



# **Operating Instructions**

**WJ-NX510K Series**

**WJ-NX410K Series**

**WJ-NX310K Series**

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# Preface

## About the user manuals

This operating instructions compatible with firmware version Ver. 1.20 of WJ-NX510K Series, WJK-NX410K Series and WJ-NX310K Series.

WJ-NX510K Series refer to WJ-NX510K, WJ-NX510KG and WJ-NX510KGV.

WJ-NX410K Series refer to WJ-NX410K, WJ-NX410KG and WJ-NX410KGV.

WJ-NX310K Series refer to WJ-NX310K, WJ-NX310KG and WJ-NX310KGV.

Unless otherwise noted, the screen and other descriptions in this manual are based on the WJ-NX310K as an example.

- For more information about our and Panasonic cameras in this manual and on the screen, contact your dealer.
- The maximum number of cameras for each model listed in this document is as follows.  
NX310K Series Up to 32 cameras\*  
NX410K Series Up to 64 cameras\*  
NX510K Series Up to 128 cameras\*  
\*When using the Additional Camera Kit (option).
- The "n" in "camera n" in this manual indicates the maximum number of cameras for each model.
- "<Control No.: C\*\*\*\*>" used in this document is the number used when searching for the relevant information on our support website below.

<https://i-pro.com/global/en/surveillance/training-support/support/technical-information>

In this manual, differences in functions and screens depending on the model are indicated as follows.

[NX310]: Functions and screens that are only compatible with the NX310 Series.

[NX410/NX510]: Functions and screens compatible only with NX410K Series and NX510K Series.

## Abbreviations

The following abbreviations are used in this manual.

WJ-NX310K Series is called NX310.

WJ-NX410K Series is called NX410.

WJ-NX510K Series is called NX510.

Microsoft Windows 10 is described as Windows 10.

Network cameras are described as cameras.

Personal computers are called PCs.

## About the settings and operation of the recorder

- The recorder can be operated using the included mouse connected to the USB port on the rear side of the recorder and the on-screen keyboard. Refer to "Basic operations" of Installation Guide for the operation of the mouse and the on-screen 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" for setting items via the web browser and "List of operation items" for operational items via the web browser. Refer to "[Operation via PC web browser]" for the operation.
  - ☞ [Lists of the setting items \(Setup menu\)](#)
  - ☞ [List of operation items](#)
  - ☞ [\[Operation via PC web browser\]](#)
- 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".

## Restrictions when using this product

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

Restrictions for individual cameras are posted on our support website.

### When connected to a monitor

- If a sub-monitor is connected while the main monitor is displaying images, the main monitor will go to black for a few seconds. The same applies in the reverse case.

### When using a 4K-compatible monitor



- When displaying on 1-screen, videos of 60 fps will be thinned out to 30 fps.

### 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 the number of screen divisions is switched.
- When switching cameras, switching the number of split screens or using sequence display on the main monitor or sub monitor, depending on the camera, the font size in the camera image displayed on the other monitor may appear different.
- When a live image from a camera with a recording frame rate set to from 25 ips to 60 ips is displayed on a monitor, some subjects may not be displayed smoothly.
- After settings are changed, it may take up to 10 seconds for the camera's live image to be displayed.

### 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 the number of screen divisions is switched (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 for how to control playback.
  -  [Playback operation panel](#)
  -  [About playback operation](#)
  - 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 you play across parts with different resolutions, the screen may stop updating. In this case, stop playback and then try playback again.
- If the load of this product is too great to continue playback, if recorded images cannot be displayed, or if there are no recorded images, playback will stop and return to live image display.
- When you connect or disconnect a monitor, playback stops and returns to live image 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.

- Depending on the camera, setting the recording frame rate to 60 ips may cause interruption of audio or reduction of the recording frame rate.
- If you set the smart coding (GOP control), the pre-event recording and SD memory backup functions will not work properly. If you want to use those functions, set the smart coding (GOP control) to off.
- If the stream of the camera registered to this recorder is set to the SD recording stream on the camera side, it will not be able to switch the frame rate during event recording or emergency recording.

### **When using AI privacy guard recording**

- To use the AI privacy guard recording, the extension software WV-XAE201W is installed on the camera and its setting needs to be completed. In addition, the "Target stream" in AI privacy guard setting on the target camera needs to be set to "Stream (2) & Stream (4)".
- AI privacy guard recording requires registration frames for 2 cameras.
- AI privacy guard recording uses stream 2 for recording, monitor live 1-screen display, and browser display. It also uses stream 4 for monitor live multi-screen display. The frame rate of stream 4 will be 10 ips.
- AI privacy guard recording operates according to the recording and scheduling settings of the paired camera.
- Even if the alarm recording camera is either one of them, both cameras will record the alarms.
- AI privacy guard recording does not support SD backup recording.
- "Stream 2" in "Do not use stream 2 of camera with each function of this recorder" and "Display stream 2 live image when displaying on the monitor with 1-screen display." refers to "Stream 3" and "Stream 4".
- Depending on the camera, the upper limit of the frame rate differs when AI privacy guard is set. For details, please refer to the operating instructions of the camera.

### **When copying images**

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

### **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.

### **When using the web browser**

- When downloading playback images, downloading of recorded images may start from a point several seconds (\*) earlier than the designated start time.
- The data size that can be downloaded for one playback image download is approximately 2GB. If the data size in the specified date and time range exceeds that, the download will end prematurely.
- When downloading playback images as MP4, if there is a part that is not recorded within the specified date and time range, the download will start from the starting date and time and end at that part.
- When connecting via HTTPS, an error message such as "This connection does not protect your privacy" is displayed, but HTTPS communication is still possible.
- When pop-up dialogs such as alerts appear, updates to live and playback video will temporarily stop. The video is updated when the pop-up dialog is closed.
- When using a sub-monitor, the maximum number of playback connections is one.

### **When backing up the SD memory card**

- The product may not record images as set in the product if SD memory cards rather than those supporting the speed class 10 are used. Refer to the operating instructions of the camera for further information.
- If bandwidth control of the camera is changed to a value other than the default value, the SD backup may not function. Refer to the operating instructions of the camera for further information.

### **When using viewer software**

- The playback speed may become slow when playing back high resolution high frame rate images.

### **When using i-PRO Mobile APP**

- When using a sub-monitor, the maximum number of mobile playback connections is one.

## Register for remote monitoring

- When the product is registered in the remote monitoring, the following restrictions will be applied.
  - Only “1-screen live sequence” and “Switch by alarm terminal input” are available for operation mode of the sub monitor.
  - The signal format of HDMI output will be fixed to 1080p.
  - No thumbnail will be displayed on the timeline of the main monitor.
- \* 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.

## Before using this product

### 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 skip. 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 a 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 or multiple mouse cursor will be displayed. This is not a malfunction.

### **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 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.



**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

SW1 to SW16: Extension software alarm

\*Camera site alarms sent from the extension software will be recorded as extension software alarms.

# [Setup via recorder's main monitor]

## Setup via recorder's main monitor

The Setup via recorder's main monitor using the mouse include [Quick setup] - [Easy Start], [Basic setup] and [Advanced setup].

[Quick setup] - Easy Start provides the minimum settings necessary to use this product, including date setting, camera registration, and recording settings. For more information on [Quick setup] - Easy Start, refer to the leaflet of "Easy Start Guide (included)".

[Basic setup] is for basic settings other than those in [Quick setup] - Easy Start, such as date and time display settings and recording operations.

[Advanced setup] provides detailed settings such as monitor settings, user management, maintenance settings, HDD management, and extended function settings.



### **Important:**

- Cameras can be registered in either [Quick setup] or [Basic setup]. If you wish to operate with the minimum necessary settings, refer to the leaflet of "Easy Start Guide (included)".
- When registering cameras using [Quick setup], the number of cameras to be connected must be within the maximum number of cameras for each model. If more than the maximum number of cameras are connected using a switching hub, etc., refer to the following section.  
[👉 Detect cameras for registration \[Detect cameras\]](#)
- Only our and Panasonic cameras that are supported by this camera can be registered with [Quick setup]. Refer to our support website for the

supported cameras.

- When using a camera other than ours or Panasonic cameras with ONVIF connection, [Quick setup] - Easy Start only cannot be used to start operation. After setting the date and time, fixed IP address, user name/password, etc. on the camera, register the camera to this camera by using [Basic setup] - [Camera] - [Camera registration] to detect the camera or change the registration information.

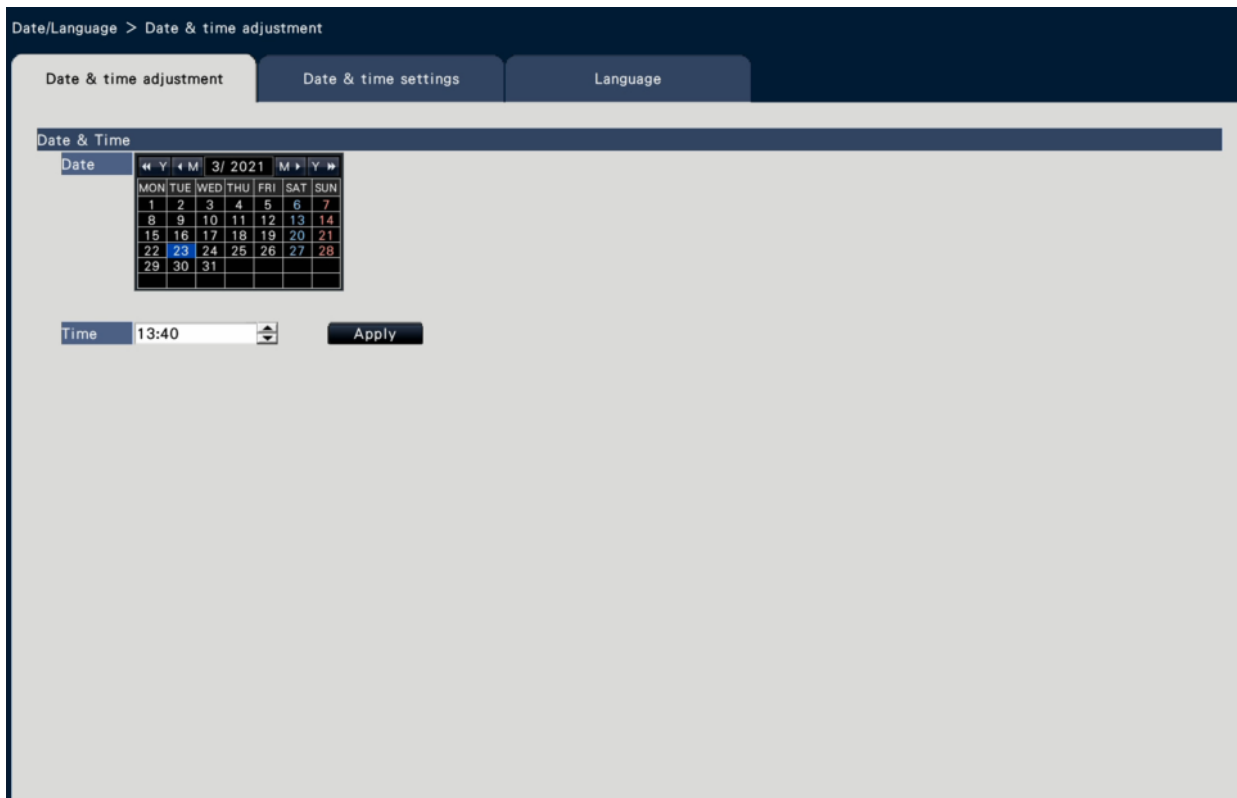
## **Configure the basic settings [Basic setup]**

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

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

### **Set up date & time [Date & time adjustment]**

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.



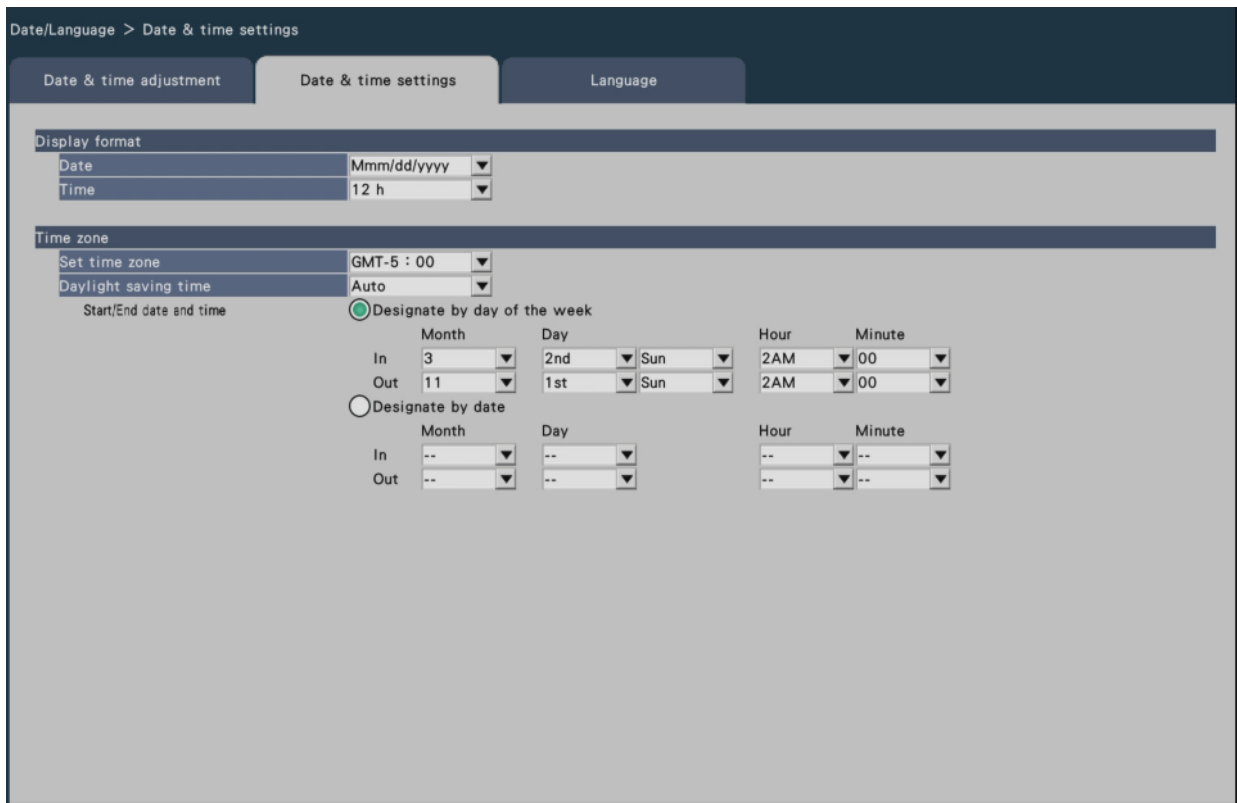
#### **Important:**

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

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

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





## ■ Display format

Select a display format for the current date & time.



### Note:

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

[Set up camera \[Camera setup\]](#)

## [Date]

Select a date/time display format. (Example: March 1, 2022)

yyyy/mm/dd: 2022/03/01

Mmm/dd/yyyy: Mar/01/2022

dd/Mmm/yyyy: 01/Mar/2022

mm/dd/yyyy: 03/01/2022

dd/mm/yyyy: 01/03/2022

Default: dd/mm/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: 24 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



#### Important:

- After time zone is changed, if you have specified date and time or selected from the history, the playback start time of the recorded image or the timeline display, etc. before the change will be shifted by the time difference of the changed time zone.

#### [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

#### [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.

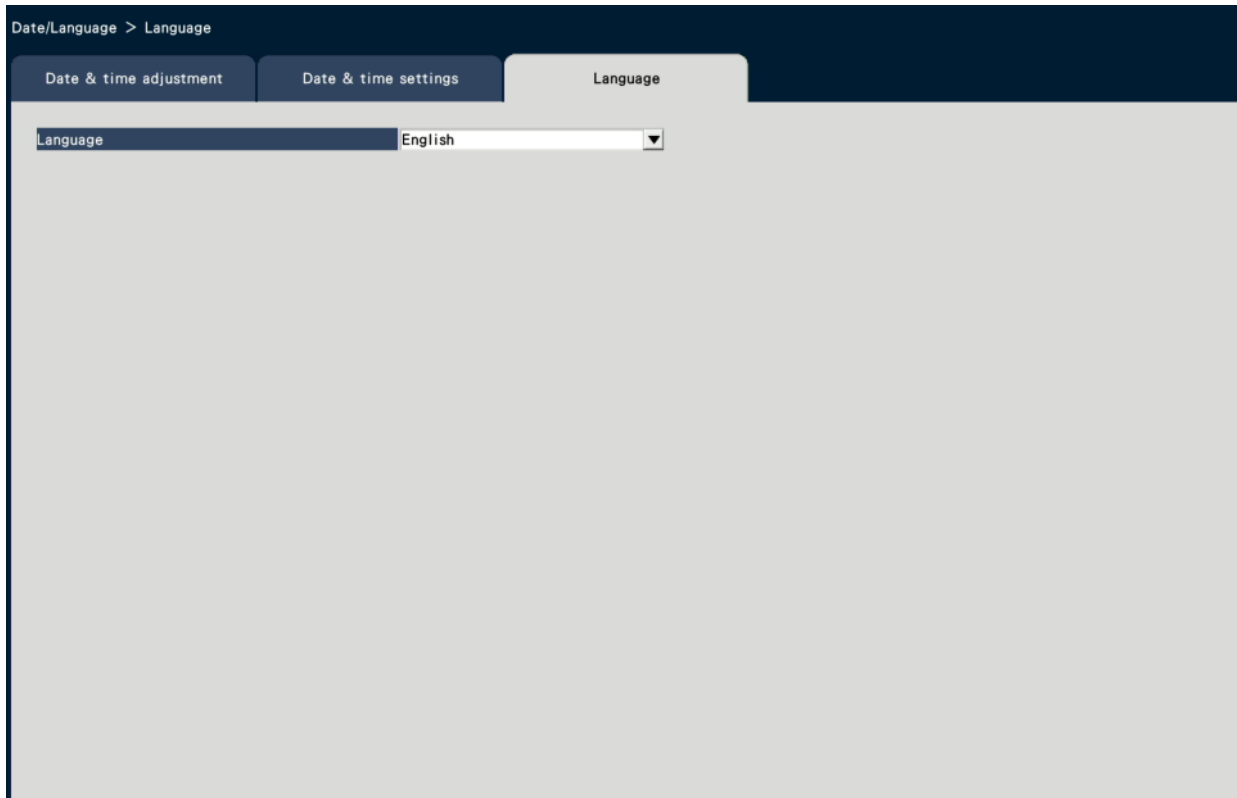


#### Important:

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

## Set up language [Language]

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



### [Language]

Japanese/ English/ Français/ Español/ Deutsch/ Italiano/ Português/ ไทย/ 简体中文/ 繁體中文/ Tiếng Việt

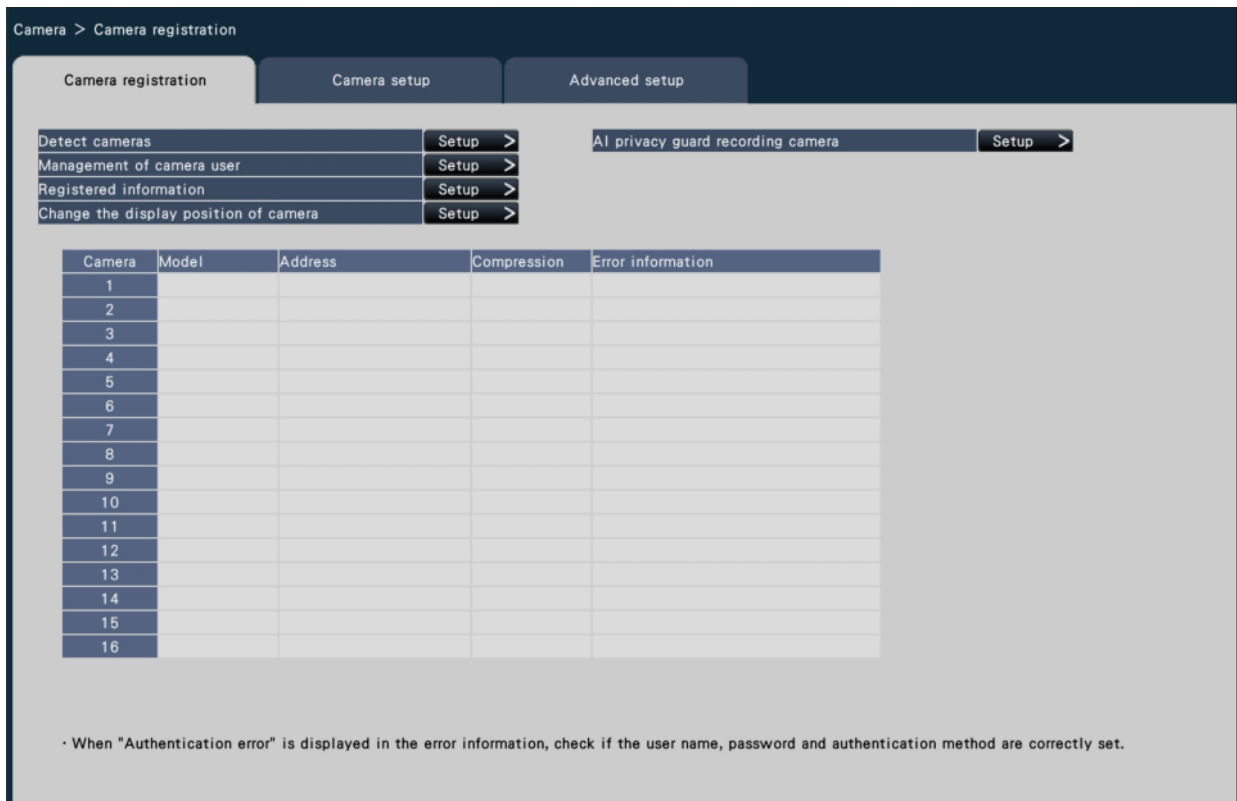
Default: English

## Camera setup [Camera]

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

### Register camera [Camera registration]

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".



### [Detect cameras]

The cameras connected to a network can be detected for registration.

[Detect cameras for registration \[Detect cameras\]](#)

### [Management of camera user]

Set a user name/password of the camera in the camera.

[Change the password of camera \[Management of camera user\]](#)

### [Registered information]

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

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

[Change the registered information \[Registered information\]](#)

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.

Certificate error: The camera's security certificate was not issued by a trusted certification

authority.



**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 Guide (included)" and register the camera again.

- A camera whose part number is "RTSP" or "RTSP(FE)" does not display error information.

### **[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.

👉 [Interchange camera numbers \[Change the display position of camera\]](#)

### **[AI privacy guard recording camera]**

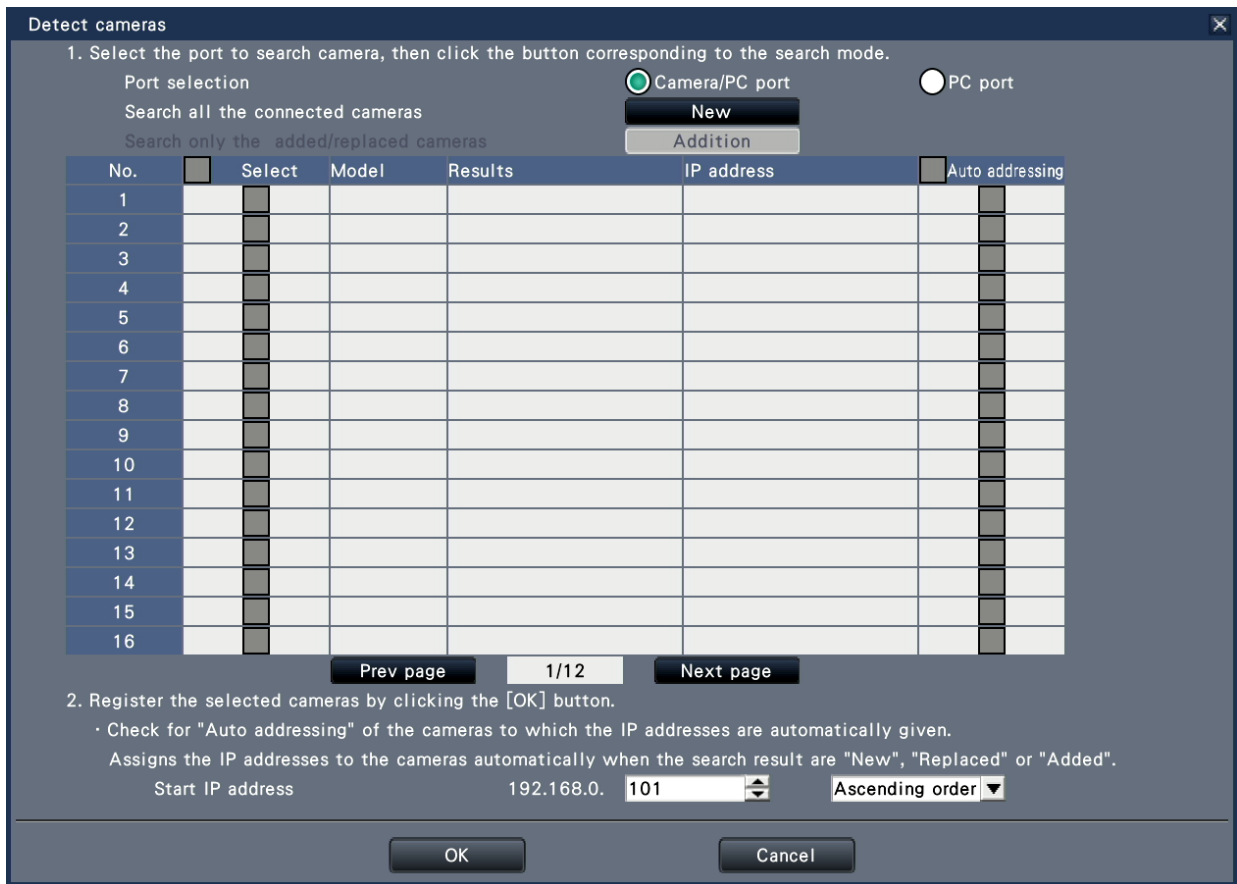
The camera used for AI privacy guard recording can be selected.

👉 [Select a camera which performs AI privacy guard recording \[AI privacy guard recording camera\]](#)

### **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, only the maximum number of cameras per model can be registered.

**[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. 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]**

If you are using a camera manufactured by us or Panasonic that is supported by this camera, the part number of the camera will be displayed. Refer to our support website for the supported cameras.

### **[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:**

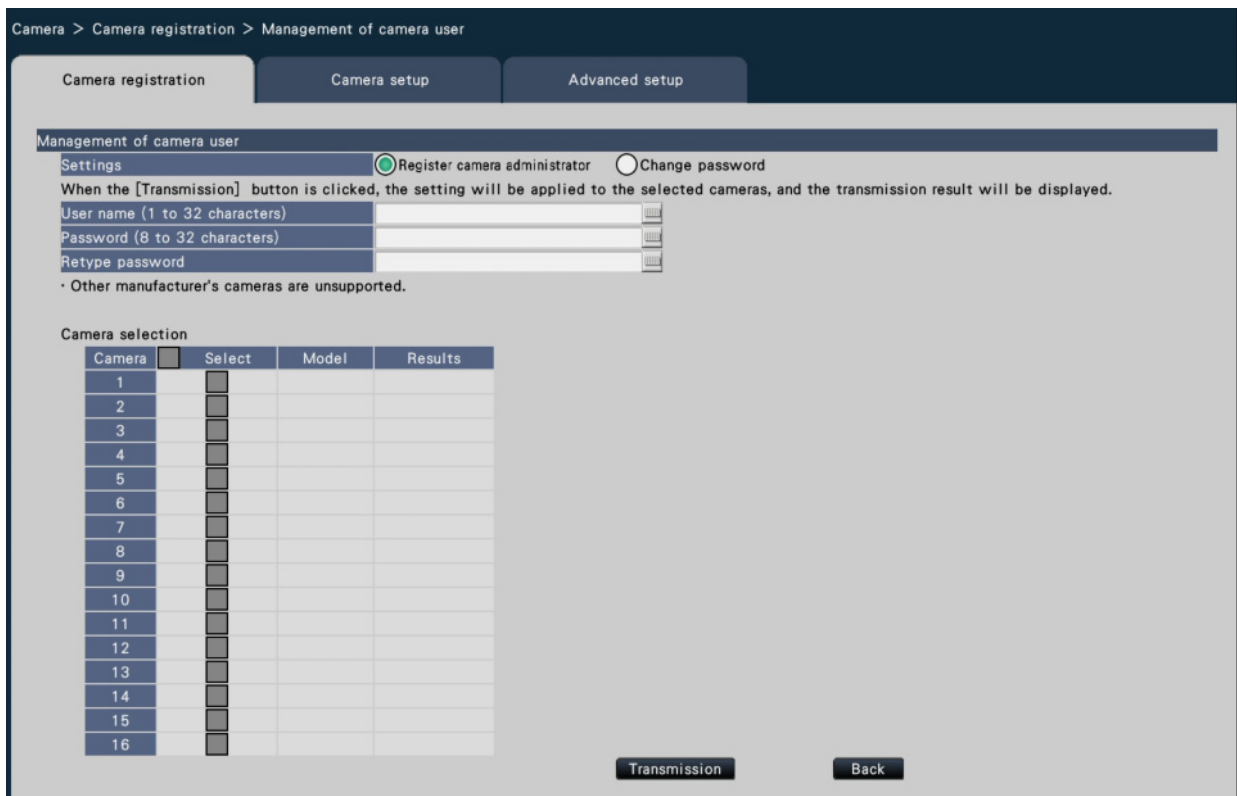
- It is impossible to register cameras in other networks via the same router.
- For the security enhancement, changing of the IP address of the camera will become impossible when 20 minutes have passed after the power is turned on. Refer to the operating instructions of the camera for further information.
- 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 this product does not automatically assign an IP address to the camera, set a fixed IP address to the camera that can communicate with this product.
  - 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 of the recorder is set to the default gateway of the camera.
- ☞ [Configure the basic network settings \[Basic\]](#)
- 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.



### [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.



**Note:**

- The settings can be made from this recorder only for cameras manufactured by us or Panasonic.
- 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.

## 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	Model	Option	Address	Compression	Authentication	User name	Password	Port No.
1					Digest			00080
2					Digest			00080
3					Digest			00080
4					Digest			00080
5					Digest			00080
6					Digest			00080
7					Digest			00080
8					Digest			00080
9					Digest			00080
10					Digest			00080
11					Digest			00080
12					Digest			00080
13					Digest			00080
14					Digest			00080
15					Digest			00080
16					Digest			00080

When deleting the registered information, set blank for the address of the camera to delete, or select the number of the camera to delete and click the [Delete] button.

Table to delete: -- [Delete]

Model number of the camera displayed on the above page will automatically be acquired.

Auto model number acquisition [Execute]

[OK] [Cancel]

### [Camera]

Up to the maximum number of registered cameras per model can be connected.

### [Model]

The model of a registered camera will be displayed.

(Blank: Camera is not registered)

Click the [▼] button to select the camera model from Camera part number or the camera categories. Refer to our technical information web site for camera categories.

It is unnecessary to change it for normal use.

If you select [RTSP] in the camera category, you can specify the URL and connect to the camera using RTSP.

For the connection method, refer to the supported camera information on our support

website.

### [Option]

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



**Note:**

- The method of installation will be set to the default values of each mode if the options of the fisheye camera are changed. Please refer to our technical information web site for the default values of each mode.

### [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 Recording by compression of H.264, live multiscreen 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 Recording by compression of H.264 or H.265, live multi-screen display: H.264(2), H.265(2)
- If "Do not use stream 2 of camera with each function of this recorder" is switched to ON, H.264(2) and H.265(2) are not used.
  - ☞ [Set up advanced \[Advanced setup\]](#)
- When selecting "MJPEG" for "Compression", the live image transmission

rate and the frame rate will be changed automatically to "5 ips".

 [Set up recording \[Recording setup\]](#)

- When selecting "H.264(n)" or "H.265(n)" for "Compression", it will become possible to select "XF" in the image quality setting.

 [Set up recording \[Recording setup\]](#)

- 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.
- If the compression method is set to "MJPEG", the live image for remote monitoring will not be displayed.
- Some camera models may not display live images for remote monitoring.

### **[Authentication]**

Set authentication used for the user authentication when accessing the camera.

Digest: Uses digest authentication.

Digest or Basic: Uses either digest or basic authentication.

Default: Digest

### **[User name]**

Enter the user name for accessing the cameras and logging in using the on-screen keyboard. 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" using the on-screen keyboard. (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.

### **[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 address of the respective camera.

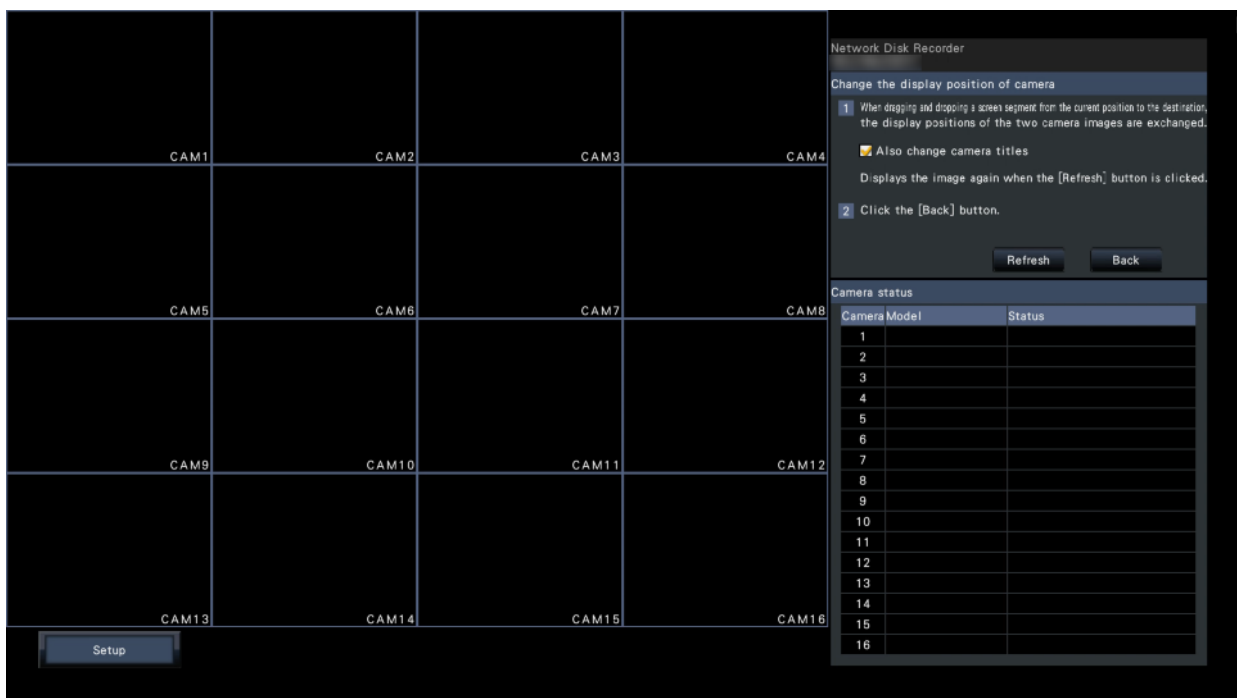
### [Auto model number acquisition]

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, 3,....

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

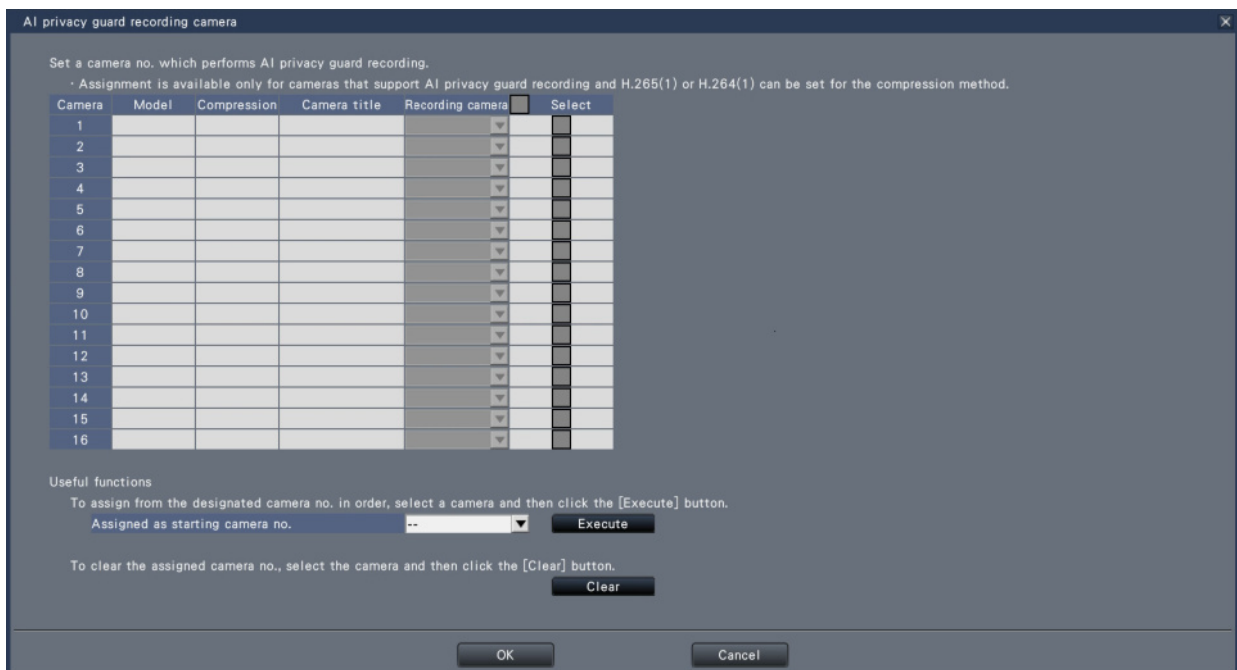
Obtain the latest camera image after interchanging cameras.

### [Back] button

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

## Select a camera which performs AI privacy guard recording [AI privacy guard recording camera]

Click the [Setup >] button of [AI privacy guard recording camera] on the [Camera registration] tab to display the following screen.



### [Recording camera]

For the registered cameras, select a camera to record the AI privacy guard image.

Only cameras that support AI privacy guard recording with the compression method set to H.265 (1) or H.264 (1) can be selected as a recording camera.

### [Select]

Select a camera to operate with useful functions.

### ■ Useful function

Configure the camera settings for AI privacy guard recording all at once.

## [Assigned as starting camera no.]

Specify the starting camera no. when assigning camera no. in order. Click the [Execute] button to assign the unused camera no. to the selected cameras in ascending order from the specified camera no.



### Note:

- The camera no. selected on the recording camera changes to the AI privacy guard recording display on all settings screens of this recorder, as shown in the following screen.
- Select the camera and then click the [Clear] button to clear the assigned camera no.

## Set up camera [Camera setup]

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.





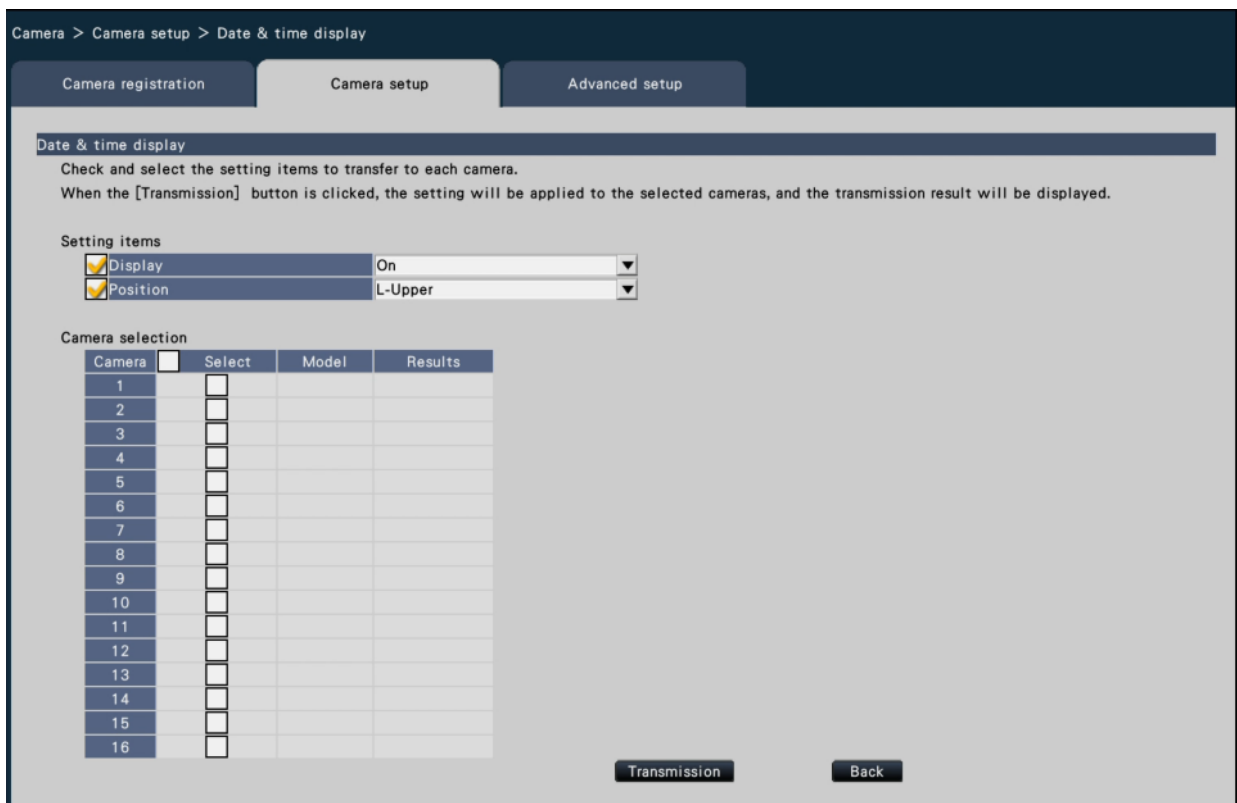
**Note:**

- The settings can be made from this recorder only for some cameras manufactured by us and Panasonic. Refer to our support website for 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.

 [Set up date & time format \[Date & time format\]](#)

### **[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

### **■ 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.

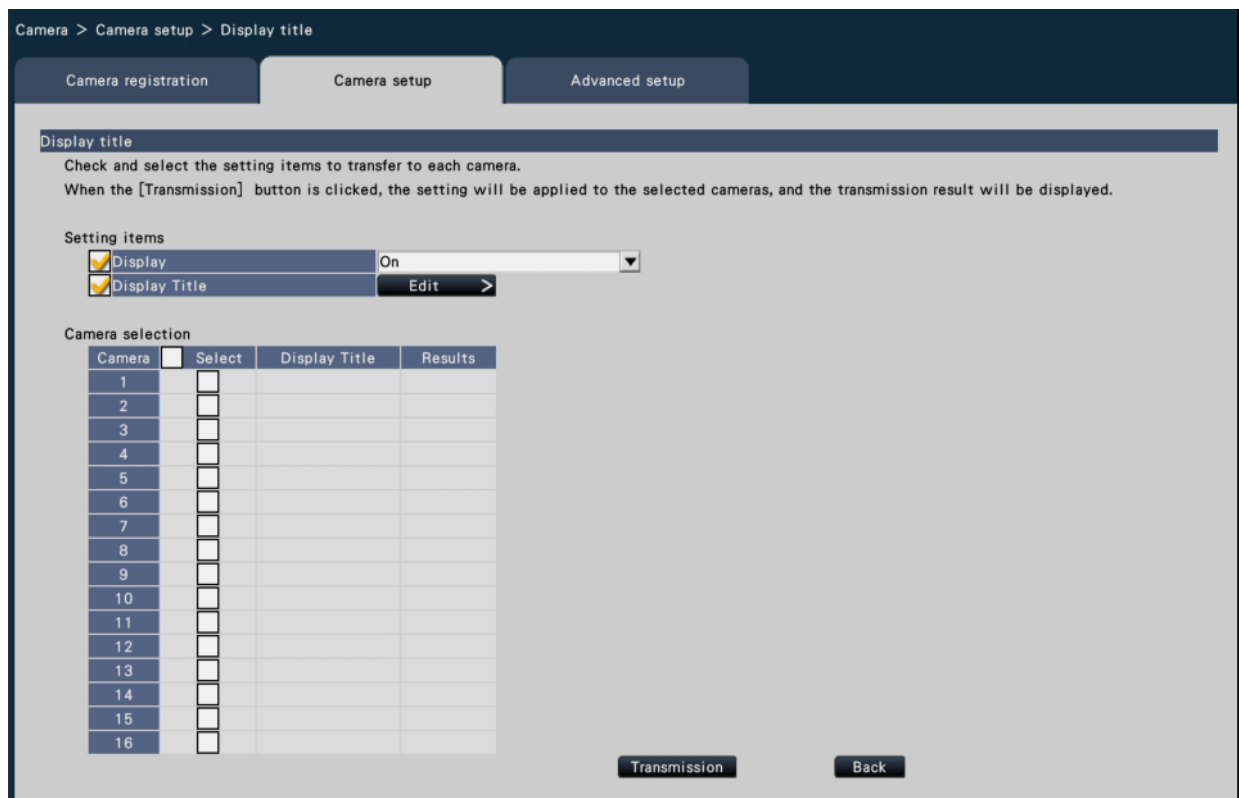
### **[Back] button**

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.

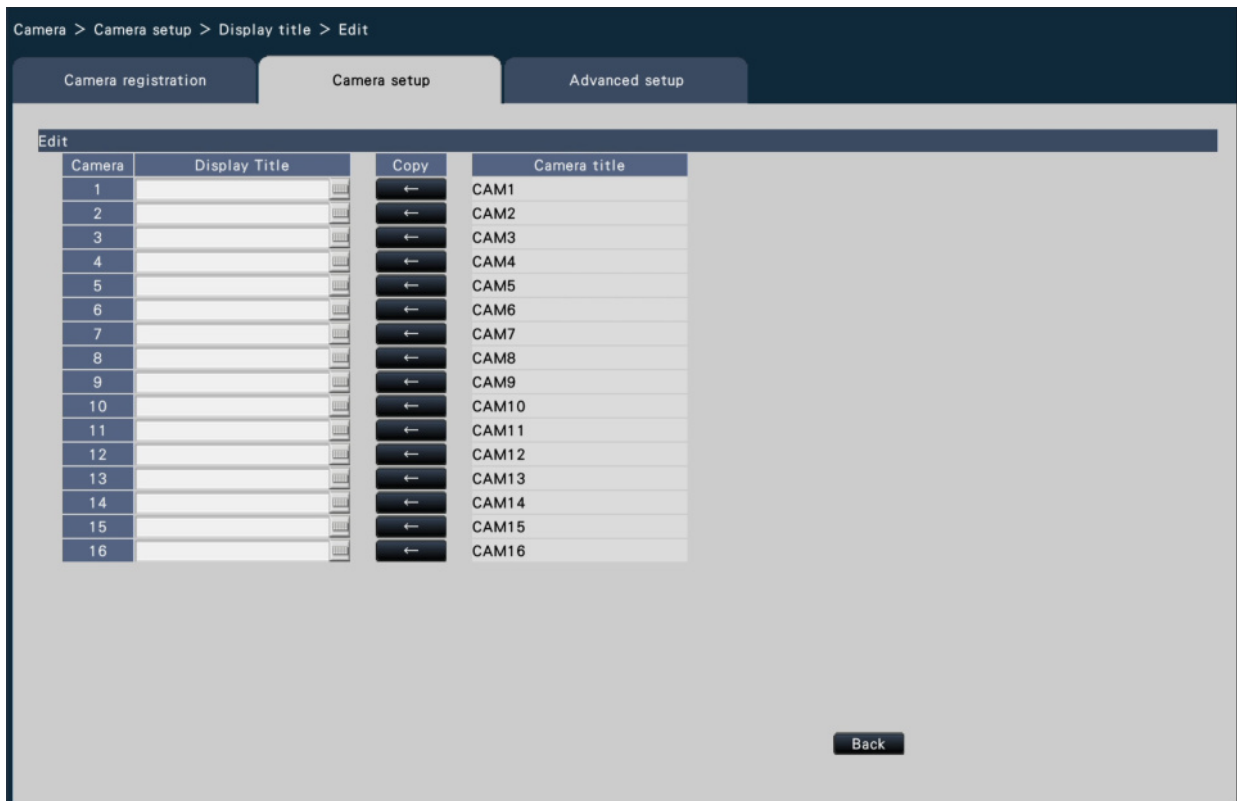
On: Title displayed

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. (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.  
[Set up the main monitor \[Main monitor\]](#)
- [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

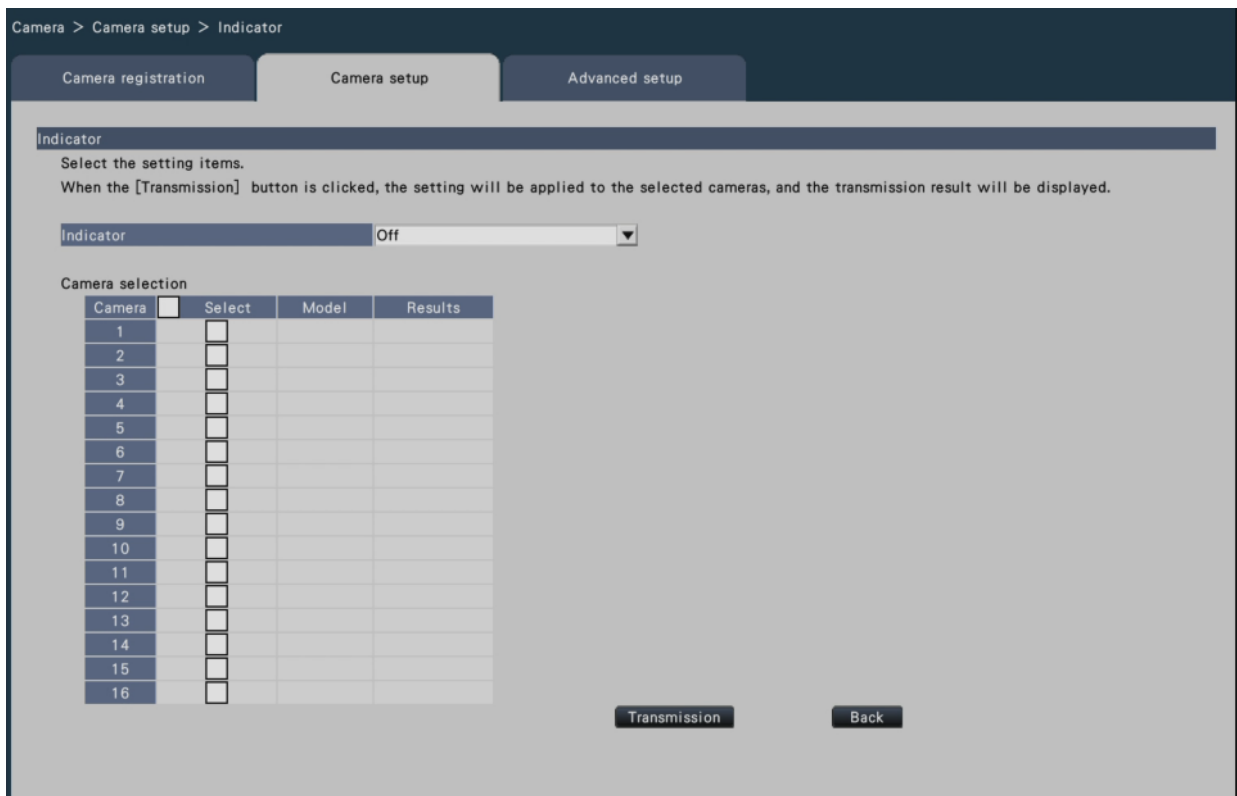
Click the button after completing the settings.

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**

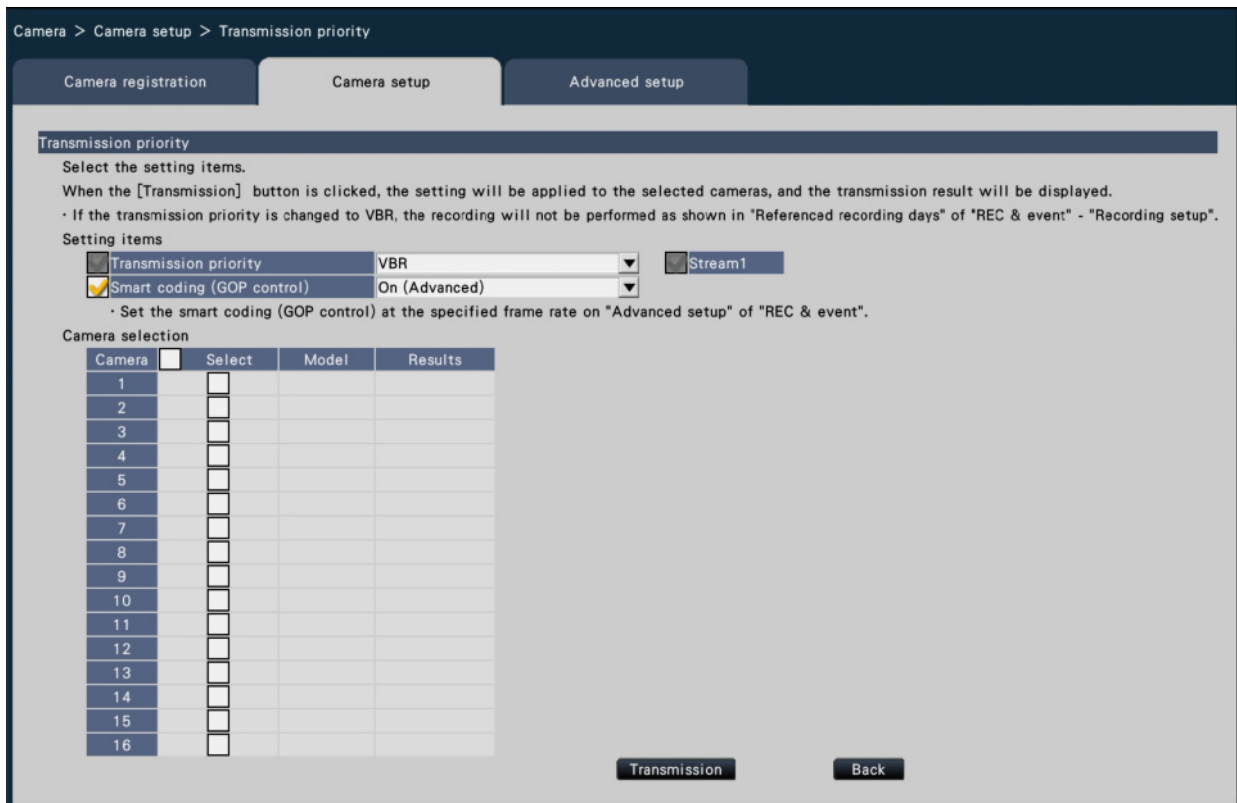
Click the button after completing the settings.

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.

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

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.



**Note:**

- The cameras that perform AI privacy guard are set to both streams.

### [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

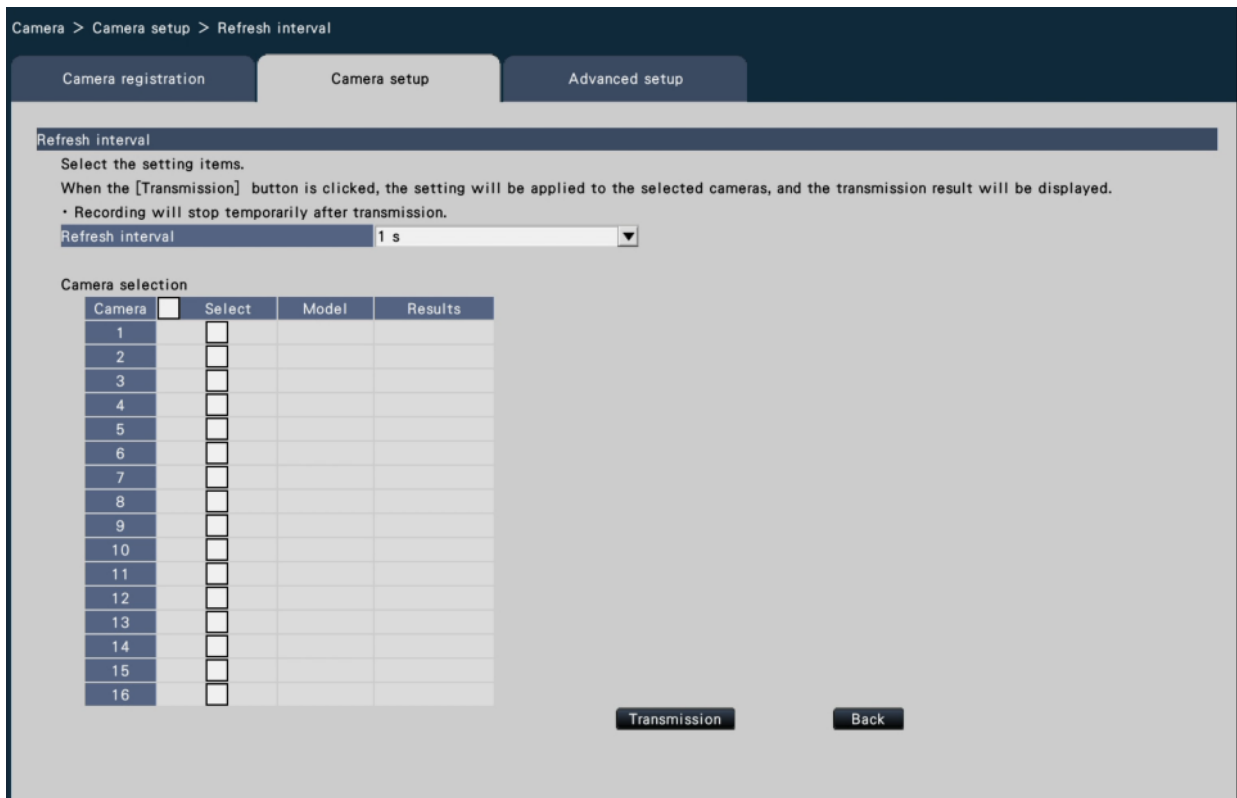
Click the button after completing the settings.

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.



**Note:**

- The cameras that perform AI privacy guard are set to both streams.

### [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:**

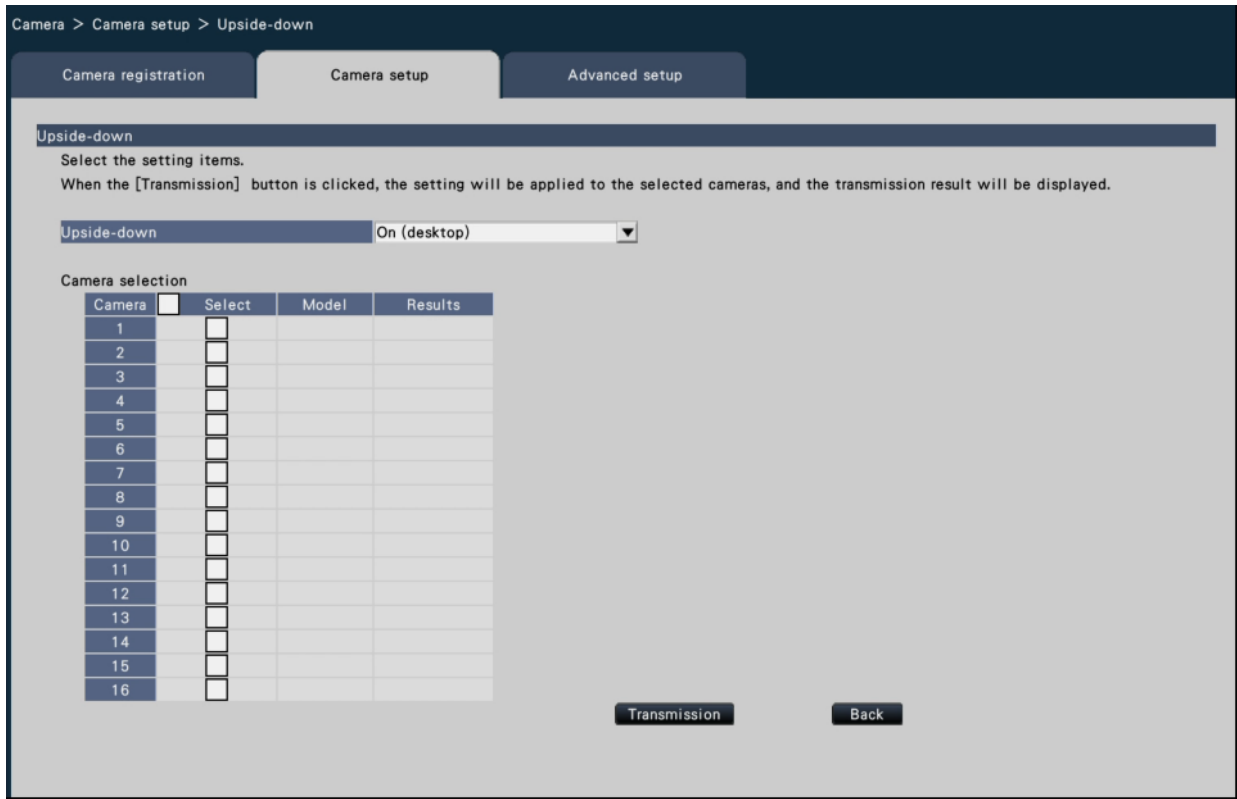
- Image transmission from the camera will temporarily be canceled and no image will be recorded during this period if the setting to change the refresh interval is transmitted to the camera.

### 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.



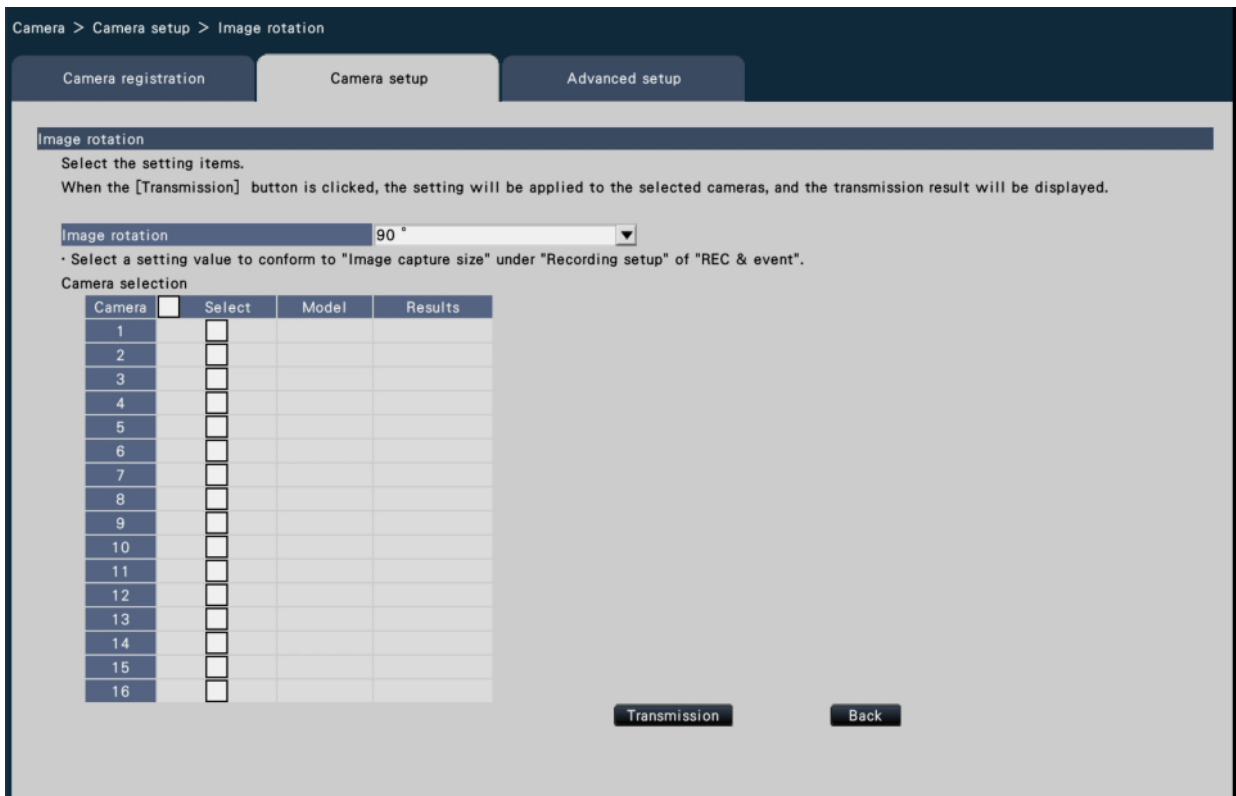
**Note:**

- 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**

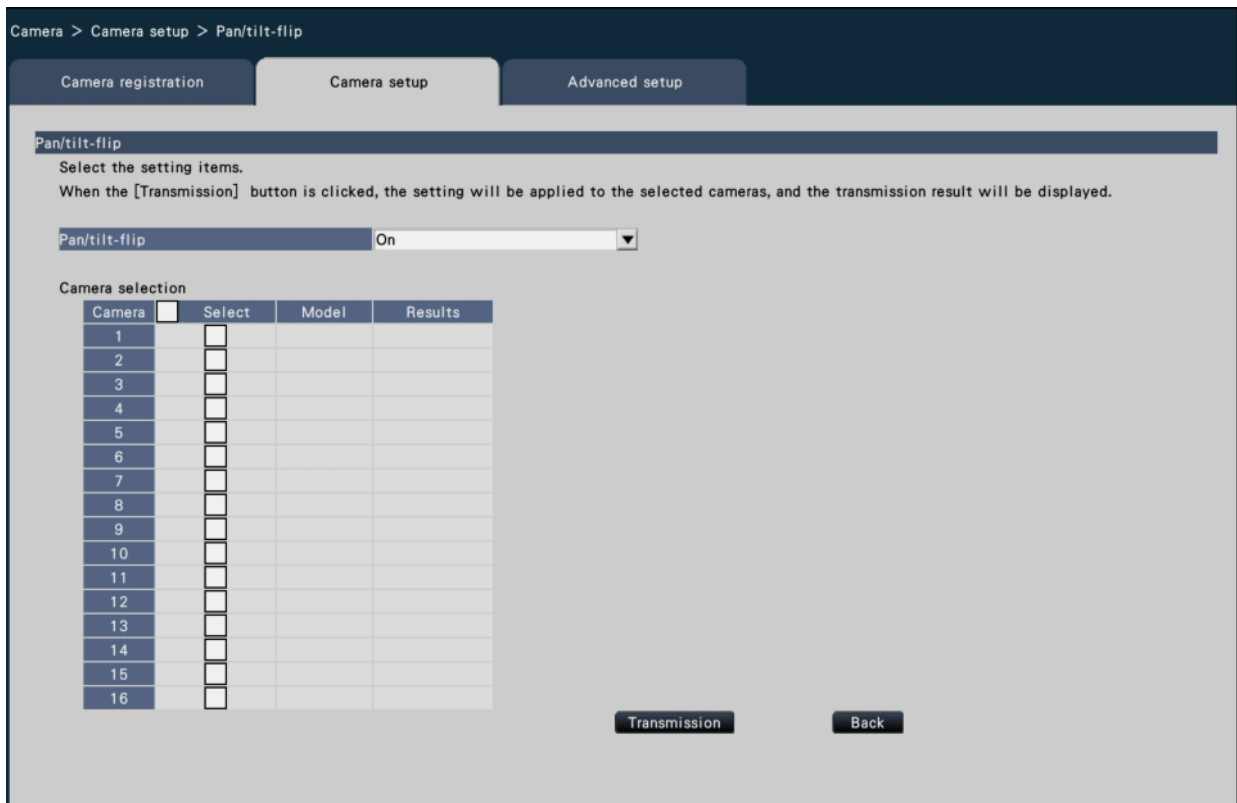
Click the button after completing the settings.

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.

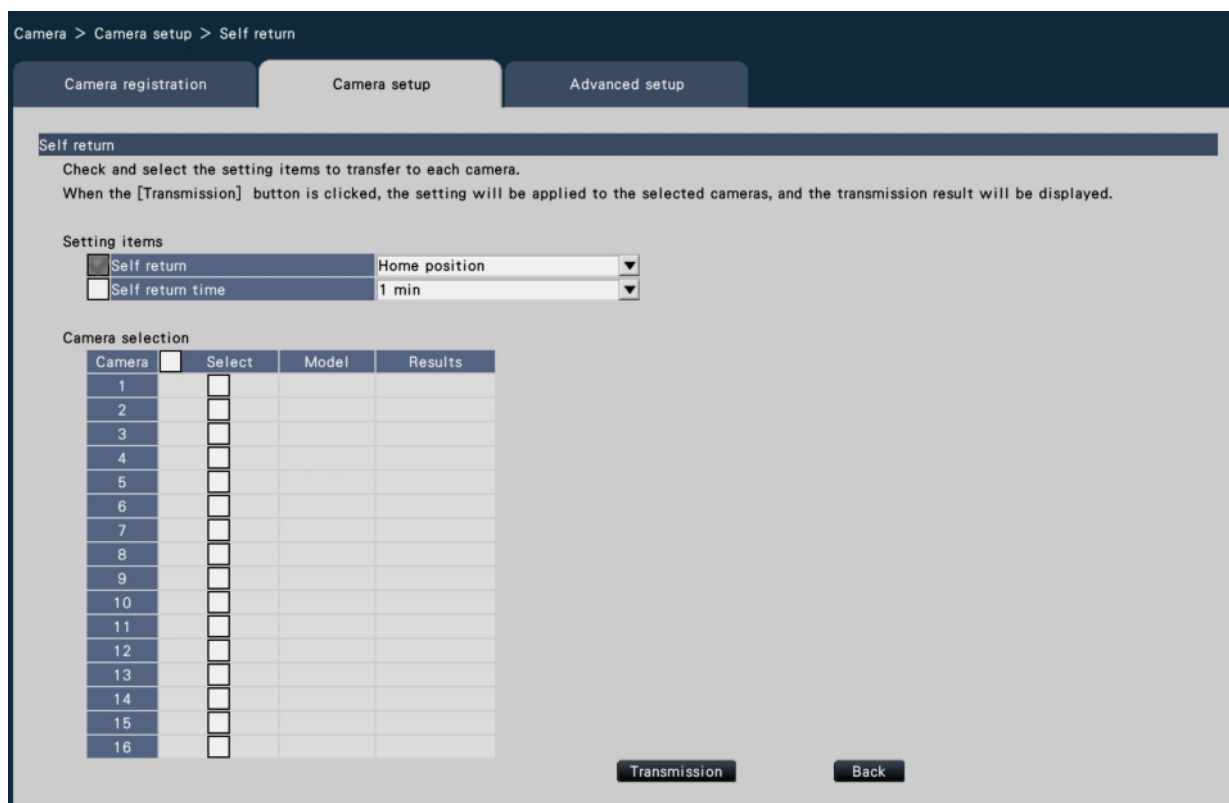
### [Back] button

Click the button after completing the settings.

The screen returns to the [Camera setup] tab.

## Set self return [Self return]

Select the self-return function for individual cameras and transfer it to the camera to change the camera settings.



### [Self return]

After the manual operation is completed, once the time set by the "Self return time" is passed, any of the selected camera operation modes will be automatically returned.

Off: Do not perform self return.

Home position: Return to home position as soon as the set time elapses.

Auto track: Return to home position and begin autotrack (auto rear-ending) operation as soon as the set time elapses. After that, the operation of returning to home position and beginning autotrack (auto rear-ending) after a certain period of time is repeatedly executed.

Auto pan: Begin auto-pan operation as soon as the set time elapses.

Preset sequence: Sorting operation begins as soon as the set time elapses.

Patrol: Patrol operation begins as soon as the set time elapses.

### **[Self return time]**

After the manual operation is completed, select the deadline time to return to the "Self return" setting from the following items.

10 s / 20 s / 30 s / 1 min / 2 min / 3 min / 5 min / 10 min / 20 min / 30 min / 60 min

### **■ Camera selection**

Select the camera that transfers the self return setting. In the setting items, check the camera that transfers the selected content.

### **[Transmission] button**

Transmit the setting of the "Self return" 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.

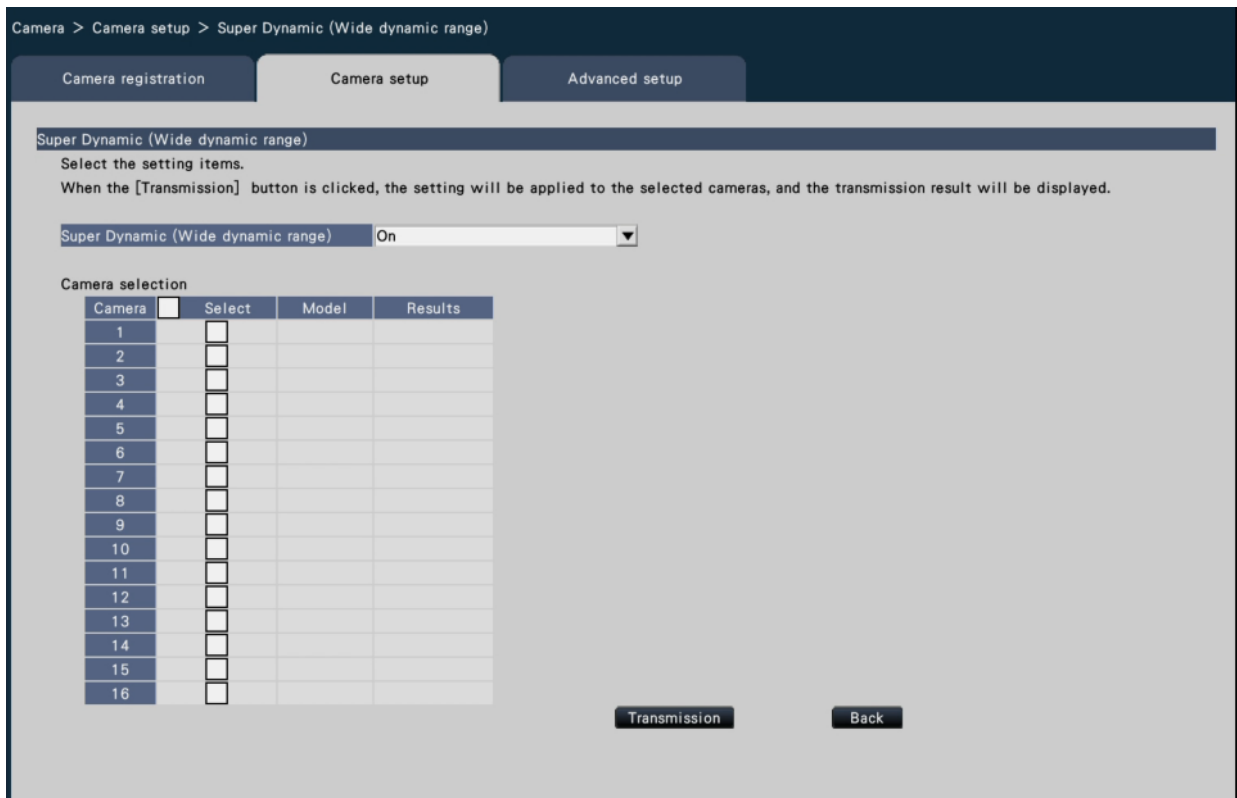
### **[Back] button**

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

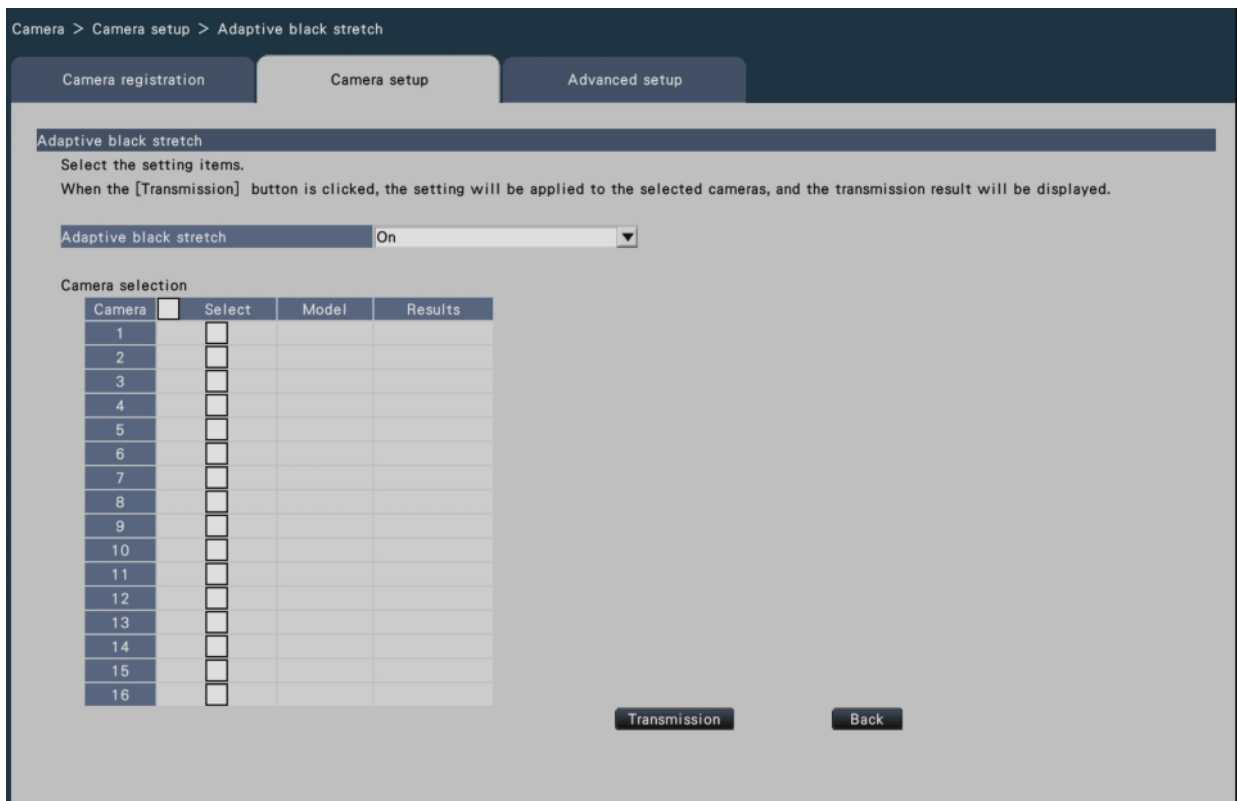
Click the button after completing the settings.

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.

Reset: returns the adaptive black stretch setting to the default.

Value: Adjusts brightness of a dark area in an image.

## ■ 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.



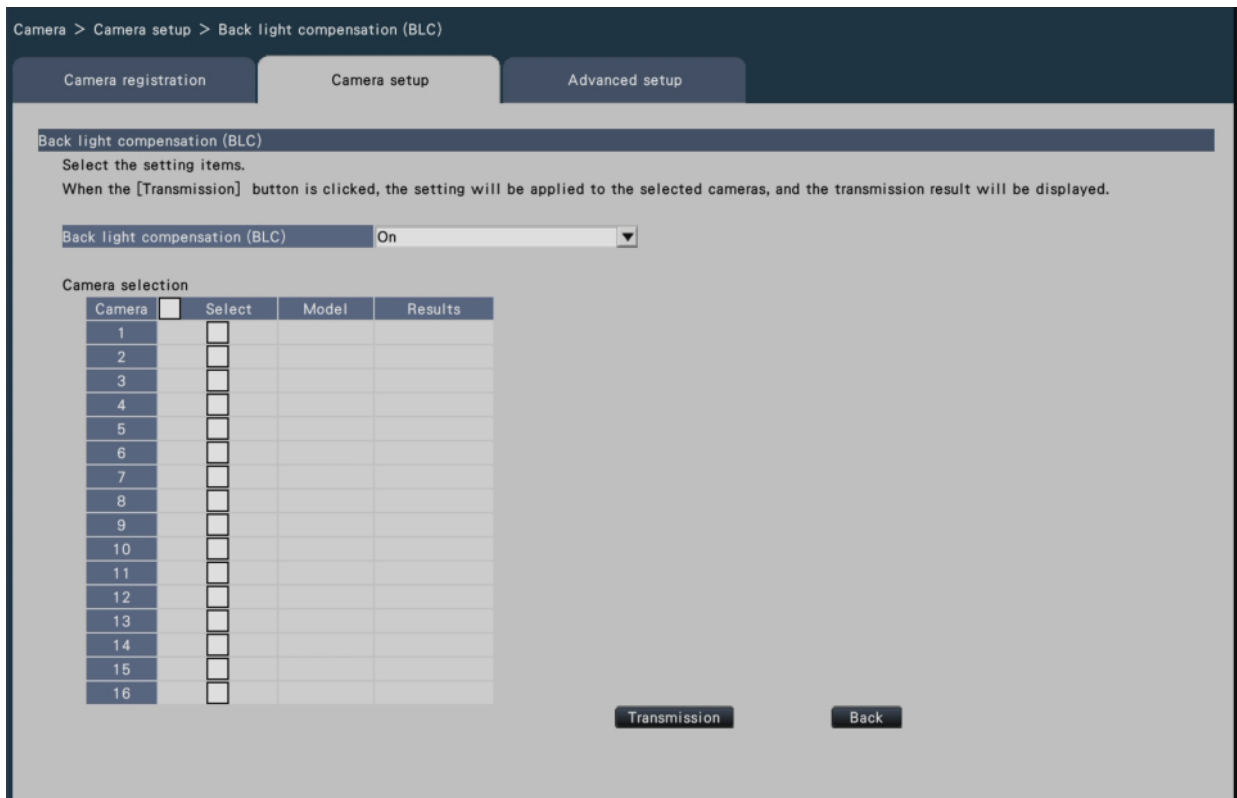
#### **Important:**

- 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.

Camera > Camera setup > Light control mode

Camera registration Camera setup Advanced setup

Light control mode

Select the setting items.  
When the [Transmission] button is clicked, the setting will be applied to the selected cameras, and the transmission result will be displayed.

Light control mode Indoor scene (50Hz)

Camera selection

Camera	Select	Model	Results
1	<input type="checkbox"/>		
2	<input type="checkbox"/>		
3	<input type="checkbox"/>		
4	<input type="checkbox"/>		
5	<input type="checkbox"/>		
6	<input type="checkbox"/>		
7	<input type="checkbox"/>		
8	<input type="checkbox"/>		
9	<input type="checkbox"/>		
10	<input type="checkbox"/>		
11	<input type="checkbox"/>		
12	<input type="checkbox"/>		
13	<input type="checkbox"/>		
14	<input type="checkbox"/>		
15	<input type="checkbox"/>		
16	<input type="checkbox"/>		

Transmission Back

## [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.



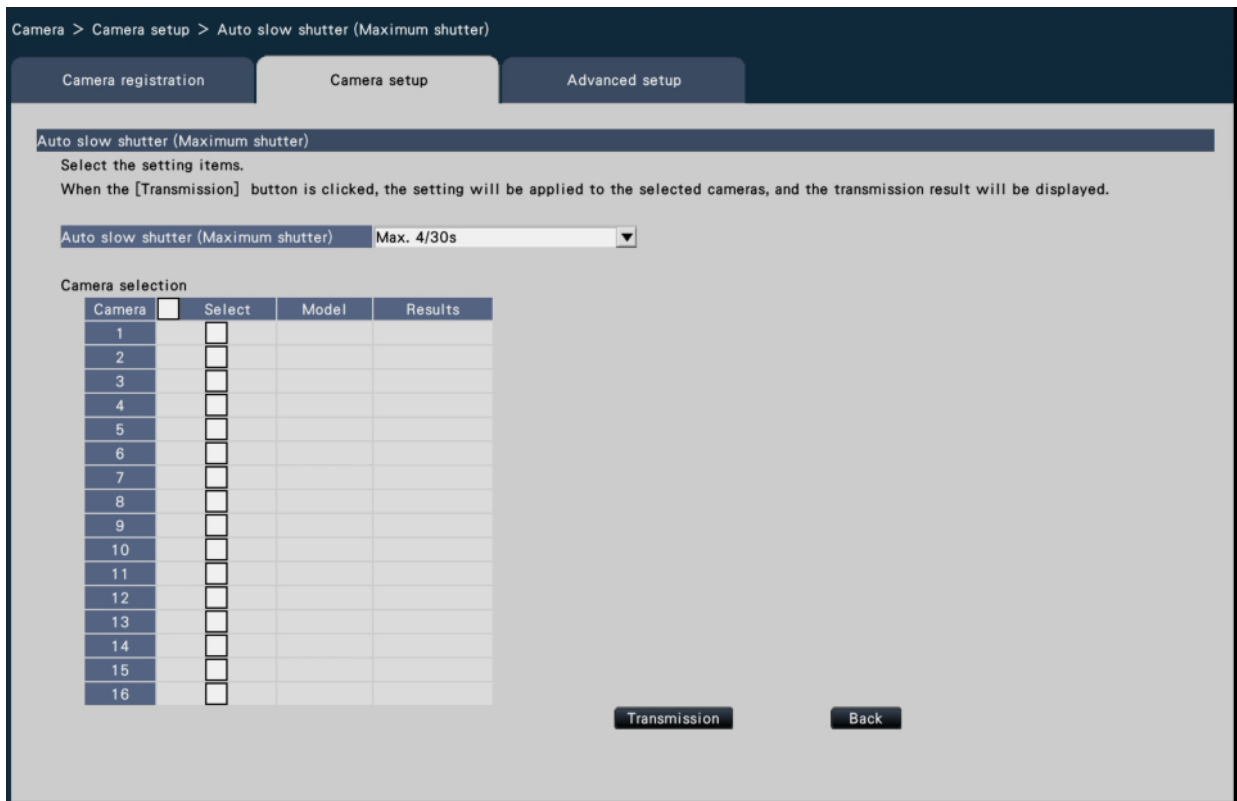
#### Note:

- 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.



### [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.



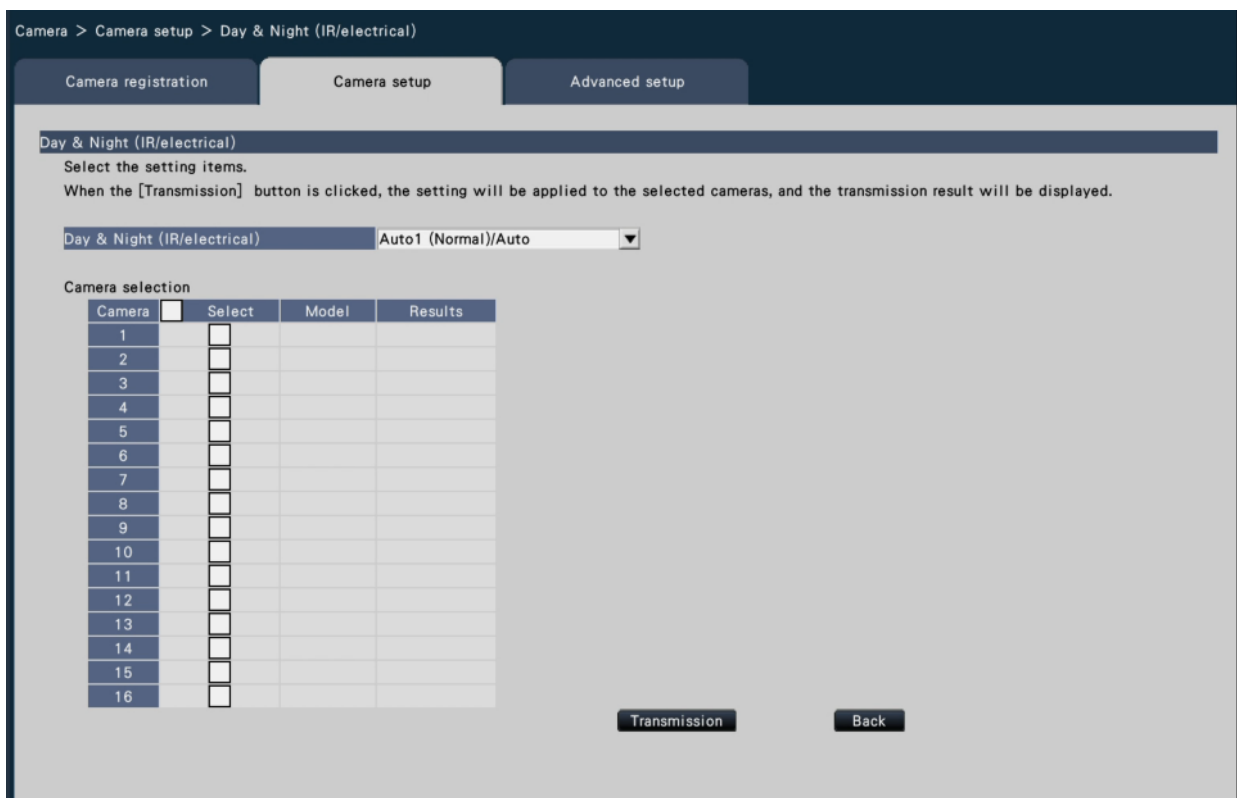
**Note:**

- 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.

### 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 (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.

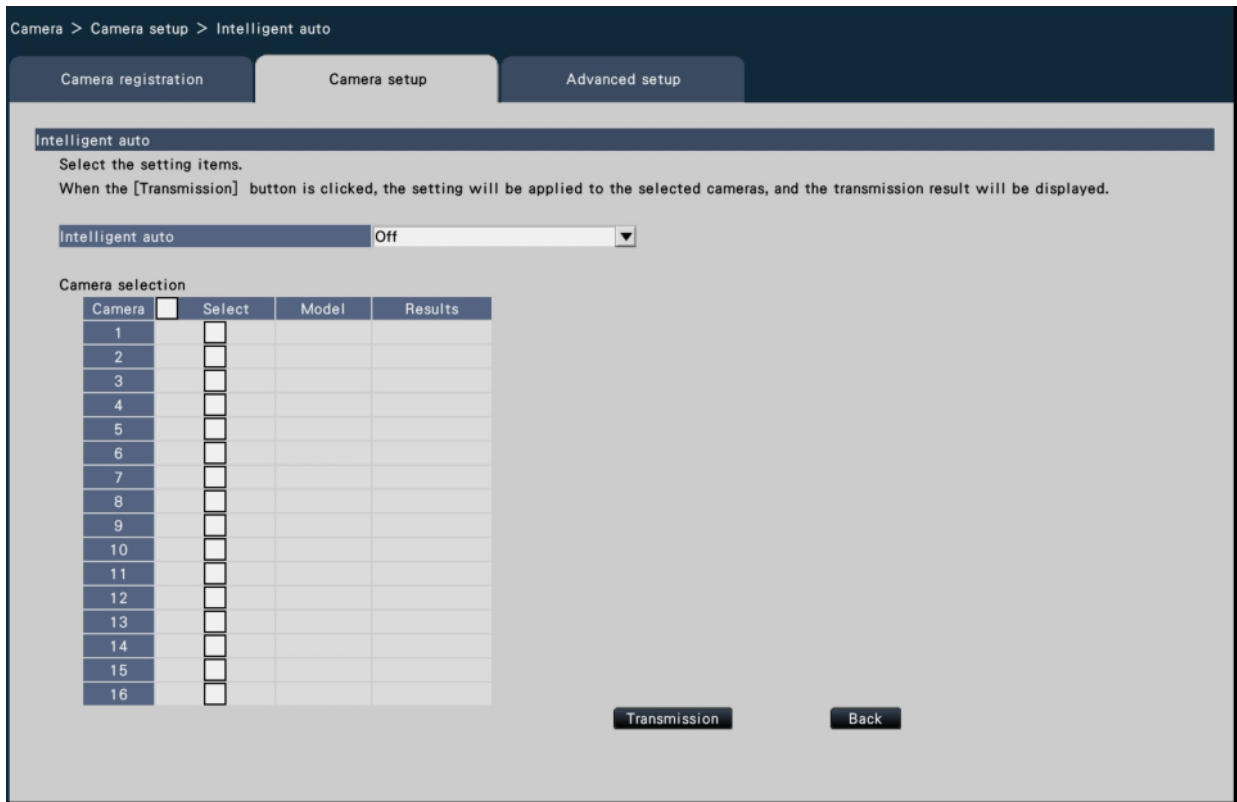
## **Set the intelligent auto of camera [Intelligent auto]**

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

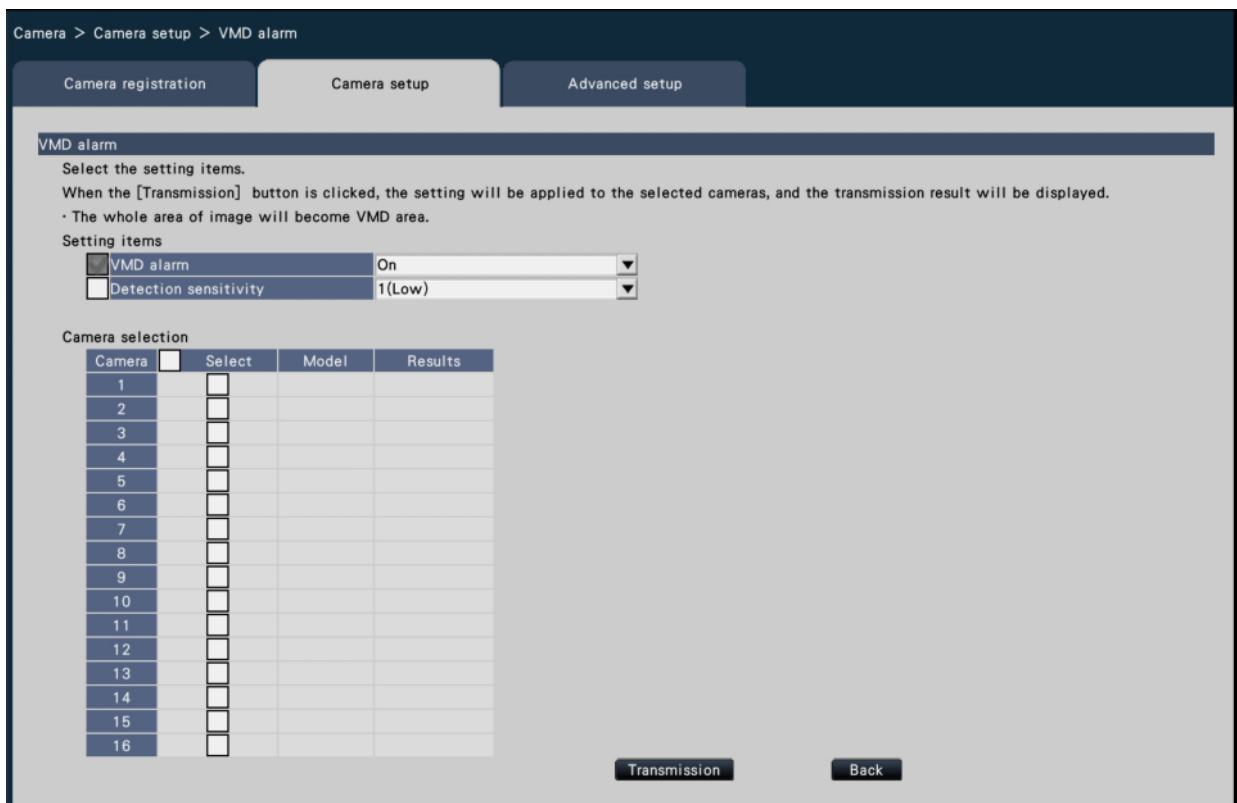
Click the button after completing the settings.

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.

## **Set up VMD alarm for individual cameras [VMD alarm (Advanced individual camera setup)]**

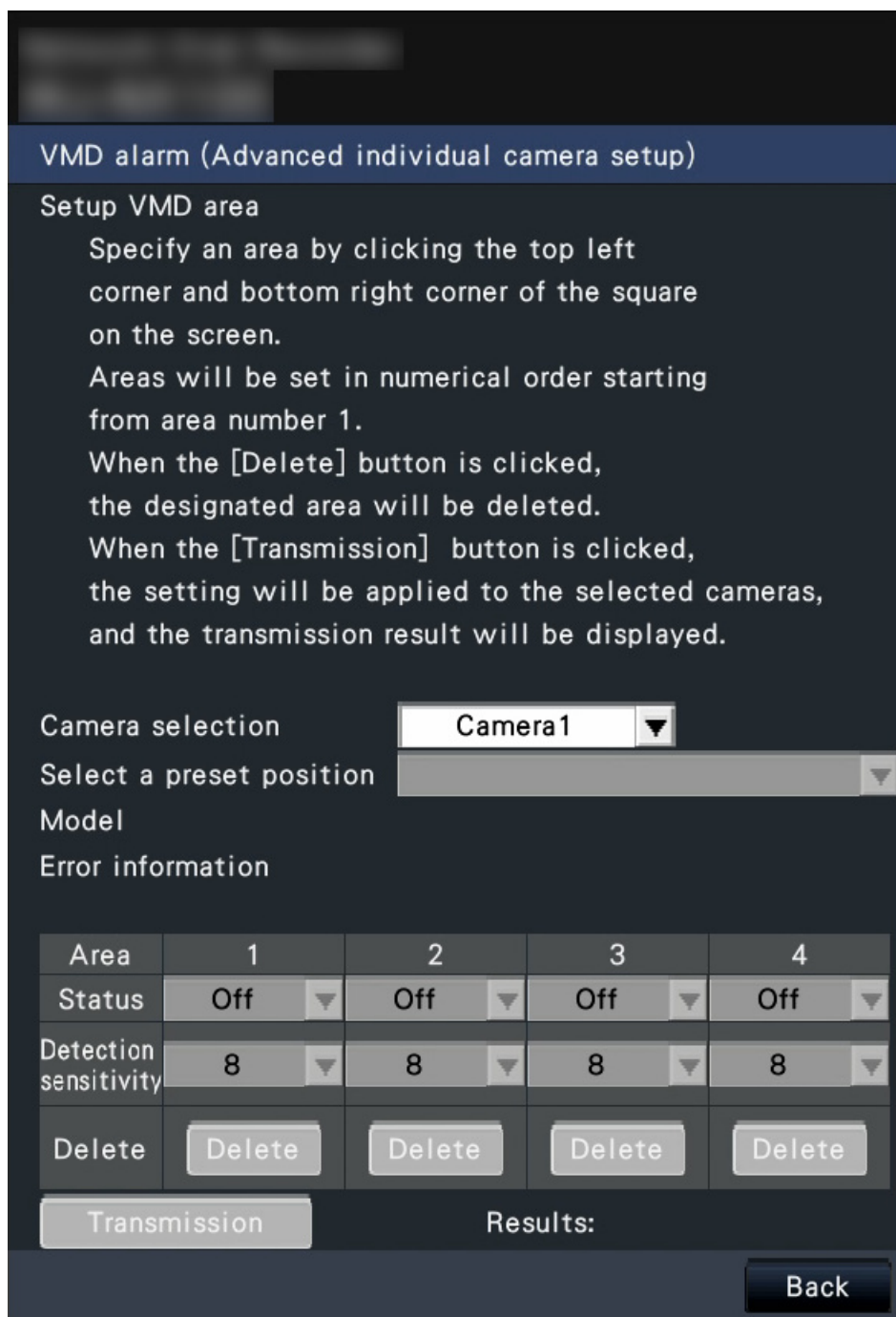
Select the motion detection area and detection sensitivity for each camera and transmit the information to the cameras to change the camera settings.

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



#### **Note:**

- This menu collects setting information from the selected camera and applies it on the setting screen.
- Only the fisheye network camera can set the "Fisheye" mode.
- The live image of the sub-monitor may not be displayed temporarily depending on the setting of the image capture size of the recorded video.



**[Camera selection]**

Select the camera for which you want to set the VMD alarm.

**[Select a preset position]**

If the selected camera is a camera with preset function, the preset position is selected.

### **[Model] [Error information]**

Refer to the following section.

 [Camera setup \[Camera\]](#)

### **[Setup VMD area]**

Click the top left corner and bottom right corner of the square on the screen, set the specified position as area 1, and display the area box. Area will be set in numerical order starting from area number 1. When the [Delete] button is clicked, the designated area will be deleted.



#### **Note:**

- Depending on the position of the area box, it is sometimes corrected slightly after the transfer settings.
- If the area box is too small, the area number will not be displayed correctly.

### **[Status]**

When the motion detection area is set to Off, the status of the area will be switched to "Off".

### **[Detection sensitivity]**

Set the sensitivity when moving within the area to be detected.

1 (low) ~ 15 (high)

### **[Transmission] button**

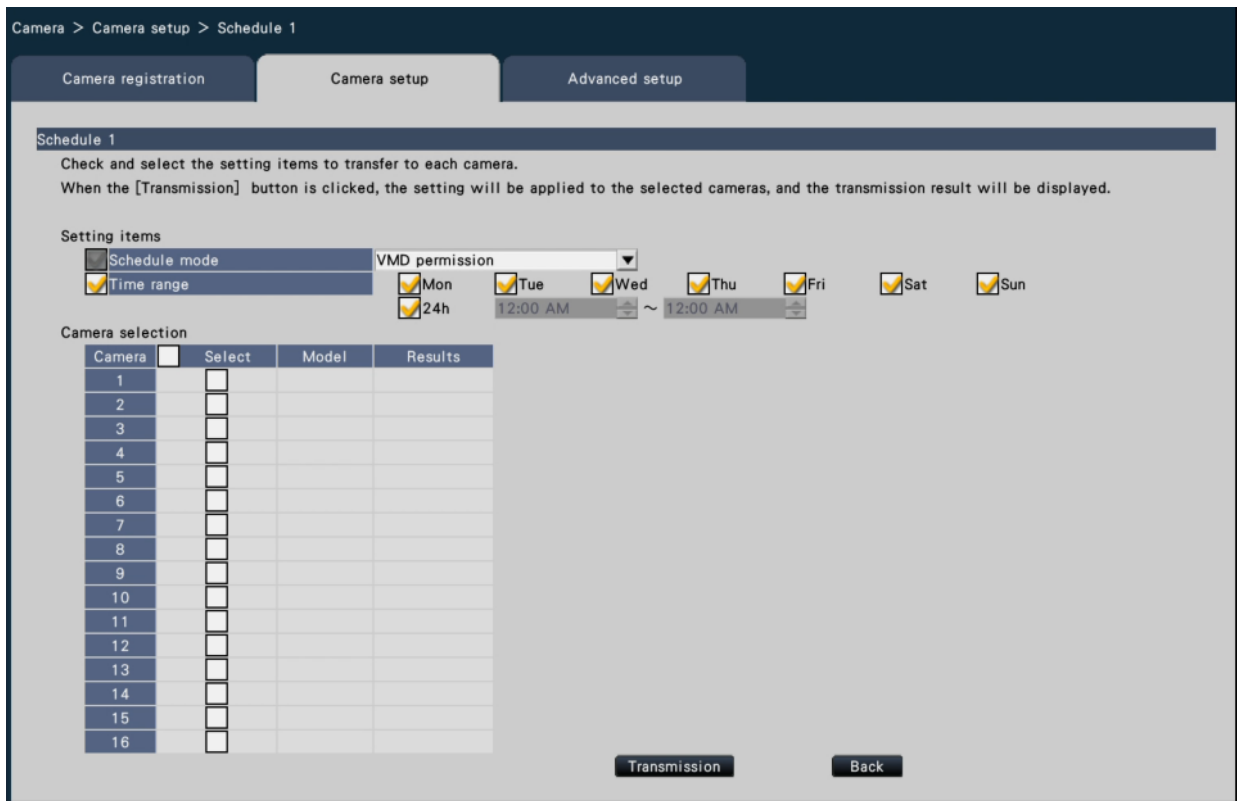
Transmit the setting of the "VMD alarm" to the camera. Once transmission is completed and the setting has been applied to the camera, "OK" will be displayed in the "Results" field. When the Error information is not displayed as "-", it cannot be transferred to the camera.

### **[Back] button**

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

### **Set schedule [Schedule 1 to Schedule 4]**

Click the [Setting>] button for "Schedule 1" to "Schedule 4" in the [Camera setup] tab to display the setup window.



### [Schedule mode]

Select the schedule operation.

Off: Do not perform the schedule operation.

Alarm permission (Terminal alarm 1,2,3): Allow the terminal to input an alarm during the set range of the schedule.

Alarm permission (Terminal alarm 1): Allow Terminal 1 to input an alarm during the set range of the schedule.

Alarm permission (Terminal alarm 2): Allow Terminal 2 to input an alarm during the set range of the schedule.

Alarm permission (Terminal alarm 3): Allow Terminal 3 to input an alarm during the set range of the schedule.

VMD permission: Allow VMD during the set range of the schedule.

Preset position: 1 to Preset position: 8: After the time is set for the schedule, it moves to the position selected from the preset position registered in advance.

### [Schedule]

Check the boxes for the day you want to set the schedule range. Set the start time and the end time when you want to specify a time period. Check "24 h" when the time period is not

set.

### ■ **Camera selection**

Select the camera to which the setting of the "Schedule" 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 "Schedule" 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.

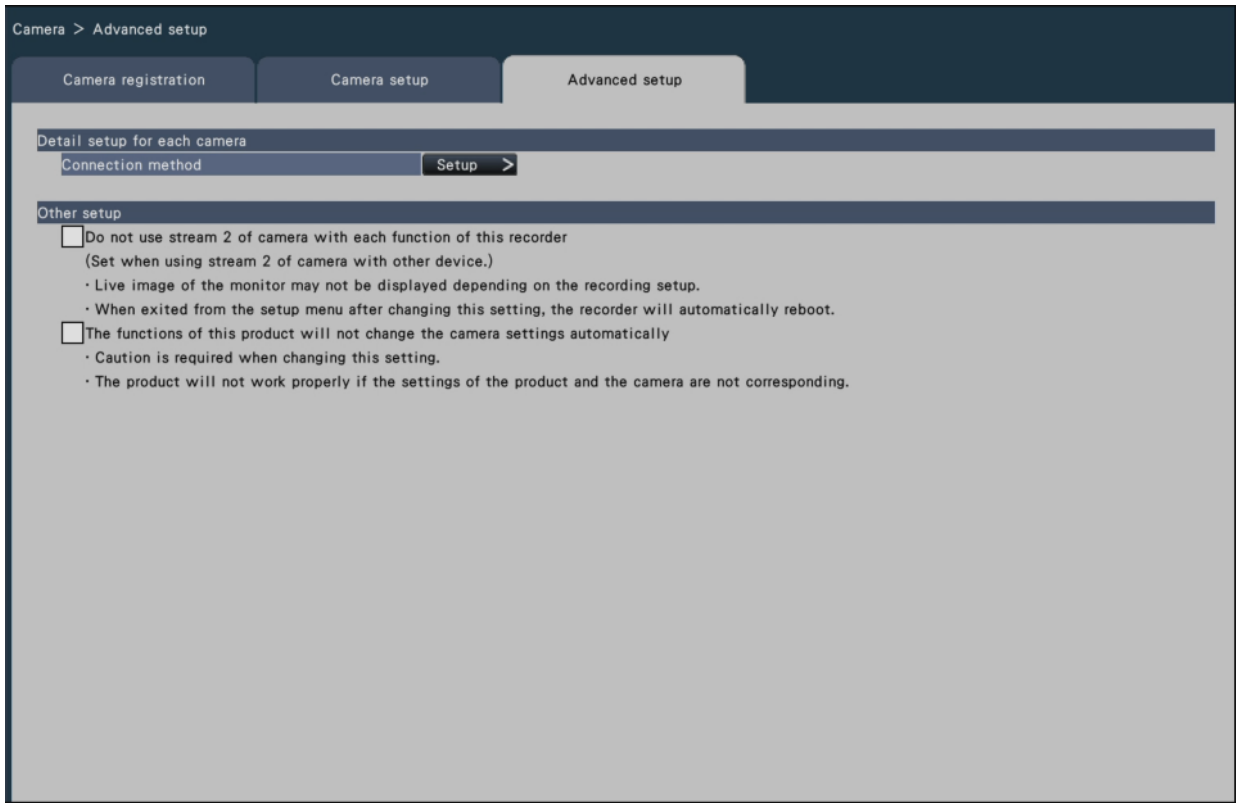
### **[Back] button**

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

### **Set up advanced [Advanced setup]**

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 the camera is our or Panasonic cameras and the compression type is H.264/H.265.

### ■ Other setup

#### [Do not use stream 2 of camera with each function of this recorder.]

If this item is checked, the multi-screen real-time display of the main monitor and sub monitor will also display the stream selected by the recording setup.



**Note:**

- The live image of the monitor may not be displayed depending on the recording setup.

#### [The functions of this product will not change the camera settings automatically]

If checked, the camera settings will be automatically configured according to the recording settings of this camera. Normally, do not change this setting since inconsistencies between the settings of the camera and this product may cause various functions not to operate properly.



**Important:**

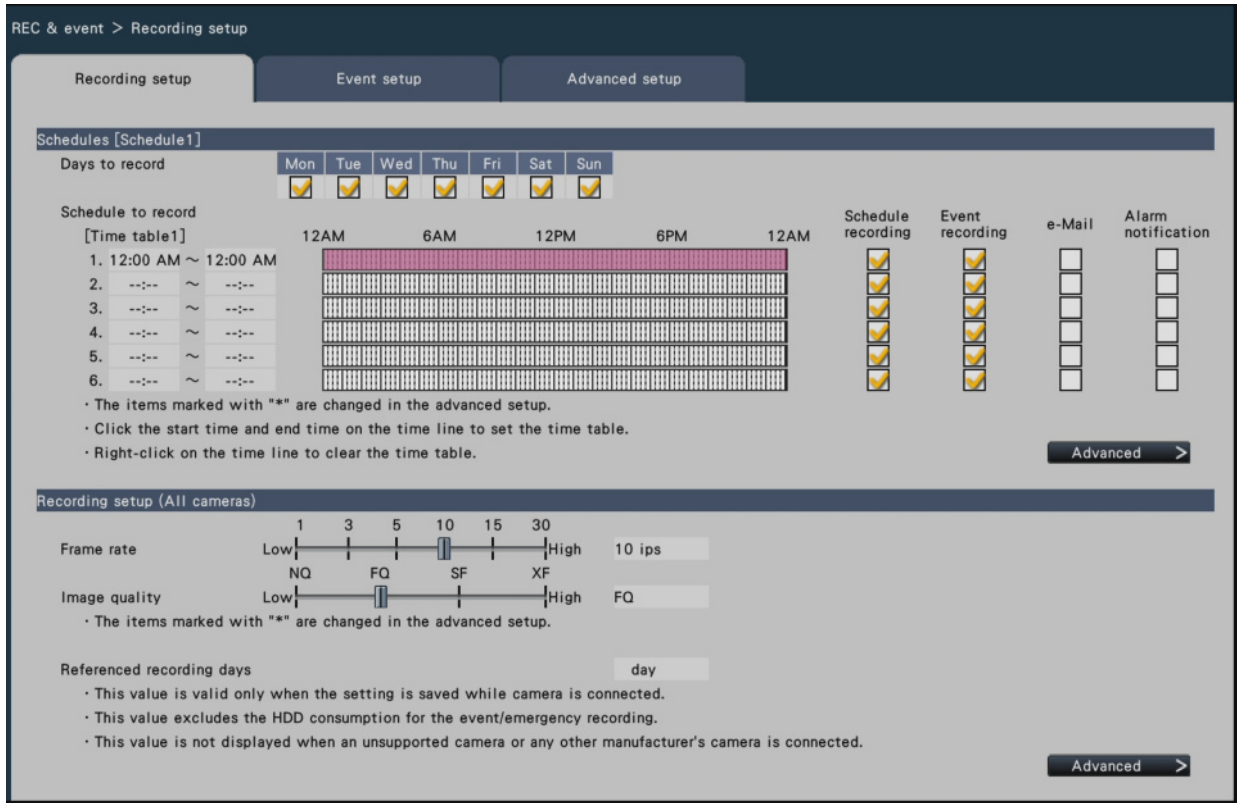
- We are not responsible for any damage or trouble that may occur in the user environment as a result of this setting.

### 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.

## Set up recording [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 the following section for the setting of the destination.

☞ [Configure the settings relating to the mail notification \[e-Mail\]](#)

**[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 protocol or HTTP. The event recording must be checked to set this item. Refer to the following section for the setting of the address.

☞ [Configure the TCP alarm notification settings \[TCP alarm notification\]](#)

☞ [Configure HTTP alarm notification settings \[HTTP alarm\]](#)



**Important:**

- If the setting in any one of Schedule 1 to 16 is to notify an alarm notification, notification about camera site alarm inputs will be made even for cameras to which have been allocated the schedules in which alarm notification has not been set.

☞ [Set up camera site alarm \[Advanced camera site alarm setup\]](#)

**[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.

☞ [Configure the advanced settings for schedule recording \[Advanced schedule setup\]](#)

■ **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.
- When the "Auto data delete" is set to other than "Off", the set number of days will be recorded at the same time.

👉 [Configure the settings and operations relating to the system \[System management\]](#)

**[Advanced >] button**

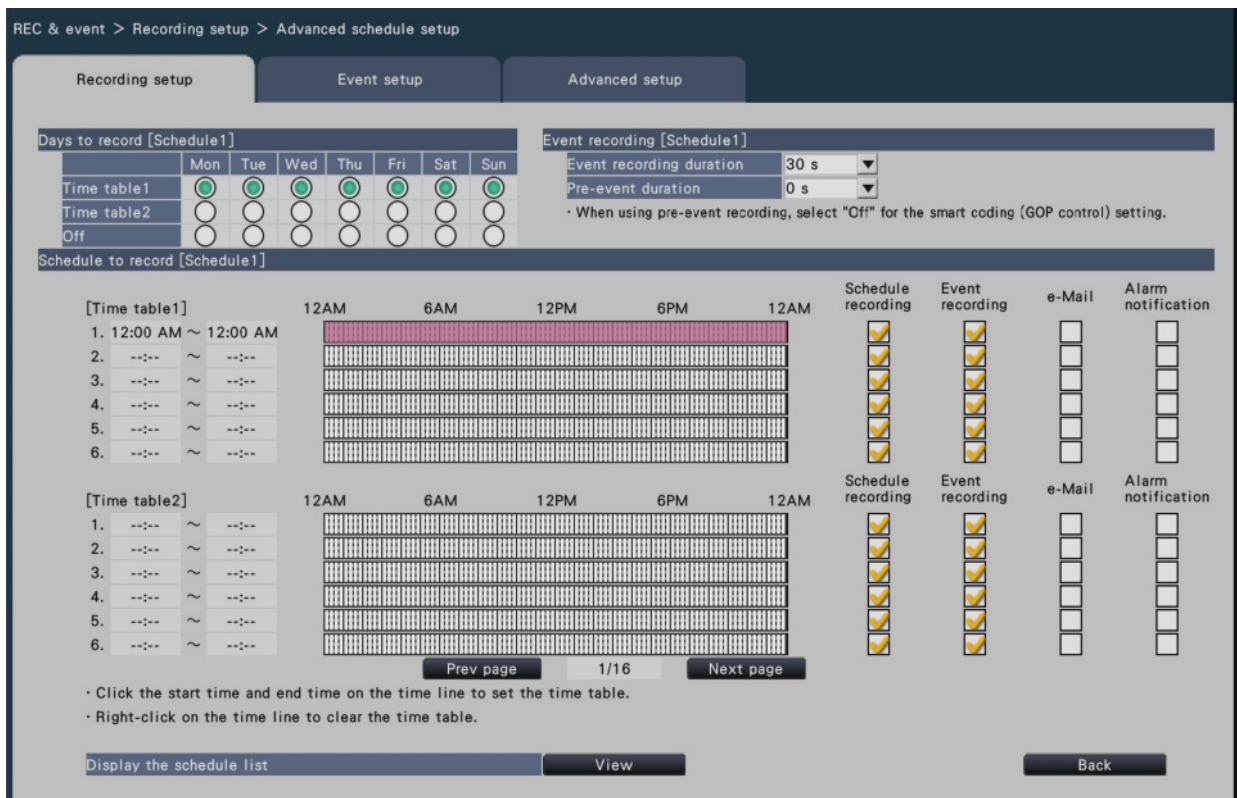
The "Advanced recording setup" will be displayed. Each camera can be set up separately for recording.

[👉 Set up recording for individual cameras \[Advanced recording setup\]](#)

## 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.

Default: Time table1

### ■ 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

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]

Refer to the following section.

 [Set up recording \[Recording setup\]](#)

### [Event recording]

Refer to the following section.

 [Set up recording \[Recording setup\]](#)

### [e-Mail]

Refer to the following section.

 [Set up recording \[Recording setup\]](#)

### [Alarm notification]

Refer to the following section.

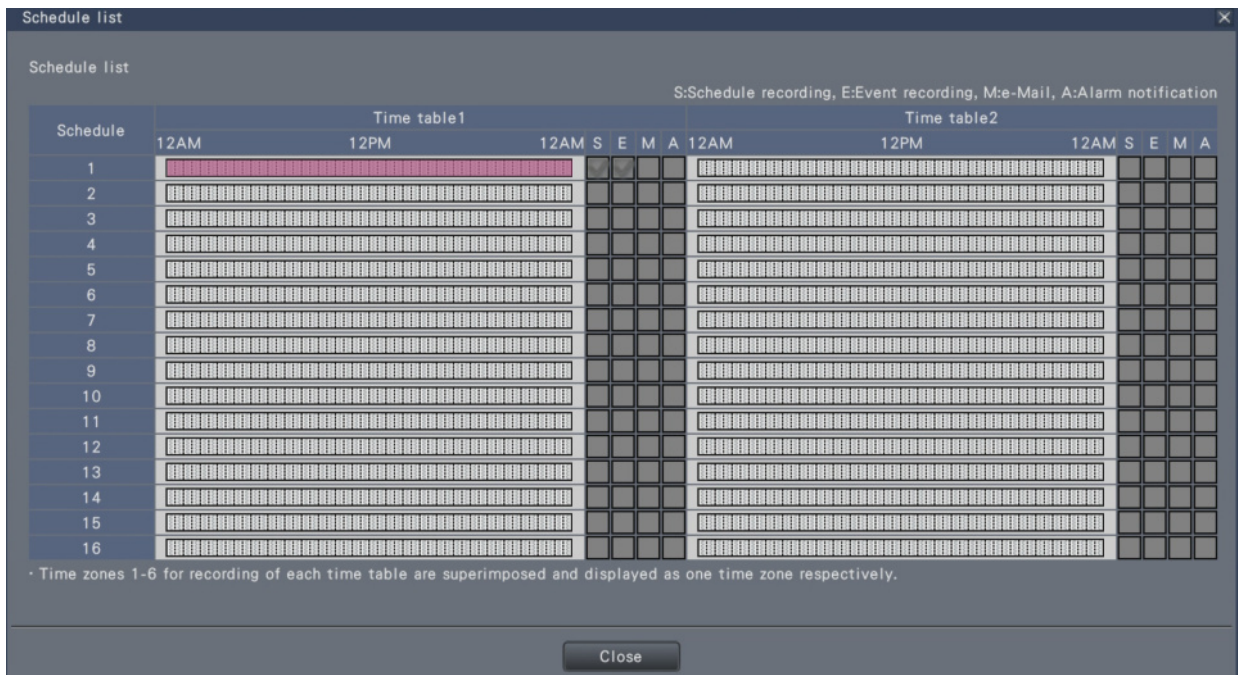
 [Set up recording \[Recording setup\]](#)

### [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.

REC & event > Recording setup > Advanced recording setup

Recording setup | Event setup | **Advanced setup**

Advanced recording setup

Same as the basic: Record at the same frame rate as the basic setup

Camera	Model	Compression	Basic setup				Individual setting		
			Image capture size	Rate	Quality	Audio	Schedule	Event	Emergency
1			HVGAW(640x360)	10 ips	FQ	Off	Schedule1	Same as the basic	Same as the basic
2			HVGAW(640x360)	10 ips	FQ	Off	Schedule1	Same as the basic	Same as the basic
3			HVGAW(640x360)	10 ips	FQ	Off	Schedule1	Same as the basic	Same as the basic
4			HVGAW(640x360)	10 ips	FQ	Off	Schedule1	Same as the basic	Same as the basic
5			HVGAW(640x360)	10 ips	FQ	Off	Schedule1	Same as the basic	Same as the basic
6			HVGAW(640x360)	10 ips	FQ	Off	Schedule1	Same as the basic	Same as the basic
7			HVGAW(640x360)	10 ips	FQ	Off	Schedule1	Same as the basic	Same as the basic
8			HVGAW(640x360)	10 ips	FQ	Off	Schedule1	Same as the basic	Same as the basic
9			HVGAW(640x360)	10 ips	FQ	Off	Schedule1	Same as the basic	Same as the basic
10			HVGAW(640x360)	10 ips	FQ	Off	Schedule1	Same as the basic	Same as the basic
11			HVGAW(640x360)	10 ips	FQ	Off	Schedule1	Same as the basic	Same as the basic
12			HVGAW(640x360)	10 ips	FQ	Off	Schedule1	Same as the basic	Same as the basic
13			HVGAW(640x360)	10 ips	FQ	Off	Schedule1	Same as the basic	Same as the basic
14			HVGAW(640x360)	10 ips	FQ	Off	Schedule1	Same as the basic	Same as the basic
15			HVGAW(640x360)	10 ips	FQ	Off	Schedule1	Same as the basic	Same as the basic
16			HVGAW(640x360)	10 ips	FQ	Off	Schedule1	Same as the basic	Same as the basic

Referenced recording days:  day

- This value is valid only when the setting is saved while camera is connected.
- This value excludes the HDD consumption for the event/emergency recording.
- This value is not displayed when an unsupported camera or any other manufacturer's camera is connected.

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### [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)/ 7M(3072×2304)

<When the aspect ratio is 16:9>

HVGAW(640×360)/ HD(1280×720)/ FHD(1920×1080)/ WQHD(2560×1440)/ 4M  
(2688×1520)/ 5M(3072×1728)/ 6M(3328×1872)/ 4KUHD(3840×2160)

<When the aspect ratio is 1:1 >

1.4M(1200×1200)/ 1.6M(1280×1280)/ 2M(1440×1440)/ 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)/ 4M(1440×2560)/ 4M(1520×2688)/  
5M(1728×3072)/ 6M(1872×3328)/ 8M(2160×3840)

When the aspect ratio is set to portrait resolution, 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]".

 [Set the image rotation of camera \[Image rotation\]](#)



**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)**

Refer to the following section.

 [Set up recording \[Recording setup\]](#)



**Note:**

- The 12.5 ips/ 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.

**[Quality] (Image quality)**

Refer to the following section.

 [Set up recording \[Recording setup\]](#)

### [Audio]

Select whether or not to record audio together with images.

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

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/ 12.5 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/ 12.5 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 12.5 ips or 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]

Refer to the following section.

[👉 Set up recording \[Recording setup\]](#)

### [Back] button

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

### Set up event [Event setup]

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 following section for further information about how to cancel the alarm action.

[👉 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 following section for further information about how to cancel the alarm action.

 [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 following section for further information about how to cancel the alarm action.

 [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 via 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, or in the Wide view display, 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 set to "On(ACK/RESET)", the screen will not switch and the same camera image will continue to be displayed even if another alarm occurs during the linked operation. The alarm reset input on the alarm/control terminal switches to another camera. If multiple alarms occur during linked operation, the camera numbers are stored in the order in which they occurred.
- 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.

When using AI privacy guard recording, select whether to display the camera (Recording camera) without privacy guard or the camera (AI privacy guard recording camera) with privacy guard.

Default: Recording camera

**[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.

Default: Ctrl screen

**[Display camera]**

It is displayed when "On" or "On (ACK/RESET)" is selected in "Main monitor action". When

using AI privacy guard recording, select whether to display the camera (Recording camera) without privacy guard or the camera (AI privacy guard recording camera) with privacy guard.

Default: Recording camera

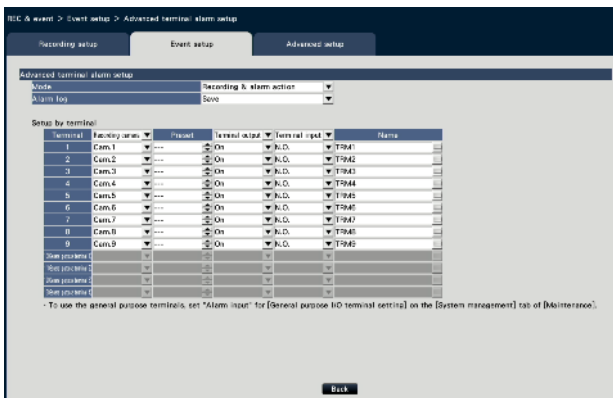
### ■ Advanced event setup

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".

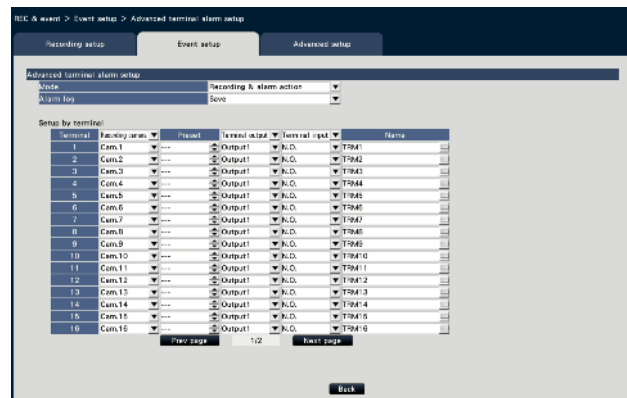
### Set up terminal alarm [Advanced terminal alarm setup]

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.



[NX310]



[NX410/NX510]

### ■ 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]

Configure each setting for the alarm input terminal.



**Note:**

- "Terminal 5" on the setting screen corresponds to terminal 10 (General purpose I/O 1) of the alarm control terminals on the rear panel of this product, and "Terminal 6" corresponds to terminal 11 (General purpose I/O 2) as well. To use this terminal, set it to "Alarm input" in the General purpose I/O terminal setting.

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

### [Recording camera]

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

Camera 1: Record using camera 1.

|

Camera n: Record using camera n.

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.

### [Name]

Enter the names of terminal alarms using the on-screen keyboard (up to 16 characters).



**Note:**

- The alarm history and the body of e-mail notifications are displayed with the name you set.

### [Back] button

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



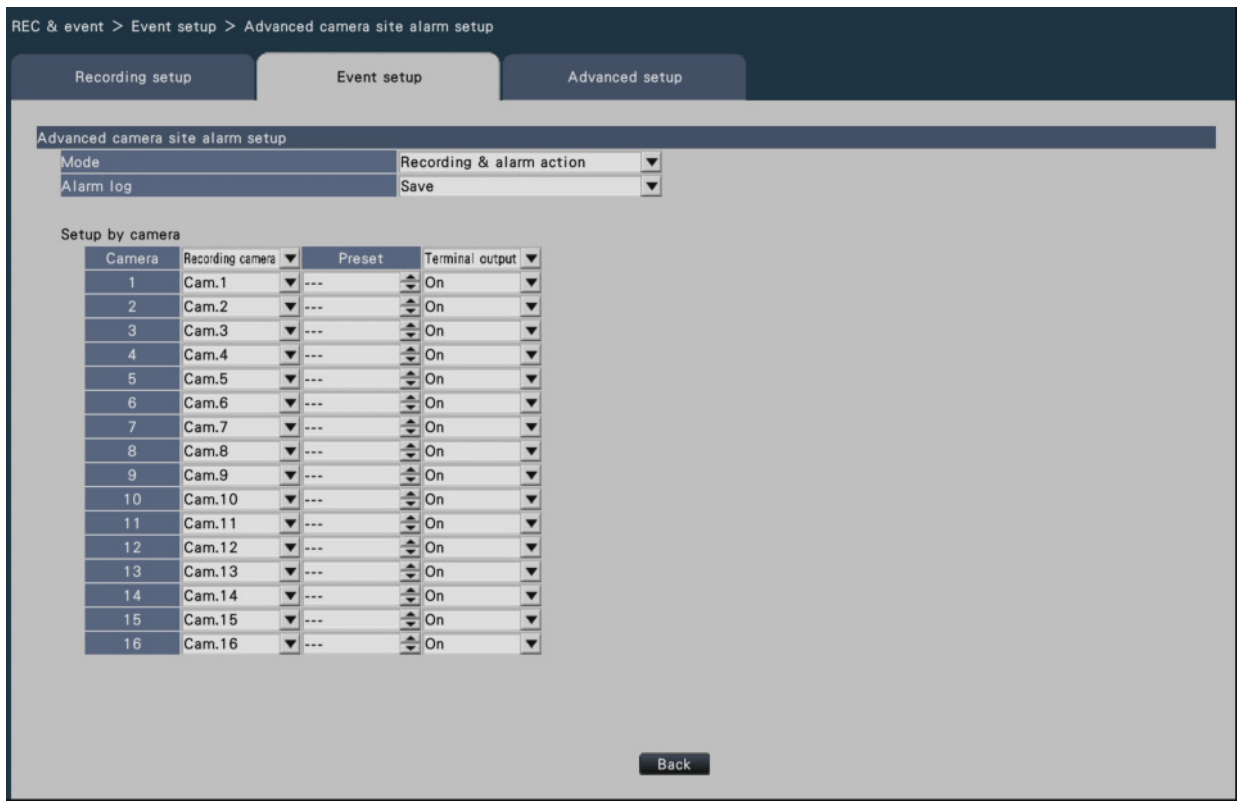
**Note:**

- Refer to the following section for further information about the camera preset positions.

 [Operate the camera](#)

### 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 following section for further information about the items available for "Advanced camera site alarm setup"; "Mode" and "Alarm log", and also "Recording camera", "Preset", "name" and "Terminal output" under "Setup by camera".

[👉 Set up terminal alarm \[Advanced terminal alarm setup\]](#)

### [Back] button

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



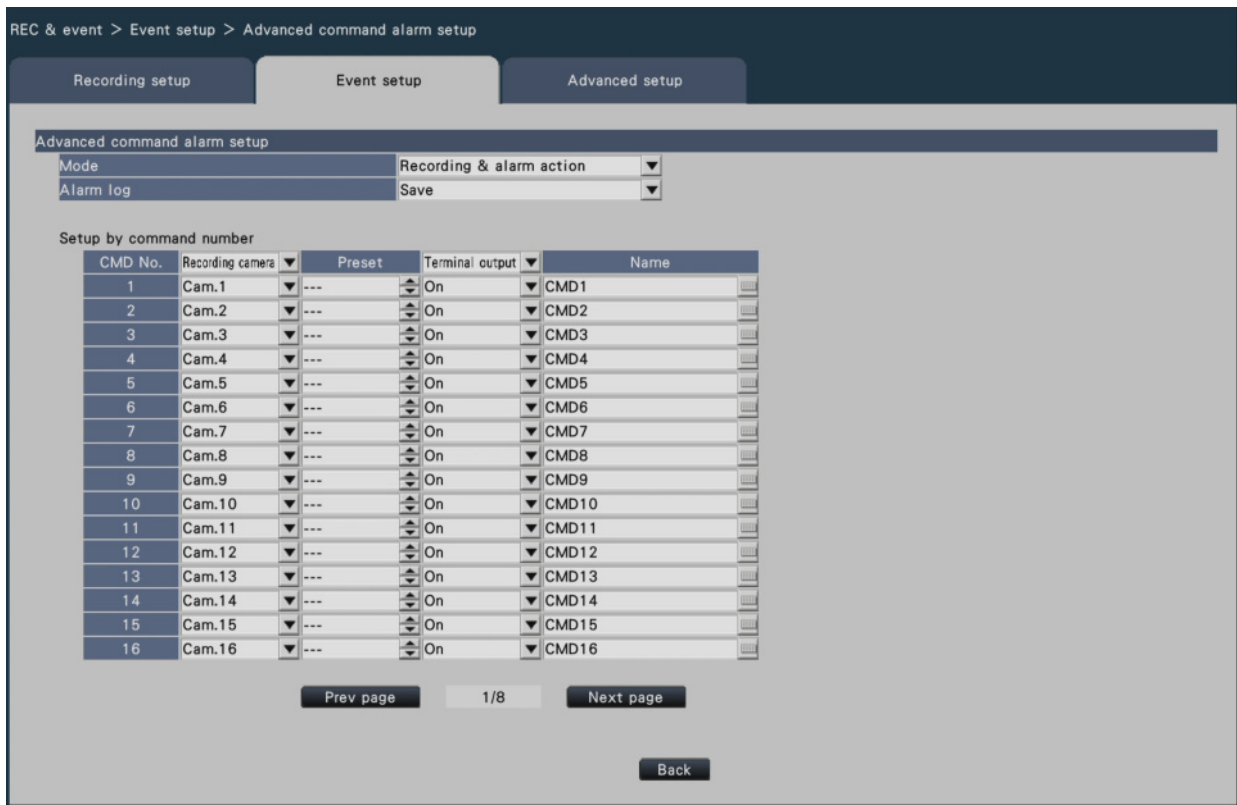
#### Note:

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

[👉 Configure the advanced settings for schedule recording \[Advanced schedule setup\]](#)

### 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 following section 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".

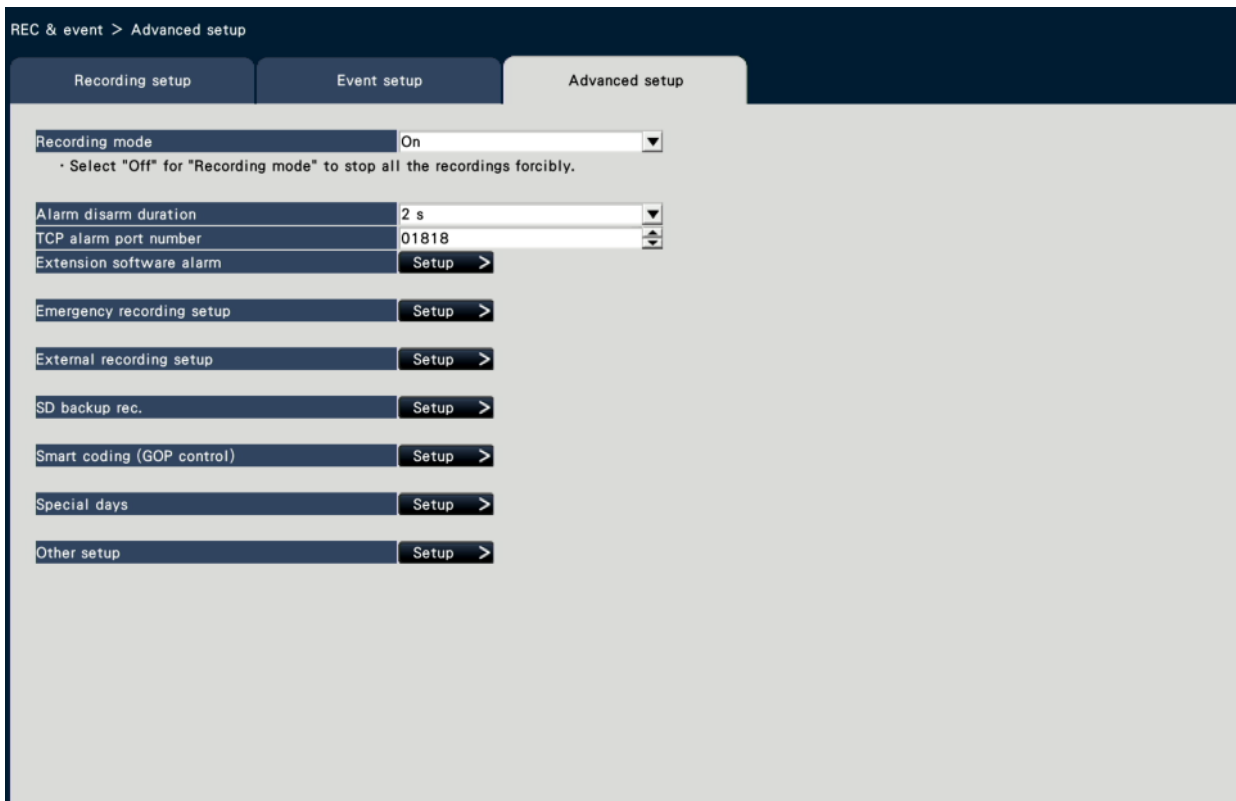
[👉 Set up terminal alarm \[Advanced terminal alarm setup\]](#)

### **[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



**Note:**

- When registering in the remote monitoring, the Alarm disarm duration operates at 30 seconds, regardless of the set value.

**[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 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, 50000~50255

**[Extension software alarm]**

Set the extension software alarm name and message ID.

REC & event > Advanced setup > Extension software alarm

Recording setup    Event setup    **Advanced setup**

Extension software alarm

No.	Name	Message ID (DEC/HEX)
1	Intruder	050 / 32
2	Loitering	051 / 33
3	Direction	052 / 34
4	Cross line	056 / 38
5	Occupancy Area1	098 / 62
6	Occupancy Area2	099 / 63
7	Occupancy Area3	100 / 64
8	Occupancy Area4	101 / 65
9	User-defined1	--- /
10	User-defined2	--- /
11	User-defined3	--- /
12	User-defined4	--- /
13	User-defined5	--- /
14	User-defined6	--- /
15	User-defined7	--- /
16	User-defined8	--- /

· If setting the message ID, the name is displayed on the event type window.

Back

The AI-VMD and AI Occupancy Detection features must have been configured on the target camera to use the enhanced software alarms 1-8.

### [Name]

Enter the names of the extension software alarms 1 to 16 from the on-screen keyboard (up to 16 characters).



**Note:**

- The alarm log, event information display, event type, and REC event are displayed with the set name.
  - ☞ [Change event types and other information displayed on the timeline \[Advanced setup\]](#)
  - ☞ [Search and play recording events \(REC event search\)](#)
- If the setting is saved in blank, it will return to the default name.

### [Message ID]

Select alarm message ID to be received as extension software alarms 1 to 16 in decimal number (000 to 255).



**Note:**

- When the message ID is set, the set alarm name is displayed in the event type and REC event.
  - ☞ [Change event types and other information displayed on the timeline \[Advanced setup\]](#)
  - ☞ [Search and play recording events \(REC event search\)](#)
- Refer to the following URL for the message ID and detailed information of the Extension Software.  
<https://i-pro.com/global/en/surveillance/training-support/support/technical-information>  
<Control No.: C0328>

### [Emergency recording setup]

Configure the settings related to emergency recording.



### [Recording time]

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.

For details on canceling the alarm action, refer to the following section.

[👉 Cancel the alarm action](#)

Default: 30 s

### [Emergency audio recording]

If audio recording is not set for the camera, select whether to record audio only during emergency recording.

On (AAC-LC) : Records audio only during emergency recording.

Off : Does not record audio even during emergency recording.

Default: Off



**Note:**

- For cameras without audio recording, audio will not be recorded even when it is set to a value other than "Off".
- Depending on the timing when emergency recording is started, audio may be recorded at the end of the previous recording data just before the emergency recording.
- Even if you set emergency audio recording, the camera's live audio will not be output during emergency recording. Only recording will take place.

**[External recording setup]**

Select the schedule of the external recording.

Camera	Model	Compression	Basic setup	External recording setup
			Schedule	Schedule
1			Schedule1	Off
2			Schedule1	Off
3			Schedule1	Off
4			Schedule1	Off
5			Schedule1	Off
6			Schedule1	Off
7			Schedule1	Off
8			Schedule1	Off
9			Schedule1	Off
10			Schedule1	Off
11			Schedule1	Off
12			Schedule1	Off
13			Schedule1	Off
14			Schedule1	Off
15			Schedule1	Off
16			Schedule1	Off

Select schedule settings that you want conduct for each camera on [External recording setup].

Off / Schedule 1 / ~ / Schedule 16

Default: Off



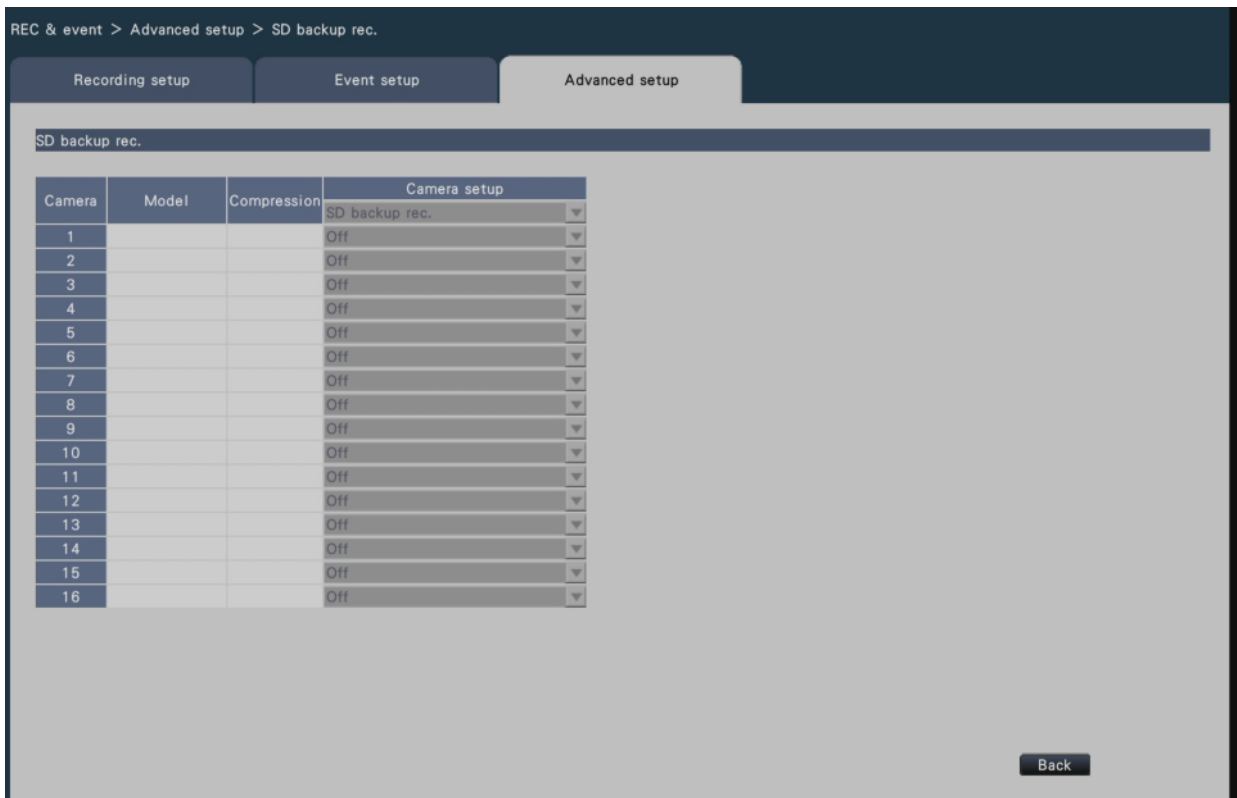


**Note:**

- When many cameras are registered, the switchover of the schedule by the external recording input may be delayed.

**[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



**Important:**

- It is recommended to use the SD memory backup function with a wired network connection.

**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" and set the stream transmission setting "Unicast" from the camera side.

### **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:**

- This feature saves only image data to the HDD. Audio data and information used in motion detection search are not saved.
  - 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.
  - After setting the SD memory backup function to "On", manually acquire the SD backup data from the camera. Beginning the next day, data acquisition will be automatically performed a quarter past every hour.
-  [Execute functions for special maintenance and service \[Other\]](#)

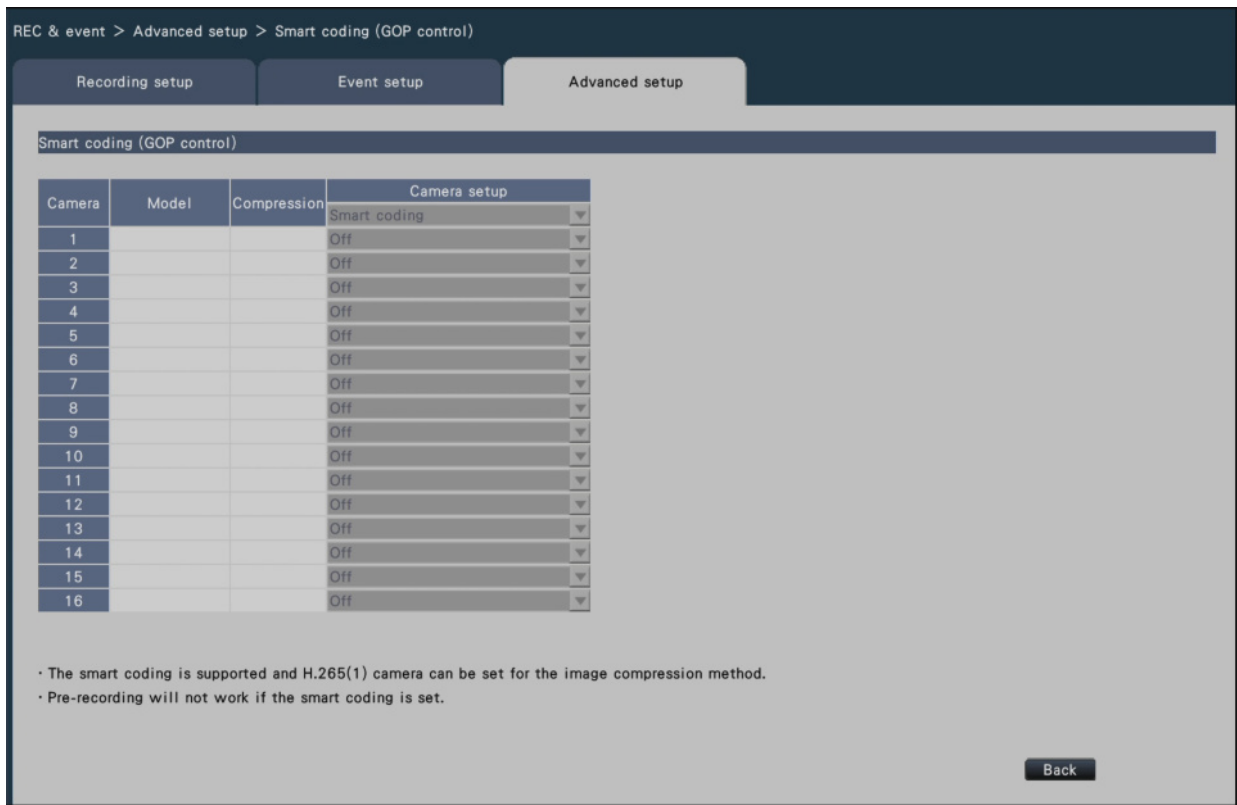


**Note:**

- 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.

For more information about this function, refer to the Operating Instructions of your camera.

**[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]**

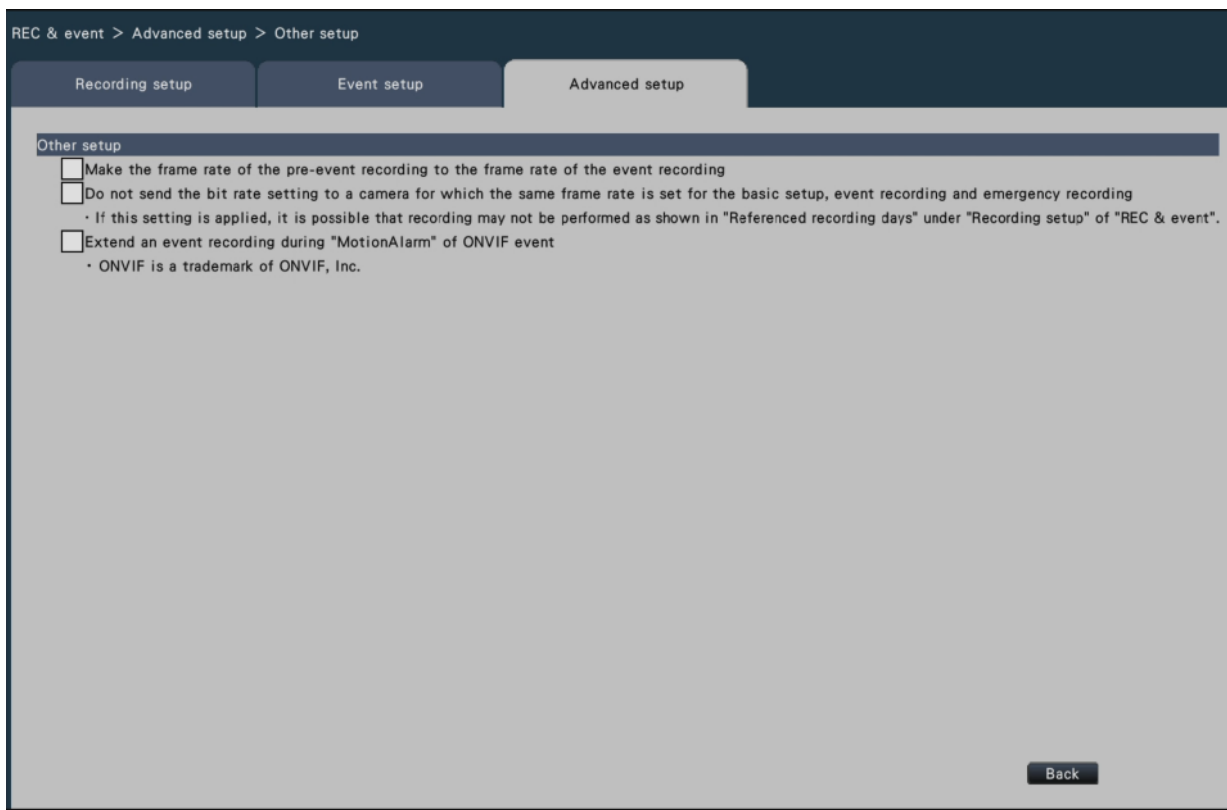
Select a date that you want to set as a special day.

**[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.

### **[Extend an event recording during "MotionAlarm" of ONVIF event]**

When checked, the event recording that starts with "MotionAlarm" in the ONVIF event notified by the camera will be extended for the duration set in the event recording duration unless an end notification is received from the camera.

[👉 Configure the advanced settings for schedule recording \[Advanced schedule setup\]](#)



**Note:**

- Please be noted that if the communication is temporarily interrupted due to the network environment, the recording will continue until the alarm operation is canceled unless an end notification is received.
- In "Advanced camera site alarm setup", when one camera is set to "Recording Camera" for multiple cameras, it may not work properly.
  - ☞ [Set up camera site alarm \[Advanced camera site alarm setup\]](#)

## **Configure the advanced settings [Advanced setup]**

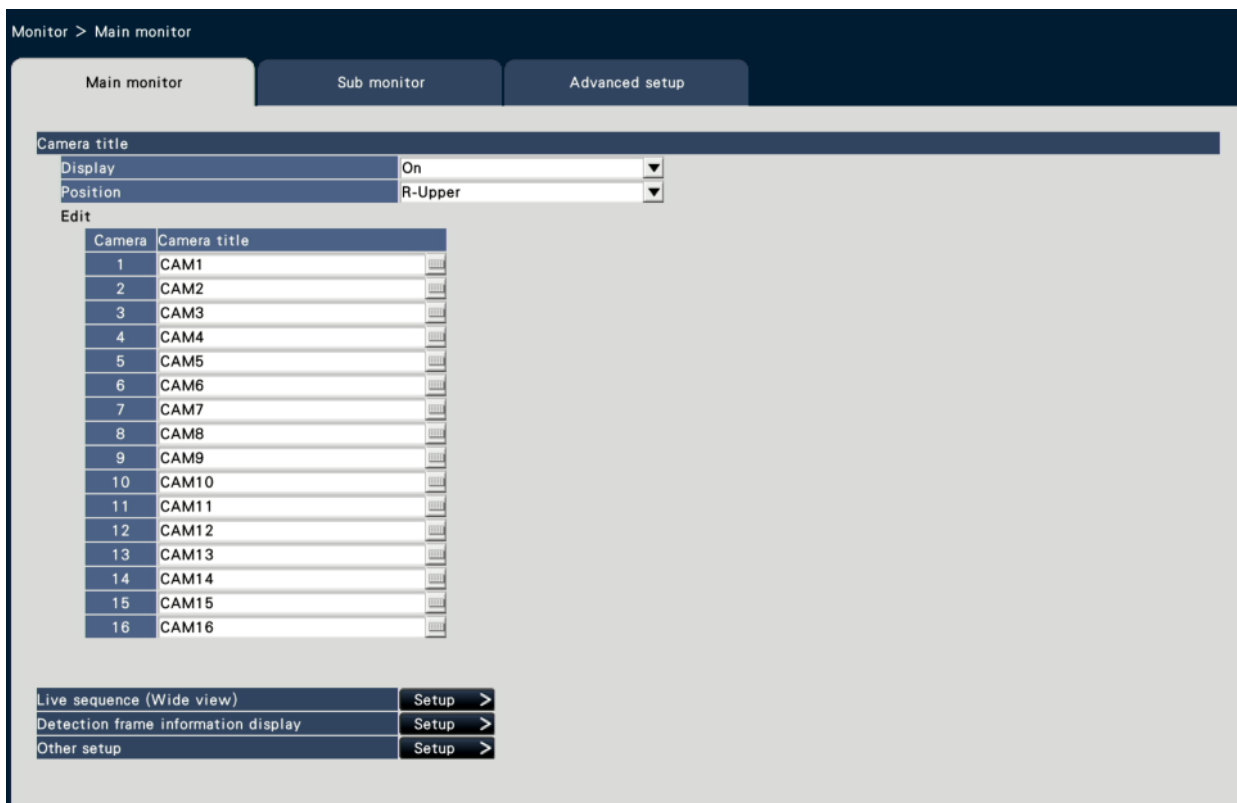
### **Configure the settings relating to monitors [Monitor]**

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.

### **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. (Up to 16 characters)



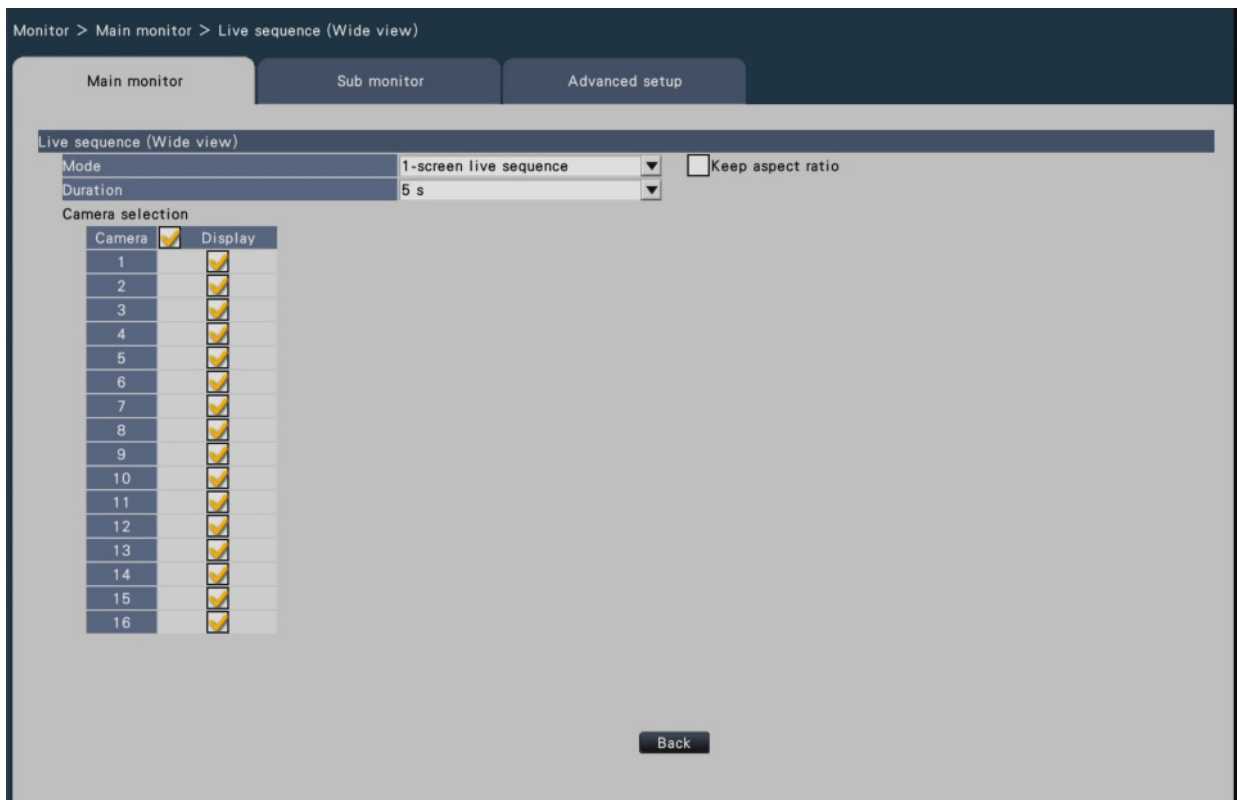
**Note:**

- When using together with the date and time display to be set on the camera or OSD(Display Title), adjust the position to be displayed to not to overlap with them.
  - ☞ [Set up date & time display \[Date & time display\]](#)
  - ☞ [Set up OSD \[Display Title\]](#)
- 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.
- Depending on the camera selected for sequence display, the switching interval between camera images may be longer.

### [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.

## ■ Detection frame information display



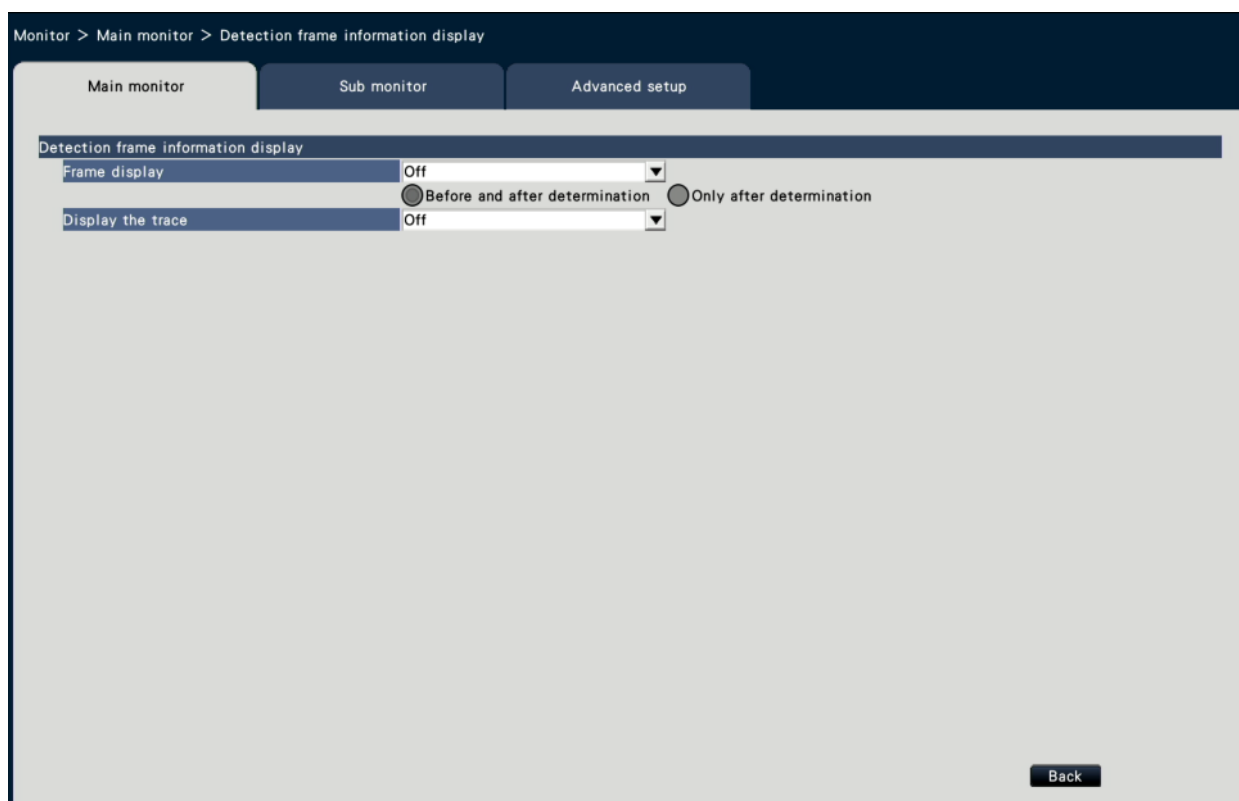
### Important:

- This recorder displays detection frame information for the AI video motion detection (WV-XAE200W, WV-XAE300W) and the AI occupancy detection (WV-XAE207W, WV-XAE300W).



### Note:

- In the following cases, detection frame information is not displayed.
  - During fisheye image correction display
  - Digital zoom in use
  - Displaying live sequence
  - When the information display screen or confirmation screen is displayed
- This recorder does not support the Additional information type "With detected object information (AI frame information)" of AI Video Motion Detection (WV-XAE200W).
- If the number of people shown in the camera exceeds 40, correct occupancy detection will not be possible since some of the people cannot be detected.. For more details, refer to the operating instructions of the Extension Software (AI Occupancy Detection).



### **[Frame display]**

Set whether to display the detection frame. You can select whether to display the detection frame before and after determination of the alarm, or display the detection frame only after determination of the alarm.

On: Displays the detection frame.

Off: Does not display the detection frame.

Default: Off

When set before and after determination, the detection frame is displayed as shown below depending on the type of alarm.

AI-VMD alarm: detection frame before determination (blue frame) and detection frame after determination (red frame)

Occupancy detection alarm: detection frame before determination (blue frame, light blue frame) and detection frame after determination (red frame)

- Blue frame: person in the detection area
- Light blue frame: person not in any detection area
- Red frame: person in the detection area where the alarm occurred

If set only after determination, the detection frame (red frame) will be displayed after the alarm is determined.

### **[Display the trace]**

Set whether to display the trace.

On: Display the trace.

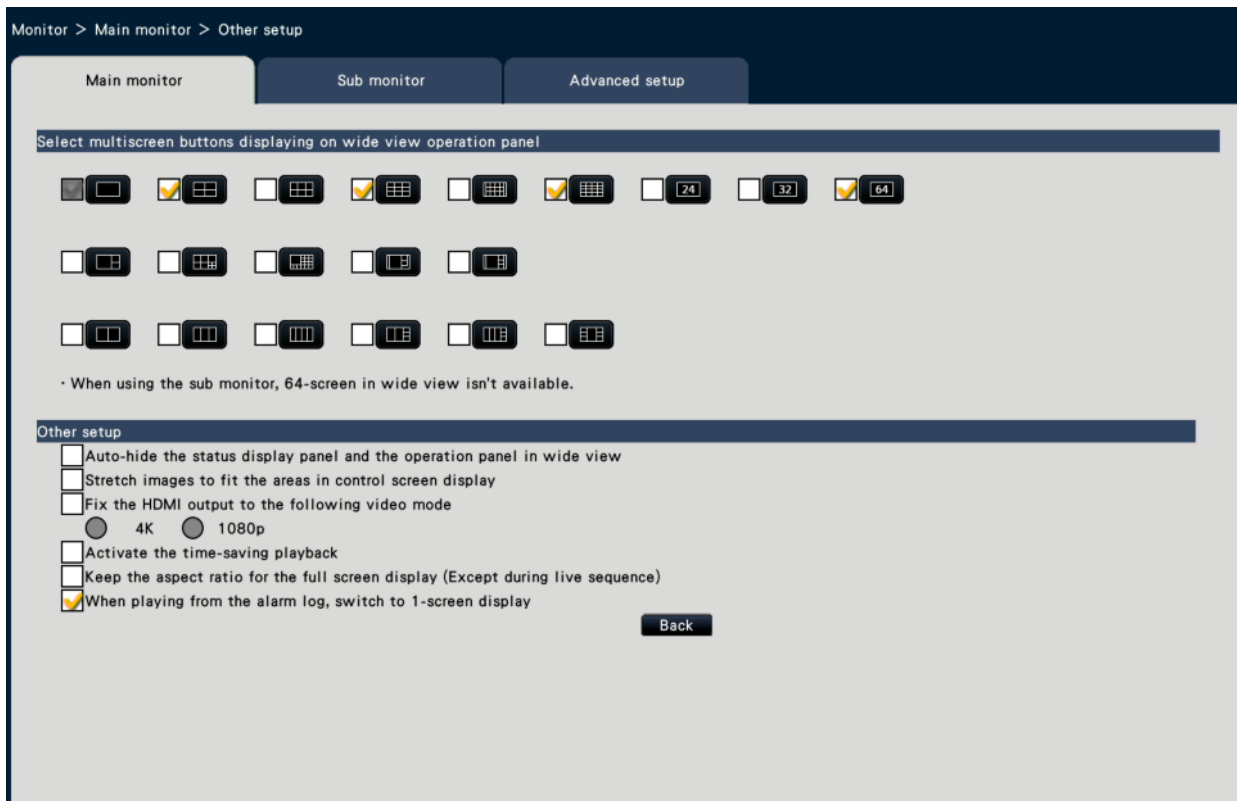
Off: Do not display the trace.

Default: Off

The locus of the detected moving body is displayed as a green line. Occupancy detection does not display the locus.

### **■ Other setup**

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



\* This is an example screen of NX410.

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

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



#### Note:

- [NX410/NX510] When using the sub monitor, 64-screen in wide view is not available on the main monitor.

### ■ 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.
- Do not select "4K" unless a 4K monitor is connected. Otherwise the monitor will display a black screen or fail to return to the setup menu.
- When registering for remote monitoring, the HDMI output is fixed to 1080p.

**[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)

 [Playback by designating a timeline](#)



**Important:**

- To use the time-saving playback, a camera that supports the motion detection information addition function is required. For more information about this function, refer to the Operating Instructions of the camera.

**[Keep the aspect ratio for the full screen display (Except during live sequence)]**

For "multiscreen select" of each wide view except for live sequence, 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: Keeps aspect ratio (Does not change the ratio automatically)

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

Default: Not checked

### [Switch to 1-screen display when playing from alarm log]

Select whether to switch to 1-screen display when selecting and playing back the row of the Date and Time you want to play on the alarm log panel of the main monitor.

Checked: Switch to 1-screen display

Unchecked: Do not switch to 1-screen display

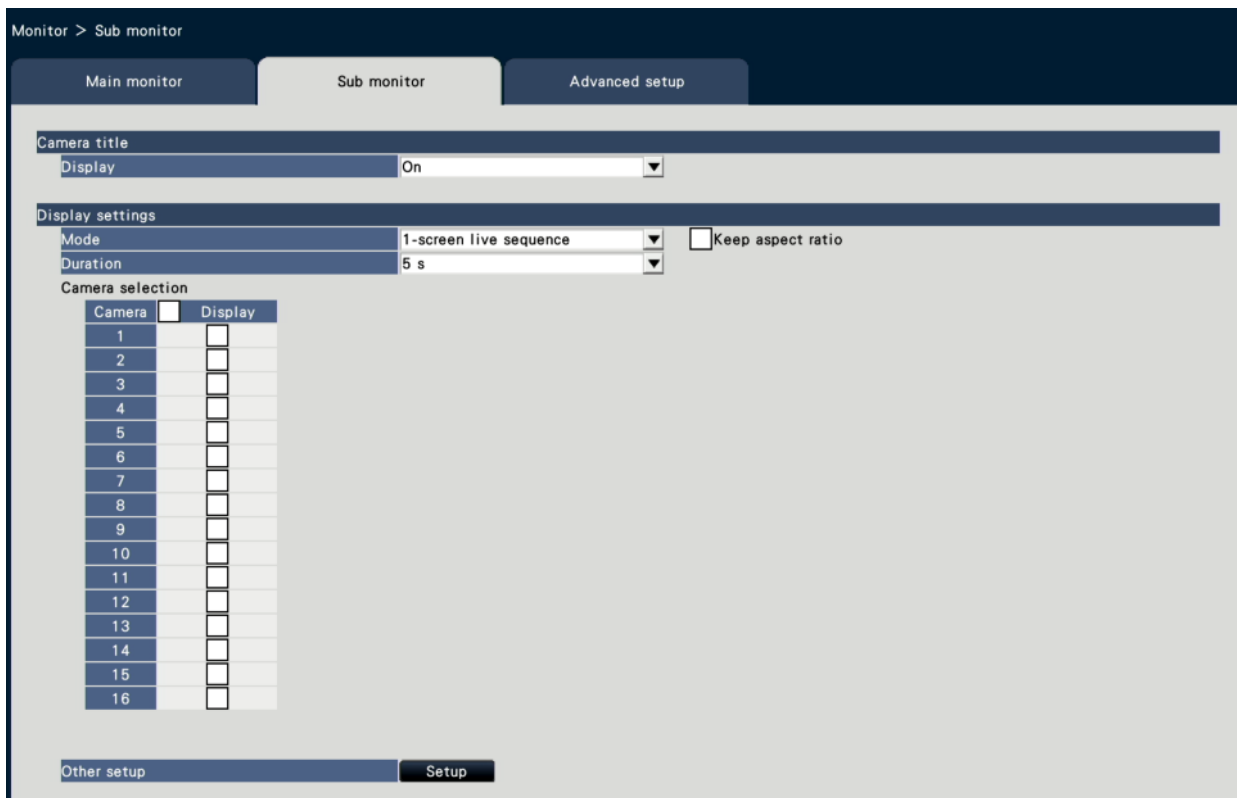
Default: Checked

### [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: Switch between 4 screens.

9-screen live sequence: Switch between 9 screens.

Switch by alarm terminal input: [NX310]The display camera is switched to Cam.1 to 9 respectively according to the input signal of terminal alarm terminal numbers 1 to 9 and displayed on a single screen. When "Alarm input" is set in the General purpose I/O terminal setting, General purpose I/O1 to 4 are switched to camera 10 to 13 respectively.

[NX410/NX510]The display camera is switched to Cam.1 to 32 respectively according to the input signal of terminal alarm terminal numbers 1 to 32 and displayed on a single screen.

24Screen: Images from the cameras will be displayed on 24Screen without switching the screen.

32Screen: 32 screens are fixed and displayed.

### [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.
- Depending on the selection of the camera to be displayed in the sequence, the switching interval of camera images may be extended.

**[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.



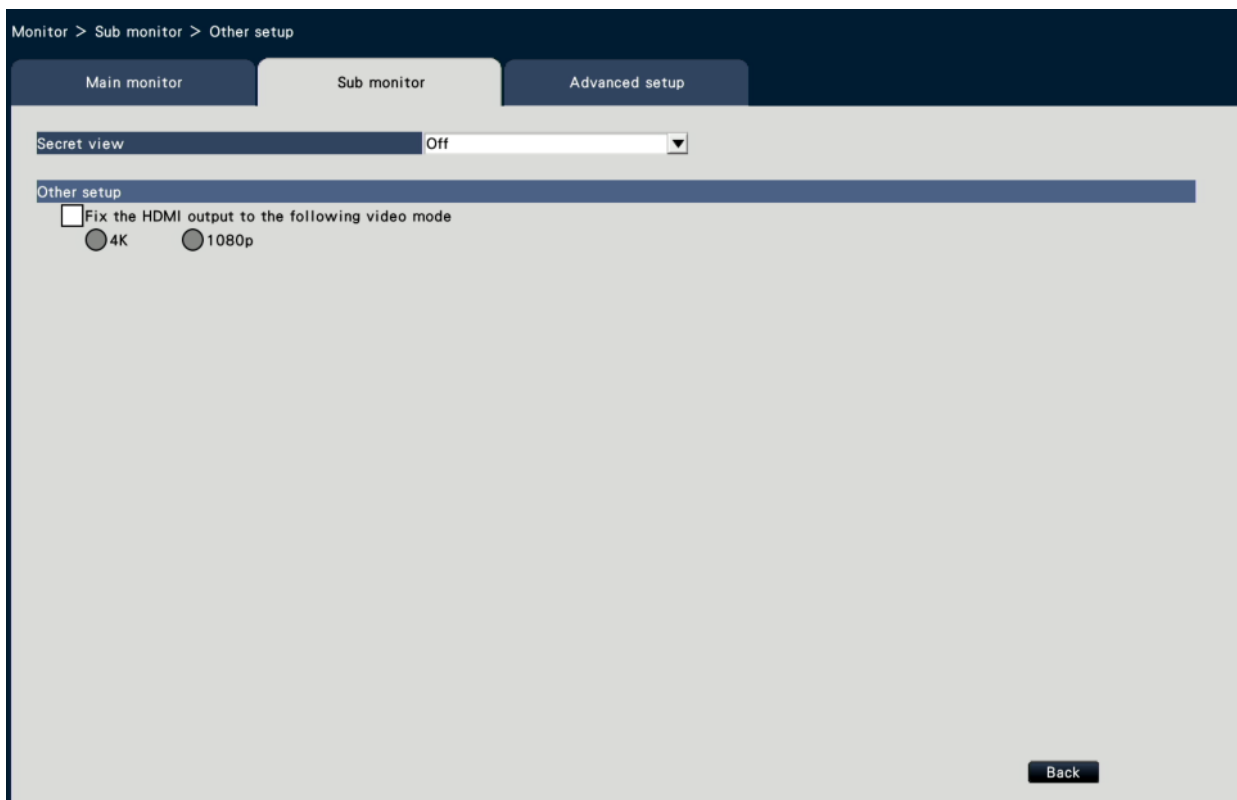
**Note:**

- When displaying a multiscreen display, the selected cameras are displayed aligned from the top.
- 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.

■ **Other setup**

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





### [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.

### ■ Other setup

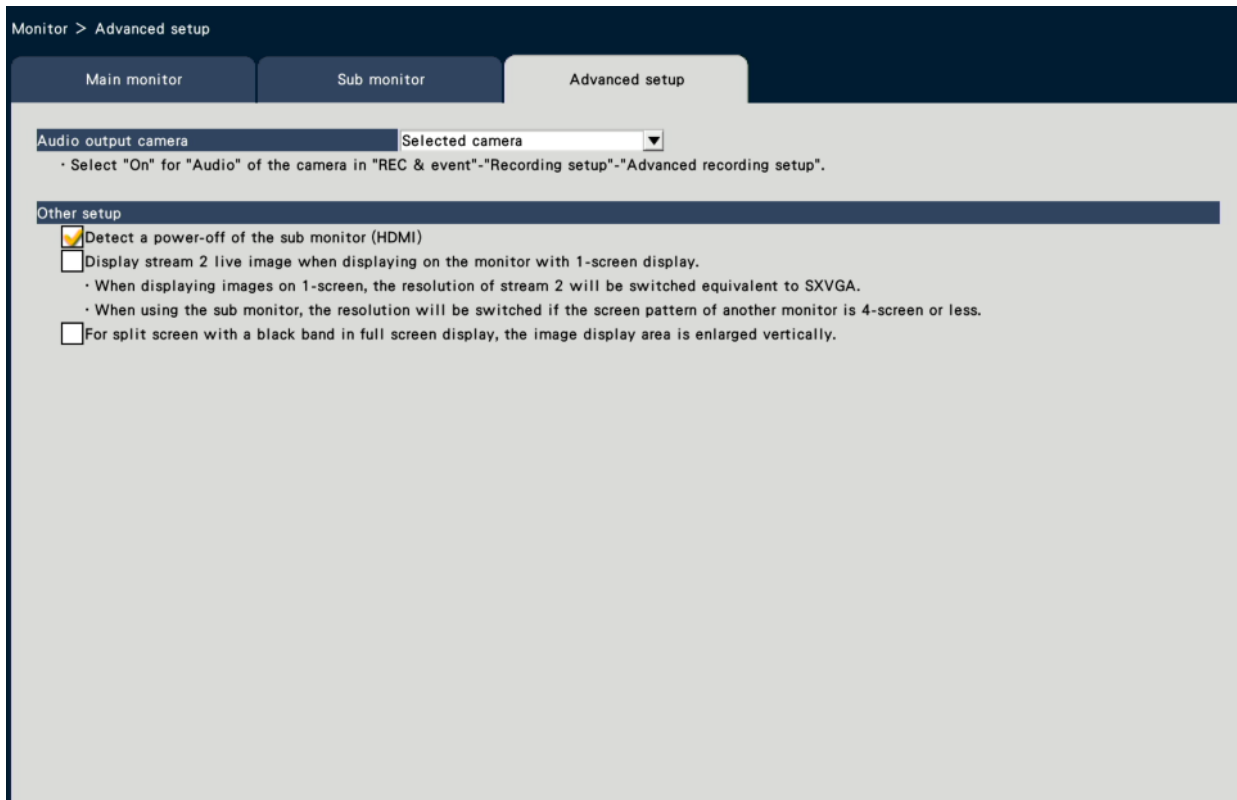
#### [Fix the HDMI output to the following video mode]

Refer to the following section.

[👉 Set up the main monitor \[Main monitor\]](#)

## 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.n: Fixes the camera channel (The recorder will always output the audio of the selected camera.)

Default: Selected camera



#### Note:

- To output audio from the monitor, set [Audio] in the Advanced recording setup to a setting other than "Off".

👉 [Set up recording for individual cameras \[Advanced recording setup\]](#)

## ■ Other setup

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

If checked, when a sub-monitor is used in the configuration, the camera will notify you with an error behavior if the sub-monitor is not connected or powered off.



**Note:**

- Some monitors may not be detected even if the monitor's power switch is turned off.

### [Display stream 2 live image when displaying on the monitor with 1-screen display.]

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



**Note:**

- The frame rate of the live image varies depending on the camera model and camera mode.

### [For split screen with a black band in full screen display, the image display area is enlarged vertically]

When checked, the screen split pattern that displays a black band at the bottom of the screen in full screen display will eliminate the black band and display the entire image display area enlarged vertically.

## 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], [HTTP alarm] and [NTP/SNMP] tabs.

### Configure the basic network settings [Basic]

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

The screenshot shows a web-based configuration interface for network settings. At the top, there are tabs for 'Basic', 'e-Mail', 'TCP alarm notification', 'HTTP alarm notification', and 'NTP/SNMP'. The 'Basic' tab is selected. Below the tabs, there are sections for 'Network Setup', 'DNS Setup', and 'DDNS Setup'. The 'Network Setup' section has two columns: 'Camera/PC port' and 'PC port'. Under 'Camera/PC port', 'Network settings' is set to 'Static', 'IP address' is '192.168.000.250', 'Subnet mask' is '255.255.255.000', and 'Default gateway' is '192.168.000.001'. Under 'PC port', 'Network settings' is set to 'Static', and 'IP address', 'Subnet mask', and 'Default gateway' are all set to '000.000.000.000'. The 'DNS Setup' section has 'DNS' set to 'Off', and 'Primary server address', 'Secondary server address', and 'Domain name' are empty. The 'DDNS Setup' section has 'DDNS' set to 'Off'. At the bottom, there is an 'Other setup' section with an 'Advanced' button.



**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.

**[Network settings]**

Select how the IP address is set up.

Static: Set the IP address by entering it in [IP address].

Auto (DHCP): Set the IP address using the DHCP function.

Default: Static

If this product is set to Auto (DHCP) and the IP address cannot be obtained from a DHCP server, set the IP address to the address in [IP address]. When an IP address can be obtained from a DHCP server, the obtained IP address is set in [IP address].

Only one port can be set to Auto (DHCP).

### **[IP address]**

The IP address of the recorder will be displayed.

To change the IP address, select each octet of the address, and 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

## **■ 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.

Auto: Use DNS. Automatically detect DNS server addresses. This can be set only when the network settings is "Auto (DHCP)".

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.

Dynamic DNS update: Uses Dynamic DNS Update (RFC2136 compliant).

Default: Off

### When using Dynamic DNS Update

	Camera/PC port	PC port
Network settings	Static	Static
IP address	192.168.000.250	000.000.000.000
Subnet mask	255.255.255.000	000.000.000.000
Default gateway	192.168.000.001	000.000.000.000

DNS Setup	
DNS	Off
Primary server address	
Secondary server address	
Domain name	

DDNS Setup	
DDNS	Dynamic DNS update
Host name	NWDR
Access interval	1 h

Other setup	
	Advanced >



#### Important:

- Use the PC port for the Dynamic DNS Update. Also, select the "Static" for [Network settings].
- Port forwarding needs to be set on the router before using the DDNS service of another company. Absolutely no warranty is provided for behavior involving another company's DDNS service.
- Accordingly, our company bears no responsibility for any failure or damage caused in the using environment of this product due to the use of

another company's DDNS service. For information regarding the selection and setting of DDNS services of other companies, contact the service provider.

### **[Host name]**

Enter the host name to use with the Dynamic DNS Update service.

Available number of characters: 0 to 250 characters

Enter in the format (Host name).(Domain name)

Default: NWDR



#### **Note:**

- Contact your network administrator regarding usable host names.

### **[Access interval]**

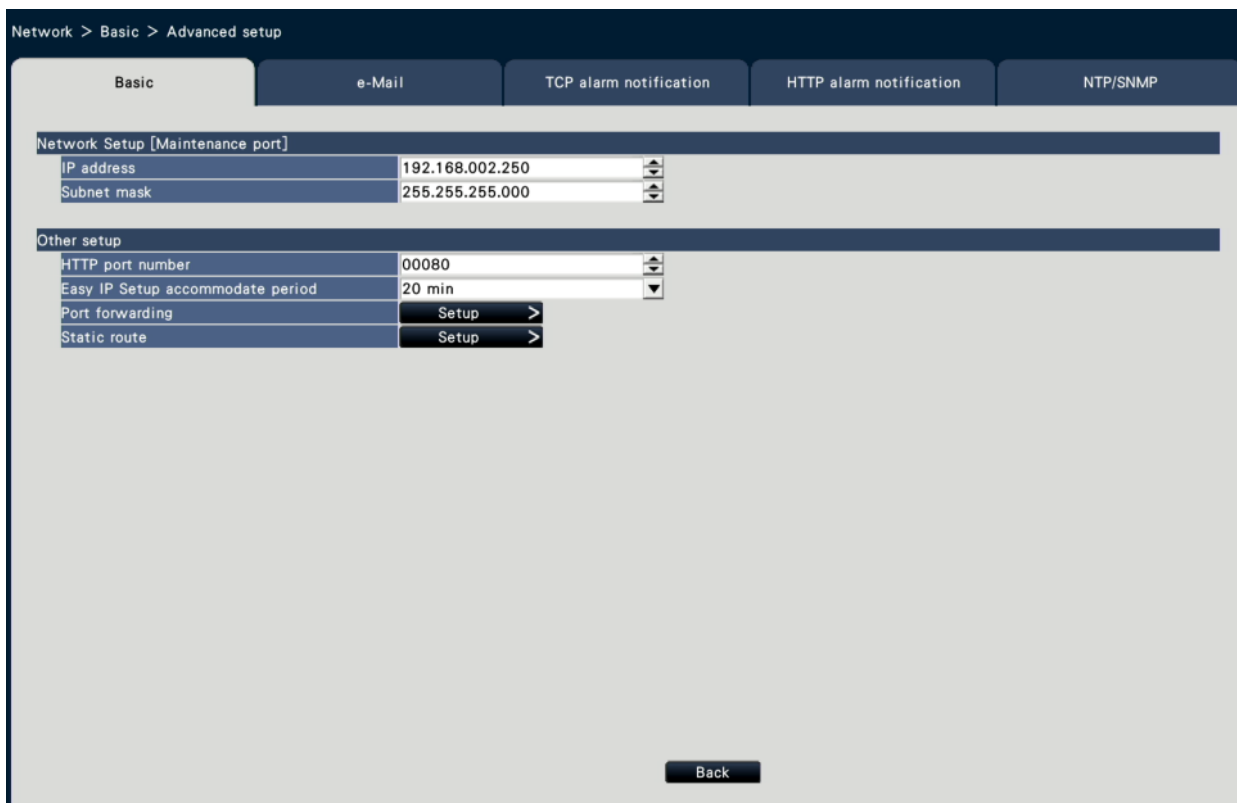
From the below, select the interval for checking the IP address and host name of the Dynamic DNS Update Service server.

10 min. / 20 min. / 30 min. / 40 min. / 50 min. / 1 h / 6 h / 24 h.

Default: 1 h

#### **■ Other setup**

Clicking the [Advanced >] button displays the following screen.



\* This is an example screen of NX410.

### ■ Network setup [Maintenance port]

[NX410/NX510] Set the network for the maintenance port of the recorder.

#### [IP address]

[NX410/NX510] Default: 192.168.2.250

#### [Subnet mask]

[NX410/NX510] Default: 255.255.255.0

### ■ 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 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, 50000~50255

**[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.

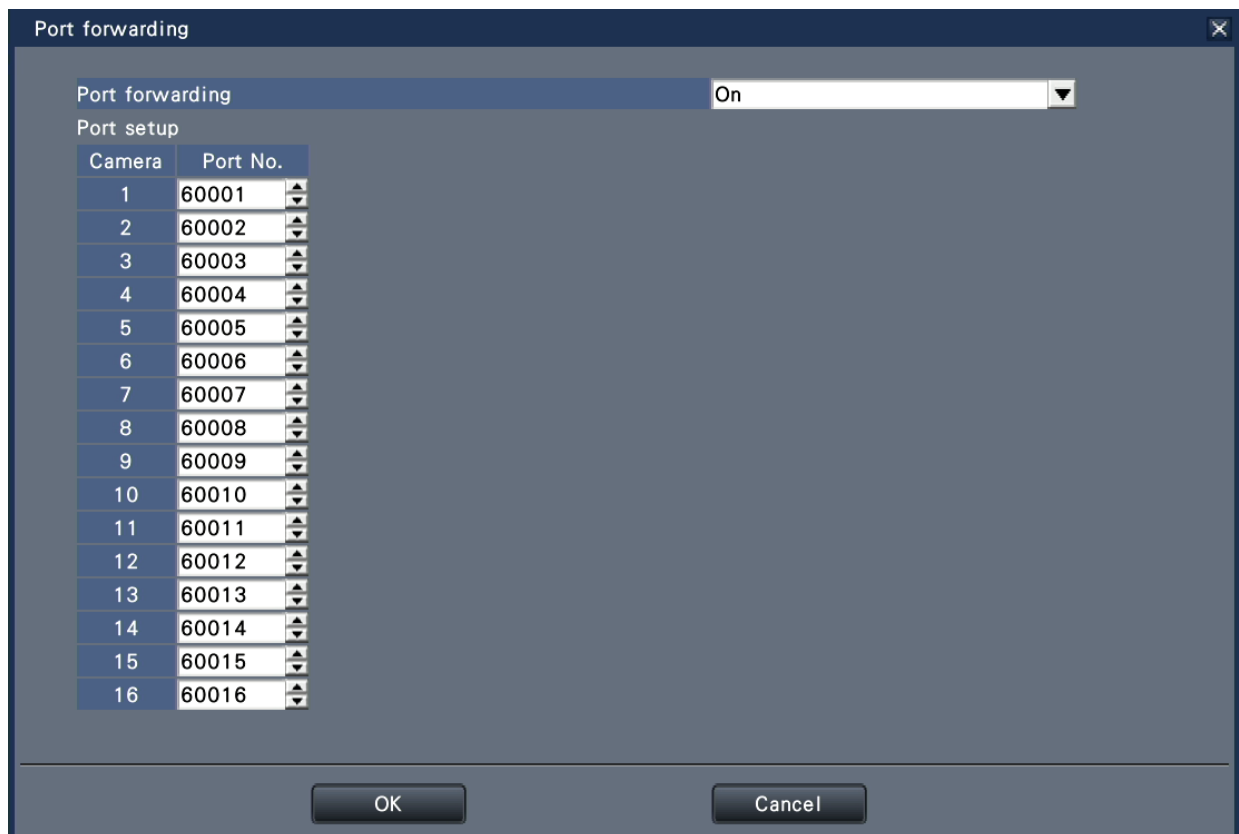
20 min: Enables operation to change the IP address of the recorder from the dedicated software for 20 minutes only after the launch of the recorder.

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

Default: 20 min

■ **Port forwarding**

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



**Important:**

- Port forwarding cannot be used with cameras that connection method is set to HTTPS in "Security between this product and camera".

**[Port forwarding]**

Set whether to enable the port forwarding or not.

On: Sets the port forwarding.

Off: Does not set the port forwarding.

Default: On

**[Port setup]**

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

Default:[NX310] Cam.1: 60001 ~ Cam.32: 60032

[NX410] Cam.1: 60001 ~ Cam.64: 60064

[NX510] Cam.1: 60001 ~ Cam.128: 60128



**Note:**

- The following numbers, the HTTPS 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, 50000~50255

■ **Static route**

Click the [Setup >] button to set a static route.

No.	Network Setup		
1	Static route	Off	▼
	Address	000.000.000.000	▲▼
	Subnet mask	000.000.000.000	▲▼
	Gateway	000.000.000.000	▲▼
2	Static route	Off	▼
	Address	000.000.000.000	▲▼
	Subnet mask	000.000.000.000	▲▼
	Gateway	000.000.000.000	▲▼
3	Static route	Off	▼
	Address	000.000.000.000	▲▼
	Subnet mask	000.000.000.000	▲▼
	Gateway	000.000.000.000	▲▼
4	Static route	Off	▼
	Address	000.000.000.000	▲▼
	Subnet mask	000.000.000.000	▲▼
	Gateway	000.000.000.000	▲▼



**Note:**

- If using the static route, select the "Static" for [Network settings].

**[Static route]**

Set a static route. Configure this setting after fully understanding the network environment of the recorder.

On: Enables the static route.

Off: Disables the static route.

Default: Off

### [Address]

Set the destination address. To change the IP address, click the [▲]/[▼] button.

### [Subnet mask]

Set the destination subnet mask. Enter in the same way as the address.

### [Gateway]

Set the destination gateway. Enter in the same way as the address.

### [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 and the settings to use the mail functions can be configured on this tab.

[Alarm mail](#)

The screenshot displays the 'e-Mail' configuration tab within a network management interface. The breadcrumb path is 'Network > e-Mail'. The interface includes several tabs: 'Basic', 'e-Mail' (selected), 'TCP alarm notification', 'HTTP alarm notification', and 'NTP/SNMP'. The 'e-Mail setup' section contains the following fields and options:

- SMTP server address: [Text input field]
- SMTP port number: 00025 [Spin button]
- POP server address: [Text input field]
- Authentic method: None [Dropdown menu]
- User name: [Text input field]
- Password: [Text input field]
- Sender's address: NWDR [Text input field]
- Security: Off [Dropdown menu]
- Destination address: [Section header]
- Address1, Address2, Address3, Address4: [List of text input fields]
- Warning: [Column of checkboxes]
- Alarm: [Column of checkboxes]

All checkboxes in the 'Warning' and 'Alarm' columns are currently checked.

### **[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. Enter up to 255 alphanumeric characters including hyphens (-), periods (.), @, and \_.

 [Alarm mail](#)

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 our technical information web site for details on the software.

Network > TCP alarm notification

Basic e-Mail TCP alarm notification HTTP alarm notification NTP/SNMP

TCP alarm notification

Port number(to PC) 01818

Retry 2

Destination address

Address1

Address2

Address3

Address4

Address5

Address6

Address7

Address8

### [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



#### 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".

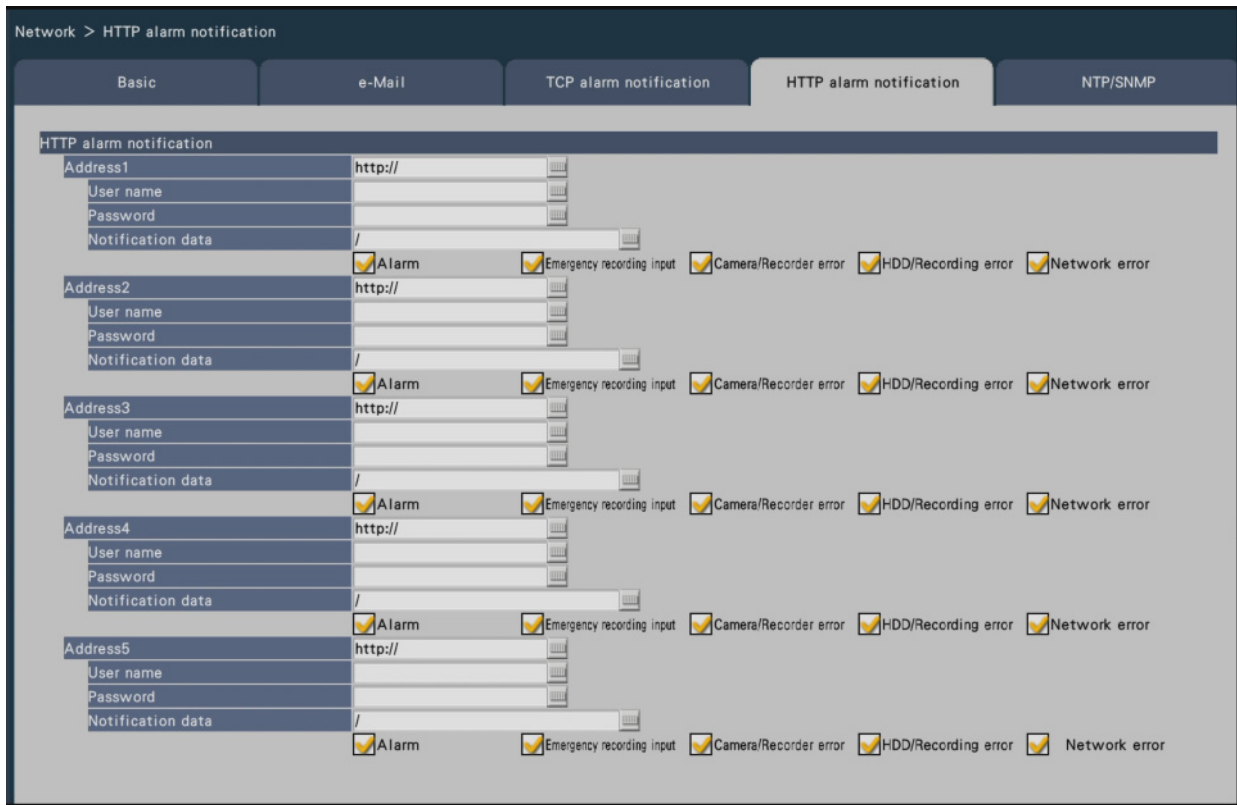
The host name is available only when "Manual" is selected for "DNS" on the [Basic] tab accessed from the "Advanced setup" menu - the "Network" page of the setup menu.

Up to 8 destination addresses can be registered.

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

### Configure HTTP alarm notification settings [HTTP alarm]

Configure the settings to notify the PC via HTTP when an event or error occurs.



#### [Address 1] to [Address 5]

Set the IP address or host name of the HTTP server for HTTP alarm notification. Up to 5 addresses can be set.

Available number of characters: 0 - 255 characters

Available characters: Half-width alphanumeric characters, half-width symbols

Default setting: http://

Input example: http://IP address: Port number, or http://host name: Port number https://IP address: Port number, https:// host name: Port number

#### [User name]

Enter the user name to access the HTTP server.

Available number of characters: 0 - 63 characters

Unavailable characters: Full-width and half-width symbols " " " " & "



Default setting: Blank

### [Password]

Enter the password to access the HTTP server.

Available number of characters: 0 - 63 characters

Unavailable characters: Full-width and half-width symbols " " " " & "

Default setting: Blank



**Note:**

- Basic or Digest authentication is performed according to the HTTP server's authentication request.

### [Notification data]

Enter the content of the notification to be added after the HTTP servers set in [Address 1] to [Address 5].

Available number of characters: 0 - 255 characters

Available characters: Half-width alphanumeric characters, half-width symbols

Default setting: /

By checking the "Alarm", "Emergency recording input", "Camera/Recorder Error", "HDD/Recording Error" and "Network error" checkboxes, HTTP alarm notifications will be sent when the respective event or error occurs.



**Note:**

- If you enable the HTTP alarm function, the authentication information (user name and password) of the HTTP server may be leaked on the network when an alarm is notified to the HTTP server.
- The "Notification data" must be entered with a slash (/).
- If the "Notification data" is left blank and press the [OK] button, "/" will be set.
- Example: If "http://192.168.0.100" is set as the "Address" and "/cgi-bin/comalarm.cgi?CMD=01" is set as the "Notification data", the HTTP alarm notification "http://192.168.0.100/cgi-bin/comalarm.cgi?CMD=01" will be used for the HTTP alarm notification.

## 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.

Network > NTP/SNMP

Basic e-Mail TCP alarm notification HTTP alarm notification NTP/SNMP

**NTP setup**

Time adjustment Off

Primary server address

Secondary server address

**SNMP setup**

SNMP version Off

**SNMPv1/v2**

Community

Prohibit access from the outside of subnet

**SNMPv3**

User name (1 to 32 characters)

Authentication method SHA1

Encryption method  DES  AES

Password (8 to 20 characters)

System name

Location

Contact

### ■ 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



#### **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 (.).



#### **Note:**

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



#### **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.

### ■ **SNMP setup**

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

### [SNMP version]

Select the SNMP version to be used.

By using SNMPv3, communication data can be encrypted and communication security can be improved.

Off: SNMP is not used.

SNMMPv1/v2: SNMPv1/v2 will be enabled.

SNMPv3: SNMPv3 will be enabled.

SNMPv1/v2/v3: SNMPv1/v2/v3 will be enabled.

Default: Off

### [SNMPv1/v2 - Community]

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

Characters that cannot be input: half-width symbols " " "

### [SNMPv1/v2 - Prohibit access from the outside of subnet]

Set whether to prohibit access from the outside of subnet by SNMPv1/v2.

Checked: Prohibits access from the outside of subnet.

Not checked: Allows access from the outside of subnet.

Default setting: Checked



**Important:**

- To ensure security, it is suggested to prohibit access from outside the subnet when SNMPv1/v2 is used.

### [SNMPv3 - User name]

The user name of SNMPv3 will be set.

Number of input characters: 1 to 32

Characters that cannot be input: half-width symbols " ", " & ", " : ", " ; ", " ¥ "

### [SNMPv3 - Authentication method]

Display the authentication method of SNMPv3.



If you update the software to version 1.40 or later with [Authentication method] set to MD5, the authentication method will operate with MD5. Change [Authentication method] to SHA1 and save the settings.

### [SNMPv3 - Encryption method]

Select the encryption method of SNMPv3 from DES/AES.

Default: DES

### [SNMPv3 - Password]

Set the password of SNMPv3.

For the password, use three or more types of characters from upper- and lowercase alphabetic characters, numbers, and symbols. Set a password which does not include the user name.

Number of input characters:

- When the authentication method is MD5: 8 to 16 characters
- When the authentication method is SHA1: 8 to 20 characters

Characters that cannot be input: half-width symbols " ", " & "

### [System name]

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

Characters that cannot be input: half-width symbols " " "

Example: No1

### [Location]

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

Characters that cannot be input: half-width symbols " " "

Example: 2F

### [Contact]

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

Characters that cannot be input: half-width symbols " " "

## Register for remote monitoring [Service status]

Check the registration status of any camera registered and connected to the remote monitoring of the product.



### [Register for remote monitoring]

Register the product for remote monitoring.

### [Unregister for remote monitoring]

Unregister the product from remote monitoring.

### [Update the service status]

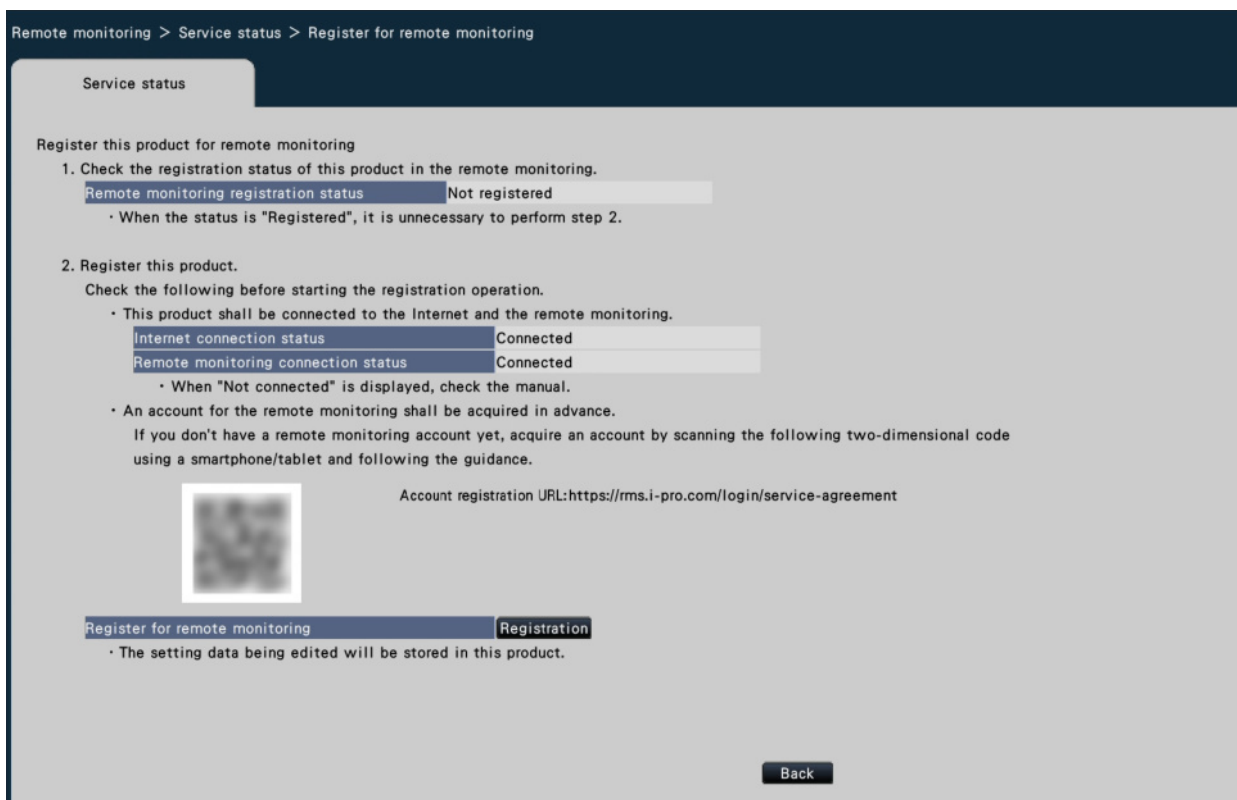
Click the [Update] button to update the registration status of the cameras connected and displayed in [Service Status] to the latest information.

### [Service status]

Displays the registration status of each connected camera for remote monitoring.

#### ■ Register for remote monitoring [Register for remote monitoring]

On the [Service status] tab, click the [Register for remote monitoring] > [Settings] button to display the following screen.



### Follow the following steps to register for the remote monitoring.

1. Check the registration status of the monitoring system to the remote monitoring from [Remote monitoring registration status].

When "Registered" is displayed: You have already registered with the remote monitoring and do not need to perform any operations from Step 2.

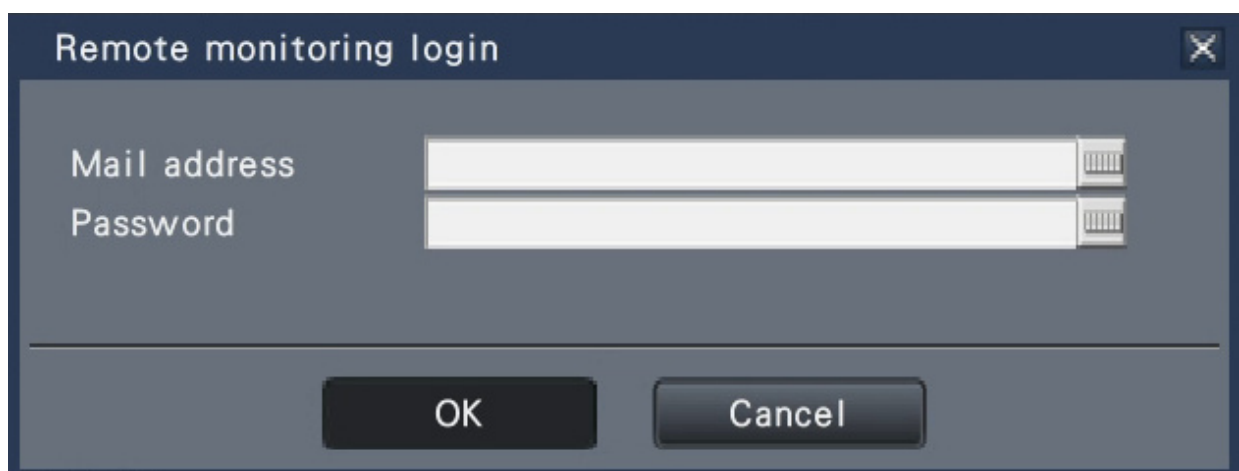
When "Not registered" is displayed: Proceed to Step 2.

2. Register the product to the remote monitoring.

Before carrying out registration, check the following:

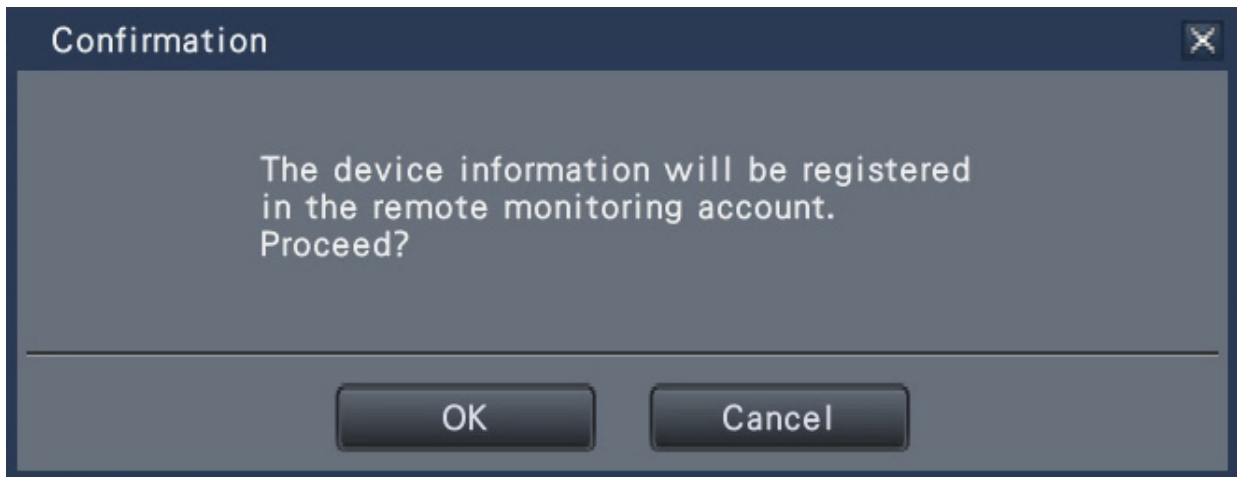
- Check that the product is connected to the Internet from [Internet connection status]. When "Not connected" is displayed, connect the product to the Internet.
- Check that the product is connected to the remote monitoring from [Remote monitoring connection status]. If [Remote monitoring connection status] displays "Not connected" even though you are connected to the Internet, check that the SSL connection (port number: 443) is permitted.
- If you do not have a remote monitoring account, scan the QR code displayed on the screen with a smartphone/tablet to access the account registration URL and follow the guide to obtain an account.

When you click the [Register] button of [Register for remote monitoring], the following [Remote monitoring login] screen is displayed.



The image shows a software dialog box titled "Remote monitoring login". It features a dark blue header with the title and a close button (X). Below the header, there are two text input fields. The first is labeled "Mail address" and the second is labeled "Password". Each input field has a small keyboard icon on its right side. At the bottom of the dialog, there are two buttons: "OK" and "Cancel".

Enter the email address and password used when creating the remote monitoring account and click the [OK] button, and a confirmation screen will appear.



Click the [OK] button to register this product with the remote monitoring.



**Note:**

If the registration fails, check the following:

- Is the remote monitoring connected?
- Do you have a remote monitoring account?
- Is the email address/password for the remote monitoring account entered correctly?
- Is the remote monitoring under maintenance?

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

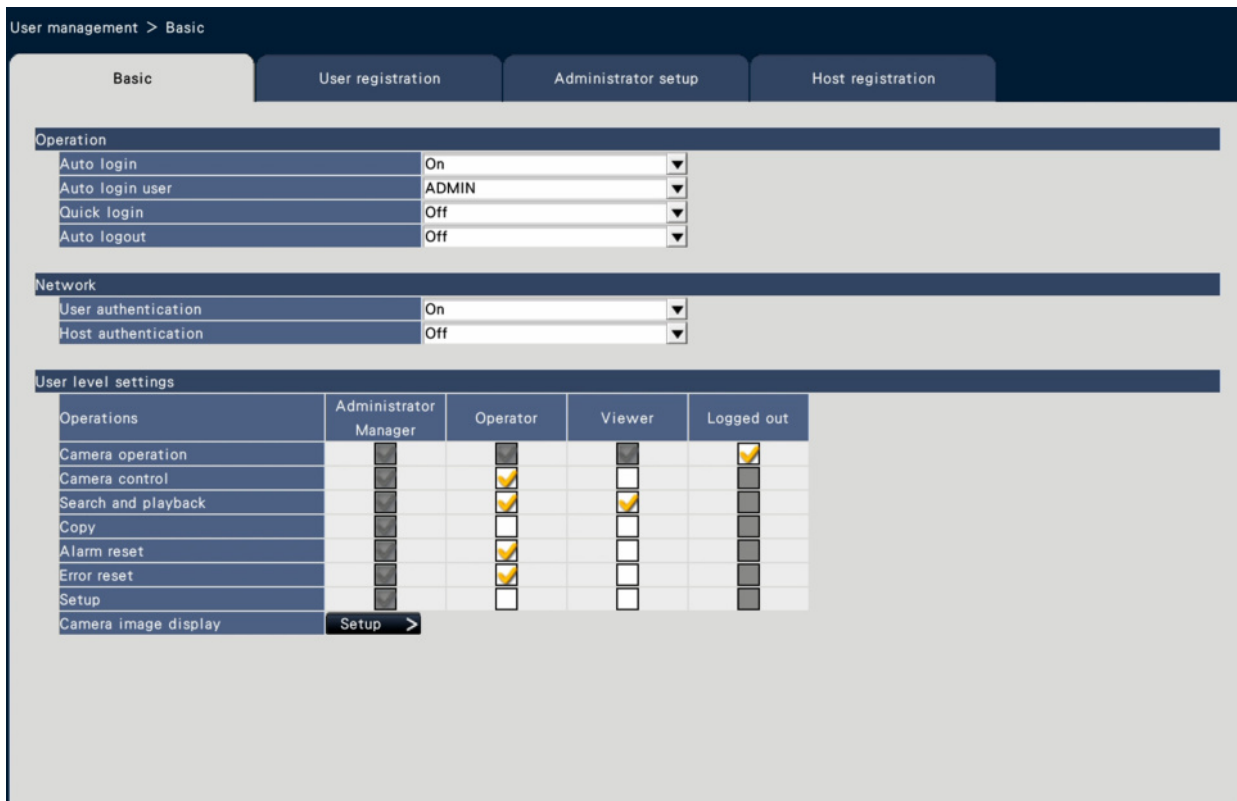
The settings such as user authentication On/Off, administrator registration and operation levels can be configured on the setup menu - the "Advanced setup" menu - the "User management" page.

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.

On: Login by selecting a displayed user name.

Off: User name needs to be entered.

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



#### 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, login will be automatically performed by the user registered in "Auto login user".  
[Logout](#)
- 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: Of

## ■ 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/Manager 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.
- 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	Images from each camera can be displayed. To set up the display of camera images, click the [Setup >] button. (☞ <a href="#">Configure the basic settings relating to user management [Basic]</a> )

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

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

to the administrator only.

\* If the user level is not displayed for the camera image, it is recommended that the "Copy" operation among same user level will not be allowed.

### 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.

User management > Basic > Camera image display

Basic | User registration | Administrator setup | Host registration

Camera image display

Camera	Administrator Manager	<input checked="" type="checkbox"/> Operator	<input checked="" type="checkbox"/> Viewer	<input checked="" type="checkbox"/> Logged out
1*	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
5	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
6	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
7	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
8	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
9	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
10	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
11	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
12	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
13	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
14	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
15	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
16	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

· An AI privacy guard recording camera is indicated by an asterisk "\*" attached to a camera no.  
Remove check marks from cameras set as AI privacy guard recording camera

### [Back] button

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



#### Note:

- If the AI privacy guard recording camera is set, clicking the [Execute] button on the screen can remove all the check marks from the cameras without AI privacy guard.

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

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

User management > User registration

Basic User registration Administrator setup Host registration

Register new user

User name

Password

Between 8 to 32 characters.

Level Operator

Default screen 4Screen

Camera partitioning Common setting

Setup >

Registration

Edit user information

User name

Password

Level

Default screen

Camera partitioning

Setup >

Edit Delete

### ■ 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.

The user name must be between 1-32 characters including the half-width alphanumeric and the symbol excluding " ", " & ", " : ", " ; ", " ¥ ", " , ".

#### [Password]

Enter the user password using the on-screen keyboard. The password must be between 8-32 characters including the half-width alphanumeric and the symbol (excluding " " and " & "). Use at least three types of characters among alphabet (uppercase), alphabet(lowercase), 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.
- Do not reuse passwords on other recorders or devices.
- 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

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

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.

The parameters differ depending on the model. Refer to the following section for details.

 [Advanced setup](#)

Default: 4Screen(1)



**Note:**

- 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 the live image of camera 1.

**[Camera partitioning]**

Select which control range each camera should follow.

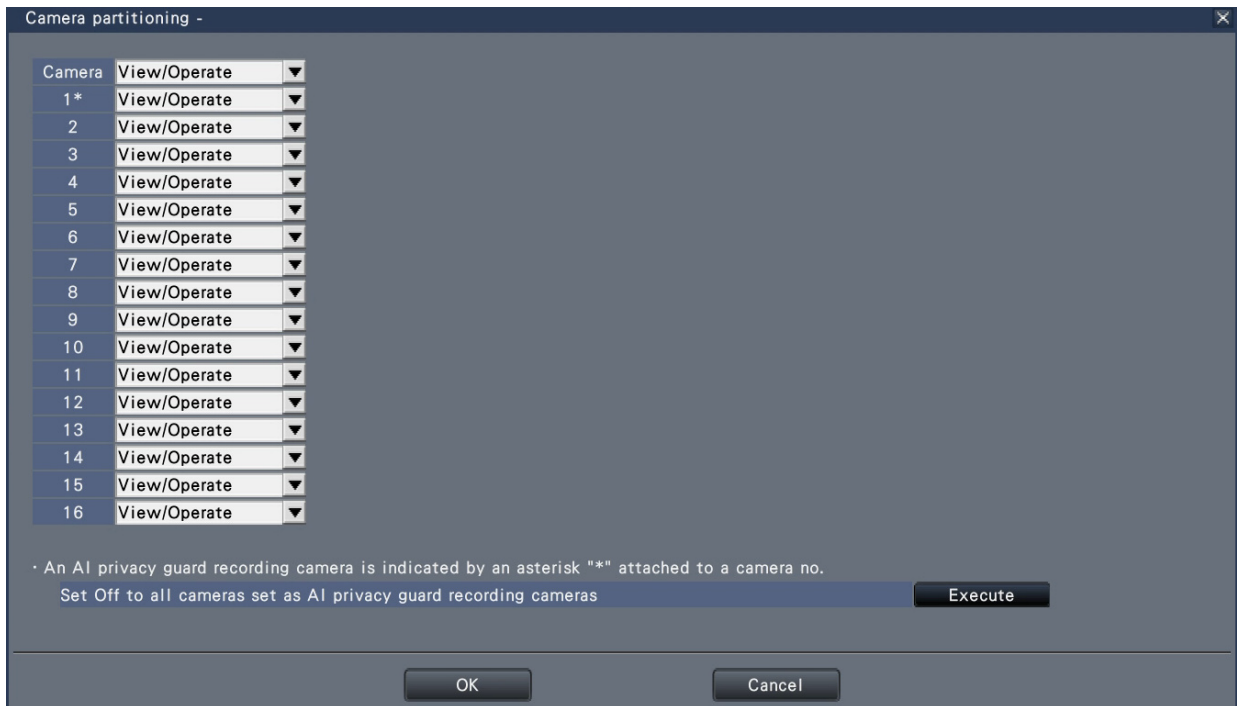
Common setting: The camera follows "User level settings" of "User management>Basic".

Individual setting: The camera follows camera partitioning settings set for each user.

Click the [Setup >] button to set the camera partitioning individually.

**Set the camera partitioning individually.**

Set availability of image display and camera operation in each camera for the assigned user.



View/Operate: Enables display of live/recorded images and camera operation.

View: Enables display of live/recorded images, but disables camera operation.

Off: Disables display of live/recorded images and camera operation.



**Note:**

- Camera operation is not available when "Camera control" is limited in "User level settings" of the [Basic] tab for the operation level of the assigned user, even if "View/Operate" is set.
- If the AI privacy guard recording camera is set, clicking the [Execute] button on the screen can turn Off all the settings for the cameras without AI privacy guard.

**[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.

User management > Administrator setup

Basic   User registration   Administrator setup   Host registration

Edit administrator information

Administrator name	<input type="text"/>
Password	<input type="password"/>
· Between 8 to 32 characters.	
Password (Retype)	<input type="password"/>
Level	Administrator
Default screen	4Screen

Edit

#### [Administrator name]

Enter the administrator name using the on-screen keyboard. The administrator name must be between 1-32 characters including the half-width alphanumeric and the symbol excluding " ", " & ", ":", ";", "¥", ",".

#### [Password]

Enter the administrator password using the on-screen keyboard. The password must be between 8-32 characters including the half-width alphanumeric and the symbol (excluding " " and " & "). Use at least three types of characters among alphabet (uppercase), alphabet (lowercase), 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.
- Do not reuse passwords on other recorders or devices.

**[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.

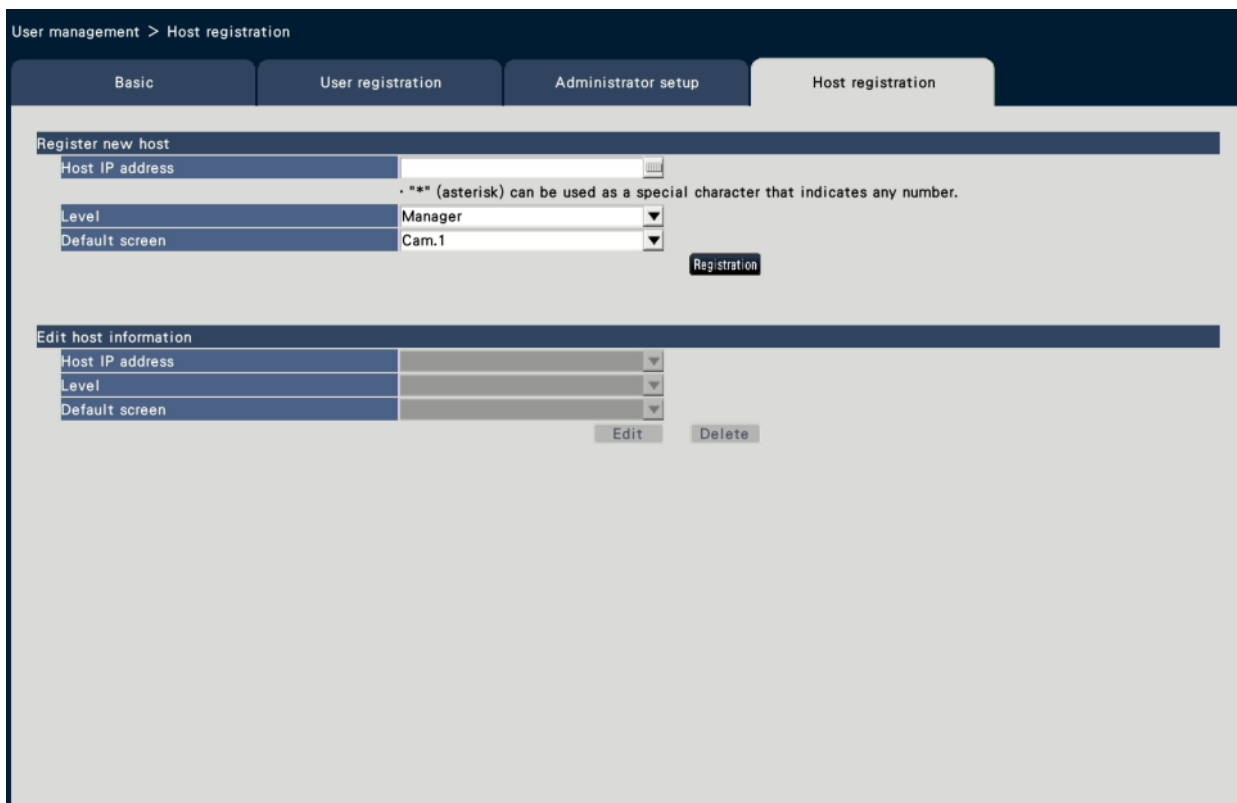
 [Register, edit or delete the user information \[User registration\]](#)

**[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 in IPv4 format.

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

#### [Level]

Select an operation level.

(Refer to the following section for the setting contents).

[👉 Register, edit or delete the user information \[User registration\]](#)

Default: Manager

#### [Default screen]

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

Since the parameters differ depending on the model, refer to the following section for details.

 [Advanced setup](#)

Default: Cam.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.

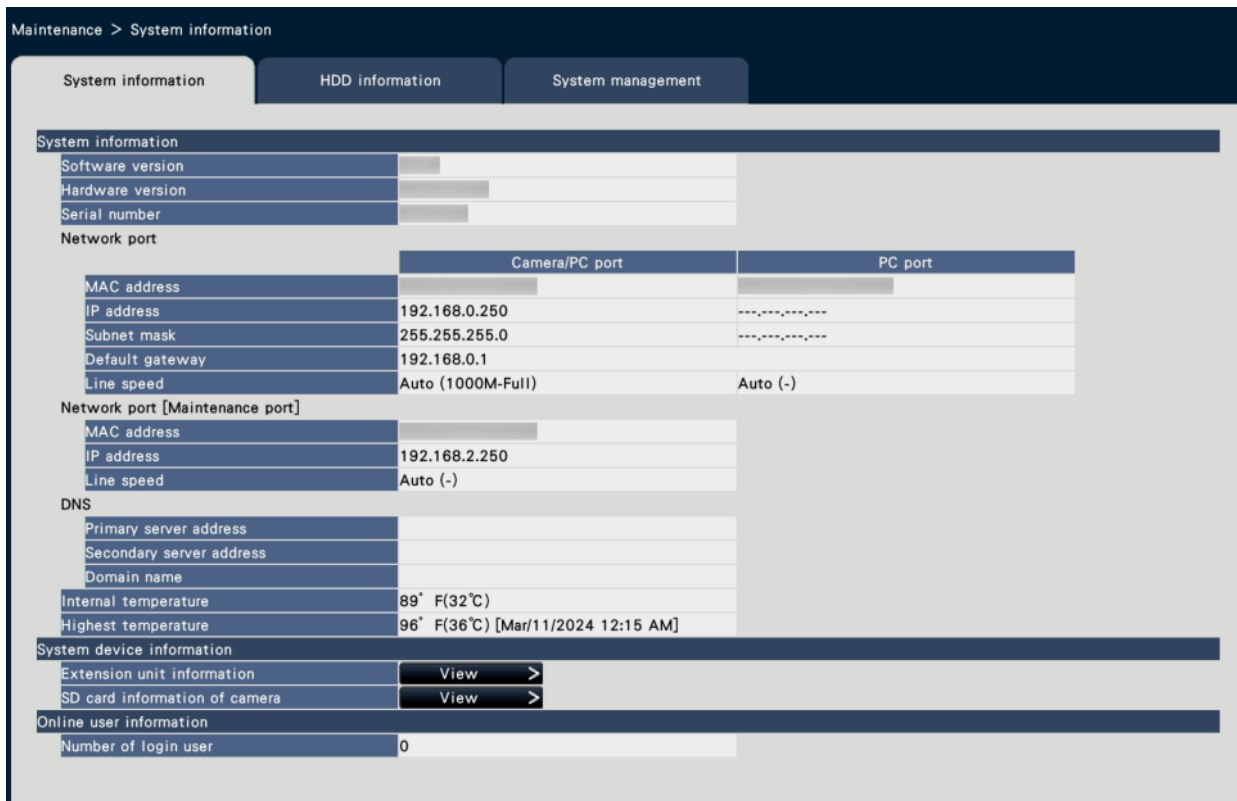
## **Configure the settings relating to maintenance [Maintenance]**

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]**

#### **■ 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.



\* This is an example screen of NX410.



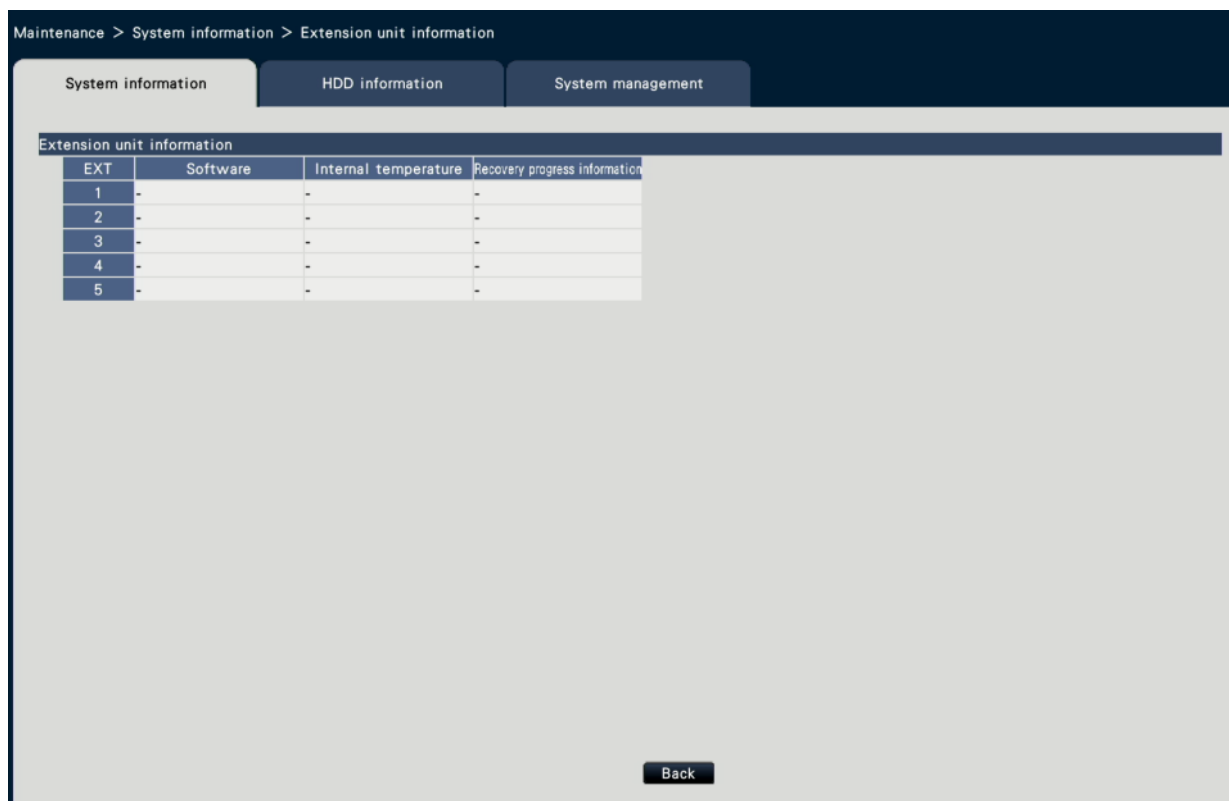
**Note:**

- System information will not be updated while the "Maintenance" page is being displayed.
- The actual line speed will be displayed in "( )" of the "Line speed" column.
- 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.
- Even if the ambient temperature is the same, the displayed temperature will differ depending on the model.
- In order to prevent equipment failure and safety, if an internal component (such as HDD and CPU) reaches a temperature outside of the specified temperature range, the system will detect the temperature abnormality and take an error action.

## ■ System device information

### Extension unit information (EXT) [NX410/NX510]

Displays the version information of the extension unit, temperature information and recovery progress information. Click [View >] button to display the following screen.



Maintenance > System information > Extension unit information

System information | HDD information | System management

Extension unit information

EXT	Software	Internal temperature	Recovery progress information
1	-	-	-
2	-	-	-
3	-	-	-
4	-	-	-
5	-	-	-

Back

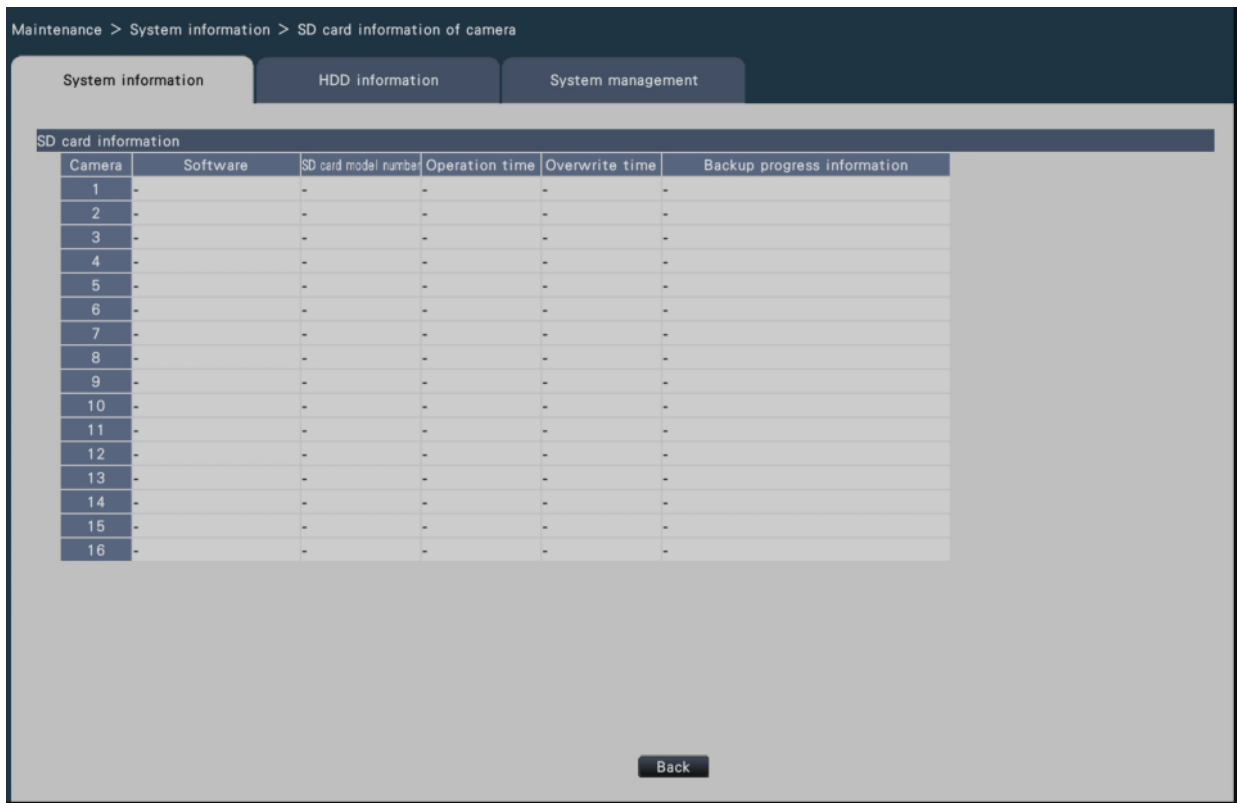


**Note:**

- The recovery progress information is displayed during the mirroring recovery or the RAID recovery.

### [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:**

- Some cameras may not be able to retrieve SD card information.

■ **Online user information**

**[Number of login user]**

The number of login users indicates those who have logged into the recorder via network.

## 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.

Maintenance > HDD information

System information | **HDD information** | System management

HDD information - Single mode -

		Capacity	Operation	Status	Recorded time range	Recording group
MAIN	HDD1	2000 GB	285 h	Normal 1	Sep/22/2023 11:10 AM => Sep/26/2023 05:35 PM	Group1
	HDD2	2000 GB	285 h	Normal 2		Group1
	HDD3	2000 GB	285 h	Normal 1		Group2
	HDD4	2000 GB	285 h	Normal 2		Group2
	HDD5					Group1
	HDD6					Group1
	HDD7					Group1
	HDD8					Group1
	HDD9					Group1
EXT1	HDD1					Group1
	HDD2					Group1
	HDD3					Group1
	HDD4					Group1
	HDD5					Group1
	HDD6					Group1
	HDD7					Group1
	HDD8					Group1
	HDD9					Group1

Prev page | 1/3 | Next page

Overwrite cycle - day

Camera recording group check [View >](#)

HDD remaining capacity [View >](#)

HDD Maintenance [Setup >](#)

\* This is an example screen of NX410 in single mode.



### 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.
- If the recording group is set, items related to the Recording group setup are displayed.
- If this product is under heavy load, images may not be recorded for several seconds at playback during mirroring recovery.
- [NX410/NX510] Information on HDD9 is not displayed during mirroring mode.

### **[Operation mode of HDD]**

Operation mode of HDD will be displayed.

Refer to the following section for further information.

 [About the setup of HDD operation mode](#)

### **[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.



#### **Note:**

- [NX310] Although the range of date and time are displayed for the recovery target HDD even during mirroring recovery, the content will not be the same as the recovery source HDD until the recovery is completed.
- [NX410/NX510] When using in Mirroring mode/RAID5 mode/RAID6 mode, "Operation time" will be displayed for each hard disk drive respectively, while "Capacity"/"Status"/"Recorded time range" will be displayed together for multiple 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).





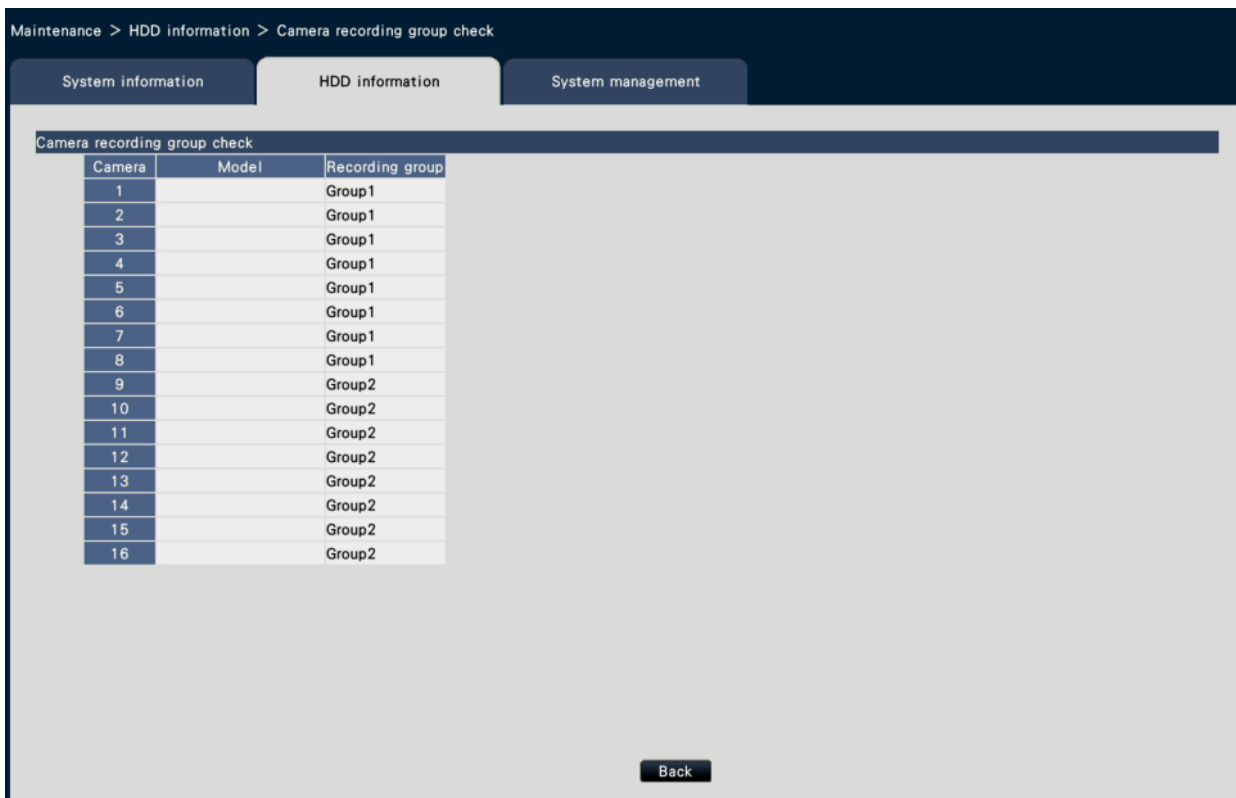
**Note:**

- 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.
- Overwrite cycle will not be displayed when setting the recording group.

**[Camera recording group check]**

The check screen of the Camera recording group is displayed. Click [View >] button to display the following screen.

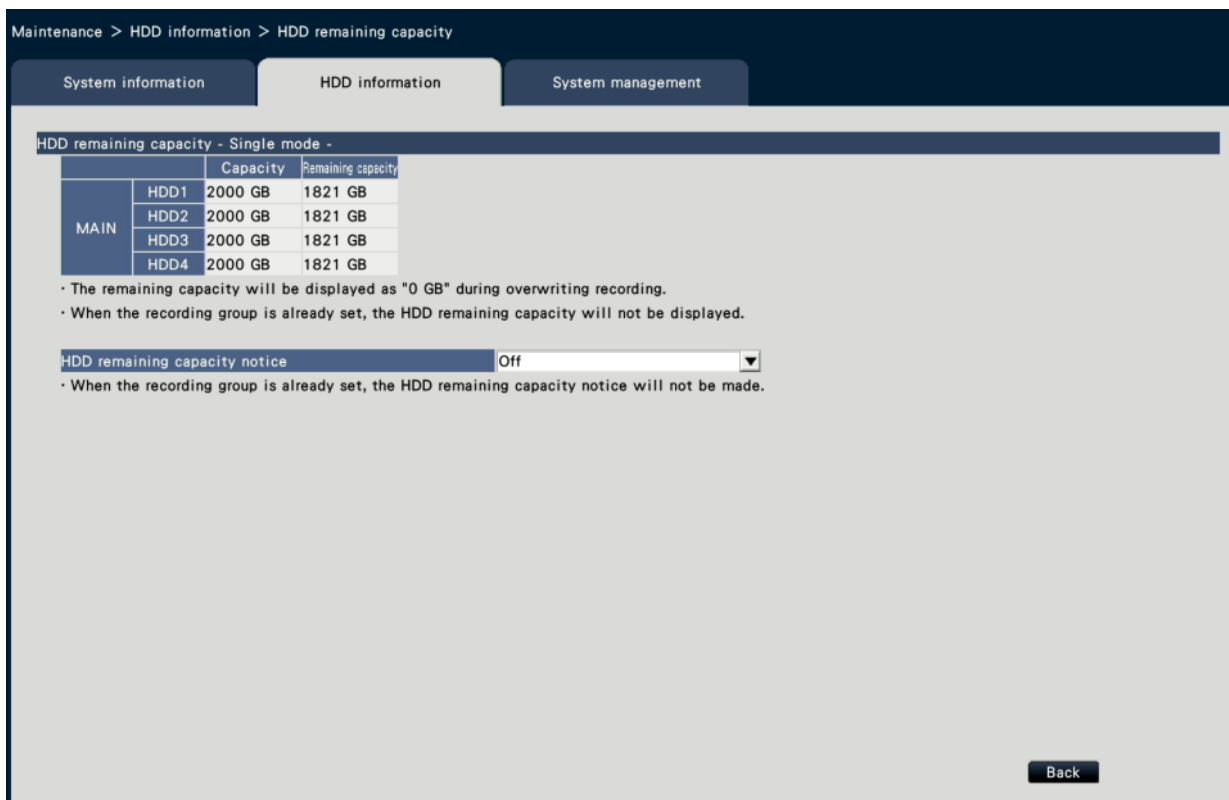
 [About the setup of HDD operation mode](#)



**[HDD remaining capacity]**

Displays remaining capacity of HDD. Also, the timing to notice when the capacity becomes low can be set.

Click [View] button to display HDD remaining capacity.



\* Example above shows the screen for single mode.

### [Capacity]

Displays the capacity of HDD.

### [Remaining capacity]

Displays remaining capacity of HDD.



#### Note:

- Remaining capacity displayed does not include capacity used to manage data. Therefore, the displayed HDD capacity is less than the actual amount.
- Remaining capacity will be displayed as 0GB if the whole space of the HDD is used up by recording data.

### [HDD Remaining capacity notice]

Set the notification timing for when the remaining capacity of HDD becomes low compared to the total capacity. There are E-mail notification and original notification.

Off: Does not perform HDD remaining capacity notice.

1%~10%: Notifies when remaining capacity becomes below the set value.

Default: Off

## ■ HDD Maintenance

Set a password for the HDD viewer, format and remove HDDs. Click the [Setup >] button for HDD maintenance.

Maintenance > HDD information > HDD Maintenance

System information | **HDD information** | System management

HDD Maintenance - Single mode -

		Capacity	Operation	Status	Recorded time range
MAIN	HDD1	2000 GB	299 h	Normal 1	Sep/22/2023 11:10 AM => Oct/05/2023 *07:30 PM
	HDD2	2000 GB	299 h	Normal 2	
	HDD3	2000 GB	299 h	Normal 3	
	HDD4	2000 GB	167 h	Normal 4	

Set password for HDD viewer: Off (dropdown)

Password (8 to 32 characters): [input field]

Retype password: [input field]

Save HDD viewer (to USB medium): Execute >

Registration: [button]

Format HDD: [dropdown] Start

Remove HDD: MAIN HDD2 (dropdown) Start

Back: [button]

### [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 following removal process of the HDD, the password is not set in the HDD.

☞ [Confirm the hard disk drive information \[HDD information\]](#)

☞ [About the removal process and the link process of hard disk drives](#)

### [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 (excluding " " and " & "). Use at least three types of characters among alphabet (uppercase), alphabet (lowercase), 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.

### [Password (Retype)]

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

### [Registration] button

Register the password that you have set.

### [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)

### [Format HDD]

Select a HDD to format and click the [Start] button to format the HDD.



#### **Important:**

- When a hard disk drive is formatted, all the recorded images will be erased.
- HDDs with "Playback only" or "Added" status only can be selected.
- After starting to format the HDD, copying, downloading and backing up to NAS in process will stop.

### [Remove HDD]

Select a HDD to remove and click the [Start] button to display the password confirmation window for the HDD viewer. When the entered value and the setting match, the HDD is removed.



**Important:**

- HDDs in recording cannot be selected. If the HDD stand-by control mode is On, a HDD following the HDD in recording also cannot be selected. If the operation mode of HDDs is the mirroring mode, one of the two HDDs in recording may be removed.
- After starting to format the HDD, copying, downloading and backing up to NAS in process will stop.

**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.



[NX310]



[NX410/NX510]

■ **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 following section for how to reset the error.  
☞ [Cancel the error action](#)

### [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 following section for further information about how to stop buzzer beeping.  
☞ [Stop buzzer beeping](#)

### [Safe shutdown time][NX410/NX510]

Set time to start the power outage process after the power failure detection signal is input to the recorder.

10 s/ 20 s/ 30 s/ 1 min/ 2 min/ 3 min/ 4 min/ 5 min

Default: 10 s

### [HDD stand-by control mode]

Set a mode not to count the operation time of a hard disk drive (HDD stand-by control mode) by temporarily pausing HDDs other than those which are recording or waiting for recording.

On : Operates in the HDD stand-by control mode.

Off : Operates in the normal mode.

Default: Off



**Note:**

- In Single mode, it is effective when it consists of 3 or more HDD.
- In Mirroring (RAID1) mode, it is effective when it consists of 6 or more HDD.
- In RAID5/RAID6 mode, it is effective when it consists of 3 units or more.

- It may take time to play the data in the inactive HDD during the HDD stand-by control mode.
- During the HDD stand-by control mode, the date will not be displayed in white on the calendar of the date and time operation panel even if there is a recorded image.
  - ☞ [Play image recorded at a designated date & time](#)
- The number of recording event search is not displayed during the HDD stand-by control mode.
  - ☞ [Search and play recording events \(REC event search\)](#)

### [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/ 365 days/ 366 days/ 730 days/ 731 days

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



#### **Note:**

- The auto data delete will be performed at 0:05. If the power is not turned on at this time, the auto data delete will not be done.
- If the recording group is set, the auto data delete will not be performed.

### [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

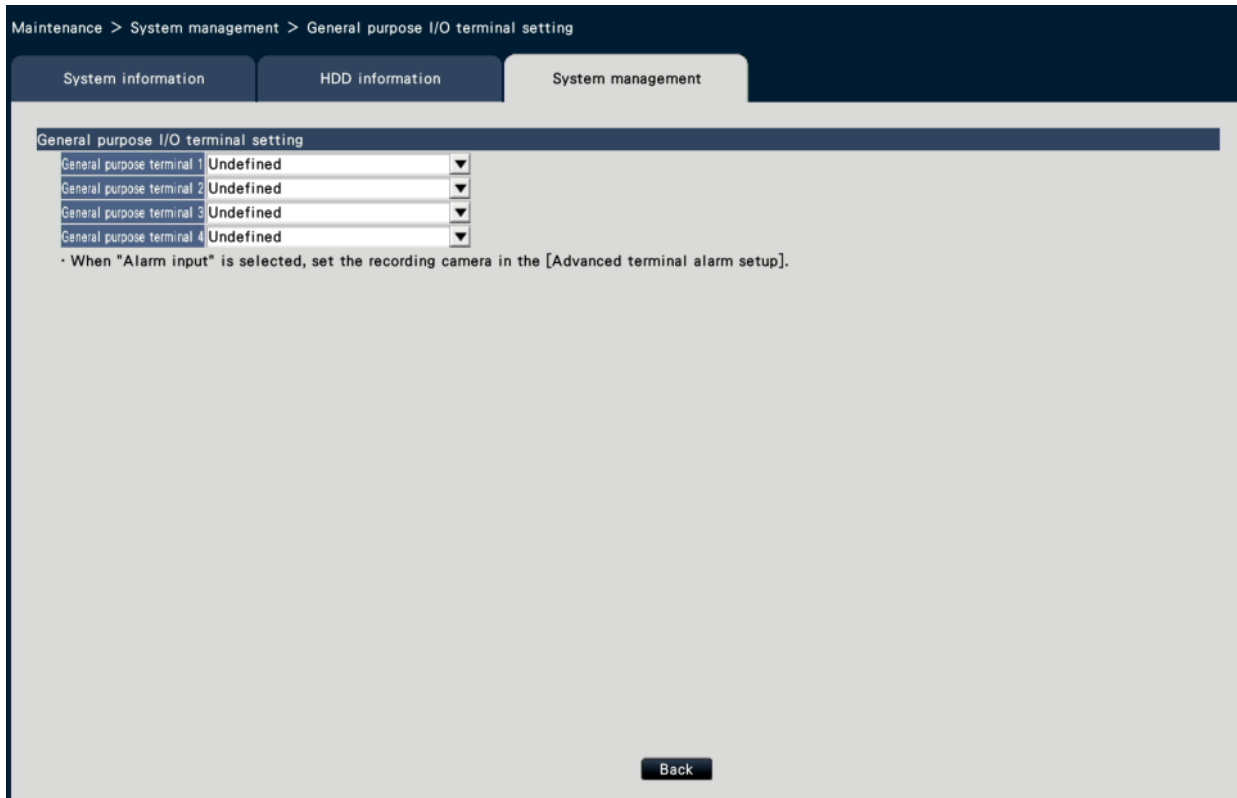
Default: On



**Note:**

- If you change [Time adjustment] from Off to On on the [NTP/SNMP] tab on the "Network" page, the time before adjustment will be set on the camera. If you want to set the time, execute [Synchronize the camera's time with this unit] under [Other].

### [General purpose I/O terminal setting] [NX310]



[General purpose 1] to [General purpose 4]

Sets the application of the General purpose input/output terminals.

If the General purpose I/O terminals are not used, set to "Undefined".

Undefined / Alarm input

Default setting: Undefined

#### [Web browser display mode]

Sets the background color of the web browser.

Light/Dark

Default setting: Light



## [Web browser playback resolution]

Set the resolution when re-encoding transmission of recorded images to a web browser.

VGA(640x480)

HD(1280x720)

FHD(1920x1080)

Default: VGA (640x480)

### ■ 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.

Maintenance > System management > Access log

System information | HDD information | System management

No.	Date & Time	Log
1	Sep/29/2023 *10:57:11 AM	ADMIN LOGIN
2	Sep/29/2023 *10:57:10 AM	ADMIN LOGOUT
3	Apr/01/2023 *01:02:28 AM	ADMIN LOGIN
4	Apr/01/2023 *01:02:23 AM	ADMIN LOGOUT
5	Apr/01/2023 *01:02:23 AM	ADMIN LOGIN

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### Note:

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

### **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.

**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.

**POWER OFF:** When the power to this product is turned Off.

**REGISTER FOR REMOTE MONITORING:** When registration for remote monitoring is completed.

**POWER ON(REMOTE):** when restarted by remote monitoring operation.

**CAM\*\* RESET(REMOTE):** when the camera is restarted by remote monitoring operation.

**\*\*** indicates the camera number.



**Note:**

- If power is turned off during startup, POWER OFF will not remain.

### **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 the following section for further information about the error logs.

 [Error logs](#)

### **■ 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. Clicking the [Setup >] button will open the registration window to register the license.

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

#### **[Registration of license (Security)]**

The registration of the secure communication license allows you to use the function to encrypt the video data.

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



**Important:**

- If register the secure communication license, the recorded image cannot be play recorded on web browser or remote monitoring.

#### **[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.

### [Restoration of the setting values]

Restores past settings stored in the device. Saves settings for the most recent startup and for the past 3 days. "(ON)" is added to the restoration date and time display at startup. The setting values for the past three days are stored as of 2:10 a.m. every day. If the setting has not been changed from the most recent setting at that time, it will not be saved. Select the date and time of the settings you wish to restore, then click the [Execute >] button to do so from the confirmation screen that appears.



**Important:**

- After restoring the settings, be sure to click the [Set] button and exit the menu.

### [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:**

- [NX410/NX510] Depending on the firmware to be updated, it may take up to 30 minutes for upgrading, leaving the start screen displayed.
- Do not turn off the power of the device during the update.
- 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 the following section for the format procedures.  
☞ [Format USB medium](#)
- 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 [Execute functions for special maintenance] screen appears.

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

## [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 or restored.
  - HTTP port number
  - Network port
  - DNS Setup
  - License number
  - Operation mode of HDD
  - Recording group
  - Security between this product and PC

## 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. 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 (option) for how to obtain the "Registration Key" to add cameras.



### Important:

- In the following cases, be sure to click the [Restart] button at the end to reboot the recorder. Each license will not be effective before the recorder is rebooted.
  - When the Registration Key of this recorder is registered
  - When the Registration Key of the additional camera is registered
  - When the Registration Key of NAS backup function is registered

- When the Registration Key of failover function is registered

### ■ 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.

#### [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 1-2]

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.

The registration window will be displayed when the [Registration >] button on the right side of the field is clicked.

---

	WJ-NXE32W	WJ-NXE33W	WJ-NXE42W	WJ-NXE52W	WJ-NXE53W
No Registration Key	16	16	32	64	64
Registration Key 1	24	32	64	96	128
Registration Key 2	32	-	-	128	-

### **[NAS backup function - Registration Key]**

To use the NAS backup function, enter the "Registration Key" that can be obtained from the Key Management System.

Refer to the following section for more details.

[👉 NAS backup function](#)

### **[Failover function - Registration Key]**

To use the Failover function, enter the "Registration Key" that can be obtained from the Key Management System.

Refer to the following section for more details.

[👉 Failover 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. Registration is possible for a maximum of 32 characters for each entry field.

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

### **[Back] button**

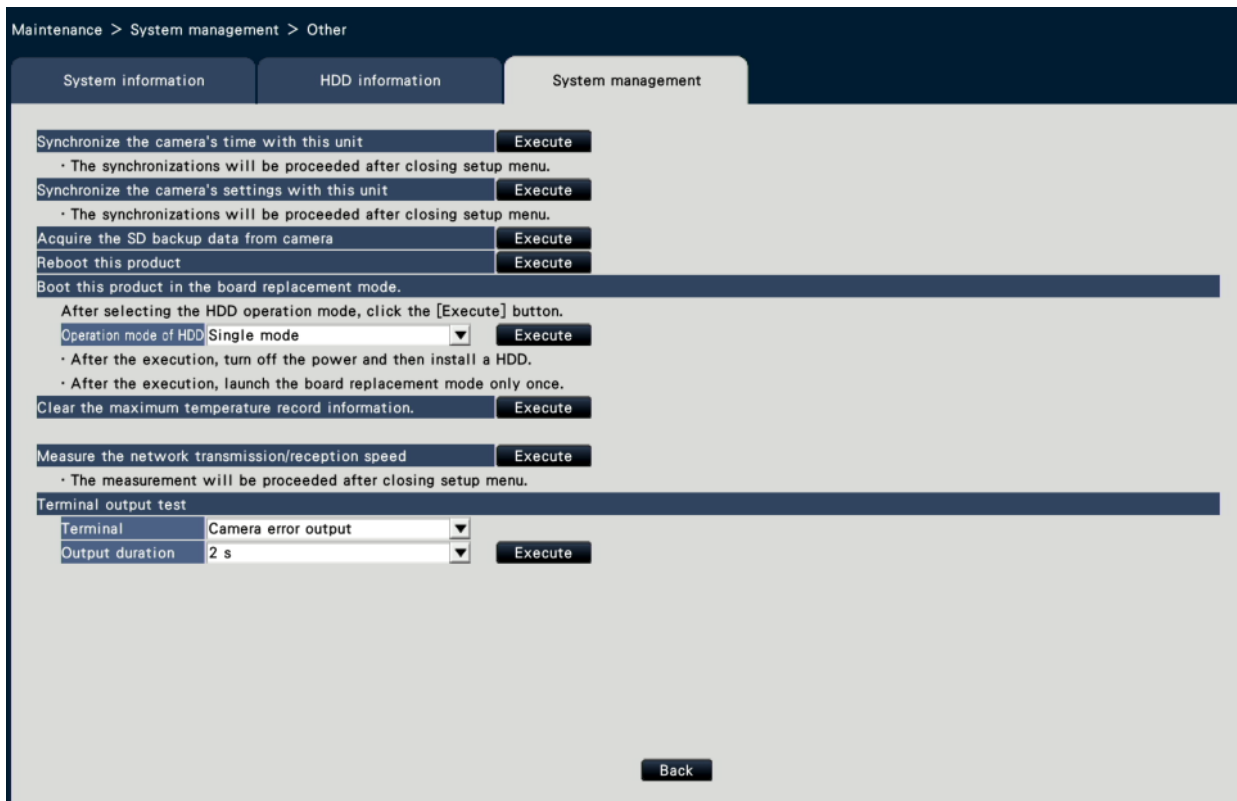
By clicking this button when license is not activated or when only "Dealer's information" is changed, the display will return to the [System management] tab.

### **Registering a license of a secure communication kit [Registration of license (Security)]**

To use the function that encrypts the video data, registering a license of a secure communication kit is required. For more details, refer to the Operating Instructions of Secure Communication Kit.

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

Adjusts the date and time on the camera side to the monitoring system or reboots the monitoring system.



### [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.

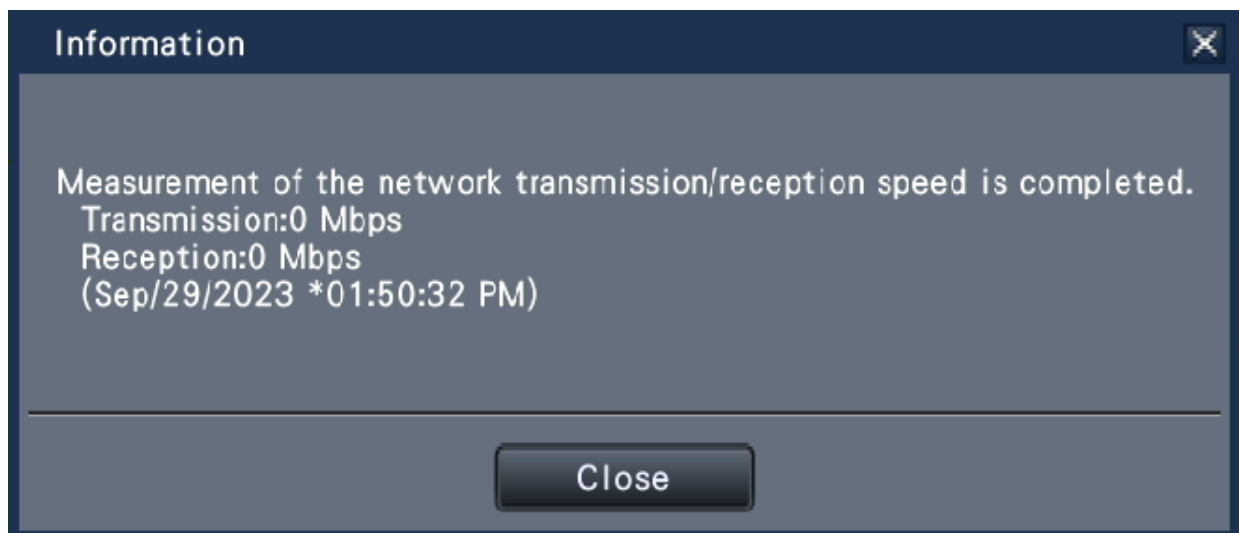
### **[Reset the maximum PoE total power supply information]**

Reset the maximum PoE total power supply information of this product.

### **[Measure the network transmission/reception speed]**

Used to measure the amount of network traffic transmitted from the recorder. Click the [Execute] button and execute from the confirmation window displayed. After configuration is completed, measuring starts.

The result of measurement will be displayed after measurement finishes.





**Note:**

- Measurement is made from about 8 seconds after setting is done and will continue measuring for 10 seconds.
- Status display area of operation screen will display " Measuring" while measuring.
- The result of measurement is the sum of all network ports.
- The result of measurement is only for reference. It may differ depending on the network environment.

### [Terminal output test]

Outputs a signal from ALARM/CONTROL connector on the rear panel of the recorder.

Terminal: Selects the terminal at which to output the signal.

Test output duration: Select the duration over which the signal is output as 2 seconds, 5 seconds, or 10 seconds.

The signal will be output from the selected terminal when executed from the confirmation screen that is displayed by clicking [Execute] button.

### 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

#### STEP1

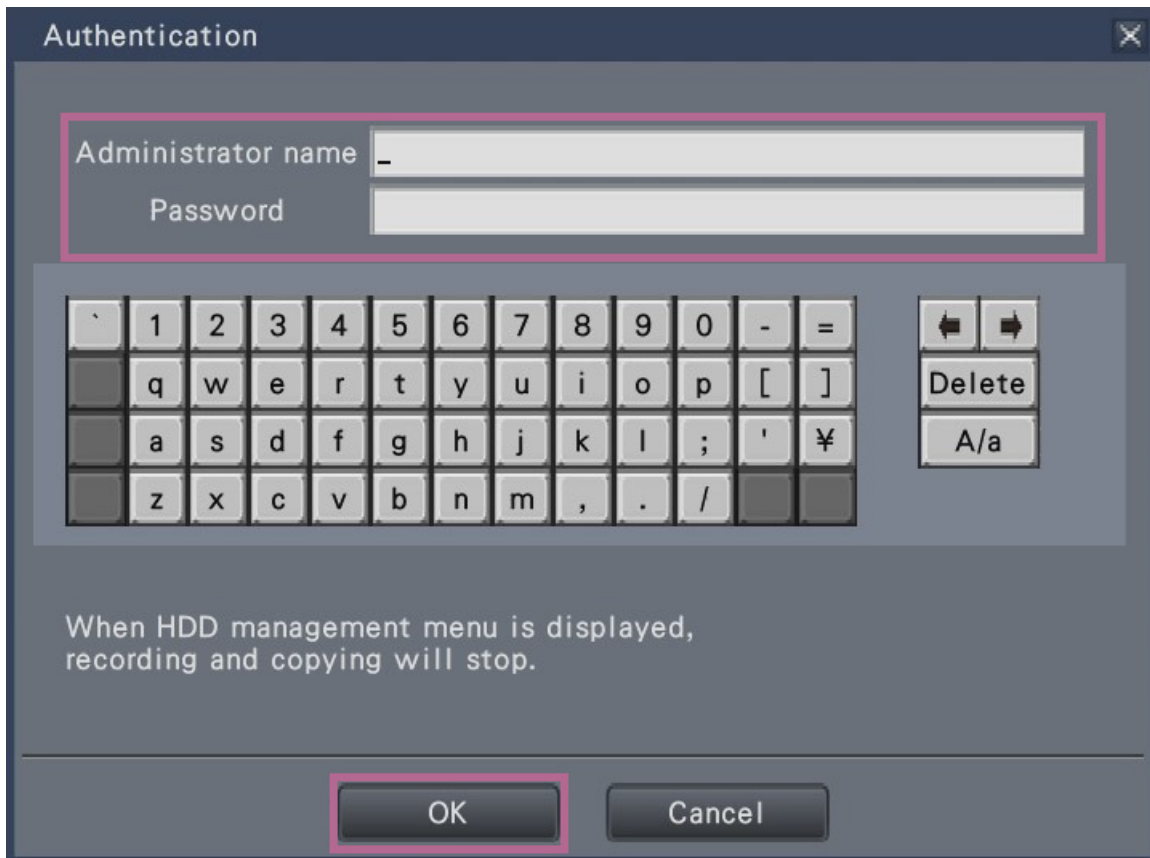
Click the [HDD management] button of the setup menu - the "Advanced setup" menu.

→ 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.

#### STEP2

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]

Displays the HDD capacity, operating time, date and time range of recorded images, etc. of this recorder and extension units.



HDD management > General

General

HDD information - Single mode -

		Capacity	Operation	Status	Recorded time range
MAIN	HDD1	1000 GB	0 h	Normal 1	
	HDD2	1000 GB	0 h	Normal 2	
	HDD3	1000 GB	0 h	Normal 3	
	HDD4	1000 GB	0 h	Normal 4	

Format HDD      Execute >

Remove HDD      Execute >


Add HDD      Execute >

Set the operation mode of HDD      Execute >

Recording group setup      Execute >

Change the recording order      Execute >

Refer to the following section for further information about the items displayed on the [HDD information] tab.

 [Confirm the hard disk drive information \[HDD information\]](#)

## Format the hard disk drives [Format HDD]

It is necessary to initialize the HDD by following format operation after installing the new HDD or replacing the HDD.



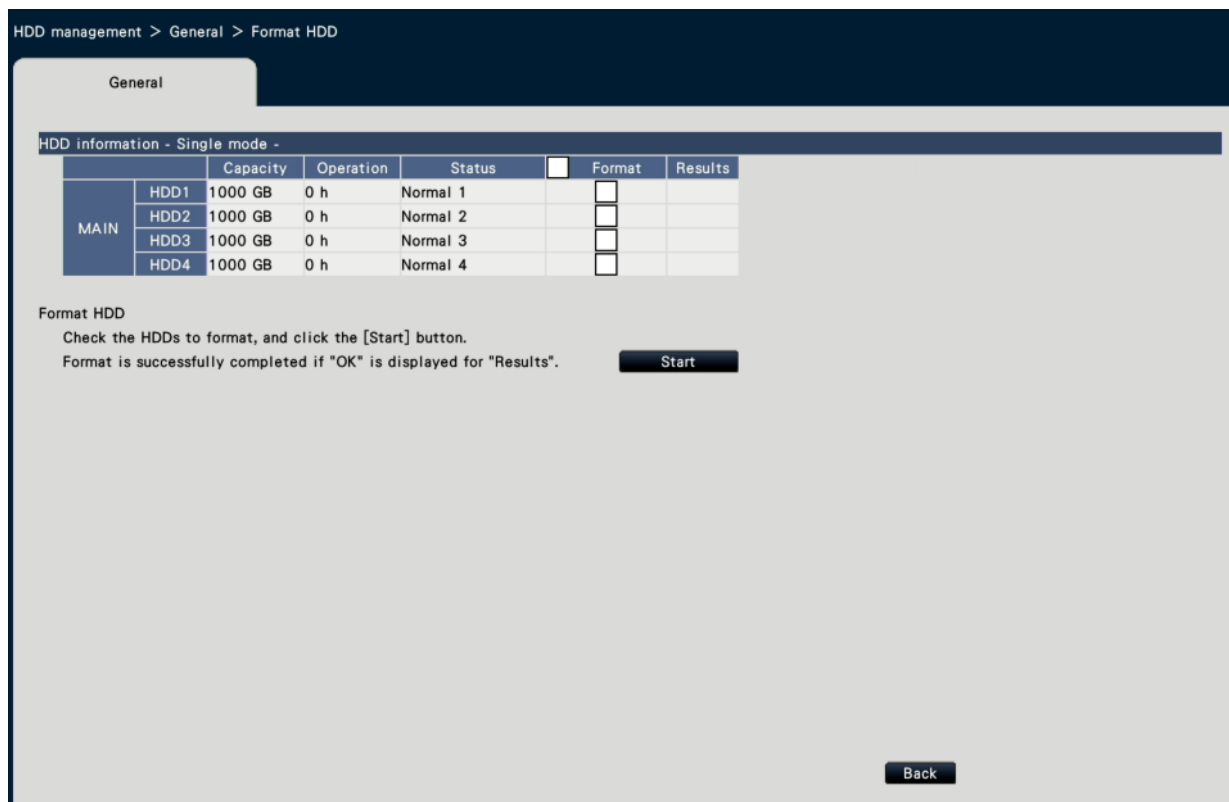
### Important:

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

### STEP1

Click the [Execute >] button for "Format HDD" on the [General] tab - [HDD management] page.

→ The window to format hard disk drives will be displayed.



## STEP2

Check the HDDs to format in the "Format" field, and click the [Start] button. To start formatting, click the [OK] button on the confirmation window displayed.

In Mirroring mode or RAID5/RAID6 mode, check each pair of HDDs.

When "OK" is displayed on the "Results" field, click the [Back] button.

## About the removal process and the link process of hard disk drives

When replacing the HDD, you need to remove the HDD before replacing it.

When the status of the replaced HDD is "Playback-only", in addition to the formatting of the HDD, it can be made into a recordable HDD by embedded processing.

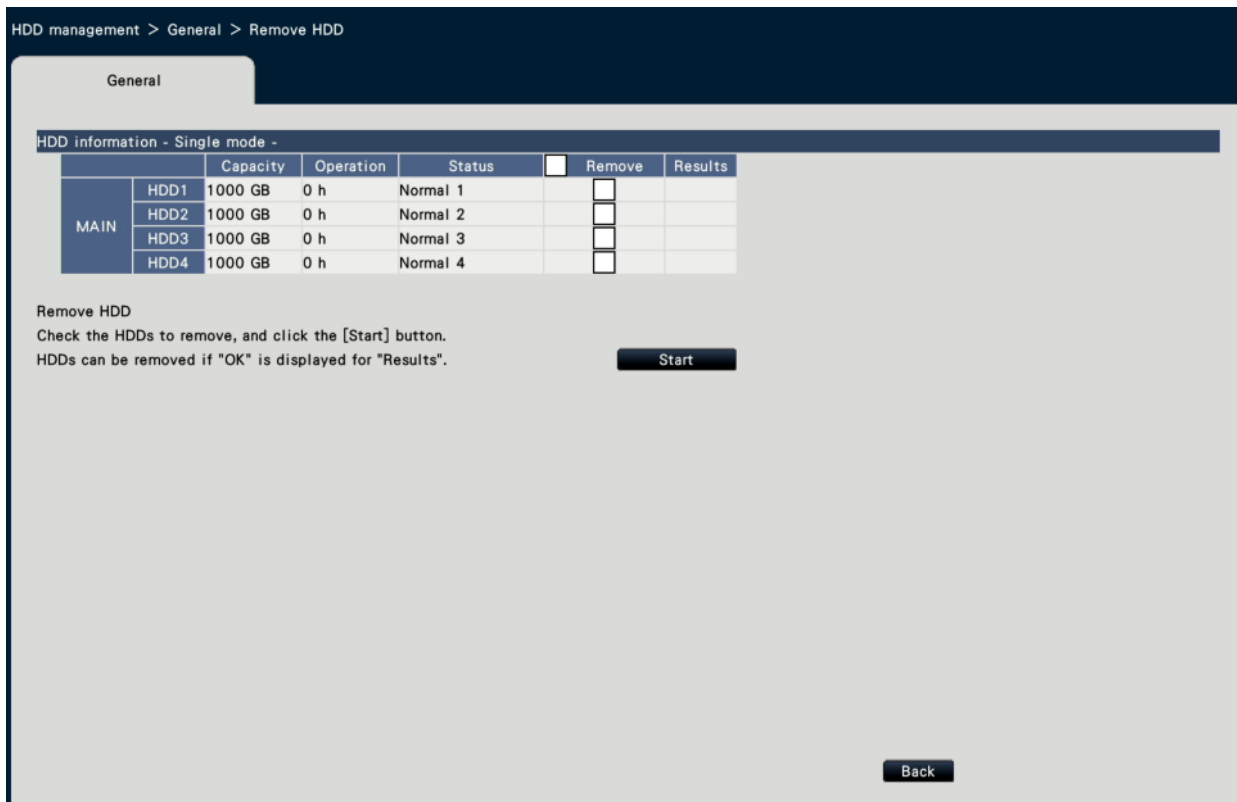
Be sure to consult the dealer for the removal, installation, and the related process of hard disk drives.

## Remove the HDD [Remove HDD]

### STEP1

Click [Execute >] on the [Remove HDD].

→ The HDD removing screen will be displayed.



## STEP2

Check the HDDs to remove and click the [Start] button to display the password confirmation window for the HDD viewer. When the entered value and the setting match, the HDD is removed.

The HDDs can be removed when "OK" is displayed in the "Results" field. Click the [Back] button.



### Note:

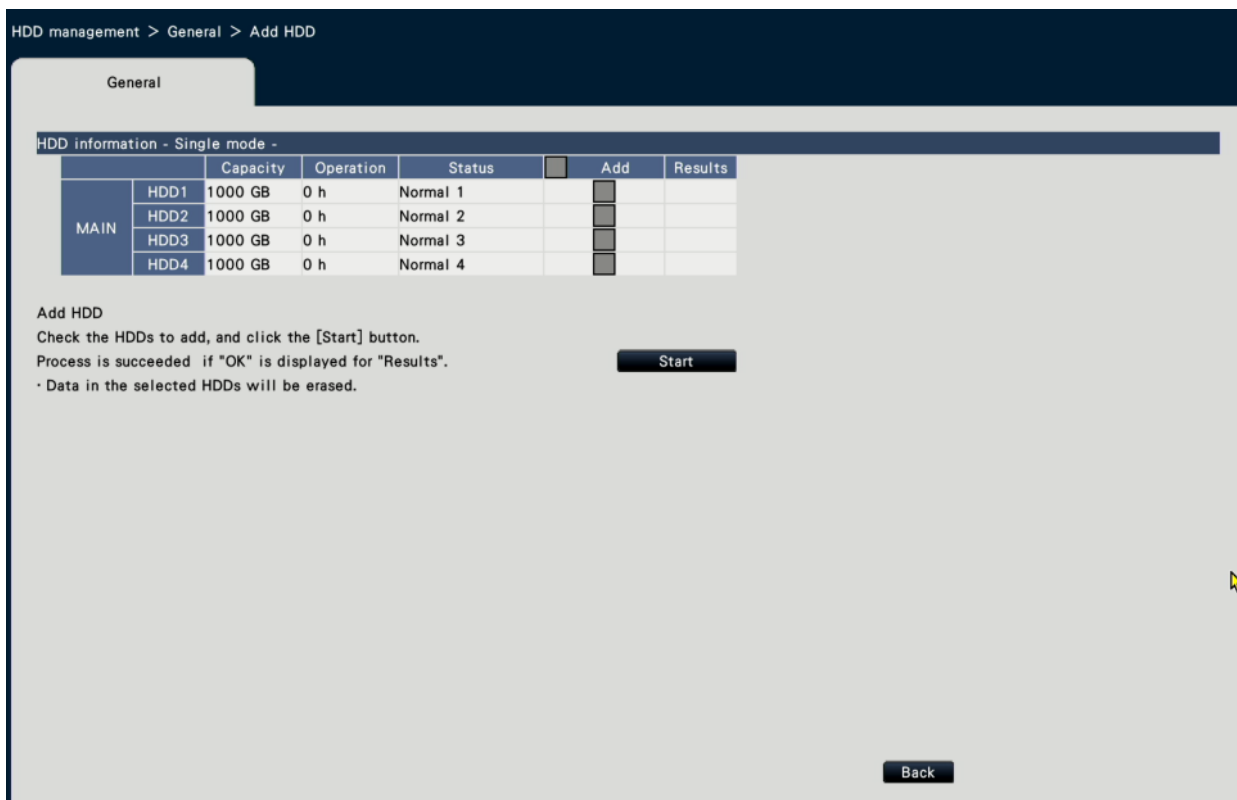
- If a password is assigned for HDD viewer, the HDD is also assigned with a password.

## Add the HDD [Add HDD]

### STEP1

Click [Execute >] on the [Add HDD].

→ The HDD adding screen will be displayed.



## STEP2

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.



### Note:

- [NX310] Two HDDs cannot be linked at the same time in mirroring mode. Also refer to the following for the link process in mirroring mode.

[About the setup of HDD operation mode](#)

## About the setup of HDD operation mode

### About the HDD operational mode

Single mode: Images and audio from the cameras will be recorded on each HDD in order.

Mirroring mode: The same images and audio from the cameras will be recorded on 2 HDDs



like HDD1 and HDD2, HDD3 and HDD4.

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. This product or the extension unit requires 2 or more HDDs.

[NX410/NX510]

RAID5 mode: Even if one of the HDDs becomes faulty, recorded images can be recovered using the other remaining HDDs in this mode. This product or the extension unit requires 3 or more HDDs.

RAID6 mode: Even if 2 of the HDDs become faulty, recorded images can be recovered using the other remaining HDDs in this mode. This product or the extension unit requires 4 or more HDDs.

### Set the operation mode of HDD [HDD operation mode setup]

Change the HDD operation mode. Also, when select the HDD or unit, the HDD operation mode set for this recorder will be reconfigured. Click the [Execute>] button in "HDD operation mode setup", the following screen will be displayed.

HDD management > General > Set the operation mode of HDD

General

HDD information - Single mode -

	Capacity	Operation	Status	Recording group	Reconfiguration	Results	
MAIN	HDD1	4001 GB	0 h	Normal 1	Group1	<input type="checkbox"/>	
	HDD2	4001 GB	0 h	Normal 2	Group1	<input type="checkbox"/>	
	HDD3	4001 GB	0 h	Normal 1	Group2	<input type="checkbox"/>	
	HDD4	4001 GB	0 h	Normal 2	Group2	<input type="checkbox"/>	
	HDD5				Group1	<input type="checkbox"/>	
	HDD6				Group1	<input type="checkbox"/>	
	HDD7				Group1	<input type="checkbox"/>	
	HDD8				Group1	<input type="checkbox"/>	
	HDD9				Group1	<input type="checkbox"/>	

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Set the operation mode of HDD

Change the operation mode of HDD

Select the operation mode of HDD, and click the [Start] button.

Operation mode of HDD: Single mode [Start]

- Data in each of the HDDs will be erased after changing the operation mode of HDD. (Except for the change to single mode from mirroring mode.)
- The system will restart automatically after changing the operation mode of HDD.

Reconfigure with the same HDD operation mode setting as the current one

Check the Unit/HDD to reset operation mode of HDD and click the [Reconfiguration] button.

Reconfiguration

- The unit/HDD having a check mark will be formatted after being reconfigured with the same HDD operation mode as the current one.
- When the status of the same unit is "RAID1 1down" or an HDD in the unit is in the process of recovery, reconfiguration is unavailable.

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\* This is an example screen of NX410.

## [Change the operation mode of HDD]

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 Singlemode), all data on the HDDs will be erased.
- When "Operation mode of HDD" is changed, the recorder will be automatically rebooted.
- While operating in RAID5 mode and RAID6 mode, you cannot add or remove the one HDD unit.
- While operating in RAID5 mode and RAID6 mode, you cannot add the HDD where video has been recorded in Single mode or Mirroring mode, and playback as playback use only HDD.
- 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".



### Note:

- [NX310] 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.

## Reconfigure the same operation mode of HDD currently set [HDD operation mode reconfiguration][NX410/NX510]

Select the the HDD or unit will be reconfigured the operation mode of HDD, and then click the [Reconfiguration] button.



### Important:

- The selected HDD or unit is reconfigured in the same HDD operation mode that is currently set on this recorder, and then formatted.

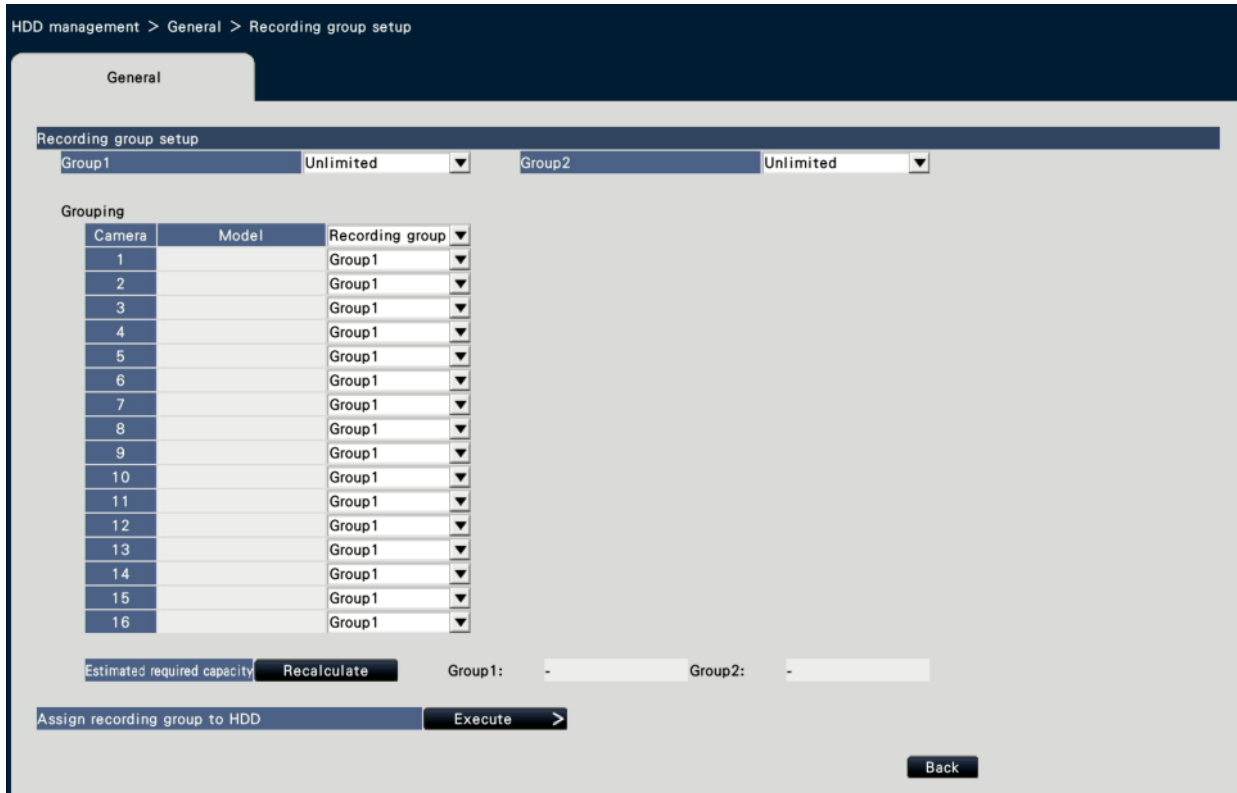
## Set the recording group [Recording group setup]

You can set two groups of recording period and assign each camera to either one. Also, you can set a HDD used for recording of each group.

### STEP1

Click the [Execute >] button on the [Recording group setup].

→ The recording group setup window will be displayed.



### STEP2

Set the recording period of each group.

#### [Group1]

Set the recording period of Group1.

Unlimited/ 1 day/ .../ 10 days/ 14 days/ 30 days/ 31 days/ 45 days/ 60 days/ 62 days/ 90 days/ 92 days/ 120 days/ 123 days/ 150 days/ 153 days/ 180 days/ 184 days/ 365 days/ 366 days/ 730 days/ 731 days

Default: Unlimited

#### [Group2]

Set the recording period of Group2.

Unlimited/ 1 day/ .../ 10 days/ 14 days/ 30 days/ 31 days/ 45 days/ 60 days/ 62 days/ 90 days/ 92 days/ 120 days/ 123 days/ 150 days/ 153 days/ 180 days/ 184 days/ 365 days/ 366 days/ 730 days/ 731 days

Default: Unlimited



**Note:**

- If "Unlimited" is selected, recording will continue as long as possible for the set HDD.
- If the number of days is set, playback will only show the set period.

**STEP3**

Set the recording group of each camera.

**[Recording group]**

Group1, Group2

Default: Unlimited



**Note:**

- When "Group2" is set for the recording group, the recording group is displayed on each screen of HDD management and each screen of HDD information under Maintenance.

**STEP4**

Click the [Recalculate] button to calculate estimated required capacity of each group and display it.



**Note:**

- When "Unlimited" is set, the estimated capacity will be displayed as "-".

**STEP5**

Click the [Execute >] button on the "Assign recording group to HDD".

→ The [Assign recording group to HDD] screen will be displayed.



### STEP6

Set the recording group of each HDD in a way that the HDD capacity displayed at the top of the screen exceeds the estimated required capacity.



#### Note:

- In Mirroring mode, it is possible to set the recording group for each pair of two HDDs like HDD 1 and HDD 2 and HDD 3 and HDD 4.

### STEP7

Click the [OK] button to close the screen and click the [Back] button on the recording group setup screen to complete the settings.



#### Important:

- If the recording group is changed, the recorded images may not play back depending on the recording settings for each group.
- If the operation mode of HDD is changed, the recording group setup will return to the default.

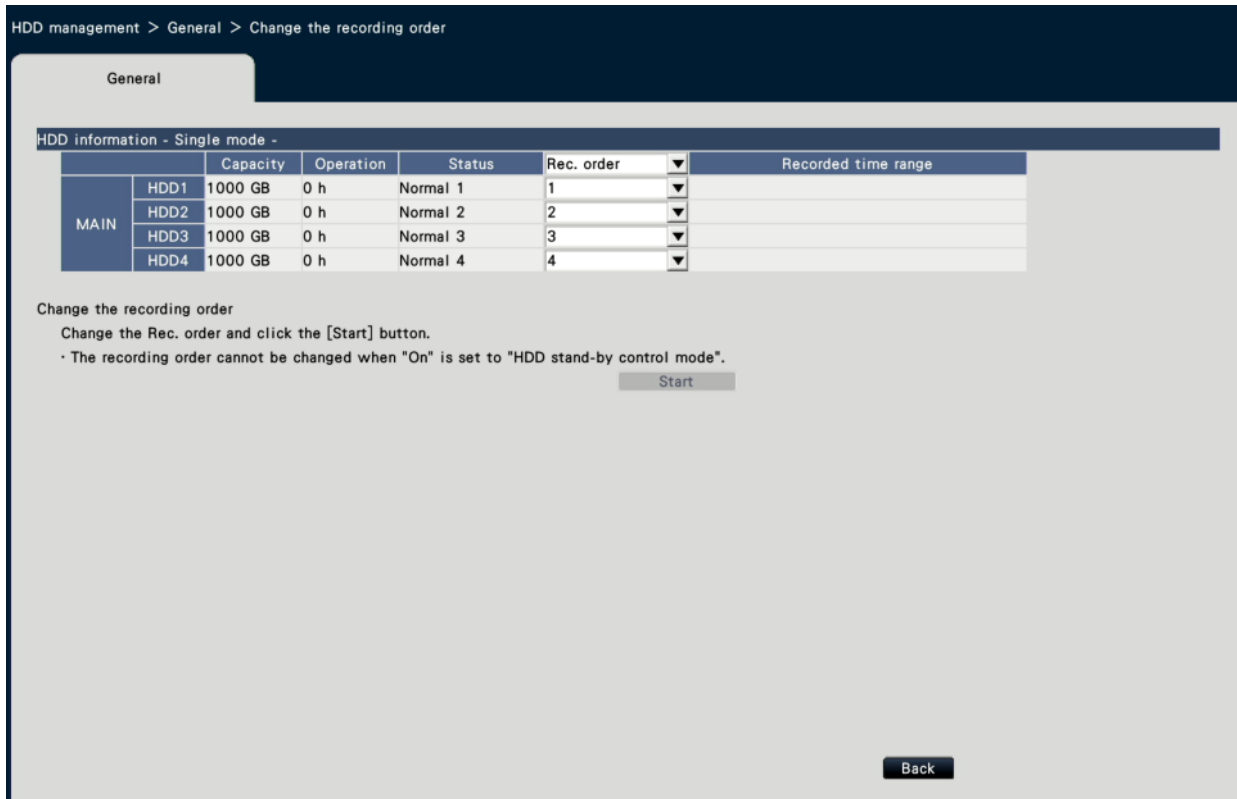
## Change of the recording order [Change the recording order]

The order of recording HDD (or a unit in RAID5/RAID6 mode) can be changed.

### STEP1

Click the [Execute>] button in [Change the recording order].

→ The following screen of [Change the recording order] will be displayed.



## STEP2


Change the recording order and click the [Start] button. When the change of the recording order has completed, the screen indicating that the change is in progress will be closed.

## STEP3

Click the [Back] button to finish the change.



### Note:

- If "Auto-sort" is selected from the "Rec.order" pull-down menu of the list title, the recording order will be assigned in order from the top of the list.
- When the HDD stand-by control mode is On, the recording order cannot be changed.  
 [Configure the settings and operations relating to the system \[System management\]](#)
- In mirroring mode, the recording order cannot be changed unless both paired HDDs are in normal condition.

## Configure the security settings [Security]

Set the security settings on the security function page of [Advanced setup] on the setup menu.

The "Security" page has [Communication], [Data encryption] and [Advanced setup] tabs.



### Important:

- A secure communication kit (option) is required to use the data encryption function. For information on registering the license for the secure communication kit, refer to the "Secure Expansion Kit" operating instructions on our website.

## Configure the security settings of the communication [Communication]

Security > Communication

Communication | Data encryption | Advanced setup

Security between this product and PC

Connection: HTTP & HTTPS |  TLS 1.2 |  TLS 1.3

HTTPS port number: 00443

Security between this product and camera

Connection: Setup >

Camera	Model	Address	Connection	
			Connection	Error information
1			HTTP	
2			HTTP	
3			HTTP	
4			HTTP	
5			HTTP	
6			HTTP	
7			HTTP	
8			HTTP	
9			HTTP	
10			HTTP	
11			HTTP	
12			HTTP	
13			HTTP	
14			HTTP	
15			HTTP	
16			HTTP	



### Important:

- If the camera connection method is set to "Internet mode" and the number of cameras exceeds 32, communication may become unstable. It is recommended to use within 32 cameras.

## ■ 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: HTTPS

### [TLS 1.2]

Set whether to use TLS 1.2 when connecting with HTTPS.

Checked: Use

Not checked: Do not use

Default: Checked

### [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, 50000~50255

## ■ Security between this product and camera

HTTPS is used to connect between this product and the camera. By using HTTPS, communication with the camera can be encrypted and secure.



#### Note:

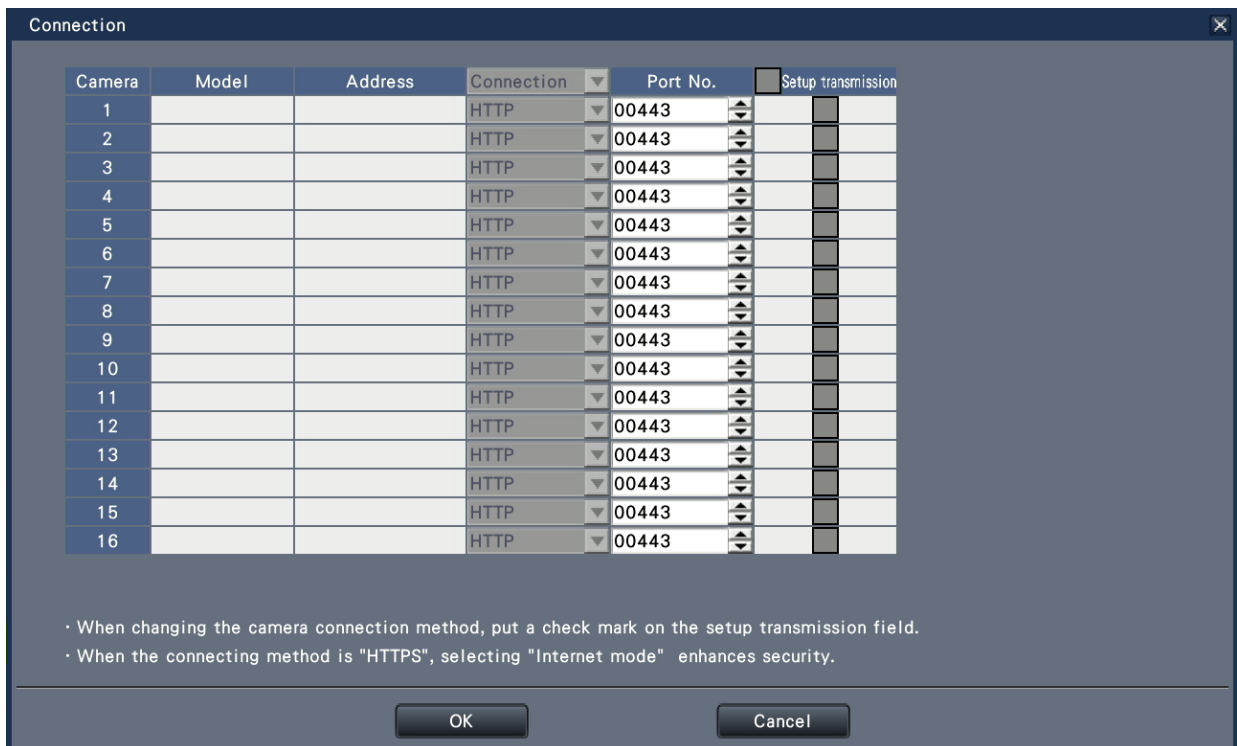
- If the server certificate has expired, "-(expired)" will be displayed in the error information column.
- When the connection method with the camera is set to "Internet mode", the image data communication is also encrypted, thus further increasing the security of the connection.



- Cameras whose part number is "RTSP" or "RTSP(FE)" may not be able to connect via HTTPS, depending on the camera used.

### [Connection]

Set the connection method between this product and the camera. Clicking the [Settings>] button will open the "Change connection" window, where you can change the settings. After changing the settings, click the "OK" button to save the settings and close the window.



### [Connection]

Set the connection method between this product and the camera.

HTTP: Connect via HTTP.

HTTPS: Connect via HTTPS.

Default: HTTP

### [Port number]

HTTPS port number used by this product for SSL communication with the camera set.

1 - 65535

Default: 443

## [Setup transmission]

Select the camera to which you want to send the settings. Confirm the cameras to which you want to send the configured connection method.

## Setup of the data encryption [Data encryption]

Set whether to encrypt images on the camera.



Security > Data encryption

Communication | Data encryption | Advanced setup

Data encryption

Data encryption setting Setup >

Camera	Model	Address	Data encryption	
			Data encryption	Error information
1			Off	
2			Off	
3			Off	
4			Off	
5			Off	
6			Off	
7			Off	
8			Off	
9			Off	
10			Off	
11			Off	
12			Off	
13			Off	
14			Off	
15			Off	
16			Off	

Number of licenses already set: 0/32



### Important:

- If a camera set for data encryption is displayed on 4-screen or more of the main monitor or the sub monitor, its live image is thinned. I frames only are displayed for the H.264/H.265 images and the image is thinned to 1 ips for the JPEG image.
- Playback speed may become slow. Audio may break up if the image is played with audio.
- If the secure communication license is registered, the image cannot be played back on a web browser or remote monitoring.
- Live image from a camera that has data encryption setting cannot be displayed on a web browser or remote monitoring.

## [Setup of the data encryption]

Configure the data encryption. Clicking the [Settings>] button will open the "Change data encryption" window, where you can change the settings. After changing the settings, click the "OK" button to save the settings and close the window.

**Data encryption setting**

Password for data encryption

Password (4 to 16 characters)

Retype password

\* Keep safely since playback of recording data will become unavailable if forgot the password.

Camera	Model	Address	Compression	Data encryption	Setup transmission
1				Off	<input type="checkbox"/>
2				Off	<input type="checkbox"/>
3				Off	<input type="checkbox"/>
4				Off	<input type="checkbox"/>
5				Off	<input type="checkbox"/>
6				Off	<input type="checkbox"/>
7				Off	<input type="checkbox"/>
8				Off	<input type="checkbox"/>
9				Off	<input type="checkbox"/>
10				Off	<input type="checkbox"/>
11				Off	<input type="checkbox"/>
12				Off	<input type="checkbox"/>
13				Off	<input type="checkbox"/>
14				Off	<input type="checkbox"/>
15				Off	<input type="checkbox"/>
16				Off	<input type="checkbox"/>

Number of licenses already set 0/32

\* When changing the data encryption setting of a camera, put a check mark on the setup transmission field.

OK Cancel

### ■ Password for data encryption

#### [Password (4 to 16 characters)]

Enter a password for data encryption to set the camera using the on-screen keyboard.

Set the password with alphanumeric and symbols between 4 and 16 characters.



#### Note:

- If the data encryption is not used at all, you do not have to set the password.

#### [Retype password]

Re-enter the password that you entered "Password (4 to 16 characters)" for confirmation.

## [Compression]

Displays the compression of the image data to be encrypted.



### Note:

- Cameras whose image compression is set to H.265(1), H.264(1) or MJPEG to use the data encryption. If the image compression is set to H.265(3), H.265(4), H.264(3) or H.264(4), the recorder cannot communicate with the camera. If the image compression is set to MJPEG, some cameras may not support the data encryption.

## [Data encryption]

Encrypts the data between the recorder and the camera.

Off: Does not use the data encryption

On: Uses the data encryption

Default: Off

## [Setup transmission]

Select a camera to which the setting is sent. Check a camera to which you want to send the set data encryption.

## [Number of licenses already set]

The total number of licenses that can be set and the number of set licenses are displayed as follows.

aaa / bbb

aaa : Number of licenses already set

bbb : The total number of registered licenses on the license registration (Security) screen



### Important:

- Data from cameras whose data encryption is set to On will be encrypted.
- Data is automatically decrypted using a password for the data encryption currently set to the recorder during the live image display and the playback.
- If the password for the data encryption is changed during operation, images recorded before changing the password will not be played (decryption error). The main monitor displays the black screen (with a key mark)\* instead of the image. The web browser and the view software display the black screen instead of the image.

\* The black screen may not contain the key mark.

Please perform the following operation in order to continue the playback.

Playback using the main monitor

- ① Pressing the left button of the mouse on the black screen (with the key mark) long displays a screen for entering a password to decrypt the image.
- ② Enter a password for the data encryption set in recording the image that you want to display.
  - The password can be entered on the live image and the playback image.
  - If the password for the data encryption was changed multiple times in the past, enter the password each time through the above operation.

Playback using the viewer software

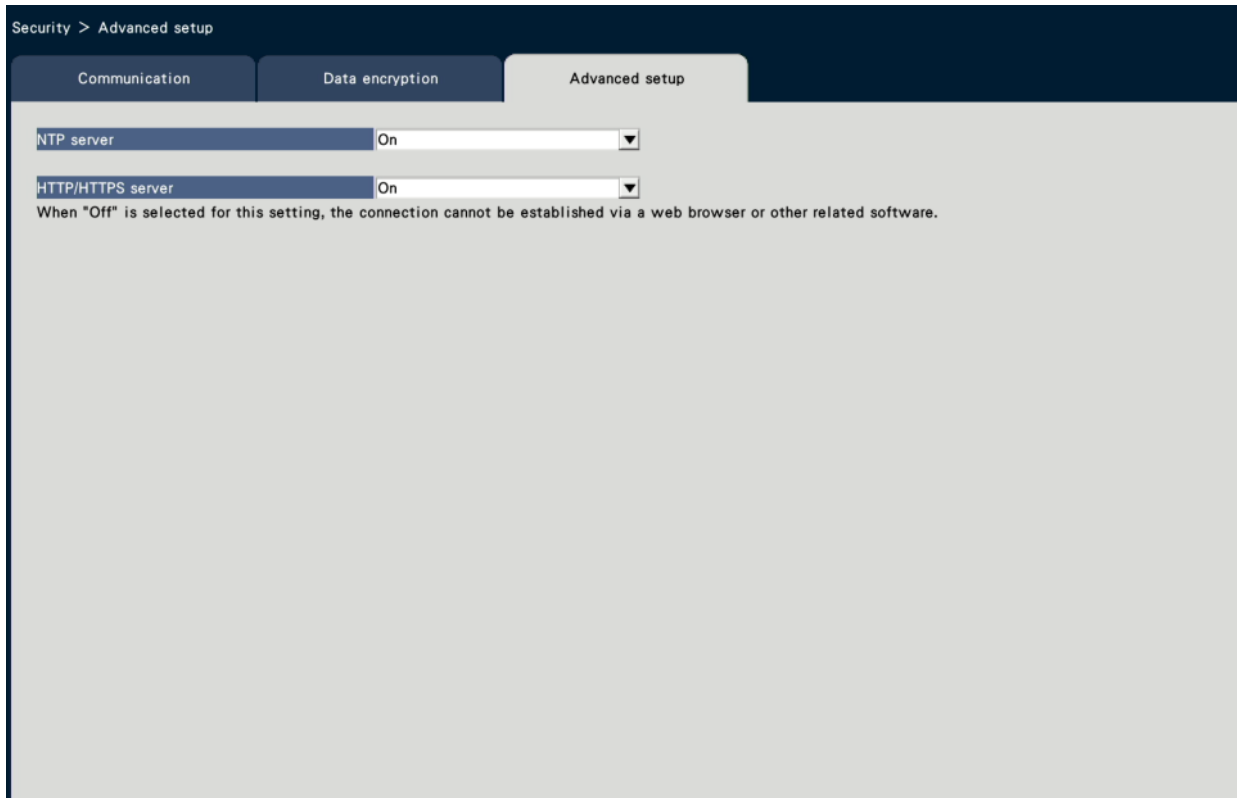
- ① If a decryption error occurs, a screen to enter a password will be displayed.
- ② Enter a password for the data encryption set in recording the image that you want to display.

If a wrong password is entered, restart the operation from the beginning.

- The password for the data encryption entered to continue the playback does not overwrite that of the current recording.
- The password cannot be entered on the image displayed on the thumbnail screen, setting screens for the timeline and for changing the display position of the camera, the VMD search screen and the camera registration screen.
- For a camera with data encryption set to On, the camera image is not displayed on the camera switching screen of the main monitor, and "Decoding error" is displayed on the status bar. In addition, "Decoding error" is displayed for the thumbnail image of the camera in the setup menu of the web browser.
- If the data encryption setting of this product and the JPEG data encryption setting of the camera do not match, the thumbnail image on the setup screen may be displayed broken.

## Configure the advanced settings [Advanced setup]

Set whether to operate the server installed in this recorder.



### [NTP Server]

Set whether to operate the NTP server.

On: Operate the NTP server

Off: Do not operate the NTP server

Default: On

### [HTTP/HTTPS Server]

Set whether to operate the HTTP/HTTPS server.

On: Operate the HTTP/HTTPS server

Off: Do not operate the HTTP/HTTPS server

Default: On



#### **Important:**

- If turn the setting off, the recorder will not be able to connect from a web browser or other peripheral software.

## Configure the settings relating to the extra functions [Extra function]

Set the NAS backup function and Failover function settings on the extra function page of [Advanced setup] on the setup menu.

Refer to the following pages for each function.

 [Addendum](#)

## Others

### 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	2022/1/1 0:00 - 2046/12/31 23:59	20nn/mm/1 0:00 ( <i>"nn"</i> and <i>"mm"</i> are calculated base on the serial number of the recorder.)

Setting item (including those of the "Advanced setup" menu)		Available range	Default
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	
Activate the Daylight saving time		Checked/Not checked	Checked
Camera registration	User name	(Enter text)	(Blank)
	Password	(Enter text)	(Blank)
	Confirm password	(Enter text)	(Blank)
Recording setup (The same setting for all cameras)	Frame rate	1 ips, 3 ips, 5 ips, 10 ips, 15ips, 30 ips	10 ips
	Image quality	NQ、FQ、SF、XF	FQ
	Smart coding(GOP control)	Off、 On (Advanced)	Off
	Audio	Off、 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.)



Date/Language > Date & time adjustment

Setting item (including those of the "Advanced setup" menu)	Available range	Default	Remarks
Date & Time	2022/1/1 0:00 - 2046/12/31 23:59	20nn/mm/1 0:00 ("nn" and "mm" are calculated base on the serial number of the recorder.)	● ◎

Date/Language > Date & time settings

Setting item (including those of the "Advanced setup" menu)	Available range	Default	Remarks	
Display format	Date	yyyy/mm/dd, Mmm/dd/yyyy, dd/Mmm/yyyy, mm/dd/yyyy, dd/mm/yyyy	yyyy/mm/dd ◎	
	Time	24 h, 12 h	24 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: --/-- --:--	◎

Date/Language > Language

Setting item (including those of the "Advanced setup" menu)	Available range	Default	Remarks
Language	Japanese/ English/ Français/ Español/ Deutsch/ Italiano/ Português/ ไทย/ Tiếng Việt/ 简体中文/ 繁體中文 (Web browser: Japanese/ English/ Français/ Español/ Deutsch/ Italiano/ Português/ Thai/ Vietnamese/ Simplified Chinese/ Traditional Chinese)	English (Web browser: English)	◎

Camera > Camera registration

Setting item (including those of the "Advanced setup" menu)	Available range	Default	Remarks
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) ◎
	Authentication	Digest、Digest or Basic	Digest ◎
	User name	(Text will be entered.)	(Blank) ◎
	Password	(Text will be entered.)	(Blank) ◎
	Port No.	(Port No.)	80 ◎
AI privacy guard recording camera	Recording camera	Blank, Cam.1, ..., Cam.n	(Blank) ◎

Camera > Camera setup

Setting item (including those of the "Advanced setup" menu)		Available range	Default	Remarks
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		
	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 °(Upsidedown), 270 °		

Camera > Camera setup (continued)

Setting item (including those of the "Advanced setup" menu)		Available range	Default	Remarks
	Camera selection	Checked/Not checked		
Pan/tilt-flip	Pan/tilt-flip	Off, On		
	Camera selection	Checked/Not checked		
Self return	Self return	Off, Home position, Auto track, Auto pan, Preset sequence, Patrol		
	Self return time	10 s, 20 s, 30 s, 1 min, 2 min, 3 min, 5 min, 10 min, 20 min, 30 min, 60 min		
	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, Reset, 0, 16, 32, 48, 64, 80, 96, 128, 144, 160, 176, 192, 208, 224, 240, 255		
	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 (1/30s), 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		
VMD alarm (Advanced)	Areas	(Rectangle of Area 1 to Area 4)		
	Status	On, Off		

Camera > Camera setup (*continued*)

Setting item (including those of the "Advanced setup" menu)		Available range	Default	Remarks
individual camera setup)	Detection sensitivity	1(Low), 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15(high)		
Schedule 1 to Schedule 4	Schedule mode	Off, Alarm permission (Terminal alarm 1,2,3), Alarm permission (Terminal alarm 1), Alarm permission (Terminal alarm 2), Alarm permission (terminal alarm 3), VMD permission, Preset position: 1, ... Preset position: 8		
	Days (Mon to Sun)	Checked/Not checked		
	Time	00:00 - 23:59		
	24 h	Checked/Not checked		
	Camera selection	Checked/Not checked		

Camera > Advanced setup

Setting item (including those of the "Advanced setup" menu)		Available range	Default	Remarks
Connection method		RTP, RTSP, Internet mode	RTSP	☉
Do not use stream 2 of camera with each function of this recorder		Checked/Not checked	Not checked	☉
The functions of this product will not change the camera settings automatically		Checked/Not checked	Not checked	☉

REC & event > Recording setup

Setting item (including those of the "Advanced setup" menu)		Available range	Default	Remarks
Schedule1 Days to record	Mon, Tue, ..., Sun	Checked/Not checked	Checked	

REC & event > Recording setup (continued)

Setting item (including those of the "Advanced setup" menu)			Available range	Default	Remarks
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	
		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 -	◎

REC & event > Recording setup (continued)

Setting item (including those of the "Advanced setup" menu)		Available range	Default	Remarks
			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- 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- Alarm notification	Checked/Not checked	Not checked	◎
	Display the schedule list.	(Indication only)	(Indication only)	

REC & event > Recording setup (continued)

Setting item (including those of the "Advanced setup" menu)		Available range	Default	Remarks	
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: 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- 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	☉



REC & event > Recording setup (continued)

Setting item (including those of the "Advanced setup" menu)		Available range	Default	Remarks
	Time table2-Event recording	Checked/Not checked	Checked	◎
	Time table2-e-Mail	Checked/Not checked	Not checked	◎
	Time table2-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.)	◎

REC & event > Recording setup (continued)

Setting item (including those of the "Advanced setup" menu)	Available range	Default	Remarks
	<p>Image capture size</p> <p>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)/ 7M(3072×2304)</p> <p>When the aspect ratio is 16:9 HVGAW(640×360)/ HD(1280×720)/ FHD(1920×1080)/ WQHD (2560×1440)/ 4M(2688×1520)/ 5M(3072×1728)/ 6M(3328×1872)/ 4KUHD(3840×2160)</p> <p>When the aspect ratio is 1:1 1.4M (1200×1200)*1/ 1.6M (1280×1280)/ 2M(1440×1440)*1/ 4M(2048×2048)*1/ 5M(2192×2192) / 8M(2816×2816)*1/ 9M (2992×2992)</p> <p>When the aspect ratio is 9:16 0.2M(360×640)/ 1M(720×1280)/ 2M(1080×1920)/ 4M(1440×2560)/ 4M(1520×2688)/ 5M(1728×3072)/ 6M(1872×3328)/ 8M(2160×3840)</p>	HVGAW (640×360)	◎
Rate	1 ips, 3 ips, 5 ips, 10 ips, 12.5 ips, 15 ips, 25 ips, 30 ips, 50 ips, 60 ips	10 ips	◎
Quality	NQ, FQ, SF, XF	FQ	◎
Audio	Off, On(G.711)*2, On(AAC-LC)	Off	◎ ●
Schedule	Schedule1, Schedule2, ..., Schedule16	Schedule1	◎
Event	1 ips, 3 ips, 5 ips, 10 ips, 12.5 ips, 15 ips, 25 ips, 30 ips, Same as the basic	Same as the basic	◎

REC & event > Recording setup (continued)

Setting item (including those of the "Advanced setup" menu)		Available range	Default	Remarks
	Emergency	1 ips, 3 ips, 5 ips, 10 ips, 12.5 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.)	☉

\*1 Available only when the camera from other manufacturers is selected.

\*2 Selectable only when selecting another company's ONVIF camera.

REC & event > Event setup

Setting item (including those of the "Advanced setup" menu)		Available range	Default	Remarks
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, 3min, 5min, Ext.	Ext.	☉
	Message display	Off, On	On	☉
	Main monitor action	Off, On, On(ACK/RESET)	Off	☉
	Event type	Checked/Not checked	Terminal alarm: CheckedCamera site alarm: CheckedCom mand alarm: Checked	☉
	Display	Ctrl screen, Wide view	Ctrl screen	☉
	Display camera	Recording camera, AI privacy guard recording camera	Recording camera	☉
Advanced terminal alarm setup	Mode	Off, Recording only, Recording & alarm action	Recording & alarm action	☉
	Alarm log	Save, Not save	Save	☉

REC & event > Event setup (continued)

Setting item (including those of the "Advanced setup" menu)		Available range	Default	Remarks
	Setup by terminal (Recording camera)	Off, Cam.1, ..., Cam.n, All	Terminals 1 to 4: Same camera number as the terminal number Terminals 5 and 6: Off	⊙
	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.	⊙
	Setup by terminal (Name)	(Text Input)	TRM1, ..., TRM6	⊙
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.n	Camera number	⊙
	Setup by camera (Preset)	001 - 256, ---	---	⊙
	Setup by camera (Terminal output)	Off, On	On	⊙
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.n	Camera number	⊙
	Setup by command number (Preset)	001 - 256, ---	---	⊙
	Setup by command number (Terminal output)	Off, On	On	⊙

REC & event > Event setup (*continued*)

Setting item (including those of the "Advanced setup" menu)		Available range	Default	Remarks
	Setup by command number (Name)	(Text Input)	CMD1, ..., CMD128	⊙

REC & event > Advanced setup

Setting item (including those of the "Advanced setup" menu)		Available range	Default	Remarks
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	⊙
Extension software alarm	Name	(Text will be entered.)	No.1: Intruder No.2: Loitering No.3: Direction No.4: Cross line No.5: Occupancy Detection Area 1 No.6: Occupancy Detection Area 2 No.7: Occupancy Detection Area 3 No.8: Occupancy Detection Area 4 No.9: User-defined 1 No.10: User-defined 2 ... No.16: User-defined 8	⊙

REC & event > Advanced setup (continued)

Setting item (including those of the "Advanced setup" menu)		Available range	Default	Remarks
	Message ID	000 to 255, ---	No.1: 50, No.2: 51, No.3: 52, No.4: 56, No.5: 98, No.6: 99, No.7: 100, No.8: 101, No.9-16: ---	◎
Emergency recording	Recording time	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	◎ ●
Special days		Date: 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	◎
	Extend an event recording during "MotionAlarm" of ONVIF event	Checked/Not checked	Not checked	◎

## Advanced setup

Monitor > Main monitor

Setting item (including those of the "Advanced setup" menu)		Available range	Default	Remarks	
Camera title	Display	Off, On	On	⊙	
	Position	L-Upper, L-Lower, R-Upper, R-Lower	R-Upper	⊙	
	Camera title	(Text will be entered.)	CAM1, ..., CAM128	⊙	
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	⊙	
Detection frame information	Frame display	Off, On	Off	⊙	
		Before and after determination, Only after determination	Before and after determination	⊙	
	Display the trace	Off, On	Off	⊙	
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	⊙
		12-screen	Checked/Not checked	Not checked	⊙
		16-screen	Checked/Not checked	Checked	⊙
		24-screen	Checked/Not checked	Not checked	⊙
		32-screen	Checked/Not checked	Not checked	⊙
		64-screen [NX410/NX510]	Checked/Not checked	Checked	⊙
		3-screen (unequal division)	Checked/Not checked	Not checked	⊙
9-screen (unequal division)	Checked/Not checked	Not checked	⊙		

Monitor > Main monitor (continued)

Setting item (including those of the "Advanced setup" menu)		Available range	Default	Remarks
	16-screen (unequal division)	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	◎
	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	◎
	Fix the HDMI output to the following video mode	Checked/Not checked	Not checked	◎
		4K, 1080p	1080p	◎
	Activate time-saving playback	Checked/Not checked	Not checked	◎
	Keep the aspect ratio for the full screen display (Except during live sequence)	Checked/Not checked	Not checked	◎



Monitor > Main monitor (continued)

Setting item (including those of the "Advanced setup" menu)		Available range	Default	Remarks
	Switch to 1-screen display when playing from alarm log	Checked/Not checked	Checked	☉

Monitor > Sub monitor

Setting item (including those of the "Advanced setup" menu)		Available range	Default	Remarks
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, 24Screen, 32Screen	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	☉
	Other setup	Secret view	Off, On	Off
	Fix the HDMI output to the following video mode	4K, 1080p	1080p	☉

Monitor > Web browser

Setting item (including those of the "Advanced setup" menu)		Available range	Default	Remarks
Group display of camera tree	Group display	Off, On	Off	★
	Group title	(Text will be entered.)	G1 : Group1、...、 G8 : Group8	★

Monitor > Web browser (continued)

Setting item (including those of the "Advanced setup" menu)		Available range	Default	Remarks
	Grouping	G1、 G2、 G3、 G4、 G5、 G6、 G7、 G8	Cam.1 - Cam.16: G1 Cam.17 - Cam.32: G2 Cam.33 - Cam.48: G3 Cam.49 - Cam.64: G4 Cam.65 - Cam.80: G5 Cam.81 - Cam.96: G6 Cam.97 - Cam.112: G7 Cam.113 - Cam.128: G8	

Monitor > Advanced setup

Setting item (including those of the "Advanced setup" menu)		Available range	Default	Remarks
Audio output camera		Selected camera, Cam.1, ..., Cam.n	Selected camera	◎
Other setup	Detect a power-off of the sub monitor (HDMI)	Checked/Not checked	Checked	◎
	Display stream 2 live image when displaying on the monitor with 1-screen display	Checked/Not checked	Not Checked	◎
	For split screen with a black band in full screen display, the image display area is enlarged vertically	Checked/Not checked	Not Checked	◎

Network > Basic

Setting item (including those of the "Advanced setup" menu)		Available	Default	Remarks
Network	Network settings	Static, Auto (DHCP)	Static	◎

Network > Basic (continued)

Setting item (including those of the "Advanced setup" menu)		Available	Default	Remarks	
Setup [Camera/PC port]	IP address	(IP address)	192.168.0.250	◎	
	Subnet mask	(IP address)	255.255.255.0	◎	
Network Setup	Network settings	Static, Auto (DHCP)	Static	◎	
Setup [PC port]	IP address	(IP address)	0.0.0.0	◎	
	Subnet mask	(IP address)	0.0.0.0	◎	
Network Setup	Network settings	(IP address)	192.168.0.1	◎	
DNS Setup	DNS	Off, Manual, Auto	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, Dynamic DNS Update	Off	◎	
	Host name (DDNS update)	(Text will be entered.)	NWDR	◎	
	Access interval	10 min, 20 min, 30 min, 40 min, 50 min, 1 h, 6 h, 24 h	1 h	◎	
Other setup	Network setup [Maintenance port] [NX410/NX510]	IP address	(IP address)	192.168.2.250	◎
		Subnet mask	(IP address)	255.255.255.0	◎
	HTTP port number		(Port No.)	80	◎
	Easy IP Setup accommodate period		20 min, Unlimited	20 min	◎
	Port forwarding	Port forwarding	Off, On	On	◎
		Port setup	(Port No.)	60001 (Cam.1) - 60064 (Cam.64) - 60128 (Cam.128)	◎
	Static route	Static route	Off, On	Off	◎
		Address	(IP address)	0.0.0.0	◎

Network > Basic (continued)

Setting item (including those of the "Advanced setup" menu)		Available	Default	Remarks
	Subnet mask	(IP address)	0.0.0.0	⊙
	Gateway	(IP address)	0.0.0.0	⊙

Network > e-Mail

Setting item (including those of the "Advanced setup" menu)		Available range	Default	Remarks
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	⊙

Network > TCP alarm notification

Setting item (including those of the "Advanced setup" menu)		Available range	Default	Remarks
TCP alarm notification	Port number(to PC)	(Port No.)	1818	⊙
	Retry	0, ..., 8	2	⊙
	Destination address (Address)	(Text will be entered.)	(Blank)	⊙

Network > HTTP alarm

Setting item (including those of the "Advanced setup" menu)		Available range	Default	Remarks
HTTP alarm	Address	(Text will be entered.)	http://	⊙

Network > HTTP alarm (*continued*)

Setting item (including those of the "Advanced setup" menu)		Available range	Default	Remarks
	User name	(Text will be entered.)	(Blank)	⊙
	Password	(Text will be entered.)	(Blank)	⊙
	Notification data	(Text will be entered.)	/	⊙
	Alarm	Checked/Not checked	Checked	⊙
	Emergency recording input	Checked/Not checked	Checked	⊙
	Camera/Recorder error	Checked/Not checked	Checked	⊙
	HDD/Recording error	Checked/Not checked	Checked	⊙
	Network error	Checked/Not checked	Checked	⊙

Network > NTP/SNMP

Setting item (including those of the "Advanced setup" menu)		Available range	Default	Remarks
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	SNMP version	Off, SNMPv1/v2, SNMPv3, SNMPv1/v2/v3	Off	⊙
	SNMPv1/v2 - Community	(Text will be entered.)	(Blank)	⊙
	SNMPv1/v2 - Prohibit access from the outside of subnet	Checked/Not checked	Checked	⊙
	SNMPv3 - User name	(Text will be entered.)	(Blank)	⊙
	SNMPv3 - Authentication method	SHA1	SHA1, Fixed	⊙
	SNMPv3 - Encryption method	DES, AES	DES	⊙
	SNMPv3 - Password	(Text will be entered.)	(Blank)	⊙
	System name	(Text will be entered.)	(Blank)	⊙
	Location	(Text will be entered.)	(Blank)	⊙
Contact	(Text will be entered.)	(Blank)	⊙	

Setting item (including those of the "Advanced setup" menu)		Available range	Default	Remarks
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Service status	Remote monitoring registration status	(Indication only)	(Indication only)	⊙
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User management > Basic

Setting item (including those of the "Advanced setup" menu)		Available range	Default	Remarks
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)	⊙

User management > Basic (continued)

Setting item (including those of the "Advanced setup" menu)	Available range	Default	Remarks
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 management > User registration

Setting item (including those of the "Advanced setup" menu)		Available range	Default	Remarks
Register new user	User name	(Text will be entered.)	(Blank)	⊙
	Password	(Text will be entered.)	(Blank)	⊙
	Level	Manager, Operator, Viewer	Operator	⊙
	Default screen*	[NX310] Cam.1, ..., Cam.32, 4Screen(1), ..., 4Screen(8), 9Screen(1), ..., 9Screen(4), 16Screen(1), 16Screen(2), Sequence(Wide view), 1screen(Wide view), 4Screen(Wide view), 6Screen(Wide view), 9Screen(Wide view), 16Screen(Wide view), 24Screen(Wide view), 32Screen(Wide view) [NX410] Cam.1, ..., Cam.64, 4Screen(1), ..., 4Screen(16), 9Screen(1), ..., 9Screen(7), 16Screen(1), ..., 16Screen(4), Sequence(Wide view), 1screen(Wide view), 4Screen(Wide view), 6Screen(Wide view), 9Screen(Wide view), 16Screen(Wide view), 24Screen (Wide view), 32Screen(Wide view), 64Screen(Wide view) [NX510] Cam.1, ..., Cam.128, 4Screen(1), ..., 4Screen(32), 9Screen(1), ..., 9Screen(14), 16Screen(1), ..., 16Screen(8), Sequence(Wide view), 1screen(Wide view), 4Screen(Wide view), 6Screen(Wide	4Screen (Wide view)	⊙



User management > User registration (continued)

Setting item (including those of the "Advanced setup" menu)		Available range	Default	Remarks
		view), 9Screen(Wide view), 16Screen(Wide view), 24Screen (Wide view), 32Screen(Wide view), 64Screen(Wide view)		
	Camera partitioning	Common setting, Individual setting	Common setting	☉
	Camera partitioning (Individual setting)	View/Operate, View, Off	View/Operate	☉

User management > Administrator setup

Setting item (including those of the "Advanced setup" menu)		Available range	Default	Remarks
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	Refet to the following section of "User management > User registration > Default screen" <a href="#">Advanced setup</a>	4Screen (Wide view)	☉

User management > Host registration

Setting item (including those of the "Advanced setup" menu)		Available range	Default	Remarks
Register new host	Host IP address	(IP address)	(Blank)	☉
	Level	Manager, Operator, Viewer	Manager	☉
	Default screen	Cam.1, ..., Cam.n	Cam.1	☉

Maintenance > System information

Setting item (including those of the "Advanced setup" menu)		Available range	Default	Remarks
Software version		(Indication only)	(Indication only)	☉
Hardware version		(Indication only)	(Indication only)	☉

Maintenance > System information (continued)

Setting item (including those of the "Advanced setup" menu)		Available range	Default	Remarks
Serial number		(Indication only)	(Indication only)	◎
Network port [Camera/PC port]	MAC address	(Indication only)	(Indication only)	◎
	IP address	(Indication only)	(Indication only)	◎
	Subnet mask	(Indication only)	(Indication only)	◎
	Default gateway	(Indication only)	(Indication only)	◎
	Communication speed	(Indication only)	(Indication only)	◎
Network port [PC port]	MAC address	(Indication only)	(Indication only)	◎
	IP address	(Indication only)	(Indication only)	◎
	Subnet mask	(Indication only)	(Indication only)	◎
	Default gateway	(Indication only)	(Indication only)	◎
	Communication speed	(Indication only)	(Indication only)	◎
Network port [maintenance port] [NX410/NX510]	MAC address	(Indication only)	(Indication only)	◎
	IP address	(Indication only)	(Indication only)	◎
	Communication speed	(Indication only)	(Indication only)	◎
DNS	Primary server address	(Indication only)	(Indication only)	◎
	Secondary server address	(Indication only)	(Indication only)	◎
	Domain name	(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)	◎
Online user information	Number of login user	(Indication only)	(Indication only)	◎

Maintenance > HDD information

Setting item (including those of the "Advanced setup" menu)		Available range	Default	Remarks
Capacity		(Indication only)	(Indication only)	◎
Operation		(Indication only)	(Indication only)	◎
Status		(Indication only)	(Indication only)	◎

Maintenance > HDD information (continued)

Setting item (including those of the "Advanced setup" menu)		Available range	Default	Remarks
Recorded time range		(Indication only)	(Indication only)	⊙
Overwrite cycle		(Indication only)	(Indication only)	⊙
Camera recording group check		(Indication only)	(Indication only)	⊙
HDD remaining capacity	Remaining capacity	(Indication only)	(Indication only)	⊙
	HDD remaining capacity notice	Off, 1%, 2%, 3%, 4%, 5%, 6%, 7%, 8%, 9%, 10%	Off	⊙
HDD Maintenance	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)	★
	Format HDD	(HDD number)	(HDD number)	⊙
	Remove HDD	(HDD number)	(HDD number)	⊙

Maintenance > System management

Setting item (including those of the "Advanced setup" menu)		Available range	Default	Remarks
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	⊙
	Safe shutdown time [NX410/NX510]	10 s, 20 s, 30 s, 1 min, 2 min, 3 min, 4 min, 5 min	10 min	⊙
	HDD stand-by control mode	Off, On	Off	⊙
	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, 365 days, 366 days, 730 days, 731 days	Off	⊙

Maintenance > System management (continued)

Setting item (including those of the "Advanced setup" menu)		Available range	Default	Remarks
	Camera time auto synchronization	Off, On	On	⊙
	General purpose I/O terminal setting (General purpose 1, ..., General purpose 4) [NX310]	Undefined, Alarm input	Undefined	⊙
	Web browser display mode	Light, Dark	Light	⊙
	Playback resolution on the web browser	VGA(640x480), HD(1280x720), FHD(1920x1080)	VGA(640x480)	⊙
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.	
Registration of license (This product, camera extension, etc.)	This product	(Text will be entered.)	(Blank)	⊙
	Camera extension	(Text will be entered.)	(Blank)	⊙
	Optional extension for NAS backup	(Text will be entered.)	(Blank)	⊙
	Optional extension for failover	(Text will be entered.)	(Blank)	⊙
	Dealer's information	(Text will be entered.)	(Blank)	⊙

Maintenance > System management (continued)

Setting item (including those of the "Advanced setup" menu)		Available range	Default	Remarks	
Registration of license (Security)	Security	(Text will be entered.)	(Blank)	☉	
Functions for maintenance	Save data (to USB medium)	(None)	(None)		
	Load data (from USB medium)	(None)	(None)		
	Restoration of the setting values	(None)	(None)	☉	
	Firmware update	(None)	(None)	☉	
	Reset all settings	(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.	[NX310] Single mode, Mirroring mode [NX410/NX510] Single mode, Mirroring mode, RAID5 mode, RAID6 mode		Single mode	☉
	Clear the maximum temperature record information.	(None)	(None)	☉	
	Measure the network transmission/ reception speed	(None)	(None)	☉	

Maintenance > System management (continued)

Setting item (including those of the "Advanced setup" menu)		Available range	Default	Remarks
	Terminal output test (Terminal)	[NX310] Camera error output, Network error output, HDD error output/ Recording error output, Recorder error output, Alarm output [NX410/NX510] Camera error output, Network error output, HDD error output, Recording error output, Recorder error output, Outage processing end output, Alarm output 1, ..., Alarm output 4	Camera error output	◎
	Terminal output test (Output duration)	2 s, 5 s, 10 s	2 s	◎
	Data output logs	(None)	(None)	★
	OSS	(None)	(None)	★

HDD management > General

Setting item (including those of the "Advanced setup" menu)		Available range	Default	Remarks
HDD information	Capacity	(Indication only)	(Indication only)	◎
	Operation	(Indication only)	(Indication only)	◎
	Status	(Indication only)	(Indication only)	◎
	Recorded time range	(Indication only)	(Indication only)	◎
	Recording group	(Indication only)	(Indication only)	◎
Format HDD	HDD information (Capacity)	(Indication only)	(Indication only)	◎

HDD management > General (*continued*)

Setting item (including those of the "Advanced setup" menu)		Available range	Default	Remarks
	HDD information (Operation)	(Indication only)	(Indication only)	◎
	HDD information (Status)	(Indication only)	(Indication only)	◎
	HDD information (Recording group)	(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)	◎
	HDD information (Recording group)	(Indication only)	(Indication only)	◎
	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 (Recording group)	(Indication only)	(Indication only)	◎
	HDD information (Add)	Checked/Not checked	Not checked	◎
	HDD information (Results)	(Indication only)	(Indication only)	◎
Change the operation	HDD information (Capacity)	(Indication only)	(Indication only)	◎

HDD management > General (continued)

Setting item (including those of the "Advanced setup" menu)		Available range	Default	Remarks	
mode of HDD	HDD information (Operation)	(Indication only)	(Indication only)	◎	
	HDD information (Status)	(Indication only)	(Indication only)	◎	
	HDD information (Recording group)	(Indication only)	(Indication only)	◎	
	HDD information (Results)	(Indication only)	(Indication only)	◎	
	Operation mode of HDD	[NX310] Single mode, Mirroring mode [NX410/NX510] Single mode, Mirroring mode, RAID5 mode, RAID6 mode	(HDD operation mode in use)	◎	
Recording group setup	Group1	Unlimited, 1 day, ..., 10 days, 14 days, 30 days, 31 days, 45 days, 60 days, 62 days, 90 days, 92 days, 120 days, 123 days, 150 days, 153 days, 180 days, 184 days, 365 days, 366 days, 730 days, 731 days	Unlimited	◎	
	Group2	Unlimited, 1 day, ..., 10 days, 14 days, 30 days, 31 days, 45 days, 60 days, 62 days, 90 days, 92 days, 120 days, 123 days, 150 days, 153 days, 180 days, 184 days, 365 days, 366 days, 730 days, 731 days	Unlimited	◎	
	Recording group		Group1, Group2	Group1	◎
	Assign recording group to HDD	Current capacity/ Required capacity	(Indication only)	(Indication only)	◎
		Capacity	(Indication only)	(Indication only)	◎



HDD management > General (continued)

Setting item (including those of the "Advanced setup" menu)		Available range	Default	Remarks
	Recording group	Group1, Group2	Group1	◎
Change the recording order	HDD information (Capacity)	(Indication only)	(Indication only)	◎
	HDD information (Operating time)	(Indication only)	(Indication only)	◎
	HDD information (Status)	(Indication only)	(Indication only)	◎
	HDD information (Recording order)	[NX310] 1 - 4 [NX410/NX510] 1 - 54	(Current recording order)	◎
	HDD information (Recording group)	(Indication only)	(Indication only)	◎
	HDD information (Time/Date range of recorded images)	(Indication only)	(Indication only)	◎

Security > Communication

Setting item (including those of the "Advanced setup" menu)		Available range	Default	Remarks
Security between this product and PC	Connection	HTTP & HTTPS, HTTPS	HTTPS	◎
	TLS 1.2	Checked/Not checked	Checked	◎
	TLS 1.3	Checked/Not checked	Checked, Fixed	◎
	HTTPS port number	(Port number)	443	◎
	Download root certificate	(None)	(None)	★
Security between this product and camera	Connection	HTTP, HTTPS	HTTP	◎
	Port number	(Port number)	443	◎

Security > Data encryption

Setting item (including those of the "Advanced setup" menu)		Available range	Default	Remarks
Password for data encryption	Password (4 to 16 characters)	(Text will be entered.)	(Blank)	☉
	Retype password	(Text will be entered.)	(Blank)	☉
Data encryption setting *		Off, On	Off	☉

\* When registering the secure communication kit (option) license.

Security > IEEE 802.1X

Setting item (including those of the "Advanced setup" menu)		Available range	Default	Remarks
IEEE 802.1X		Off, On	Off	★
EAP method		EAP-PEAP, EAP-TLS	EAP-PEAP	★
User name		(Text will be entered.)	(Blank)	★
Password		(Text will be entered.)	(Blank)	★
Retype password		(Text will be entered.)	(Blank)	★
Server certificate	Installation of the root certificate	(None)	(None)	★
	Root certificate information	(Indication only)	(Indication only)	★
Client certificate	Installation of the private key or the client certificate including private key	(None)	(None)	★
	Password	(Text will be entered.)	(Blank)	★
	Installation of the client certificate	(None)	(None)	★
	Install status of private key	(Indication only)	(Indication only)	★
	Client certificate information	(Indication only)	(Indication only)	★

Security > Advanced setup

Setting item (including those of the "Advanced setup" menu)	Available range	Default	Remarks
NTP server	Off, On	On	⊙
HTTP/HTTPS server	Off, On	On	

Extra function > NAS backup

Setting item (including those of the "Advanced setup" menu)	Available range	Default	Remarks	
NAS backup	Off, On	Off	⊙	
Setup for connection with the storage destination (NAS server)	Selection of storage destination	Checked/Not checked	Not checked	⊙
	IP address	(IP address)	(Blank)	⊙
	Directory name	(Text will be entered.)	(Blank)	⊙
	Connection test-Results	(Indication only)	(Indication only)	⊙
	Connection test-Free	(Indication only)	(Indication only)	⊙
Schedule setup of the NAS backup	Camera	Checked/Not checked	Not checked	⊙
	File format	Original (n3r/n3a), MP4	Original (n3r/n3a)	⊙
	Time (indication) required for backup one day's data	(Indication only)	(Indication only)	⊙
	Backup schedule (Total time)	(Indication only)	(Indication only)	⊙
	Time table 1	--:-- , 00:00 - 24:00	00:00 - 24:00	⊙
	Time table 2	--:-- , 00:00 - 24:00	--:-- - -:--	⊙
	Backup execution date	1 day before, 2 day before, 3 day before	3 day before	⊙
Backup status	Current backup status	(Indication only)	(Indication only)	⊙
	Backup error history	(Indication only)	(Indication only)	⊙

Extra function > Failover

Setting item (including those of the "Advanced setup" menu)	Available range	Default	Remarks
Failover setup	Off (not monitoring), On (monitoring)	Off (not monitoring)	⊙
Setup of recorder to be monitored	Address	(Indication only)	⊙
	Status	(Indication only)	⊙

Extra function > Failover (continued)

Setting item (including those of the "Advanced setup" menu)		Available range	Default	Remarks
	Software	(Indication only)	(Indication only)	⊙
	Additional camera	(Indication only)	(Indication only)	⊙
	Secure communication	(Indication only)	(Indication only)	⊙
Registered information	Address	(IP address)	(Blank)	⊙
	User name	(Text will be entered.)	(Blank)	⊙
	Password	(Text will be entered.)	(Blank)	⊙

## 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.

- "x" indicates the extension unit number.
- "y" indicates the HDD (hard disk drive) number.
- "f" indicates the cooling fan number.
- "cc" indicates the camera number.
- "n" indicates the storage destination number of the NAS backup function.
- "m" indicates the monitoring target recorder number of the failover function.

Description	Display of the status display panel	Error log	Front LCD Display	Output from connector
Thermal error warning	Thermal error: MAIN Thermal error: EXTx	Thermal error: MAIN Thermal error: EXTx	MAIN - t E R R T H E R M A L E R R O R  E X T x E R R T H E R M A L E R R O R	Recorder error

Description	Display of the status display panel	Error log	Front LCD Display	Output from connector
FAN warning	Fan error: MAIN f Fan error: EXTx f	Fan error: MAIN f Fan error: EXTx f	MA I N – f E R R F A N E R R O R  E X T x – f E R R F A N E R R O R	Recorder error
Camera error detection	Communication error: Cam.cc	Communication error: Cam.cc	NW E R R C A M E R A c c E R R O R	Camera error
Camera error recovery	–	Communication recovered: Cam.cc	–	–
Camera error detection (audio)	Audio communication error: Cam.cc	Audio communication error: Cam.cc	NW E R R C A M E R A c c E R R O R	Camera error
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	NW E R R C A M E R A c c E R R O R	Camera error
Video loss recovery (Notification of video input signal loss recovered on the encoder)	–	Video recovered: Cam.cc	–	–
NW camera error detection (video)	Communication error: Cam.cc	Communication error: Cam.cc	NW E R R C A M E R A c c E R R O R	Camera error
NW camera error recovery (video)	–	Video communication recovered: Cam.cc	–	–
NW camera error detection (Live)	Communication error (Live): Cam.cc	Communication error (Live): Cam.cc	NW E R R C A M E R A c c E R R O R	Camera error

Description	Display of the status display panel	Error log	Front LCD Display	Output from connector
NW camera error recovery (Live)	–	Communication recovered (Live):Cam.cc	–	–
NW camera fault detection (video stream for remote monitoring)	Communication error (Service): Cam.cc	Communication error (Service): Cam.cc	NW E R R C A M E R A c c E R R O R	Camera error
NW camera fault recovery (video stream for remote monitoring)	Communication recovered (Service): Cam.cc	Communication recovered (Service): Cam.cc	–	–
Recording error detection	Recording error	Recording error (RCA) Recording error (AGT): Cam.cc Recording error (WCK): Cam.cc	E R R R E C E R R O R c c * "cc" is not displayed if the number of camera is unknown.	[NX310] HDD error / Recording error [NX410/ NX510] Recording error
SMART warning	SMART warning: MAIN-y SMART warning: EXTx-y	SMART warning: MAIN-y SMART warning: EXTx-y	M A I N – y E R R S M A R T W A R N I N G  E X T x – y E R R S M A R T W A R N I N G	[NX310] HDD error / Recording error [NX410/ NX510] Recording error

Description	Display of the status display panel	Error log	Front LCD Display	Output from connector
Slow response	Slow response: MAIN-y Slow response: EXTx-y	Slow response: MAIN-y Slow response: EXTx-y	M A I N - y E R R S L O W R E S P O N S E  E X T x - y E R R S L O W R E S P O N S E	[NX310] HDD error / Recording error  [NX410/ NX510] Recording error
HDD hour meter warning	Hour meter warning: MAIN-y Hour meter warning: EXTx-y	Hour meter warning: MAIN-y Hour meter warning: EXTx-y	M A I N - y E R R H D D H O U R M E T E R  E X T x - y E R R H D D H O U R M E T E R	[NX310] HDD error / Recording error  [NX410/ NX510] Recording error
Remove auto links (per HDD)	HDD removed: MAIN-y HDD removed: EXTx-y	HDD logically removed: MAIN-y HDD logically removed: EXTx-y	M A I N - y E R R H D D R E M O V E D  E X T x - y E R R H D D R E M O V E D	[NX310] HDD error / Recording error  [NX410/ NX510] Recording error
Remove auto links (per unit) [NX410/NX510]	HDD removed: MAIN HDD removed: EXTx	HDD logically removed: MAIN HDD logically removed: EXTx	M A I N E R R H D D R E M O V E D  E X T x E R R H D D R E M O V E D	HDD error

Description	Display of the status display panel	Error log	Front LCD Display	Output from connector
HDD removal error (Properly recognized HDD was removed without proper operations.)	Swap warning: MAIN-y Swap warning: EXTx-y	Swap warning: MAIN-y Swap warning: EXTx-y	MAIN - y ERR HDD SWAP ERR EXT x - y ERR HDD SWAP ERR	[NX310] HDD error / Recording error [NX410/ NX510] Recording error
HDD remaining capacity notice	-	HDD remaining capacity:1% ~ HDD remaining capacity:10%	-	-
HDD skip* <sup>1</sup>	-	HDD skip: MAIN-y HDD skip: MAIN-y,y HDD skip: MAIN HDD skip: EXTx-y HDD skip: EXTx-y,y HDD skip: EXTx	-	-
HDD write error	-	Write error: MAIN-y	-	-
HDD read error	-	Read error: MAIN-y	-	-
Parameter initialization error [NX410/NX510]	-	Invalid unit: MAIN Invalid unit: EXTx	MAIN ERR INITIAL ERR EXT x ERR INITIAL ERR	-



Description	Display of the status display panel	Error log	Front LCD Display	Output from connector
HDD format error	Format error: MAIN-y Format error: EXTx-y	Format error: MAIN-y Format error: EXTx-y	M A I N - y E R R F O R M A T F A I L  E X T x - y E R R F O R M A T F A I L	[NX310] HDD error / Recording error  [NX410/ NX510] Recording error
Mirroring Format error [NX410/NX510]	Format error: MAIN-y,y Format error: EXTx-y,y	Format error: MAIN-y,y Format error: EXTx-y,y	M A I N - y , y E R R F O R M A T F A I L  E X T x - y , y E R R F O R M A T F A I L	HDD error
RAID5 Format error [NX410/NX510]	Format error: MAIN Format error: EXTx	RAID5 Format error: MAIN RAID5 Format error: EXTx	M A I N E R R F O R M A T F A I L  E X T x E R R F O R M A T F A I L	HDD error
RAID6 Format error [NX410/NX510]	Format error: MAIN Format error: EXTx	RAID6 Format error: MAIN RAID6 Format error: EXTx	M A I N E R R F O R M A T F A I L  E X T x E R R F O R M A T F A I L	HDD error
Mirroring 1down [NX410/NX510]	RAID1 1down: MAIN-y,y RAID1 1down: EXTx-y,y	RAID1 1down: MAIN-y,y RAID1 1down: EXTx-y,y	M A I N - y , y E R R R A I D 1 1 D O W N  E X T x - y , y E R R R A I D 1 1 D O W N	HDD error

Description	Display of the status display panel	Error log	Front LCD Display	Output from connector
RAID5 1down [NX410/NX510]	RAID5 1down: MAIN RAID5 1down: EXTx	RAID5 1down: MAIN RAID5 1down: EXTx	MA I N E R R R A I D 5 1 D O W N  E X T x E R R R A I D 5 1 D O W N	HDD error
RAID5 2down [NX410/NX510]	RAID5 2down: MAIN RAID5 2down: EXTx	RAID5 2down: MAIN RAID5 2down: EXTx	MA I N E R R R A I D 5 2 D O W N  E X T x E R R R A I D 5 2 D O W N	HDD error
RAID6 1down * 2 [NX410/NX510]	RAID6 1down: MAIN RAID6 1down: EXTx	RAID6 1down: MAIN RAID6 1down: EXTx	MA I N E R R R A I D 6 1 D O W N  E X T x E R R R A I D 6 1 D O W N	HDD error
RAID6 2down [NX410/NX510]	RAID6 2down: MAIN RAID6 2down: EXTx	RAID6 2down: MAIN RAID6 2down: EXTx	MA I N E R R R A I D 6 2 D O W N  E X T x E R R R A I D 6 2 D O W N	HDD error
RAID6 3down [NX410/NX510]	RAID6 3down: MAIN RAID6 3down: EXTx	RAID6 3down: MAIN RAID6 3down: EXTx	MA I N E R R R A I D 6 3 D O W N  E X T x E R R R A I D 6 3 D O W N	HDD error
Starting mirroring recovery	–	Starting mirroring recovery: MAIN-y,y Starting mirroring recovery: EXTx-y,y	MA I N – y , y R A I D 1 R – S T A R T  E X T x – y , y R A I D 1 R – S T A R T	–

Description	Display of the status display panel	Error log	Front LCD Display	Output from connector
Starting RAID5 recovery [NX410/NX510]	-	Starting RAID5 recovery: MAIN Starting RAID5 recovery: EXT <sub>x</sub>	M A I N R A I D 5 R - S T A R T  E X T x R A I D 5 R - S T A R T	-
Starting RAID6 recovery [NX410/NX510]	-	Starting RAID6 recovery: MAIN Starting RAID6 recovery: EXT <sub>x</sub>	M A I N R A I D 5 R - S T A R T  E X T x R A I D 5 R - S T A R T	-
Complete mirroring recovery		Complete mirroring recovery: MAIN-y,y Complete mirroring recovery: EXT <sub>x</sub> -y,y	M A I N - y , y R A I D 1 R - C O M P L E T E  E X T x - y , y R A I D 1 R - C O M P L E T E	-
Complete RAID5 recovery [NX410/NX510]	-	Complete RAID5 recovery: MAIN Complete RAID5 recovery: EXT <sub>x</sub>	M A I N R A I D 5 R - C O M P L E T E  E X T x R A I D 5 R - C O M P L E T E	-

Description	Display of the status display panel	Error log	Front LCD Display	Output from connector
Complete RAID6 recovery [NX410/NX510]	–	Complete RAID6 recovery: MAIN Complete RAID6 recovery: EXTx	MA I N R A I D 6 R – C O M P L E T E  E X T x R A I D 6 R – C O M P L E T E	–
Mirroring recovery failure [NX410/NX510]	Mirroring recovery failure: MAIN-y,y Mirroring recovery failure: EXTx-y,y	Mirroring recovery failure: MAIN-y,y Mirroring recovery failure: EXTx-y,y	MA I N – y , y E R R R A I D 1 R – F A I L U R E  E X T x – y , y E R R R A I D 1 R – F A I L U R E	HDD error
RAID5 Recovery failure [NX410/NX510]	RAID5 Recovery failure: MAIN RAID5 Recovery failure: EXTx	RAID5 Recovery failure: MAIN RAID5 Recovery failure: EXTx	MA I N E R R R A I D 5 R – F A I L U R E  E X T x E R R R A I D 5 R – F A I L U R E	HDD error
RAID6 Recovery failure [NX410/NX510]	RAID6 Recovery failure: MAIN RAID6 Recovery failure: EXTx	RAID6 Recovery failure: MAIN RAID6 Recovery failure: EXTx	MA I N E R R R A I D 6 R – F A I L U R E  E X T x E R R R A I D 6 R – F A I L U R E	HDD error
Reboot (Related to CPU)	–	System reboot(CPU)	–	–
Reboot (Related to DEC)	–	System reboot(DEC)	–	–

Description	Display of the status display panel	Error log	Front LCD Display	Output from connector
Reboot (No extension unit connection detected)	–	System reboot(EXT)	–	–
Failed to write data on the media	Copy error	Write error: USB	E R R C O P Y   E R R O R	–
Failed to read 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	N W   E R R N W   L I N K   E R R O R	Network error
Line speed warning (when Auto setting is set to Half)	Line speed warning	Line speed warning: Camera/PC port Line speed warning: PC port	N W   E R R L I N E   S P E E D W R N	Network error
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	N W   E R R N T P   A D J U S T E R R	–
Failed to resolve an address of TCP alarm notification from DNS	–	Address error: TCP ALARM	–	Network error

<b>Description</b>	<b>Display of the status display panel</b>	<b>Error log</b>	<b>Front LCD Display</b>	<b>Output from connector</b>
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
Unable to resolve HTTP alarm notification destination from DNS	–	HTTP alarm address resolution error	–	Network error
HTTP alarm notification destination no response	–	HTTP alarm no response	–	Network error
HTTP alarm authentication error	–	HTTP alarm authentication error	–	Network error
HTTP alarm certificate validation error	–	HTTP alarm certificate error	–	Network error
HTTP alarm certificate validation warning	–	HTTP alarm certificate warning	–	Network error
Other error: HTTP alarm address	–	Other error: HTTP alarm	–	Network error
Undetected sub monitor	Undetected sub monitor	Undetected sub monitor	E R R S U B M O N I T O R	–
Power failure detection	Power failure detection	Power failure detection	E R R P O W E R F A I L U R E	Recorder error
Power failure recovery	Power failure recovery	Power failure recovery	–	–

<b>Description</b>	<b>Display of the status display panel</b>	<b>Error log</b>	<b>Front LCD Display</b>	<b>Output from connector</b>
Camera SD Card error	Backup error: Cam.cc	[SD]Card error: Cam.cc	C A M E R A c c S D C A R D E R R O R	Camera error
Camera SD Write start failure	Backup error: Cam.cc	[SD]Start error: Cam.cc	C A M E R A c c S D C A R D E R R O R	Camera error
Camera SD Write end failure	Backup error: Cam.cc	[SD]End error: Cam.cc	C A M E R A c c S D C A R D E R R O R	Camera error
Camera SD Image acquisition failure	Backup error: Cam.cc	[SD]Get image error: Cam.cc	C A M E R A c c S D C A R D E R R O R	Camera error
Camera SD Accumulated recording time warning	SD life warning: Cam.cc	[SD]Long-term use warning: Cam.cc	C A M E R A c c S D L I F E T I M E W R N	Camera error
Camera SD Overwrite warning	SD life warning: Cam.cc	[SD]Overwrite warning: Cam.cc	C A M E R A c c S D L I F E T I M E W R N	Camera error
Camera SD Access error	SD access warning: Cam.cc	[SD]Access warning: Cam.cc	–	Camera error
Camera SD Recording failure	SD recording error: Cam.cc	[SD]Recording error: Cam.cc	C A M E R A c c S D C A R D E R R O R	Camera error
Camera SD memory card undetected	SD undetected: Cam.cc	[SD]undetected: Cam.cc	C A M E R A c c S D C A R D E R R O R	Camera error
Camera SD memory card remaining capacity warning	SD capacity notification: Cam.cc	[SD]capacity notification: Cam.cc	–	Camera error
Camera SD memory card full	SD no available space: Cam.cc	[SD]no available space: Cam.cc	C A M E R A c c S D C A R D E R R O R	Camera error

<b>Description</b>	<b>Display of the status display panel</b>	<b>Error log</b>	<b>Front LCD Display</b>	<b>Output from connector</b>
Camera hardware error	Hardware error: Cam.cc	Hardware error: Cam.cc	C A M E R A c c H A R D W A R E E R R O R	Camera error
Wiper rubber replacement notice	Wiper rubber: Cam.cc	Wiper rubber: Cam.cc	C A M E R A c c W I P E R R U B B E R	Camera error
Changed angle of the camera	Changed angle: Cam.cc	Changed angle: Cam.cc	C A M E R A c c A N G L E E R R O R	Camera error
Recover angle of the camera	–	Recover angle: Cam.cc	–	–
The trial period for the ext. software of the camera has expired.	Ext. S/W expired: Cam.cc	Ext. software expired: Cam.cc	C A M E R A c c T R I A L E X P I R E D	Camera error
NAS backup error	NAS backup error: Storage-n	NAS backup error: Storage-n	E R R N A S B A C K U P	–
NAS backup full	NAS backup full: Storage-n	NAS backup full: Storage-n	E R R N A S B A C K U P F U L L	–
NAS backup Interrupted	NAS backup Interrupted:Storage-n	NAS backup Interrupted: Storage-n	E R R N A S B A C K U P	–
Failover (Operation suspended)	Failover	Failover: Operation suspended	E R R F A I L O V E R : M A S T E R	Recorder error
Failover (Alternative operation)	–	Failover: Recorder-m	–	–
Rollback startup (startup with spare software)	Rollback	Rollback	E R R R O L L B A C K	Recorder error
Starting remote monitoring	–	Starting remote monitoring: Cam.cc	–	–
Suspending remote monitoring	Suspending remote monitoring: Cam.cc	Suspending remote monitoring: Cam.cc	C A M E R A c c R E M O T E M O N I T O R	Camera error



Description	Display of the status display panel	Error log	Front LCD Display	Output from connector
Remote monitoring response error	–	Remote error: Remote monitoring	–	Network error

\*1 "HDD skip" is a function that allows recording to continue on the next HDD in the recording order in the event of a write error or other problem with the HDD. Skipping speeds up overwritten recording, thus shortening the date/time range of the recorded image. If there is only one HDD, recording will continue from the beginning of that HDD. In this case, the date/time range of the recorded image will be shortened as well.

\*2 If a RAID6 1down state occurs due to RAID recovery from a RAID6 2down state, the HDD number will not be displayed on the status display panel or Error history/Error log.

### 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
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

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<b>Description</b>	<b>Network log</b>	<b>Output from connector</b>
Password error for SNMP user name	<SNMP>USER_PASS_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
DHCP IP address acquisition	<DHCP>IP_ADD_OK	–
DHCP IP address update failure	<DHCP>IP_ADD_UPDATE_ERR	Network error
DHCP IP address duplicated with other devices	<DHCP>DUPLICATE_IP_ADD	Network error
DHCP IP miscellaneous error	<DHCP>OTHER_ERR	Network error

# [Operation via recorder's main monitor]

## Before operation

### Operation window

The recorder can be operated using the included mouse connected to the mouse connection port on the recorder. When operating the recorder using a web browser, refer to "[Setup Network]".

[Configure the network settings](#)

### 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.

☞ [Monitor live images](#)

### ② Status display panel

Displays the statuses of the recorder. Also displays alarm/error status and remedies.

☞ [Main monitor \(A monitor to display the live image, the playback image and the setup menu\)](#)

### 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.

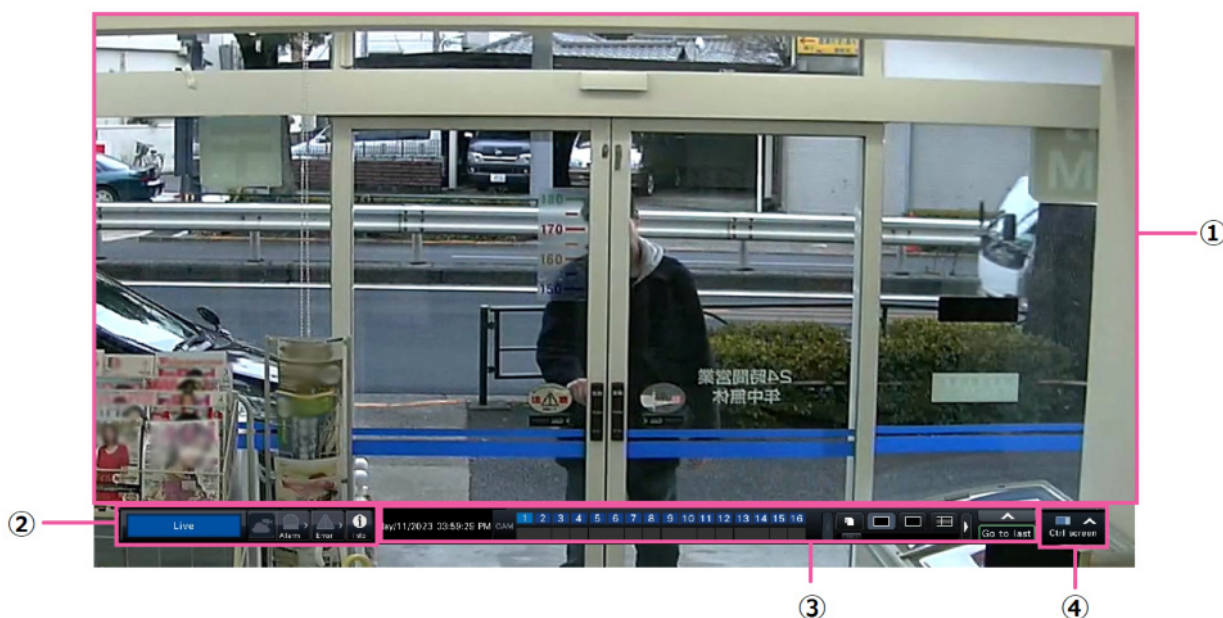
### ④ [Wide view] button

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.

☞ [Monitor live images](#)

## ② Status display panel

Displays the statuses of the recorder. Also displays alarm/error status and remedies.

☞ [Main monitor \(A monitor to display the live image, the playback image and the setup menu\)](#)

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.



The number of images that can be displayed on the multiscreen differs for the control screen and the wide view screen.



**Note:**

- It is possible to select whether to display or hide the wide view multi-screen selection button. Refer to the following section for further information.  
[☞ Set up the main monitor \[Main monitor\]](#)
- [NX410/NX510] The 64-screen can be displayed only if no camera is selected in the "Camera Selection" settings of the sub monitor.

The startup screen to be displayed upon login in the image display area (default screen) can be set for each login user.

Refer to the following section for how to configure the default screen.

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



**Note:**

- If the default screen other than "Cam.1" - "Cam.128" is selected, the default screen of the web browser on the PC will automatically display 1-screen display for Cam.1.

**① Camera title**

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). Refer to the following section for further information.

[Set up the main monitor \[Main monitor\]](#)

The magnification is displayed around the camera title during zoom display in wide view.

**② Date & time**

Date & time will be displayed as set on the camera.

**③ Camera selection frame**

Displays the camera being operated. When using 1-screen/4-screen display, the cameras can be operated with the mouse. It is displayed only when the operation screen is displayed. Refer to the following sections for 1-screen/4-screen display.

[1-screen display](#)

[Display images from cameras on a multiscreen](#)

**About the status display panel**

**Normal operation**


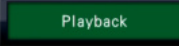
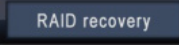
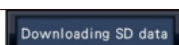
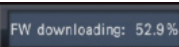
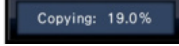
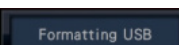
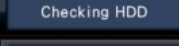
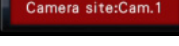
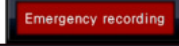

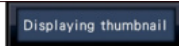


**In case of alarm/error (When the associated buttons are displayed)**







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
Mirroring recovery / RAID recovery	Currently in the process of Mirroring / RAID recovery.		5
Downloading SD data	Indicates that SD memory data is being obtained from camera.		4
Software downloading in progress	The software is downloaded from the remote monitoring. The progress is displayed in %.		3
Copying	Data is being copied. Copying progress is displayed in %.		3
Formatting USB	USB medium is being formatted.		3
Checking HDD	Identifying the HDD.		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 **Remote monitoring status display**

This displays the connection status with the remote monitoring and the connection status of the cameras registered to the product.

- : Both the product and the camera registered to the product, are correctly connected to the remote monitoring.
- : The product is correctly connected to the remote monitoring, but the camera registered to the product is not correctly connected to the remote monitoring.
- : The product is not connected to the remote monitoring.
- : The product is not registered for remote monitoring.

③ **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.

④ **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.

⑤ **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.

⑥ **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.

⑦ **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.

⑧ **Error reset button**

Cancels the error (trouble) action. Clickable only in the error state.

⑨ **Information display button**

Displays system and HDD information of the recorder.

## Sub monitor (monitor for display of live images only)



### 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 multiscreen on the sub monitor, or 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.

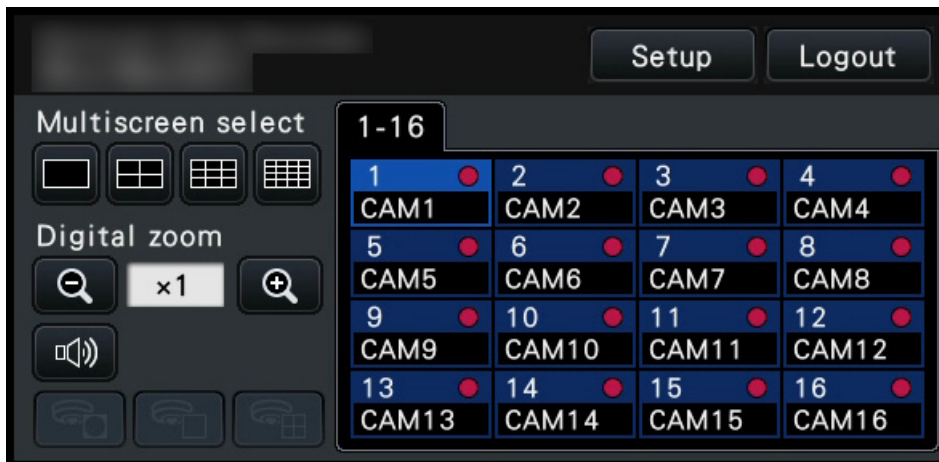
 [Configure the settings relating to sub monitors \[Sub monitor\]](#)



### 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/16-screen live sequence operation, the black image is displayed at the timing when the camera image is switched. When connected to a 4K monitor, a black screen will also be displayed during 4-screen live sequence operation.
- 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.
- Depending on the re-encoding transmission, the frame rate of the displayed camera image may change or a momentary black image may appear.

## 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", login will be automatically performed by the user registered in "Auto login user" in the logged-out state. Refer to the following section for "Auto login".

☞ [Configure the settings relating to the user management \[User management\]](#)

## Login operation at startup

When "Off" is selected for "Auto login", the recorder will start up in the logged-out state after completing the system check. Refer to the following section for "Auto login".

☞ [Configure the basic settings relating to user management \[Basic\]](#)

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 using on-screen keyboard.



- Refer to the following section for how to register users.  
☞ [Register, edit or delete the user information \[User registration\]](#)



**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:**

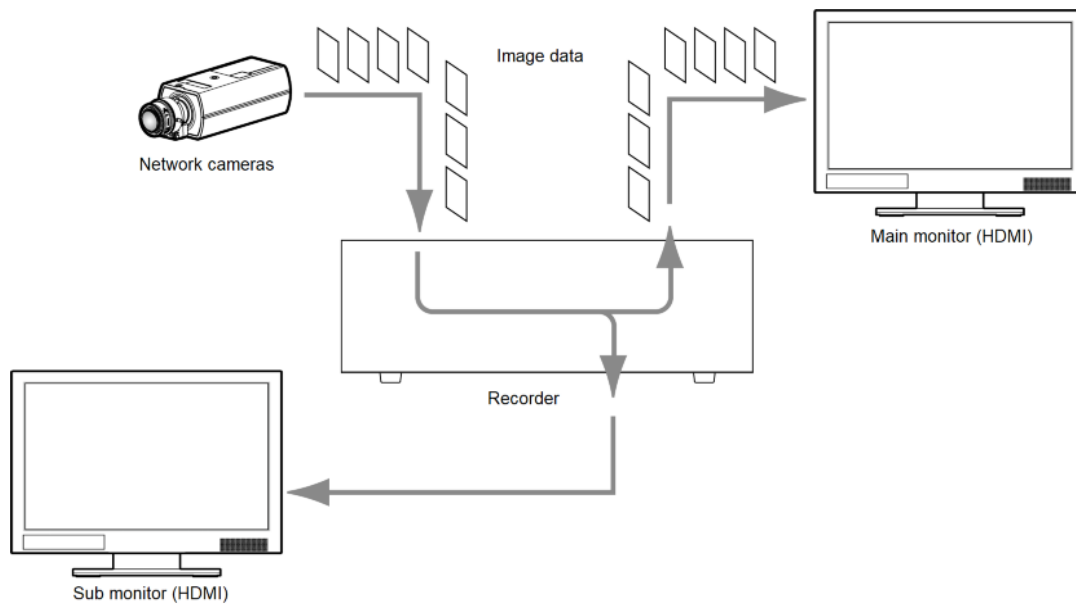
- The administrator is not registered when the recorder is purchased. Enter an administrator name, a password and the password retyping following the instruction on the display and click [Registration] as "Administrator registration" screen is displayed on the main monitor when you first launch the recorder.
- To 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" 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 these operations.

## View

### 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 multiscreen.

👉 [Configure the settings relating to sub monitors \[Sub monitor\]](#)

When displaying images from the camera for which "On" is selected for "Audio" under "Recording setup", audio captured by the camera will be output. When displaying images on a multiscreen, audio from the selected camera will be heard. Refer to the following section for "Recording setup".

👉 [Set up recording for individual cameras \[Advanced recording setup\]](#)



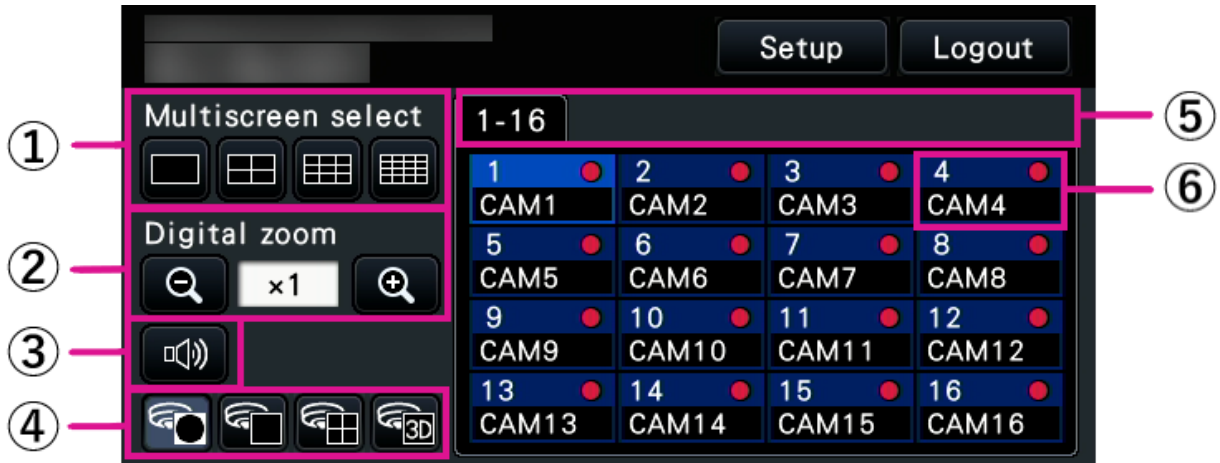
**Note:**

- 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.
- When using a 4K-compatible monitor, also refer to the following section.  
👉 [Restrictions when using this product](#)

## 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



#### ① Multiscreen buttons

The buttons switch the number of split screens in the image display area.

#### ② Digital zoom buttons

When displaying images on a 1-screen or 4-screen, the images can be enlarged/reduced.

👉 [Use digital zoom](#)

#### ③ Mute button

Each click of this button toggles between mute and mute cancel of the camera audio.

#### ④ 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.

3D dewarp button

Displays the fisheye image in 3D dewarp.

Only when the camera image is displayed on a 1-screen in a control screen, will the fisheye



correction display button be displayed.

### ⑤ Camera number tab

: Displays the camera number panel to display.

### ⑥ 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: Other than the above.

Recording indicator: Lights red when recording is being performed. Display of  indicates a connection error.



#### Note:

- [NX310] When the camera number tab "1-32" is pressed, the camera number panel will not display camera number, and will only display camera title and recording indicator.

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: Camera is not registered.

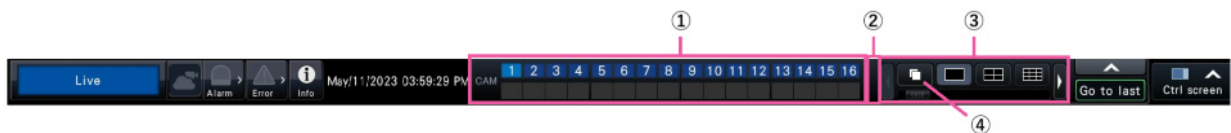
Red: Event recording is being performed.

- [NX510] When the camera number tab "1-64" and "65-128" is pressed, the camera number panel will not display camera title, and will only display camera number and recording indicator.

The meaning of the camera number character color and background color is the same as the camera title of [NX310] above.

- [NX410] If the license of camera additional kit is not registered, the display will be the same as [NX310] above, and if it is registered, the display will be the same as [NX510] above.

## Wide view operation panel



### ① Camera number panel

Camera number [CAM]:

(Character color)

White: Camera is registered (in the recording).

Black: Camera is registered (not in the recording).

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.

Drag and drop the camera number part to the position you want to display in the image display area, and the camera image of the selected camera number will be displayed at that position.

### ② Camera number switch button [NX410/NX510]

Switches camera number to display.

### ③ Multiscreen buttons

The buttons switch the number of split screens in the image display area.



**Note:**

- It is possible to hide/display the multi-screen selection buttons on the operation panel. Refer to the following section for further information.
  - ☞ [Set up the main monitor \[Main monitor\]](#)
- 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.
- [NX410/NX510] The 64-screen display are not available for the sub monitor. (If any of the cameras listed in the "Camera selection" of the following settings is selected, the sub monitor will be used.)
  - ☞ ["Configure the settings relating to sub monitors \[Sub monitor\]"](#)

### ④ 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:**

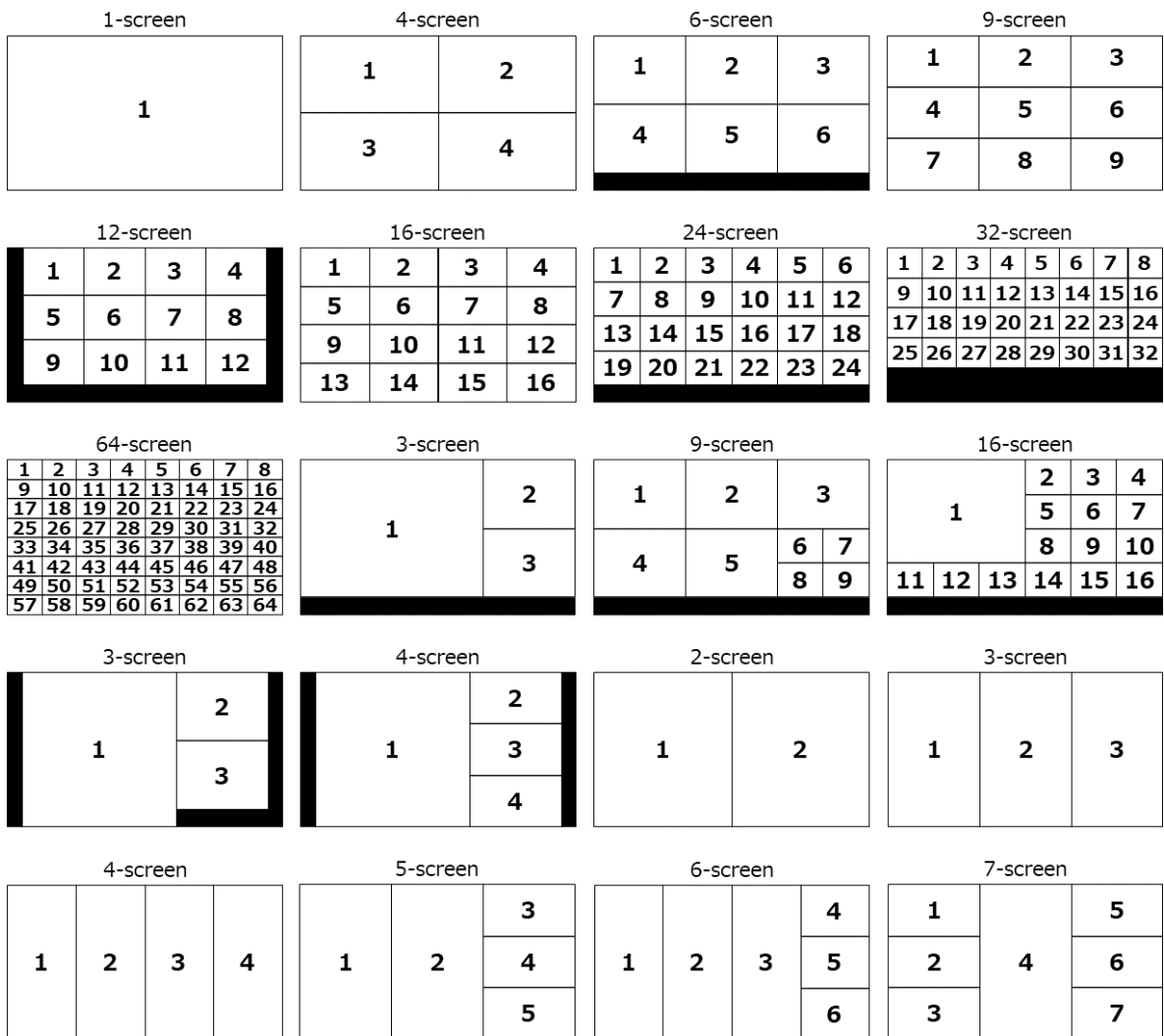
- During the sequence, the dragging & dropping of the camera number panel onto live images can't switch over camera images.
- During the sequence, the audio is not output. When fixing the audio output in "Audio output camera" found in the "Advanced Setup" section under "Monitor", the audio will be output.
- 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.
- In the following case, it is not possible to display camera images in the 9-screen live sequence and the 16-screen live sequence in the case of a camera set to a resolution higher than 0.4M (640×640) and the compression method to JPEG (even when the 4-stream mode of the fisheye camera,

connection with ONVIF compatible camera, RTSP URL address connection is H.264/H.265).

- Use sub monitor
- Play in browser
- Perform mobile playback of smartphone applications

### Change the camera display position on the screen

The default camera display positions are as follows:



\*64-screen can be selected for NX410/NX510.

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.



**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.
- By default, 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. Refer to the following section for settings to keep the aspect ratio.  
[👉 Set up the main monitor \[Main monitor\]](#)

If the compression method of the registered camera is JPEG, then depending on the resolution setting and operational configuration, it may not be possible to display live images in multiple screens.

**Main monitor**

[No sub-monitor display, no re-encoding transmission]

Multiscreen display	Image capture size			
	HVGAW(640×360)~ SXVGA(1280×960)	1.4M(1200×1200)~ FHD(1920×1080)	QXGA (2048×1536)~ 4KUHD (3840×2160)	9M(2992×2992)
1-screen to 4-screen display, 1-screen sequence, 4-screen sequence (4K monitor connection)	○	○	○	○

[Operation via recorder's main monitor]

[No sub-monitor display, no re-encoding transmission] (continued)

Multiscreen display	Image capture size			
	HVGAW(640×360)~ SXVGA(1280×960)	1.4M(1200×1200)~ FHD(1920×1080)	QXGA (2048×1536)~ 4KUHD (3840×2160)	9M(2992×2992)
5-screen to 7-screen display, 4-screen sequence (1080p monitor connection)	○	○	○	×
9-screen to 16-screen display, 9-screen sequence, 16-screen sequence	○	○	×	×
24-screen to 64-screen display	○	×	×	×

[Sub-monitor display available]

Multiscreen display	Image capture size	
	HVGAW(640×360)~ SXVGA(1280×960)	1.4M(1200×1200)~ 9M(2992×2992)
1-screen to 4-screen display, 1-screen sequence, 4-screen sequence (4K monitor connection)	○	○
5-screen to 32-screen display, 4-screen sequence (1080p monitor connection), 9-screen sequence, 16-screen sequence	○	×

[Re-encoding transmission available]

Multiscreen display	Image capture size	
	HVGAW(640×360)~ SXVGA(1280×960)	1.4M(1200×1200)~ 9M(2992×2992)
1-screen to 4-screen display, 1-screen sequence, 4-screen sequence (4K monitor connection)	○	○
5-screen to 64-screen display, 4-screen sequence (1080p monitor connection), 9-screen sequence, 16-screen sequence	○	×

**Sub monitor**

Multiscreen display	Image capture size		
	HVGAW(640×360)~ 0.4M(640×640)	SVGA(800×600)~ FHD(1920×1080)	QXGA(2048×1536)~ 9M(2992×2992)
1-screen display, 1-screen sequence, 4-screen sequence (4K monitor connection)	○	○	○
4-screen display (1080p monitor connection)	○	○	×
9-screen, 16-screen display, 24-screen, 32-screen, 9-screen sequence, 16-screen sequence	○	×	×

When the compression method of the registered camera is H.264/H.265, stream 2 (H.264(2) or H.265(2)) is not used, such as 4-stream mode for omnidirectional cameras During operation, it may not be able to display live images in multiple screens.

**Main monitor**

[Operation via recorder's main monitor]

[No sub-monitor display, no re-encoding transmission]

Multiscreen display	Image capture size			
	HVGAW(640×360)~ 0.4M(640×640)	SVGA(800×600)~ FHD(1920×1080)	QXGA (2048×1536)~ 4KUHD (3840×2160)	9M(2992×2992)
1-screen display, 2-screen display, 1-screen sequence	○	○	○	○
3-screen display, 4-screen display (4K monitor connection)	○	○ *1	○	○
5-screen to 7-screen display, 4-screen sequence (1080p monitor connection)	○	○ *1	○ *2	×
9-screen to 16-screen display, 9-screen sequence, 16-screen sequence	○	○ *1	×	×
24-screen	○	×	×	×
32-screen	○ *2	×	×	×
64-screen	○ *3	×	×	×

[Sub-monitor display available]

Multiscreen display	Image capture size			
	HVGAW(640×360)~ 0.4M(640×640)	SVGA(800×600)~ FHD(1920×1080)	QXGA (2048×1536)~ 4KUHD (3840×2160)	9M(2992×2992)
1-screen display	○	○	○	○
2-screen display, 1-screen sequence	○	○ *1	○	○



[Operation via recorder's main monitor]

[Sub-monitor display available] (continued)

Multiscreen display	Image capture size			
	HVGAW(640×360)~ 0.4M(640×640)	SVGA(800×600)~ FHD(1920×1080)	QXGA (2048×1536)~ 4KUHD (3840×2160)	9M(2992×2992)
3-screen display, 4-screen display, 4-screen sequence (4K monitor connection)	○	○ *1	○ *2	○ *2
5-screen to 16-screen display, 4-screen sequence (1080p monitor connection), 9-screen sequence, 16-screen sequence	○	×	×	×
24-screen to 32-screen display	○ *2	×	×	×

[Re-encoding transmission available]

Multiscreen display	Image capture size			
	HVGAW(640×360)~ 0.4M(640×640)	SVGA(800×600)~ FHD(1920×1080)	QXGA (2048×1536)~ 4KUHD (3840×2160)	9M(2992×2992)
1-screen display	○	○	○	○
2-screen display, 1-screen sequence	○	○ *1	○	○
3-screen display, 4-screen display, 4-screen sequence (4K monitor connection)	○	○ *1	○ *2	○ *2

[Re-encoding transmission available] (continued)

Multiscreen display	Image capture size			
	HVGAW(640×360)~ 0.4M(640×640)	SVGA(800×600)~ FHD(1920×1080)	QXGA (2048×1536)~ 4KUHD (3840×2160)	9M(2992×2992)
5-screen to 24-screen display, 4-screen sequence (1080p monitor connection), 9-screen sequence, 16-screen sequence	○	×	×	×
32-screen	○ *2	×	×	×
64-screen	○ *3	×	×	×

\*1 If the frame rate setting for recording exceeds 30 ips, the display will follow the refresh interval set for the camera.

\*2 If the frame rate setting for recording exceeds 15 ips, the display will follow the refresh interval set for the camera.

\*3 If the frame rate setting for recording exceeds 10 ips, the display will follow the refresh interval set for the camera.

**Sub monitor**

Multiscreen display	Image capture size		
	HVGAW(640×360)~ 0.4M(640×640)	SVGA(800×600)~ FHD(1920×1080)	QXGA(2048×1536)~ 9M(2992×2992)
1-screen display	○	○	○
1-screen sequence	○	○ *1	○
4-screen display, 4-screen sequence (4K monitor connection)	○	○ *1	○ *2
4-screen sequence (1080p monitor connection)	○	○	×

Multiscreen display	Image capture size		
	HVGAW(640×360)~ 0.4M(640×640)	SVGA(800×600)~ FHD(1920×1080)	QXGA(2048×1536)~ 9M(2992×2992)
9-screen, 16-screen display, 9-screen sequence, 16-screen sequence	○	×	×
24-screen, 32-screen	○ *2	×	×

\*1 If the frame rate setting for recording exceeds 30 ips, the display will follow the refresh interval set for the camera.

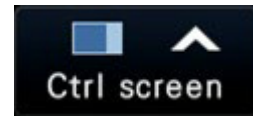
\*2 If the frame rate setting for recording exceeds 15 ips, the display will follow the refresh interval set for the camera.

### 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 on the operation window. Refer to the following section for [Wide view] button.

☞ [Main monitor \(A monitor to display the live image, the playback image and the setup menu\)](#)

→ 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" 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

1 CAM1	2 CAM2	3 CAM3	4 CAM4
5 CAM5	6 CAM6	7 CAM7	8 CAM8
9 CAM9	10 CAM10	11 CAM11	12 CAM12
13 CAM13	14 CAM14	15 CAM15	16 CAM16

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 the following section for the setting to enlarge the vertical size of displayed images.

☞ [Set up the main monitor \[Main monitor\]](#)

## 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



If a camera that you want to display is not on the camera number panel, switch the panel by the camera number switch button and move to Step 2.



#### 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.

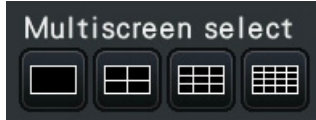
## Displaying images on a control screen

### 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  
4-screen display includes the currently selected camera. Each time the button is clicked, the display switches between four screens: Cam.1 - 4 → Cam.5 - 8 → Cam.9 - 12 → Cam.13 - 16, and so on
- 9-Screen button  
9-screen display includes the currently selected camera. Each time the button is clicked, the display switches between 9 screens: Cam.1 - 9 → Cam.10 - 18 → Cam.19 - 27, and so on.
- 16-Screen button  
16-screen display includes the currently selected camera. Each time the button is clicked, the display switches between 16 screens: Cam.1 - 16 → Cam.17 - 32 → Cam.33 - 48, and so on.



**Note:**

- After having switched from multiscreen display to 1-screen display, double-clicking the image display area will display the multiscreen displayed before switching screens.
- The display can also be switched between 4-screen/9-screen/16-screen by clicking on the camera number panel in the 4-screen/9-screen/16-screen mode. (Clicking on the panel for Cam.5 while 1 to 4 are displayed will display 5 to 8.)
- 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 the following section for the setting to enlarge the vertical size of displayed images.

☞ [Set up the main monitor \[Main monitor\]](#)

## 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:

- 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:


- The digital zoom cannot be used when 9-screen/16-screen are displayed.
- 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.

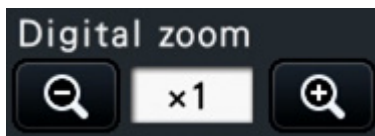
(when displaying on the 4-screen, select the camera whose image is to be zoomed)

### 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.
- If "Enable camera control with mouse" on the camera control panel 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.

 [Camera control panel](#)

### 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.

## 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.



**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.
  - ☞ [Set up the main monitor \[Main monitor\]](#)
- Digital zoom is automatically canceled by other operations such as selecting another camera or changing the screen pattern.

## 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. There are the following types of correction display for fisheye images.

### 1-screen PTZ display/4-screen PTZ display

Cuts out a part of the fisheye image and displays it in 1-screen display or 4-screen display with correction.

### 3D dewarp

3D technology is applied to correct fisheye images, and the correction is displayed in 1-screen display.



**Note:**

- The fisheye correction display is not available in wide view and on the multiscreen.  
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/3D dewarp button.

→ Corrected display will be performed with 1-screen PTZ / 4-screen PTZ / 3D dewarp.

Displays images with the following angles of view.

Fisheye correction display button

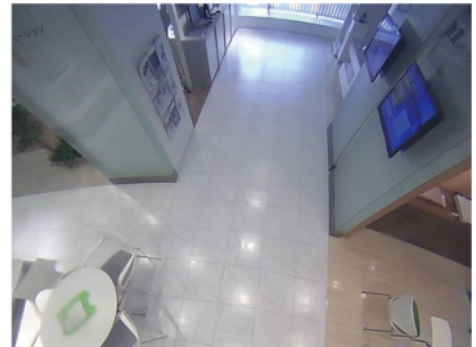


■ 1-Screen PTZ display

Fisheye

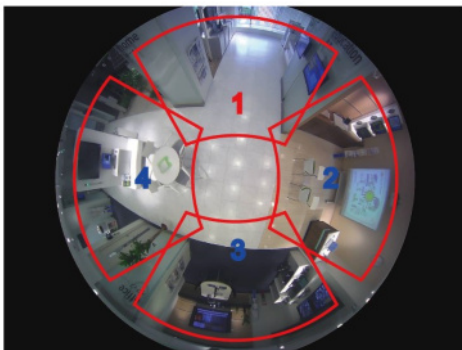


After 1-screen correction

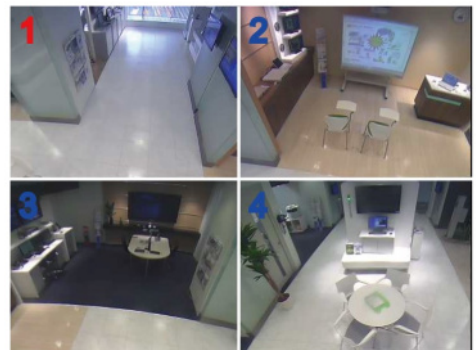


■ 4-Screen PTZ display

Fisheye



After 4-screen correction

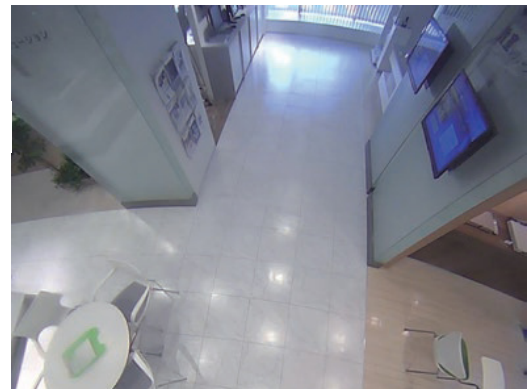


■ 3D dewarp display

Fisheye display mode



PTZ display



Zoom in



Zoom out

The operating procedures for each correction display are as follows.

### 1-screen PTZ display / 4-screen PTZ display

- Movement of display position

If you click on the image during correction display, the display position will move so that that position becomes the center of the display. For 4-screen PTZ display, click to select the image whose display position you want to move, then click on the image.

- zoom

Same as digital zoom, use the mouse wheel to zoom.

 [Use digital zoom](#)



#### Note:

- The clicked position may not come to the center depending on the clicked position.
- 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.
- 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.

### 3D dewarp display

The 3D dewarp display has two modes: fisheye display and PTZ display, and you can change the mode by zooming in/out.

- Zoom in

Move the mouse cursor to the position you want to zoom in on the fisheye image and rotate the mouse wheel backwards.

→ Zoom in so that the mouse cursor position is at the center of the displayed image.

When you zoom in, it becomes PTZ display mode and pan/tilt/zoom operations are possible.

- Zoom out

Rotate the mouse wheel towards you while in PTZ display mode.

→If you continue to zoom out, the image will appear in fisheye display mode.

- Pan/Tilt

Place the mouse cursor anywhere on the image and drag it.

→The image will move in the direction you drag the mouse.

- zoom

Rotating the mouse wheel backwards will enlarge the image, and rotating it toward you will reduce the image.



**Note:**

- If the camera's image capture mode is set to "Ceiling" or "Desktop", you can rotate the fisheye image in fisheye display mode.
- You can zoom in to the PTZ display mode by double-clicking on the image in the fisheye display mode (the reverse is also possible).
- High resolution, high frame rate images may not be corrected and displayed at their 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. If the fisheye image is corrected and displayed in 1-screen after the recorder is turned on, it will be corrected and displayed on the previous position immediately before it was turned off.
- 3D dewarp display does not save the corrected display position.
- The split line is displayed on the image in a moment when the correction function is canceled 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, camera operations are available.

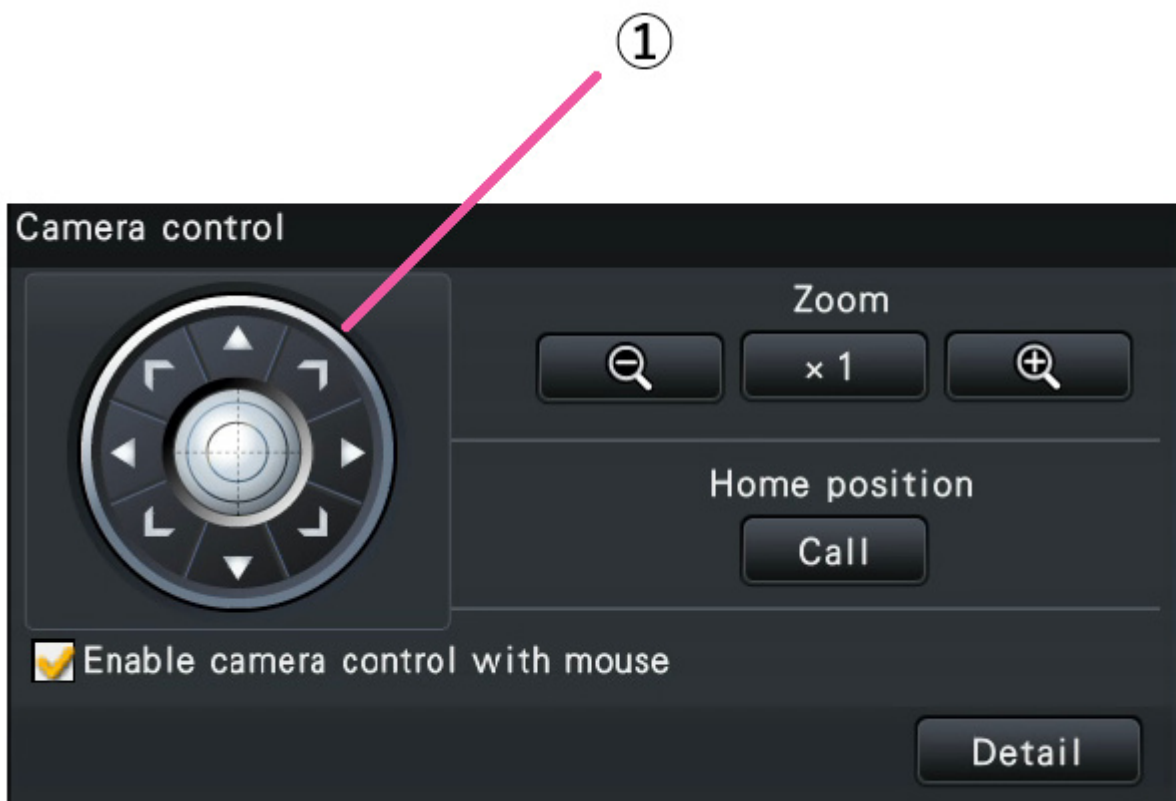


**Note:**

- 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 (①)

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.



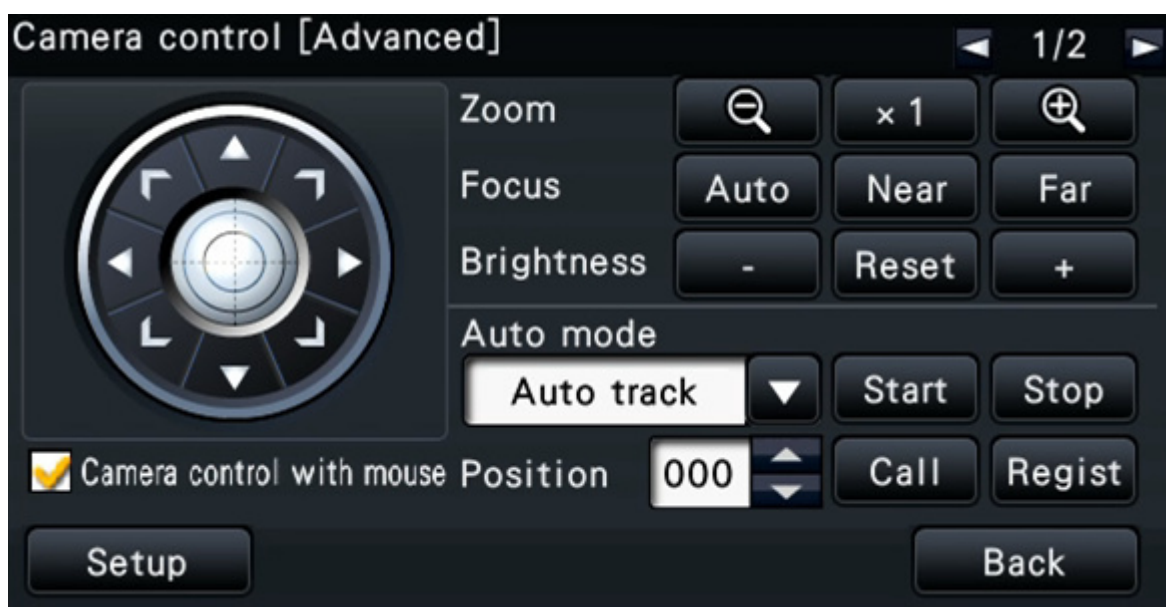
**Note:**

- When this checkbox is marked, digital zooming 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.

[👉 Use digital zoom](#)

**[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.

**[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.

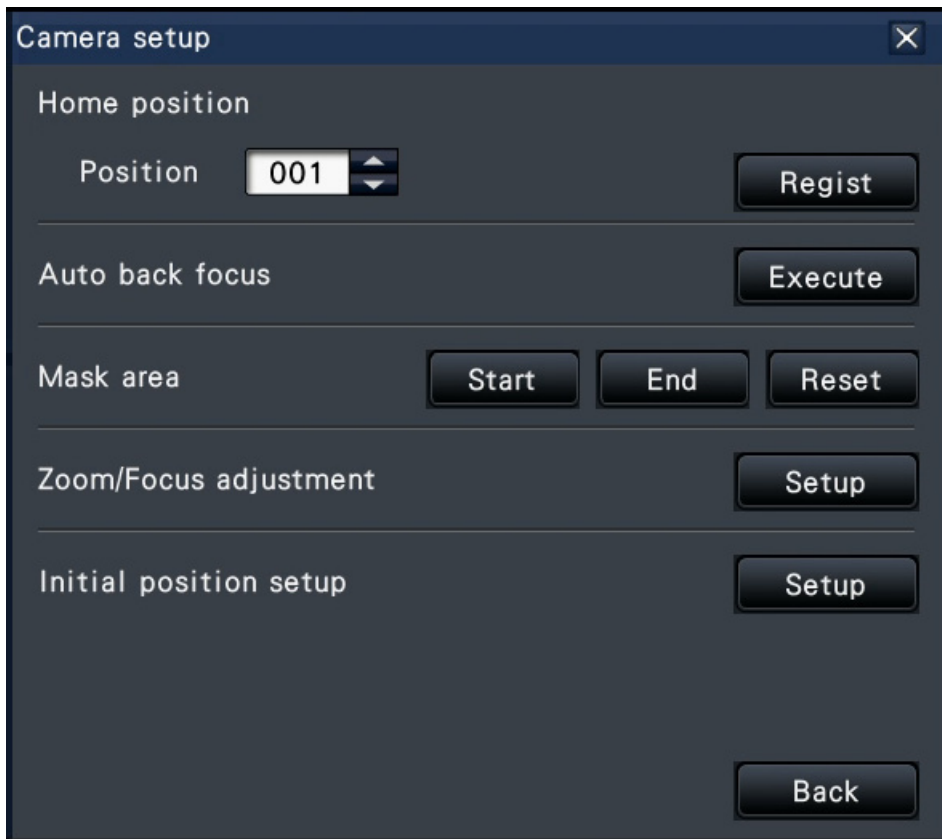
### **● Active ClearSight button**

Operate the Active ClearSight.

### **[Setup] button**

Displays the camera setup window for registering a home position, executing auto back focus, etc.

[👉 Camera control panel](#)



### **[Back] button**

Closes the "Camera control [Advanced]" and returns to the camera control panel.



**Note:**

- Controlling the camera is not possible on the wide view screen or 9-screen/16-screen display.

Camera operation is as follows.



**Note:**

- For 4-screen display, select the camera to be operated.



Function	Function Description	Operation
Pan/Tilt	Adjusts the horizontal/vertical position of the camera image.	Click the control button on the camera control panel. Also, if you have checked "Operate camera with mouse", when you click the position in the camera image that you want to use as the center of the angle of view, the direction of the camera moves to center on the clicked position.
Zoom	Operates the zoom of the camera lens to enlarge/reduce the camera image.	Click the [-] or [+] button on the camera control panel. Click the [x1] button to return the zoom magnification to 1x. Also, if you check "Operate camera with mouse", you can adjust the zoom by operating the mouse wheel on the camera screen. <b>Note</b> When you select the area you want to display by dragging the mouse, the direction of the camera moves to the position centered on the selected area, and the zoom magnification is automatically adjusted.
Move to home position	Move the direction of the camera to the home position registered in advance.	Click the [Move] button in the home position of the camera control panel. <b>Note</b> Register the home position in advance.
Focus	Adjusts the focus of the camera image.	Click the focus [zoom in] or [zoom out] button on the advanced camera control panel. Click the [Auto] button to automatically adjust the focus.
Brightness	Adjusts the aperture of the lens.	Click the [Dark (-)] or [Bright (+)] button for brightness on the advanced camera control panel. Click the [Standard] button to return brightness setting to standard.
Auto mode	Activates the Auto mode function set in the camera.	Click the [▼] button for the Auto mode in the advanced camera control panel to select the following Auto modes. Click the [START] button to start the camera in Auto mode. Click the [Exit] button to exit the Auto mode. <ul style="list-style-type: none"> <li>● Auto-Following/Tracking: The camera automatically tracks objects moving on the screen.</li> <li>● Auto Pan: The camera automatically rotates within the range of the pan start and end positions as set in advance.</li> <li>● Preset Sequence: Moves through the preset positions registered</li> </ul>

Function	Function Description	Operation
		<p>in advance in the camera, starting with the lowest preset number.</p> <ul style="list-style-type: none"> <li>● Patrol: Performs the operations recorded in advance by the camera.</li> </ul> <p><b>Note</b> Set the Auto mode in the camera menu before use.</p>
Preset registration	Registers the current camera orientation to the selected preset position.	<p>Perform pan/tilt operations on the advanced camera control panel to move the camera in the direction you want to register.</p> <p>Click the [▲]/[▼] buttons for "Preset" and select the preset number (1 to 256) you want to register.</p> <p>Click the [Register] button, and then click the [OK] button on the confirmation screen.</p> <p><b>Note</b> Some preset numbers cannot be registered depending on the connected camera model.</p>
Preset move	Moves the camera orientation to the position preset in the preset registration.	<p>Click the [▲]/[▼] buttons for "Preset" on the advanced camera control panel, select a preset number (0 to 256), and click the [Move] button.</p> <p><b>Note</b> Select preset number 0 to move to the home position.</p>
AUX operation	Opens/closes the device connected to the AUX terminal of the camera.	<p>Click the page switch button at the top right of the advanced camera control panel screen to switch the panel to 2/2.</p> <p>Select the AUX terminal number from the pull-down menu, then click the [Open]/[Close] buttons.</p> <ul style="list-style-type: none"> <li>● Click the [Open] button to open the AUX terminal of the camera.</li> <li>● Click the [Close] button to close the AUX terminal of the camera.</li> </ul> <p><b>Note</b> AUX terminal number selection is valid only for the WJ-GXE500. For cameras other than WJ-GXE500, only Open/Close operation is possible.</p>
Wiper operation	Wiper operation operates the washer/wiper.	<p>Click the page switch button at the top right of the advanced camera control panel screen, to switch the panel to 2/2.</p> <p>Select the wiper operation from the dropdown and click the [Start] or [End] button.</p> <ul style="list-style-type: none"> <li>● High-speed: Continuous wiping operation. (once every 4 seconds)</li> </ul>

Function	Function Description	Operation
		<ul style="list-style-type: none"> <li>● Low-speed: Continuous wiping operation. (once every 8 seconds)</li> <li>● Temporary control: Performs 5 wiping operations at high speed (once every 4 seconds).</li> <li>● Washer: Performs the specified washer/wiper operation.</li> </ul> <p><b>Note</b></p> <ul style="list-style-type: none"> <li>● The following operations cannot be performed while the washer is in operation.                             <ul style="list-style-type: none"> <li>• "Wiper" function - [Start] and [End] operations</li> <li>• Pan, tilt, zoom, and focus control</li> <li>• "Auto mode" - [Start] operation</li> <li>• "Preset" - [Move] operation</li> </ul> </li> <li>● Washer operation setting is required on the camera side. For more information, refer to the Operating Instructions of WV-SUD638.</li> </ul>
Active ClearSight	Activates the Active ClearSight function.	Click the page switching button on the top right of the advanced camera control panel screen to switch the panel to 2/2. Click the [Start] button of Active ClearSight.
Home position registration	Sets the home position from the registered preset positions.	In the advanced camera control panel, register presets and click the [Set] button. On the displayed camera setup screen, click the [▲]/[▼] buttons for "Preset" and select the preset number (1 to 256) to be registered as the home position. Click the [Register] button, and then click the [OK] button on the confirmation screen. Click the [Back] button to return to the advanced camera control panel.
Auto back focus operation	The camera's auto back focus works and automatically adjusts the back focus for the subject in the center area of the screen.	Click the [Set] button on the advanced camera control panel. Click the [Execute] button in [Auto Back Focus] on the displayed camera setup screen. Click the [Back] button to return to the advanced camera control panel.

Function	Function Description	Operation
Mask area setup	Sets the mask area of the camera.	<p>Click the [Set] button on the advanced camera control panel. When you click the [Start] button in [Mask area] on the displayed camera setup screen, a grid-like boundary line is displayed in the image display area, and the squares set as the mask area become white and translucent.</p> <p>Click a square in the image display area to switch the mask setting for that square On/Off.</p> <p>Click the [End] button to end the mask area setting and erase the lattice border.</p> <p>Click the [Back] button to return to the advanced camera control panel.</p> <p><b>Note</b></p> <p>Click the [Reset] button to clear all mask settings.</p>
Zoom/Focus adjustment	Adjusts camera zoom and focus.	<p>Click the [Set] button on the advanced camera control panel. Click the [Set] button in [Zoom/Focus adjustment] on the displayed camera setup screen. Click the [-] [x1] [+] buttons on the displayed zoom/focus adjustment screen to adjust the zoom. Also click the [Zoom in] [Reset] [Zoom out] buttons to adjust the focus.</p> <p>Click the [Back] button to return to the camera setup screen.</p>
Initial position setup	Tilts the omnidirectional camera, adjusts the vertical angle and adjusts the image cropping position horizontally.	<p>Click the [Set] button on the advanced camera control panel. Click the [Set] button in [Initial position settings] on the displayed camera setup screen.</p> <p>Adjust the position by clicking various buttons or directly on the image on the displayed initial position setting screen.</p> <p>Click the [Save settings] button to save the adjusted image position in the camera.</p> <p>Click the [Back] button to return to the camera setup screen.</p>

## Event function

### About 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.

 [Set up recording/events \[REC & event\]](#)

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*4	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.	●	●	×

Event action		Description	Mode*1		
			A	B	C
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*3	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*3	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 [×] button.	●	×	×
	Record the alarm logs*2, *3	Date & time of the event and event information will be recorded in a log list.	●	●	●
	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]. (☞ <a href="#">Configure the advanced settings for schedule recording [Advanced schedule setup]</a> , <a href="#">Configure the TCP alarm notification settings [TCP alarm notification]</a> )	●	×	×
	Notify PC of alarms according to HTTP alarm settings	When an event occurs, the PC is notified of the event according to the "HTTP alarm" settings. (☞ <a href="#">Configure HTTP alarm notification settings [HTTP alarm]</a> )	●	×	×
	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.

\*3 The extension software alarm is displayed by name. Alarms notified by message IDs that are not set are displayed as "Undefined"

☞ [Set up recording/events \[REC & event\]](#)

\*4 The extension software alarm notified by message IDs that are not set is recorded as camera site alarm.

☞ [Set up recording/events \[REC & event\]](#)

## 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. The [BUZZER STOP] button does not reset any of the other alarm actions.

☞ [Cancel the alarm action](#)

## 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. To reset the alarm action, click the [Alarm] button on the status display panel, and click the alarm [Reset] button.

☞ [Main monitor \(A monitor to display the live image, the playback image and the setup menu\)](#)

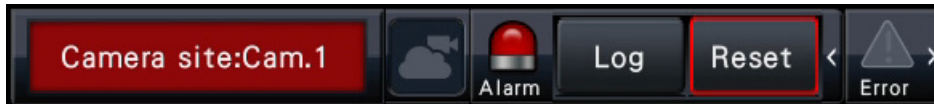
When an item other than "Ext." is selected for "Auto reset time" on the "Event setup" tab under "REC & event" on the setup menu [Basic setup], the following actions will automatically be taken even if the alarm action is not canceled by clicking the alarm [Reset] button.

☞ [Set up event \[Event setup\]](#)

- 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. To cancel an error action, first click the [Error] button on the status display panel and then the displayed error [Reset] button.

 [Set up the main monitor \[Main monitor\]](#)



#### Note:

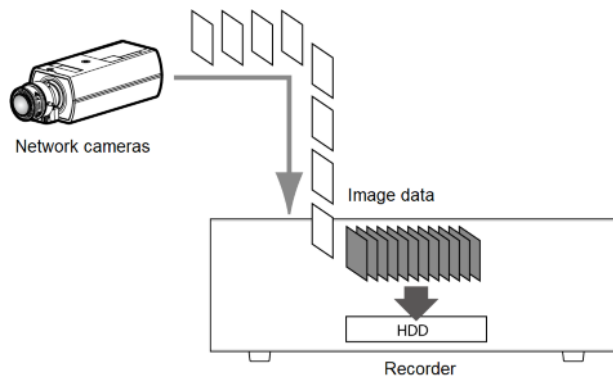
- When an error occurs, take remedial action by following the instructions displayed on the error log panel. The error indicator on the front of the recorder will go off when the cause of the error has been eliminated.
  -  [Play images selected from logs \(Log search\)](#)
- When the cause of the error 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

### Record images

Live images can be recorded on the recorder. The image of 4 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 the following section for schedule recording.

[Set up recording \[Recording setup\]](#)



#### 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 the following section for further information.  
[Set up recording/events \[REC & event\]](#)
- 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 the following section for further information.

 [Set up recording for individual cameras \[Advanced recording setup\]](#)



**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 setup" of "REC & event" - "Advanced setup" tab on the setting menu.

☞ [Configure the advanced settings for recording and events \[Advanced setup\]](#)



### 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 setup" setting is "Ext."

☞ [Configure the advanced settings for recording and events \[Advanced setup\]](#)

## Play

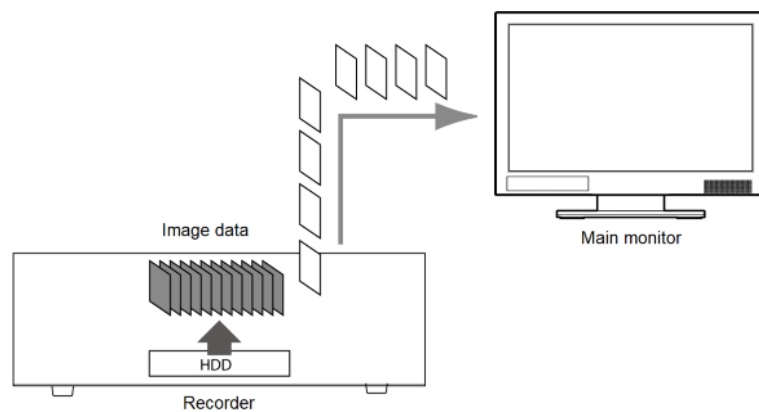
### Play recorded images

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 the following section for playback operation.

☞ [Play image recorded at a designated date & time](#)





**Note:**

- Images can be played on 1-screen and 4-screen in the control screen.
- Images can be played back on 1-screen to 4-screen in the wide view.
- 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 n) during playback.
- The Multiscreen select button, digital zoom button, Mute button and OSD button remain effective during playback. Refer to the following section for further information
  - ☞ [Monitor live images](#)
- 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.
  - ☞ [Playback operation panel](#)
- 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 the following section for the setting to enlarge the vertical size of displayed images.
  - ☞ [Set up the main monitor \[Main monitor\]](#)
- Image with an aspect ratio of 16:9 is displayed fitting into the screen when the image is played in wide view.
- When using a 4K-compatible monitor, also refer to "Restrictions when using this product"
  - ☞ [Restrictions when using this product](#)

When images recorded at a frame rate exceeding the following values are displayed on each segment of a multiscreen, they will be played back according to the refresh interval at the time of recording.

[Operation via recorder's main monitor]

[No sub-monitor display, no re-encoding transmission]

Multiscreen display	Image capture size
	HD(1280×720) FHD(1920×1080)
1-screen, 2-screen display	(N/A)
3-screen, 4-screen display	30 ips

[Sub-monitor display or re-encoding transmission available]

Multiscreen display	Image capture size	
	HD(1280×720) FHD(1920×1080)	QXGA(2048×1536)~ 4KUHD(3840×2160)
1-screen display	(N/A)	(N/A)
2-screen display	30 ips	(N/A)
3-screen, 4-screen display	30 ips	15 ips

[Sub-monitor display and re-encoding transmission available]

Multiscreen display	Image capture size		
	HD(1280×720) FHD(1920×1080)	QXGA(2048×1536)	WQHD(2560×1440)~ 9M(2992×2992)
1-screen display	(N/A)	(N/A)	(N/A)
2-screen display	30 ips	15 ips	15 ips
3-screen, 4-screen display	30 ips	15 ips	5 ips

## 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)

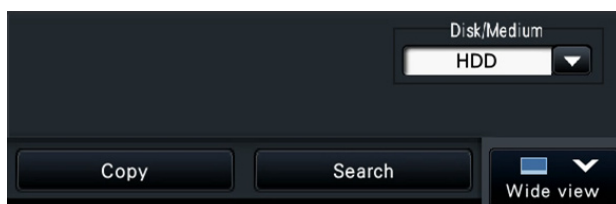
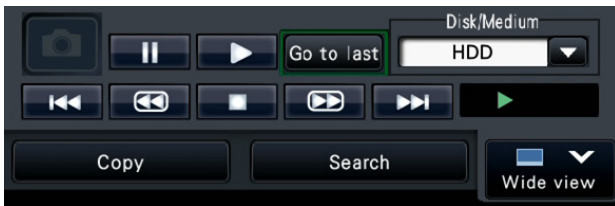
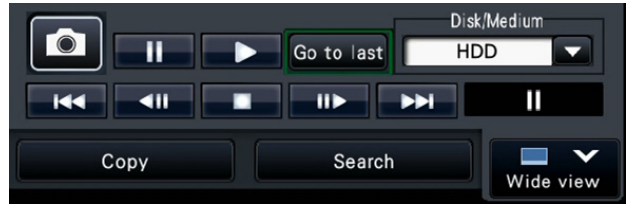


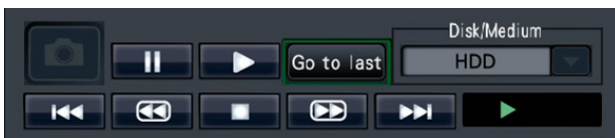
Image playback status



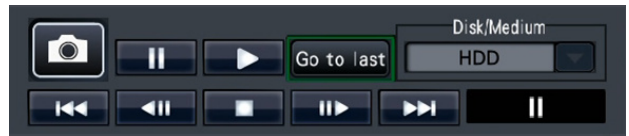
Playback pause status



Wide view playback status (Image playback status)



Wide view playback status (Playback pause status)




Wide view playback status (Minimized mode, image playback status)







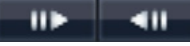

Wide view playback status (Minimized mode, playback pause status)


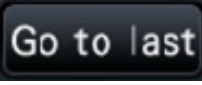





Click the minimizing button  on the playback operation panel in the wide view playback status to minimize the window.

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.

Function	Example	Operation
Captured image button		<p>Saves images paused during playback on USB medium.*</p> <p>Clickable only while playback is paused on a 1-screen. Click to save the file. Remove the USB media after saving is complete.</p> <p>The image size of the captured image is not the resolution of the recording, but that of the playback.</p>
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> <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> <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>

Function	Example	Operation
Next record/Previous record button		Clicking the next record button will play back the next later recording. Clicking the previous record button will play back the next earlier recording. When there is no next/previous recorded image to be skipped to, the current playback will continue.
Go to last button		When this button is clicked, playback of the latest recorded images will start. The starting point is around 30 seconds before the date & time of the latest recorded images.
Playback status display		The status of the recorder such as the playback status, pause status etc. will be displayed. The playback speed will be displayed in fast forward/fast reverse mode.
Wide view button/Ctrl screen button		Clicking the button during playback stops the playback and displays the live image in the wide view/control screen.
Playback operation panel switch button(Displayed during playback on a full screen)		The playback operation panel will be hidden when the playback operation panel is displayed. Clicking the button again will return to the original display. Clicking the button during the live image display will start playback and displays the playback operation panel.

### About captured images

The images captured by clicking the image capture button and saved on a USB medium will not be displayed with this recorder.

To display those images on a PC monitor, the data format and destination to save are as follows:

File format for recorded images: JPEG (DPOF-compatible)

Destination to save: USB storage DCIM¥100\_DATA¥P1000001.jpg

P1000002.jpg, ...

\* The folder will be created from 100\_DATA to 999\_DATA. If the folder already contains the file P1000999.jpg, a folder with a new number will be created.



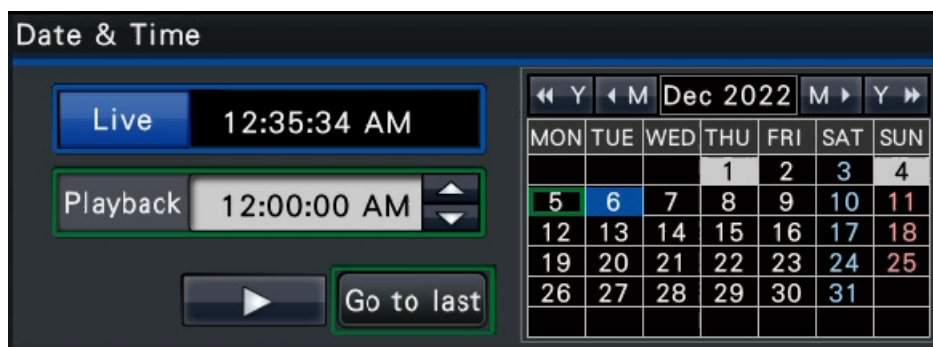
## Play images from a designated point

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 and the playback operation panel will be displayed on lower section of the date & time operation panel.

[Playback by designating a timeline](#)

[Playback operation panel](#)



**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.



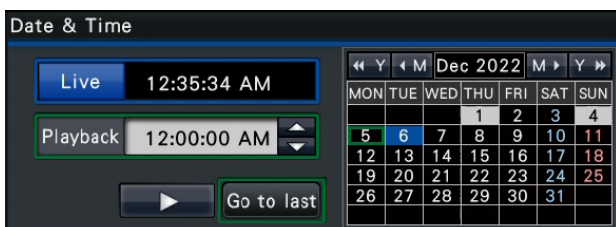
**Note:**

- Playback can also be stopped and live images can also be displayed by the following operations:
  - Clicking the [Live] button or [×] 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 follow
  - 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. At the same time, the playback operation panel is displayed at the bottom of the date & time operation panel.

 [Playback by designating a timeline](#)

 [Playback 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:

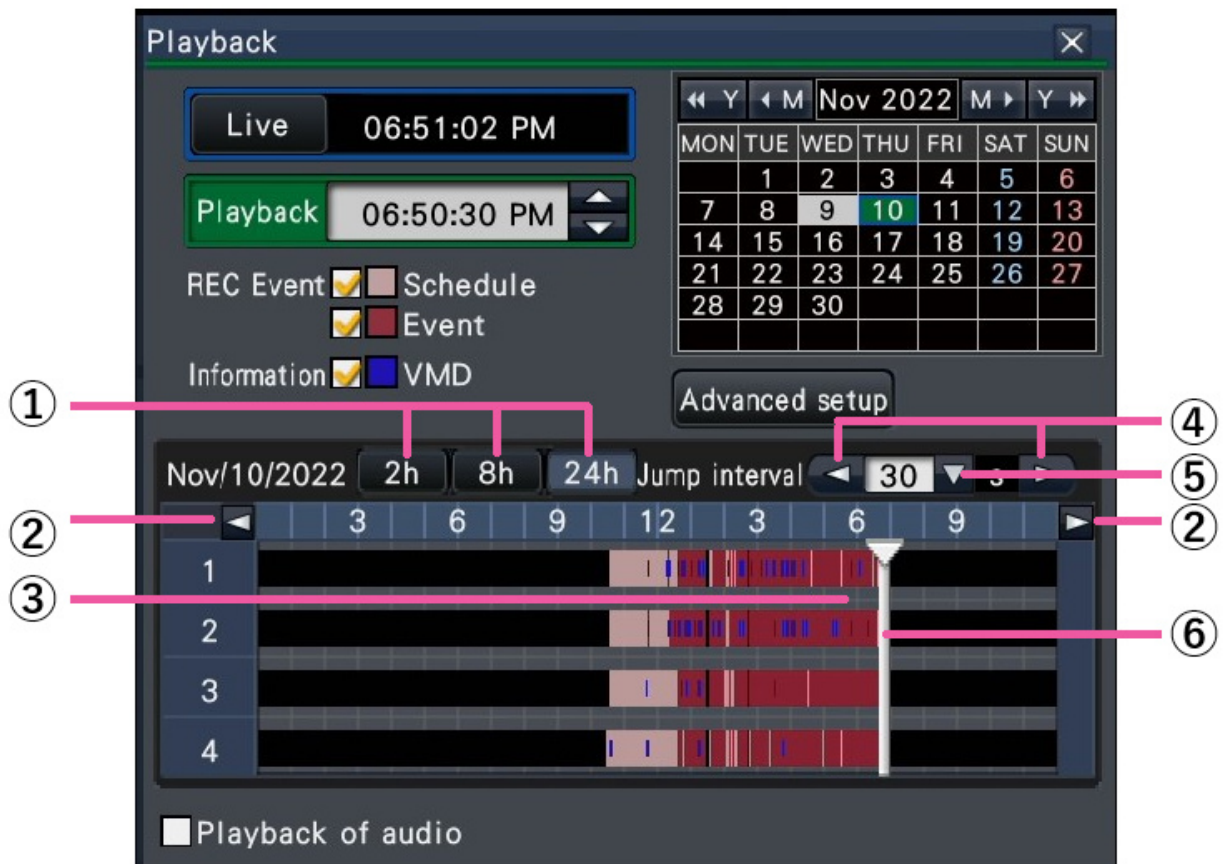
- Playback can also be stopped and live images can also be displayed by the following operations:
  - Clicking the [x] button on the date & time operation panel (playback display)
  - Changing the playback medium
- When clicking the [Go to last] button while displaying images on a 4-screen, the recorded 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)



In the playback display, the presence or absence of recording and its type are displayed on the timeline (③).

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. Hover the cursor over the timeline to display a thumbnail of the camera that the cursor is on.

### [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 motion detection information, a camera that supports the function of adding motion detection information is required. For more information about this function, refer to the Operating Instructions of the camera.

### [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, the screen is displayed with the box always checked.

 [Set up the main monitor \[Main monitor\]](#)



**Note:**

- To use the time-saving playback, a camera that supports the motion detection information addition function is required. For more information about this function, refer to the Operating Instructions of the camera. (When motion detection information is set to "Off" or recorded by our or Panasonic cameras that do not support motion detection information setting, the camera will playback at high speed regardless of whether there is motion or not.)
- The time-saving playback only functions when the image is played back at the actual size on 1-screen ~ 4-screen.
- 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.

### **[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 (①)**

Select a timeline display covering 2 hours (2 h), 8 hours (8 h) or 24 hours (24 h).

### **[Display range selection] button (②)**

The timeline will be displayed in accordance with the setting of the scale selection button.

### **[Playback slider] (⑥)**

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] (⑤) / [Jump] (④) 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].

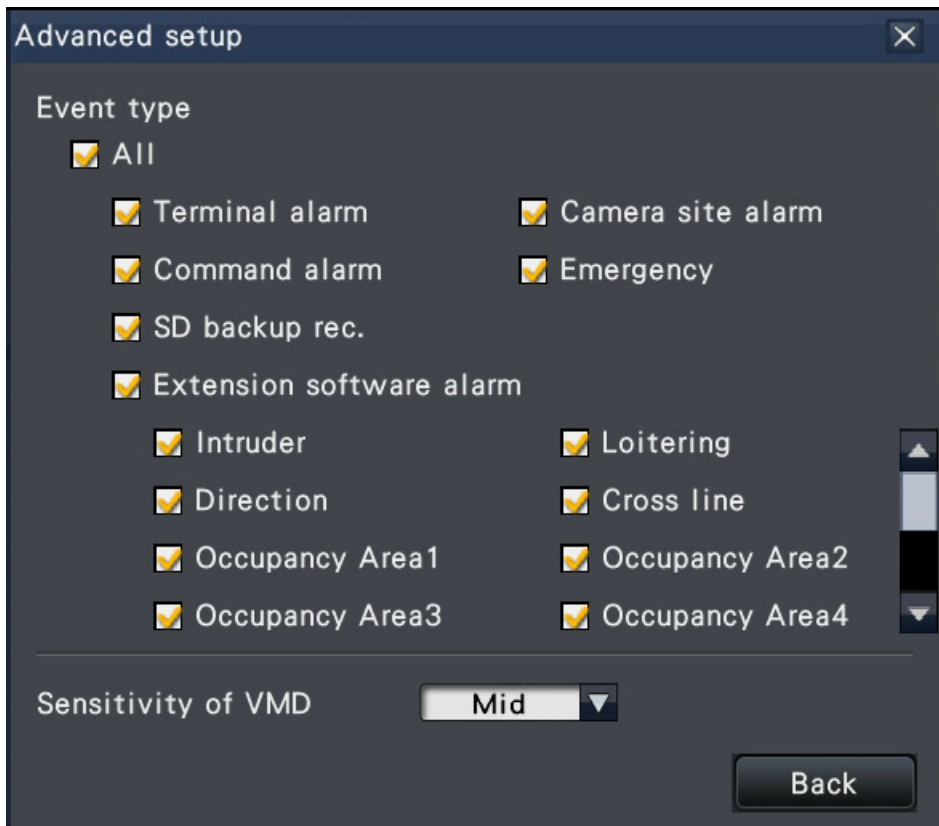
Available ranges: 10 s/ 15 s/ 30 s/ 60 s/ 180 s/ 300 s

### **[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.

 [Configure other settings relating to monitors \[Advanced setup\]](#)

## Change event types and other information displayed on the timeline [Advanced setup]



### [Event type]

Set event types to be displayed on the timeline. To display event-recorded images on a timeline, mark their checkboxes.

Refer to the following section for further information about each alarm.

[👉 About event function](#)



#### Note:

- User-defined 1 to user-defined 8 are displayed when the message ID of the extension software alarm is set.

[👉 Configure the advanced settings for recording and events \[Advanced setup\]](#)

### [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/[×] 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 play 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.



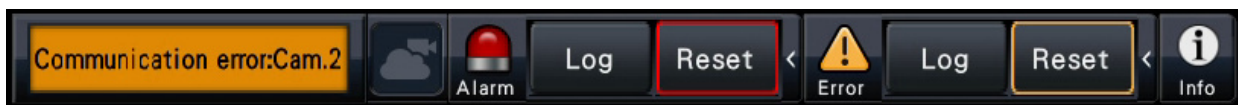
### Note:

- The corresponding recorded data that is displayed in the selected log list cannot be played if the data has already been overwritten or erased.
- The images recorded by the camera's motion detection alarm can be selected and played back from the alarm history.

### Step 1

Click the [Alarm] button or [Error] button on the status display panel.

→ The corresponding [Log] buttons will be displayed.

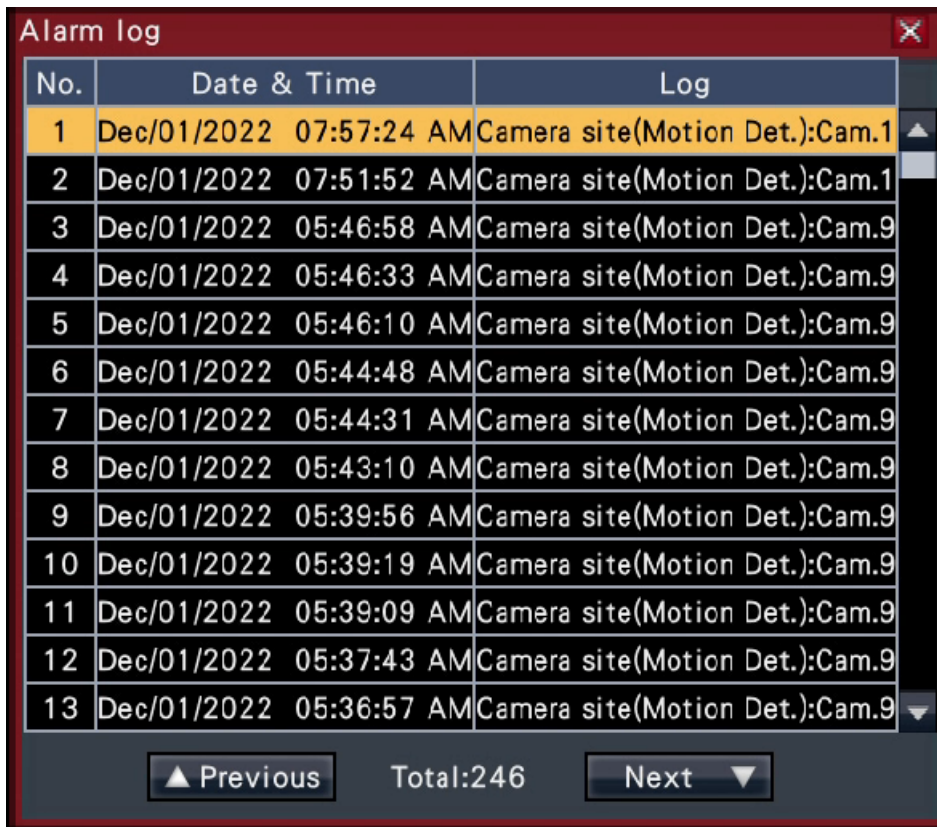


### Step 2

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.





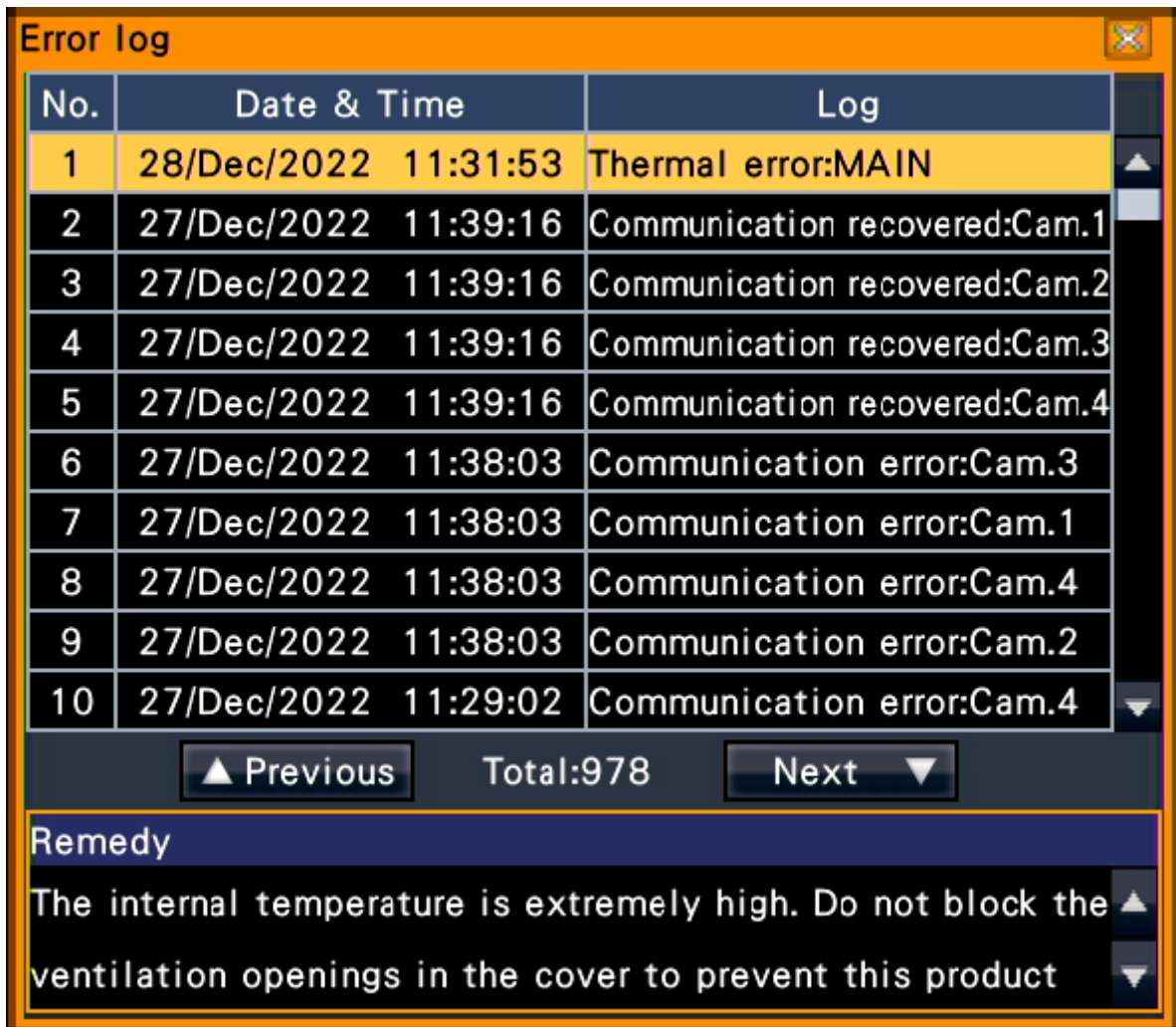
No.	Date & Time	Log
1	Dec/01/2022 07:57:24 AM	Camera site(Motion Det.):Cam.1
2	Dec/01/2022 07:51:52 AM	Camera site(Motion Det.):Cam.1
3	Dec/01/2022 05:46:58 AM	Camera site(Motion Det.):Cam.9
4	Dec/01/2022 05:46:33 AM	Camera site(Motion Det.):Cam.9
5	Dec/01/2022 05:46:10 AM	Camera site(Motion Det.):Cam.9
6	Dec/01/2022 05:44:48 AM	Camera site(Motion Det.):Cam.9
7	Dec/01/2022 05:44:31 AM	Camera site(Motion Det.):Cam.9
8	Dec/01/2022 05:43:10 AM	Camera site(Motion Det.):Cam.9
9	Dec/01/2022 05:39:56 AM	Camera site(Motion Det.):Cam.9
10	Dec/01/2022 05:39:19 AM	Camera site(Motion Det.):Cam.9
11	Dec/01/2022 05:39:09 AM	Camera site(Motion Det.):Cam.9
12	Dec/01/2022 05:37:43 AM	Camera site(Motion Det.):Cam.9
13	Dec/01/2022 05:36:57 AM	Camera site(Motion Det.):Cam.9

▲ Previous      Total:246      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	28/Dec/2022 11:31:53	Thermal error:MAIN
2	27/Dec/2022 11:39:16	Communication recovered:Cam.1
3	27/Dec/2022 11:39:16	Communication recovered:Cam.2
4	27/Dec/2022 11:39:16	Communication recovered:Cam.3
5	27/Dec/2022 11:39:16	Communication recovered:Cam.4
6	27/Dec/2022 11:38:03	Communication error:Cam.3
7	27/Dec/2022 11:38:03	Communication error:Cam.1
8	27/Dec/2022 11:38:03	Communication error:Cam.4
9	27/Dec/2022 11:38:03	Communication error:Cam.2
10	27/Dec/2022 11:29:02	Communication error:Cam.4

▲ Previous Total:978 Next ▼

**Remedy**

The internal temperature is extremely high. Do not block the ventilation openings in the cover to prevent this product



**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 playback button on the playback operation panel.

 [Playback operation panel](#)

→ 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 preevent 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.

 [Playback operation panel](#)

→ Playback will stop, and live images will be displayed.



#### **Note:**

- The following operation can also be used to stop playback and display live images.
  - Click the [x] button on the date & time operation panel (playback display)
  - Click the [Current time] button on the date & time operation panel (playback display)
  - Change the playback media

### **Display thumbnail screen and play back (Thumbnail search)**

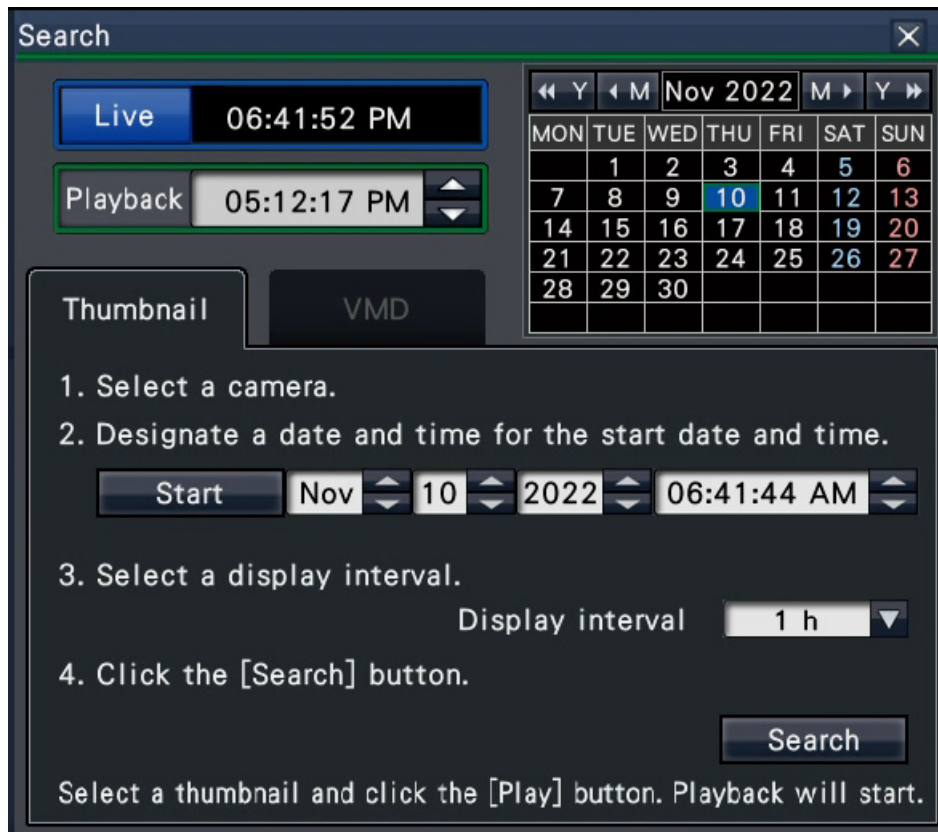
Search a thumbnail from the recorded images and play back.

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: 1 min, 5 min, 10 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.

→ Playback will stop, and live images will be displayed.



**Note:**

- The following operation can also be used to stop playback and display live images.
  - Click the [x] button on the date & time operation panel (playback display)
  - Click the [Current time] button on the date & time operation panel (playback display)
  - Change the playback media

**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.



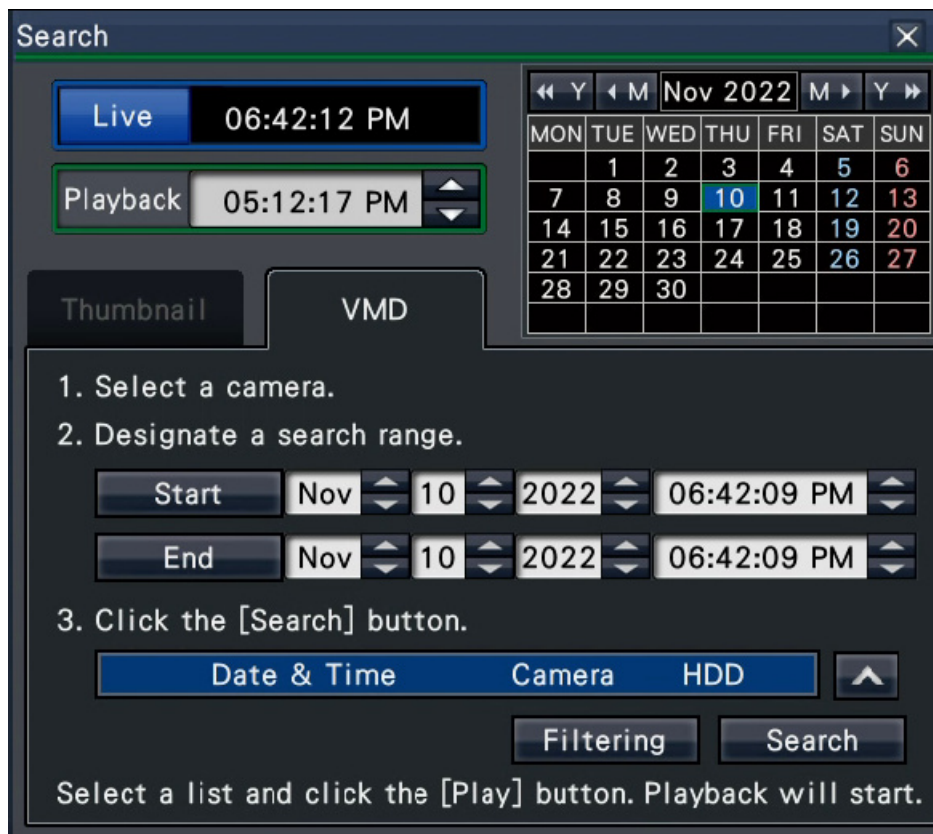
**Important:**

- To perform the motion detection search, a camera that supports the motion detection information addition function is required. For more information about this function, refer to the Operating Instructions of the camera.

**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:

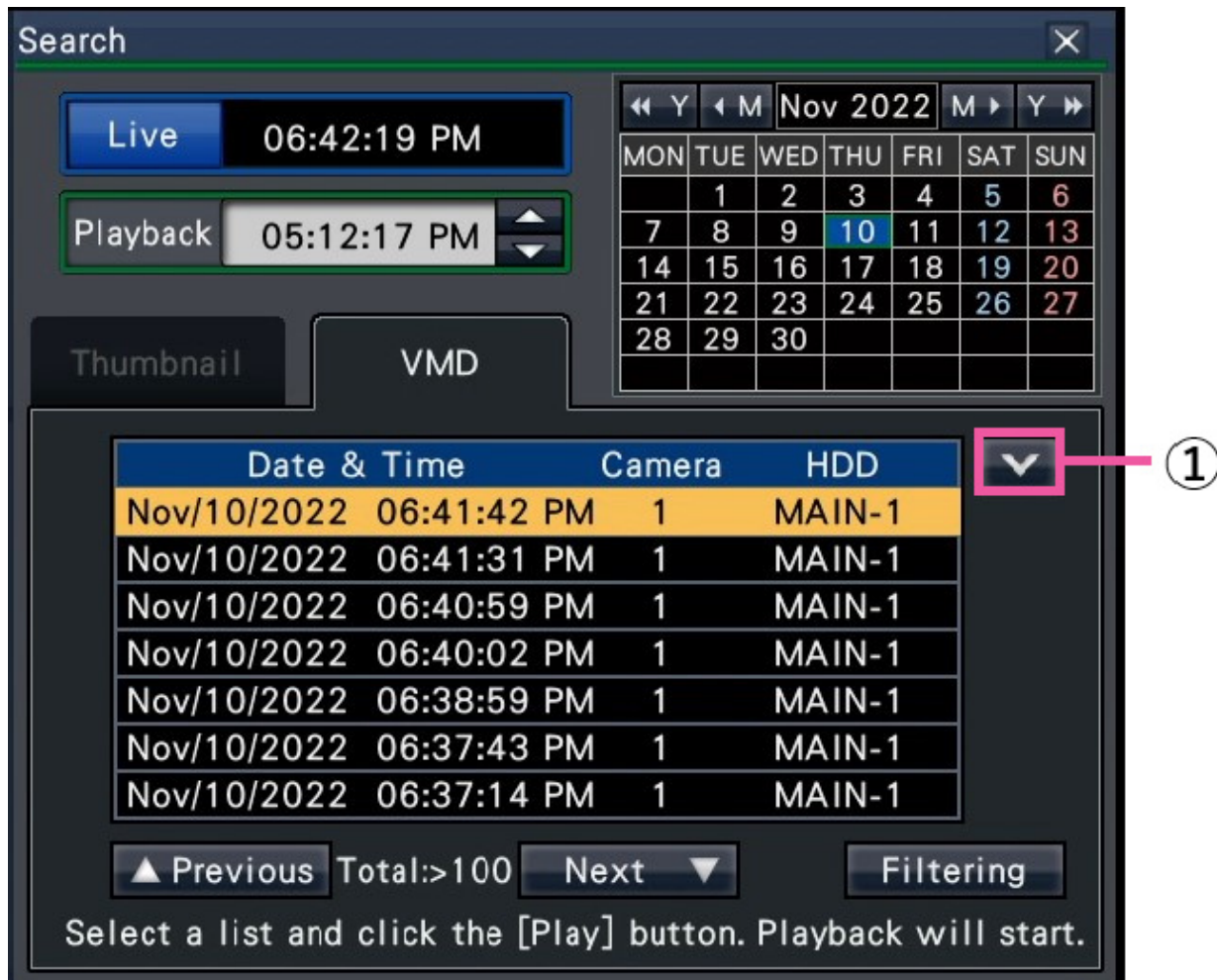
- It is also possible to set the start point and end point of the search range by clicking the [Start]/[End] buttons after selecting the desired time in the [Playback] box and clicking the desired date on the calendar.

### 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 (1)**

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.
  - ☞ [Search and play recorded images triggered by motion detection \(VMD search\)](#)
- 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.



 [Playback operation panel](#)

→ 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.

Playback will stop, and live images will be displayed.



**Note:**

- The following operations can also be used to stop playback and display live images.
  - Click the [x] button on the date & time operation panel (playback display)
  - Click the [Current time] button on the date & time operation panel (playback display)
  - Change the playback media

**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.

 [Search and play recorded images triggered by motion detection \(VMD search\)](#)

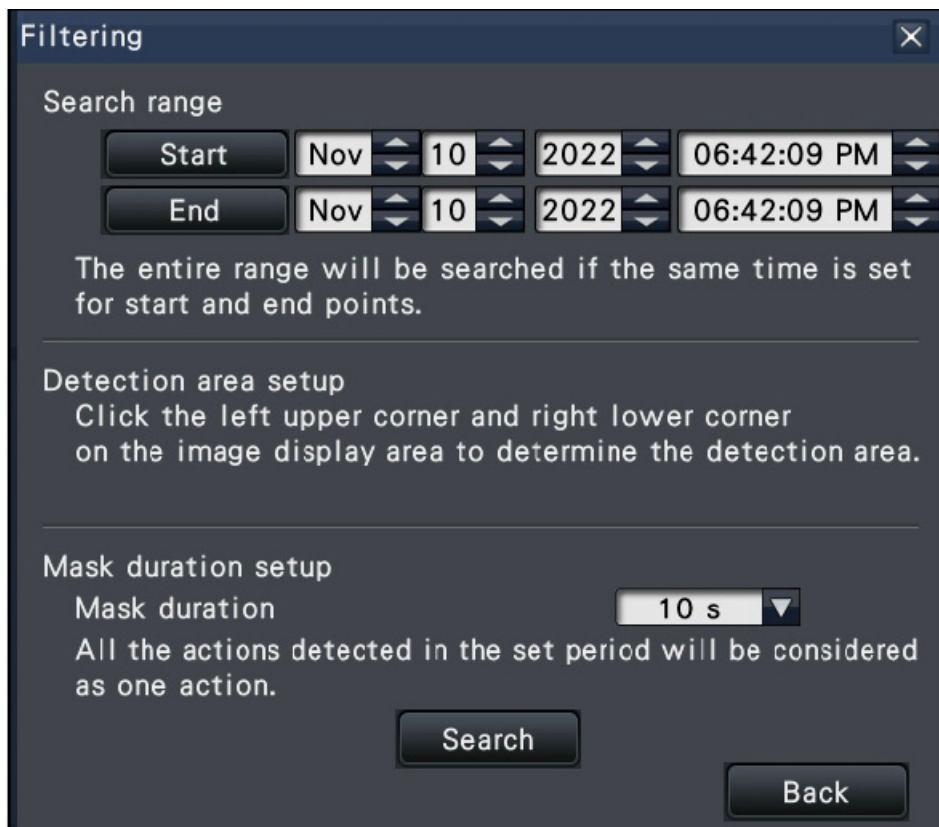
**Step 2**

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 area, re-set the detection area.

**[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.

## Useful functions

### Copy recorded images

Copy the recorded image on the recorder to an external storage device (external HDD, USB memory stick) or NAS. In this document, external storage devices are also referred to as media. Refer to the following section for the details of copying with the NAS (NAS backup function).

[☞ "NAS backup function"](#)

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 the following section for how to operate the viewer software.

[☞ How to use the viewer software](#)

Refer to the following section how to play the copied recorded images on the recorder.

[☞ Play back copied images with this 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.

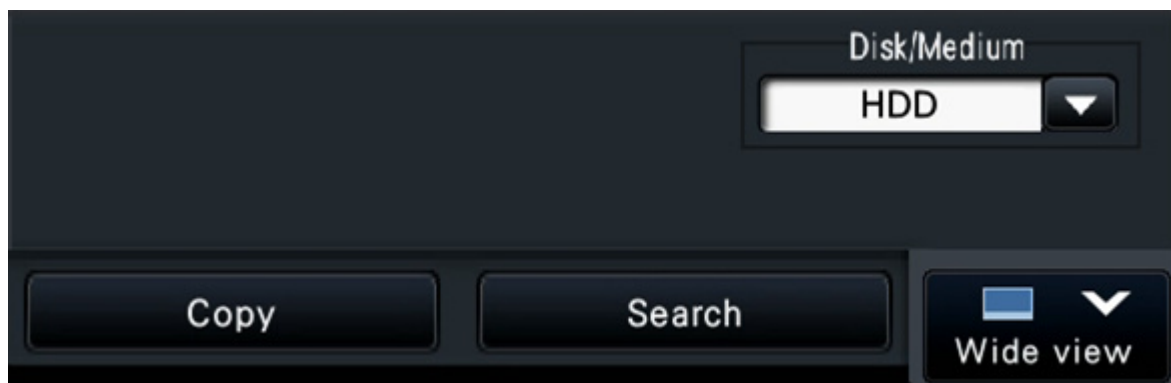
- Copying of recorded images may sometimes be performed incorrectly when there exist 2 or more images recorded at the same date & time resulting in change of the date & time setting or the auto time adjustment function.
- In the following cases, the copying currently being performed will stop.
  - When 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.)
- For the data copied to the NAS, it is not possible to playback on the recorder. Also it is not possible to display the image list copied to the NAS on the recorder or the web browser.

### Step 1

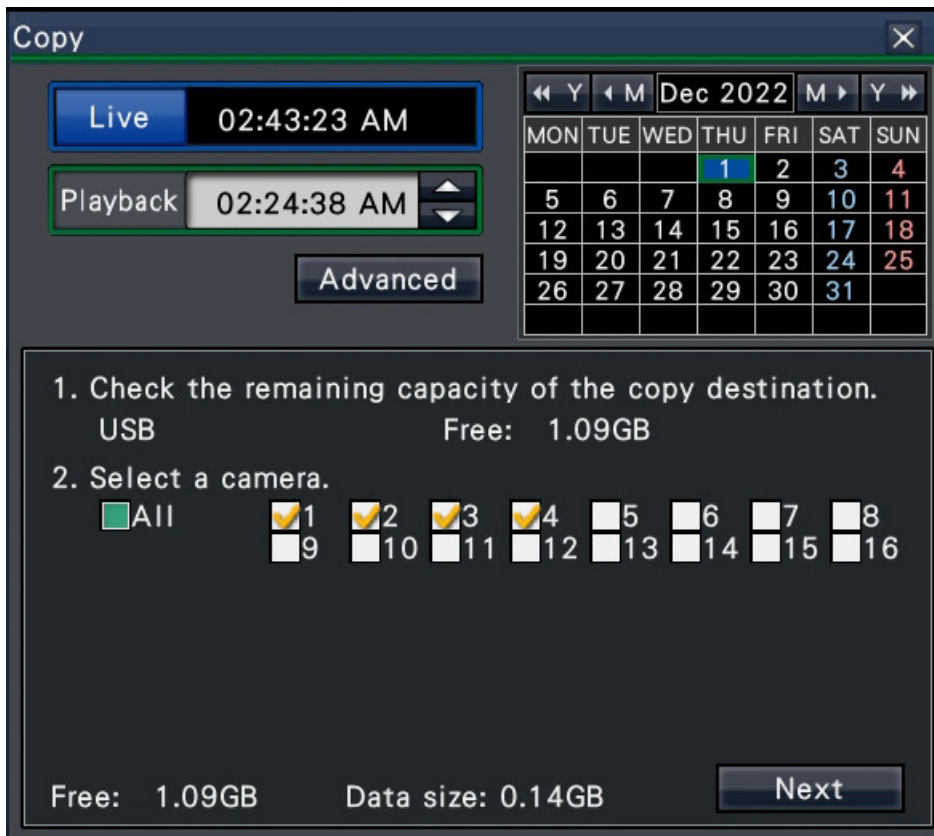
Connect an external storage device to the copy port [COPY] of the recorder.

### 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).



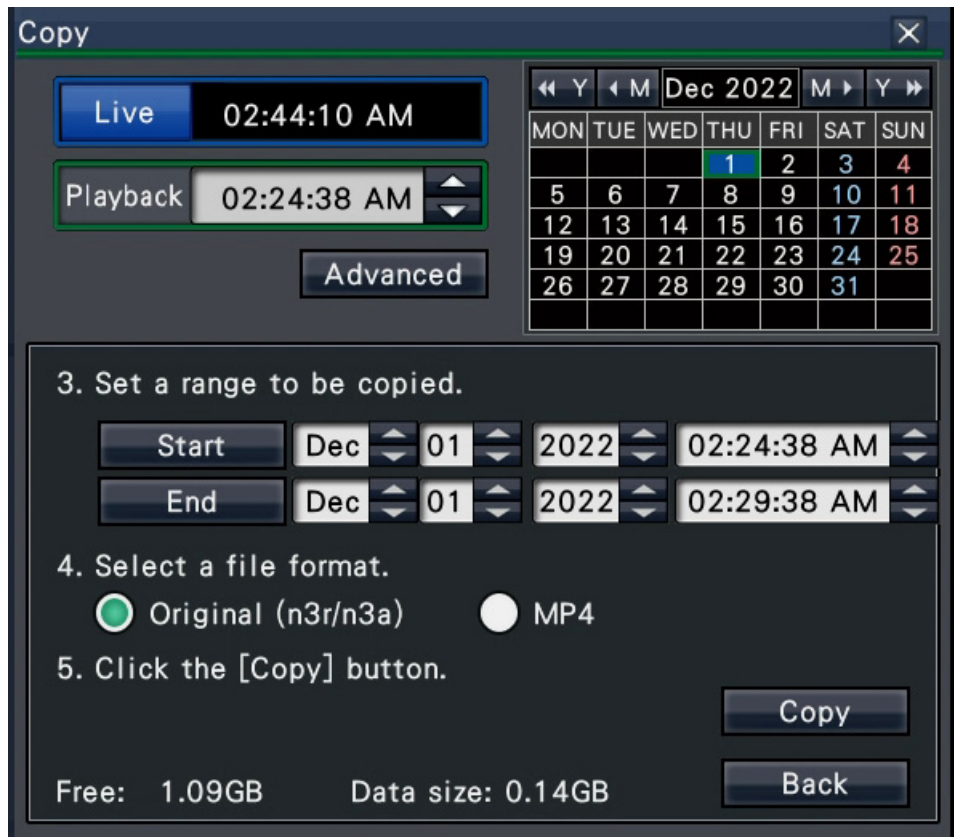
**Note:**

- 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.
- If the NAS setup has been completed on the recorder, the copy destination of the copy panel becomes the pulldown display and USB or NAS can be selected.

**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.
Data & 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 in MP4 format are available for up to 2 users at the same time.
  - ☞ [Download recorded images currently being played](#)
- 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.
- Click the [Advanced setup] button and then click the [Back] button on the displayed advanced setup screen 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.



Input password

Password (5 to 8 characters)

Retype password

A	B	C	D	E	a	b	c	d	e	1	2	3	4	5
F	G	H	I	J	f	g	h	i	j	6	7	8	9	0
K	L	M	N	O	k	l	m	n	o					
P	Q	R	S	T	p	q	r	s	t					
U	V	W	X	Y	u	v	w	x	y					
Z					z					←	→	Delete		

Memorize password temporarily

Back Next

### Step 5

Enter the password using on-screen keyboard, and then click the [Next] button.

→ The copy start confirmation window will be displayed.

- 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.



**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.

### 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.

### 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.
- USB media with a file system that cannot be recognized by this product, such as NTFS, cannot be formatted.
- 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.

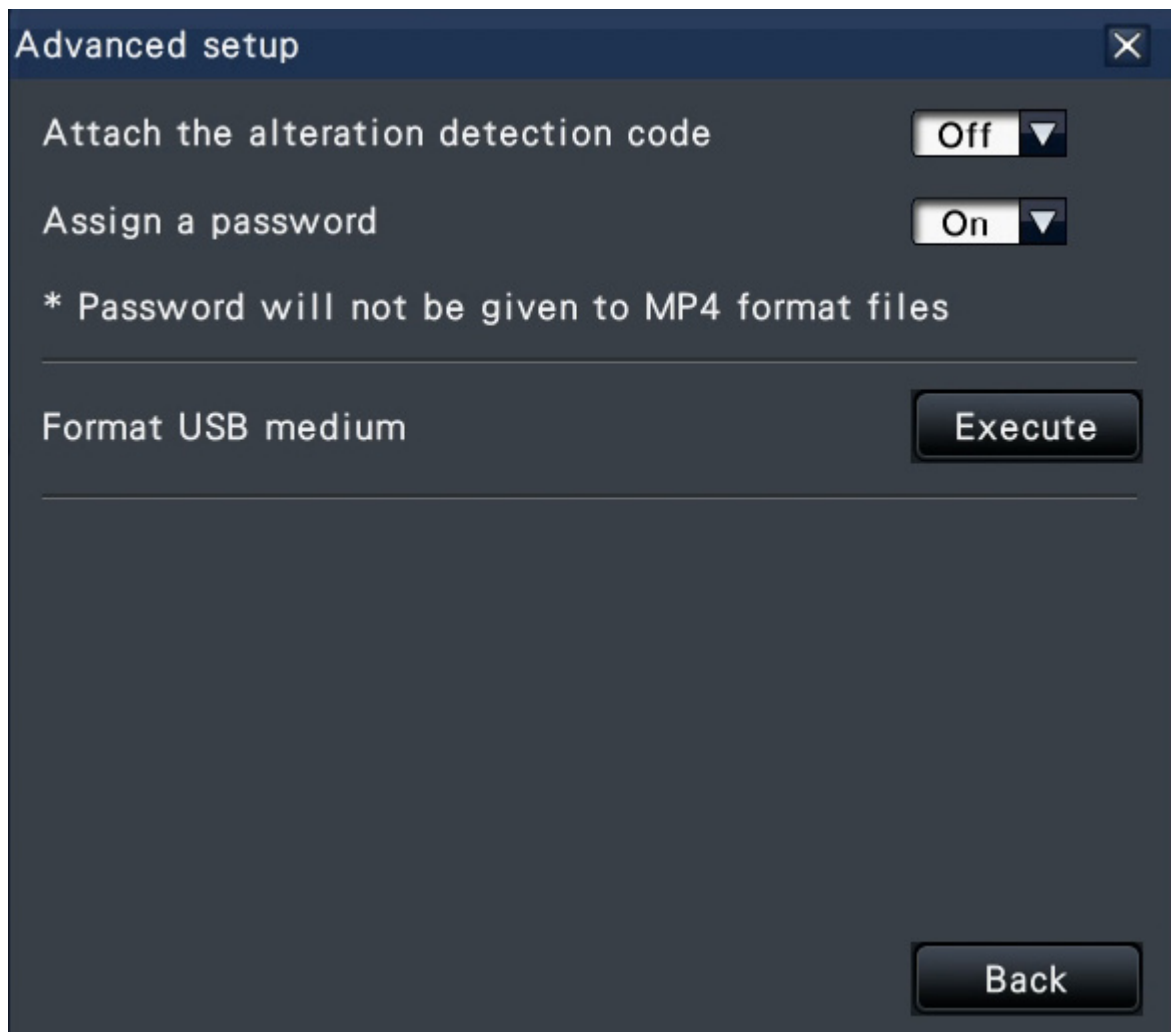
☞ [Copy recorded images](#)

→ The copy panel will be displayed.

### Step 2

Click the [Advanced] button on the copy panel.

→ 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.
- For the data copied to the NAS, it is not possible to display the list or playback by this function.

### 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.

The screenshot shows the 'Playback (Medium)' window. At the top left, there are two time display boxes: 'Live' at 02:56:01 AM and 'Playback' at 02:51:06 AM. To the right is a calendar for December 2022, with the 1st highlighted. Below the calendar is a table of recordings:

Date & Time	Camera	Format	Date & Time	Camera	Format
Dec/01/2022 02:51:06 AM	1	n3r			
Dec/01/2022 02:27:28 AM	1	n3r			
Dec/01/2022 02:23:47 AM	1	n3r			

At the bottom, there are navigation buttons: 'Previous', 'Total:3', 'Next', and 'Filtering'. A message at the very bottom reads: 'Select a list and click the [Play] button. Playback will start.'



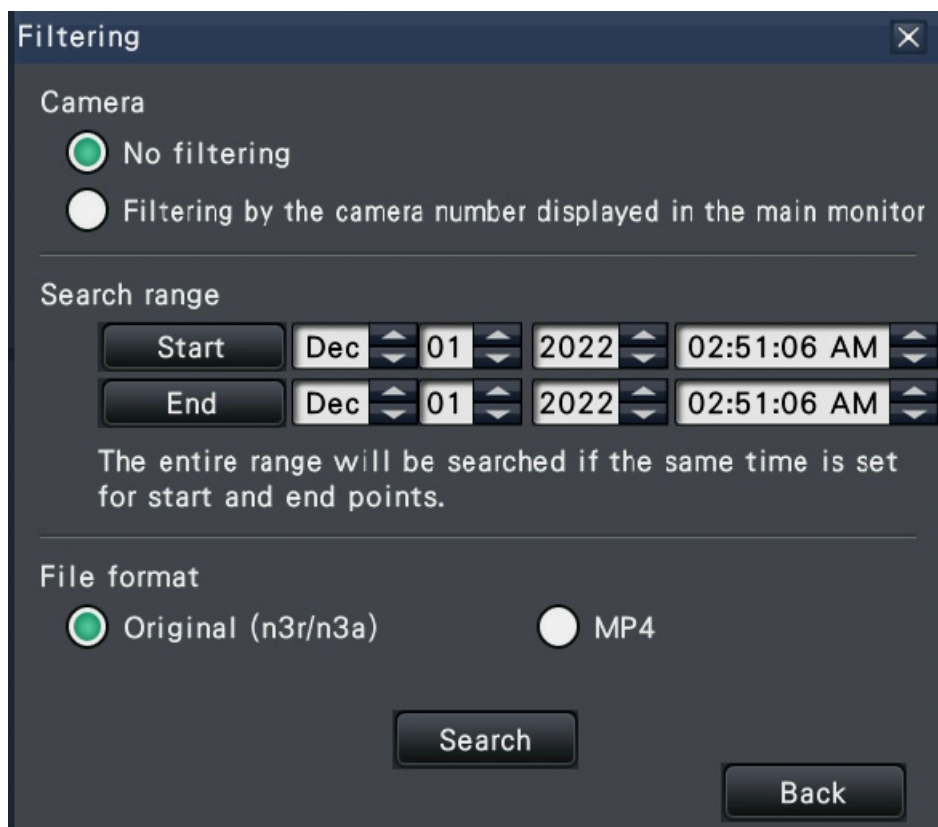
**Note:**

- When copying large amounts of data, more time is needed to display the list.
- Original format (n3r/n3a) and MP4 format files can not be displayed on the list at the same time.
- When connecting an external storage device to which both original format (n3r/n3a) and MP4 format are copied, and selecting the [USB], the original format (n3r/n3a) will be displayed with priority.

**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 using on-screen keyboard, and click the [OK] button. If the wrong password is entered, the copied data cannot be played back.
- 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: Live image display

Middle items	Bottom items	Details	Remarks	Main body	Browser
Main monitor	Ctrl screen	Image display area		○	○
		Status display panel		○	○
		Operation panel		○	○
		[Wide view] button		○	○
	Wide view display	Image display area		○	○
		Status display panel		○	×
		Operation panel		○	×
		[Ctrl screen] button		○	×



Top items: Live image display (continued)

Middle items	Bottom items	Details	Remarks	Main body	Browser
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	—		○	×
	Digital zoom buttons	—		○	×
	Mute button	—		○	○
	Fisheye correction (1PTZ/4PTZ) button	—		○	×
	Change the camera display position in the wide view screen	—		○	×
	Digital zooming in the wide view screen	—		* It is operable by the mouse wheel only in the 1-screen for the recorder.	○

Top items: Camera operation

Middle items	Bottom items	Details	Remarks	Main body	Browser
Camera operation	Camera operation	—	* The recorder can be operated with 1-screen/4-screen display.	○	○
	Panning and tilting	PT button		○	○
		PT pad		×	○
		Click centering		○	×
	Zoom	[Zoom] button		○	○
		Mouse wheel zooming		○	×
		Drug zooming		○	×
	Focus	—		○	○
	Brightness	—		○	○
	Auto mode	—		○	○

Top items: Camera operation (*continued*)

Middle items	Bottom items	Details	Remarks	Main body	Browser
	Preset position	Register camera preset positions		<input type="radio"/>	<input type="radio"/>
		Move camera preset positions		<input type="radio"/>	<input type="radio"/>
		Move to home position		<input type="radio"/>	<input type="radio"/>
	[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.	<input type="radio"/>	×
Camera setup	Register home position	—		<input type="radio"/>	×
	Execute auto back focus	—		<input type="radio"/>	×
	Set up mask areas	—		<input type="radio"/>	×
	Zoom/Focus adjustment	—		<input type="radio"/>	×
	Initial position setup	—	* The settings of Inclination, vertical angle adjustment and horizontal adjustment of the image cut area of the fisheye camera is available.	<input type="radio"/>	×

Top items: Alarm action

Middle items	Bottom items	Details	Remarks	Main body	Browser
Action to be taken upon an event occurrence	—	—		<input type="radio"/>	<input type="radio"/>
Stop buzzer only.	—	—		<input type="radio"/>	×
Cancel the alarm action	—	—		<input type="radio"/>	<input type="radio"/>
Cancel the error action	—	—		<input type="radio"/>	<input type="radio"/>
Display alarm log				<input type="radio"/>	<input type="radio"/>
Display error log				<input type="radio"/>	<input type="radio"/>

Top items: Recording

Middle items	Bottom items	Details	Remarks	Main body	Browser
Record images (schedule recording)	—	—		○	○

Top items: Search/ Playback

Middle items	Bottom items	Details	Remarks	Main body	Browser
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	—		○	×
Search and play	Play image recorded at a designated date & time	—		○	○
	Play the latest recorded image	—		○	○
	Playback by designating a timeline	—	* The timeline is not displayed on the browser. Play back recorded images from the recording event list.	○	×

Top items: Search/ Playback (*continued*)

Middle items	Bottom items	Details	Remarks	Main body	Browser
	Play back recorded images by designating in REC & event list	—		×	○
	Play images selected from alarm and error logs (Log search)	—		○	○
	Search and play recorded images triggered by motion detection (VMD search)	—		○	×
	Play back recorded image by designating a thumbnail	—		○	×

Top items: Copy/Download

Middle items	Bottom items	Details	Remarks	Main body	Browser
Copy	—	—	* The viewer software is copied together with the recorded image.	○	○
Format USB medium	—	—		○	×
Download data (to PC)				×	○
Download viewer (to PC)				×	○

# [Setup Network]

## 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

It is set other than as above, or if the connection mode is changed to Auto (DHCP) while a DHCP server is connected to the network environment, then configure the network settings for the product or 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 following section for how to operate.

 [Configure the basic network settings \[Basic\]](#)

## 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.

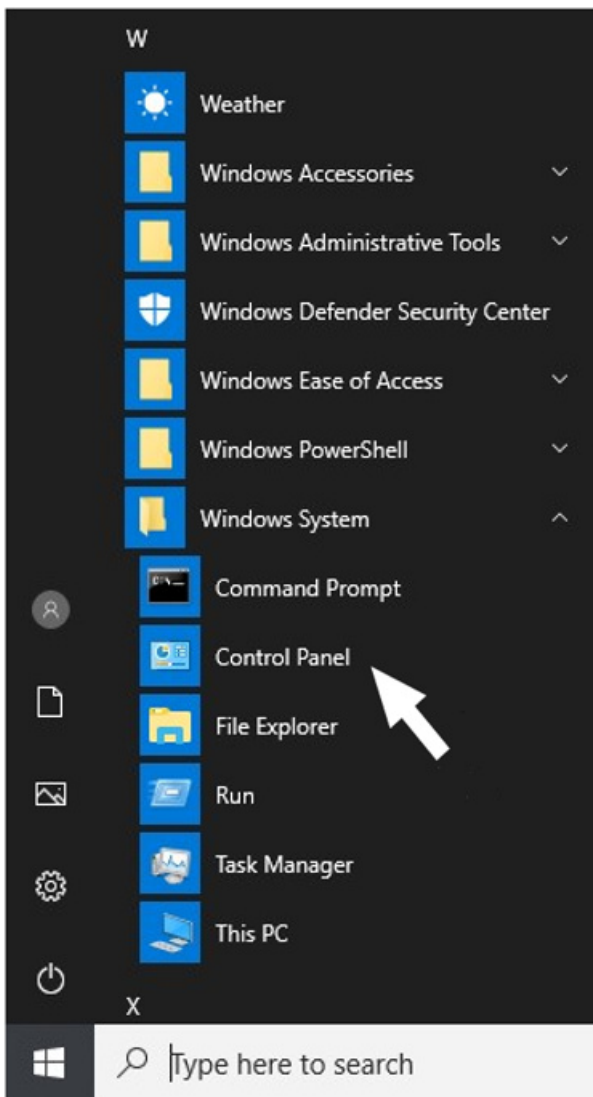
When using the recorder with the default (IP address: 192.168.0.250), set the IP address of the PC to "192.168.0.xxx (a number from 2 to 254 except 250 (this recorder) and camera IP

address". If a DHCP server is connected to the network environment, the product uses the IP address automatically obtained from the DHCP server. The acquired IP address can be found in the settings menu - [Maintenance] - [System information] tab.

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.



→ "Control panel" will be displayed.

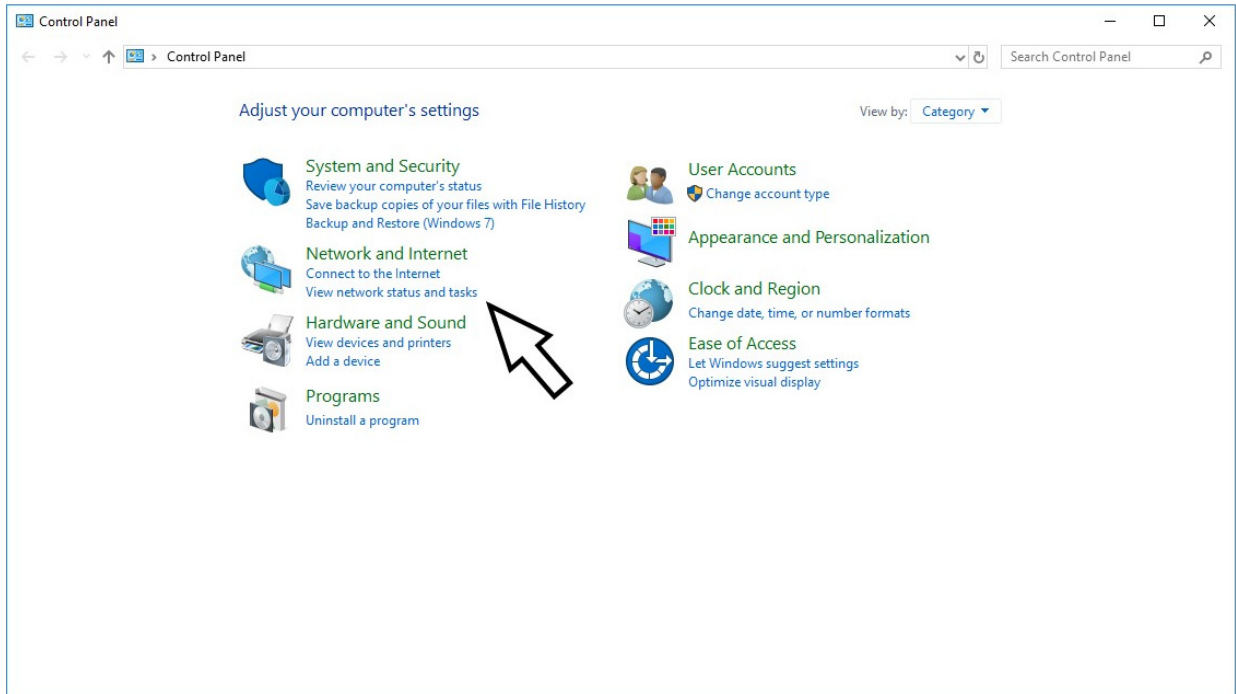


#### Important:

- Log in to the PC as an administrator.

## Step 2

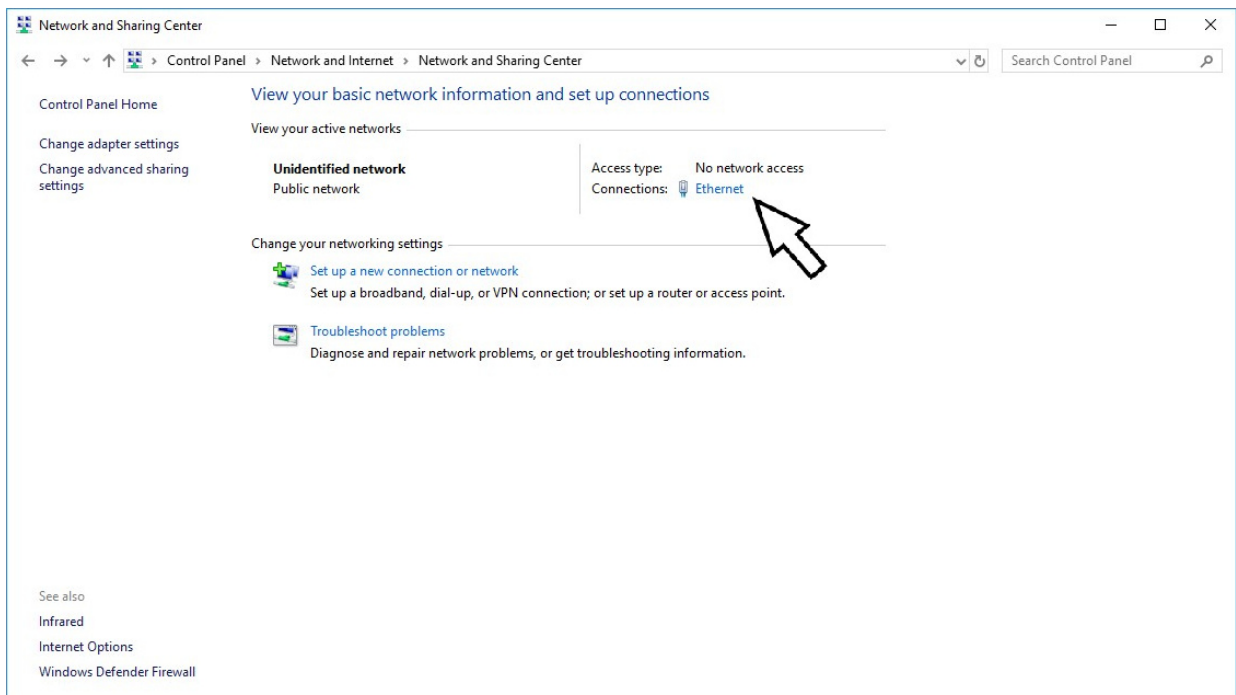
Click "View network status and tasks".



→ The "Network and Sharing Center" window will be displayed.

## Step 3

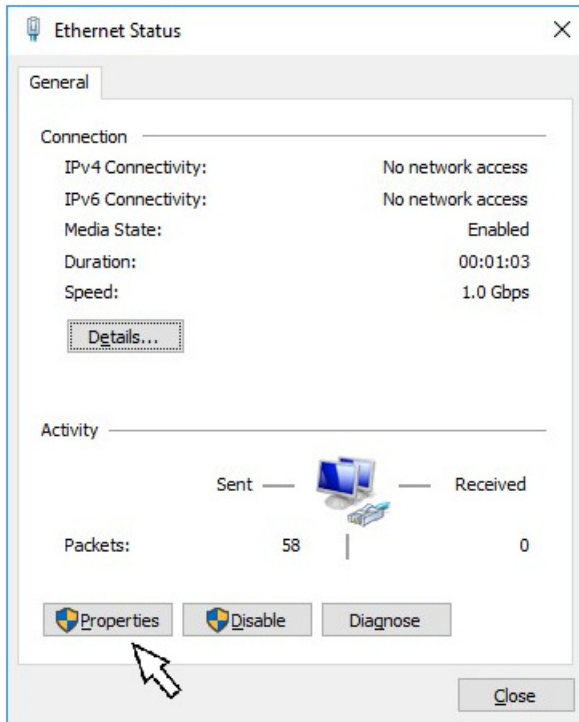
Click "Local Area Connection".



→ The "Local Area Connection Status" window will be displayed.

**Step 4**

Click [Properties]

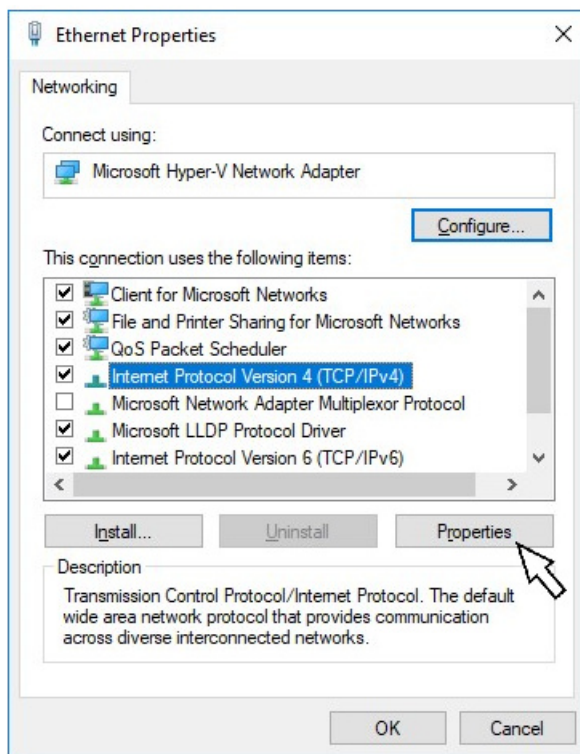


→ The "Local Area Connection Properties" window will be displayed.

**Step 5**

Click "Internet Protocol Version 4 (TCP/IPv4)", and then [Properties].



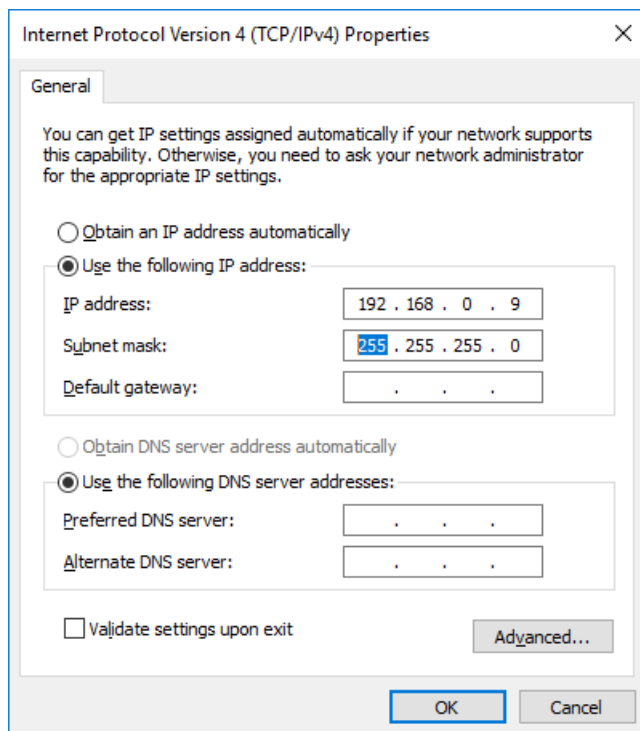


→ The "Internet Protocol Version 4 (TCP/IPv4) Properties" window will be displayed.

### 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".

👉 [Configure the basic settings relating to user management \[Basic\]](#)

#### 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.

👉 [Configure the basic network settings \[Basic\]](#)



**Important:**

- Image data, authentication information (user name, password), alarm mail information, etc. may be leaked over the network. Take measures such as restricting access through user authentication.
- After accessing this product as an administrator, be sure to close all web browsers to strengthen security.
- Do not reuse user names (administrator names) and passwords for other recorders or products.

### Enhance network security

Encrypt the communication between the recorder and camera and enhance the network security. The registration of the secure communication license allows you to encryption of the recorded data will further enhance the security.

Contact your dealer for Secure Communication Kit.

In addition, network security can be enhanced by the following measures.

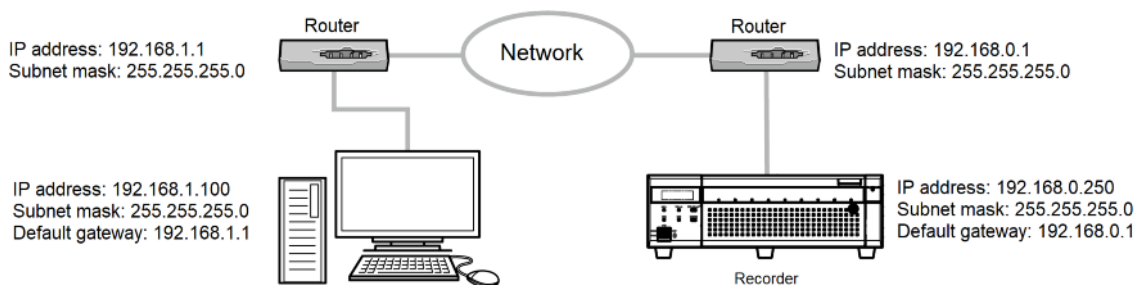
It is possible to enhance the network security by dividing the subnet using a router to authenticate users twice (by the recorder and by the router). When connecting the recorder to an unsecured network, secure the network connection by installing a VPN (Virtual Private Network) device, etc. between 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.

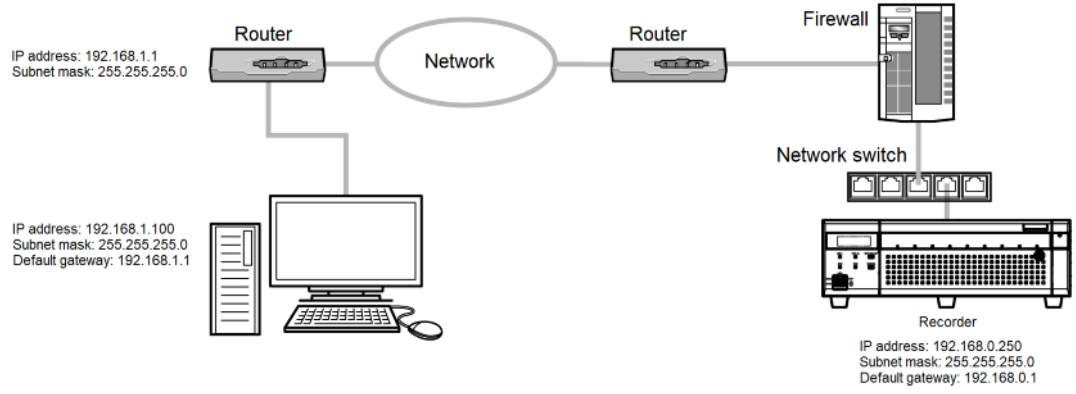
### [Connection example]



By using a firewall, etc., it is possible to use packet filtering and protocol filtering to

enhance the network security.

**[Connection example]**



# [Operation via PC web browser]

## Before operation

### 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.
- Since the connection method is set to HTTPS by default, add https:// at the beginning when entering an IP address or URL.
- Do not attach "0" before the numbers when entering IP address.

Example:

○: 192.168.0.50

×: 192.168.0.050



#### Note:

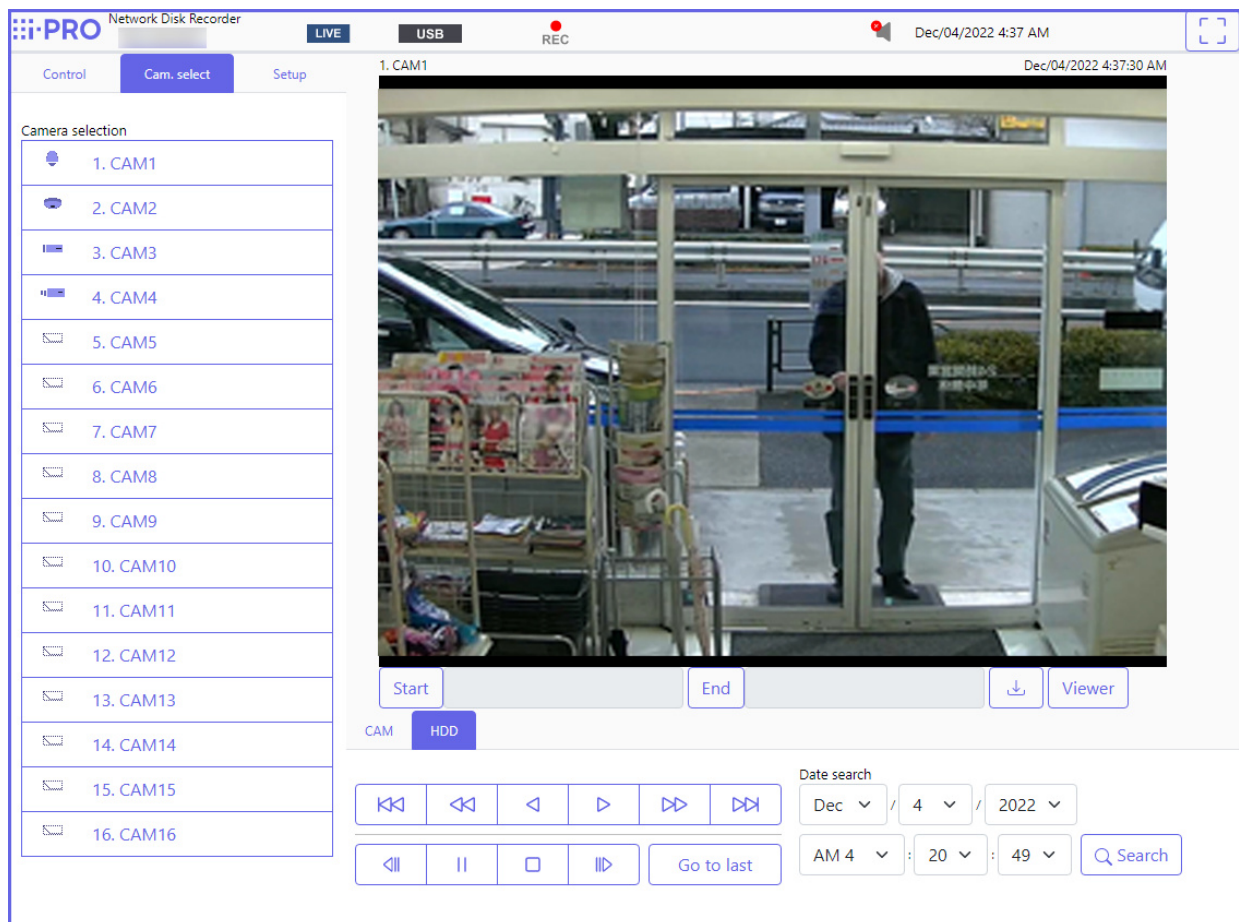
- When viewing H.265 video on more PCs than the number of connected cameras, a license is required for each PC. Refer to your dealer for the software licensing.
- When using HTTPS connection, a message such as "Privacy is not

protected with this connection" may appear, but HTTPS communication is possible.

### 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 the following section for how to register users.  
☞ [Register, edit or delete the user information \[User registration\]](#)

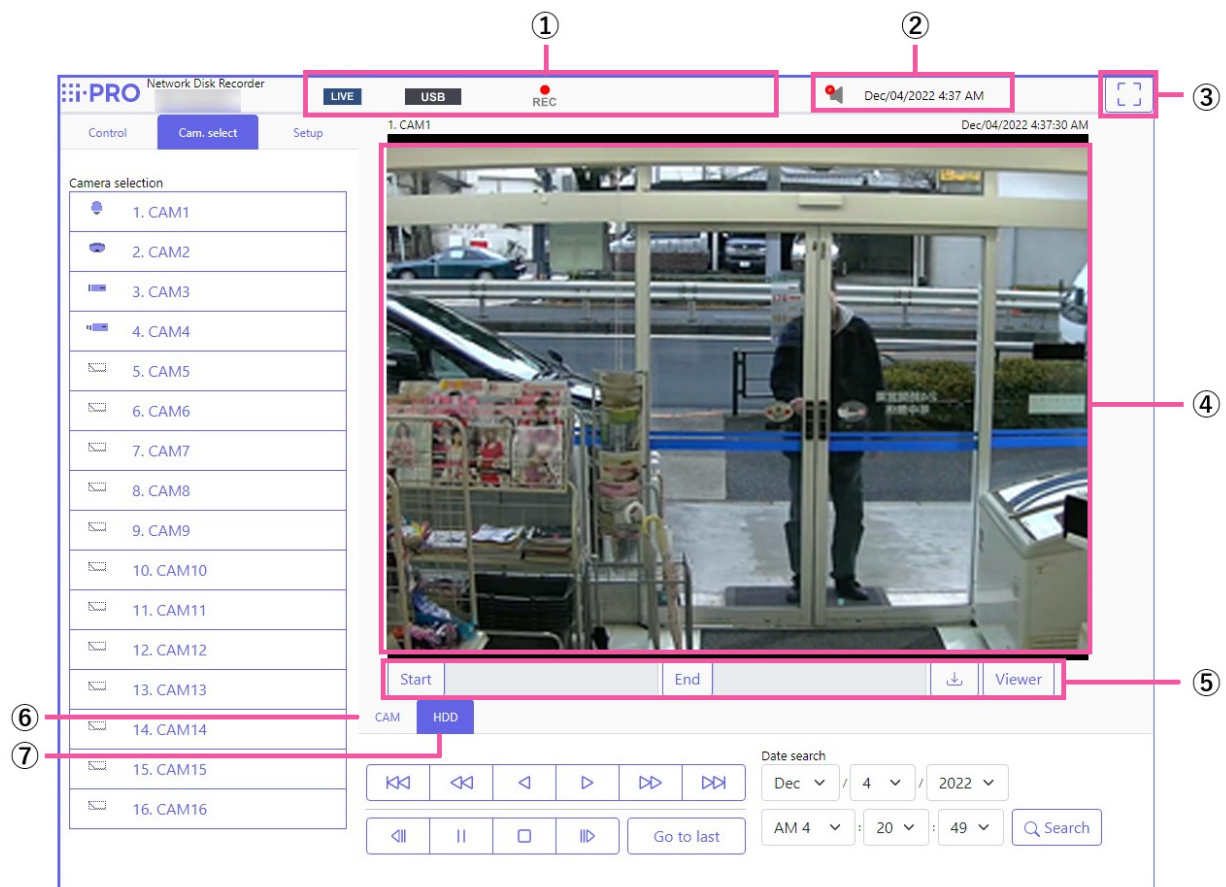


#### Note:

- If your web browser is set to block pop-up windows, alarm and error messages will not be displayed, and various search and copy screens will not appear.

## About the operation window

### Top Page



#### [Control] tab

Displays operations such as searching for and copying recorded images, search results and log information.

#### [Cam. select] tab

Can be used for switching camera images.

#### [Setup] tab

Can be used to configure the settings of the recorder.

Refer to the following section for setup items and their further information.

👉 [Configure the basic settings \[Basic setup\]](#)

Refer to the following section for basic operations.

👉 [Setup](#)

① **Status display area**

The current status of the recorder such as playback status, recording status, etc. will be displayed.

② **Current time display area**

The current date & time will be displayed.

③ **[Wide view] button**

Displays the camera's live and playback images on the entire screen.

 [Display live images](#)

④ **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.

⑤ **Download operation area**

Downloads the images currently being played and the viewer software.

⑥ **[CAM] tab**

Camera operations such as zooming, focusing, auto mode, etc. can be performed on this tab.

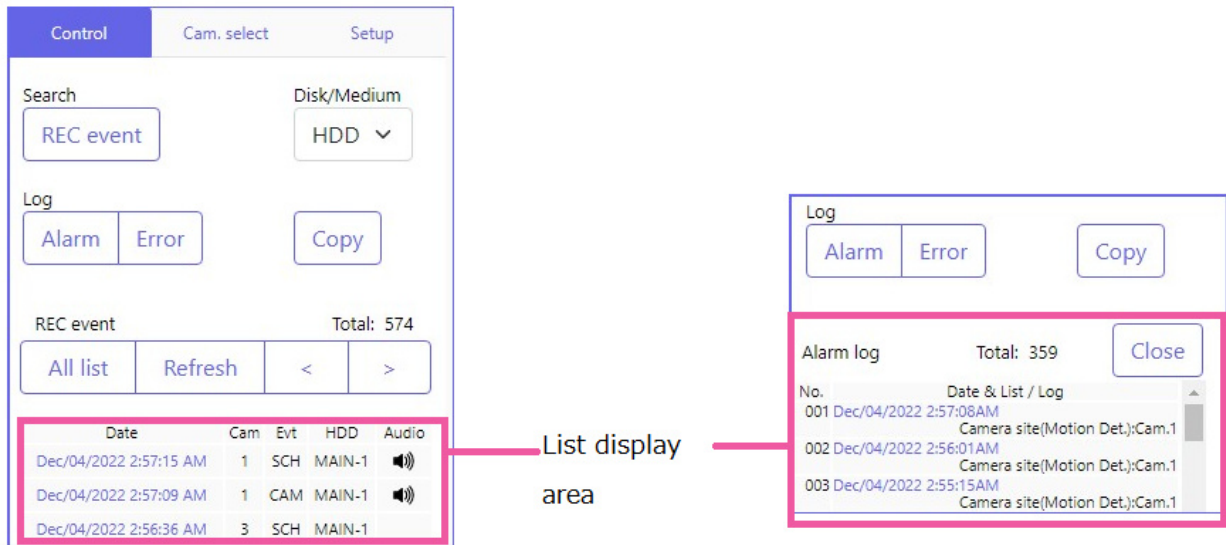
⑦ **[HDD] tab**

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.





### [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.
- [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

### [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.

### [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.

### 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 the following sections, respectively.

 [Search and play recording events \(REC event search\)](#)

 [Check a list of copied recorded images](#)

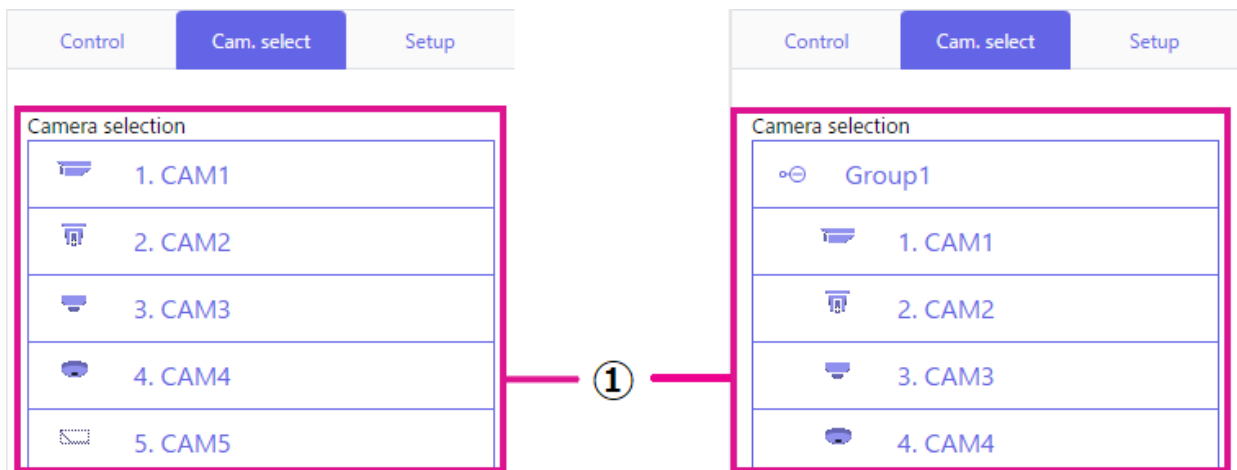


**Note:**

- To start playback from the beginning of the preevent 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.



### Camera selection box (①)

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" enables the group display of cameras.

[👉 Set the web browser \[Web browser\]](#)

### Setup panel

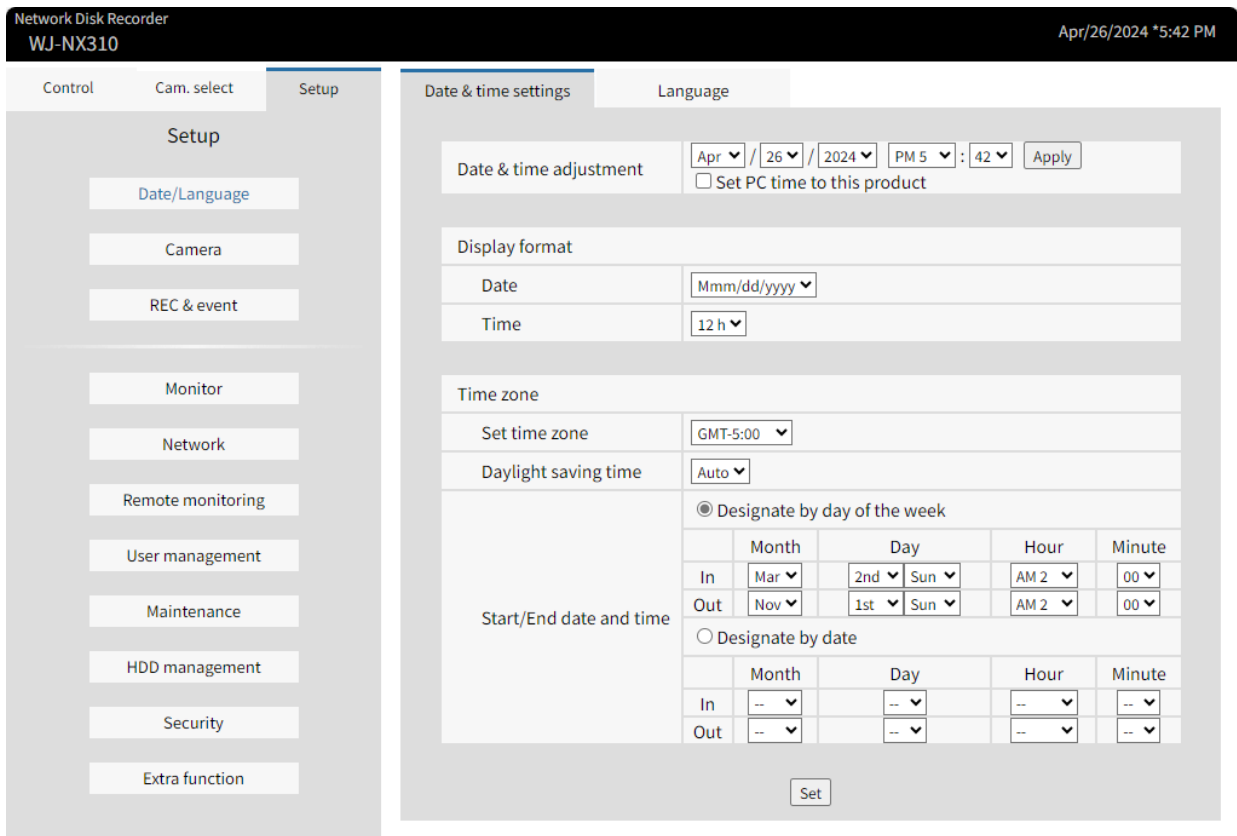
The following setup panel will be displayed when the [Setup] tab is clicked. The settings such as the date & time display of the recorder can be configured.

Refer to the following section for setup items and their further information.

[👉 Configure the basic settings \[Basic setup\]](#)

Refer to the following section for basic operations.

[👉 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.

### **[Remote monitoring] button**

Displays the remote monitoring page.

Register for the remote monitoring and check the service status.

### **[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 initialization of settings and firmware update.

### **[HDD management] button**

Format the HDD or change the operation mode of HDDs.

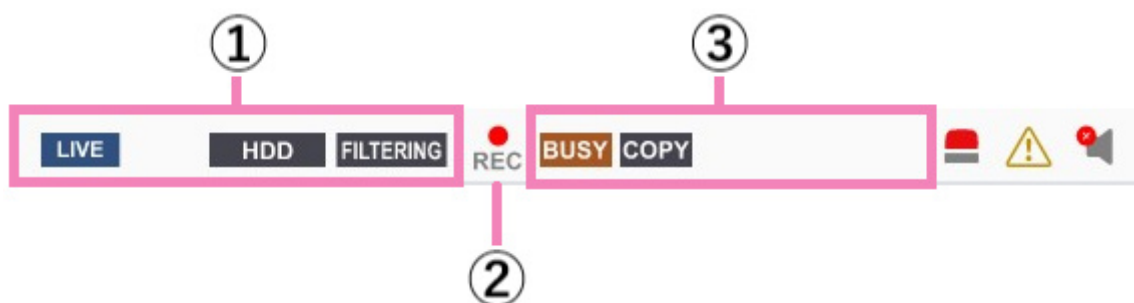
### **[Security] button**

Sets the security function.

### **[Extra function] button**

Set the extra function such as NAS backup and failover function.

### **Status display area**



#### **① Live/playback status display area**

The status of an image (live image/recorded image) will be displayed. The following information will be displayed:

**LIVE** : 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.

**DL** : Indicates that recorded images/audio are being downloaded.

**END** : Indicates that downloading of recorded images/audio is completed.

Indicates the playback speed.

**Step1** : Normal playback speed (1x)

**Step2** : Approx. 2x playback speed

**Step3** : Approx. 4x playback speed

**Step4** : Approx. 8x playback speed

**Step5** : Approx. 16x playback speed

**Step6** : Approx. 32x playback speed

**Step7** : Approx. 48x playback speed

Indicates the selected media.

**HDD** : Indicates that the HDD is selected as playback media.

**USB** : Indicates that the USB medium is selected.

Indicates the operating status of each function.

**FORMAT** : Indicates that the formatting of the HDD or the USB medium is in progress.

**SD▶HDD** : Indicates that SD memory data is being obtained.

**RECOVER** : Indicates that data recovery in the RAID mode is being performed.

**FILTERING** : Indicates filtering of recording events.

## ② Recording indicator

Indicates the status of recording.

**REC** : Indicates that recording is being performed.

**REC** : Indicates that recording is not being performed.

## ③ Other status display area

Indicates the following statuses.

**BUSY** : Indicates that the camera is inoperable since a user with a higher priority is currently operating the camera.

**COPY** : Indicates that copying is being performed.

**DELETE** : 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.

### Mute button [MUTE]

: Muted.

: Unmuting is in progress.

Audio output is stopped (muted) when live image display starts. Click to unmute. Click again to mute.

### 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.

 [Download recorded images currently being played](#)

### [Download] button

Downloads recorded images and audio at the designated date & time.

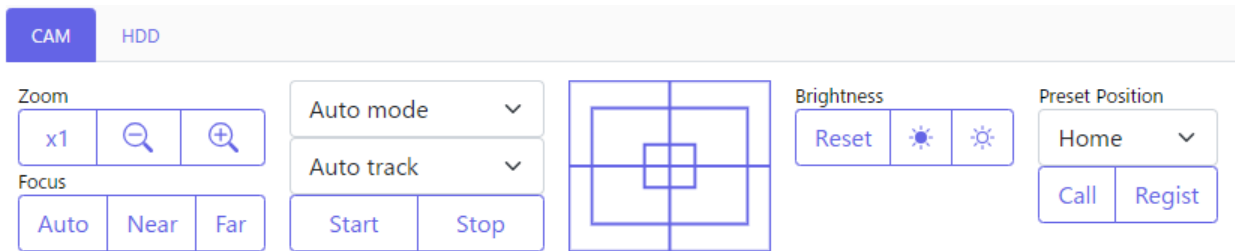
### [Viewer] button

Download the viewer software for playing the downloaded images and audio.

### [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. Refer to "Operate the camera" for operation.

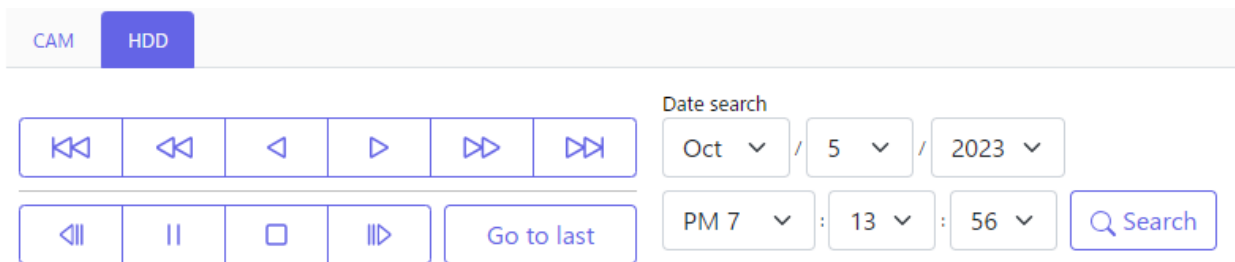
 [Operate the camera](#)



### [HDD] tab

Playback camera images recorded on the HDD of this product. Refer to "Play recorded images" for operation.

 [Play recorded images](#)



## View

### Monitor live images

Live images will be displayed in the web browser window on a 1-screen. It is possible to display live images to expand the image display area across the full screen.



**Important:**

- Cameras with the recording resolution set to JPEG will not be displayed.
- When the recording setting is set to On (G.711), no sound is output.
- Depending on the resolution and image quality (bit rate) setting of the camera, there may be a delay in the video display.
- If you continue to display images for a long time with the browser, the



operation of the browser may become slow or the images may not be displayed. In this case, close the browser and start it again.

- If the frame rate setting is changed between scheduled recording, event recording, emergency recording, or between pre-recording and event recording, the live image may not be displayed smoothly if the frame rate is switched during the live image display.

## Display live images

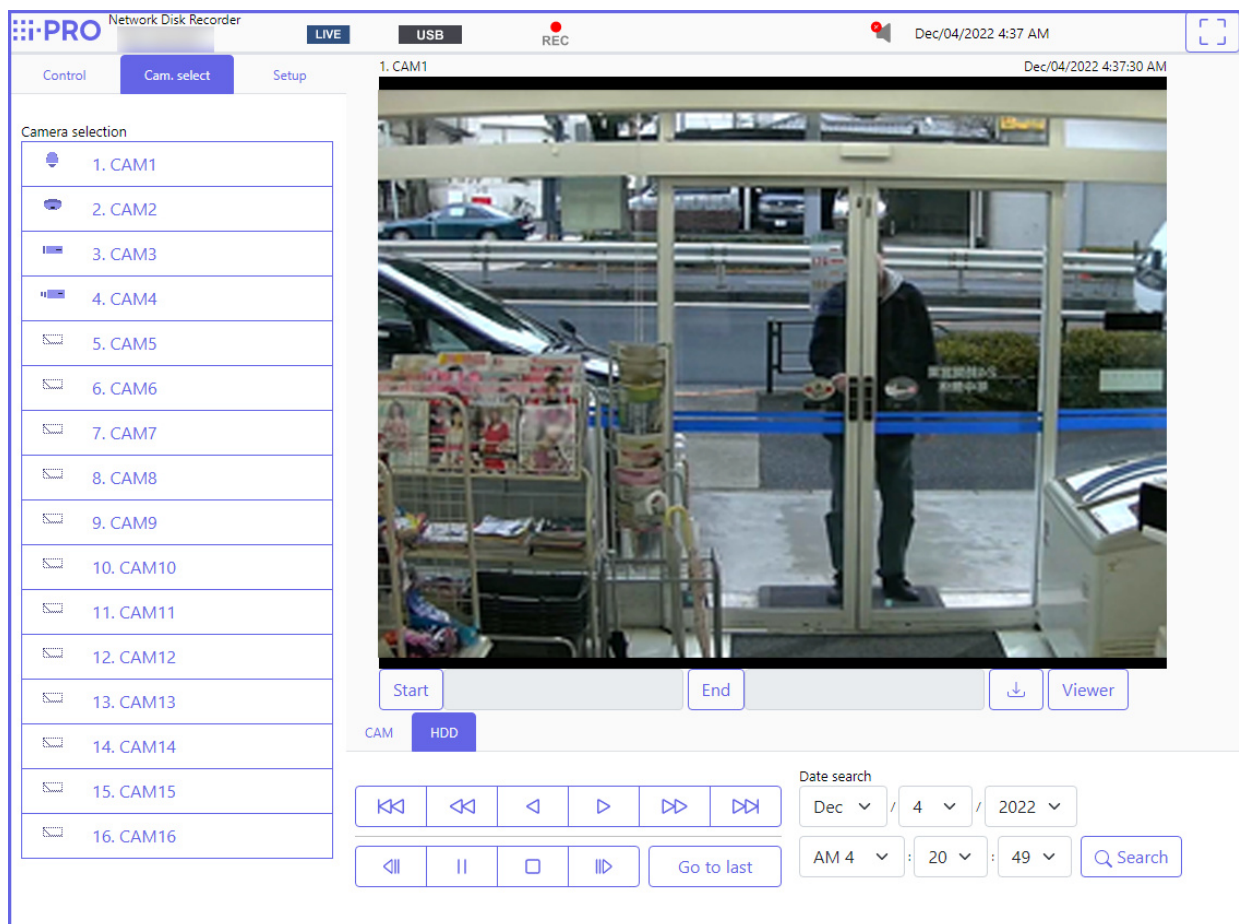
To display live images on a 1-screen, take the following procedures.

### Step 1

Click the [Cam. select] tab.

→ A list of the registered cameras will be displayed in the [Camera selection] box.

 [Camera selection panel](#)



### Step 2

Select the title of the camera.

→ Live images from the selected camera will be displayed on a 1-screen.



**Note:**

- Clicking the [Go to last] button on the [HDD] tab while displaying live images will start playback from a point around 30 seconds before the latest recorded image of the camera currently being displayed. Depending on the recording settings, images may be played back more than 30 seconds before.

**Display images in wide view**

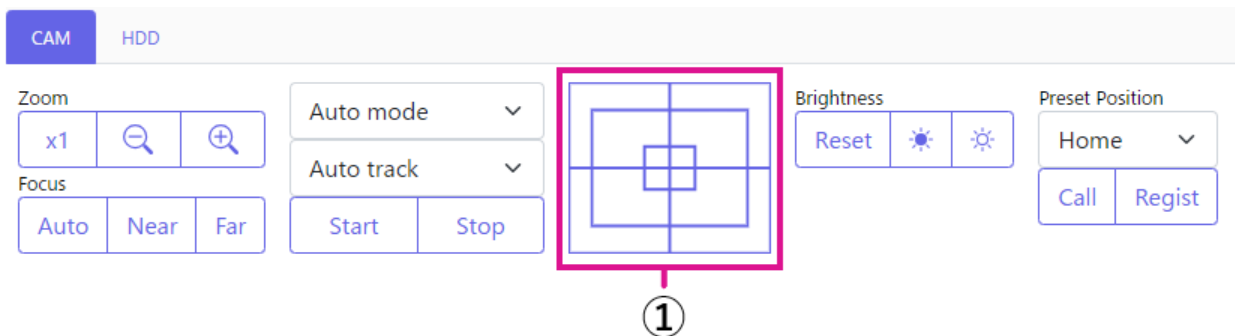
Display live images across the full screen. Click the [Wide view] button (the operation panel will disappear).

To return the wide view image to the original size, press the [Esc] key or click the [×] icon at the top of the screen.

**Operate the camera**

When displaying live images from a camera with the panning/tilting function, 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.

To operate the camera, display the [CAM] tab of the top page.



Camera operation is as follows.

Function	Function Description	Operation
Pan/Tilt	Adjusts the horizontal/vertical position of the camera image.	<b>Control pads (①)</b> Click to adjust the camera orientation. The more you click outside of the center of the pad, the more pan/tilt movement you will get.

Function	Function Description	Operation
Zoom	The camera image will be enlarged or compressed in the display.	Click the [-] button or the [+] button. Click the [×1] button to return the zoom magnification to 1×.
Focus	Adjusts the focus of the camera image.	Click the [Far] or [Near] button. Click the [Auto] button to automatically adjust the focus.
Brightness	Adjusts the aperture of the lens.	Click the ☀ or ☀ button. Click the [Standard] button to return brightness setting to standard.
Preset registration	Registers the current camera orientation to the selected preset position.	<p>Pan/tilt the camera to the desired orientation.</p> <p>Click the [▼] button in the Preset box, select the preset number (1 to 256) you wish to register, and click the "Register" button.</p> <p><b>Note</b></p> <ul style="list-style-type: none"> <li>● Some preset numbers cannot be registered depending on the connected camera model.</li> <li>● "Home" cannot be registered.</li> </ul>
Preset move	Moves the camera orientation to the position preset in the preset registration.	Click the [▼] button in the Preset box, select a preset number (Home, 1 to 256), and click the "Move" button.
Auto mode	Activates the Auto mode function set in the camera.	<p>Select "Auto mode" as the operation mode and click the [▼] button to select the following camera's auto mode. Click the [START] button to start the camera in Auto mode. Click the [Exit] button to exit the Auto mode.</p> <ul style="list-style-type: none"> <li>● Auto-Following/Tracking: The camera automatically tracks moving objects on the screen.</li> <li>● Auto Pan: The camera automatically rotates within the range of the pan start and end positions set in advance.</li> <li>● Preset Sequence: Moves through the preset positions registered in advance in the camera, starting with the lowest preset number.</li> <li>● Patrol: Performs the operations recorded in advance by the camera.</li> </ul> <p><b>Note</b></p> <p>Set the Auto mode in the camera menu before use.</p>

Function	Function Description	Operation
AUX operation	The device connected to the AUX terminal of the camera is set to the Open/Closed state.	<p>Select "AUX" as the operation mode and click the [▼] button to select the AUX terminal number.</p> <ul style="list-style-type: none"> <li>● Click the [Open] button to open the AUX terminal of the camera.</li> <li>● Click the [Close] button to close the AUX terminal of the camera.</li> </ul> <p><b>Note</b> AUX terminal number selection is valid only for WJ-GXE500. For cameras other than WJ-GXE500, only Open/Close operation is possible.</p>
Wiper operation	Operate the washers/wipers on the WV-SUD638.	<p>Select "Wiper" as the operating mode, click the [▼] button, select the following camera wiper functions, and click the [Start] or [End] button.</p> <ul style="list-style-type: none"> <li>● High-speed: Continuous wiping operation. (once every 4 seconds)</li> <li>● Low-speed: Continuous wiping operation (once every 8 seconds)</li> <li>● Temporary control: Performs 5 wiping operations at high speed (once every 4 seconds).</li> <li>● Washer: Performs the specified washer/wiper operation.</li> </ul> <p><b>Note</b></p> <ul style="list-style-type: none"> <li>● The following operations cannot be performed while the washer is in operation. <ul style="list-style-type: none"> <li>• "Wiper" function - [Start] and [End] operations</li> <li>• Pan, tilt, zoom, and focus control</li> <li>• "Auto mode" - [Start] operation</li> <li>• "Preset" - [Move] operation</li> </ul> </li> <li>● Washer operation setting is required on the camera side. For more information, refer to the Operating Instructions of WV-SUD638.</li> </ul>
Active ClearSight	Activates the Active ClearSight function.	Select "Active ClearSight" as the operation mode and click the [START] button.

## Event function

### About 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.

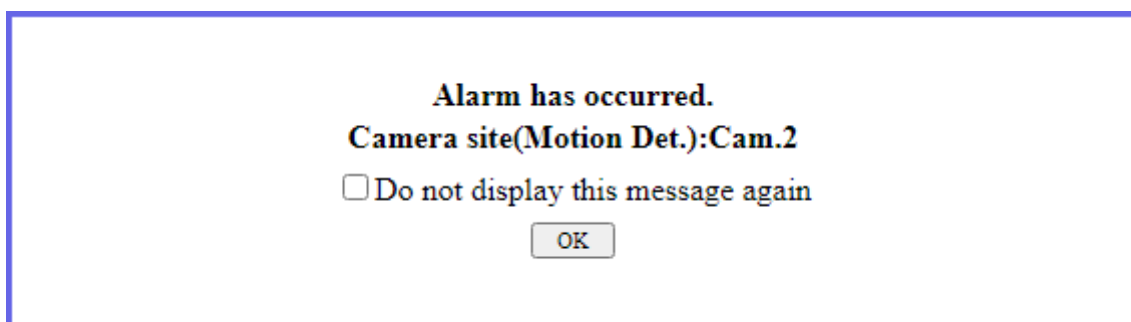
Refer to the following section for further information about the event action and action mode.

The actions that can be set up and checked from a PC when an event occurs are described below.

[👉 Action to be taken upon an event occurrence](#)

### 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. When you check "Do not display this message again", the alarm message will not be displayed until the web browser is restarted even if an event occurs.

### 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.

 [Cancel the alarm action](#)

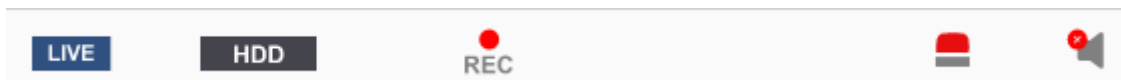
### Display the error button

The [ERR] button will be displayed in the status display area. The error action will be canceled by clicking [ERR] button.

 [Cancel the error action](#)

### Cancel the alarm action

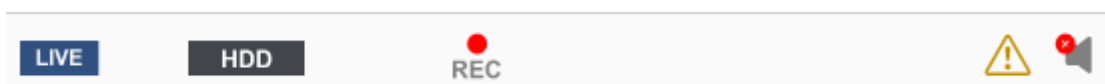
To cancel the alarm action manually, click the [ALM] button in the status display area.



→ 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. The error indicator on the front of the recorder will go off when the cause of the error has been eliminated.  
 [Play images selected from logs \(Log search\)](#)
- 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

## 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.



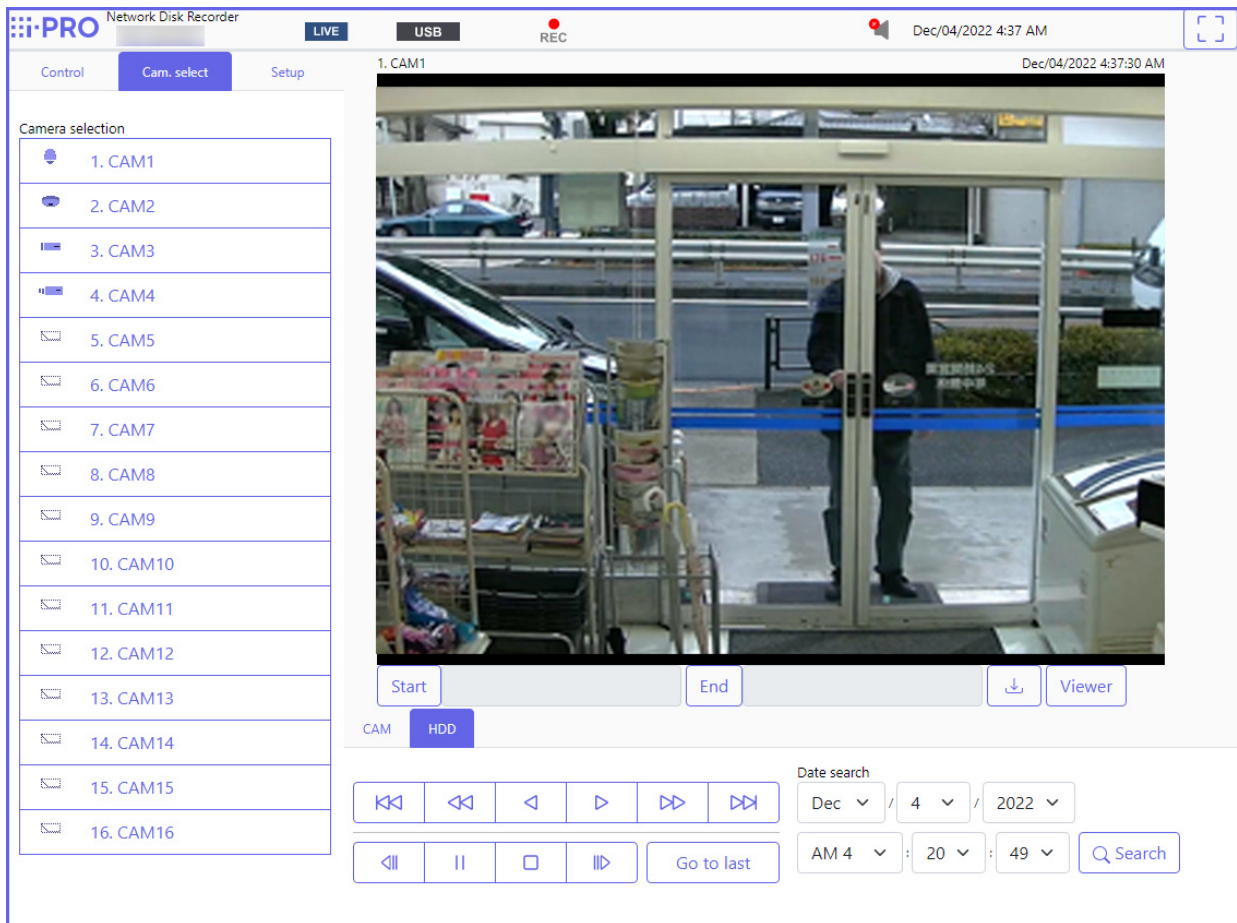
### Important:

- Audio cannot be played.
- The maximum number of browser connections that can play simultaneously is two. The number of connections includes the number of mobile regenerations of the i-PRO Mobile APP smartphone application. When two browsers are running, a user at the same level cannot run a third browser. When using a submonitor, the maximum number of connections is limited to one.
- Depending on the compression method, resolution, frame rate, etc. of the recorded images, the replay speed may be slower.
- If the frame rate of the recorded image is more than 15 ips, the image is resumed with a shortened frame rate.
- If the browser is closed during the playback, it takes about 90 seconds before the next time the browser is connected, the playback will be ready. It is OK to stop the playback and exit the browser.

### 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 starting playback for the first time after login, playback will start from a point around 30 seconds before the latest recorded image. While recording, the playback starts 30 seconds prior to the current time. Depending on the recording settings, images may be played back more






than 30 seconds before.


- 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.
- The camera image can be changed by clicking the [Cam. select] tab and the camera title during playback.
- The playback video may temporary stop or the image may not be displayed if the vicinity of the current time is continuously being displayed.

### 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></ul> <p>* Playback and reverse playback may not work when the [Play] or [Rev play] button is clicked while recording images at a lower frame rate.</p>
[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>

Function	Example	Operation
[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. ×2) → Step3 (Approx. ×4) → Step4 (Approx. ×8) → Step5 (Approx. ×16) → Step6 (Approx. ×32) → Step7 (Approx. ×48)</li> <li>● Playback speed of fast reverse playback will be changed in the following order each time the [FR] button is clicked: Step2 (Approx. ×2) → Step3 (Approx. ×4) → Step4 (Approx. ×8) → Step5 (Approx. ×16) → Step6 (Approx. ×32) → Step7 (Approx. ×48)</li> <li>● The step of the playback speed will be displayed on the playback status display.</li> </ul> <p>* 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.</p>
[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> </ul> <p>* 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.</p>
[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> </ul> <p>* 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.</p>

Function	Example	Operation
[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 30 seconds before the date &amp; time of the latest recorded images. While recording, the playback starts 30 seconds prior to the current time. Depending on the recording settings, images may be played back more than 30 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>

## 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.

 [Camera selection panel](#)

### Step 2

Click the [HDD] tab.

 [Top Page](#)

### Step 3

Click the [▼] button and determine the date & time of the desired images.

Date search

Dec ▼

/ 4 ▼

/ 2022 ▼


AM 3 ▼

:

54 ▼

:

09 ▼

 Search

### 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")

 [About playback operation](#)



**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 of the operation window, and click the [REC event] button in the [Search] box.

 [Top Page](#)

→ The recording event search window will be displayed.

REC event search

Date & time range								
Start	Jan	1	2022	AM 12	:	12	:	12
End	Jan	1	2022	AM 12	:	12	:	12
REC event	<input checked="" type="checkbox"/> All							
	<input checked="" type="checkbox"/> Schedule			<input checked="" type="checkbox"/> Terminal alarm				
	<input checked="" type="checkbox"/> Command alarm			<input checked="" type="checkbox"/> Camera site alarm				
	<input checked="" type="checkbox"/> Emergency			<input checked="" type="checkbox"/> SD backup rec.				
	<input checked="" type="checkbox"/> Extension software alarm							
	<input checked="" type="checkbox"/> Intruder			<input checked="" type="checkbox"/> Loitering				
	<input checked="" type="checkbox"/> Direction			<input checked="" type="checkbox"/> Cross line				
	<input checked="" type="checkbox"/> Occupancy Area1			<input checked="" type="checkbox"/> Occupancy Area2				
	<input checked="" type="checkbox"/> Occupancy Area3			<input checked="" type="checkbox"/> Occupancy Area4				
	<input checked="" type="checkbox"/> User-defined1			<input checked="" type="checkbox"/> User-defined2				
	<input checked="" type="checkbox"/> User-defined3			<input checked="" type="checkbox"/> User-defined4				
	<input checked="" type="checkbox"/> User-defined5			<input checked="" type="checkbox"/> User-defined6				
	<input checked="" type="checkbox"/> User-defined7			<input checked="" type="checkbox"/> User-defined8				
	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				

OK Cancel

## 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

Extension software alarm [SW1~SW16]: Record by extension software alarm



**Note:**

- When you search Extension software alarm, the event type in the search result list is displayed as follows for each event. Each name is in case of default setting.

Intruder: SW1, Loitering: SW2, Direction: SW3, Cross line: SW4

Occupancy Detection Area 1~Occupancy

Detection Area 4: SW5~SW8, User-defined 1 ~User-defined 8: SW9~SW16

- User-defined 1 to user-defined 8 of the extension software alarm are displayed when the message ID of the extension software alarm is set.

👉 [Configure the advanced settings for recording and events \[Advanced setup\]](#)

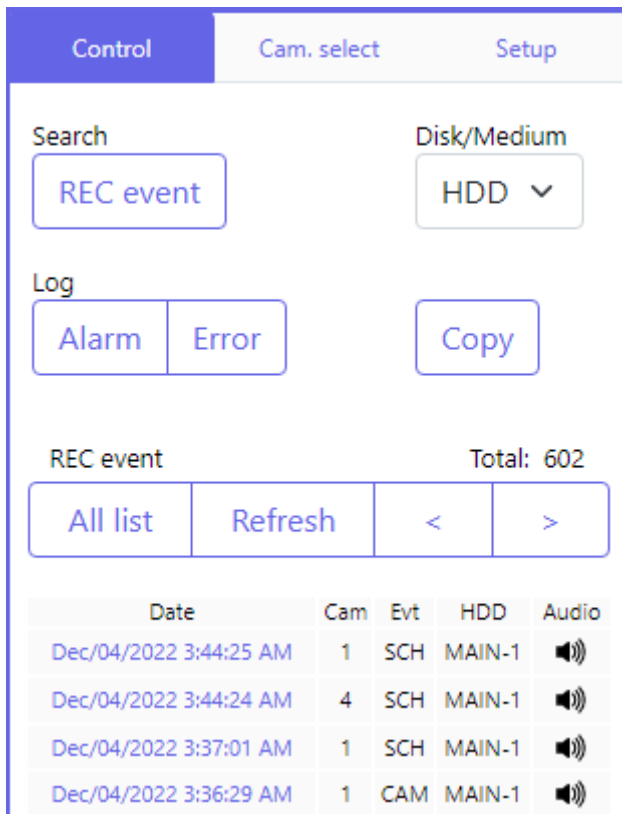
### [Camera]

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.

#### 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.

 [Search and play recording events \(REC event search\)](#)

### [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)

 [About playback operation](#)

## Useful functions

### Copy recorded images

Copy the recorded image on the recorder to an external storage device (external HDD, USB memory stick) or NAS.

Refer to the following section for further information about the copy function.

 [Copy recorded images](#)

Refer to the following section for information on how to play copied images.

 [Play back the copied/downloaded images on a PC](#)



Refer to the following section for the details of copying with the NAS (NAS backup function)

👉 [NAS backup function](#)

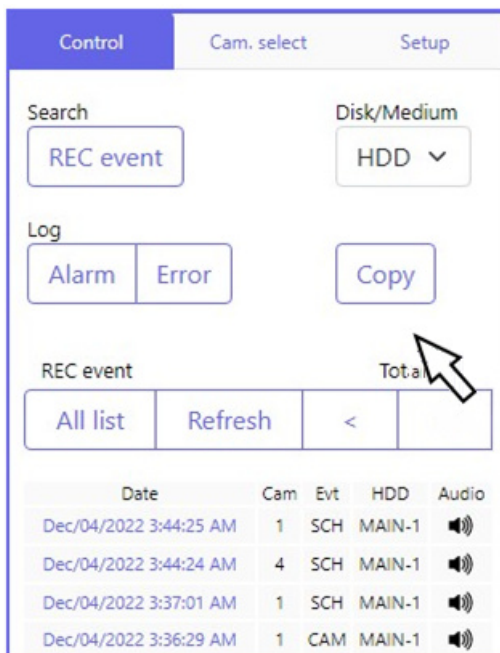
### Step 1

Click the [Control] tab on the top page of the operation window.

👉 [Top Page](#)

### 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.

Copy

Camera	<input type="checkbox"/> All <input type="checkbox"/> Cam.1 <input type="checkbox"/> Cam.2 <input type="checkbox"/> Cam.3 <input type="checkbox"/> Cam.4 <input type="checkbox"/> Cam.5 <input type="checkbox"/> Cam.6 <input type="checkbox"/> Cam.7 <input type="checkbox"/> Cam.8 <input type="checkbox"/> Cam.9 <input type="checkbox"/> Cam.10 <input type="checkbox"/> Cam.11 <input type="checkbox"/> Cam.12 <input type="checkbox"/> Cam.13 <input type="checkbox"/> Cam.14 <input type="checkbox"/> Cam.15 <input type="checkbox"/> Cam.16
Start	Dec ▼ / 4 ▼ / 2022 ▼    AM 4 ▼ : 21 ▼ : 34 ▼
End	Dec ▼ / 4 ▼ / 2022 ▼    AM 4 ▼ : 26 ▼ : 34 ▼
File format	<input checked="" type="radio"/> Original (n3r/n3a) <input type="radio"/> MP4
Alteration detection	Off ▼
Password	<input type="checkbox"/> Assign a password Password (5 to 8 characters) <input type="text"/> Retype password <input type="text"/>
Data size	--- GB <input type="button" value="Measurement"/>
Free	--- GB

### [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.

### [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.

### [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".

### [Password]

To copy with password protection, mark the corresponding checkbox and enter 5 to 8 alphanumeric characters for the password. However, passwords cannot be assigned to MP4 files.

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.

## 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.

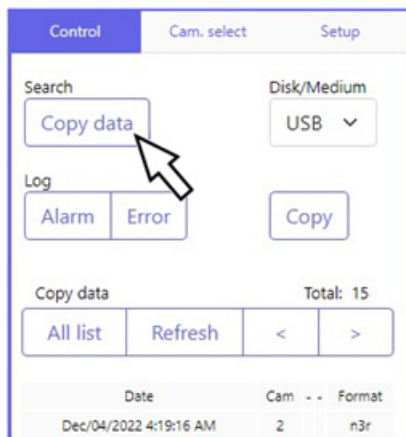
### Step 2

Click the [Control] tab on the top page of the operation window.

[👉 Top Page](#)

### 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).

Copy data search (USB)						
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		
Date & time range						
Start	Dec	/	4	/	2022	AM 4 : 19 : 16
End	Dec	/	4	/	2022	AM 4 : 19 : 16
File format	<input checked="" type="radio"/> Original (n3r/n3a) <input type="radio"/> MP4					
OK    Cancel						

#### [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.

Copy data Total: 15

All list	Refresh	<	>
----------	---------	---	---

Date	Cam	-	-	Format
Dec/04/2022 4:19:16 AM	2			n3r
Dec/04/2022 4:19:16 AM	3			n3r
Dec/04/2022 4:19:15 AM	1			n3r
Dec/04/2022 4:19:15 AM	4			n3r
Dec/04/2022 4:09:05 AM	1			n3r
Dec/04/2022 4:09:05 AM	2			n3r
Dec/04/2022 4:09:05 AM	3			n3r
Dec/04/2022 4:09:05 AM	4			n3r
Dec/04/2022 4:05:10 AM	1			n3r
Dec/04/2022 4:05:10 AM	2			n3r
Dec/04/2022 4:05:10 AM	3			n3r
Dec/04/2022 4:05:10 AM	4			n3r
Dec/01/2022 2:51:06 AM	1			n3r
Dec/01/2022 2:27:28 AM	1			n3r
Dec/01/2022 2:23:47 AM	1			n3r

**[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.

### [Format]

Displays a file format.



#### **Important:**

- Do not remove the external storage device during playback of the list of copied data. 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 the following section for information on how to play copied images.  
[👉 Play back the copied/downloaded images on a PC](#)

## **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 the following section for information on how to play downloaded recorded images.

[👉 Play back the copied/downloaded images on a PC](#)



#### **Important:**

- When download is canceled in the process of the download, it is impossible to properly play the downloaded file on a PC.

### **Step 1**

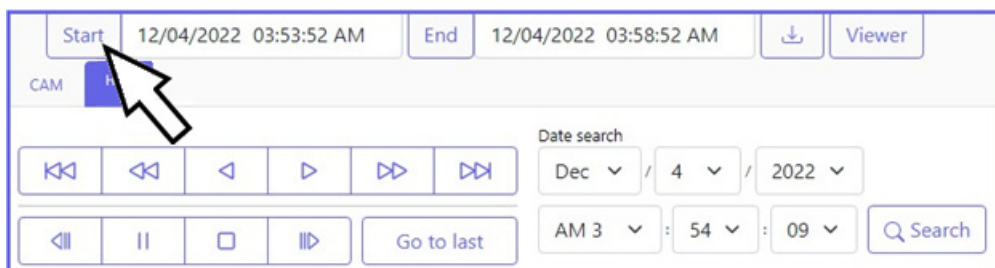
Click the [HDD] tab on the top page of the operation window.

[👉 Top Page](#)

## Step 2

Play back the recorded images.

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.

## 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.

File format	<input checked="" type="radio"/> Original (n3r/n3a) <input type="radio"/> MP4
Audio	<input checked="" type="radio"/> With audio <input type="radio"/> Without audio
Alteration detection	Off ▼
Password	<input type="checkbox"/> Assign a password Password <input type="text"/> Password (Retype) <input type="text"/>

OK Cancel

→ The file download will be started.



**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.
- Copying and downloading in MP4 format are available for up to 2 users at the same time.  
[👉 Copy recorded images](#)
- When the size of the file being downloaded exceeds 2GB, the download will be terminated at that point.
- If downloading in MP4 format, if there is a part that has not been recorded within the specified date and time range, or if there is a part where the recording settings have been changed, the download will end with that part.
- During download, cameras switching or setting menu display is not available. Please wait until the download is completed.
- The image may be downloaded from a few seconds before\* the specified start date and time.  
\* The time depends on the refresh cycle setting of the camera (setting range: 0.2 to 5 sec). The camera refresh cycle setting is set to 1 second

when the camera is registered. Refer to the Operating Instructions of the camera for the refresh cycle settings.

## **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 the following section for how to use the viewer software.

 [How to use the viewer software](#)

### **Play recorded images downloaded using a web browser**

Download the viewer software (compressed file: NX\_Viewer.zip) and extract the file.

Expanding the folder creates the NX\_Viewer folder. In this folder you will find the viewer software executable file (NX\_Viewer.exe).

Refer to the following section for how to use the viewer software.

 [How to use the viewer software](#)

### **Download the viewer software**

Click the [Viewer] button in the download operation area on the top page of the operation window.

 [Download operation area](#)

→ The file will be downloaded.

### **How to use the viewer software**

To start the viewer software, double-click the executable file (NX\_Viewer.exe) in the external storage device if you copied it to an external storage device, or the executable file in the extracted folder if you downloaded it from a web browser.



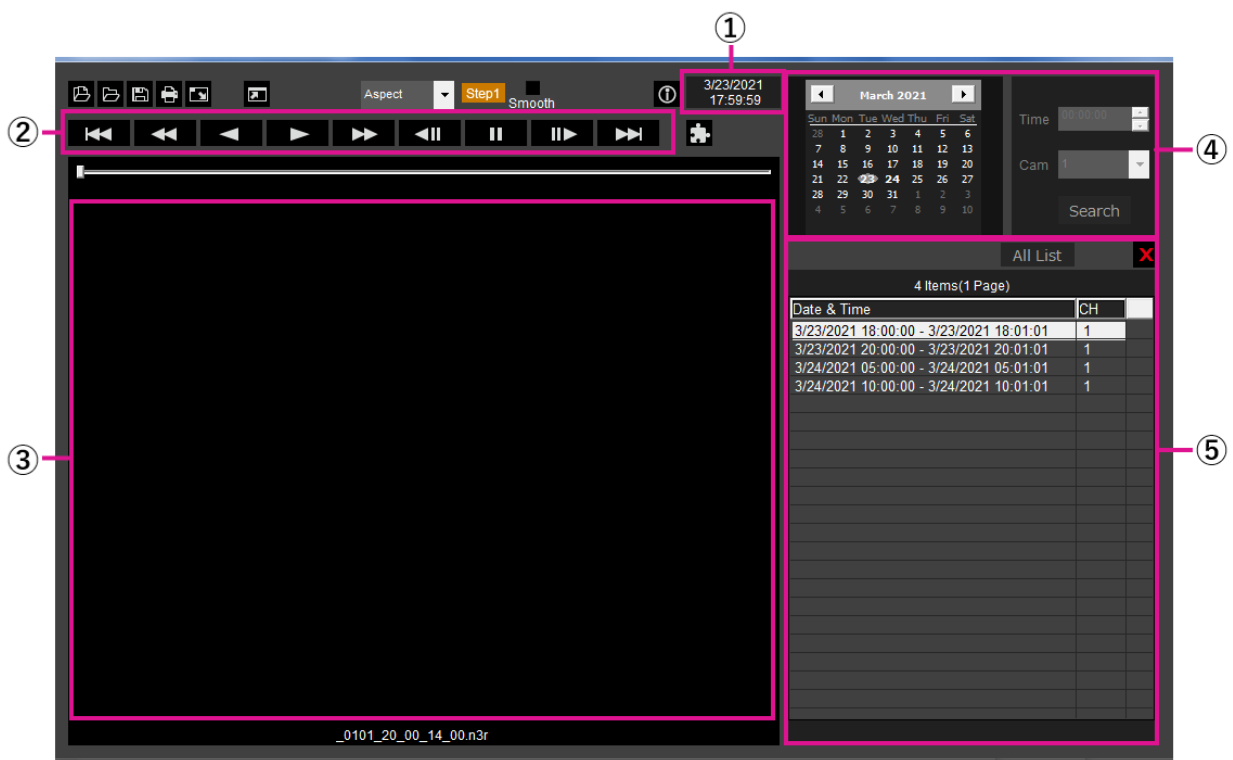
**Important:**

- When using the viewer software on more PCs than the number of connected cameras, a license is required for each PC. Refer to your dealer for the software licensing.



**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

- ① Playback time and date display area
- ② Playback operation button
- ③ Image display area

④ **Search box**

⑤ **List display area**

## 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, rightclick 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].

- Image data after 2038 cannot be played back.

## 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, the password will be required. The image will be played only when the correct password is confirmed.
- Playback images and audio may sometimes not be synchronized exactly.

The playback operation buttons enable the following operations.


**[Play] button** : Starts the playback.


**[Rev play] button** : Plays the image backwards.


**[FF] button** : Plays the image at high speed.


**[FR] button** : Plays the image backwards at high speed.

**[Pause] button** : Pauses the playback.

**[Next image] button** : Moves to the next image. It is operable only when playback is paused.

**[Prev image] button** : Returns to the previous image. It is operable only when playback is paused.

**[Next record] button** : Plays the next recording file on the list.

**[Prev record] button** : 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**


 Displays the image in the screen with the aspect ratio kept.

 Displays the image with it expanded or contracted to fit in the screen.

 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**


 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 or Panasonic, 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.

Fisheye images other than those manufactured by us or Panasonic cannot be corrected and displayed.

## Adjust the volume

When the audio data 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, filename.mp4) 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.

### **Print the displayed image**

Print the image displayed in the image display area.

 Prints the image on pause with the date and time.



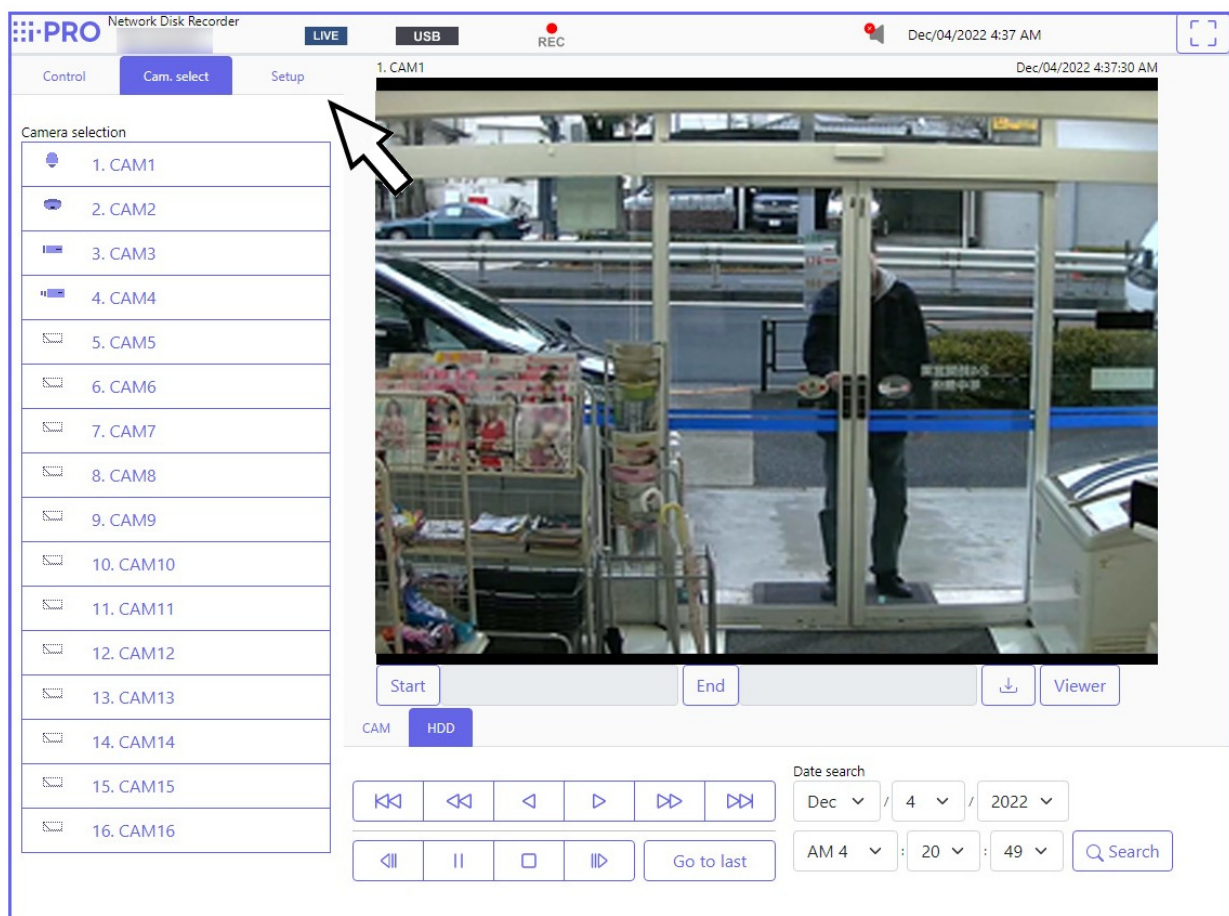
# [Setup on browser]

## Setup

### Basic operations

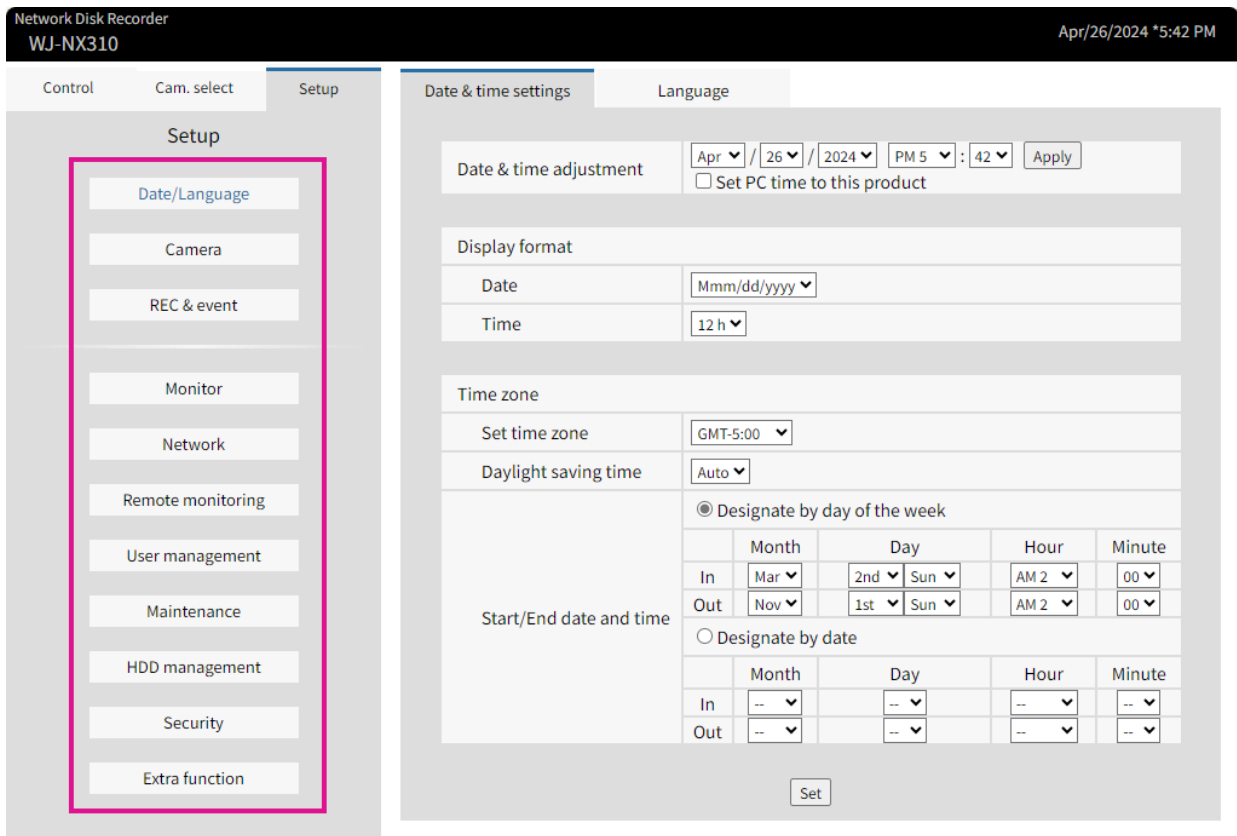
#### Step 1

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.

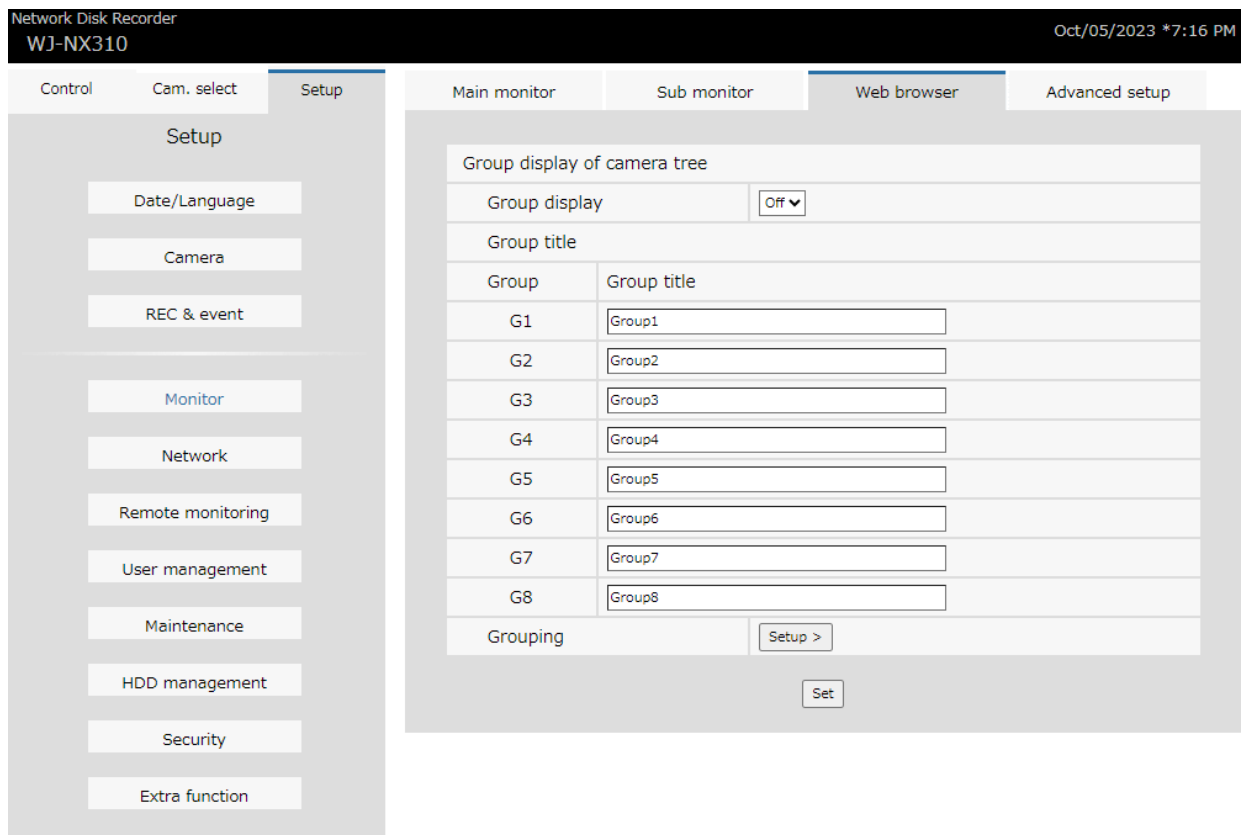
Refer to the following section for setup items that can be configured from the web browser and their further information.

[👉 Lists of the setting items \(Setup menu\)](#)

## 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]

Grouping		
Camera	Model	Group
		<input type="text"/>
1	S61301	G1 ▼
2		G1 ▼
3		G1 ▼
4		G1 ▼
5		G1 ▼
6		G1 ▼
7		G1 ▼
8		G1 ▼
9		G1 ▼
10		G1 ▼
11		G1 ▼
12		G1 ▼
13		G1 ▼
14		G1 ▼
15		G1 ▼
16		G1 ▼

Assign the camera to each group (G1 ~ G8).

### Configure the ONVIF setup

Click the [Setup>] button of "ONVIF Setup" in [Camera] - [Advanced Setup] tab to display a

menu related to ONVIF connections. Normally there is no need to change the default settings. Do not normally use it.

### **Display data output logs**

Click the [View>] button of [Data output logs] in [Maintenance] - [System administration] to check the history of users who have copied or downloaded data. Up to 100 records are stored, and when the number of records exceeds 100, the oldest records are overwritten.

### **View OSS licenses**

Click on "Click here for OSS information" under [Maintenance] - [System management], and the license of the OSS in use will be displayed.

### **Download root certificate**

Click [Execute >] under "Download root certificate" in [Security] – [Communication] to download the root certificate.

### **Setup IEEE802.1X**

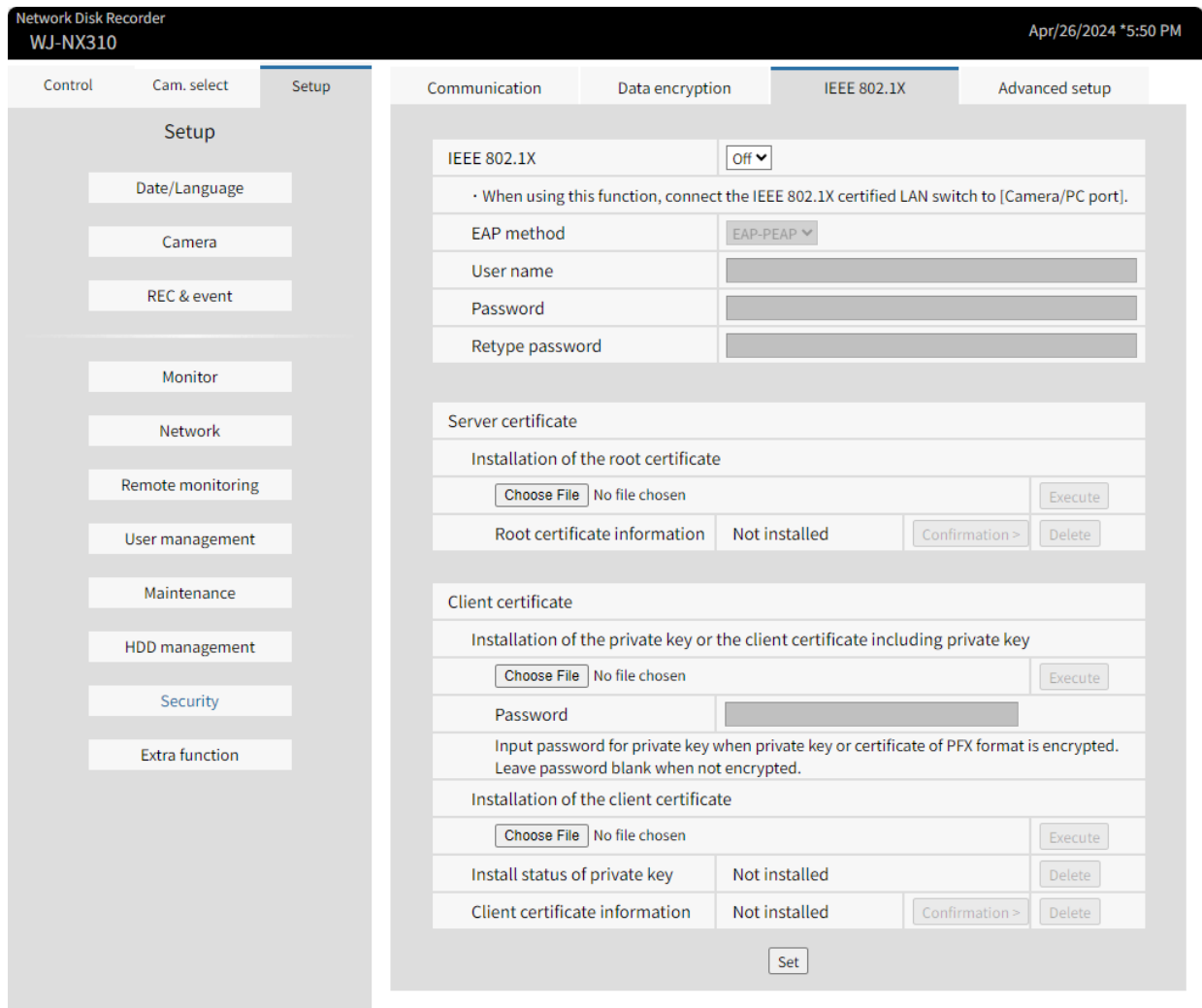
This function is used when building a secure network environment using an certified LAN switch. Contact your network administrator regarding certified LAN switches.



#### **Important:**

- If you cannot access this recorder for some reason after setting [IEEE 802.1X] to On, connect it to a switch or port without certification. IEEE 802.1X will be disabled and you will be able to access this recorder.
- Connect the IEEE 802.1X certified LAN switch to the [Camera/PC port].

Click the "Security" button in the setup menu and click the "IEEE 802.1X" tab.



### [IEEE 802.1X]

Set whether to perform port certification using IEEE 802.1X.

On: Perform port certification

Off: Do not perform port certification

Default: Off

### [EAP method]

Select the certification method from EAP-PEAP/EAP-TLS.

Default: EAP-PEAP

The procedure differs depending on the EAP method. Refer to the following section for the details.

[👉 Configure the settings of IEEE802.1X according to EAP method](#)

### **[User name]**

Enter the user name to access the certified LAN switch or the user name registered on the server.

If it is not registered on the server, enter any username.

Available number of input characters: 1 to 32

Characters that cannot be input: Full-width, half-width symbols " ", " & ", " : ", " ; ", " ¥ "

### **[Password][Retype password]**

Enter the password to access the certified LAN switch.

Available number of input characters: 4 to 32

Characters that cannot be input: Full-width, half-width symbols " ", " & "

## **■ Server certificate**

### **[Installation of the root certificate]**

Install the root certificate.

Installation is possible only when [IEEE 802.1X] is Off.

The specifications of the certificates that can be installed are as follows.

- Data format: PEM format, DER format (extension is .pem or .der)
- Maximum number of certificates included in PEM format: 1 (excluding intermediate CA certificate)

### **[Root certificate information]**

Displays information about installed root certificate.

Not installed: Certificate is not installed

(Certificate host name): Displayed if a certificate is installed

Expired: The certificate has expired

You can check the detailed information of the root certificate by clicking the [Confirmation] button.

Root certificates can be deleted using the [Delete] button.

## Root certificate information

Certificate information	
Common Name	
Country	
State	
Locality	
Organization	
Organizational Unit	

### ■ Client certificate

#### **[Installation of the private key or the client certificate including private key]**

Install the private key or client certificate including private key.

Installation is possible only when [IEEE 802.1X] is Off.

The specifications of the certificates that can be installed are as follows.

- Data format: PEM format, PFX format (extension is .pem or .pfx)
- Key length [bit]: 1024, 1536, 2048, 3072, 4096
- Maximum number of certificates included in PEM format: 6 (including intermediate CA certificate)

#### **[Password]**

Input password for private key when private key or certificate of PFX format is encrypted.

Leave password blank when not encrypted.

Available number of input characters: 0 to 30

#### **[Installation of the client certificate]**

Install the client certificate.

Installation is possible only when [IEEE 802.1X] is Off.

The specifications of the certificates that can be installed are as follows.

- Data format: PEM format (extension is .pem)
- Maximum number of certificates included in PEM format: 6 (including intermediate CA certificate)

#### **[Install status of private key]**



Displays the private key installation status.

Not installed: Not installed

Installed: Installed

The private key can be deleted using the [Delete] button.

#### **[Client certificate information]**

Displays information about installed client certificate.

Not installed: Certificate is not installed

(Certificate host name): Displayed if a certificate is installed

Expired: The certificate has expired

You can check the detailed information of the client certificate by clicking the [Confirmation] button.

Client certificates can be deleted using the [Delete] button.

#### Client certificate information

Certificate information	
Common Name	[REDACTED]
Country	[REDACTED]
State	[REDACTED]
Locality	[REDACTED]
Organization	[REDACTED]
Organizational Unit	



#### **Note:**

- Make sure that the root certificate and client certificate have not expired. If the validity period has expired, you may not be able to use the port certification function.
- If the client certificate is signed by an intermediate CA, include the intermediate CA certificate in the client certificate and install it. In that case, the client certificate should come first, followed by the intermediate CA certificate.
- If you install a certificate larger than 10 kB, no error will be displayed during

installation, but an error may occur during connection.

- Each certificate can be deleted only when [IEEE 802.1X] is Off.

## Configure the settings of IEEE802.1X according to EAP method



### Note:

- If [IEEE 802.1X] is On, set [IEEE 802.1X] to Off before starting the settings.

## EAP-PEAP

### STEP1

Select On for [IEEE 802.1X].

### STEP2

Select EAP-PEAP in [EAP method].

### STEP3

Enter [User Name] and [Password]/[Retype password], and click the [Set] button.

## EAP-TLS

### STEP1

Click the [Select File] button for [Installation of the root certificate], specify the root certificate, and click the [Execute] button.

The host name (CommonName) of the certificate is displayed in [Root certificate information].

### STEP2

Click the [Select File] button for [Installation of the private key or the client certificate including private key] and specify the private key or client certificate including private key.

Input [Password] for private key when private key or certificate of PFX format is encrypted.

Leave password blank when not encrypted.

### STEP3

Click the [Execute] button to install.

"Installed" is displayed in [Install status of private key ].

If you have installed a client certificate that includes the private key, "Installed" is also displayed in [Client certificate information].

#### **STEP4**

If you installed the private key in step 2, click the [Select File] button for [Installation of the client certificate], specify the client certificate, and click the [Execute] button.  
The host name (CommonName) is displayed in [Client Certificate Information].

#### **STEP5**

Select On for [IEEE 802.1X].

#### **STEP6**

Select EAP-TLS in [EAP method].

#### **STEP7**

Enter the user name registered on the server in [User Name] and click the [Set] button.  
If it is not registered on the server, enter any username. There is no need to enter [Password]/[Retype password].

### **Update the firmware**

To update the firmware of the recorder to the latest version, proceed as follows.  
Refer to the following section for the operation procedures if the software is saved on the USB medium.

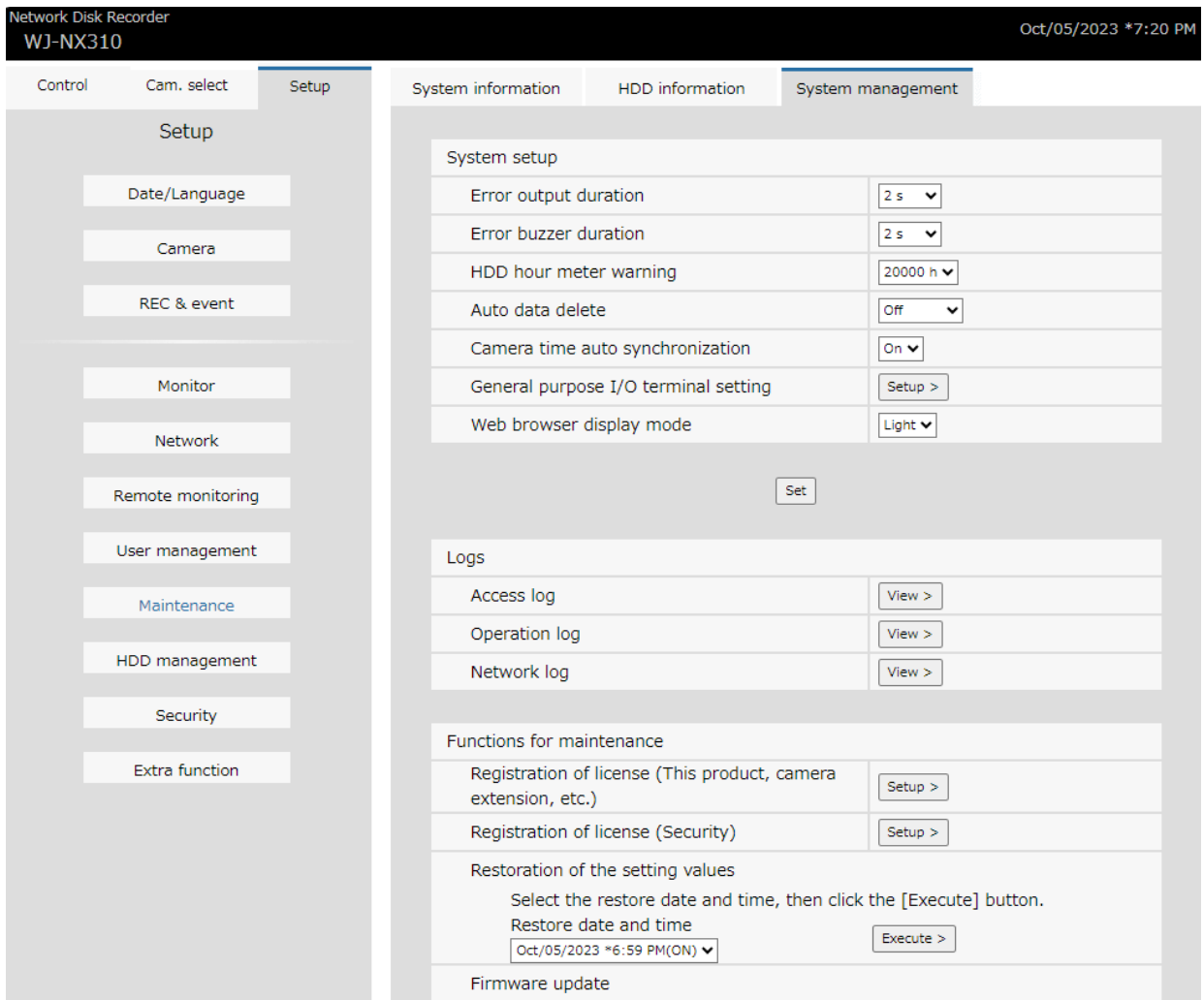
 [Configure the settings and operations relating to the system \[System management\]](#)

#### **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:

- [NX410/NX510] Depending on the firmware to be updated, it may take up to 30 minutes for upgrading, leaving the start screen displayed.
- Do not turn off the recorder or disconnect the network cable during the software upgrade.
- Contact your dealer for further information about the firmware update.

# Others

## Notification by e-mail

### Alarm mail

The recorder 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. 2023-10-18 12:00:00 GMT+9:00)

Alarm descriptions: Alarm descriptions, camera channel or alarm number will be described.  
(Example: SITE ALARM (Motion Det) CAM1 1ch)

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. 2023-10-18 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. "ccc" indicates the camera number, "x" indicates the unit, "y" indicates the HDD number, "z" indicates the FAN number, "n" indicates the storage destination, "m" indicates the recorder number. Thermal error: MAIN THERMAL ERROR

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Fan error:	EXTx THERMAL ERROR MAIN FANz ERROR EXTx FANz ERROR
NW camera error detection:	CAM ccc COMMUNICATION ERROR
NW camera error recovery:	CAM ccc COMMUNICATION RECOVERED
NW camera error detection (audio):	CAM ccc COMMUNICATION ERROR(AUDIO)
NW camera error recovery (audio):	CAM ccc COMMUNICATION RECOVERED(AUDIO)
Video loss detection (encoder):	CAM ccc VIDEO LOSS
Video loss recovery (encoder):	CAM ccc VIDEO RECOVERED
NW camera error detection (video):	CAM ccc COMMUNICATION ERROR(VIDEO)
NW camera error recovery (video):	CAM ccc COMMUNICATION RECOVERED(VIDEO)
NW camera error detection (live):	CAM ccc COMMUNICATION ERROR(LIVE)
NW camera error recovery (live):	CAM ccc COMMUNICATION RECOVERED(LIVE)
NW camera fault detection (video stream for remote monitoring)	CAM ccc COMMUNICATION ERROR(SERVICE)
NW camera fault recovery (video stream for remote monitoring)	CAM ccc COMMUNICATION RECOVERED(SERVICE)
HDD smart warning:	MAIN-y SMART WARNING EXTx-y SMART WARNING
HDD slow response:	MAIN-y SLOW RESPONSE EXTx-y SLOW RESPONSE
HDD hour meter warning:	MAIN-y HOUR METER WARNING EXTx-y HOUR METER WARNING
Auto remove of link:	MAIN-y LOGICALLY REMOVED MAIN LOGICALLY REMOVED EXTx-y LOGICALLY REMOVED EXTx LOGICALLY REMOVED
HDD remove error:	MAIN-y SWAP WARNING EXTx-y SWAP WARNING
HDD remaining capacity notice:	HDD CAPACITY REMAINS **% ** indicates the percentage of remaining capacity
Status HDD skip:	MAIN-y HDD SKIP MAIN-y,y HDD SKIP MAIN HDD SKIP EXTx-y HDD SKIP EXTx-y,y HDD SKIP EXTx HDD SKIP
Format error:	MAIN-y SINGLE FORMAT ERROR MAIN-y,y FORMAT ERROR

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	MAIN RAID5 FORMAT ERROR
	MAIN RAID6 FORMAT ERROR
	EXTx-y SINGLE FORMAT ERROR
	EXTx-y,y FORMAT ERROR
	EXTx RAID5 FORMAT ERROR
	EXTx RAID6 FORMAT ERROR
RAID1 1down [NX410/NX510]:	MAIN-y RAID1 1 DOWN
	EXTx-y RAID1 1 DOWN
RAID5 1down [NX410/NX510]:	MAIN-y RAID5 1 DOWN
	EXTx-y RAID5 1 DOWN
RAID5 2down [NX410/NX510]:	MAIN-y RAID5 2 DOWN
	EXTx-y RAID5 2 DOWN
RAID6 1down [NX410/NX510]:	MAIN-y RAID6 1 DOWN
	EXTx-y RAID6 1 DOWN
RAID6 2down [NX410/NX510]:	MAIN-y RAID6 2 DOWN
	EXTx-y RAID6 2 DOWN
RAID6 3down [NX410/NX510]:	MAIN-y RAID6 3 DOWN
	EXTx-y RAID6 3 DOWN
Starting mirroring recovery:	MAIN-y,y MIRROR RECOVERY START
	EXTx-y,y MIRROR RECOVERY START
Starting RAID5 recovery [NX410/ NX510]:	MAIN-y RAID5 RECOVERY START
	EXTx-y RAID5 RECOVERY START
Starting RAID6 recovery [NX410/ NX510]:	MAIN-y RAID6 RECOVERY START
	EXTx-y RAID6 RECOVERY START
Complete mirroring recovery:	MAIN-y,y MIRROR RECOVERY COMPLETE
	EXTx-y,y MIRROR RECOVERY COMPLETE
Complete RAID5 recovery [NX410/NX510]:	MAIN RAID5 RECOVERY COMPLETE
	EXTx RAID5 RECOVERY COMPLETE
Complete RAID6 recovery [NX410/NX510]:	MAIN RAID6 RECOVERY COMPLETE
	EXTx RAID6 RECOVERY COMPLETE
Mirroring recovery failure [NX410/NX510]:	MAIN-y,y MIRROR RECOVERY FAILURE
	EXTx-y,y MIRROR RECOVERY FAILURE
RAID5 Recovery failure [NX410/ NX510]:	MAIN RAID5 RECOVERY FAILURE

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	EXTx RAID5 RECOVERY FAILURE
RAID6 Recovery failure [NX410/ NX510]:	MAIN RAID6 RECOVERY FAILURE
	EXTx RAID6 RECOVERY FAILURE
Copy media FULL:	COPY MEDIUM FULL
Number of data on the copy medium exceeded:	OVER LIMITATION ON COPY MEDIUM
Network link down detection:	NETWORK LINK ERROR
Power failure detection:	POWER LOSS
Power failure recovery:	POWER RECOVERED
Camera SD memory card error:	CAM ccc SD ERR
Camera SD memory write start command error:	CAM ccc SD START ERR
Camera SD memory write completion command error:	CAM ccc SD END ERR
Camera SD Image acquisition failure:	CAM ccc GET IMG ERR
Camera SD Accumulated recording time warning:	CAM ccc SD LIFE WARNING (LONG-TERM)
Camera SD Overwrite warning:	CAM ccc SD LIFE WARNING (OVER-REWRITTEN)
Camera SD Access error:	CAM ccc SD ACCESS ERROR
Camera SD recording failure:	CAM ccc SD RECORDING ERROR
Camera SD memory card not recognized:	CAM ccc SD MEMORY CARD NOT DETECTED
Camera SD memory card capacity warning:	CAM ccc SD MEMORY CARD CAPACITY WARNING
Camera SD memory card full:	CAM ccc SD MEMORY CARD FULL
Camera failure (*):	CAM ccc HARDWARE ERROR
Exchange notification of wiper rubber of camera (*):	CAM ccc REPLACE WIPER RUBBER
* For WV-SUD638 camera only	
Changed angle:	CAM ccc CHANGED FROM INSTALLATION ANGLE
Recover angle:	CAM ccc RECOVERED TO INSTALLATION ANGLE
The trial period for the ext. software has expired:	CAM ccc EXTENSION SOFTWARE TRIAL PERIOD EXPIRED
NAS backup error:	NAS STORAGE-n ERROR
NAS backup full:	NAS STORAGE-n FULL
NAS backup interrupted:	NAS STORAGE-n INTERRUPTED
Failover (Operation suspended):	FAILOVEROPERATION SUSPENDED

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Failover (Alternative operation):	FAILOVERSWITCHED TO RECORDER-m
Rollback:	ROLLBACK

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## Addendum

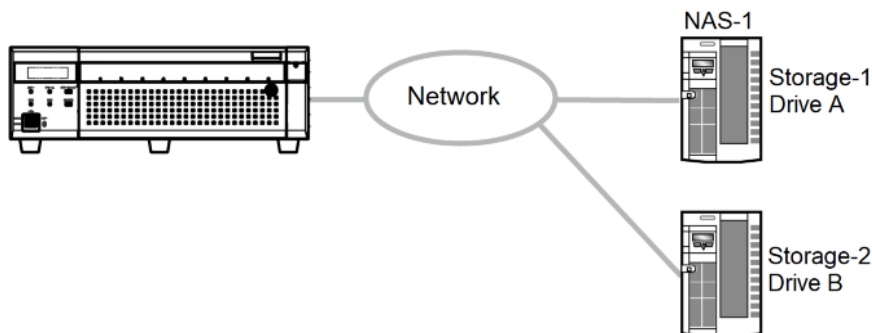
### NAS backup function

This section provides an explanation of how to use the NAS backup function with this recorder.

Professional knowledge and experience with the NAS are required for the operation of the NAS backup function.

### About the NAS backup function

When you register the license of the NAS backup function, the recording data can be backed up in the NAS drive. Up to 2 NAS drives can be set as storage. Cameras subject to backup and a schedule can also be set. It can also be backed up manually.



#### Important:

- The protocol of supported file system is NFSv3.
- Create a mount path on the NAS drive before using it.
- Refer to the operation manual of your NAS drive to create the directory.
- After mounting the NAS drive, the following directory will be created on the mount path.

NXR/bkup/ : Directory for scheduled backup

NXR/data/ : Directory for manual backup

- For the data copied to the NAS, it is not possible to playback on the recorder. Also, it is not possible to display the list of backup data on the recorder or the PC web browser. Playback the backup data with viewer software.

### About license registration

Register the license of the NAS backup function to use it. 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. Enter the following number for the Activation Key No. and the registration ID.

Activation Key No.: 1572-0060-030B-1234

Registration ID: 25D2-36AB

Refer to the following section for license registration of the NAS backup function.

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

### Configure the Settings of the NAS backup function



**Important:**

- When the setting of the NAS backup function is changed, the backup processing will stop. If the setting is changed during the backup, the backup schedule will not be executed until the next backup time. This also applies to the case of the HDD management screen being displayed.

Click the [Extra function] - the [NAS backup] tab of the [Advanced setup] on the setting menu.

→ The NAS backup screen will be displayed.

Extra function > NAS backup

NAS backup      Failover

NAS backup

NAS backup      Off

Setup for connection with the storage destination (NAS server)

Selection of storage destination       Storage-1       Storage-2

IP address           

Directory name           

Connection test           

Results      -      -

Free      -      -

\* No recording data will be backed up at the connection test.

Schedule setup of the NAS backup     

Backup status

Current backup status     

Backup error history     

### [NAS backup]

On: Enables the NAS backup function.

Off: Disables the NAS backup function.

Default: Off

### [Selection of storage destination]

Check the storage destination used for backup. When two storage destinations are set, the backup will be written to the other storage destination once the remaining capacity of the initial storage destination during backup runs out.

Storage-1 / Storage-2

### [IP address]

Set the IP address of the NAS.

### [Directory name]

Set the storage destination directory name.

### [Connection test]

Click the [Execute >] button, the system starts the connection test and displays [Results] and [Free].

### ■ Schedule setup of the NAS backup

Click the [Setup >] button to set cameras to be backed up, a file format and a schedule.

 [Configure the schedule settings](#)

### ■ Schedule setup of the NAS backup

#### [Current backup status]

Displays the storage destination connection status.

Normal (Storage-1), Normal (Storage-2) : Backup is available.

Error (No remaining capacity) : No remaining capacity on storage destinations.

Error (Communication) : No communication available and storage destination is  
notmounted.

Blank : The NAS is invalid or has never been connected.

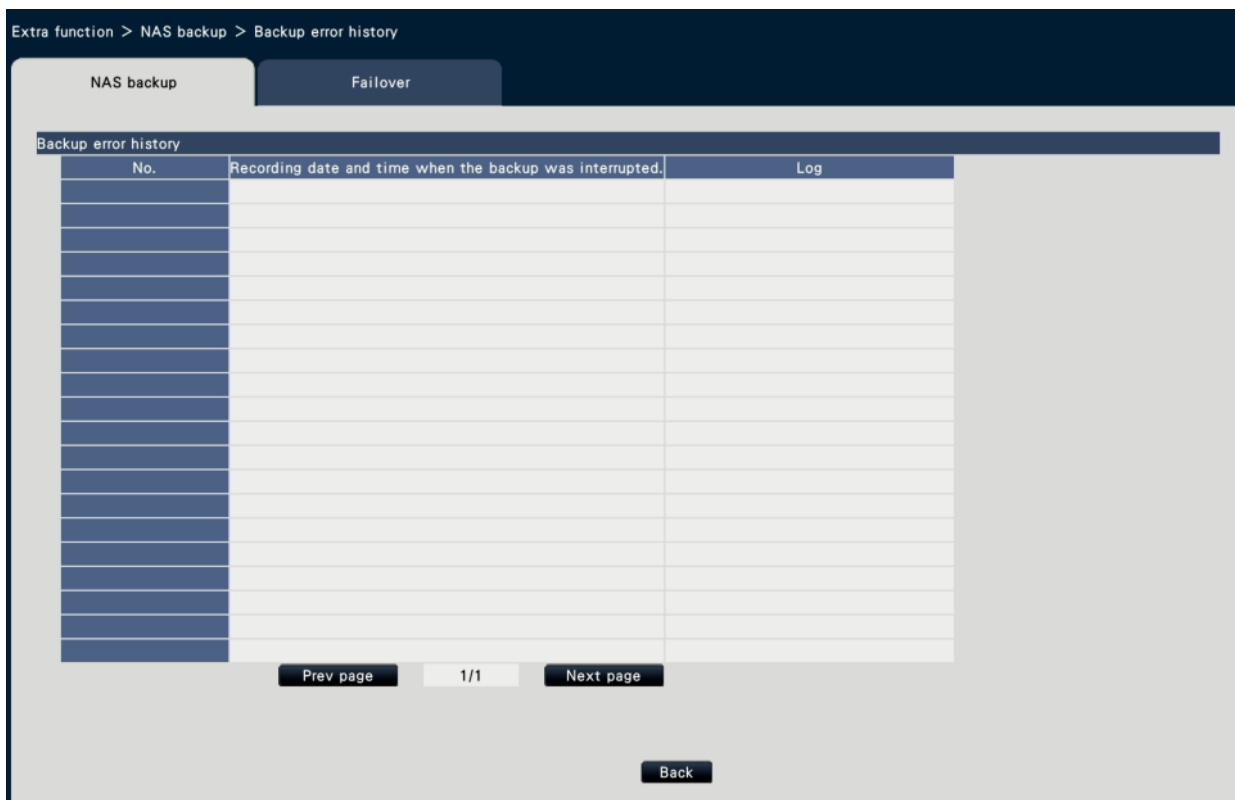
#### [Re-connect] button

Click the [Re-connect] button, the system starts the connection test with storage destination 1 and 2 and displays the connection status.

### ■ Backup error history

Click the [View >] button to display the backup error history screen.

If the backup did not complete on the backup execution date, the time range that could not be backed up will be displayed at midnight on the next day.



### **[Recording date and time when the backup was interrupted.]**

Displays the time range that could not be backed up.

### **[Log]**

Displays the reason why the backup could not be done.

Not backed up yet (No remaining capacity) : The remaining capacity of the storage destination ran out during backup.

Not backed up yet (Interrupted) : The backup was not completed because the schedule period expired, the backup stopped due to a setting change, etc.

Not backed up yet (Failed) : The backup stopped because an error occurred.

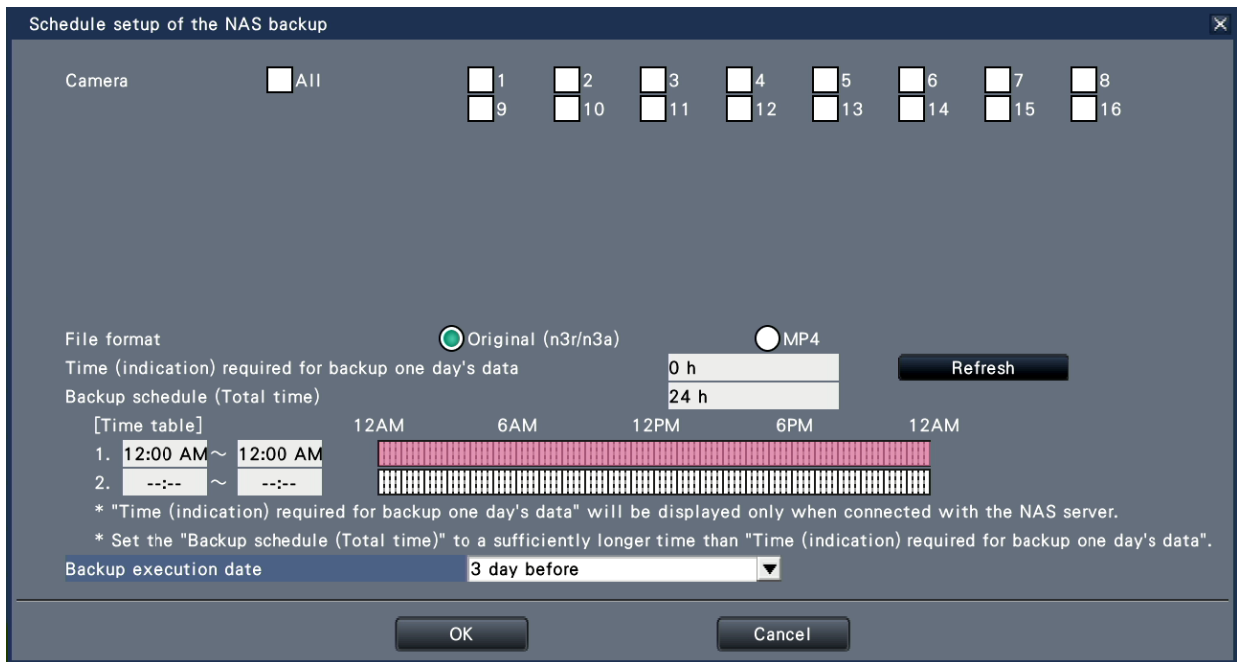
No recording data in HDD : There was no recorded data of the target date because it was overwritten or the HDD broke down.

Click the [Back] button to close the backup error history screen.

### **Configure the schedule settings**

Set the target camera and the time table for which to perform the backup.

Click the [OK] button at the end to complete the schedule settings.



**[Camera]**

Check cameras to be backed up.

**[File format]**

Select a file format used for saving.

Original (n3r/n3a) / MP4

Default: Original (n3r/n3a)

**[Time (indication) required for backup one day's data]**

Displays the indication time.

When you click the [Refresh] button, the indication time at the point will be re-displayed.



**Note:**

- Indication time displays the time when the estimated recording capacity of the day with the largest recording capacity among the days set to record is backed up at 5 Mbps. Actual backup time will vary more or less.
- Indication time will be displayed as 99 hours if it is over 99 hours.

**[Backup schedule (Total time)]**

Displays the total time of backup set on the time table.

**[Time table 1 / 2]**

Set a time table to execute backup processing.

### [Backup execution date]

Select a day to be backed up.

1 day before / 2 days before / 3 days before

Default: 3 days before



**Note:**

- The backed up data is saved in the schedule backup directory.
- If power to the recorder is turned off and then resumed while the backup process is being executed, any data backed up before the power was turned off will be backed up again from the beginning. The data that was backed up before the power was turned off can not be played back.

### Back up manually

Data can be backed up to the NAS manually by selecting the NAS as the copy destination of the copy panel.



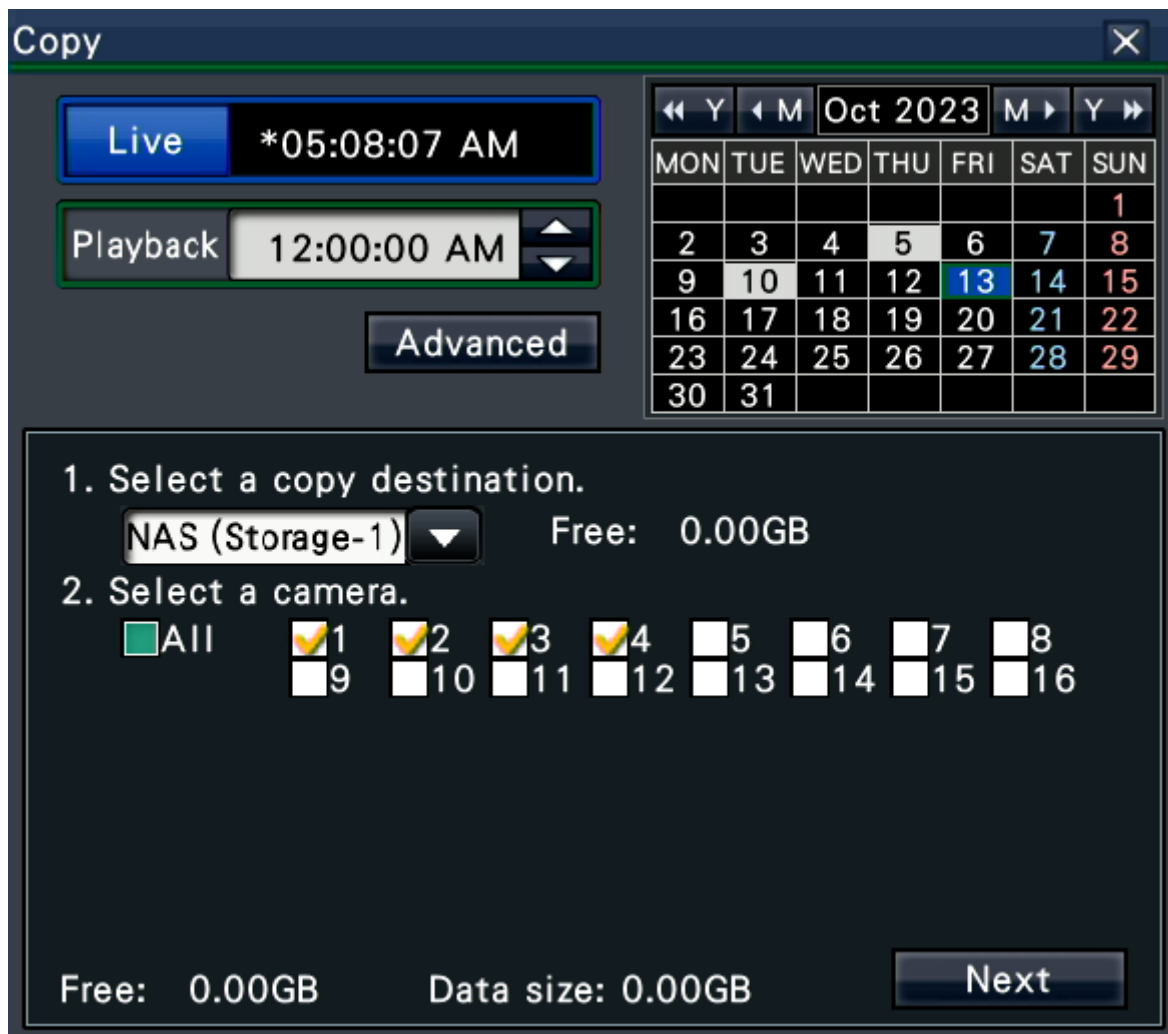
**Important:**

- When backing up manually, up to 6 million pieces of data can be backed up to the NAS separately from the scheduled backup.

#### ■ Operation via recorder's main monitor

Click the [Copy] button on the operation panel of the main monitor.

→ The copy panel will be displayed.



Select [NAS (Storage-1)] or [NAS (Storage-2)] as the copy destination of the copy panel, and click the [Copy] button. Refer to the following section for the details.

[👉 Copy recorded images](#)

### ■ Operation via PC web browser

Click the [Control] tab on the top page of the operation window, then click the [Copy] button of the copy box.

→ The copy panel will be displayed.



Copy

Copy drive	<input checked="" type="radio"/> HDD >> USB <input type="radio"/> HDD >> NAS (Storage-1) <input type="radio"/> HDD >> NAS (Storage-2)
Camera	<input type="checkbox"/> All <input type="checkbox"/> Cam.1 <input type="checkbox"/> Cam.2 <input type="checkbox"/> Cam.3 <input type="checkbox"/> Cam.4 <input type="checkbox"/> Cam.5 <input type="checkbox"/> Cam.6 <input type="checkbox"/> Cam.7 <input type="checkbox"/> Cam.8 <input type="checkbox"/> Cam.9 <input type="checkbox"/> Cam.10 <input type="checkbox"/> Cam.11 <input type="checkbox"/> Cam.12 <input type="checkbox"/> Cam.13 <input type="checkbox"/> Cam.14 <input type="checkbox"/> Cam.15 <input type="checkbox"/> Cam.16
Start	Oct ▾ / 13 ▾ / 2023 ▾ AM 5 ▾ : 20 ▾ : 30 ▾
End	Oct ▾ / 13 ▾ / 2023 ▾ AM 5 ▾ : 25 ▾ : 30 ▾
File format	<input checked="" type="radio"/> Original (n3r/n3a) <input type="radio"/> MP4
Alteration detection	Off ▾
Password	<input type="checkbox"/> Assign a password Password (5 to 8 characters) <input type="text"/> Retype password <input type="text"/>
Data size	-.-- GB <input type="button" value="Measurement"/>
Free	-.-- GB

Select [NAS (Storage-1)] or [NAS (Storage-2)] as the copy destination of the copy panel and click the [OK] button, then click the [OK] button when the confirmation window is displayed.

→ 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.

Refer to the following section for the details.

 [Copy recorded images](#)

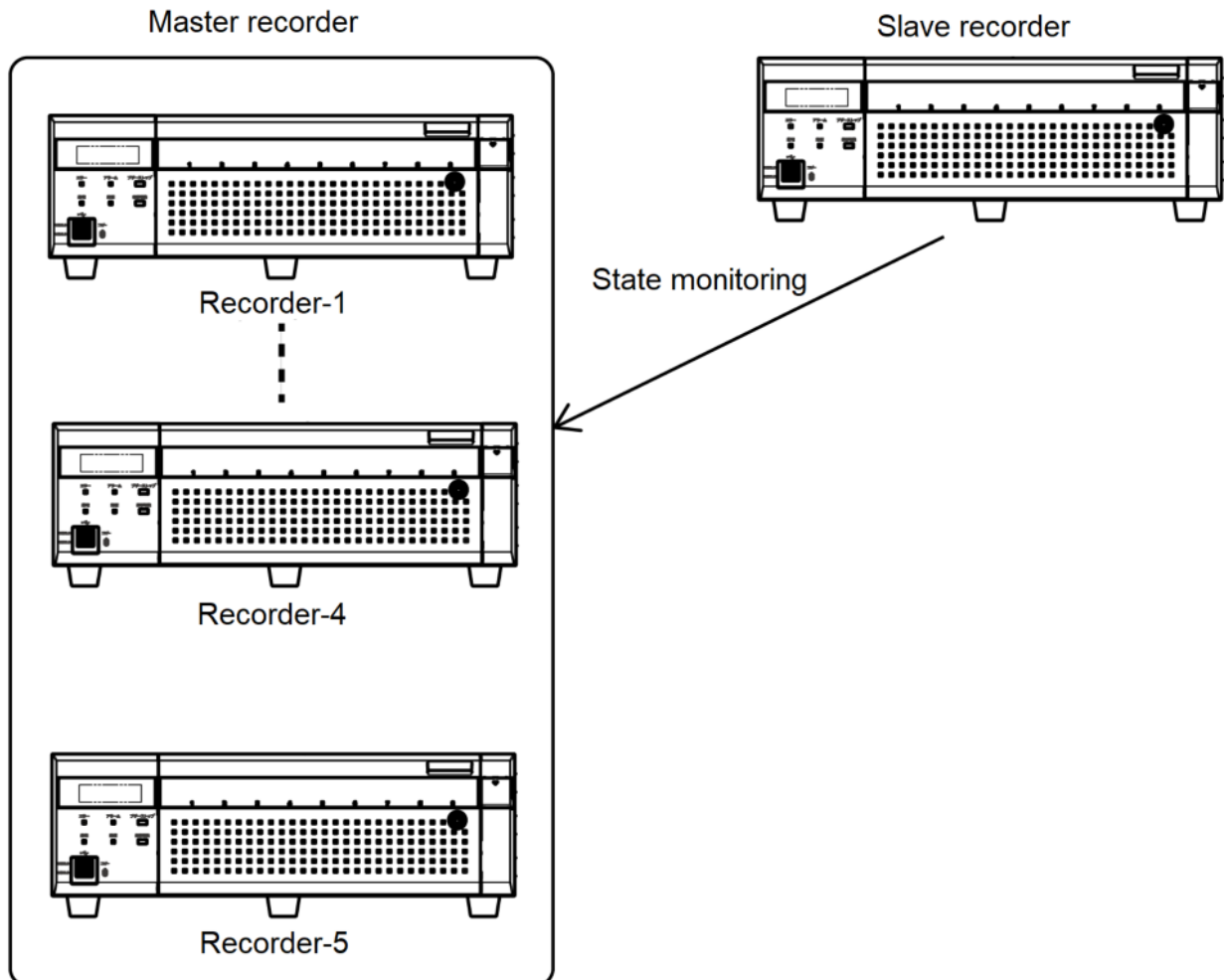
## Failover function

This section provides an explanation of how to use the failover function with this recorder. The failover function requires operation by the system administrator.

### About the failover function

When you register the license of the failover function, the stand-by recorder (slave

recorder) substitutes for the recorder in operation (master recorder) and continues recording if the master recorder has an error.



### Explanation of the failover operation

- The slave recorder monitors the state of each master recorder.
- If the master recorder has an error, the slave recorder stops operation of the master recorder.
- The slave recorder substitutes for the master recorder whose operation has been suspended and starts recording as the master recorder. At this time, the slave recorder will restart. It will not record during restart.

### Failover operating condition

- When the slave recorder can not communicate with the master recorder.
- When there is no HDD or HDD unit that can be written to by the master recorder.
- When executing the failover function manually in the setup menu.

**Important:**

- The settings of the failover function are made for the slave recorder only.
- Up to 5 master recorders can be set for one slave recorder.
- The software versions of the slave recorder and master recorder must be same.
- The number of additional camera licenses and secure communication licenses registered in the slave recorder must be equal or exceed the number of licenses that the master recorders have.
- If a slave recorder with registered additional camera licenses switches to a master recorder that does not have an additional camera license, the slave recorder will lose its additional camera license registration.  
If necessary, register the additional camera license to the slave recorder again.  
Make sure to safely store the additional camera license registration key number.
- The slave recorder can not perform recording, playback, camera operation and camera setting etc during failover operation. Camera settings that were already set are deleted.
- Operation will not be switched while HDD management screen is displayed.
- It may take time until a communication error with the master recorder is detected and failover is executed.
- If an error occurs in the master recorder within 1 hour of changing its settings, a slave recorder with the prechange settings can operate as the master recorder.
- Failover may also be executed when a communication error occurs in the slave recorder for a certain period of time.
- To setup the master recorder for the setting which requires to restart such as license registration, set the "Failover setup" of the slave recorder to Off once. Set it to On after restarting the master recorder.
- Recovery work appropriate for the system operation is required by the system administrator when the recording is switched over by the failover function to the slave recorder.
- Information regarding remote monitoring of the master recorder is not carried over to the slave recorder. After failover and switched the operation, register for the remote monitoring again.

[Register for remote monitoring \[Service status\]](#)



**Note:**

- When the master recorder executes failover operation, the "Recording mode" setting will be turned to OFF. Set it to On to return to normal operation.

### **About license registration**

Register the license of the failover function to use it. 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. Enter the following number for the Activation Key No. and the registration ID.

Activation Key No.: 1574-0060-030C-1234

Registration ID: 264E-7A59

The license is registered in the slave recorder only.

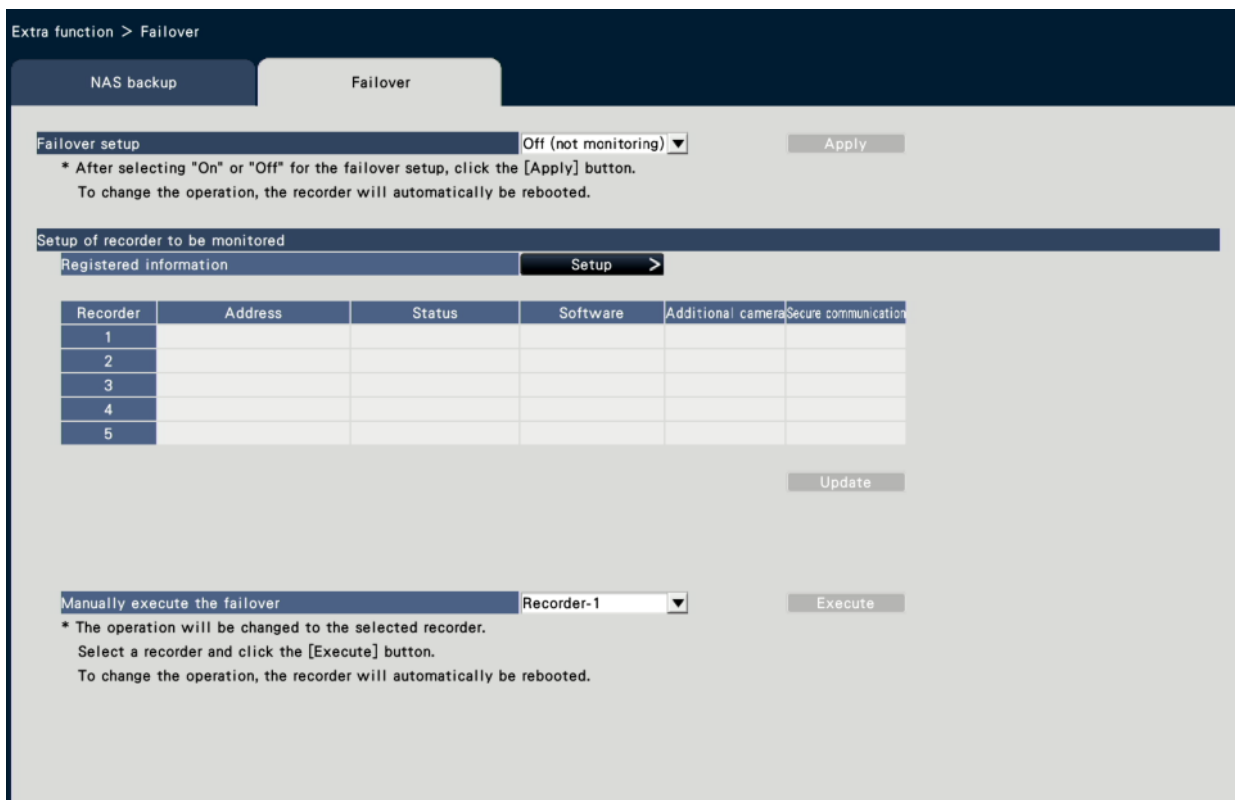
Refer to following section for license registration of the failover function.

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

### **Configure the settings of the failover function**

Settings are only made for the slave recorder. Click the [Extra function] - the [Failover] tab of the [Advanced setup] on the setting menu.

→ The failover screen will be displayed.



### [Failover setup]

Select the operational settings.

On (monitoring): Master recorders are monitored to switch recording of the recorder if an error occurs.

Off (not monitoring): The failover function is not used.

Default: Off (not monitoring)

### [Registered information]

Click the [Setup >] button to set the master recorders.

[👉 Configure the settings of the monitoring target recorder](#)

### [Update] button

Acquires the state of the master recorders and updates the display.

Available: Monitoring is on-going and recording can be switched if an error occurs.

Not available: Monitoring is not available due to the inconsistency with the version or the licenses, or the wrong registered information of the master recorder.

Suspend: The failover setup is set to Off.



**Note:**

- When the status indicates Not available, check the version and the number of licenses of the recorder and match them.
- The [Update] button can be clicked only when the failover operation is set to On.

**[Manually execute the failover]**

Select a recorder No. and click the [Execute] button to switch the recorder. If the registered information of the master recorder is changed, it is necessary to save the settings and click the [Execute] button.

**Configure the settings of the monitoring target recorder**

Set master recorders subject to monitoring.

Click the [OK] button at the end to complete the change of registered information.



**Important:**

- Monitoring target master recorders are recorders with the same model number.
- The recorder whose HDD operation mode (single/Mirroring/RAID5/RAID6) is different from the slave recorder's HDD operation mode can not be set as the master recorder for monitoring.
- The camera group recording operates according to the camera group recording setting set in the slave recorder. The camera group recording setting of the master recorder is not inherited.

Registered information

Change the registered information, and click the [OK] button.

Recorder	Address	Administrator name	Password
1	<input type="text"/>	<input type="text"/>	<input type="text"/>
2	<input type="text"/>	<input type="text"/>	<input type="text"/>
3	<input type="text"/>	<input type="text"/>	<input type="text"/>
4	<input type="text"/>	<input type="text"/>	<input type="text"/>
5	<input type="text"/>	<input type="text"/>	<input type="text"/>

To delete the registered information, clear the address field of the recorder to be deleted, or select the number of the recorder to be deleted and click the [Execute] button.

Table to delete

**[Address]**

Enter the IP address of the recorder.

**[Administrator name]**

Enter the administrator name of the recorder.

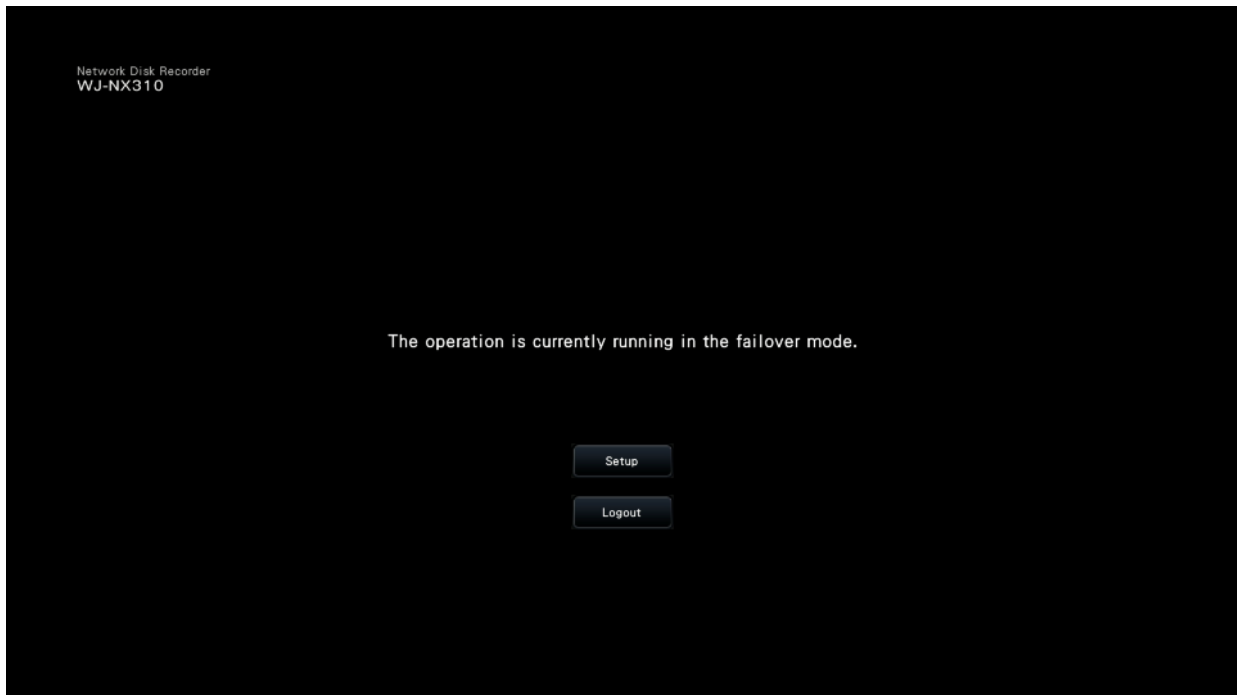
**[Password]**

Enter the password of the recorder.

**[Table to delete]**

Select a recorder No. and click the [Delete] button to delete the recorder information.

## Display in the failover mode



During operation as the slave recorder, it can not perform recording, playback, camera operation and camera setting etc.

## 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>	<ul style="list-style-type: none"> <li>☞ <a href="#">Configure the advanced settings for recording and events [Advanced setup]</a></li> </ul>
	<ul style="list-style-type: none"> <li>● Are the settings of the schedules appropriate? Check whether the settings are appropriate.</li> </ul>	<ul style="list-style-type: none"> <li>☞ <a href="#">Configure the advanced</a></li> </ul>









Symptom	Cause/solution	Reference
		<a href="#">settings for schedule recording [Advanced schedule setup]</a>
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>	<ul style="list-style-type: none"> <li>☞ <a href="#">Check the hard disk drive information [General]</a></li> </ul>
	<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>	<ul style="list-style-type: none"> <li>☞ <a href="#">Configure the basic settings relating to user management [Basic]</a></li> </ul>
	<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>	<ul style="list-style-type: none"> <li>☞ <a href="#">Configure the basic settings relating to user management [Basic]</a></li> </ul>
Audio is not output from the camera. Or audio is accompanied by noise.	<ul style="list-style-type: none"> <li>● Is the audio compression method of the camera compatible with this product? This product supports only "AAC-LC (64 kbps)" and "G.711 (32 kbps, when using ONVIF camera of other companies)". 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>	<ul style="list-style-type: none"> <li>☞ <a href="#">Configure other settings relating to monitors [Advanced setup]</a></li> </ul>
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>	<ul style="list-style-type: none"> <li>☞ <a href="#">Register camera [Camera registration]</a></li> </ul>





Symptom	Cause/solution	Reference
	<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>	<a href="#">👉 Change the registered information [Registered information]</a>
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>	-
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>	<a href="#">👉 Configure the basic network settings [Basic]</a>
	<ul style="list-style-type: none"> <li>● Is the DHCP server connected to the network environment? The default setting for the connection mode of the product is "Fixed IP". If the setting is changed to "Auto (DHCP)", access the device using the IP address obtained from the DHCP server. The acquired IP address can be found in the [Maintenance] - [System information] tab.</li> </ul>	<a href="#">👉 Configure the basic network settings [Basic]</a>
<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</li> </ul>	-	

Symptom	Cause/solution	Reference
	<p>command prompt as follows.</p> <p>&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.</p>	
	<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>	<p>☞ <a href="#">Configure the basic network settings [Basic]</a></p>
	<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>	<p>☞ <a href="#">Configure the basic network settings [Basic]</a></p>
<p>The image displayed on the browser is not being refreshed.</p>	<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>	<p>–</p>
<p>Image refresh of the browser is slow. Response of the browser is slow.</p>	<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>	<p>–</p>
<p>Cannot close the authentication window displayed when displaying the operation window.</p>	<ul style="list-style-type: none"> <li>● Are the correct user name and password entered? Confirm the correct user name and password.</li> </ul>	<p>☞ <a href="#">Register, edit or delete the user information [User registration]</a></p>
<p>Audio is interrupted during playback using the viewer software.</p>	<ul style="list-style-type: none"> <li>● When playing images recorded at a higher frame rate, audio may sometimes be played interrupted.</li> </ul>	<p>–</p>

Symptom	Cause/solution	Reference
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>	—
An error message is displayed when trying to launch the viewer software by dragging and dropping multiple files onto it.	<ul style="list-style-type: none"> <li>● Decrease the number of the selected files or select files after launching the viewer software.</li> </ul>	—
The external storage device is not recognized.	<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>	—
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>	<a href="#">Configure the basic network settings [Basic]</a>

Symptom	Cause/solution	Reference
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 [Security] – [Communication] 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 [Security] – [Communication] 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 [Security] – [Communication] 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 [Security] – [Communication] 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>	 <a href="#">Copy recorded images</a>

Symptom	Cause/solution	Reference
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>	 <a href="#">Copy recorded images</a>
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>	 <a href="#">Play back the copied/downloaded images on a PC</a>
The "Thermal error" indication is displayed on the main monitor.	<ul style="list-style-type: none"> <li>● The ambient operating temperature is 0 °C to +45 °C. 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. 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>	 <a href="#">Error logs</a>
	<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
Mouse cursor does not display	<ul style="list-style-type: none"> <li>● Is the cable properly connected? Some mice may not be recognized. Please use the mouse included with the product.</li> </ul>	—
Audio communication errors and communication errors occur, camera images are not displayed, and video recording is not possible.	<ul style="list-style-type: none"> <li>● The camera's audio transmission mode may not be set correctly. Please confirm if the audio transmission mode setting is listening or bidirectional setting. In the status where the camera is connected, first switch the recording setting of this recorder to off, and return to (AAC-LC) On again to set it correctly.</li> </ul>	 <a href="#">Set up recording for individual cameras [Advanced recording setup]</a>
Camera live images	<ul style="list-style-type: none"> <li>● If "Target stream" is set to "Stream (2) &amp; Stream (4)" for the</li> </ul>	 <a href="#">Change the</a>

Symptom	Cause/solution	Reference
<p>are not displayed on the monitor as split screens, but are displayed as black images.</p>	<p>target cameras in AI privacy guard settings, the H.264 (2) and H.265 camera resolutions become the same as those of H.264 (1) and H.265 (1). Accordingly, depending on the number of split screens, live images may not be displayed or playback may not be available. If you are not using AI privacy guard recording with this product, set "Target stream" in the AI privacy guard settings for the target cameras to something other than "Stream (2) &amp; Stream (4)".</p>	<p><a href="#">registered information [Registered information]</a></p> <ul style="list-style-type: none"> <li> <a href="#">Select a camera which performs AI privacy guard recording [AI privacy guard recording camera]</a></li> <li> <a href="#">Display images from cameras on a multiscreen</a></li> <li> <a href="#">Play recorded images</a></li> </ul>
<p>No image is displayed on the HDMI monitor.</p>	<ul style="list-style-type: none"> <li>● Does the HDMI output signal format match the specifications of your monitor? To fix the HDMI output signal format, set the signal format supported by the monitor.</li> <li>● Is an HDMI switcher used between this product and the monitor? It may not work properly depending on the specifications of the HDMI switcher. In addition, please use an HDMI switcher that supports buspowered drive in a state where it operates with an external power supply for stable operation.</li> <li>● Is the cable in use compliant with the HDMI specifications? It may not work with a cable not compliant with the HDMI specifications. In addition, please use an HDMI cable of 5m or less in length to prevent deterioration of image quality and for stable operation.</li> </ul>	<ul style="list-style-type: none"> <li> <a href="#">Set up the main monitor [Main monitor] Installation Guide</a></li> </ul>

Symptom	Cause/solution	Reference
The thumbnail image of the camera is displayed broken in the setup menu of the web browser.	<ul style="list-style-type: none"> <li>● Check that the JPEG data encryption is not set to "On" in the camera setup menu.</li> </ul>	—
Camera settings do not match the monitoring system settings. The live image on the monitor is not displayed correctly. The camera does not notify alarms.	<ul style="list-style-type: none"> <li>● [Camera] - [The functions of this product will not change the camera settings automatically] in [Advanced setup] is not checked. When this setting is checked, no camera settings are made. This may cause each function of the monitoring system to fail to operate properly.</li> </ul>	<a href="#">☞ Set up advanced [Advanced setup]</a>
PoE power supply stopped.	<ul style="list-style-type: none"> <li>● If the PoE power supply to the camera exceeds the power supply capacity of the IF1-WF01, the IF1-WF01 will stop PoE power supply. Reduce the number of cameras connected to the PoE power supply, and then click on the Error Resume button. Note that the PoE total power supply warning occurs when 80% of the power supply capacity is exceeded.</li> </ul>	—
When the camera images can not be displayed on the HDMI monitor or played back in the browser, it will restore after a while.	<ul style="list-style-type: none"> <li>● When the load on this product exceeds the allowable capacity, to continue the recording operation of this product, the monitor display function is reset. At this time, it can not be operated temporarily and will return to the start monitor display in about 2 minutes.</li> </ul>	—
Front LCD display disappears for a few seconds. [NX410/NX510]	<ul style="list-style-type: none"> <li>● Due to the process of refreshing the LCD display, the characters on the LCD may disappear for a few seconds once a day.</li> </ul>	—



## Glossary

### **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.

### **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.

### **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.

### **Fisheye correction**

This is a function to correct the fisheye image of our and Panasonic fisheye 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.

### **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 simultaneously is called as the 4-screen display.

### **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.

### **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.

### **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.

### **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.

### **Re-encoding transmission**

When playing back recorded images in a web browser, remote monitoring or application, this function re-encodes the recorded images to the resolution and frame rate supported by the respective application.

# Change history

## **Ver 1.000.000 (Nov/01/2023)**

- First edition

## **Ver 1.001.000 (Feb/13/2024)**

- Added DHCP related items to network log
- Correction of errors

## **Ver 1.002.000 (May/22/2024)**

### **Firmware version up in June 2024**

- Support IEEE802.1X setup [👉 Setup IEEE802.1X](#)
- Added 3D dewarp function to corrected fisheye image display. [👉 Correct the fisheye image](#)