm state and emergency recording state.

### ⑥ Error log display button

The error (trouble) logs are displayed on the operation panel of the control screen. Up to 1000 error logs are saved. When more than 1000 logs are filed, the older logs will be overwritten by the newer logs. In this case, the oldest log is the first to be overwritten.

### ⑦ Error reset button

Cancels the error (trouble) action. Clickable only in the error state.

## Sub monitor (monitor for display of live images only)

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### Important:

- Configuration and operation of the recorder from the sub monitor is not possible.
- 

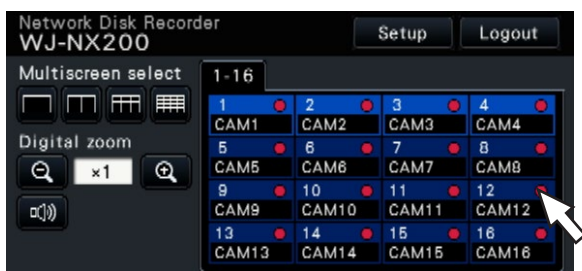
Live images from the specified cameras can be displayed on 1-screen or 4-screen/9-screen/16-screen on the sub monitor. When several cameras are selected on 1-screen or 4-screen/9-screen/16-screen, camera images will be switched sequentially at the selected switching interval (sequence display). In addition, camera images can be switched according to the signal input triggered by a terminal alarm. (Page 48)

---

### Note:

- The date & time and camera also appear on the camera image displayed on the sub monitor, but some characters may be cut off.
  - To display images, it is necessary to select the cameras to be displayed in the setup menu in advance. The recorder is not configured to display camera images by default.
  - Depending on the selected switching interval, a black screen may appear before camera images are displayed.
  - When the secret view function is selected, the single screen on the main monitor or selected images on a multiscreen will not be displayed.
  - While "1-screen live sequence" is being performed, the secret view images will be skipped (not displayed).
  - During 9-screen or 16-screen live sequence operation, the black screen is displayed when the camera image is switched.
  - The image of a camera where an error has occurred will not be displayed.
  - The size of displayed images will be fit into the screen regardless of the aspect ratio at the default setting. When the aspect ratio of the sub monitor (BNC) is 4:3, the vertically long images will be displayed compared with the images of the sub monitor (HDMI).
  - Depending on whether enabling or disabling the re-encoding transmission, the frame rate or the resolution of camera images on the sub monitor may vary, or the sub monitor may momentarily go black.
-



## Basic operations



To operate, use the mouse connected to the recorder to move the mouse cursor displayed on the main monitor and left-click the buttons or tabs displayed on the screen. (Hereinafter, "Left-click..." will be described as "Click..." in this document.)

In lines where the [▲]/[▼] buttons are displayed, the value on which the cursor is placed can be changed by turning the mouse wheel. For example, when setting date & time, the hours, minutes and seconds can be changed.

The shape of the mouse cursor will change as follows depending on the display screen and mouse operation.

-  : Normal operation
-  : When dragging a camera number panel (wide view screen)

---

### Note:

- When no operation is made for 10 seconds or more, the mouse cursor will be hidden. The mouse cursor will be displayed again when the mouse is moved.
  - It is impossible to connect a mouse to the mouse connection port if the connector from the mouse is upside down. When it is hard to connect, check the upside down position of the connector.
- 

## Logout

Click the [Logout] button. To log out, click the [OK] button in the confirmation window displayed.

---

### Note:

- If "On" is selected for the "Auto login" (☞ Page 57), login will be automatically performed by the user registered in "Auto login user" in the logged-out state.
-



## Login operation at startup

When "Off" is selected for "Auto login" (Page 57), the recorder will start up in the logged-out state after completing the system check.

When the operation window is displayed on the main monitor, enter a user name and password as follows:

### Step 1

Click the [Login] button on the operation screen.

→ The "Login" window will be displayed.

### Step 2

Enter a user name and password. For character entry, refer to "About the operation of on-screen keyboard" (Installation Guide Page 8).



- Refer to page 59 for how to register users.

### Note:

- When "On" is selected for "Quick login", the user name can be selected from the pull-down menu. The password entered will be displayed as "\*" marks.
- In the logged-out state or when a user other than administrative or manager privileges is logged, the login window will be displayed if tries to operate an unauthorized function.

### Step 3

Click the [OK] button.

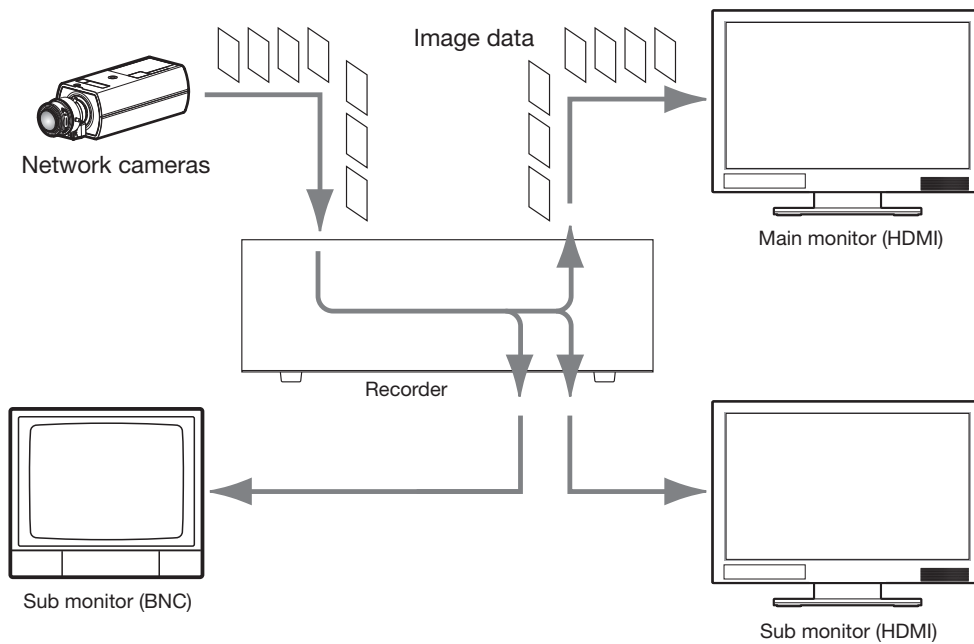
→ When the entered user name and password are correct, the login window will disappear and the login button will change to the logout button. When the entered user name and password are incorrect, the error window will be displayed. Close the error window and log in again.

### Note:

- The administrator is not registered when the recorder is purchased. Enter an administrator name, a password and the password retyping following the instruction on the display and click [Registration] as "Administrator registration" screen is displayed on the main monitor when you first launch the recorder.
- To enhance the security, change the administrator name and the password periodically. Refer to page 59 for how to change the password.
- To log out, click the [Logout] button on the operation screen.
- When a user logs out during copying, the copying will be canceled. (When operating the recorder using a web browser, it will take around 90 seconds until copying is stopped after the web browser is closed.) When the auto logout function is activated, logout will be executed when the specified time have passed after copying is completed.
- Displaying images in the logged-out state  
After startup with "Auto login" set to "Off", the "4Screen-(1)" will be displayed. When logging out during the login process, the same screen as right before logout will be displayed. (Which camera images the user is authorized to display depends on the user level set up.)
- When "On" is selected for "Auto login", it is unnecessary to perform the operations described on this page.

# Monitor live images

When the recorder started up, live images from cameras will be displayed according to the configured settings. Live images from cameras are displayed via the recorder.



It is possible to display live images on a 1-screen or on a multiscreen. Depending on the configuration of the sub monitor, the cameras can automatically be switched and images from the cameras can be displayed on 1-screen or multi-screen. (Page 48)

When displaying images from the camera for which "On" is selected for "Audio" under "Recording setup" (Page 38), audio captured by the camera will be output. When displaying images on a multiscreen, audio from the selected camera will be heard.

**Note:**

- Depending on the camera in use or network environment, the audio of live images from the camera may be delayed, but that may not affect the audio output from recorded images.
- Update processing of audio data will be performed to synchronize live images with audio. Due to the processing, the audio of live images from the camera may be momentarily interrupted, but that may not affect the audio output from recorded images.

## About the operation panel

Operations with live images differ depending on whether they are performed on the control screen or on the wide view screen.

### Control screen / Operation panel





## Multiscreen buttons

The 1-screen/4-screen/9-screen/16-screen buttons are displayed.

## Digital zoom buttons

When displaying images on a 1-screen or 4-screen, the images can be enlarged/reduced. (Page 108)

## Mute button

Each click of this button toggles between mute and mute cancel of the camera audio.

## Fisheye correction display button

Fisheye display button

Returns to the fisheye image display.

1-screen PTZ display button

Corrects the fisheye image and displays on the 1-screen PTZ.

4-screen PTZ display button

Corrects the fisheye image and displays on the 4-screen PTZ.

Only when the camera image is displayed on a 1-screen in a control screen, will the fisheye correction display button be displayed.

## Camera number tab

: Switches the camera number panel to display.

1-16: Displays a panel of Camera 1 ~ 16.

## Camera number panel

Camera number:

(Character color)

White: Camera is registered.

Gray: Camera is not registered.

(Background color)

Aqua: Image display area is displaying images

Blue: Camera is registered and image display area is not displaying images.

Gray: Recording is not possible or camera is not registered.

Camera title: Shows the first 8 characters of the previously entered camera title.


(Character color)

Same as camera number

(Background color)

Red: Event recording is being performed.

Black: Camera is not registered.

Recording indicator: Lights red when recording is being performed. Display of [  ] indicates a connection error.

## Note:

- When the camera number tab "1-16" is pressed, the camera number will not be displayed, but the camera title and the recording indicator will only be displayed.



Camera title: Shows the first 5 characters of the previously entered camera title.

(Character color)

White: Camera is registered.

Gray: Camera is not registered.

(Background color)

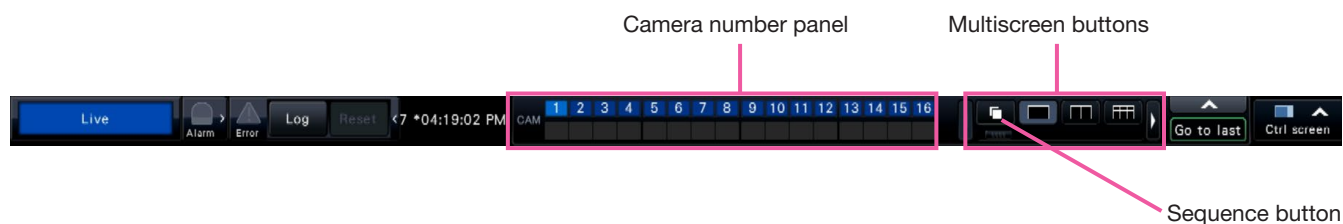
Aqua: Image display area is displaying images

Blue: Camera is registered and image display area is not displaying images.

Gray: Recording is not possible or camera is not registered.

Red: Event recording is being performed.

## Wide view operation panel



### Camera number panel

Camera number [CAM]:

(Character color)

White: Camera is registered.

Gray: Camera is not registered.

(Background color)

Aqua: Image display area is displaying images

Blue: Camera is registered and image display area is not displaying images.

Gray: Recording is not possible or camera is not registered.

Red: Event recording is being performed.

### Multiscreen buttons

#### Note:

- It is possible to hide/display the multi-screen selection buttons on the operation panel. Refer to the "Configure the settings relating to monitors" sections (Page 47) for further information.
- When 5 or more multi-screen selection buttons are displayed, it is possible to switch the position of displayed buttons using the left/right buttons or the slider.

### Sequence button

: Clicking of a sequence button can start the sequence. Clicking any multiscreen buttons other than the sequence button will terminate the sequence.

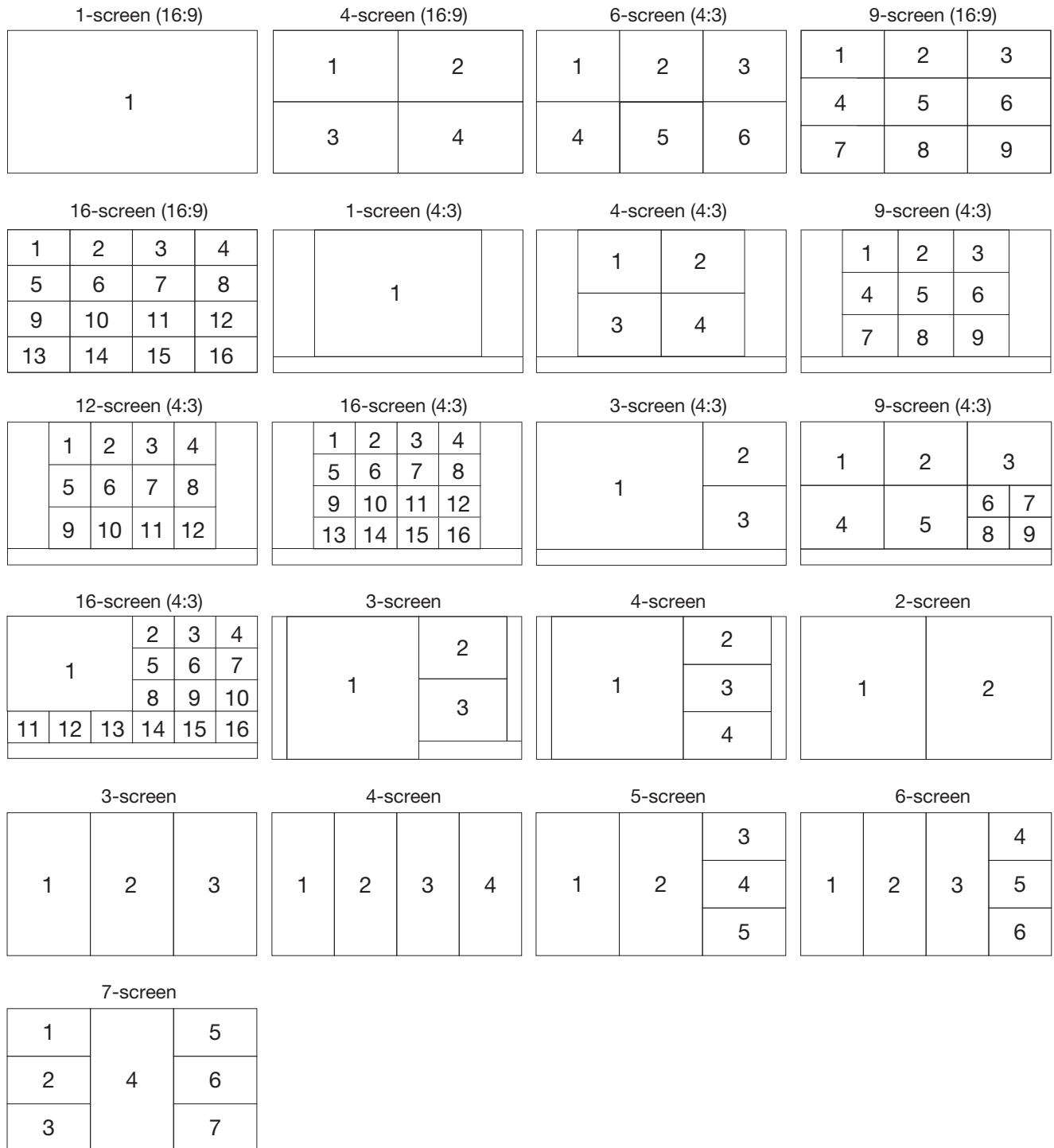
#### Note:

- During the sequence, the dragging & dropping of the camera number panel onto live images can't switch over camera images.
- During the sequence, the audio is not output. When fixing the audio output in "Audio output camera" found in the "Advanced Setup" section under "Monitor", the audio will be output.
- While recorded images are being played back, the sequence can't be started.
- Setting "Sequence(Wide view)" on the "Default screen" under "User Management>User registration" and "User management>Administrator setup" will start the sequence after login.
- When camera images are displayed in 9-screen/16-screen live sequence (4/9/16-screen live sequence during 4K output), a black screen is displayed at the time of the switchover of the camera images.
- The camera whose compression method is JPEG and whose resolution is set higher than 0.4M (640×640) can't display camera images in 9-screen live sequence and 16-screen live sequence.

# [Operation via recorder's main monitor]

## Change the camera display position on the screen

The default camera display positions are as follows:



It is possible to change the camera image by dragging & dropping the number of the camera number panel onto the desired display position. The position of the camera display can be replaced by the right-click menu on the image.

# [Operation via recorder's main monitor]

## Note:

- When a camera is assigned to a screen segment to which another camera is already assigned, the image of the camera originally assigned to that position will disappear.
- The assigned camera position is retained even if the recorder is rebooted (note however that initializing the settings will also reset the camera positions to the defaults).
- The audio of the camera assigned to the top left position will be output.
- If "Mute" was selected on the control screen, no audio will be output.
- The size of displayed images will be fit into the screen regardless of the aspect ratio if the aspect ratio of the original image is 4:3 or 16:9.
- Images may not be displayed in multi-screen depending on the resolution of the connected monitor or compression or the resolution of the registered camera.

[4K monitor connection, H.264/H.265, no sub-monitor display, no re-encoding transmission]

Image capture size Multiscreen display	HVGAW(640×360) ~ FHD(1920×1080)	QXGA(2048×1536) ~ 4KUHD(3840×2160)	9M (2992×2992)	12M (4000×3000)
1-screen ~ 4-screen display	○	○	○	○
5-screen/6-screen display	○	○	○	×
7-screen display/4-screen sequence	○	○	×	×
9-screen ~ 16-screen display	○	×	×	×

[4K/1080p monitor connection, JPEG, no sub-monitor display, no re-encoding transmission]

Image capture size Multiscreen display	SVGA(800×600) ~ SXVGA(1280×960)	1.6M (1280×1280)	QXGA(2048×1536) ~ 9M(2992×2992)	12M (4000×3000)
1-screen ~ 4-screen display	○	○	○	○
4-screen sequence, 5-screen ~ 7-screen display	○	○	○	×
9-screen ~ 16-screen display	○	○	×	×

[4K/1080p monitor connection, JPEG, sub-monitor display or re-encoding transmission]

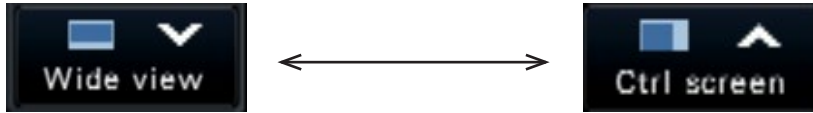
Image capture size Multiscreen display	SVGA(800×600) ~ SXVGA(1280×960)	1.6M (1280×1280)	QXGA(2048×1536) ~ 9M(2992×2992)	12M (4000×3000)
1-screen/2-screen display	○	○	○	○
3-screen/4-screen display	○	○	○	×
4-screen sequence, 5-screen ~ 16-screen display	○	×	×	×

## Switch between control screen and wide view screen

Camera images will be displayed on a full screen.

[Wide view] button of the control screen

[Ctrl screen] button of the wide view screen



### Step 1

Click the [Wide view] button (☐ Page 93) on the operation window.

→ Images from the camera will be displayed on a full screen. The 1-screen is displayed by default.

### Step 2

To return from the full screen to the control screen, click the [Ctrl screen] button.

→ The display reverts to the control screen. The image display area corresponds to the default screen set up by the login user. When a wide view screen is set as the default screen, "4Screen-(1)" will automatically be applied.

---

### Note:

- Clicking the [Wide view] button again will switch to the multiscreen displayed before.
-

## 1-screen display

Live images from cameras can be displayed on a 1-screen.

### Displaying images on a control screen

#### Step 1

When displaying in a multi-screen, click the 1-screen button of the "Multiscreen select".

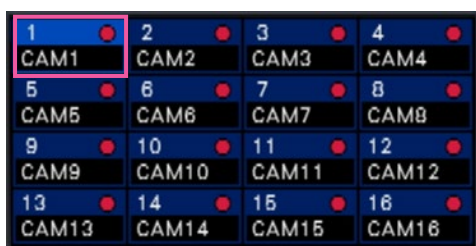
→ The image will be displayed on a 1-screen.

#### Step 2

Click the camera number panel of the desired image from the camera.

→ The background color of the selected camera number will turn aqua, and live images will be displayed.

Camera No. box in the control screen



If a camera that you want to display is not on the camera number panel, select it on the camera number tab and move to Step 2.

#### Note:

- Another way to display images on a 1-screen is to double-click the camera number panel of the camera to be selected in the image display area.
- In the multiscreen display area, double-clicking the camera selection frame is also possible to display an image on a 1-screen.
- The audio of the camera whose images are being displayed will be output. (It is possible to fix audio to be output on "Audio output camera" under "Advanced setup" under "Monitor".)
- At the default, black zones will be displayed on the top and bottom of images with the aspect ratio of 16:9. Refer to page 47 for the setting to enlarge the vertical size of displayed images.

### Displaying images on a wide view

#### Step 1

When displaying in a multi-screen, click the 1-screen button of the "Multiscreen select".

→ The image will be displayed on a 1-screen.

#### Step 2

Drag the camera No. to be displayed over the live image and drop it.

→ The background color of the selected camera number will turn aqua, and live images will be displayed.

Camera No. box in the wide view screen



#### Note:

- The camera can be selected by the right-click menu on the image display area.
- The audio of the camera whose images are being displayed will be output. (It is possible to fix audio to be output on "Audio output camera" under "Advanced setup" under "Monitor".)

## Display images from cameras on a multiscreen

Live images from cameras can be displayed on a multiscreen.

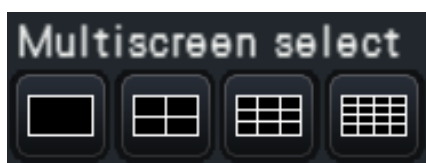
### Displaying images on a control screen

#### Step 1

Click one of the [Multiscreen select] buttons.

→ Live images from cameras will be displayed on a multi-screen.

Displaying images on a control screen



- 4-Screen button  
Displays images on the 4-screen including the selected camera. Each click of a button switches to the next 4 screens in the sequence: camera 1 to 4 → camera 5 to 8 → camera 9 to 12 → camera 13 to 16.
- 9-Screen button  
Displays images on the 9-screen including the selected camera. Each click of a button switches to the next 9 screens in the sequence: camera 1 to 9 → camera 10 to 16.
- 16-Screen button  
Displays images on the 16-screen including the selected camera. Each click of a button switches to the next 16 screens in the sequence: camera 1 to 16.

### Displaying images on a wide view

#### Step 1

Click one of the [Multiscreen select] buttons.

→ Live images from cameras will be displayed on a multiscreen.

[Multiscreen select] button of the wide view screen



#### Note:

- After having switched from multiscreen to 1-screen display, double-clicking the image display area will display the multiscreen displayed before switching screens.
- It is also possible to switch the images displayed on the 4-screen/9-Screen/16-Screen by clicking the camera number panel with the 4-screen/9-Screen/16-Screen displayed. (When the panel of camera 5 is clicked with the 1- to 4-screen displayed, the images of camera 5 to 8 will be displayed)
- The audio of the selected camera will be output. (It is possible to fix audio to be output on "Audio output camera" under "Advanced setup" under "Monitor".)
- At the default, black zones will be displayed on the top and bottom of images with the aspect ratio of 16:9. Refer to page 47 for the setting to enlarge the vertical size of displayed images.

#### Note:

- Cameras displayed on the multiscreen can be changed. Read Step 2 described in "Displaying images on a wide view" of "1-screen display".
- Clicking the sequence button can switch camera images automatically (live sequence display). The settings related to the live sequence display can be performed at "Live sequence (Wide view)" of [Monitor]-[Main monitor].
- The audio of the camera assigned to the top left position will be output. (It is possible to fix audio to be output on "Audio output camera" under "Advanced setup" under "Monitor".)

## Use digital zoom

Images on the 1-screen or 4-screen of the control screen, or the 1-screen in wide view can be digitally zoomed. It is also possible to move the zoomed area within the displayed image.

### Displaying images on a control screen


#### Note:

- Digital zoom is not available on the 9-screen/16-screen.
- To use this function on the 4-screen, do so after first selecting the desired camera image. To select a camera, click the camera number panel or the camera image. Once a camera has been selected, the selection frame will be displayed around the camera image.

#### Step 1

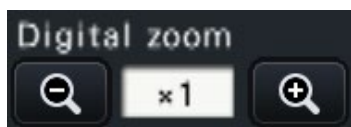
Confirm that the image display area is displayed on the 1-screen or 4-screen.  
(when displaying on the 4-screen, select the camera whose image is to be zoomed)

#### Step 2

Click the digital zoom buttons .

→ The displayed image will be enlarged  $\times 1$ ,  $\times 1.25$ ,  $\times 1.50$ ,  $\times 1.75$ ,  $\times 2$ ,  $\times 2.5$ ,  $\times 3$ ,  $\times 3.5$ ,  $\times 4$ ,  $\times 5$ ,  $\times 6$ ,  $\times 7$ ,  $\times 8$  centering on the center point of the screen.

Digital zoom buttons



#### Note:

- Clicking a point in the zoomed image makes the clicked point the center of the image.


### Displaying images on a wide view

#### Step 1


Confirm that the image display area is set to the 1-screen.

#### Step 2

Use the mouse wheel.  
→ Zooming is switched by  $\times 0.25$  from  $\times 1$  to  $\times 2$ , by  $\times 0.5$  from  $\times 2$  to  $\times 4$  and by  $\times 1$  from  $\times 4$  to  $\times 8$  centering the position of the mouse cursor.  
Click of the image during zoom display changes the center to the clicked position.

- If "Enable camera control with mouse" on the camera control panel ( Page 110) is not checked, the digital zoom factor can also be changed by placing the cursor on the image in the image display area and turning the mouse wheel. In this case, the point where the mouse cursor is positioned will become the zoom center.
- If the image resolution is too small compared with the size of the image display area, the digital zoom levels off and the image cannot be displayed at the assigned magnification.


#### Step 3

Click the digital zoom button  to zoom out the image by the magnification opposite to the Step 2.

#### Note:

- Digital zoom is automatically canceled by other operations such as selecting another camera or changing the screen pattern.

#### Note:

- The magnification is displayed around the camera title during the zoom display. If the camera title is not displayed, the zoom magnification will not be displayed. You can set whether to display the camera title in the [Main monitor] tab of the monitor page. ( Page 46)
- Digital zoom is automatically canceled by other operations such as selecting another camera or changing the screen pattern.
- If the image resolution is too small compared with the size of the image display area, the digital zoom levels off and the image cannot be displayed at the assigned magnification.



## Correct the fisheye image

The Fisheye image can be corrected and displayed while the fisheye image is displayed on the 1-screen in the image display area of the control screen.

### Note:

- The fisheye correction display is not available in wide view and on the 4-screen, 9-screen and 16-screen. The fisheye correction display button is not displayed.

### Step 1

Confirm that the image display area is set to the 1-screen display of the fisheye image on the control screen.

### Step 2

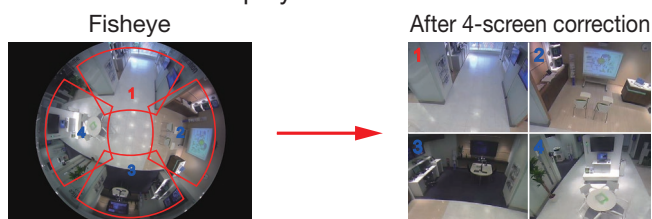
Click the 1-screen PTZ display/4-screen PTZ display button.

→ Corrects the fisheye image and displays on the 1-screen PTZ/4-screen PTZ. Images of the following angle of view will be displayed respectively.

#### ■ 1-Screen PTZ display



#### ■ 4-Screen PTZ display



### Fisheye correction display button



### Note:

- Double-click of the right mouse button on the fisheye image can correct the image and display on the 1-Screen PTZ centering the cursor position.
- Click on the image during the 1-Screen PTZ correction display can change the center to the clicked position. Click an image that you want to change the display position, and then click on the image during the 4-Screen PTZ correction display.
- The clicked position may not come to the center depending on the clicked position.
- Double-click on the image during the 4-Screen PTZ correction display can switch the screen to the 1-Screen PTZ correction display (and vice versa).
- The high resolution image and high frame rate image may not be corrected and displayed based on the original frame rate.

### Step 3

Click of the fisheye display button releases the correction function.

### Note:

- The correction display position of the fisheye image is recorded after the recorder is turned off.
- The fisheye image is displayed on the previous position when it is displayed on the 1-Screen after the recorder is turned on.
- The split line is displayed on the image in a moment when the correction function is cancelled from the 4-Screen PTZ correction display.

## Operate the camera

When displaying live images from a camera with the panning/tilting function on a 1-screen or 4-screen, the following camera operations are available.

### Note:

- It may be impossible to operate the camera or some functions may be inoperable depending on the model of the camera.
- Operations are performed from the operation window. When working with the wide view screen, open a 1-screen or 4-screen operation window by clicking the [Ctrl screen] button in the bottom right corner of the screen.
- For a fixed camera, the buttons on the camera control panel and other controls will be disabled.

## Camera control panel

Operate the cameras displayed as selected (inside selection frame) in the image display area. On the 1-screen, the camera whose image is currently displayed, can be operated. On the 4-screen, click the camera number panel on the operation panel, or select a camera image by clicking it in the image display area.



### Control buttons

Move (pan/tilt) the camera in the clicked direction. Keeping the button pressed will move the camera continuously.

### [Zoom] button

Adjusts the zoom factor.

### [Home position/Call] button

Move the camera to the home position.

### [Enable camera control with mouse] checkbox

When this item is checked, pan/tilt (clicking) and zoom (mouse wheel) can be controlled with the mouse on the selected camera image.

### Note:

- When this checkbox is marked, digital zooming (Page 108) by turning the mouse wheel operation is not possible. When the camera control panel is inoperable for the fixed camera, the digital zoom can be performed by turning the mouse wheel even when the checkbox is checked.

### [Detail] button

Display the "Camera control [Advanced]" panel, and perform any of the following camera operations.



### [Focus] button

Adjust the focal point.

### [Brightness] button

Adjusts the lens iris of the camera.

### Auto mode

Activates the auto mode function of the camera.

# [Operation via recorder's main monitor]

## [Position]

Registers the current orientation of the camera as a preset position. Moves the camera to a previously registered preset position.

When the page is switched to 2/2 with a button on the top right of the detailed control panel, the following camera operation can be performed.



## [AUX] button

Sets the device connected to the AUX terminal of the camera to the open/closed state.

If the camera is a network camera, AUX1, 2 and 3 is controlled with only AUX1 of the camera.

If the device is the encoder GXE500, the AUX1 and 2 control terminals of a camera or a receiver (WV-RC150) are applicable for each analogue camera connected to it.

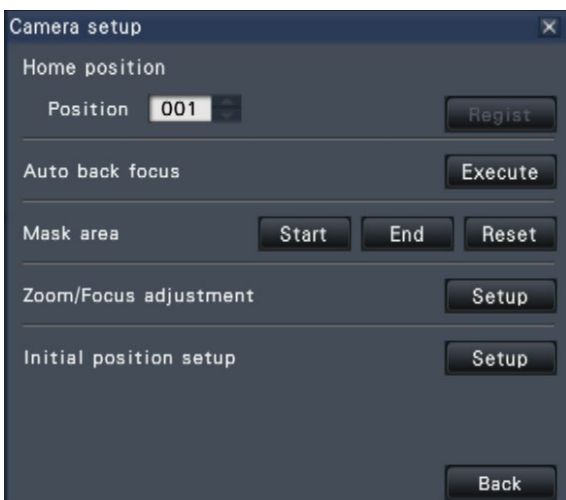
The AUX3 controls the AUX output terminal (1 system only) of GXE500.

## [Wiper] button

Operates the washer/wiper of the WV-SUD638.

## [Setup] button

Displays the camera setup window for registering a home position (☞ Page 117), executing auto back focus (☞ Page 117), etc.



## [Back] button

Closes the "Camera control [Advanced]" and returns to the camera control panel.

### Note:

- Controlling the cameras is not possible on the wide view screen and on the 9-Screen/16-screen.

## Panning/Tilting

Adjusts the horizontal/vertical position of the camera.

### Step 1

When displaying the images on a 4-screen, select the desired cameras.

### Step 2

Click the [Control] button.

Click the desired point to be located at the center of the angular field of view. The camera will move to locate the clicked point as the center point in the image display area.

---

### Note:

- To enable operations in the displayed camera image from the recorder, check "Enable camera control with mouse" on the camera control panel.
- 

## Zooming

Zoom the displayed camera image in/out by zooming the camera lens. Depending on the models of the connected cameras, the available zooming factors may be different. Refer to the operating instructions of the camera for further information.

### Step 1

When displaying the images on a 4-screen, select the desired cameras.

### Step 2

Click the [-] button or the [+] button.

Alternatively, adjust the zoom by placing the mouse pointer on the image and turning the mouse wheel. Click the [x1] button to reset the zoom factor to x1.

---

### Note:

- To enable operations in the displayed camera image from the recorder, check "Enable camera control with mouse" on the camera control panel.
  - When selecting an area in the image display area by dragging the mouse, the selected area will be located at the center of the image display area and the zoom ratio will be adjusted automatically.
-

## Move to home position

Move the camera to a previously registered home position. The home position needs to be registered in advance. (☞ Page 117)

### Step 1

When displaying the images on a 4-screen, select the desired cameras.

### Step 2

Click the [Call] button to move to the home position.

## Focus adjustment

Adjusts the focal point. The auto focus function is available.

### Step 1

When displaying the images on a 4-screen, select the desired cameras.

### Step 2

Click the [Detail] button.

→ The "Camera control [Advanced]" panel will be displayed. (☞ Page 110)

### Step 3

Click the [Near] or [Far] button.

When the [Auto] button is clicked, focus will automatically be adjusted.

## Iris (brightness) adjustment

Adjusts the lens iris of the camera.

### Step 1

When displaying the images on a 4-screen, select the desired cameras.

### Step 2

Click the [Detail] button.

→ The "Camera control [Advanced]" panel will be displayed. (☞ Page 110)

### Step 3

Click the [-] or [+] button.

It is possible to reset the set brightness by clicking the [Reset] button.

## Auto mode

Activates the auto mode function of the camera.

### Step 1

When displaying the images on a 4-screen, select the desired cameras.

### Step 2

Click the [Detail] button.

→ The "Camera control [Advanced]" panel will be displayed. (☞ Page 110)

### Step 3

Click the auto mode button [▼] of the camera, and select one of the following auto modes:

Auto track: The camera will automatically track an object moving on the screen.

Auto pan: The camera direction will automatically move (pan) between the start point and end point set in advance.

Preset sequence: The camera will move to the preset positions registered in advance in order of the preset position number (numerical order).

Patrol: The camera will trace the manually recorded panning pattern.

### Step 4

Click the [Start] button to start the selected auto mode function.

Click the [Stop] button to turn off the auto mode function.

---

#### Note:

- When you use the auto mode, please read the operating instructions of your camera and set the auto mode at the camera menu in advance.
-

## Register camera preset positions

Register the current camera position as a preset position. The preset positions can be registered only when using a camera supporting the preset position function.

### Step 1

When displaying the images on a 4-screen, select the desired cameras.

### Step 2

Click the [Detail] button.

→ The "Camera control [Advanced]" panel will be displayed. (☞ Page 110)

### Step 3

Move the direction of the camera to the position to be registered using the panning/tilting function of the camera. (☞ Page 112)

### Step 4

Click the [▲]/[▼] button in the [Position] box to select a preset number. Select a preset number (1 - 256) to be registered.

### Step 5

Click the [Regist] button.

→ The camera direction will be registered to the selected preset position number when you click the [OK] button on the confirmation window.

## Move camera preset positions

Move the camera to the registered preset position. It is necessary to register preset positions in advance.

### Step 1

When displaying the images on a 4-screen, select the desired cameras.

### Step 2

Click the [Detail] button.

→ The "Camera control [Advanced]" panel will be displayed. (☞ Page 110)

### Step 3

Click the [▲]/[▼] button in the [Position] box to select a preset number. Select a preset number (0 - 256) to be registered. Selecting preset position number 0 will move the camera to home position.

### Step 4

Click the [Call] button.

→ The camera direction will move to the preset position corresponding to the selected preset position number.

---

### Note:

- A non-registered preset number can be selected, but the camera will not move even if the [Call] button is clicked.
-

## AUX operation

Sets the device connected to the AUX terminal of the camera to the open/closed state.

### Step 1

When displaying the images on a 4-screen, select the desired cameras.

### Step 2

Click the [Detail] button.

→ The "Camera control [Advanced]" panel will be displayed. (☞ Page 110)

### Step 3

Click the page switch button on the right top of the screen.

→ The page will be switched to 2/2.

### Step 4

Click the [Open]/[Close] button after selecting the AUX terminal number.

When [Open] button is clicked, the AUX terminal of the camera becomes open.

When [Close] button is clicked, the AUX terminal of the camera becomes closed.

---

#### Note:

- The selection of the AUX terminal number is only available for WJ-GXE500. For cameras other than WJ-GXE500, the open/close operations only are available.
- 

## Wiper operation

Operates the washer/wiper.

### Step 1

When displaying the images on a 4-screen, select the desired cameras.

### Step 2

Click the [Detail] button.

→ The "Camera control [Advanced]" panel will be displayed. (☞ Page 110)

### Step 3

Click the page switch button on the right top of the screen.

→ The page will be switched to 2/2.

When [Start] button is clicked, the selected motion starts.

When [Stop] button is clicked, the motion ends.

---

#### Note:

- The following operation is not available while the washer is operating.
    - [Start] and [Stop] operation of "Wiper"
    - Control of panning, tilting zooming and focusing
    - [Start] operation of "Auto mode"
    - [Call] operation of "Preset Position"
  - It requires the washer operation settings for the camera side. Refer to the operating instruction of WV-SUD638.
- 

### Step 4

Select an operation and click the [Start] or [Stop] button.

High: Wipes out continuously. (once per 4 seconds)

Low: Wipes out continuously. (once per 8 seconds)

1 shot: Performs high speed wiping (once per 4 seconds) 5 times.

Washer: Performs the specified washer/wiper operation.

Refer to the operating instruction of WV-SUD638.



## Register home position

The home position is set with the camera positioned at an already registered preset position.

### Step 1

Register the camera preset positions on the "Camera control [Advanced]" panel. (☞ Page 115)

### Step 2

Click the [Setup] button.

→ The camera setup window will be displayed.  
(☞ Page 111)

### Step 3

Click the [▲]/[▼] button in the [Position] box to select a preset number to register as the home position.  
Select a preset number (1 - 256) to be registered.

---

#### Note:

- On some of our camera models, preset position number 0 is registered as home position. Refer to the "readme.txt" on the provided CD-ROM about the supported cameras.
- 

### Step 4

Click the [Regist] button.

→ The selected preset number will be registered as the home position when you click the [OK] button on the confirmation window.

### Step 5

Click the [Back] button.

→ The camera setup window closes, and the display returns to the "Camera control [Advanced]" panel.

## Execute auto back focus

The auto back focus function starts to automatically adjust back focus based on a subject located in the center of the screen by clicking the execute button. For further information about this function, refer to the operating instructions of the camera in use.

### Step 1

When displaying the images on a 4-screen, select the desired cameras.

### Step 2

Display the "Camera control [Advanced]" panel (☞ Page 110), and click the [Setup] button.

→ The camera setup window (☞ Page 111) will be displayed.

### Step 3

Click the [Execute] button next to "Auto back focus".

### Step 4

Click the [Back] button.

→ The camera setup window closes, and the display returns to the "Camera control [Advanced]" panel.

## Set up mask areas

Set up mask areas of the camera. For further information about this function, refer to the operating instructions of the camera in use.

### Step 1

When displaying the images on a 4-screen, select the desired cameras.

### Step 2

Display the "Camera control [Advanced]" panel (☞ Page 110), and click the [Setup] button.

→ The camera setup window (☞ Page 111) will be displayed.

### Step 3

Click the [Start] button.

→ A grid will appear over the image display area and the segments designated as mask areas are covered with white translucent masks.

### Step 4

Click a segment in the image display area.

→ Each click of the segment toggles between On and Off for the mask area setting.

### Step 5

Click the [End] button.

→ The mask area setting will be completed and the grid will disappear.

### Step 6

Click the [Back] button.

→ The camera setup window closes, and the display returns to the "Camera control [Advanced]" panel.

### Note:

- It is possible to reset all the mask area settings by clicking the [Reset] button.

## Zoom/Focus adjustment

Adjust zooming or focusing of the camera. For further information about this function, refer to the operating instructions of the camera in use.

### Step 1

When displaying the images on a 4-screen, select the desired cameras.

### Step 2

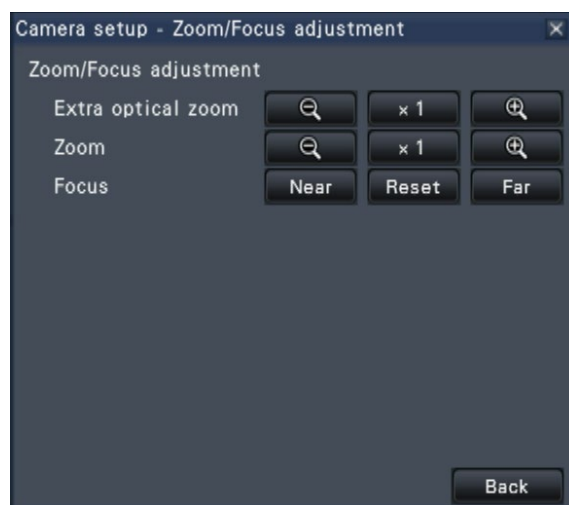
Display the "Camera control [Advanced]" panel (☞ Page 110), and click the [Setup] button.

→ The camera setup window (☞ Page 111) will be displayed.

### Step 3

Click the [Setup] button.

→ The zoom/focus adjustment screen will be displayed.



# [Operation via recorder's main monitor]

## Step 4

Zooming can be adjusted by clicking the [-] button, the [×1] button or the [+] button.  
Focusing can be adjusted by clicking the [Near] button, the [Reset] button or the [Far] button.

## Step 5

Click the [Back] button.  
→ The screen will return to the camera setting page.

## Initial position setup

Tilting degree adjustment, vertical angle adjustment, horizontal adjustment of image clipping position can be performed. For further information about this function, refer to the operating instructions of the camera in use.

## Step 1

When displaying the images on a 4-screen, select the desired cameras.

## Step 2

Display the "Camera control [Advanced]" panel (☞ Page 110), and click the [Setup] button.  
→ The camera setup window (☞ Page 111) will be displayed.

## Step 3

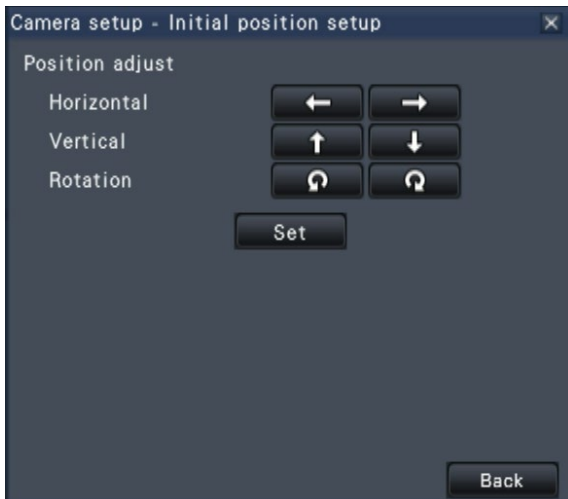
Click the [Setup] button.  
→ The initial position setup window will be displayed.

## Step 5

Click the [Set] button.  
→ The adjusted position will be saved on the camera.

## Step 6

Click the [Back] button.  
→ The screen will return to the camera setting page.



## Step 4

Adjust the position using the buttons or by clicking on the image.

# Event function

The recorder will take an event action when any of the following events occur.

- Terminal alarm: An event when an alarm input signal is supplied from an external device such as a door sensor to the alarm input terminal on the rear of the recorder.
- Camera site alarm: An event when an alarm (camera terminal alarm, etc.) is detected by a camera.
- Command alarm: An alarm when receiving an alarm from a PC, etc. via a network.

## Action to be taken upon an event occurrence

When the recorder recognizes an event, it will take an event action according to the set action mode.

### Event action mode

In the event modes shown below, the recorder takes one of the following event actions when an event occurs.

The event action mode can be configured on the setup menu. (☞ Page 41)

Recording & alarm action: Performs all event actions according to the settings. ("A" in the following table)

Recording only: Performs only recording, filing alarm logs, and moving to camera presets. ("B" in the following table)

Off: Files only alarm logs. ("C" in the following table)

A different event action will be taken depending on the selected event action mode. Refer to a system administrator for further information.

Event action	Description	Mode*1		
		A	B	C
Recording				
Start event recording	Recording will start according to the recording duration configured on the setup menu.	●	●	×
Define pre-event recording	Camera images recorded before an event occurs can be associated with the event and saved on the hard disk.	●	●	×
Alarm action				
Move the camera to the preset position	Move the camera to the preset position registered in advance.	●	●	×
Blink the alarm indicator	The alarm indicator on the front panel will start blinking.	○	×	×
Sound the buzzer	The buzzer will start sounding for the duration set in advance.	●	×	×
Outputs alarm signals	Output signals will be sent from the ALARM/CONTROL connector at the rear of the recorder.	●	×	×
Display event information on the main monitor	The event type and terminal/camera number will be displayed on the status display panel. At the same time, the alarm button turn red.	○	×	×
Display the alarm icon on a web browser	The alarm icon will be displayed on the event error display area of the web browser.	○	○	×
Display the alarm message on a web browser	A window that notifies of an event occurrence will be displayed on the web browser. * The alarm message displayed last has priority. To close the window, click the [x] button.	●	×	×
Record the alarm logs*2	Date & time of the event and event information will be recorded in a log list.	●	●	●

# [Operation via recorder's main monitor]

Event action	Description	Mode*1		
		A	B	C
Alarm action				
Send a mail that notifies of an event occurrence	An e-mail notifying of the event and its date & time (alarm mail) will be sent to registered e-mail addresses (up to 4).	●	×	×
Provide an alarm notification to a PC according to the TCP alarm notification setting	When an event occurs, a notification will be sent to a PC in accordance with the settings made under [TCP alarm notification]. (☞ Page 37, 55)	●	×	×
Display the images on a 1-screen when an alarm occurs	Display the images recorded by the camera associated with the alarm number on a 1-screen	●	×	×

\*1 ○: Takes action regardless of the setting, ●: takes action in accordance with the setting, ×: takes no action

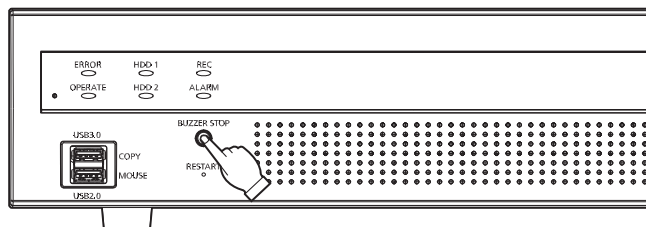
\*2 When "On" is selected for the "Additional alarm data" setting of the camera, i-VMD type information will be displayed in the alarm log. For further information, refer to the operating instructions of the camera in use.

## Stop buzzer beeping

The buzzer sounding to announce an alarm or error can be stopped from the recorder's front panel.

### Step 1

Press the [BUZZER STOP] button.



→ The buzzer will stop.

### Note:

- The buzzer can also be stopped by canceling the alarm action or error action. (☞ Page 122) The [BUZZER STOP] button does not reset any of the other alarm actions.

## Cancel the alarm action

The recorder will take an alarm action according to the settings configured in advance when an event occurs in the alarm mode (ALM). Information of the occurred alarm will be displayed on the status display panel of the main monitor. (☞ Page 96) To reset the alarm action, click the [Alarm] button on the status display panel, and click the alarm [Reset] button.

When an item other than "Ext." is selected for "Auto reset time" on the "Event setup" tab under "REC & event" on the setup menu [Basic setup] (☞ Page 39), the following actions will automatically be taken even if the alarm action is not canceled by clicking the alarm [Reset] button.

- The alarm indicator on the front panel will stop blinking and light steadily.
- The alarm status display on the main monitor will disappear.
- The sounding buzzer and the alarm output will stop.

### Step 1

Click the [Alarm] button displayed on the main monitor, and click the alarm [Reset] button.



→ The alarm action will be canceled and the alarm indicator will go off.

### Note:

- When the alarm action is canceled, the event recording will stop and return to the operational status just before the event occurred.

## Cancel the error action

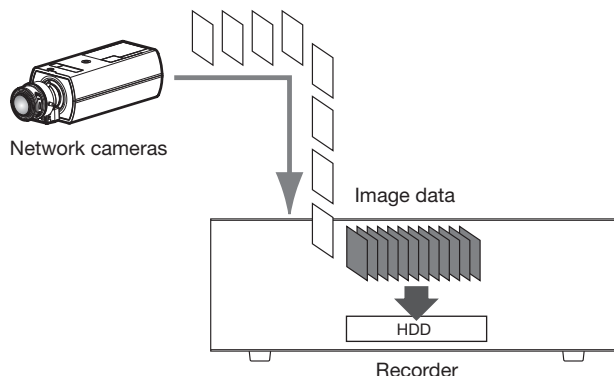
When an error (trouble) occurred on the recorder, the recorder will take the error action (a series of actions that notifies of the error occurrence). Information of the occurred error will be displayed on the status display panel of the main monitor. (☞ Page 96) To cancel an error action, first click the [Error] button on the status display panel and then the displayed error [Reset] button.

### Note:

- When an error occurs, take remedial action by following the instructions displayed on the error log panel (☞ Page 134). The error indicator on the front of the recorder will go off when the cause of the error has been eliminated.
- When the cause of the error is resolved automatically, the following operations are performed automatically.
  - The error indicator on the front panel will stop blinking and light steadily.
  - The error status display on the main monitor will disappear.
  - The sounding buzzer and error output will stop.
- Clicking the error reset button turns off the error button and error indicator.

# Record images

Live images can be recorded on the recorder. The image of up to 16 cameras can be recorded in the recorder.



## Record images (Schedule recording)

Recording can be automatically started and stopped according to a previously specified schedule. Refer to page 35 for schedule recording.

---

### Note:

- When event recording is triggered by an alarm during the schedule recording, event recording has the higher priority. Refer to the "Recording mode and its priority" section below for further information about the priority of the recording mode.
  - To stop schedule recording, stop the recording on the setup menu. Refer to page 43 for further information.
  - In case of a network error, the image of the camera where the communication error has occurred will not be recorded. Recording starts when the network error is recovered. If the status in which the communication with the camera is disconnected recovers within around 40 seconds, it may not be recorded in the error log.
  - Schedule-recorded image data will be divided into multiple files every hour on the hour. In that moment, recording may sometimes be interrupted around for 1 second.
- 

## Recording mode and its priority

There are 4 recording modes. The recording modes and their priority levels are as follows.

When two or more recordings with different recording modes started simultaneously, only recording with the higher priority will start.

Recording mode	Priority
Emergency recording	1
Event recording	2
Schedule recording	3
Pre-event recording	4

## Audio

The audio recording is done at the same time as the image recording. The audio recording can be set for each camera. Refer to page 38 for further information.

---

### Note:

- The audio recording is done at the same time as the image recording. Recording of the audio only is not available.
-

## Emergency recording

The recording is manually done using a switch connected to the "Emergency recording input" terminal of the "ALARM/CONTROL connector" on the back side of the recorder when the emergency occurs. For example, you can install a switch into the reception of the store and press the switch for the emergency recording when a suspicious person appears.

---

### Important:

- The emergency recording records all images of all the connected cameras.
- 

### Step 1

Press the switch connected to the "Emergency recording input" terminal.

→ The emergency recording will start.

### Step 2

The emergency recording will automatically be terminated when the recording time set for the emergency recording is over.

Set the recording time of emergency recording at "Recording time of emergency recording" of "REC & event" - "Advanced setup" tab on the setting menu.

---

### Note:

- The emergency recording is the most prioritized recording mode. The emergency recording will be prioritized even if recording is being done on another recording mode.
  - Press the "Alarm reset" button to stop the recording if "Recording time of emergency recording" setting (🔍 Page 43) is "Ext."
-

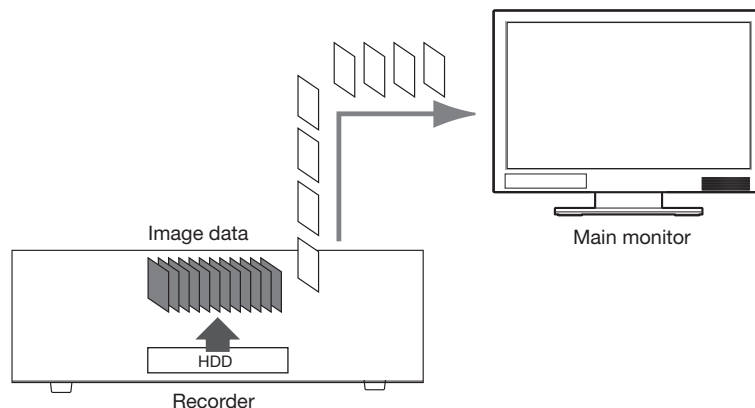


# Play recorded images

Display the images recorded on the recorder's hard disk on the main monitor.

Playback operation can be made while recording. Playback of images can be controlled from the operation display area or the wide view.

Refer to page 130 and following pages for playback operation.



**Note:**

- Images can be played on 1-screen and 4-screen in the control screen. When the sub-stream recording is set, the image can be played on 9-screen and 16-screen also (Except cameras which record images as JPEG).
- Images can be played back on 1-screen to 4-screen in the wide view. When the sub-stream recording is set, images can be played on up to 16-screen (Except cameras which record images as JPEG).
- The audio of the displayed image is output on 1-screen display and the audio of the selected camera is output on multi-screen display of the control screen.
- The audio of the top-left camera on the screen is output during the wide view.
- No audio will be output when playing back in fast forward/fast reverse.
- The camera image can be changed by clicking the camera number (1 to 16) during playback.
- The Multiscreen select button, digital zoom button, Mute button and OSD button remain effective during playback. Refer to "Monitor live images" (Page 100) for further information.
- When displaying images recorded at the following setting values of resolution and frame rate on each segment of a multiscreen, the images will be played back with the selected refresh interval.

**[No sub-monitor display nor re-encoding transmission]**

Resolution	Display	3-screen/4-screen
HD(1280×720) FHD(1920×1080)		50 ips or higher

**[Sub monitor display or re-encoding transmission enabled]**

Resolution	Display	3-screen/4-screen
HD(1280×720) FHD(1920×1080)		50 ips or higher
QXGA(2048×1536) ~ 9M(2992×2992)		25 ips or higher
12M(4000×3000)		10 ips or higher (H.264/H.265) Display not available (MJPEG)

# [Operation via recorder's main monitor]

## [Sub monitor display and re-encoding transmission enabled]

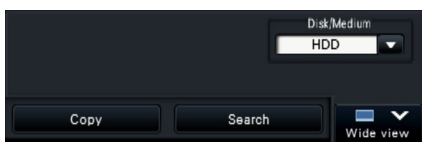
Resolution \ Display	1-screen	3-screen/4-screen
FHD(1920×1080) HD(1280×720)	(Not applicable)	50 ips or higher
QXGA(2048×1536)	(Not applicable)	25 ips or higher
WQHD(2560×1440) ~ 9M(2992×2992)	(Not applicable)	10 ips or higher
12M(4000×3000)	10 ips or higher	3 ips or higher (H.264/H.265) Display not available (MJPEG)

- Different values selected for resolution and frame rate will cause the data size of the playback images on the multiscreen to differ considerably, which may result in non-synchronized playback. In this case, pause and then restart playback (☞ Page 127).
- At the default, black zones will be displayed on the top and bottom of images with the aspect ratio of 16:9 when images are played back on the control screen. Refer to page 47 for the setting to enlarge the vertical size of displayed images.
- Image with an aspect ratio of 16:9 is displayed fitting into the screen when the image is played in wide view.

## Playback operation panel

In playback mode, operation buttons are displayed on the playback operation panel. In addition to the operation buttons, the playback operation panel displays the playback status.

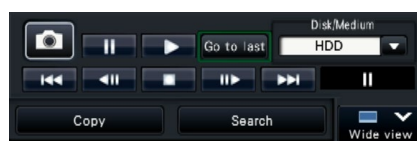
### Normal status (during display of live images)



### Image playback status



### Playback pause status



### Wide view playback status (Image playback status)



### Wide view playback status (Playback pause status)




### Wide view playback status (Minimized mode, image playback status)







### Wide view playback status (Minimized mode, playback pause status)














Click the minimizing button  on the playback operation panel in the wide view playback status to minimize the window.

The functions of the buttons are as follows:

Function	Example	Operation
Playback button		Plays recorded images. Clicking this button while playback is paused will cancel the pause status. When the playback button is clicked during fast playback/fast reverse playback, the playback speed will be x1.
Stop button		Playback will stop and live images will be displayed when this button is clicked during playback/pause.
Pause button		Playback will be paused when this button is clicked during playback. Pause will be canceled when this button is clicked during playback/pause.
Captured image button		Saves images paused during playback on USB medium.* Clickable only while playback is paused on a 1-screen. When this button is clicked, the button will turn gray, and images will be saved. The USB medium can be removed when the button becomes available. The image size of the captured image is not the resolution of the recording, but that of the playback.

# [Operation via recorder's main monitor]

Function	Example	Operation
Next image/Previous image button	 	<p>When the next image button is clicked during pausing, the next frame is played and paused.</p> <p>When the previous image button is clicked during a pause, the previous frame is played and paused.</p> <hr/> <p><b>Note:</b></p> <ul style="list-style-type: none"> <li>When playing H.264/H.265 images, some frames of recorded images will not be displayed. Reverse frame-by-frame playback will be performed with the refresh interval setting of the camera.</li> </ul>
Fast forward/Fast reverse button	 	<p>Playback speed of fast playback will be changed in the following order each time the fast forward button is clicked:            Step2 (Approx. 2x) → Step3 (Approx. 4x) → Step4 (Approx. 8x) → Step5 (Approx. 16x) → Step6 (Approx. 32x) → Step7 (Approx. 48x)</p> <p>Playback speed of fast reverse playback will be changed in the following order each time the fast reverse button is clicked:            Step2 (Approx. 2x) → Step3 (Approx. 4x) → Step4 (Approx. 8x) → Step5 (Approx. 16x) → Step6 (Approx. 32x) → Step7 (Approx. 48x)</p> <p>The playback speed will be displayed on the playback status display.</p> <hr/> <p><b>Note:</b></p> <ul style="list-style-type: none"> <li>When playing H.264/H.265 images, some frames of recorded images will not be displayed. Except for ×2 fast playback speed, fast playback/fast reverse playback will be performed with the refresh interval setting of the camera.</li> </ul>
Next record/Previous record button	 	<p>Clicking the next record button will play back the next later recording.</p> <p>Clicking the previous record button will play back the next earlier recording.</p> <p>When there is no next/previous recorded image to be skipped to, the current playback will continue.</p>
Go to last button		<p>When this button is clicked, playback of the latest recorded images will start. The starting point is around 10 seconds before the date &amp; time of the latest recorded images.</p>
Playback status display		<p>The status of the recorder such as the playback status, pause status etc. will be displayed.</p> <p>The playback speed will be displayed in fast forward/fast reverse mode.</p>
Wide view button/ Ctrl screen button	 	<p>Clicking the button during playback stops the playback and displays the live image in the wide view/control screen.</p>
Playback operation panel switch button (Displayed during playback on a full screen)		<p>The playback operation panel will be hidden when the playback operation panel is displayed. Clicking the button again will return to the original display.</p> <p>Clicking the button during the live image display will start playback and displays the playback operation panel.</p>



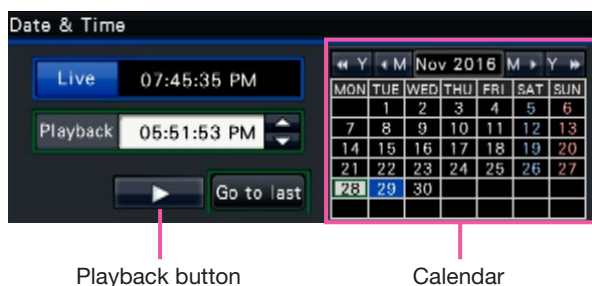
## Play images from a designated point

It is possible to start playback from a designated date & time or the latest recorded image.

### Play image recorded at a designated date & time

Start playback by designating the date & time of a recorded image on the date & time operation panel.

#### Date & time operation panel (normal display)



#### Step 1

Click the [▲]/[▼] button in the [Playback] box to set the date & time to be played.

#### Step 2

Select the month from the calendar in which date & time of the image to play back is included.

Click the [◀◀Y]/[Y>>] button to change the year and the [◀M]/[M>] button to change the month.

#### Note:

- The current date is displayed in aqua.
- The date on which the recorded image is stored on the HDD will be displayed in white.

#### Step 3

Click the date & time of the image to play back from the calendar.

→ The background of the selected date turns green, and playback starts at the designated date & time.

The date & time operation panel will turn to the playback display (☞ Page 132) and the playback operation panel will be displayed on lower section of the date & time operation panel (☞ Page 127).

#### Note:

- Unless you want to change the date & time on the calendar, click the playback button.

#### Step 4

To stop playback and return to live images, click the [Live] button or the stop button on the playback operation panel.

→ Playback will stop, and live images will be displayed.

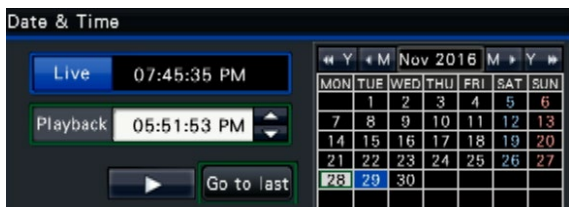
#### Note:

- Playback can also be stopped and live images can also be displayed by the following operations:
  - Clicking the [Live] button or [x] button on the date & time operation panel (playback display)
  - Changing the playback medium
- When there is no image stored under the entered date & time, proceed as follows:
  - When there are images recorded after the designated date & time, the oldest image recorded after the designated date & time will be played.
  - When there are no images recorded after the designated date & time, the newest image recorded before the designated date & time will be played.

## Play the latest recorded image

When this button is clicked, playback of the latest recorded images will start. The starting point is around 10 seconds before the date & time of the latest recorded images.

### Date & time operation panel (normal display)



### Operation panel (Wide view display)



#### Step 1

Click the [Go to last] button.

- Playback of the latest recorded images will start. The date & time operation panel will change to playback display (Page 132). At the same time, the playback operation panel (Page 127) is displayed at the bottom of the date & time operation panel.

#### Step 2

To stop playback and return to live images, click the [Live] button or the stop button on the playback operation panel.

- Playback will stop, and live images will be displayed.

#### Note:

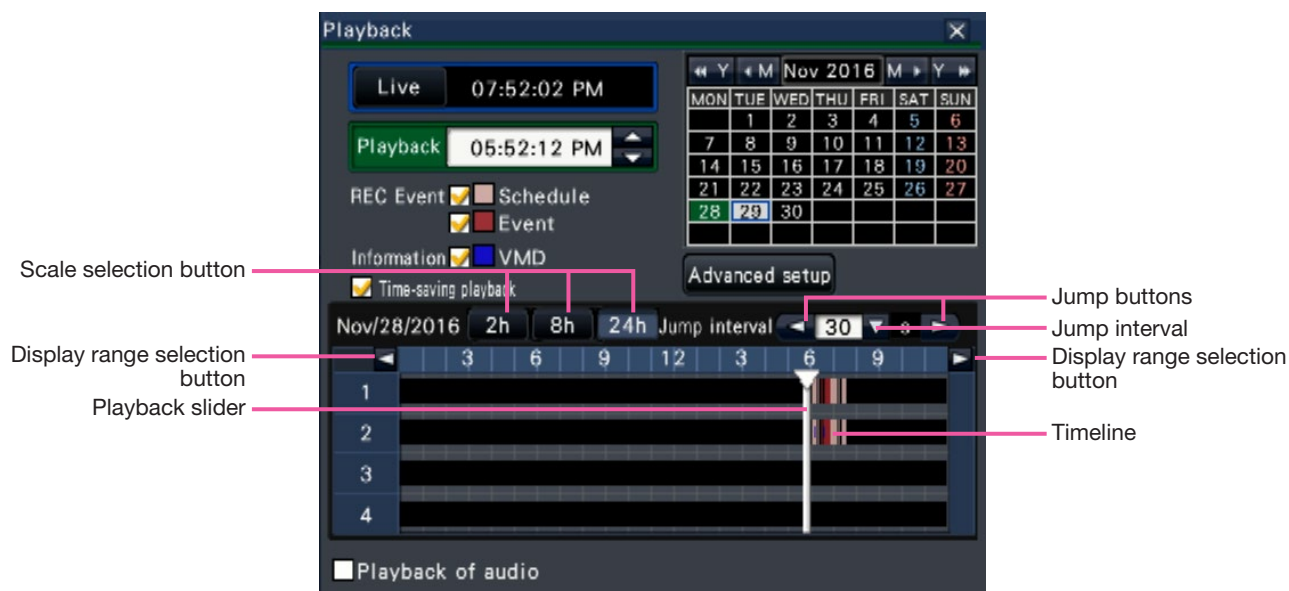
- Playback can also be stopped and live images can also be displayed by the following operations:
  - Clicking the [x] button on the date & time operation panel (playback display)
  - Changing the playback medium
- When clicking the [Go to last] button while displaying images on a 4-screen, the recorded image may not be displayed depending on the timing. In this case, click the [Go to last] button again.
- The playback cannot start during the live sequence display in wide view. Click the [Go to last] button after switching the screen to those other than the live sequence display.

## Playback by designating a timeline

When playback starts, the date & time operation panel will change to playback display.

This section explains how to use the timeline display to designate a playback date & time by operating the playback slider.

### Date & time operation panel (playback display)



The playback display shows available recorded images and displays these on a timeline sorted by type. It is possible to change the type of recorded images displayed on the timeline, change the timeline scale, and designate the recorded image to play.

#### [REC Event]

Mark the checkboxes of different types of recorded images and display them on a timeline. If changes are made during playback, playback will be paused and a new search will be performed.

Schedule: Schedule-recorded images will be displayed in pink

Event: Event-recorded images will be displayed in red

#### [Information]

When this box is checked, the time zone recorded when the VMD function was activated (motion was detected in an image) will be displayed in blue on the timeline. (Playback will be paused.)

Periods for which no recorded images are available will be displayed in black.

#### Note:

- To display the result of the motion detection search, cameras that support the motion detection search function are necessary. Refer to the "readme.txt" on the provided CD-ROM about the supported cameras. Refer to the operating instructions of the camera in use for further information.

#### [Time-saving playback]

When it is checked, the recorded image is automatically played up to 4 times faster if there is no movement in the image. Remove the check mark if you want to play the image at normal speed.

If you activate the time-saving playback (Page 47), the screen is displayed with the box always checked.

#### Note:


- To use the time-saving playback, cameras that support the motion detection search function are necessary.

Refer to the "readme.txt" on the provided CD-ROM about the supported cameras. Refer to the operating instructions of the camera in use for further information.

(If the setting for "VMD information addition" is off, or the image recorded by our cameras does not support time-saving playback, the image will be played in the fast playback mode regardless of motion.)



# [Operation via recorder's main monitor]

- The time-saving playback only functions when the image is played back at the actual size on 1-screen ~ 4-screen. It does not function while fisheye correction is displayed.
- When the time-saving playback functions in the fast playback mode,  is displayed. During this time, no audio is output.
- When an image is played with a recorded time close to the current time, fast playback is not available.
- When the image capture size and the frame rate of the recorded image are high, the fast playback may not be available. In addition, the playback speed of each image may not be the same during multiscreen playback depending on the setting values of the image capture size and the frame rate of each recorded image.
- The time-saving playback is available for image data recorded by software supporting the time-saving playback.

## [Advanced setup] button

Display the advanced setup panel and change event types and other information displayed on the timeline. Playback will be paused.

## [Scale selection] button

Select a timeline display covering 2 hours (2 h), 8 hours (8 h) or 24 hours (24 h).

## Change event types and other information displayed on the timeline

### [Advanced setup]



## [Display range selection] button

The timeline will be displayed in accordance with the setting of the scale selection button.

## [Playback slider]

Displays the time during playback. Drag and drop the playback slider to a desired time on the timeline to start playback from that time.

### Note:

- The playback slider may not soon move to the desired position.

## [Jump interval]/[Jump] buttons

Move the playback point by a given amount of time and play back from that point. Clicking the [ $<$ ] / [ $>$ ] buttons will move the playback point by the amount of time specified under [Jump interval].

Available ranges: 10 s/ 15 s/ 30 s/ 60 s/ 180 s/ 300 s

## [Playback of audio]

This item is displayed when the recorder is set up to lock in a camera with audio output. If this checkbox is marked, the audio associated with the displayed image will be output. (Page 49)

## [Event type]

Set event types to be displayed on the timeline. To display event-recorded images on a timeline, mark their checkboxes.

Refer to page 120 for further information about each alarm.

## [Sensitivity of VMD]

Set the sensitivity for the motion detection displayed on the timeline. Sensitivity increases in the steps shown below.

Low → Mid → High → All

## [Back] button/[x] button

Click this button to return to the date & time operation panel (playback display).

## Search and play

Search a desired recorded image and play it. There are the following 3 searching methods.

- Play images selected from alarm and error logs (Log search)
- Display thumbnail screen and paly back (Thumbnail search)
- Search and play images recorded triggered by the motion detection of the camera (VMD search)

### Play images selected from logs (Log search)

Display the alarm log list or error log list, and click a date & time to play the corresponding recorded images.

#### Note:

- The corresponding recorded data that is displayed in the selected log list cannot be played if the data has already been overwritten or erased.

#### Step 1

Click the [Alarm] button or [Error] button on the status display panel.

→ The corresponding [Log] buttons will be displayed.



#### Step 2

Click the [Log] button.

→ The alarm log panel or error log panel will be displayed. It is possible to switch between list pages by clicking the [Previous]/[Next] buttons.

No.	Date & Time	Log
1	Nov/29/2016 07:54:41 PM	Terminal:1
2	Nov/29/2016 07:54:40 PM	Terminal:9
3	Nov/29/2016 07:54:39 PM	Terminal:8
4	Nov/29/2016 07:54:38 PM	Terminal:7
5	Nov/29/2016 07:54:33 PM	Terminal:6
6	Nov/29/2016 07:54:32 PM	Terminal:5
7	Nov/29/2016 07:54:30 PM	Terminal:4
8	Nov/29/2016 07:54:28 PM	Terminal:3
9	Nov/29/2016 07:54:26 PM	Terminal:2
10	Nov/29/2016 07:35:42 PM	Terminal:1
11	Nov/28/2016 06:51:27 PM	Terminal:3
12	Nov/28/2016 06:51:26 PM	Terminal:2
13	Nov/28/2016 06:51:25 PM	Terminal:1

▲ Previous Total:92 Next ▼

#### Note:

- Up to 1000 alarm logs are saved. When more than 1000 logs are filed, the older logs will be overwritten by the newer logs. In this case, the oldest log is the first to be overwritten.

No.	Date & Time	Log
1	Nov/29/2016 07:57:10 PM	Communication recovered:Cam.1
2	Nov/29/2016 07:57:10 PM	Communication recovered:Cam.2
3	Nov/29/2016 07:56:49 PM	Communication error:Cam.2
4	Nov/29/2016 07:56:49 PM	Communication error:Cam.1
5	Nov/29/2016 07:56:39 PM	Network link error:[Camera/PC]
6	Nov/28/2016 06:53:58 PM	Communication recovered:Cam.1
7	Nov/28/2016 06:51:31 PM	Communication error:Cam.1
8	Nov/28/2016 06:42:28 PM	Communication recovered:Cam.1
9	Nov/28/2016 06:41:06 PM	Communication error:Cam.1
10	Nov/28/2016 06:38:45 PM	Communication error:Cam.1

▲ Previous Total:420 Next ▼

Remedy  
Recording images may not have been performed from the time of the error occurrence until the recovery. Check the data.

#### Note:

- Up to 1000 error logs are saved. When more than 1000 logs are filed, the older logs will be overwritten by the newer logs. In this case, the oldest log is the first to be overwritten.

#### Step 3

Select the line with the desired list, and click the play-back button on the playback operation panel.

(Page 127)

→ Playback will start from a point approx. 5 seconds before the date & time selected.

#### Note:

- Playback can also be started by double-clicking the desired date & time line.
- To start playback from the beginning of the pre-event recording when the "Pre-event duration" setting is longer than 5 seconds, click the playback button, and then click the previous record button.
- If no recorded image is available for 5 seconds from the date & time, image will be played from the date & time.

## Step 4

To stop playback and return to live images, click the stop button on the playback operation panel.

(☞ Page 127)

→ Playback will stop, and live images will be displayed.

## Display thumbnail screen and paly back (Thumbnail search)

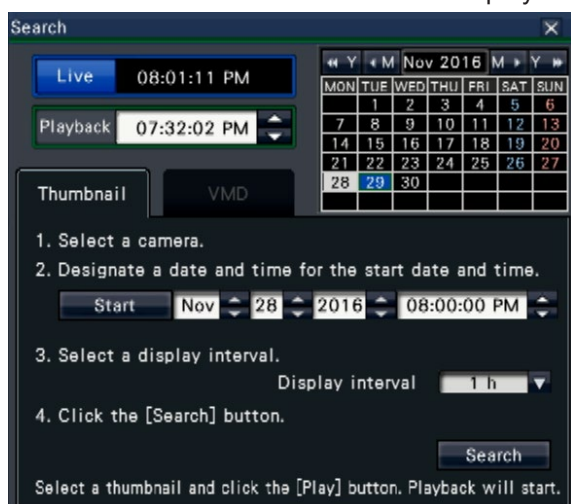
Search a thumbnail from the recorded images and play back.

Select an image from the thumbnail screen and play back the image.

### Step 1

Click the "Search" button of the playback operation panel.

→ The thumbnail search screen will be displayed.



### Step 2

Select a camera that you want to search on the camera number panel.

### Step 3

Designate a date and time for the start date and time (Start).

Set the "Start" using the [▲]/[▼] buttons of the date and time.

### Step 4

Assign the display interval of thumbnails. Displays thumbnails in accordance with the display interval by searching them from the recorded images.

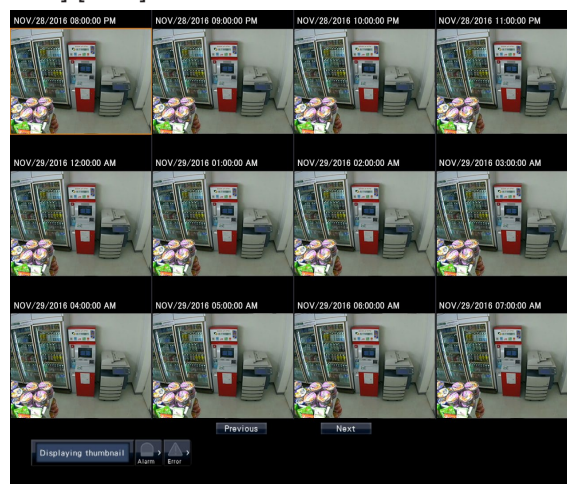
Display interval: 5 min, 15 min, 30 min, 1 h, 2 h

### Step 5

Click the [Search] button.

→ Searches thumbnails at every display interval from the assigned starting date and time and displays them on the image display area.

Up to 12 thumbnails can be displayed. The [Previous]/[Next] buttons can switch thumbnails.



### Note:

- It may take time to display all thumbnails.
- The date and time display until thumbnails are displayed is a provisional date and time calculated from the starting date and time and the display interval. Once thumbnails are displayed, the date and time will be updated to the actual date and time of the thumbnails.
- If the recorded image is not found at the assigned date and time, the thumbnail after the assigned date and time will be displayed.

## Step 6

Click a thumbnail that you want to play and then click the playback button on the playback operation panel.

→ Starts playback from the date and time of the selected thumbnail.

### Note:

- You can start the playback by double-clicking a thumbnail that you want to play back.

## Step 7

To stop playback and return to live images, click the stop button on the playback operation panel.

(☞ Page 127)

→ Playback will stop, and live images will be displayed.

## Search and play recorded images triggered by motion detection (VMD search)

Search images recorded with a camera supporting the VMD search function by the date motion was detected and play them. Click a date & time on the result list to play corresponding recorded images.

### Important:

- To perform the motion detection search, it is necessary to configure the settings of the connected cameras that support the motion detection search function in advance. Refer to the "readme.txt" on the provided CD-ROM about the supported cameras. Refer to the operating instructions of the camera in use for further information.

## Step 1

Click [Search] button on the playback operation panel and click [VMD] tab.

→ The VMD search panel is displayed.



## Step 2

Select a camera that you want to search on the camera number panel.

## Step 3

Designate the time range to search.

Set the year, month, day and time of the start and end point by clicking the respective [▲]/[▼] buttons.

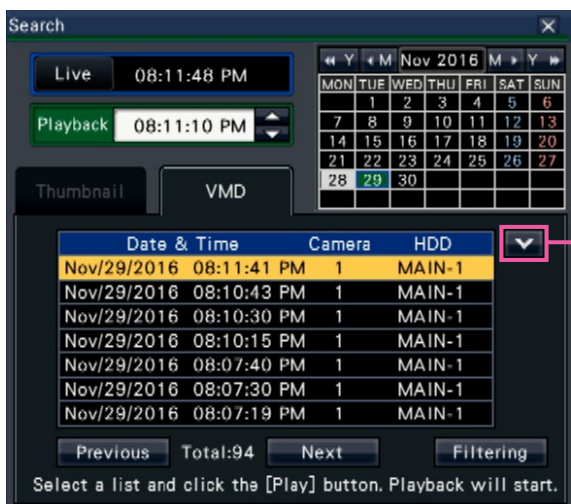
### Note:

- It is also possible to set the start point and end point of the search range by clicking the [Start]/[End] buttons after selecting the desired time in the [Playback] box and clicking the desired date on the calendar.

## Step 4

Click the [Search] button.

- This will run a VMD search within the designated search range and display a list of results as follows. It is possible to switch between list pages by clicking the [Previous]/[Next] buttons.



Change list size button

## [Change list size] button

Displays/Hides the list.

### Note:

- Up to 100 logs are displayed in the list. When more than 100 logs are filed in the search result, "> 100" will be displayed.
- The VMD search function searches the entire camera image by default. To designate a search area, click [Filtering] button and set the search area on the filtering panel. (☞ Page 138)
- It may take some time until the search results are displayed.

## Step 5

Select the line with the desired list, and click the playback button on the playback operation panel.

(☞ Page 127)

- Playback will start from the date & time selected.

### Note:

- Playback can also be started by double-clicking the desired date & time line.

## Step 6

To stop playback and return to live images, click the stop button on the playback operation panel.

(☞ Page 127)

- Playback will stop, and live images will be displayed.



## Set up VMD areas, etc. [Filtering]

Assign the search area, setup the motion detection area in the image and masking period.

### Step 1

Click [Search] button on the playback operation panel and click [VMD] tab. (Page 136)

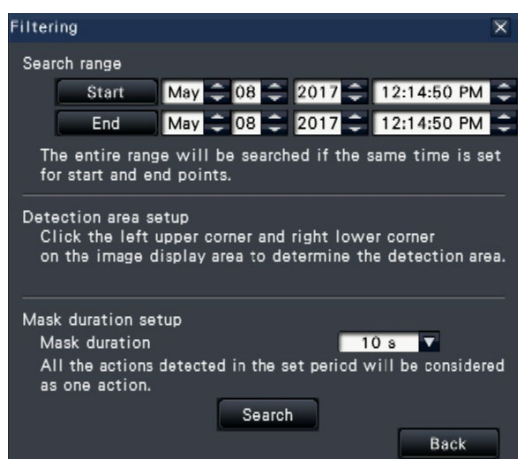
### Step 2

Select a camera that you want to search on the camera number panel.

### Step 3

Click the [Filtering] button.

→ The filtering panel will be displayed.



### [Designate the search range]

Designate the time range to search.

→ Set the "Start" and "End" by clicking [▲]/[▼] button of the date and time respectively.

### [Detection area setup]

Click 2 points of the upper left and lower right to create a square to be set as the area on the displayed image.

→ The set area will be displayed in gray, and the area will become subject to be searched for motion detection.



### Note:

- As the detection areas will be set up to match the image display area divided into 16×16 segments, the top left and bottom right detection areas may not be exactly as designated.
- It is impossible to delete the detection area that has been set. To change the detection area setting, perform Step 3 again.

### [Mask duration setup]

If VMD search takes too much time or the search produces too many results, set a mask duration to reduce the search frequency. When mask duration is set, no motion detection will be performed from the time motion is detected to the time mask duration is set.

To set, click the [▼] button next to [Mask duration setup] on the advances setup panel.

Mask duration: 1 s/ 5 s/ 10 s/ 30 s/ 1 min/ 5 min/ 10 min

**Default:** 10 s

### Step 4

Clicking the [Search] button will start searching by the assigned conditions.

## Copy recorded images

Copy the recorded image on the recorder to an external storage device (external HDD, USB memory stick). Personal information may be included in copied images. Take an extra caution to handle and manage the medium used for copying to prevent from information leakage.

It is impossible to copy recorded images when the recorder is in the following statuses.

- When the copy window is being opened by other user via a network
- When the medium (external storage device) is being selected by another user via network
- When the medium (external storage device) is selected as the playback medium

The copied recorded images can be played on the recorder or on a PC using the dedicated viewer software. The viewer software will automatically be copied on the storage medium (external storage device) on which recorded images are copied. Refer to page 183 for how to operate the viewer software. Refer to page 143 for how to play the copied recorded images on the recorder.

The original (n3r: video, n3a: audio) file or MP4 file copied on the external storage device can be played back on the recorder.

### Note:

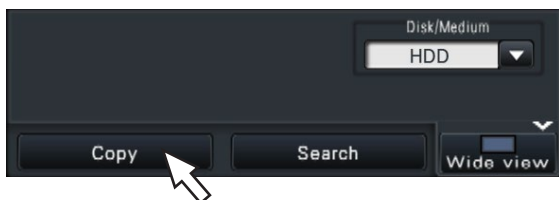
- When copying images onto an external storage device, format the device first before starting copying.
- Required time for copying varies depending on the data size to be copied. It will take longer time to copy recorded images when they were recorded with a larger image capture size, in a higher quality or at a higher frame rate even though the same number of cameras and the same duration are set for copying.
- Copying of recorded images may sometimes be performed incorrectly when there exist 2 or more images recorded at the same date & time resulting in change of the date & time setting or the auto time adjustment function.
- In the following cases, the copying currently being performed will stop.
  - When any of the settings of the recorder is changed
  - When a user who started manual copy logged out (It will take around 90 seconds until copying is stopped after the web browser is closed.)
  - When the original data (source for copying) is lost (overwritten or malfunction of the hard disk drive)

### Step 1

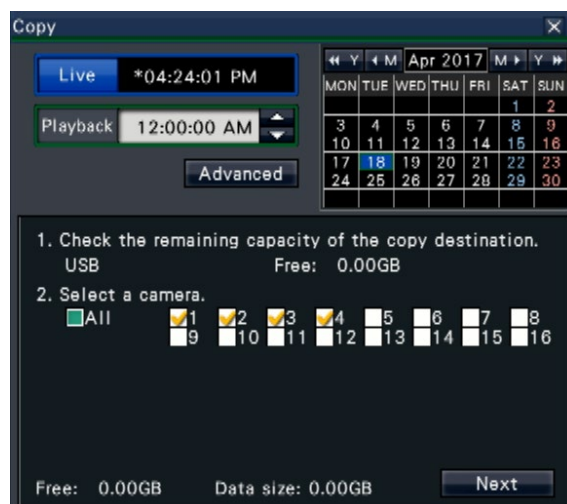
Connect an external storage device to the copy port [COPY] of the recorder.

### Step 2

Click the [Copy] button on the operation panel of the main monitor.



→ The copy panel will be displayed (if in playback mode, playback will be paused).



### Note:

- The copy panel cannot be displayed in the web browser when it has already been opened by another user. When copying is already underway, the copying window will be displayed.

# [Operation via recorder's main monitor]

## Step 3

Set copying conditions following the instructions on the screen.

Clicking [Next]/[Back] button switches the page. Click the [x] button to close the window.

Item	Description
Camera selection	Check the number of the camera whose recorded data is to be copied. Checking [All] will copy the recorded data of all cameras.
Date & Time range	Specify times and dates to define the range for copying recorded data. Set the year, month, date & time of the start point and end point. It is also possible to set the start point and end point of the filter range by clicking the [Start]/[End] buttons after clicking the desired date on the calendar and then selecting the desired time in the [Playback] box.
File format selection	Check the file format (Original (n3r/n3a), MP4) of the recorded image to be copied.

Free:

The remaining space of the storage medium will be displayed.

Data size:

The total volume of all recorded images to be copied (including the viewer software) will be displayed.

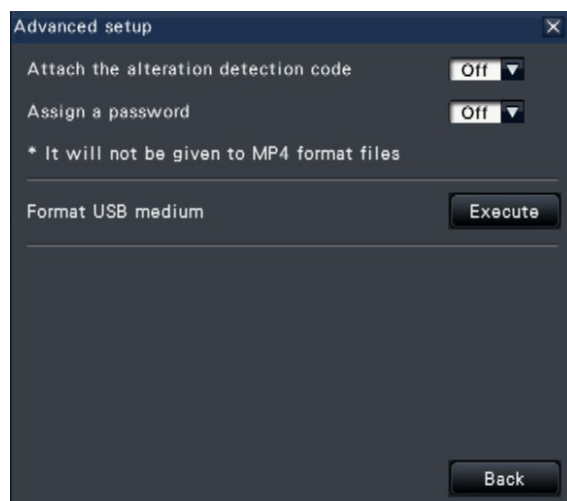
\* Indicated as \*.\*\* GB while the data volume is being calculated.

\* When the calculated value exceeds the remaining volume during calculation, ">" will be indicated in front of the data size, and the calculation stops.

\* If ">" is indicated even though the calculated value is smaller than the remaining volume, it means that over 10000 of recorded data exists as target.

## Note:

- Images recorded in H.264 or H.265 can be copied in MP4 format. If audio is recorded in AAC-LC, the image is copied in MP4 format with audio.
- Copying and downloading (☞ Page 177) in MP4 format are available for up to 2 users at the same time.
- To attach a code for alteration detection, click the [Advanced] button. On the advanced setup window, set [Attach the alteration detection code] to "On".



- When you assign a password to the data that you will copy, click the [Advanced setup] button and set "On" for [Assign a password] on the displayed advanced setup screen.
- Clicking the [Back] button will return to the copy panel.

## Step 4

Click the [Copy] button on the copy panel.

→ If [Assign a password] is set to "On", the password entry screen will be displayed.

Otherwise proceed to Step 6.





## Step 5

Enter the password, and then click the [Next] button. For character entry, refer to "About the operation of on-screen keyboard" (☞ Installation Guide Page 8).

- Enter 5 to 8 alphanumeric characters for a password.
  - To confirm the password, enter the same password again into the "Retype password" column.
  - To save the entered password, check "Memorize password temporarily". The next time data is copied, the password entry window will open with the password already filled in. The password will be retained in memory until the power of the recorder is turned off.
- The copy start confirmation window will be displayed.

## Step 6

Click the [OK] button in the copy start confirmation window.

- Switches to the copying window and displays copying progress.

### Important:

- Do not disconnect the external storage device when copying is being performed. Otherwise the data stored on the external storage device could be lost.
- If the copy destination lacks sufficient remaining storage capacity, copying will continue until the medium is full. Use a medium with sufficient storage capacity to avoid left over data that is not copied.
- Copying will be performed in the following order: Viewer Software → Images → Audio Depending on the designated time range for copying and the remaining space of the storage medium, images and audio may not be copied.
- Clicking the [Copy] button during the copying process will display the copying window. Clicking the [Cancel] button will display the copy cancel confirmation window. Copying continues while the copy cancel confirmation window is displayed.
- Do not turn off the power of the recorder while copy is in progress. If the power is turned off while copying, the storage media copied on will become unusable.
- Recorded images (data) of up to 1 million can be copied onto the external storage device. However, it is impossible to copy any more data exceeding these limits even when there is a sufficient remaining capacity.

- Due to characteristics of the file system, the copying time becomes longer as the number of recording data copied to the external storage device at one time increases. To copy a massive number of files, keep the number of files to handle at one time less than 10000. And every time the copy is finished, it is recommended to disconnect the memory device and connect it again.
- The progress of the copy is calculated based on the size displayed as "Data size". If copying more than 10000 files, correct value will not be displayed.

## Step 7

Once the copying process is completed, the copy complete window will be displayed. Click the "Close" button and remove the external storage device.

### Note:

- Usage time varies depending on the capacity of the external storage device or the recording content. Retry again later if you fail in operation.

## Format USB medium

USB medium recognizable by the recorder can be formatted by the recorder.

---

### Important:

- Formatting will delete all data and setup information stored on a USB medium. Image data once deleted cannot be restored.
  - The file systems recognizable by the recorder are exFAT, FAT (FAT 16) and FAT 32.
  - This recorder can format in FAT (FAT 16), FAT 32 and exFAT according to the capacity of the USB medium.
- 

### Step 1

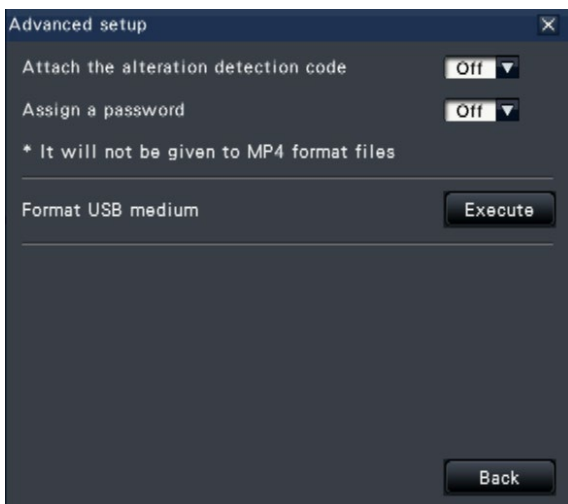
Click the [Copy] button on the operation panel of the main monitor. (☞ Page 139)

→ The copy panel will be displayed.

### Step 2

Click the [Advanced] button. (☞ Page 139)

→ The setup menu (advanced) will be displayed.



### Step 3

Click the [Execute] button for "Format USB medium".

→ The confirmation window will be displayed.

### Step 4

Click the [OK] button.

→ Formatting of the USB medium will start, and a window indicating that formatting is in progress will be displayed.

When formatting is completed, the format completion window will be displayed.

---

### Important:

- Do not turn off the power of the recorder while formatting is in progress.
-

## Play back copied images with this recorder

Display recording images copied to the external storage device (copy data) on the list, select among them and playback. It is possible to search for copied data using filters.

### Important:

- The n3r (video)/n3a (audio) file or MP4 file copied to the external storage device can be played back.

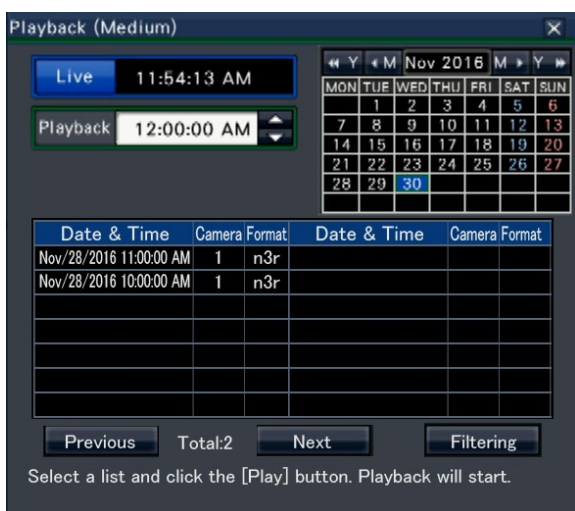
### Step 1

Insert the external storage device to which the recording data is copied into the recorder.

### Step 2

Select [USB] of the "Disk/Medium" on the playback operation panel.

→ The media playback panel will be displayed. Up to 10000 logs are displayed in the list. When more than 10000 logs are filed in the search result, "> 10000" will be displayed.



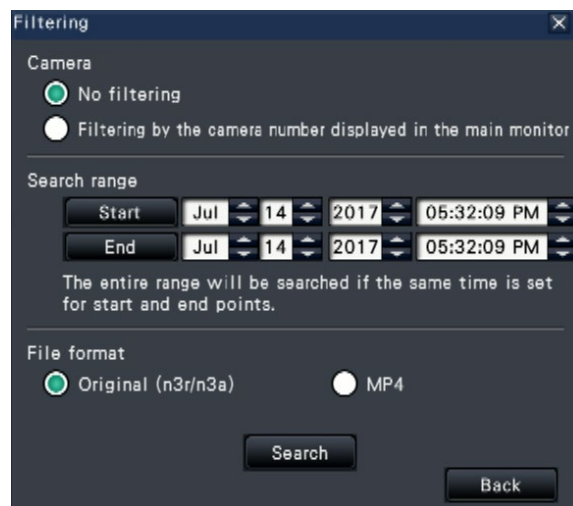
### Note:

- When copying large amounts of data, more time is needed to display the list.

### Step 3

Click [Filtering] button to filter the number of the copied data displayed on the list. The filtering panel will be displayed.

To play back without filtering, proceed to Step 5.



### Filtering by camera

Select "Filtering by displaying camera". Filtering will be applied to the camera whose image is displayed.

### Filter by designating date & time

Specify the filter range by designating a date & time. To specify the filter range, set the year, month, day and time of the start and end point by clicking the respective [▲]/[▼] buttons.

### File format

Select the format for filtering.

### Note:

- It is also possible to set the start point and end point of the filter range by clicking the [Start]/[End] buttons after clicking the desired date on the calendar and then selecting the desired time in the [Playback] box at Step 2.

### Step 4

Click the [Search] button.

→ A list of search results for the specified filter criteria is displayed. It is possible to switch between list pages by clicking the [Previous]/[Next] buttons.

### Note:

- When copying large amounts of data, more time is needed to display the list.

## Step 5

Select the line with the desired date & time, and click the playback button on the playback operation panel.

→ Playback will start from the date & time selected.

If the multiscreen was displayed, it will change to the 1-screen.

---

### Note:

- Playback can also be started by double-clicking the desired date & time line.
- If the selected copied data is password protected, the password entry screen will be displayed. Enter the assigned password, and click the [OK] button. If the wrong password is entered, the copied data cannot be played back. For character entry, refer to "About the operation of on-screen keyboard" (☞ Installation Guide Page 8).
- Usage time varies depending on the capacity of the external storage device or the recording content. Retry again later if you fail in operation.
- If you play multiple data files continuously, the audio may not be synchronized. In this case, pause and then restart playback.

---

## Step 6

To stop playback and return to live images, click the stop button on the playback operation panel.

→ Playback will stop, and live images will be displayed.

---

### Note:

- Playback can also be stopped and live images can also be displayed by the following operations:
  - Clicking the [x] button on the media playback panel.
  - Clicking the [Live] button on the date & time operation panel (playback display)
  - Changing the playback medium

# List of operation items

The following "Top items" mainly shows operation and "Middle items", "Bottom items" and "Details" mainly show each operation menu of the main monitor and the browser.

○, △ and × indicate operable, partially limited, inoperable respectively.

Top items	Middle items	Bottom items	Details	Remarks	Main body	Browser
Live image display	Main monitor	Ctrl screen	Image display area		○	○
			Status display panel		○	○
			Operation panel	* Tree view is available for the browser.	○	○
			[Wide view] button		○	○
		Wide view display	Image display area		○	○
			Status display panel		○	×
			Operation panel	* The browser will be displayed by the right click of the mouse.	○	○
			[Ctrl screen] button	* The browser will be displayed by the right click of the mouse.	○	○
	Sub monitor	–	–	* The setup of the sub monitor is possible, but the actual image on the sub monitor cannot be displayed on the browser.	○	×
	About the operation panel	Multiscreen buttons	–	* Only the 4-screen is available for the browser.	○	△
		Digital zoom buttons	–	* ×1, ×1.25, ×1.5, ×1.75, ×2, ×2.5, ×3, ×3.5, ×4, ×5, ×6, ×7, ×8 are available for the recorder and ×1, ×2, ×4 are available for the browser. * It is available only in the 1-screen/4-screen for the recorder and the 1-screen for the browser. * It is operable by the mouse wheel for the recorder.	○	△
		Mute button	–	* It can be muted by the PC setting for the browser.	○	×
		Fisheye correction (1PTZ/4PTZ) button	–		○	×
Change the camera display position in the wide view screen		–	* The images are fixed in order of the camera number for the browser.	○	×	
Digital zooming in the wide view screen		–	* It is operable by the mouse wheel only in the 1-screen for the recorder.	○	×	
Camera operation	Camera operation	Camera operation	–	* It is available in the 1 screen/4-screen only for the recorder and 1-screen for the browser.	○	○
		Panning and tilting	PT button		○	○
			PT pad		×	○
			Click centering		○	○
		Zoom	[Zoom] button		○	○
			Mouse wheel zooming		○	○
			Drug zooming		○	○
		Focus	–		○	○
		Brightness	–		○	○
		Auto mode	–		○	○
		Preset position	Register camera preset positions		○	○
Move camera preset positions			○	○		
Move to home position			○	○		
[Enable camera control with mouse] checkbox	–	* Since this is a switch of the mouse operation on the image of the HDMI monitor, it cannot be set from the browser.	○	×		

# [Operation via recorder's main monitor]

Top items	Middle items	Bottom items	Details	Remarks	Main body	Browser
Camera operation	Camera setup	Register home position	–		○	○
		Execute auto back focus	–	* Set it by the browser of the camera	○	×
		Set up mask areas	–	* Set it by the browser of the camera	○	×
		Zoom/Focus adjustment	–	* Set it by the browser of the camera	○	×
		Initial position setup	–	* The settings of Inclination, vertical angle adjustment and horizontal adjustment of the image cut area of the fisheye camera is available.	○	×
Alarm action	Action to be taken upon an event occurrence	–	–		○	○
	Stop buzzer only.	–	–		○	×
	Cancel the alarm action	–	–		○	○
	Cancel the error action	–	–		○	○
	Display alarm log				○	○
	Display error log				○	○
Recording	Record images (schedule recording)	–	–		○	○
Search/ Playback	Play recorded images	Playback operation panel	Playback		○	○
			Stop		○	○
			Pause		○	○
			Next image/ Prev image		○	○
			Fast forwarding/reverse fast forwarding		○	○
			Next record/ Prev record		○	○
			Go to last		○	○
			Jump playback		○	×
			Captured image		○	×
			Playback status display		○	○
			Wide view display		○	○
		Select medium	–		○	○
		Playback medium	–		○	×

# [Operation via recorder's main monitor]

Top items	Middle items	Bottom items	Details	Remarks	Main body	Browser
Search/ Playback	Search and play	Play image recorded at a designated date & time	–		<input type="radio"/>	<input type="radio"/>
		Play the latest recorded image	–		<input type="radio"/>	<input type="radio"/>
		Playback by designating a timeline	–	* The timeline is not displayed on the browser. Play back recorded images from the recording event list.	<input type="radio"/>	<input checked="" type="radio"/>
		Play back recorded images by designating in REC & event list	–		<input checked="" type="radio"/>	<input type="radio"/>
		Play images selected from alarm and error logs (Log search)			<input type="radio"/>	<input type="radio"/>
		Search and play recorded images triggered by motion detection (VMD search)	–		<input type="radio"/>	<input type="radio"/>
		Play back recorded image by designating a thumbnail	–		<input type="radio"/>	<input checked="" type="radio"/>
Copy/ Download	Copy	–	–	* The viewer software is copied together with the recorded image.	<input type="radio"/>	<input type="radio"/>
	Format USB medium	–	–		<input type="radio"/>	<input checked="" type="radio"/>
	Download data (to PC)				<input checked="" type="radio"/>	<input type="radio"/>
	Download viewer (to PC)				<input checked="" type="radio"/>	<input type="radio"/>

## Configure the network settings

The recorder can be operated using a mouse or from a web browser on a PC (excluding certain functions and settings). On the following pages, operation from a web browser, setting up the PC and related matters will be described.

When operating the recorder using a web browser, it is necessary in advance to configure the network settings of the recorder and a PC.

When the network settings of the PC are as follows, it is unnecessary to configure the settings. It is possible to configure the settings and operate the recorder using a web browser after completing the connection.

IP address: 192.168.0.2 - 192.168.0.249, 192.168.0.251 - 192.168.0.254

Subnet mask: 255.255.255.0

Default gateway: 192.168.0.1

When the settings are configured differently from the above, configure the network settings of the recorder or a PC.

### Configure the network settings of the recorder

The network settings of the recorder can be configured on the [Basic] tab of the "Network" page under the setup menu [Advanced setup].

Refer to the chapter relating to the [Basic] tab of "Network" of the setup menu on page 50 for how to operate.

### Configure the network settings of the PC

The TCP/IP setting of the PC shall be changed to conform to the settings of the recorder. When using the recorder with the default (IP address: 192.168.0.250), set the IP address of the PC to "192.168.0.xxx (a number from 2 to 254 except 250 (this recorder))".

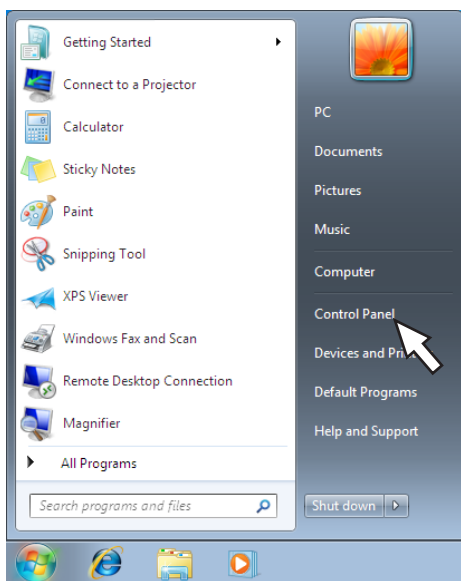
The settings described in these operating instructions are based on the standard settings for Windows 7. Refer to the operating instructions of the respective OS for further information.

#### Step 1

Click "Control Panel" on the start menu.

#### Important:

- Log in to the PC as an administrator.



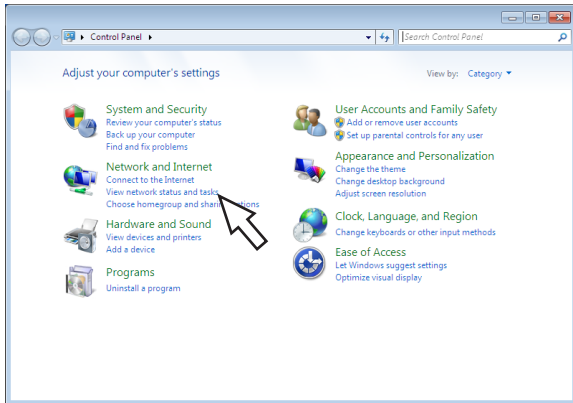
→ "Control panel" will be displayed.



# [Setup Network]

## Step 2

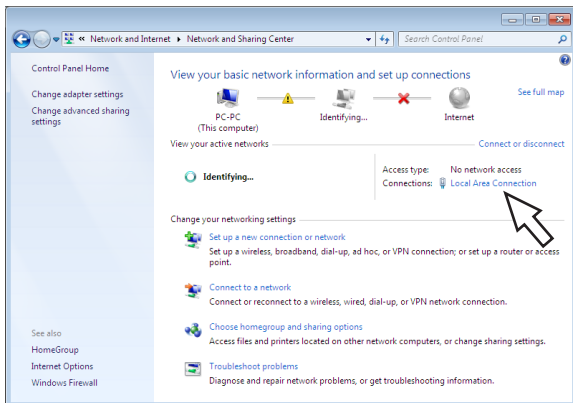
Click "View network status and tasks".



→ The "Network and Sharing Center" window will be displayed.

## Step 3

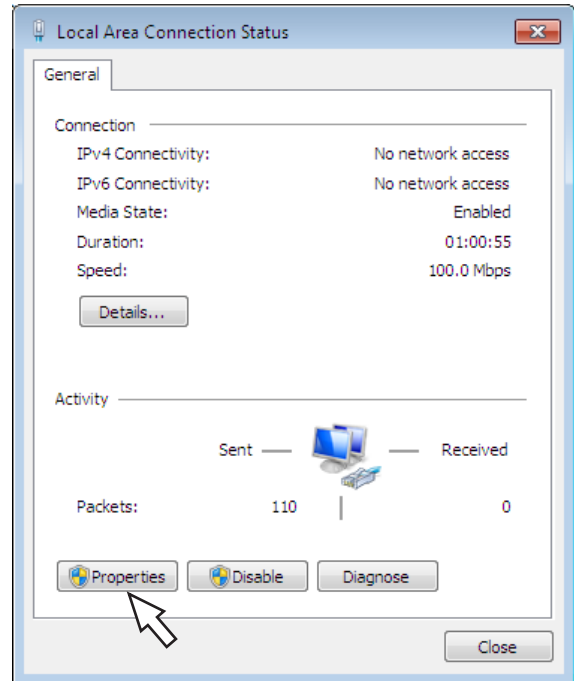
Click "Local Area Connection".



→ The "Local Area Connection Status" window will be displayed.

## Step 4

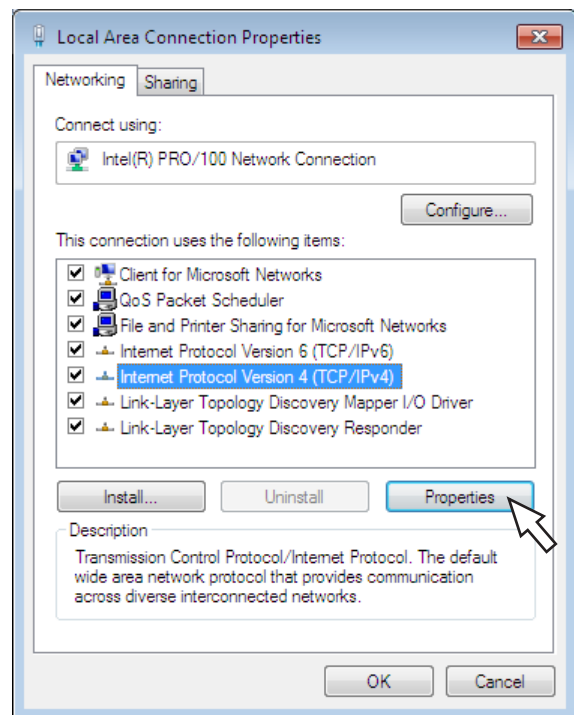
Click [Properties]



→ The "Local Area Connection Properties" window will be displayed.

## Step 5

Click "Internet Protocol Version 4 (TCP/IPv4)", and then [Properties].

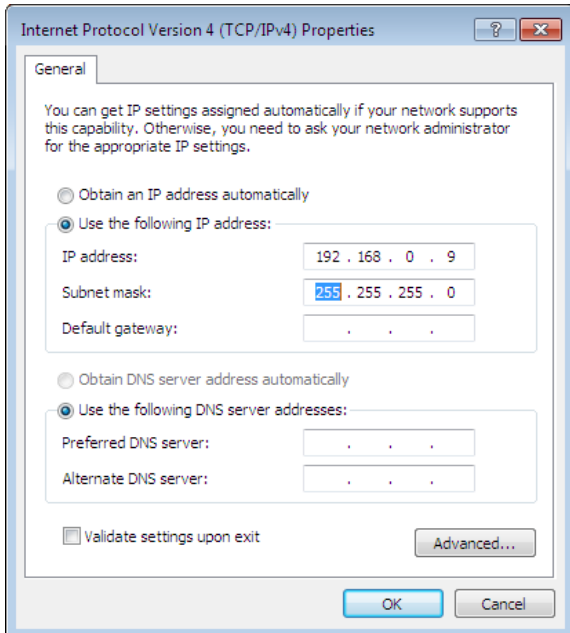


→ The "Internet Protocol Version 4 (TCP/IPv4) Properties" window will be displayed.

## Step 6

Select [Use the following IP address] and set "IP address" and "Subnet mask" as follows:

- IP address: 192.168.0.9
- Subnet mask: 255.255.255.0



Depending on the network configuration, it is necessary to configure "Default gateway". Contact the system administrator for further information about the settings.

## Step 7

Click the [OK] button and close the window.

# Network security of the recorder

## The security function of the recorder

### ① Access restriction by the user authentication

It is possible to restrict users to access the recorder by selecting "On" for "User authentication". (☞ Page 57)

### ② Access restriction by changing the HTTP port number

By changing the HTTP port number, it is possible to prevent illegal access such as a port scanning, etc. (☞ Page 52)

---

**Important:**

- Design and enhance security countermeasures to prevent leakage of information such as image data, authentication information (user name and password), alarm mail information, FTP server information, etc. Perform the countermeasure such as the access restriction using the user.
  - After the unit is accessed by the administrator, make sure to close the web browser for added security.
  - Change the administrator password periodically for added security.
- 

## Enhance network security

The registration of the secure communication license allows you to encrypt the communication between the recorder and camera and enhance the network security. The encryption of the recorded data will further enhance the security.

Contact your dealer for secure communication. For setting details, refer to the "Operating Instructions Secure Communication Kit" on the provided CD-ROM.

In addition, network security can be enhanced by the following measures.

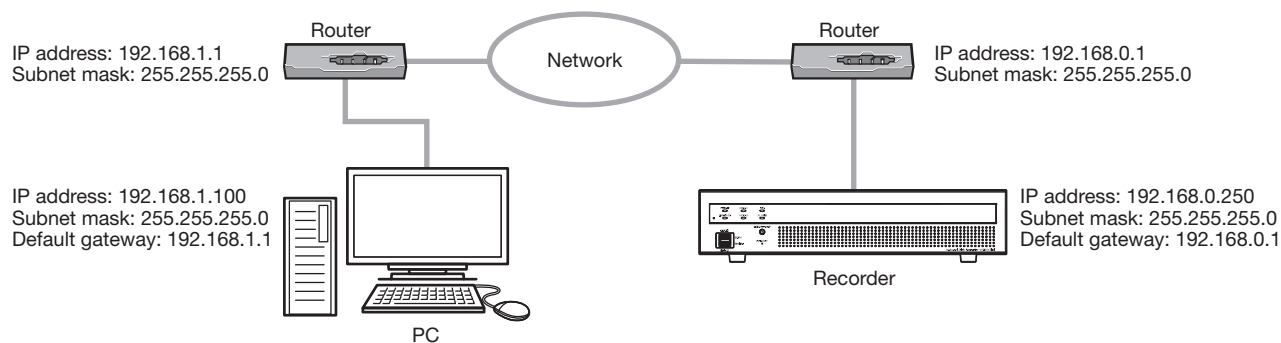
It is possible to enhance the network security by dividing the subnet using a router to authenticate users twice (by the recorder and by the router). When connecting the recorder to an unsecured network, secure the network connection by installing a VPN (Virtual Private Network) device, etc. between the recorder and the host PC.

---

**Important:**

- The settings for the network security vary depending on the network to which the recorder is to be connected such as an intranet or Internet service provider. Refer to a network administrator for further information about the network security.
- 

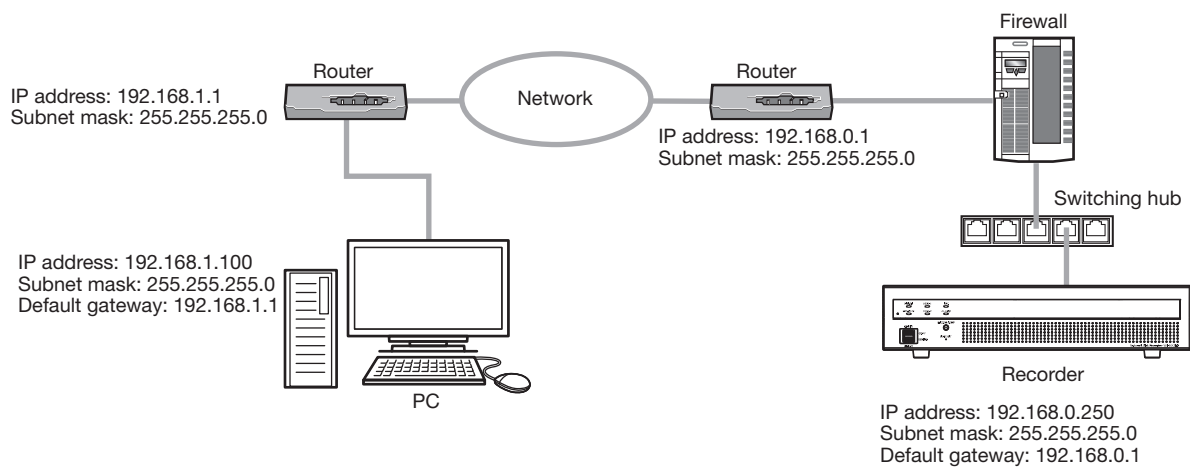
### [Connection example]



By using a firewall, etc., it is possible to use packet filtering and protocol filtering to enhance the network security.

# [Setup Network]

## [Connection example]



## Display the operation window

Boot the PC and operate the recorder using a web browser.

### Step 1

Start the web browser.

### Step 2

Enter the IP address or URL assigned to the recorder into the address box, and then press the [Enter] key.



→ The authentication window will be displayed. The authentication window will not be displayed when "Off" is selected for "User authentication" on the [Basic] tab of "User management" under the setup menu [Advanced setup].

### Important:

- Refer to a network administrator for further information about the set IP address.
- Do not attach "0" before the numbers when entering IP address.

Example:

○: 192.168.0.50

×: 192.168.0.050

- If a message is displayed on the information bar, see page 203.
- If the text is not displayed, add the IP address set to the recorder to the compatibility view settings of IE and the trusted site.

### Note:

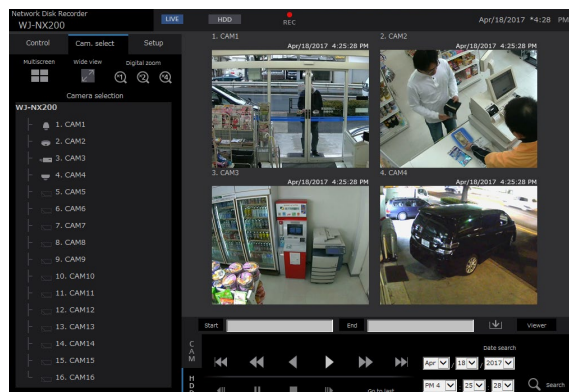
- When the top page is displayed for the first time, the install wizard of the ActiveX control required to display images from the camera will be displayed. Follow the instructions of the wizard.
- To install ActiveX, the computer must be logged in by a user with "computer administrator" authorization and the web browser must be executed by the administrator.
- The ActiveX control and the viewer software (☞ Page 181) will be installed at the same time.

- When any ActiveX control for our recorder other than this product is already installed, uninstall "WebVideo ActiveX" from "Uninstall a program" and then install ActiveX control for this product. (☞ Page 181)
- When the installation wizard is displayed each time displaying other page even though installation of ActiveX control for this product has been completed, reboot the PC.
- The ActiveX control used on each PC should be licensed individually. The recorder has the license for 1 PC. Refer to your dealer for the software licensing.

### Step 3

Enter the user name and password registered in the recorder, and then click the [Login] button.

→ The top page will be displayed.

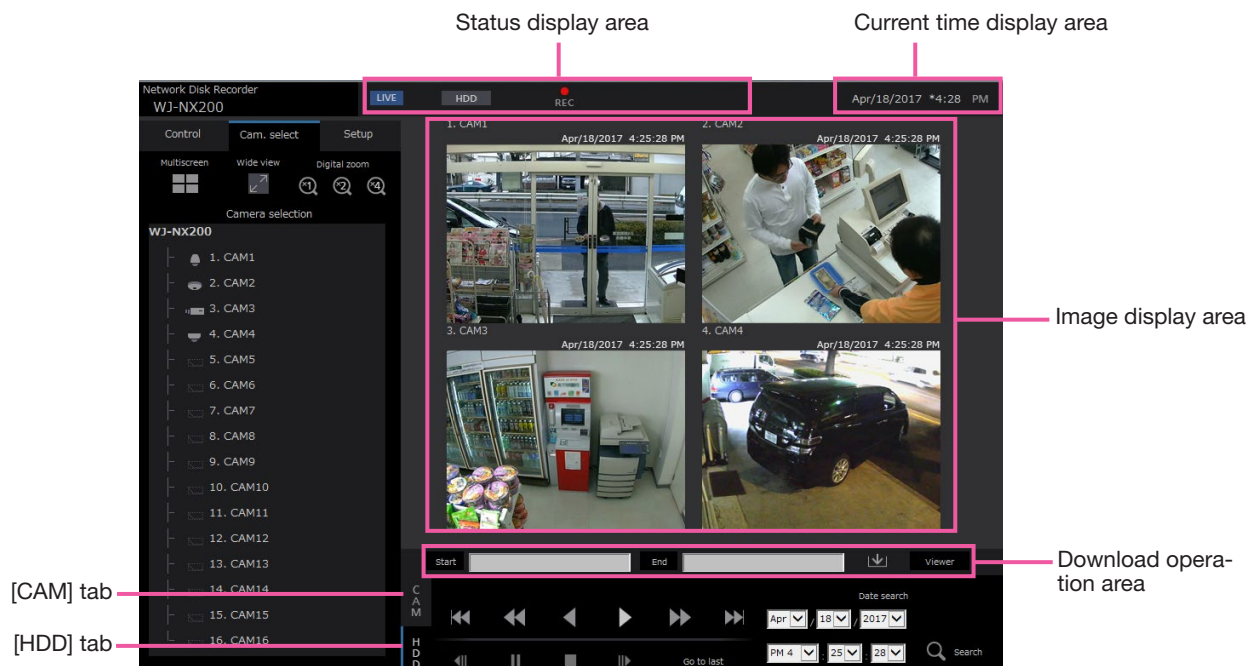


### Important:

- Refer to a system administrator for the set user name and password.
- Refer to page 59 for how to register users.
- Change the password periodically. Refer to page 59 for how to change the password.
- Refer to page 203 when a message is displayed on the information bar or when an unnecessary status bar or scroll bar is displayed on the window.

# About the operation window

## Top Page



### [Control] tab

Displays operations such as searching for and copying recorded images, search results and log information.

It can also be used to switch camera images between display of live images on a multiscreen, wide screen, etc.

### [Cam. select] tab

Can be used for camera operations such as switching camera images.

### [Setup] tab

Can be used to configure the settings of the recorder. Refer to the "Setup via recorder's main monitor" section starting from page 9 for setup items and their further information. Refer to page 187 for basic operations.

### Status display area

The current status of the recorder such as playback status, recording status, etc. will be displayed.

### Current time display area

The current date & time will be displayed.

### Image display area

Playback images and live images will be displayed. The camera title is displayed at the upper left and the date & time (the current date & time of the camera's clock when displaying live images and the date & time when the images were recorded when playing recorded images) at the upper right. Clicking the camera title while displaying images on a multiscreen will display images from the respective camera on a 1-screen.

### Download operation area

Downloads the images currently being played and the viewer software.

### [CAM] tab

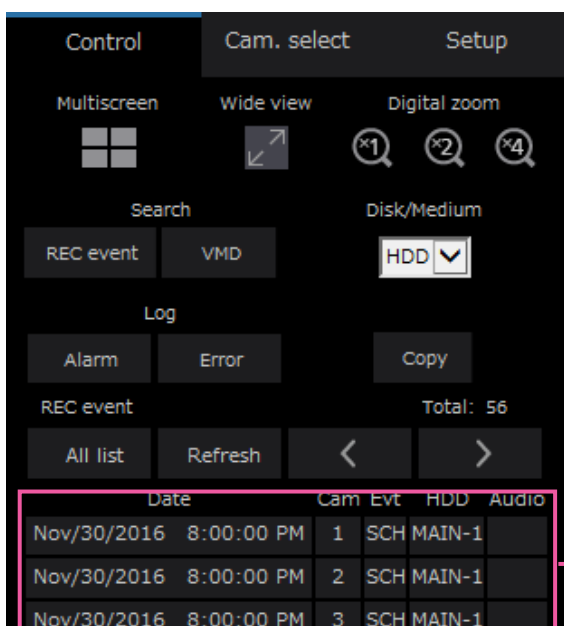
Camera operations such as zooming, focusing, auto mode, etc. can be performed on this tab.

### [HDD] tab

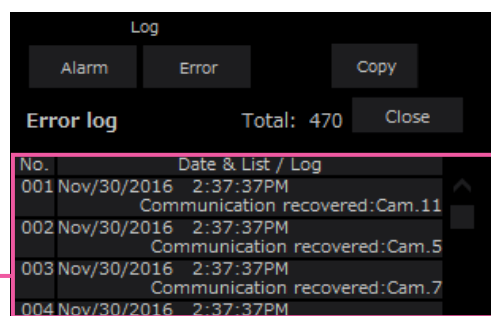
Can be used to play back or operate recorded images.

## Control panel

The following operation panels will be displayed when the [Control] tab is clicked.



List display area



### [Multiscreen] box

Images recorded using up to 4 cameras can be played simultaneously on a multi-screen. Each click of the button switches to the next 4 screens in the sequence: camera 1 to 4→camera 5 to 8→camera 9 to 12→camera 13 to 16.

### [Wide view] box

Displays live or recorded images on a full-screen. (Page 162)

### [Digital zoom] box

Camera image displayed on a 1-screen will be displayed in the proportion of the clicked zoom ratio button.

[x1]: x1, [x2]: x2, [x4]: x4

### [Search] box

Use this button to search recorded images. The search result will be displayed in the list display area.

#### • [REC event] button

Select [HDD] for "Disk/Medium" to display this button. The recording event search window will be displayed.

#### • [VMD] button

Select [HDD] for "Disk/Medium" to display this button. The motion detection search window will be displayed.

#### • [Copy data] button

Select [USB] for "Disk/Medium" to display this button. Displays the copy data search window.

### Disk/Medium

Select a destination folder to store the current playing images.

HDD/USB

### [Copy] button

Select [HDD] for "Disk/Medium" to display this button.

Displays the copy window. Use this button to copy the recorded images to an external storage device.

### [Log] box

Select a log for display.

Clicking the buttons will display the respective logs in the list display area.

Displayed logs: Alarm log, error log

#### • [Close] button

Close the window displaying log information.

## List display area

Total: Displays the total number of listed data.

No.: The number will be displayed in the order of occurrence.

Date & List: Date & time when an event or trouble occurred will be displayed.

Log: Details of the occurred event are displayed.

The following are the maximum number of logs that can be saved. When the number of logs exceeds the limit, the older logs will be overwritten by the newer logs. In this case, the oldest log is the first to be overwritten.

Alarm log: Up to 1000

Error log: Up to 1000

Clicking date & time in the list can start playback from that date & time. (When clicking date & time in the log information, playback will be started from a point approx. 5 seconds before the date & time selected.)

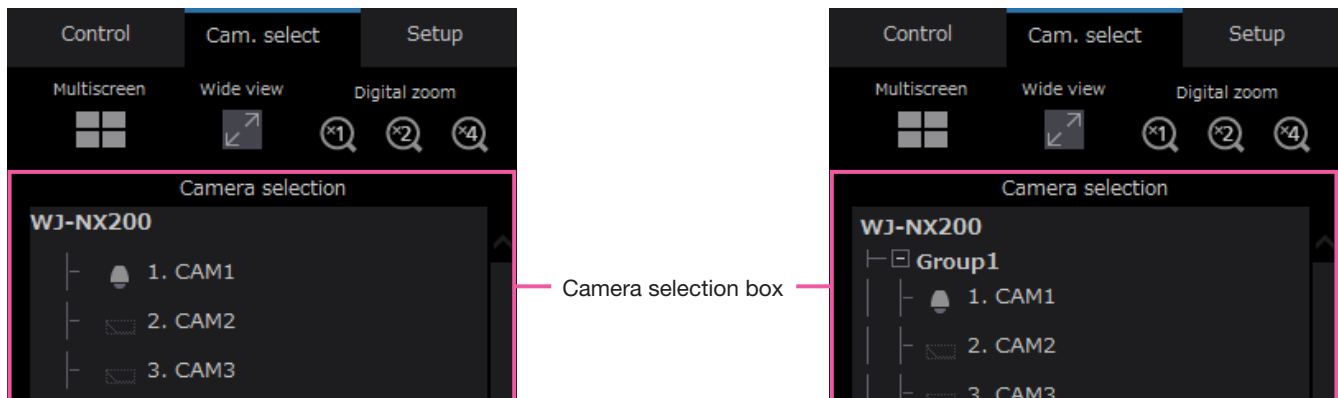
To display search results or a list of copied data, refer to "Search and play recording events" (Page 171) and "Check a list of copied recorded images" (Page 179), respectively.

## Note:

- To start playback from the beginning of the pre-event recording when the "Pre-event duration" setting is longer than 5 seconds, click the playback button, and then click the previous record button.
- The corresponding recorded data that is displayed in the selected log list cannot be played if the data has already been overwritten or erased.

## Camera selection panel

Clicking the [Cam. select] tab will display the operation panel shown below. Switch the image display area and select camera images.



For the [Multiscreen] box, [Wide view] box and [Digital zoom] box, refer to "Control Panel" (Page 155).

## Camera selection box

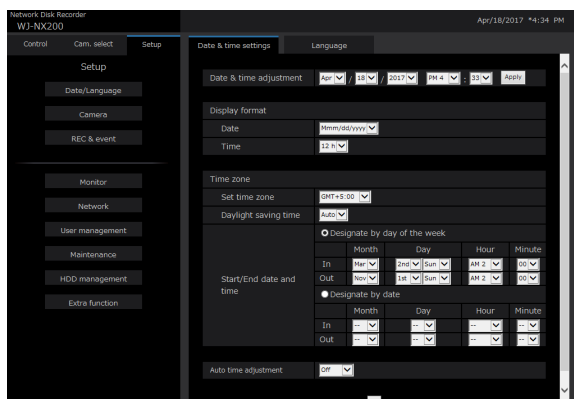
Clicking the camera title will display images from the selected camera on a 1-screen in the image display area. Setting the [Group display] of [Monitor] - [Web browser] to "On" (Page 188) enables the group display of cameras.



## Setup panel

The following setup panel will be displayed when the [Setup] tab is clicked. The settings such as the date & time display of the recorder can be configured.

Refer to the "Setup via recorder's main monitor" section starting from page 9 for setup items and their further information. Refer to page 187 for basic operations.



### [Date/Language] button

Displays the "Date/Language" page. Perform settings such as date & time and daylight saving time.

### [Camera] button

Displays the "Camera" page. Perform registration of network cameras.

### [REC & event] button

Displays the "REC & event" page. Configure the settings relating to the recording schedules and alarms.

### [Monitor] button

Configure the settings relating to the main monitor and the sub monitor.

### [Network] button

Configure the settings relating to the network.

### [User management] button

Register, edit or delete the user information. The administrator information can also be changed.

### [Maintenance] button

Displays the system information of the recorder. It is used for registration of license and firmware update.

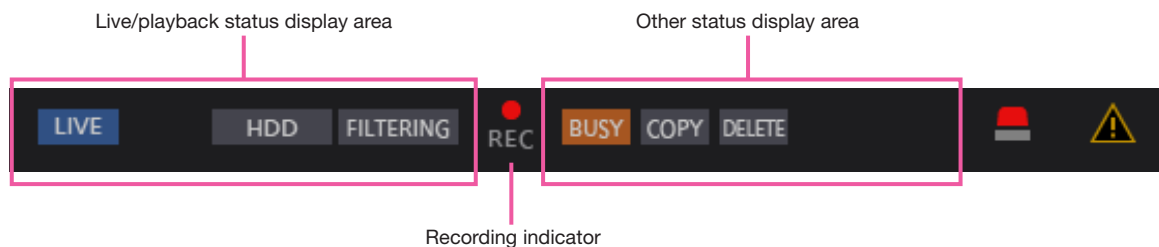
### [HDD management] button

Format the HDD or change the operation mode of HDDs.

### [Extra function] button

Sets the security function.

## Status display area



### Live/playback status display area

The status of an image (live image/recorded image) will be displayed. The following information will be displayed:

- : Indicates that live images are being displayed.
- : Indicates that playback images are being displayed.
- : Indicates that reverse playback images are being displayed.
- : Indicates that fast playback images are being displayed.
- : Indicates that fast reverse playback images are being displayed.
- : Indicates that a paused image is being displayed.
- : Indicates that recorded images/audio are being downloaded.
- : Indicates that downloading of recorded images/audio is completed.

### [Step 1] - [Step 7]

Indicates the playback speed.

- : Normal playback speed (1x)
- : Approx. 4x playback speed
- : Approx. 8x playback speed
- : Approx. 16x playback speed
- : Approx. 32x playback speed
- : Approx. 48x playback speed
- : Approx. 96x playback speed

- : Indicates that the HDD is selected as playback media.
- : Indicates that the USB medium is selected.
- : Indicates that the formatting of the HDD or the USB medium is in progress.
- : Indicates that SD memory data is being obtained.
- : Indicates filtering of recording events.

### Recording indicator

Indicates the status of recording.

- : Indicates that recording is being performed.
- : Indicates that recording is not being performed.

### Other status display area

Indicates the following statuses.

- : Indicates that the camera is inoperable since a user with a higher priority is currently operating the camera.
- : Indicates that copying is being performed.
- : Indicates that recorded images are being deleted. (Auto deletion only)

### Alarm button [ALM]

This button will be displayed when an event occurs. The alarm action will be canceled by clicking this button.

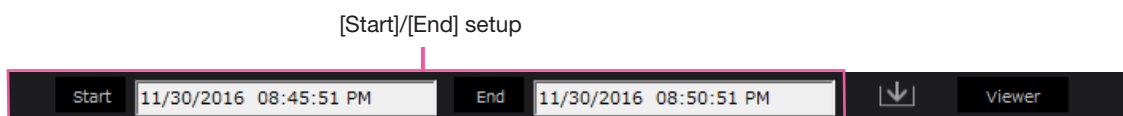
### Error button [ERR]

This button will be displayed when an error occurs. The error action will be canceled by clicking this button.

#### Note:

- Once an emergency recording starts, it will not stop even by clicking the [ALM] button. It will stop only when "Ext." is selected for "Recording duration" on the "Emergency rec." page.

## Download operation area



### [Start]/[End] setup

Specify the time range for downloading images and audio by setting a start and end time. This operation is available only during playback on a 1-screen.

(☞ Page 177)

### [Viewer] button

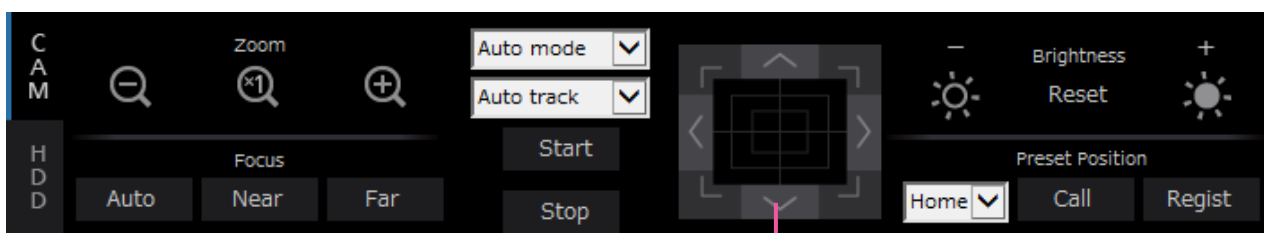
Download the viewer software for playing the downloaded images and audio.

### [Download] button

Downloads recorded images and audio at the designated date & time.

## [CAM] tab

When displaying live images from a camera with the panning/tilting function, the following camera controls are available. Depending on the model of the camera, some operations may not work.



Control buttons/Control pad

### [Zoom] box

Zooming can be adjusted by clicking the [-] button (wide) or the [+] button (tele). Click the [x1] button to reset the zoom factor to x1.

### [Focus] box

Focusing can be adjusted by clicking the [Near] button or the [Far] button. The auto focus function can be performed by clicking the [Auto] button.

### [Auto mode/AUX/Wiper] box

Switch the operation mode in the box to use it. Refer to page 165 for the details.

### Control buttons/Control pad

Clicking the buttons around the control pad can move (pan/tilt) a camera in the clicked direction. Clicking inside the control pad also can adjust the vertical/horizontal position (pan/tilt) of the displayed images. Panning/tilting speed will be faster if a clicked point gets farther from the center point of the control pad.

### [Brightness] box

The brightness (lens iris) can be adjusted by clicking the [-] (darker) button or the [+] (brighter) button. It is possible to reset the adjusted brightness by clicking the [Reset] button.

## [Preset Position] box

### • [Regist] button

Register the current camera position as a preset position.

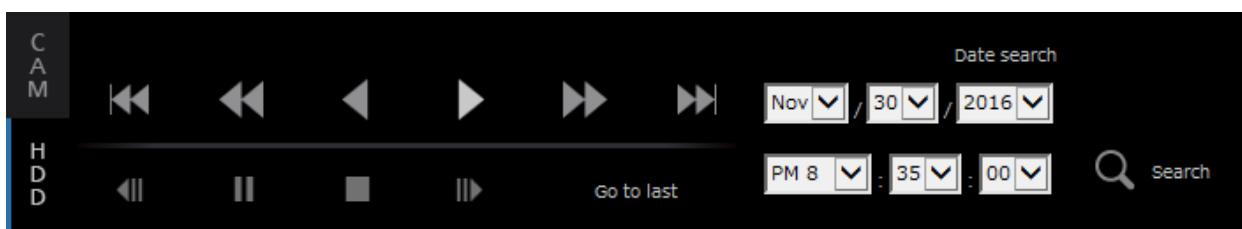
Select a preset position number (1 - 256) by clicking the [▼] button after moving the camera to a position to be registered as a preset position, and then click the [Regist] button. It is impossible to register the position as "Home".

### • [Call] button

Moves the camera to the preset position registered in advance.

Select a preset position number (Home, 1 - 256) by clicking the [▼] button, and then click the [Call] button. It is necessary to register preset positions in advance to move the camera to the preset positions.

## [HDD] tab



### [Play]/[Rev play] button

Plays recorded images in forward or reverse.

### [FF]/[FR] button

Plays recorded images at high speed in forward or reverse.

Playback speed of fast playback will change in the following order each time this button is clicked:

Step2 (Approx. 4x) → Step3 (Approx. 8x) → Step4 (Approx. 16x) → Step5 (Approx. 32x) → Step6 (Approx. 48x) → Step7 (Approx. 96x)

### [Next record]/[Prev record] button

Skips to the next recorded image or previous recorded image and plays it.

### [Next image]/[Prev image] button

Clicking this button during playback/pausing will display the next or previous frame and playback will be paused.

### [Pause] button

Playback will be paused when this button is clicked during playback. Playback will start when this button is clicked during pause.

### [Stop] button

Stops playback and displays live images.

### [Go to last] button

The starting point of playback is approx. 10 seconds before the date & time of the latest recorded images. Depending on the recording settings, images may be played back more than 10 seconds before.

### [Date search] box

Start playback by designating the desired date & time of image. Click the [▼] button and determine the desired date & time.

Clicking the [Date search] button will play back the images corresponding to the selected date.

## Monitor live images

Live images will be displayed in the web browser window. It is possible to display live images on a 1-screen or a 4-screen (multiscreen) and to expand the image display area across the full screen.

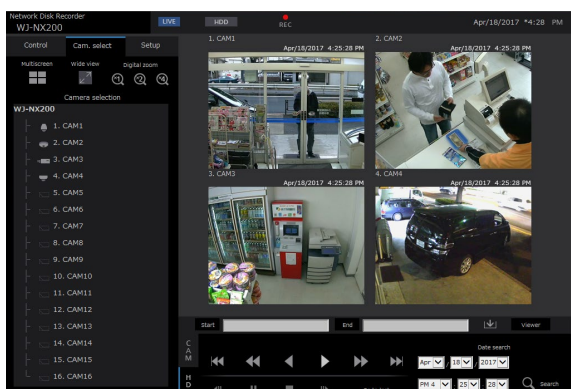
### Display images on a 1-screen

To display live images on a 1-screen, take the following procedures.

#### Step 1

Click the [Cam. select] tab. (Page 154)

→ A list of the registered cameras will be displayed in the [Camera selection] box.



#### Step 2

Select the title of the camera.

→ Live images from the selected camera will be displayed on a 1-screen.

#### Note:

- Selecting a camera from the right-click pop-up menu also will display images from the selected camera.
- Clicking the [Go to last] button on the [HDD] tab while displaying live images will start playback from a point around 10 seconds before the latest recorded image of the camera currently being displayed. Depending on the recording settings, images may be played back more than 10 seconds before.

### Use digital zoom

Enlarges the displayed live images.

When playing recorded images on a 1-screen, click a button in the [Digital zoom] box.

[x1] button: Displays live images with ×1 zoomed size.

[x2] button: Displays live images with ×2 zoomed size.

[x4] button: Displays live images with ×4 zoomed size.

Clicking a point in the zoomed image makes the clicked point the center of the image.

## Display images in wide view

Display live images across the full screen. When working on a 1-screen, click the [Wide view] button (the operation panel will disappear).

To return the wide view image to the original size, right-click on the image and select [Ctrl screen] from the displayed menu.

---

**Note:**

- To enlarge the displayed live images, also right-click on the live images and select [Wide view] from the displayed menu.
- 

## Display images on a 4-screen (multiscreen)

Live images from cameras will be displayed on a 4-screen.

**Step 1**

Click the [Cam. select] tab.

→ A list of the registered cameras will be displayed in the [Camera selection] box. (Page 156)

**Step 2**

Click the [Multiscreen] button.

→ Live images from the cameras (registered as a group) will be displayed on a 4-screen.

**Step 3**

Each click of the [Multiscreen] button switches to the next 4 screens in the sequence: camera 1 to 4→camera 5 to 8→camera 9 to 12→camera 13 to 16. If a set of 4 cameras are not registered on the 4-screen, it will be skipped.

**Step 4**

Click a camera title in the [Camera selection] box or the camera title displayed on the image to display on a 1-screen again.

→ The display returns to the 1-screen.

---

**Note:**

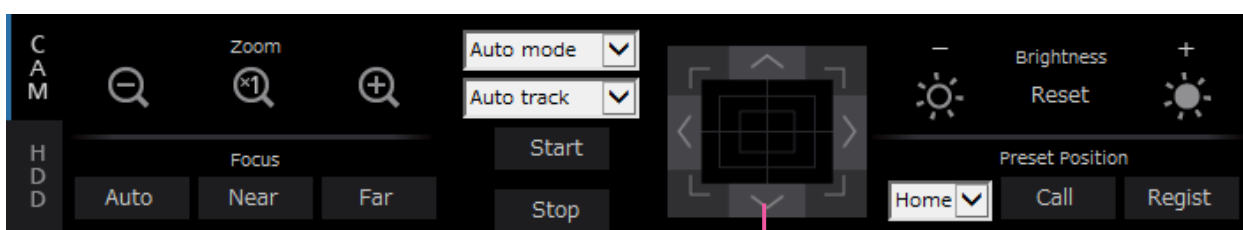
- To change the screen pattern to a multi-screen, right-click on the live images and select the item from the displayed menu.
  - Selecting [Wide view] from the right-click menu will enlarge the displayed images on a 4-screen.
  - If the resolution of the recording setting is high, the displayed image will be coarse. The image will be clear when it is displayed in wide view or 1-screen.
  - Clicking the [Go to last] button on the [HDD] tab while displaying live images will start playback from a point around 10 seconds before the latest recorded image of the camera currently being displayed. Depending on the recording settings, images may be played back more than 10 seconds before.
  - When playing recorded images on a 4-screen, the audio of the camera assigned to the top left screen segment will be output.
  - When starting VMD search while displaying images on a multiscreen, the camera image displayed in the top left screen segment will be searched.
-

## Operate the camera

When displaying live images from a camera with the panning/tilting function, the following camera controls are available. It may be impossible to operate the camera or some functions may be inoperable depending on the model of the camera.

- Panning/Tilting: Adjusts the horizontal/vertical position of the camera.
- Zoom: Zoom in/out the displayed image.
- Focus: Adjust the focal point.
- Brightness: Adjusts the lens iris of the camera.
- Preset position operation: Move the camera to the preset position (that is determined on the camera's setup menu and registered in the recorder).
- Auto mode/AUX/Wiper: Activates the auto mode function/AUX function/wiper function of the camera.

To operate the camera, display the [CAM] tab of the top page.



Control buttons/Control pad

### Panning/Tilting

When displaying live images on a 1-screen, moves a camera horizontally/vertically in the following ways.

#### Control buttons

Click to move (pan/tilt) a camera in the clicked direction.

#### Control pad

Click to move (pan/tilt) a camera in the clicked direction. Panning/tilting speed will be faster if a clicked point gets farther from the center point of the control pad.

---

#### Note:

- Click the desired point to be located at the center of the angular field of view. The camera will move to locate the clicked point as the center point in the image display area.
- 

### Zooming

Zoom in/out the displayed image. Depending on the models of the connected cameras, the available zooming factors may be different. Refer to the operating instructions of the camera for further information.

Zooming can be adjusted by clicking the [-] button (wide) or the [+] button (tele). Click the [x1] button to reset the zoom factor to x1.

---

#### Note:

- It is possible to adjust zooming by turning the mouse wheel.
  - When selecting an area in the image display area by dragging the mouse, the selected area will be located at the center of the image display area and the zoom ratio will be adjusted automatically.
-

## Focus adjustment

Adjusts the focal point. The auto focus function is available.

Focusing can be adjusted by clicking the [Near] button or the [Far] button.

The auto focus function can be performed by clicking the [Auto] button.

## Iris (brightness) adjustment

Adjusts the lens iris of the camera.

The brightness (lens iris) can be adjusted by clicking the [-] (darker) button or the [+] (brighter) button. It is possible to reset the adjusted brightness by clicking the [Reset] button.

## Register preset positions

Registers the current camera position as a preset position. Camera supporting the preset position function can be used.

### Step 1

Perform the pan/tilt operation to move the camera to the position to be registered.

### Step 2

Click the [▼] button in the [Preset Position] box to select a preset number (1 - 256). (It is impossible to register the position as "Home".)

### Step 3

Click the [Regist] button.

→ The preset position will be registered under the selected preset number.

---

### Note:

- Some preset numbers may not be registered depending on the model of the connected camera. Please refer to the user manual of your camera for the preset registration function of the camera.
- 

## Move to preset positions

Moves the camera to the preset position registered in advance. Preset positions need to be registered in advance.

### Step 1

Click the [▼] button in the [Preset Position] box to select a preset number (Home, 1 - 256).

### Step 2

Click the [Call] button.

→ The camera moves to the registered preset position respective to the selected preset number.



## Auto mode/AUX/Wiper

Select and activate the auto mode function/AUX function/wiper function of the camera.

### Auto mode function

#### Step 1

Select "Auto mode" for the operation mode. Click [▼] button and select an auto mode that you want to operate.

Auto track: The camera will automatically track an object moving on the screen.

Auto pan: The camera direction will automatically move (pan) between the start point and end point set in advance.

Preset sequence: The camera will move to the preset positions registered in advance in order of the preset position number (numerical order).

Patrol: The camera will trace the manually recorded panning pattern.

#### Step 2

Click the [Start] button to start the selected auto mode function of the camera.

Click the [Stop] button to turn off the auto mode function.

#### Note:

- When you use the auto mode, please read the operating instructions of your camera and set the auto mode at the camera menu in advance.

### AUX function

#### Step 1

Change the operation mode from "Auto mode" to "AUX" and select a terminal number of the AUX.

#### Step 2

Open: The AUX terminal becomes open.

Close: The AUX terminal becomes close.

### Wiper function

Wiper/Washer of WV-SUD638 can be operated.

#### Step 1

Change the operation mode from "Auto mode" to "Wiper" and select a wiper function from the following.

High: Wipes out continuously. (once per 4 seconds)

Low: Wipes out continuously. (once per 8 seconds)

1 shot: Performs high speed wiping (once per 4 seconds) 5 times.

Washer: Performs the specified washer/wiper operation.

Refer to the operating instruction of WV-SUD638.

#### Step 2

When [Start] button is clicked, the selected motion starts.

When [Stop] button is clicked, the motion ends.

#### Note:

- The following operation is not available while the washer is operating.
  - [Start] and [Stop] operation of "Wiper"
  - Control of panning, tilting zooming and focusing
  - [Start] operation of "Auto mode"
  - [Call] operation of "Preset Position"
- It requires the washer operation settings for the camera side. Refer to the operating instruction of WV-SUD638.

## Event function

The recorder will take an event action when any of the following events occur.

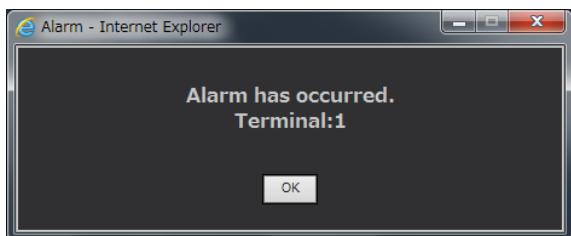
- Terminal alarm: An event when an alarm input signal is supplied from an external device such as a door sensor to the alarm input terminal on the rear of the recorder.
- Camera site alarm: An event when an alarm (camera terminal alarm, etc.) is detected by a camera.
- Command alarm: An alarm when receiving an alarm from a PC, etc. via a network.

### Action to be taken upon an event occurrence

When the recorder recognizes an event, it will take an event action according to the set action mode. Refer to the "Event action mode" (Page 120) for further information about the event action and action mode. The actions that can be set up and checked from a PC when an event occurs are described below.

#### Display the alarm message

A window that notifies of an event occurrence will be displayed.



Click the [OK] button or the [x] button to close the window. When several events occur at the same time, the information for the event that occurred last will be displayed.

#### Display the alarm button

The [ALM] button will be displayed in the status display area. The alarm action will be canceled by clicking [ALM] button. (Page 167)

#### Display the error button

The [ERR] button will be displayed in the status display area. The error action will be canceled by clicking [ERR] button. (Page 167)

#### Send a mail that notifies of an event occurrence

A mail that notifies of the event occurrence with the date & time of the event occurrence will be sent (Alarm mail).  
Up to 4 destination addresses for the alarm mail can be registered.

#### Provide an alarm notification to a PC according to the TCP alarm notification setting

When an event or an error occurs, information about the event/ error will automatically be notified to the registered PC according to the "TCP alarm notification" setting. To receive a notification and display the contents, it is necessary to install the dedicated software (option).  
Refer to the "readme.txt" on the provided CD-ROM about the dedicated software.

## Cancel the alarm action

To cancel the alarm action manually, click the [ALM] button in the status display area.



→ The alarm action will be canceled. The event recording will stop and return to the operational status just before the event occurred.

## Cancel the error action

When an error (trouble) occurred on the recorder, the recorder will take the error action (a series of actions that notifies of the error occurrence). An error display window providing information on the error that occurred will be displayed on the web browser. To cancel the error action manually, close the error display window, and click the [ERR] button in the status display area.



→ The error action will be canceled.

---

### Note:

- When an error occurs, take remedial action by following the instructions displayed on the error log panel (📄 Page 134). The error indicator on the front of the recorder will go off when the cause of the error has been eliminated.
  - The [ERR] button is continuously displayed even if the cause of the error is automatically resolved. Click the [ERR] button to turn it off.
-

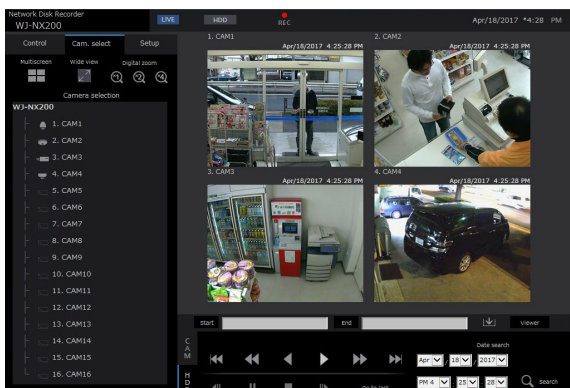
## Play recorded images

Display camera images recorded on the recorder's hard disk. There are 2 ways to play recorded images as follows. Play image recorded at a designated date & time. Search and play recorded images. Playback operation can be made while recording.

### Step 1

Click the [HDD] tab on the top page of the operation window.

→ The [HDD] tab will be displayed.



### Step 2

Click the [Play] button.

→ Playback of a recorded image will be performed. The "Playback" indication and the "Step 1" indication will be displayed on the status display area.

Playback will start from the point at which the last playback was stopped (date & time).

### Step 3

Click the [Stop] button on the [HDD] tab.












→ "Playback" and "Step 1" will disappear from the status display area, and playback will stop. Live images from the camera will be displayed on the image display area.

### Note:

- When displaying images on a 1-screen, audio assigned to the camera from which images are currently being displayed will be heard. When displaying images on a multiscreen, audio assigned to the camera from which images are displayed on the upper left corner will be heard.
- When starting playback for the first time after login, playback will start from a point around 10 seconds before the latest recorded image. While recording, the playback starts 10 seconds prior to the current time. Depending on the recording settings, images may be played back more than 10 seconds before.
- When both a web browser and the viewer software are active, playback of audio may not be performed correctly. To play audio correctly, use either the web browser or the viewer software and close the other.
- When load to be processed is too heavy for the recorder (such as when many cameras are connected, images (live/playback) are displayed on many windows (segments)), playback speed may become slow or playback may stop for a while.
- When displaying images on a multiscreen, playback will be performed while skipping the actual recording.
- When playing images recorded at a higher frame rate and images recorded at a lower frame rate together on a multiscreen, there will be a widening gap between the displayed times.
- Playback images and audio may sometimes not be synchronized exactly.
- The camera image can be changed by clicking the [Cam. select] tab and the camera title during playback.
- It is possible to switch 1-screen to a multi-screen during playback by clicking the [Multiscreen] button.
- When clicking a camera title on the image displayed on a multiscreen, images from the camera whose camera title is clicked will be displayed on a 1-screen.
- The playback video may temporarily stop or the image may not be displayed if the vicinity of the current time is continuously being displayed. If the data is played back in a multi-screen, video may temporarily stop or the image may not be displayed a part of the camera.

## About playback operation

The following operations are available during playback:

Function	Example	Operation
[Play]/[Rev play] button	 / 	<ul style="list-style-type: none"> <li>Plays recorded images.</li> <li>Plays back recorded images in reverse.</li> <li>* Playback and reverse playback may not work when the [Play] or [Rev play] button is clicked while recording images at a lower frame rate.</li> </ul>
[Stop] button		<ul style="list-style-type: none"> <li>Playback will stop and live images will be displayed when this button is clicked during playback.</li> </ul>
[Pause] button		<ul style="list-style-type: none"> <li>Playback will be paused when this button is clicked during playback.</li> <li>Playback will resume when this button is clicked during pause.</li> </ul>
[FF]/[FR] button	 / 	<ul style="list-style-type: none"> <li>Playback speed of fast playback will be changed in the following order each time the [FF] button is clicked: Step2 (Approx. x4) → Step3 (Approx. x8) → Step4 (Approx. x16) → Step5 (Approx. x32) → Step6 (Approx. x48) → Step7 (Approx. x96)</li> <li>Playback speed of fast reverse playback will be changed in the following order each time the [FR] button is clicked: Step2 (Approx. x4) → Step3 (Approx. x8) → Step4 (Approx. x16) → Step5 (Approx. x32) → Step6 (Approx. x48) → Step7 (Approx. x96)</li> <li>The step of the playback speed will be displayed on the playback status display.</li> <li>* When playing H.264/H.265 images, some frames of recorded images will not be displayed. Fast playback/fast reverse playback of images will be performed with the refresh interval setting of the camera.</li> </ul>
[Next record]/[Prev record] button	 / 	<ul style="list-style-type: none"> <li>When the [Next record] button is clicked, playback point will skip to the start time of the next recorded images.</li> <li>When the [Prev record] button is clicked, playback point will skip to the start time of the previous recorded images.</li> <li>* When there is no next/previous recorded image to be skipped to, the current playback will continue. In this case, playback time of the current playback may sometimes be displayed as around for 1 minute ago.</li> </ul>
[Next image]/[Prev image] button	 / 	<ul style="list-style-type: none"> <li>The next frame will be displayed when the [Next image] button is clicked during playback/pause, and playback will pause.</li> <li>The previous frame will be displayed when the [Prev image] button is clicked during playback/pause, and playback will pause.</li> <li>* When playing H.264/H.265 images, some frames of recorded images will not be displayed. Reverse frame-by-frame playback will be performed with the refresh interval setting of the camera.</li> </ul>
[Go to last] button		<ul style="list-style-type: none"> <li>When this button is clicked, playback of the latest recorded images will start. The starting point is around 10 seconds before the date &amp; time of the latest recorded images. While recording, the playback starts 10 seconds prior to the current time. Depending on the recording settings, images may be played back more than 10 seconds before.</li> <li>* When the [Go to last] button is clicked while recording images at a lower frame rate, playback of the latest recorded images may be paused or images may not be displayed. The playback video may temporary stop or the image may not be displayed if the vicinity of the current time is continuously being displayed.</li> </ul>

Refer to the page 155 for further information about the [Multiscreen], [Digital zoom] and [Wide view].

# Play image recorded at a designated date & time

Start playback by designating the desired date & time of a recorded image. Playback operation can be made while recording.

### Step 1

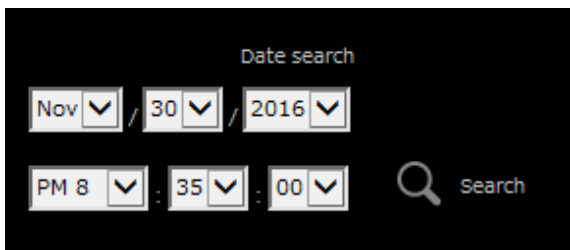
Click the [Cam. select] tab on the top page of the operation window, and select a camera for playback from the camera selection box. (☞ Page 156)

### Step 2

Click the [HDD] tab. (☞ Page 154)

### Step 3

Click the [▼] button and determine the date & time of the desired images.



### Step 4

Click the [Date search] button.

→ "Playback" and "Step 1" will be displayed in the status display area, and playback will start from the image corresponding to the designated date & time.

(About playback operation: "Play recorded images" (☞ Page 169))

---

### Note:

- When playing H.264/H.265 image by designating date & time, playback may start from a point several seconds before or after the designated date & time.
  - When no recorded image found at the designated date & time, playback of images recorded after and at the closest to the designated date & time will start.
-

## Search and play recording events (REC event search)

Search the recording event list for a recording event and play it back.

### Important:

- To use recording event search, "HDD" must be selected for [Disk/Medium].  
It is also possible to filter recording events using the search filters.

### Step 1

Click the [Control] tab on the top page (Page 154) of the operation window, and click the [REC event] button in the [Search] box.

→ The recording event search window will be displayed.

### [Camera]

Searches for images recorded with each selected camera. Mark the checkbox corresponding to the desired camera. When the checkbox for [All] is marked, the checkboxes of all cameras can be marked.

Date & time range	
Start	Apr / 18 / 2017 PM 4 : 56 : 33
End	Apr / 18 / 2017 PM 4 : 56 : 33
REC event	<input checked="" type="checkbox"/> All
	<input checked="" type="checkbox"/> Schedule
	<input checked="" type="checkbox"/> Command alarm
	<input checked="" type="checkbox"/> Emergency
	<input checked="" type="checkbox"/> Terminal alarm
	<input checked="" type="checkbox"/> Camera site alarm
	<input checked="" type="checkbox"/> SD backup rec.
Camera	<input checked="" type="checkbox"/> All
	<input checked="" type="checkbox"/> Cam.1
	<input checked="" type="checkbox"/> Cam.2
	<input checked="" type="checkbox"/> Cam.3
	<input checked="" type="checkbox"/> Cam.4
	<input checked="" type="checkbox"/> Cam.5
	<input checked="" type="checkbox"/> Cam.6
	<input checked="" type="checkbox"/> Cam.7
	<input checked="" type="checkbox"/> Cam.8
	<input checked="" type="checkbox"/> Cam.9
	<input checked="" type="checkbox"/> Cam.10
	<input checked="" type="checkbox"/> Cam.11
	<input checked="" type="checkbox"/> Cam.12
	<input checked="" type="checkbox"/> Cam.13
	<input checked="" type="checkbox"/> Cam.14
	<input checked="" type="checkbox"/> Cam.15
<input checked="" type="checkbox"/> Cam.16	

### Step 2

Specify the search conditions (filters).

### [Date & time range]

Select a time range by designating a start and end date & time. The designated time range will be searched.

### [REC event]

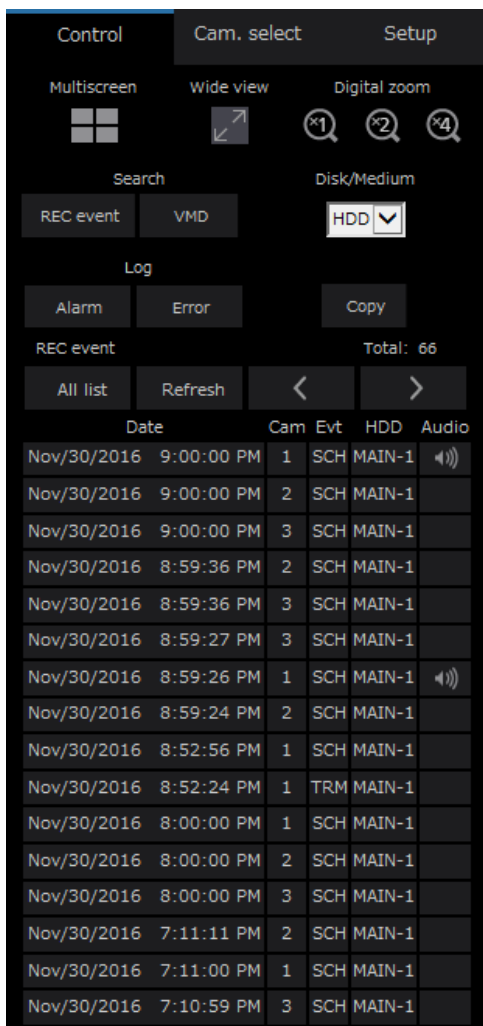
Searches for images recorded by the selected recording mode only. Check the checkbox corresponding to the desired event type. When the checkbox for [All] is marked, the checkboxes of all of the following events can be marked:

- Schedule [SCH]: Recording by the schedule recording event
- Terminal alarm [TRM]: Recording triggered by a terminal alarm
- Command alarm [COM]: Recording triggered by a command alarm
- Camera site alarm [CAM]: Recording triggered by camera site alarm
- Emergency [EMR]: Recording triggered by the emergency recording event
- SD backup rec. [SD]: Recording by the SD memory backup function

## Step 3

Click the [OK] button.

→ "FILTERING" appears in the status display area, and the filtered result will be displayed in the list display area.



### [Total]

Displays the total number of searched data. When more than 10001 data matched, the "> 10000" indication will be displayed.

### [All list] button

Cancels filtering and displays all recording events.

### [Refresh] button

Updates the list to the latest one.

### [Prev page (<)] button

Displays the previous page of the list.

### [Next page (>)] button

Displays the next page of the list.

### [Date]

Start time of recording will be displayed.

### [Cam]

The camera which recorded the images will be displayed.

### [Evt]

Event type will be displayed. (📖 Page 171)

### [HDD]

The hard disk drive number in which the corresponding recorded images are stored will be displayed.

### [Audio]

When audio is attached to recorded images, the audio icon will be displayed.

### Note:

- The [All list] button will become unavailable during playback. To use the [All list] button, stop playback and click it.
- When many cameras are connected, the recording start time of each camera may sometimes not be the same.

## Step 4

Click the date & time of the desired recording event.

→ Playback of recorded images of the selected recording event will start. (About playback operation (📖 Page 169))



## Motion detection search and playback (VMD search)

Search for recorded images from images recorded triggered by the VMD function of cameras by designating a time range. Click a date & time on the result list to play corresponding recorded images.

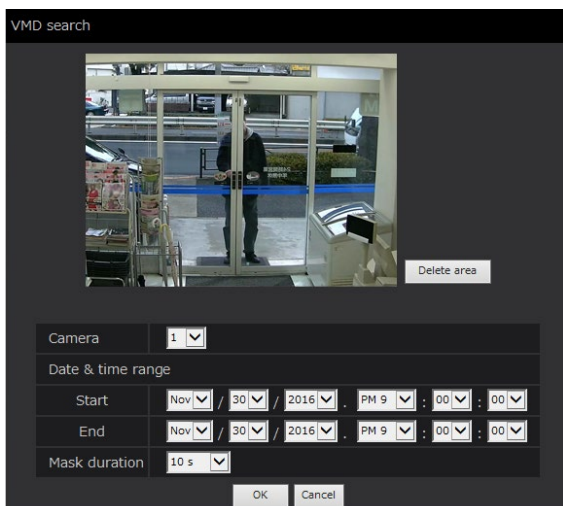
### Important:

- To perform the VMD search, it is necessary to configure the settings of the connected cameras that support the motion detection function in advance. Refer to the "readme.txt" on the provided CD-ROM about cameras supporting the VMD search function. Refer to the operating instructions of the camera in use for further information.

### Step 1

Click the [Control] tab on the top page (☞ Page 154) of the operation window, and click the [VMD] button in the [Search] box.

→ The "VMD search" window will be displayed. The still image of the latest data will be displayed.



### Step 2

Specify the search conditions (filters).

#### [Camera]

Select the camera for VMD search.

#### [Date & time range]

Select a time range by designating a start and end date & time. The designated time range will be searched.

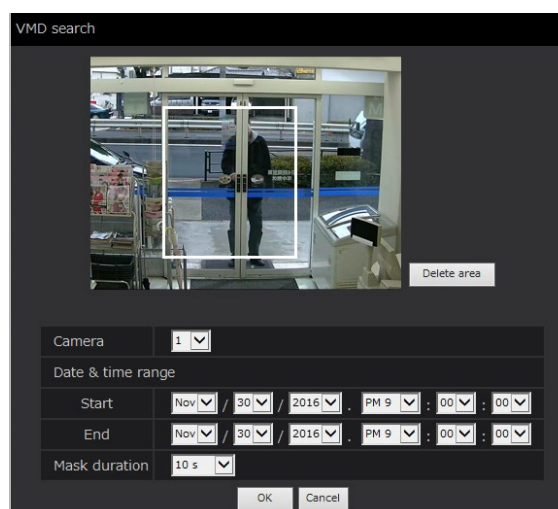
#### [Mask duration]

Select the time span to be searched.

### Step 3

Set up a VMD area. Drag the mouse on the screen.

→ A frame will be displayed, and the area within the frame will be set as VMD search area.



### Note:

- To delete the created area, click the [Delete area] button.

### Step 4

Click the [OK] button.

→ The VMD search will start. The search result will be displayed in the list display area. (☞ Page 172) It may sometimes take time to complete the search.

### Important:

- In the result list of the VMD search, the audio icon will not be displayed in the "Audio" column even if audio is attached to the recorded images.

## Step 5

Click the date & time of the desired recording event.

→ Playback of recorded images of the selected recording event will start. (About playback operation (☞ Page 169))

---

### Note:

- Up to 100 logs are displayed in the list. When more than 100 logs are filed in the search result, "> 100" will be indicated.
  - Recorded images will be played on a 1-screen. To play on a multi-screen, click the [Multiscreen] button after starting playback.
  - When starting the VMD search while displaying images on a multiscreen, the camera whose images are displayed at the upper left corner will become subject to the VMD search.
-

# Copy recorded images

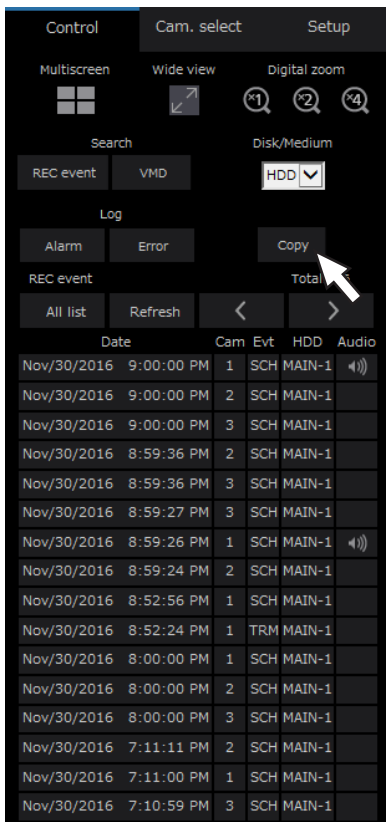
Copy the recorded image on the recorder to an external storage device (external HDD, USB memory stick). Refer to page 139 for further information about the copy function. Refer to page 181 for information on how to play copied images.

## Step 1

Click the [Control] tab on the top page (Page 154) of the operation window.

## Step 2

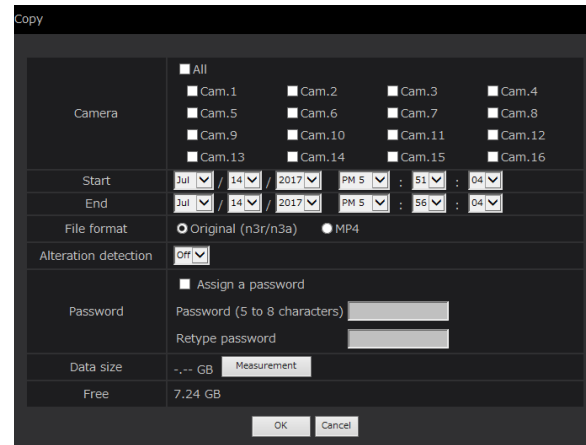
Click the button in the [Copy] box.



→ The "Copy" window will be displayed.

## Step 3

Specify the detailed conditions of recorded images to be copied. Specify the information to be set as conditions.



### [Camera]

Select the camera you wish to copy. Mark the checkbox next to the desired camera. When the checkbox for [All] is marked, the checkboxes of all cameras can be marked.

### [Date & time range]

Designate the start point (start date & time) and the end point (end date & time) of recorded images to be copied. Click the [▼] button, and then designate date & time.

### [Alteration detection]

Determine whether or not to attach the alteration detection code to the recorded images to be copied. When the alteration detection code is attached, it is possible to check if the copied recorded images have been altered or not when playing the copied recorded images using the viewer software. Click the [▼] button, and then select "On" or "Off".

### [File format]

Select the file format (Original (n3r/n3a)/MP4) of the recorded data to be copied. Mark the checkbox corresponding to the desired file format.

## [Password]

To copy with password protection, mark the corresponding checkbox and enter a password. (5 to 8 alphanumeric characters) The password will be required to play back the copied data.

## [Data size]

When the [Measurement] button is clicked, size of the data to be copied will be displayed.

## [Free]

The remaining capacity of the destination medium (external storage device) will be displayed.

## Step 4

When the [OK] button is clicked, the confirmation window will be displayed. Then click the [OK] button on the displayed confirmation window.

→ The data copy window will close. Copying will start and the "COPY" icon will be displayed in the status display area. When copying is complete, the "COPY" icon will disappear.

---

## Important:

- When copying to an external storage device is being performed, do not disconnect the external storage device. Otherwise the data stored on the external storage device could be lost.
  - When the copy end time is set earlier than the start time, copying will not start even when the [OK] button is clicked.
  - When copy medium lacks enough storage space, data will be copied until the copy medium is full. Use a medium with sufficient storage capacity to avoid left over data that is not copied.
  - Copying will be performed in the following order: Viewer Software → Images → Audio Depending on the designated time range for copying and the remaining space of the storage medium, images and audio may not be copied.
  - When clicking the button in the [Copy] box during copying, the confirmation window for cancellation of the current copying will be displayed. It is possible to cancel the current copying on this window.
  - Do not turn off the power of the recorder while copy is in progress. If the power is turned off while copying, the storage media copied on will become unusable.
  - Recorded images (data) of up to 1 million can be copied onto the external device connected to the copy port "COPY". However, it is impossible to copy any more data exceeding these limits even when there is a sufficient remaining capacity.
  - When another user operating the recorder has opened the copy panel or when the destination medium has been selected by another user, the copy window cannot be displayed.
  - When the web browser is closed during the copying process, the process will be stopped. Do not close the web browser during the copying process.
-

## Download recorded images currently being played

Designate the start point and the end point of recorded images currently being played and download images to a PC.

If the original format is selected for the file format of the data to be downloaded, the recorded images will be downloaded as an image data file (filename.n3r) and an audio data file (filename.n3a). If MP4 format is selected, the recorded images will be downloaded as an MP4 file (filename.mp4). Refer to page 181 for information on how to play downloaded recorded images.

### Important:

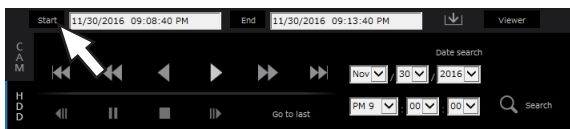
- Note when downloading that, due to limitations of Internet Explorer, the free disk space of the PC must be 2 or more times the size of the file to be downloaded.
- When download is canceled in the process of the download, it is impossible to properly play the downloaded file on a PC.
- If the recorded images are downloaded in MP4 format, add the recorder address to the trusted sites of Internet Explorer.

### Step 1

Click the [HDD] tab on the top page (☞ Page 154) of the operation window.

### Step 2

Play back the recorded images on a 1-screen. Click the [Start] button in the download operation area at the playback point where the download is to start. Another way to start the download is to click the start time box and enter date & time.



→ The date & time set in the start time box will be displayed.

### Note:

- Downloading is only available during the playback on 1-screen display.

### Step 3

Click the [End] button in the download operation area at the playback point where the download is to end. Another way to end the download is to click the end time box and enter date & time.

→ The date & time set in the end time box will be displayed.

### Note:

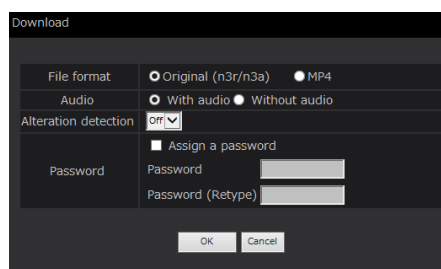
- It is possible to designate up to 60 minutes of the time range per download.

### Step 4

Click the [Download] button.  
→ The "Download" window will be displayed.

### Step 5

Select the file format (Original (n3r/n3a)/MP4), "With audio" or "Without audio" to determine whether or not to download images with audio, and select "On" or "Off" to determine whether or not to attach an alteration data on downloaded images due to alternation detection. When assigning a password, enter 5 to 8 alphanumeric characters for the password. However, passwords cannot be assigned to MP4 files. When the setting is completed, click the [OK] button.



→ The file download window will be displayed.

### Note:

- Images recorded in H.264 or H.265 can be downloaded in MP4 format. If audio is recorded in AAC-LC and "With audio" is selected, the images are downloaded in MP4 format with audio.

## Step 6

Operate it following the instructions on the web browser.

→ Recorded images and audio will be downloaded as an image data file (filename.n3r) and an audio data file (filename.n3a) respectively, or as an MP4 file (filename.mp4).

---

### Note:

- Copying (☞ Page 139) and downloading in MP4 format are available for up to 2 users at the same time.
  - When "Original (n3r/n3a)" and "With audio" is selected, the "Download" window will be displayed again after the download is complete.
  - If a message is displayed on the information bar, see page 203.
-

# Check a list of copied recorded images

Display a list of data (recorded images) copied on the external storage device and confirm them. It is possible to search for copied data using filters. Available filters are "Date & time range" and "Camera".

## Step 1

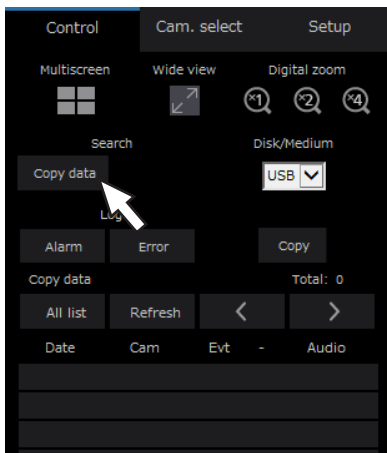
Insert the external storage device on which the recording data is copied.

## Step 2

Click the [Control] tab on the top page (Page 154) of the operation window.

## Step 3

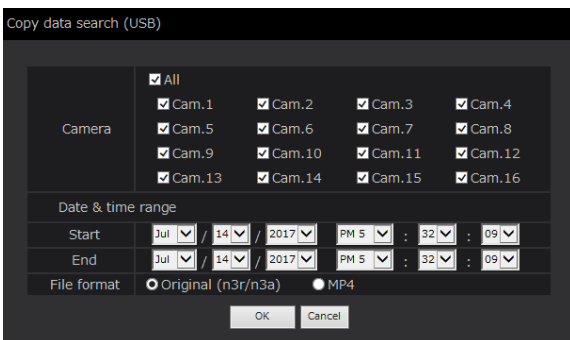
Select [USB] for "Disk/Medium" in the [Search] box, and then click the [Copy data] button.



→ The copy data search window will be displayed.

## Step 4

Specify the search conditions (filters).



### [Camera]

Searches for images recorded with each selected camera. Mark the checkbox corresponding to the desired camera. When the checkbox for [All] is marked, the checkboxes of all cameras can be marked.

### [Date & time range]

Select a time range by designating a start and end date & time. The designated time range will be searched.

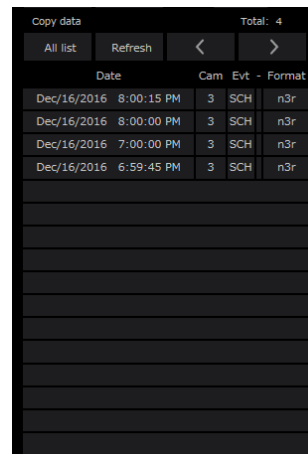
### [File format]

Searches for images recorded with each selected file format. Mark the checkbox corresponding to the desired file format.

## Step 5

Click the [OK] button.

→ Copied data matching the search criteria will be displayed on the list display window.



### [Total]

Displays the total number of searched data. When more than 10001 data matched, the "> 10000" indication will be displayed.

### [All list] button

Cancels filtering and displays all recording events.

### [Refresh] button

Updates the list to the latest one.

### [Prev page (<)] button

Displays the previous page.

### [Next page (>)] button

Displays the next page.

### [Date]

Start time of recording will be displayed.

**[Cam]**

The camera number of the recorded data will be displayed.

**[Evt]**

Event type will be displayed. (☞ Page 171)

**[Format]**

Displays a file format.

---

**Important:**

- Do not remove the external storage device during playback of copied data on the external storage device. Otherwise the data stored on the external storage device could be lost.
- 

**Note:**

- When copying large amounts of data, more time is needed to display the list.
  - If you check the list of another external storage device, select the "HDD" on [Disk/Medium] of [Search] box and then select "USB" again.
  - Refer to page 181 for information on how to play copied images.
-



# Play back the copied/downloaded images on a PC

The original file or MP4 file is copied to the destination when the playback image is copied or downloaded. It is possible to play, save and print the copied/downloaded data files using the dedicated viewer software. The MP4 file can be played on the general playback software.

## To play recorded images copied on the media device

The executable file of the viewer software (NX\_Viewer.exe) is also saved directly under the drive when images are copied to the medium.

Double click the executable file to launch the viewer software when you play the copied images in the medium. Refer to page 183 for how to use the viewer software.

## Play recorded images downloaded using a web browser

The viewer software together with ActiveX are installed on a PC used for downloading images (☞ Page 153). To play back images downloaded from the web browser, start the installed viewer software. If another PC is used for playback, it is necessary to download the viewer software and install it on the PC. Refer to page 183 for how to use the viewer software.

## Download the viewer software

### Step 1

Click the [Viewer] button in the download operation area on the top page (☞ Page 154) of the operation window. (☞ Page 159)

→ The file download window will be displayed.



### Step 2

Select "Save as" with the ▼ button on the right of the [Save] button.

→ The window to specify the save destination will be displayed.

### Step 3

Select a desired directory and click the [Save] button.

→ The viewer software will be downloaded.

## Install the viewer software

When the older version of the viewer software is installed on a PC, uninstall it before installing the newer version.

### Step 1

Double-click the downloaded file (wvasetupnx.exe).

→ The installer launches. Follow the instructions of the installation wizard.

---

#### Note:

- If agreed to the displayed license agreement, select "I accept the terms in the license agreement".

### Step 2

Click the [Install] button.

→ The Installation will start. When installation is complete and the completion window is displayed, click the [Finish] button.

---

#### Note:

- When the viewer software is installed, the ActiveX control will be installed at the same time.

## Uninstall the viewer software

### Step 1

Open "Program and functions" in "Control Panel".

### Step 2

Select "WebVideo ActiveX NX" (the program to be deleted) from the presently installed programs, and then right-click on it. Select "Uninstall" from the displayed right-click menu.

→ The uninstaller launches.

### Step 3

Complete the uninstallation by following the instructions of the wizard.

---

#### Note:

- When the viewer software is uninstalled, the ActiveX control will be uninstalled at the same time.

## How to use the viewer software

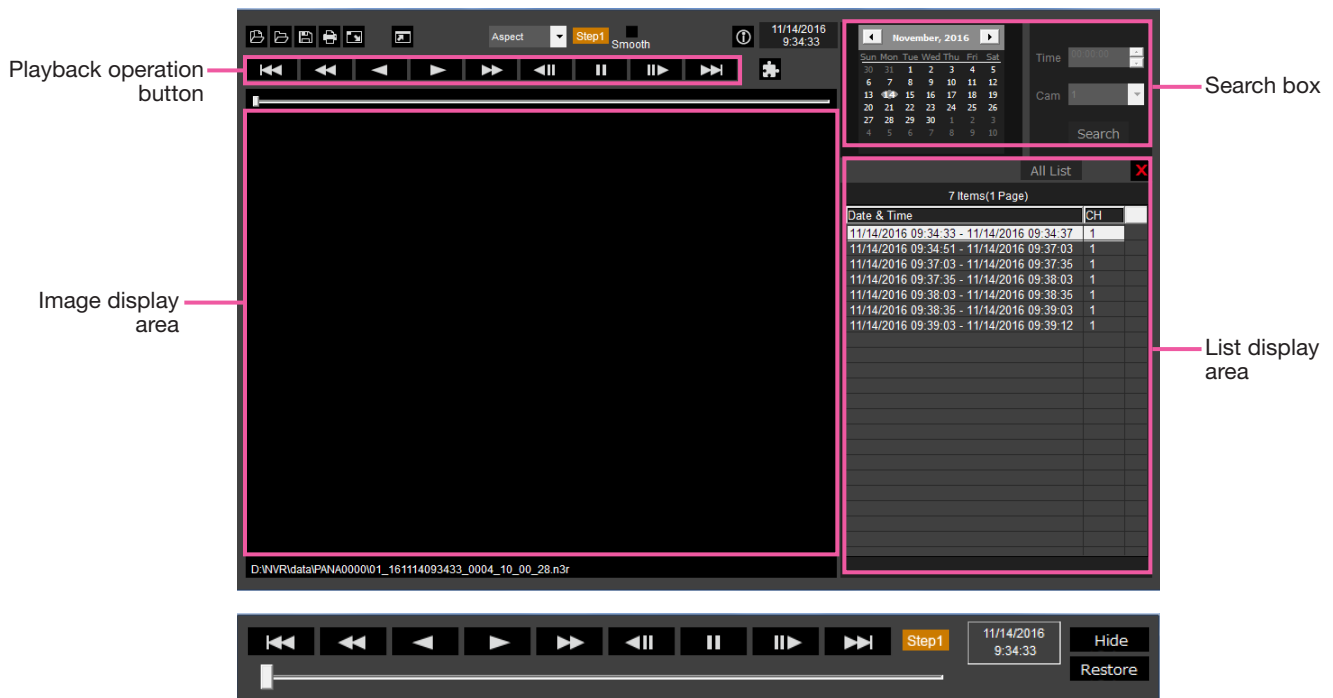
Select "NX\_Viewer" from the start menu ("Network Disk Recorder" – "NX\_Viewer") or double-click the NX\_Viewer icon on the desktop.

For images copied on the USB medium or the external storage device, double-click the execution file (NX\_Viewer.exe) to launch (refer to page 181 for the destination of the execution file).

---

**Note:**

- The license agreement window will be displayed when you first launch the viewer. The viewer software is launched when you accept the license agreement.
- 



Playback operation window when images are displayed on a full screen

---

**Important:**

- The viewer software requires a license for each PC. The recorder has the license for 1 PC. Additional licenses are required when you use the viewer software with more than 2 PCs at the same time. Contact your dealer for the license.
-

## Select playback images

### Step 1

Click the  button.

→ The "Open" window will be displayed.

### Note:

- When you run the executable file copied to the external storage device, the file open window will be automatically displayed.

### Step 2

Select the image data file (filename.n3r, filename.mp4), and click the [Open] button.


→ The information on the file selected in the list display area will be displayed.

Recording date and time: Displays a start time and an end time for copying the recorded images.

Recording CH: Displays the camera number.

### Note:

- It is possible to select multiple files (up to 100 files) by clicking the desired files while holding down the [Ctrl] key or the [Shift] key and display all of them in a list by drag & drop.

- Do not change the file name of the copied or downloaded image data. If the file name is changed, the file information will not be displayed correctly.
- The image data file can be selected by dragging and dropping the file on the viewer software without opening the file open window.
- The files can be sorted by start date & time in ascending or descending order by clicking the header of the list display area,
- To add image data to the list display area, right-click the list and select [Add file] from the menu displayed. When the window for opening files is displayed, proceed to Step 2. The image data is added to the list.
- When the number of displayed image data files has reached 100, no more files can be added. The number of the image data is displayed on the top of the list.
- Clicking the  button will delete all data displayed on the list. Another way to clear the list is to right-click the list and select [Clear all list].










## Playback downloaded images

Use the playback operation button to play downloaded images. If the same camera channel is displayed on the list, the next list image in playback mode or the previous list image in reverse playback mode will be played back consecutively. If the same camera channel is not displayed on the list, playback will stop, the image display area will turn black and playback will be paused.

### Note:

- If a password is given to the data or the file is encrypted, the password will be required. The image will be played only when the correct password is confirmed.
- When a web browser and the viewer software are running at the same time, audio may not be played properly. To play audio correctly, use either the web browser or the viewer software and close the other.
- Playback images and audio may sometimes not be synchronized exactly.

The playback operation buttons enable the following operations.

<b>[Play] button</b>		: Starts the playback.
<b>[Rev play] button</b>		: Plays the image backwards.
<b>[FF] button</b>		: Plays the image at high speed.
<b>[FR] button</b>		: Plays the image backwards at high speed.
<b>[Pause] button</b>		: Pauses the playback.
<b>[Next image] button</b>		: Moves to the next image. It is operable only when playback is paused.
<b>[Prev image] button</b>		: Returns to the previous image. It is operable only when playback is paused.
<b>[Next record] button</b>		: Plays the next recording file on the list.
<b>[Prev record] button</b>		: Plays the previous recording file on the list.

The playback position can be changed with the slider bar. When the slider bar is moved, the image will be paused. Restart the playback with the [Play] button.



## Change the playback time and date

### Play image recorded at a designated date & time

Selecting a date from the calendar, assigning time and a recording channel and clicking the [Search and play] button will start to play the image of the assigned date and time.

The filtered date is displayed with a red circle on the calendar.

### Play an image by selecting it from the list

Selecting a line on the list will play the image of the selected date and time, and the recording channel.

Clicking it will pause playback at the first image and double-clicking will start the playback.

## Make the image easy to see


### Display enlarged images

When setting a cursor on the image display and manipulating the mouse wheel, digital zoom is displayed.

Clicking the image during zoom display changes the screen center to the clicked position.

### Change the display size


 Enlarges the window screen display.

 Returns the enlarged window screen display to the original size.

 Display the image maximized to the whole window.

The maximized image to the whole window is returned to the original by the [Back] button or the [Esc] key.

### Change the display format


 Aspect Displays the image in the screen with the aspect ratio kept.

 Scaling Displays the image with it expanded or contracted to fit in the screen.

 PixelByPixel Displays 1 pixel of the screen on 1 dot.

When you click the image in the screen, the center position changes to the point where you have clicked.

### Smooth the high-speed playback


 Smooth Checking the box enables a smooth, high-speed playback.

The fast playback speed may be limited depending on the performance of the PC in use or process status.


### Plays the fisheye image of the fisheye network camera (made by i-PRO, hereinafter called "fisheye camera")

When you select a fisheye image which can be corrected, the image will be corrected and displayed on 1-screen PTZ/4-screen PTZ.

After clicking the image during corrected display on 1-screen PTZ/4-screen PTZ, the clicked position will be centered on the screen.

 Returns the image to the fisheye image.

 Corrects the image on 1-screen PTZ.


 Corrects the image on 4-screen PTZ.

## Adjust the volume

When the audio data (filename.n3a) is available, a button to adjust the audio will be displayed.



Adjusts the volume. Clicking the button can switch the volume in three levels.


 Toggles Audio playback/Silent.

If the audio is controlled or adjusted by another application, the audio may not be played correctly on the viewer software. To play the audio correctly, adjust the audio only with the viewer software.

## Detect alteration of the image data

It is possible to detect alteration in downloaded data to which a code for alteration detection has been attached. Confirm whether the played image has been altered or not by the following procedures.

### Step 1

Select the data to detect alteration on the list and click the  button.

→ File advanced window will be displayed.


### Step 2

Select the [Check alteration] and click the [Execute] button.

→ Starts alteration detection and displays the results once the detection has been completed.

## Save still images

Save an image displayed in the image display area as a JPEG file on a PC.

: Saves the image on pause in JPEG file with a new name.

## Save image data (copy)

Save selected image data (filename.n3r) in any folder on the PC.

### Step 1

Right-click the list and select [File advanced function] from the displayed menu.

→ File advanced window will be displayed.

### Step 2

Select the [File output] and click the [Execute] button.

→ The "Save As" window will be displayed.

### Step 3

Designate the folder name and destination drive and click the [Save] button.

→ Starts saving the image data and displays results once the saving has been completed.


---

#### Note:

- Select [File output (Decryption)] if you save data after decrypting it.
- 

## Print the displayed image

Print the image displayed in the image display area.

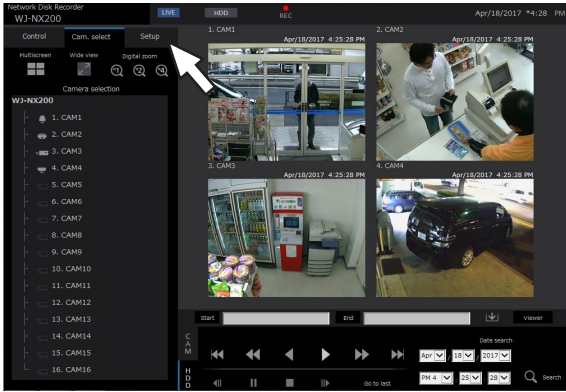
: Prints the image on pause with the date and time.

# Setup

## Basic operations

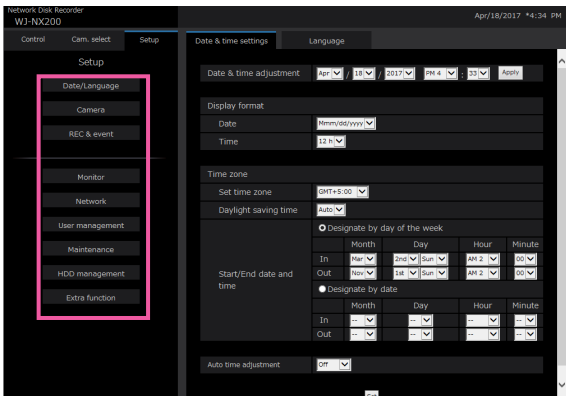
### Step 1

Click the [Setup] tab.



### Step 2

Click the button for the desired menu.



### Step 3

Click the button for the desired submenu.

### Step 4

Configure each setting item. Click the [Set] button after completing the settings.

→ The settings will be applied. When moving to another page without clicking the [Set] button, the configured settings will be canceled.

### Important:

- If the settings are applied, other login users will be forcibly logged out.
- If the settings relating to the user management are applied, all login users will be forcibly logged out.
- Recording may not be performed for around 4 seconds just after the settings are applied.

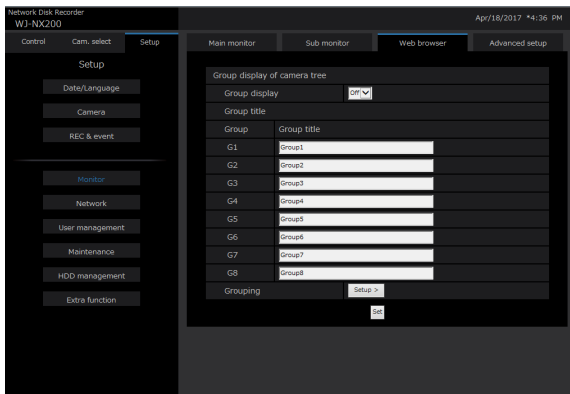
## Configure the settings

It is possible to configure the settings of the recorder using a web browser.

Refer to page 76 for setup items that can be configured from the web browser and their further information.

## Set the web browser [Web browser]

Set the settings related to the display of the web browser such as a group title of the camera.  
Click the [Monitor] button on the setup menu and then click the [Web browser] tab.



### Group display of camera tree [Group display]

Set whether to use the group display or not.

On: Uses the group display.

Off: Does not use the group display.

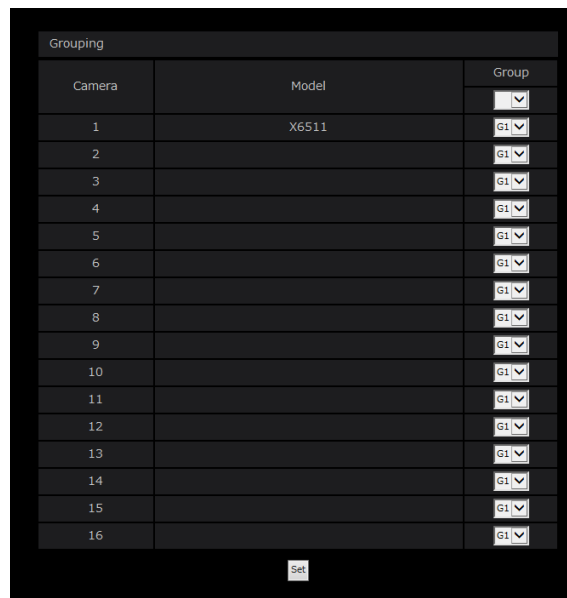
**Default:** Off

### [Group title]

Enter a group title to display for each group (G1 ~ G8) (within 16 characters).

### [Grouping]

Assign the camera to each group (G1 ~ G8).



## Update the firmware

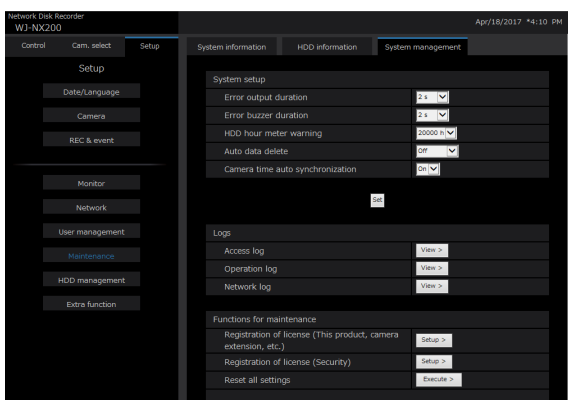
To update the firmware of the recorder to the latest version, proceed as follows.  
Refer to page 68 for the operation procedures if the software is saved on the USB medium.

### Step 1

Download the firmware of the latest version onto a hard disk drive of a PC.

### Step 2

Click the [Maintenance] button and then click the [System management] tab.



### Step 3

Designate the downloaded firmware by clicking the [Browse...] button of "Firmware update".

### Step 4

Click the [Execute >] button.  
→ The confirmation window will be displayed to start the update procedure.

### Note:

- Depending on the firmware to be updated, it may take up to 30 minutes for upgrading, leaving the start screen displayed.
- Contact your dealer for further information about the firmware update.



# Notification by e-mail

## Alarm mail

The camera/PC port address are indicated in an alarm mail as follows.

### Contents of the alarm mail (example)

In NWDR (192.168.0.250), alarm was occurred.

Occurrence date and time: xxxx-xx-xx xx:xx:xx GMT+xx:xx (Example. 2016-11-18 12:00:00 GMT+9:00)

Alarm descriptions: Alarm descriptions, camera channel or alarm number will be described.  
(Example: SITE ALARM 5ch)

URL: http://192.168.0.250/

## Warning mail

The following mail will be sent to notify of a trouble occurrence to a registered address when the trouble occurs.

NWDR (192.168.0.250) Status notification

Occurrence date and time: xxxx-xx-xx xx:xx:xx GMT+xx:xx (Example. 2016-11-18 12:00:00 GMT+9:00)

Status: MAIN THERMAL ERROR

Indication	Description
Date & time	Date & time when the trouble occurred will be displayed.
Status	The description of the trouble will be displayed. xxx indicates the camera number, y indicates the HDD number
Thermal error:	Main unit: MAIN THERMAL ERROR
HDD smart warning:	Main unit: MAIN-y SMART WARNING
HDD slow response:	Main unit: MAIN-y SLOW RESPONSE
HDD hour meter warning:	Main unit: MAIN-y HOUR METER WARNING
Auto remove of link:	Main unit: MAIN-y LOGICALLY REMOVED
Fan error:	Main unit: MAIN FANy ERROR
NW camera error detection:	CAM xxx COMMUNICATION ERROR
NW camera error detection (audio):	CAM xxx COMMUNICATION ERROR(AUDIO)
NW camera error recovery:	CAM xxx COMMUNICATION RECOVERED
NW camera error recovery (audio):	CAM xxx COMMUNICATION RECOVERED(AUDIO)
Video loss detection (encoder):	CAM xxx VIDEO LOSS
Video loss recovery (encoder):	CAM xxx VIDEO RECOVERED
NW camera error detection (video):	CAM xxx COMMUNICATION ERROR(VIDEO)
NW camera error recovery (video):	CAM xxx COMMUNICATION RECOVERED(VIDEO)
HDD remove error:	Main unit: MAIN-y SWAP WARNING
Format error:	Main unit: MAIN-y SINGLE FORMAT ERROR
Copy media FULL:	COPY MEDIUM FULL
Number of data on the copy medium exceeded:	OVER LIMITATION ON COPY MEDIUM
Starting mirroring recovery:	MIRROR RECOVERY START
Complete mirroring recovery:	MIRROR RECOVERY COMPLETE
Network link down detection:	NETWORK LINK ERROR
Camera SD memory card error:	CAM xxx SD ERR

Indication	Description	
Status	Camera SD memory write start command error:	CAM xxx SD START ERR
	Camera SD memory write completion command error:	CAM xxx SD END ERR
	Camera SD List failure:	CAM xxx GET LIST ERR
	Camera SD Image acquisition failure:	CAM xxx GET IMG ERR
	Camera SD Image delete failure:	CAM xxx DEL IMG ERR
	Camera SD Accumulated recording time warning:	CAM xxx SD LIFE WARNING (LONG-TERM)
	Camera SD Overwrite warning:	CAM xxx SD LIFE WARNING (OVER-REWRITTEN)
	Camera SD Access error:	CAM xxx SD ACCESS ERROR
	Camera failure (*):	CAM xxx HARDWARE ERROR
	Exchange notification of wiper rubber of camera (*):	CAM xxx REPLACE WIPER RUBBER
	* For WV-SUD638 camera only	

# Addendum

---

## In combination with the network microphone

This section provides an explanation of how to use the network microphone with NX200 in connection with the fisheye network camera (hereinafter referred to as "fisheye camera").

### Supported software version

The functions of the network microphone described in this section are available when the software version is V1.10 or later.

### Audio recording and playback using the network microphone

The audio input to the network microphone will be recorded as the audio of the fisheye camera. Also, the audibility around the specified location can be improved while live images are displayed.

---

**Important:**

- The registration is required for both microphone and fisheye camera. The registration of the network microphone by itself cannot perform recording or audio output.
  - Operation with the network microphone is allowed only when the image compression method of the fisheye camera is selected for H.264.
  - Sound pick up is still available outside the specified location.
- 

### Supported microphones (As of September, 2017)

WV-SMR10	V1.10 or later
----------	----------------

### Compatible cameras (As of September, 2017)

WV-SW458 series	V1.55 or later
WV-SF438	V1.55 or later
WV-SF448	V1.55 or later
WV-SFN480	V1.11 or later
WV-SFV481	V1.11 or later

# Register the network microphone

## Step 1

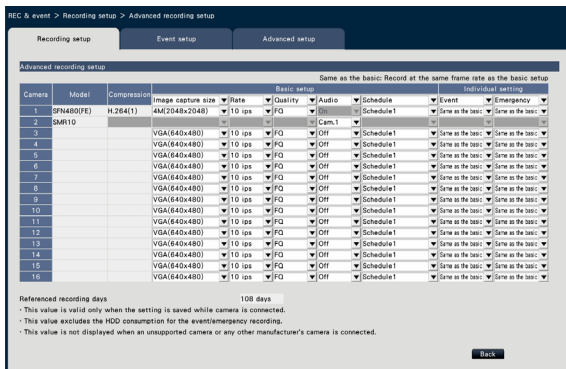
Register the network microphone and the fisheye camera with the recorder.  
 The network microphone can be registered via Network in the same manner as our cameras.

### Note:

- Registration of a network microphone occupies one camera registration field in the setup window.
- When a network microphone is detected, its ID (last 4 digits of the MAC address) will be displayed in "Results".

## Step 2

Select a camera number of the fisheye camera in "Audio" of "Advanced recording setup".



### Important:

- Set the connection method of the recorder and the fisheye camera to HTTP. If HTTPS is set, the audio of the fisheye camera cannot be recorded. (Operating Instructions Secure Communication Kit)

### Note:

- Only the camera number registered in the "Fisheye" (FE), "Fisheye + Double Panorama" (FE+DP), "Fisheye + Quad PTZ" (FE+4PTZ), or "Panorama" (P) mode of the fisheye camera can be selected.
- The same fisheye camera cannot be selected for "Audio" of the multiple network microphones.
- Automatically "On" will be set for the "Audio" of the fisheye camera selected by "Audio" of the network microphone.
- Automatically "Off" will be set for "Audio" of the fisheye camera deselected by "Audio" of the network microphone.
- The network microphone will perform audio recording according to the schedule of the selected fisheye camera.
- Even if RTSP is set for the connection between the recorder and the fisheye camera, the connection with the network microphone will be RTP.

## Adjust the sensitivity of the network microphone

### Step 1

Click the [Setup >] button of "Microphone sensitivity" in the [Camera setup] tab.

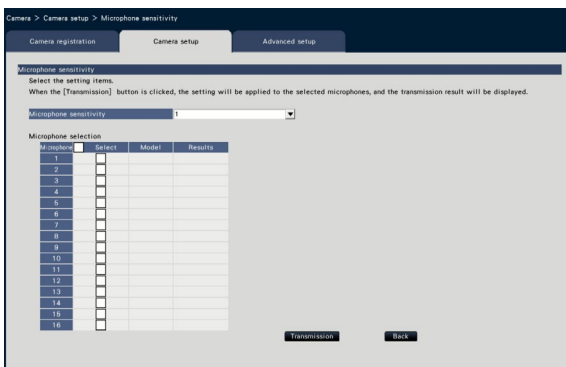


### [Back] button

Click the button after completing the settings. The screen returns to the [Camera setup] tab.

### Step 2

Set the "Microphone sensitivity", mark the "Select" checkbox, and then click the [Transmission] button.



→ The setting will be applied to the selected microphones, and transmission result will be displayed in "Results".

### [Microphone sensitivity]

Set up the sensitivity of each network microphone according to the installation environment.

Microphone sensitivity: 0 High sensitivity/ 1/ 2/ 3  
Default/ 4/ 5 Low sensitivity

### [Transmission] button

Transmits the setting of the microphone sensitivity to the network microphone. Once transmission is completed and the setting is applied to the network microphone, "OK" will be displayed in "Results". If the display reads "Authentication error", etc., the microphone connection or the setting may have failed.

## Hear audio from the main monitor

The audio will be output when a fisheye camera connected with a network microphone is selected in the main monitor. Non-directional audio will be output in the default state.

### Important:

- The audio of the network microphone cannot be heard on a web browser.
- The audio cannot be heard by selecting a camera number with which a network microphone is registered.
- When the network microphone is used in the multicast transmission, the audio of the live image will not be output.

The recording indicator of the camera number with which network microphone is registered will not be displayed in the operation panel in the control screen and the wide view.

Example) When a network microphone is registered with Camera 2



## Set up the sound collecting position

The sound collecting position of the network microphone can be set during the live image display, playback, or media playback.

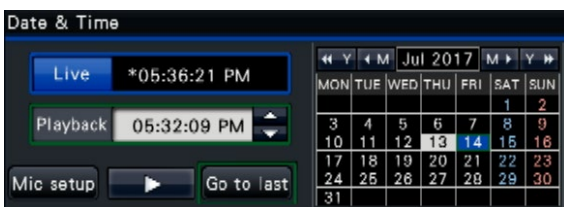
### Important:

- The sound collecting position can be specified only when fisheye images are displayed. When other than fisheye images are displayed, the position specified on the image and the sound collecting position will not be consistent.
- During compensation display of the fisheye image, the audio will be output based on the position specified with the fisheye image.

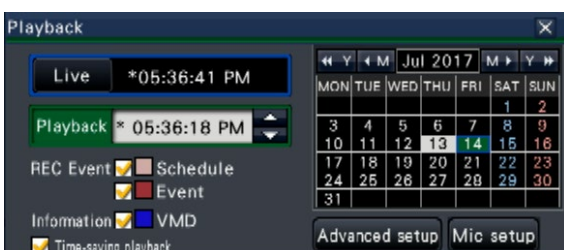
### Step 1

Switch to 1-screen of the fisheye camera for which sound collecting position to be set.

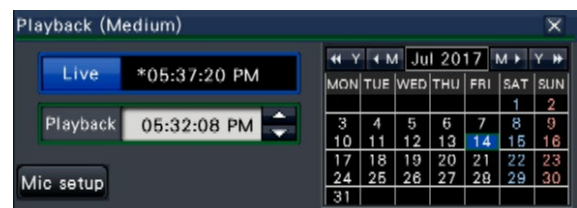
### During live image display



### During playback



### During media playback



### Note:

- During multiscreen or wide view display, the sound collecting position cannot be set.
- The [Mic setup] button is enabled only when images are displayed on 1-screen in the control screen.
- The audio of the microphone is not output even if an MP4 file is played back (medium) since the audio of the microphone cannot be copied in MP4 format.

## Step 2

Click the [Mic setup] button.

→ The "Microphone setup" panel will be displayed.




### [Mic Directionality]

The sound directionality can be set up.

Off: No directionality

On: Directionality set over a specified sound collecting position

The sound collecting position will be displayed on the camera image with  icon.

To change the sound collecting position, click on the image at any place where you wish to hear a sound.

---

#### Note:



- The directionality of the microphone and the sound collecting position are memorized per camera number.
  - The directionality of the microphone and the sound collecting position are retained even if the recorder is rebooted (however note that changing the camera registration or initializing the settings will reset all the settings).
  - If clicked on a place beyond the setting range, the sound collecting position will not be changed.
  - The icon which indicates the sound collecting position will appear only when the microphone setup panel is displayed and "On" is selected for the directionality of the microphone.
  - When playing back the recorded images of the camera in which audio from the network microphone is recorded, non-directional sound may be played if the network microphone has not been registered with the corresponding camera number.
-

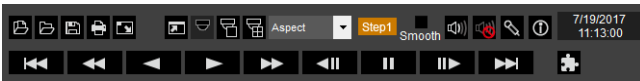
## Hear audio from PC

The copied/downloaded data files can be played using the dedicated viewer software.

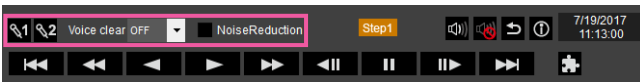
When the audio from the network microphone is recorded to the audio data (filename.n3a), audibility around the specified location can be improved with the mouse operation on the image.

### Step 1



To specify a sound collecting position, click the  button. (The  button will be displayed when playback is started.)



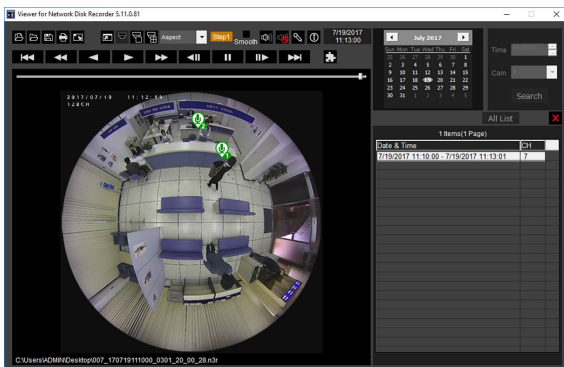
→ The menu for setting the sound collecting position will be displayed.



### Step 2

The sound collecting position can be specified at two points at maximum. When  and/or  is clicked, the icon will be displayed on the screen. Drag the icon and drop it at a desired location.




→ The audibility of the place where the icon is dropped will be improved.



- The audibility can be adjusted with the "Voice clear" setting.  
OFF: Not adjustable  
Low: Low effect  
High: High effect
- The audio noise reduction function will always be enabled if "Noise Reduction" is marked.
- The audio from the network microphone will not be played with the viewer software copied/downloaded from the recorder using the software version of V1.10 or before. Use the viewer software of the recorder with the software of V1.10 or later.

When the fisheye images of the fisheye camera are displayed in 1-screen PTZ/4-screen PTZ with compensation, the audio from the network microphone will be output at the sound collecting position previously specified with the fisheye image. To change the position, return to the fisheye image display.

### Note:

- For the image data with no audio from the network microphone is recorded, the  button will not be displayed.
- Since the audio of the microphone cannot be copied in MP4 format, the  button will not be displayed even when an MP4 format file is played back.
- When "Aspect" is selected for the display format, the  button will be displayed.



# Concurrent user license function

This section explains how to use the concurrent user license function in the recorder.

## Supported software version

The function is available when the software version is V2.0 or later.

## About the concurrent user license function

Refer to the operating instructions of i-PRO Management Software WV-ASM300 for the concurrent user license function.

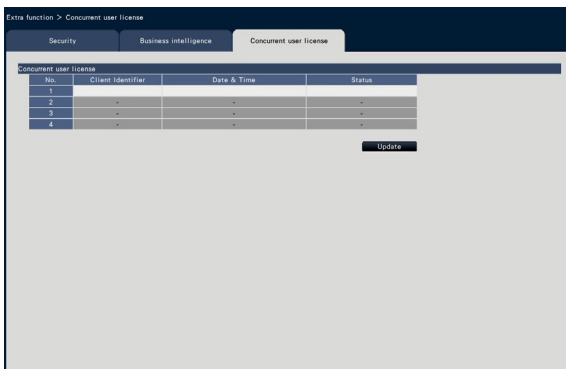
## About license registration

Register the license of the Concurrent User License Kit (WJ-NXC05W) to use the concurrent user license function. To register the options, the "Registration Key" that can be obtained from the Key Management System is required. Refer to the "Activation Key Card" attached to the recorder for how to obtain the registration key. Refer to [Registration of license] for license registration of the concurrent user license function.

## Check the client information connected to the recorder

Displays a list of i-PRO management software (Client) information connected to the recorder. Click the [Extra function] - the [Concurrent user license] tab of the [Advanced setup] on the setting menu.

→ The concurrent user license screen will be displayed.



Login: The client has logged in.

Logout: The client has logged out and ended use. Other clients can connect.

Time out: The client has timed out and ended use. Other clients can connect.

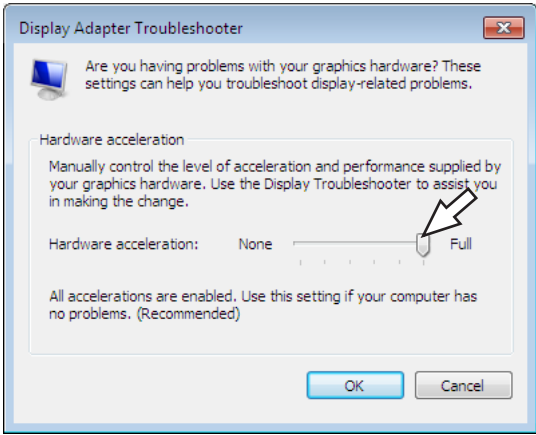
# Troubleshooting

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

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

Symptom	Cause/solution	Reference
Recording cannot be performed.	<ul style="list-style-type: none"> <li>Is "On" is selected for "Recording mode"? Check whether the settings are appropriate.</li> </ul>	43
	<ul style="list-style-type: none"> <li>Are the settings of the schedules appropriate? Check whether the settings are appropriate.</li> </ul>	36
Cannot play back images.	<ul style="list-style-type: none"> <li>Are there any recorded images on the hard disk drives? Check if there are recorded images.</li> </ul>	72
	<ul style="list-style-type: none"> <li>Users who have logged into the system may not be authorized to playback images recorded on the hard disk drives. Check the user level settings of these users.</li> </ul>	58
	<ul style="list-style-type: none"> <li>Users who have logged into the system may not be authorized to display the images from cameras. Check the user level settings of these users.</li> </ul>	58
Audio is not output from the camera. Or audio is accompanied by noise.	<ul style="list-style-type: none"> <li>Is the audio encoding format of the camera set to "G.726(32kbps)"? This recorder supports "G.726(32kbps)" only. Check the setting of the connected camera.</li> </ul>	–
	<ul style="list-style-type: none"> <li>Is other than "Selected camera" selected for "Audio output camera" in the "Monitor" - "Advanced setup" tab? Check whether the setting is appropriate.</li> </ul>	49
Cannot control the cameras.	<ul style="list-style-type: none"> <li>Check whether the camera numbers and IP addresses that are displayed on the setup menu - the "Advanced setup" menu - the [Camera] page - [Camera registration] tab.</li> </ul>	12
	<ul style="list-style-type: none"> <li>Check if the user name and password has correctly been entered on the setup menu - the "Advanced setup" menu - the [Camera] page - [Camera registration] tab.</li> </ul>	15
The message "Please insert a medium." is displayed even after an external storage device is inserted.	<ul style="list-style-type: none"> <li>After the external storage device is inserted, it may take time to recognize the medium. Close the message window and wait for a while before retry.</li> </ul>	–

Symptom	Cause/solution	Reference
Cannot access from the web browser.	<ul style="list-style-type: none"> <li>Is the Ethernet cable firmly connected to the 10BASE-T, 100BASE-TX, or 1000BASE-T port on the rear side? Confirm the cable is firmly connected.</li> </ul>	Installation Guide
	<ul style="list-style-type: none"> <li>Is the connection indicator of the network port lit on the rear side? When it is not lit, connection to a LAN is not established or a network is not working correctly. Confirm that the connection indicator of the network port is lit. Refer to the system administrator if it is not lit.</li> </ul>	Installation Guide
	<ul style="list-style-type: none"> <li>Is the valid IP address set? Refer to a system administrator for further information about the settings.</li> </ul>	50
	<ul style="list-style-type: none"> <li>Are you accessing the wrong IP address? Check the connection by using a ping command from the PC command prompt as follows. &gt;ping "IP address of this unit" If there is reply from this unit, the connection is normal. If not, check the settings of the IP address and the subnet mask.</li> </ul>	-
	<ul style="list-style-type: none"> <li>Is the same IP address provided to other devices? Refer to a system administrator for further information about the settings.</li> </ul>	50
	<ul style="list-style-type: none"> <li>Are there contradictions between the address and the network subnet to be accessed? When the recorder and the client (PC) are on the same subnet, is the same subnet set for the IP addresses of the recorder and the PC? Or is "Use Proxy Server" for the settings of the browser checked? When accessing the recorder in the same subnet, entering the address of the recorder in the "Don't Use Proxy For These Addresses" box is recommended.</li> </ul>	50
The image displayed on the browser is not being refreshed.	<ul style="list-style-type: none"> <li>Depending on the traffic of the network, there might be difficulties in displaying images. Press the [F5] button on the keyboard to request images.</li> </ul>	-
Image refresh of the browser is slow. Response of the browser is slow.	<ul style="list-style-type: none"> <li>Isn't the network traffic heavy? These symptoms may occur when the network traffic is heavy.</li> </ul>	-
A pop-up is not displayed on the browser.	<ul style="list-style-type: none"> <li>It may be possible that a pop-up blocker other than Internet Explorer is activating. Check the installed software and cancel the pop-up blocker.</li> </ul>	-
Cannot close the authentication window displayed when displaying the operation window.	<ul style="list-style-type: none"> <li>Are the correct user name and password entered? Confirm the correct user name and password.</li> </ul>	59
Audio is interrupted during playback using the viewer software.	<ul style="list-style-type: none"> <li>When playing images recorded at a higher frame rate, audio may sometimes be played interrupted.</li> </ul>	-
Cannot play the downloaded recorded images.	<ul style="list-style-type: none"> <li>When any setting of the setup menu has been changed during the download, the download will be canceled automatically. In this case, the downloaded file is not a complete file and it is impossible to play it.</li> </ul>	-

Symptom	Cause/solution	Reference
<p>An error message is displayed when trying to launch the viewer software by dragging and dropping multiple files onto it.</p>	<ul style="list-style-type: none"> <li>Decrease the number of the selected files or select files after launching the viewer software.</li> </ul>	<p>–</p>
<p>When displaying images on a multi-screen of the browser, images from two cameras or more are displayed in sequence on a screen of multi-screen.</p>	<ul style="list-style-type: none"> <li>This may occur due to the display adapter and driver combination. When this occurred, update the driver of the display adapter to the latest version first.             <ul style="list-style-type: none"> <li>If updating the driver does not solve the problem, adjust the hardware acceleration as follows. The following are descriptions when using Windows 7.</li> </ul> </li> </ul> <ol style="list-style-type: none"> <li>After closing all web browser windows, right-click on the desktop and select "Screen resolution" from the displayed pop-up menu.</li> <li>Click "Advanced settings" on the "Screen resolution" window.</li> <li>Select the [Troubleshoot] tab, and click the [Change settings] button.</li> <li>Disable the DirectDraw acceleration by adjusting the performance level of "Hardware acceleration" on the "Display Adapter Troubleshooter" window.</li> </ol> 	<p>–</p>
<p>The external storage device is not recognized.</p>	<ul style="list-style-type: none"> <li>Is the connected external hard disk drive or USB memory compatible with USB 3.0 or 2.0?</li> <li>Is the external storage device formatted in exFAT, FAT (FAT16) or FAT32? If the capacity of the external storage device is 32 GB or less, the device must be formatted in FAT32. If it is 64 GB or more, the device must be formatted in exFAT.</li> <li>Is the external storage device equipped with the password authentication function?</li> <li>Is the connected hard disk drive run by USB bus power? The protection circuit function activates and the power supply will be stopped. Make sure to use the hard disk drive that runs using external power source.</li> <li>If the recorder is started up with a USB cable connected, in rare cases, the external storage device may not be recognized. Connect the cable after starting up the recorder.</li> </ul>	<p>–</p>

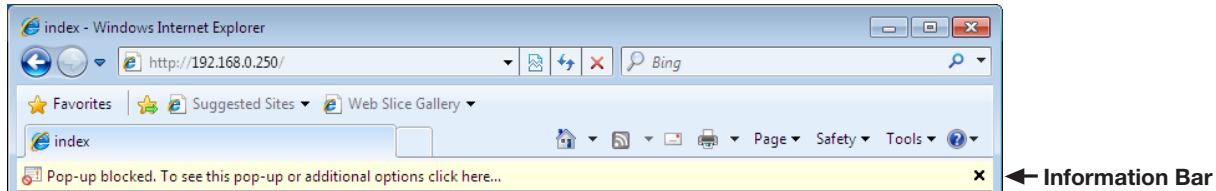
Symptom	Cause/solution	Reference
When opening the web browser of the camera from the setup menu of the web browser, H.264 images or H.265 images are not displayed.	<ul style="list-style-type: none"> <li>The port forwarding function of this recorder is available only in HTTP traffic and therefore, images are not displayed. To display images, access the address of the camera directly in the web browser.</li> </ul>	53
The live image or the playback image turns to the black screen on the web browser.	<ul style="list-style-type: none"> <li>The PC memory may be insufficient. End the web browser and unnecessary software, launch the web browser again and then connect to the recorder.</li> </ul>	–
“SSL communication unavailable” was displayed in the connection error information on [Extra function] – [Security] setting screen after selecting HTTPS for the connection with the camera.	<ul style="list-style-type: none"> <li>Follow the procedures below. <ul style="list-style-type: none"> <li>Click [Setup &gt;] button of [Security between this product and camera] – [Connection] item on [Extra function] – [Security] setting screen.</li> <li>Confirm that the connection of the camera is set to HTTPS and the port number to 00443. If the port number is wrong, set it to 00443.</li> <li>End the setting.</li> </ul> </li> <li>If the problem is not solved, further perform the following procedures. <ul style="list-style-type: none"> <li>Click [Security between recorder and camera] – [Connection] item button on [Extra function] – [Security] setting screen and set the connection of the camera to HTTP.</li> <li>Click [Setup &gt;] of [Registered information] on [Camera] – [Camera registration] setting screen.</li> <li>Confirm that the camera port number is set to 00080. If the port number is wrong, set it to 00080.</li> <li>End the setting and open the setting screen again.</li> <li>Click [Setup &gt;] button of [Security between this product and camera] – [Connection] item on [Extra function] – [Security] setting screen and reset the connection of the camera to HTTPS.</li> </ul> </li> </ul>	–
The data size displayed in the copy panel differs from the data size which is actually copied.	<ul style="list-style-type: none"> <li>The data size displayed in the copy panel is approximate. Errors will increase if audio data is recorded. Our network microphones in particular produce a large amount of data, so more errors tends to occur. Make sure to copy data to media with enough storage capacity.</li> </ul>	140
Copying progress can at times stop for a while at 99.9 %, or jump from 70 ~ 80 % to 100 %.	<ul style="list-style-type: none"> <li>If the data of our network microphone is copied in original format, copying will continue even though progress remains at 99.9 %, as the calculation error of the audio data is large. Make sure to copy data to media with enough storage capacity. Meanwhile, the data are copied in MP4 format, the progress may suddenly change to 100 % and the copy may be complete as the audio data is not copied if not recorded in AAC-LC.</li> </ul>	140
MP4 files cannot be played on the general viewer. Only audio is played.	<ul style="list-style-type: none"> <li>The general viewer may not support codec. In this case, use the viewer software of the recorder.</li> </ul>	181

Symptom	Cause/solution	Reference
The "Thermal error" indication is displayed on the main monitor.	<ul style="list-style-type: none"> <li>The ambient operating temperature is +5 °C to +45 °C {41 °F to 113 °F}. The "Thermal error" is displayed based on the internal thermal information of the HDD. If the "Thermal error" indication is displayed, it is recommended to change the installation environment so that the ambient temperature is maintained at approx. +25 °C {77 °F}. When the "Thermal error" indication is displayed frequently, contact your dealer.</li> </ul>	Installation Guide
	<ul style="list-style-type: none"> <li>Check if the fan is malfunctioning.</li> </ul>	90
	<ul style="list-style-type: none"> <li>Check if the recorder ventilation holes or cooling fan are blocked, and also check for dust collected around the ventilation holes.</li> </ul>	Installation Guide

## Message displayed on the information bar

Depending on the operation system in use, the following may occur. Follow the instructions below when the following occurred. By performing the following solutions, other applications may not be affected.

The "Information Bar" expressed in the following symptom and solutions will be displayed just below the address bar only when there is information to communicate.



Symptom	Cause/solution	Reference
The following message is displayed on the information bar. "Pop-up blocked. To see this pop-up or additional options, click here..."	<ul style="list-style-type: none"> <li>Click the information bar and select "Always Allow Pop-ups from This Site". When the warning window is displayed, click the [Yes] button.</li> </ul>	-
The following message is displayed on the information bar. "This site might require the following ActiveX control: 'wvasetupnx.exe' from 'Panasonic i-PRO Sensing Solutions Co., Ltd'. Click here to install..."	<ul style="list-style-type: none"> <li>Click the information bar and select "Install ActiveX Control...". Click the "Install" button on the displayed "Security Warning" window.</li> </ul>	-
The following message is displayed on the information bar. "To help protect your security, Internet Explorer blocked this site from downloading files to your computer. Click here for options..."	<ul style="list-style-type: none"> <li>Click the information bar and select "Download File...". When downloading fails even though you selected "Download File...", perform the following operation. Click "Internet Options" on the Tools menu of Internet Explorer, and then click the [Security] tab. Then, click the [Custom Level...] button to open the "Security Setting" window. Under "Downloads", select "Enable" for "Automatic prompting for file downloads". Then click the [OK] button. When the warning window is displayed, click the [Yes] button.</li> </ul>	-
The following message is displayed on the information bar when tried to execute a downloaded file. "The publisher could not be verified. Are you sure you want to run this software?"	<ul style="list-style-type: none"> <li>Click the [Run] button.</li> </ul>	-
Unnecessary status bar or scroll bar is displayed on the pop-up window. An URL is displayed on the pop-up title bar and the title is not displayed completely.	<ul style="list-style-type: none"> <li>Click "Internet Options" on the Tools menu of Internet Explorer, and then click the [Security] tab. Then, click the [Custom Level...] button to open the "Security Setting" window. Under "Miscellaneous", select "Enable" for "Allow script-initiated windows without size or position constraints". Click the [OK] button. When the warning window is displayed, click the [Yes] button.</li> <li>In addition, when using Internet Explorer 7.0, select "Enable" for "Allow websites to open windows without address or status bars".</li> </ul>	-



# Glossary

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## **ActiveX Control**

A software module developed by Microsoft. It is used to add functions, downloaded from a web server via the Internet or intranet, to Internet Explorer. The recorder uses it to display video.

## **Bit rate**

Indicates how many bits of data can be processed or transmitted in a unit of time. Generally, the units are in bps, or bits per second. Used to indicate the compression rate of video and audio data, and how much data a communications line can send and receive in 1 second.

## **Camera operation**

Operations of the camera connected to the recorder such as pan and tilt (horizontal and vertical position), zooming, focusing, brightness (iris adjustment), pre-set motions (movement towards a set horizontal and vertical position) and auto functions (automatic camera rotation, etc.).

## **Day & Night (IR/electrical)**

Day & Night (IR) is a function to switch on black and white optically with an infrared filter inserted, and Day & Night (electrical) is a function to switch on black and white with the image processing of the camera.

## **DDNS (Dynamic DNS)**

A technology for dynamically translating DNS server information to enable the transfer of only differences in information between DNS servers (refer to "DNS").

## **Default gateway**

Network device used as a gateway for networks, such as a local network, to access PCs on an external network.

## **DHCP (Dynamic Host Configuration Protocol)**

A protocol that enables PCs to automatically get information from a server needed for accessing a network.

## **Digital zoom**

The function that enlarges live images and playback images during playback. The digital zoom enlarges the images by the recorder and is separate from the zoom function included as part of the camera operations for enlarged images.

## **DNS (Domain Name System)**

The long lists of numbers or IP addresses that are used in network environments are difficult to remember, which makes them impractical. This is why PCs

are given an easy-to-follow name (domain name) which is converted to an IP address before they are communicated with. The DNS provides translation between domain names and IP addresses.

## **Emergency recording**

A function to prioritize image/audio recording using the external switch connected to the recorder for when emergencies occur.

## **Event**

Indicates an occurrence that causes the recorder to take an event action. Events include terminal alarm, command alarm and camera site alarm, etc.

## **Event action**

A specific action to be taken at an event occurrence. When "ALM" is selected, the occurrence of an event is announced by displaying a notification on the monitor, lighting the status indicators and sounding the buzzer. When "ADM" is selected, the occurrence of an event will not be announced and only recording and filing of event logs will be performed. Only an event log is filed when it is set to Off.

## **Event recording**

Function for starting recording automatically when an event occurs. Event recording includes Pre-event recording that records images before the event and event recording that records images after the event.

## **FHD(Full HD)**

Resolution with 1920×1080 pixels.

## **Firewall**

A type of security used when accessing outside networks like the Internet. A PC is used to prevent computers outside a local network from accessing the network.

## **Fisheye correction**

This is a function to correct the fisheye image of our fisheye network camera to a 1-screen PTZ or 4-screen PTZ image.

## **Frame rate (ips)**

Refers to the unit that determines the smoothness with which the recorded images are played back. "ips" indicates the number of recorded frames in 1 second. The higher the number, the smoother the movement, but the available recording time becomes shorter.



**FTP (File Transfer Protocol)**

A protocol that is commonly used for transferring files over the Internet.

**Full duplex**

Communications method that allows simultaneous sending and receiving by transmitting in both directions using an independent sending line and receiving line.

**Global (IP) address**

IP address assigned to each device connected to the Internet that is equivalent to an address on the Internet. IP address is required for Internet communications. In contrast, IP address freely available to assigned to each device within an intranet is called as "Private (IP) address".

**H.264**

One of the compression methods of moving images.

**H.265**

One of the compression methods of moving images having a higher compression rate than H.264.

**Half duplex**

Communications method that switches between sending and receiving using a single communications line.

**HD(High Definition)**

Resolution with 1280×720 pixels.

**HDD**

Stands for Hard Disk Drive (a high capacity storage device). This product uses hard disk drives instead of video tapes for recording.

**HVGAW(Half VGA Wide)**

Resolution with 640×360 pixels.

**Image quality**

Image quality varies depending on the compression rate. In this product, the following image qualities (compression rates) are available and they can be selected for each camera. XF (Extra Fine: Extra fine quality), SF (Super Fine: Super high quality), FQ (Fine: High quality), NQ (Normal: Standard quality)

**Internet**

A global system of interconnected computer networks. It is required to contract with an Internet service provider to connect to the Internet.

**IP address (Internet Protocol Address)**

The identification number assigned to PCs connected via IP networks such as the Internet or an Intranet, or to individual communications devices. Do not assign the same address to multiple devices, especially on the Internet.

**LAN (Local Area Network)**

A communications network for connecting PCs, printers and other network devices in a relatively small area such as in a building or floor of a building or campus in which data is transferred.

**MAC address (Media Access Control address)**

Fixed physical address assigned to network devices. Devices send and receive data based on this.

**MJPEG**

Indicates a video format to sequentially transmit JPEG images from cameras. Some cameras phrase this video codec as just "JPEG".

**Multiscreen display**

This product can display multiple camera simultaneously while displaying live images or playback images. Displaying of images from 4 cameras or from 16 cameras simultaneously is called as the 4-screen display or 16-screen display respectively.

**NTP (Network Time Protocol)**

A protocol developed to accurately maintain time among hosts on the Internet.

**TCP alarm notification**

Sends a message to the registered address using our communication system when an event or error occurs. It is also used to receive the TCP alarm notification from the camera (camera site alarm) and operate event actions of the recorder.

**Pillar box**

A display format to which blank space is added to both sides of the video to maintain the aspect ratio.

**Plug-in software**

Small programs used to add functions to application software.

**POP 3**

A protocol for receiving e-mail stored on a server on the Internet or an Intranet.

**POP 3 Server**

A server that supports POP3, currently the most widely used mail sending protocol.

**Port forwarding**

A function that takes packets that arrive to a specific port number from the Internet and forwards them to the set camera. The recorder only forwards HTTP packets.

**Port number**

A sub address set below the IP address to connect multiple parties simultaneously for communication (TCP, UDP, etc.) on the Internet.

**Primary (DNS) server**

DNS servers usually have more than 2 systems and the primary server is the main system.

**Private (IP) address**

IP address assigned when connecting primarily to LAN. Private IP addresses can be assigned freely on a network and do not require a formal application. However, because private IP addresses cannot be used to access the Internet, a router or other device it is necessary to assign a global IP address.

**Protocol**

A set of rules that allows the exchange of data amongst different types PCs with information. The Internet uses the TCP/IP protocol as its base and information is transferred following http and ftp protocols depending on the application.

**QXGA**

Resolution with 2048×1536 pixels.

**Resolution (Image capture size)**

Resolution refers to the degree of fineness and quality of the camera pictures recorded by this product. In this product, it indicates the number of pixels used in the image displayed on the screen. A horizontal resolution of 640 pixels and a vertical resolution of 480 pixels is expressed as 640×480.

**Router**

Placed in between different networks, a router sends data to the proper destination via network. If data on the network is addressed to an external network, routers send the data to the outside of the network after judging the optimum sending route.

**RTP (Real-time Transport Protocol)**

A protocol to transmit data such as audio and video in real time using the UDP. Although data is lost or delayed due to the UDP, the receiver plays the data ignoring lost or delayed packets. It also enables multicast transmission of audio and video.

**RTSP (Real Time Streaming Protocol)**

A protocol to control transmission of data which can be delivered in real time such as audio and video. It basically uses the TCP for the data transmission and allows highly reliable transmission.

**Schedule recording**

Function that automatically starts video and audio recording on a preset time schedule.

**SD memory backup, SD memory data**

The SD memory backup is a function of the camera to save images on the SD memory card inserted in the camera when the recorder fails to communicate with the camera during the set schedule. The SD memory data means its recorded image.

**Secondary (DNS) server**

DNS servers usually have more than 2 systems and the secondary server is the sub system. If there is trouble with the primary server, the secondary server takes over.

**Smart coding (GOP control)**

A control method of the camera to reduce the amount of the transmitted data by prolonging the refresh interval of the image when the motion in the image is little.

**SMTP (Simple Mail Transfer Protocol)**

A protocol for sending e-mail on the Internet or an Intranet. Used when transferring mail between servers or when clients send mail to the server.

**SMTP authentication (Simple Mail Transfer Protocol authentication)**

SMTP mail transfer protocol appended with a user authentication function. It authenticates passwords and user accounts between SMTP servers and clients. Both SMTP servers and clients must support SMTP authentication.

**SMTP server**

A server that supports SMTP, currently the most widely used mail transfer protocol.

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**SNMP (Simple Network Management Protocol)**

A protocol for monitoring and managing networked communications devices, such as routers, PCs, cameras and Network Disk Recorders via a network.

**Subnet mask**

Numerical value to define whether to use several bits for a network address to distinguish among subnet IP addresses in a network. According to the values, devices can determine which part of the address is the network address and which part is the host address.

**Subnet**

A small network used as a unit of administration when a larger network is divided into smaller networks. Large networks in corporations, for example, the network can be broken down into smaller networks called "subnets" to make the network more manageable and lines used more efficiently. In this case, these smaller networks are called subnets.

**SVGA(Super VGA)**

Resolution with 800×600 pixels.

**SXVGA**

Refers to a resolution of 1280×960 pixels.

**TCP/IP (Transmission Control Protocol/Internet Protocol)**

The standard network protocol for the Internet and Intranets.

**Time zone**

A time zone is a region or a country that has uniform standard time.

**URL (Uniform Resource Locator)**

An address for locating information resources such as documents and images on the Internet.

**USB medium**

It is a removable external storage device having the universal serial bus interface such as a USB memory stick or an external hard disk.

**VGA (Video Graphic Array)**

Resolution with 640×480 pixels.

**VMD (Motion detection) search**

The function that automatically detects motion in images. In this product, it is possible to search for date & time of motion detection in recorded images.

**VPN**

Service used to make public lines as private lines. Many companies are using this as a new medium of communication instead of costly private lines. Depending on service, VPN also provides a secure line using authentication technology and encryption.

**WAN**

Allows physically separated PCs, such as between the head office and a branch office, to connect via a phone line or private line data for exchanging.

**Web browser**

A software application which enables to display web pages. Microsoft Internet Explorer is one of the most widely used web browser.

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