i-PRO
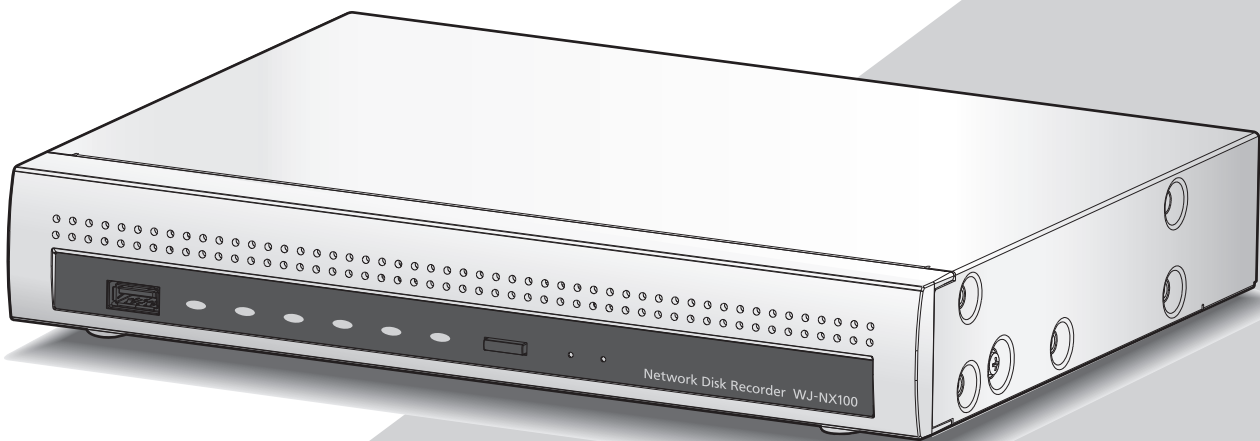
Installation Guide

Network Disk Recorder
Model No. WJ-NX100/2E

For professional use only

HDMI®
HIGH-DEFINITION MULTIMEDIA INTERFACE

The Operating Instructions (PDF) is on our support website
(https://i-pro.com/global/en/surveillance/documentation_database).

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

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

Contents

Contents (continued)

Important Information

Refer to the Important Information (PDF) in the included CD-ROM for the following items.

Operating Instructions

Refer to the Operating Instructions (PDF) on our support website for the following items.

Introduction

Standard accessories

CD-ROM[1] ....1 pc.
Mouse ....1 pc.
Installation Guide ....1 pc.
Quick Reference Guide...1 pc.
Activation Key Card ....1 pc.
Cable Clamp ....1 pc.
Power cord..3 pcs.
AC power Adapter...1 pc.
Cushion rubber (large)[2]...1 pc.
Cushion rubber (small)[2] ....2 pcs.

[1] The CD-ROM contains the Important Information and Quick Reference Guide (PDFs). Make sure to read them when installing or setting the recorder.
[2] A total of 3 cushion rubbers (large)/(small) are pasted onto one sheet of backing sheet. Please peel them off before use. Cushion rubbers are used for vertical installation.

About the user manuals

There are 4 manuals provided for the WJ-NX100/2E as follows.

Installation Guide (this book):	Contains procedures of how to install/connect this product with devices and descriptions about "Easy Start".
Important Information (PDF):	Contains preface, precautions, and major operating controls and their functions and specifications.
Operating Instructions (PDF):	Contains descriptions of how to configure the required settings and how to operate this product. Refer to our support website (https://i-pro.com/global/en/surveillance/documentation_database).
Quick Reference Guide:	Contains descriptions of how to operate functions frequently used.

"NX100" shown in this manual or setup menu on this recorder indicates the WJ-NX100/2E.
Refer to "readme.txt" on the included CD-ROM for further information about the dedicated software (option) that receives and displays the event and error information, compatible cameras and their versions.
Refer to our support website (https://i-pro.com/global/en/surveillance/training_support/support/technical_information) for latest information about the compatible cameras and functions to be added or changed by firmware upgrade.
The external appearance in the document may differ from the actual product within no influence range on operation due to improvement of the product.

About Secure Communication Kit (option)

Registering a license of a secure communication kit (option) to the recorder enables secure communication* with cameras. Each secure communication kit differs in the number of cameras that can be registered as shown in the table below. Use several licenses as necessary.

For further information, refer to the operating instruction on the following web site.

https://i-pro.com/global/en/surveillance/documentation_database

* Encrypted communication using an electronic certificate

WJ-NXS01, WJ-NXS01W	WJ-NXS04, WJ-NXS04W
1 camera	4 cameras

About the business intelligence function (option)

Registering the license of the additional business intelligence kit WJ-NXF02, WJ-NXF02W (option) allows the recorder to detect faces whose features are similar to the registered faces by comparing face images in live image with the registered face images (face matching function). The statistical processing for the results of the face matching will also become available and it displays the result on the main monitor connected with the recorder.

For further information, refer to the operating instruction on the following web site.

https://i-pro.com/global/en/surveillance/documentation_database

Precautions for installation

This product is designed to be used indoors.

i-PRO Co., Ltd. assumes no responsibility for injuries or property damage resulting from failures arising out of improper installation or operation inconsistent with this documentation.

Do not place this product in the following places:
- Locations exposed to direct sunlight
- Locations subject to having strong vibration or impact
- Locations near magnetic field sources such as a television or speakers
- Locations near the devices that emit large sound and generate vibration by sound pressure
- Locations where condensation forms easily, where temperature changes greatly or where humidity level is high

- Locations subject to steam and oil smoke such as a kitchen
- Locations which are not level
- Locations subject to dust
- Locations where it may get wet from rain or water splash

Do not install this product in locations where the product or the cables can be destroyed or damaged by persons with malicious intent.

## Place this product horizontally on a level surface.

Do not place this product in an upright position. When stacking multiple recorders, clear a space of more than 5 cm {2 inches} from both sides, the top, the bottom and the rear of the recorders.

More than 5 cm {2 inches}
More than 5 cm {2 inches}
More than 5 cm {2 inches}
More than 5 cm {2 inches}
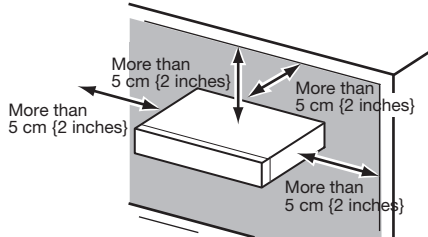
Heat dissipation

To prevent this product from overheating, heed the following. Failure to observe this may cause fire or trouble.

- Do not block the cooling fan outlet or the ventilation holes with a wall, rack, cloth, etc. Maintain the product periodically to prevent dust from blocking ventilation holes.
- The lifetime of the cooling fan is limited by use. It is recommended to replace them after around 30000 hours of operation. Contact your dealer for replacement of the cooling fans.
- Clear a space of more than 5 cm {2 inches} from both sides, the top, and the rear of the product. Do not block the ventilation holes on the front side since this product is designed to cool the hard disk drives by drawing in air from the front.
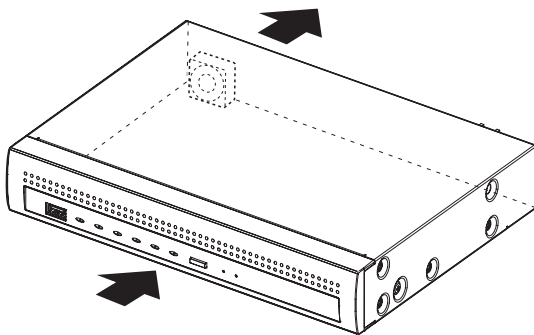
Avoid placing this product near noise sources

If the cables are placed near noise sources such as fluorescent lamps, noises may be produced. In this case, rewire avoiding the noise sources, or move the product to a place far from the source.
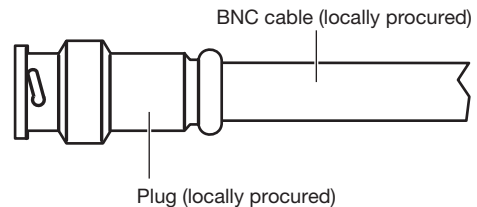
Grounding

Confirm that the wire is connected from the SIGNAL GND terminal to earth ground.

A grounding connection must be made before connecting the power plug or this product to the main power supply. When disconnecting the grounding wire, make sure that the power plug of this product is disconnected from the main power supply.
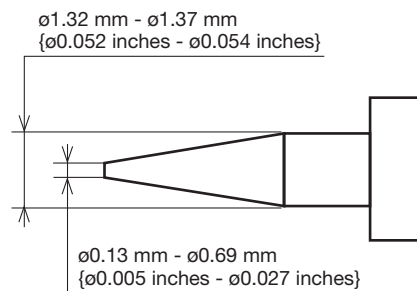
For BNC cable connection

Use only the recommended plug below when connecting the BNC plug to the connectors on the rear panel of this product. Applicable plug: MIL-C39012C, MIL-C39012/16F or BS CECC2212: 1981

* Suffixes attached to the standards may be updated.

BNC cable (locally procured)

Plug (locally procured)

Tip dimensions inside the recommended BNC plug

ø1.32 mm - ø1.37 mm
{ø0.052 inches - ø0.054 inches}

ø0.13 mm - ø0.69 mm
{ø0.005 inches - ø0.027 inches}

Important:
- A compatible plug shall be used. Failure to observe this may cause trouble such as poor contact. At worst, the connector of this product may be damaged.

Avoid placing receptacles that contain liquids such as water near this product.

If liquid spills onto this product, it may cause fire or an electric shock.

Shielded (STP) LAN cables must be used with this unit to ensure compliance with EMC standards. (Excluding U.S.A. and Canada)

About sulfuration of rubber products

Do not leave rubber products containing sulfur (packing and rubber feet) close to the recorder or in the same storing box. Sulfur constituent from the rubber products may cause sulfuration corrosion on electrical parts or terminals and defects in the recorder.

Basic operations

This section explains operation of a mouse and the soft keyboard, and setting screen only.
The recorder can be operated using the mouse (included) connected to the mouse connection port either on the front or the rear side of the recorder.
It is also possible to perform settings and some operations of the recorder from the web browser. Refer to the Operating Instructions (PDF) for descriptions of how to operate from the web browser and the configurable settings using the web browser.

Connection of a mouse

Connect the included mouse to the mouse connection port on the rear side of the recorder.
→ The mouse cursor will be displayed on the main monitor.

Mouse operation

Left-click the desired buttons and tabs on the screen. (Hereinafter, "Left-click..." will be described as "Click..." in this document.)
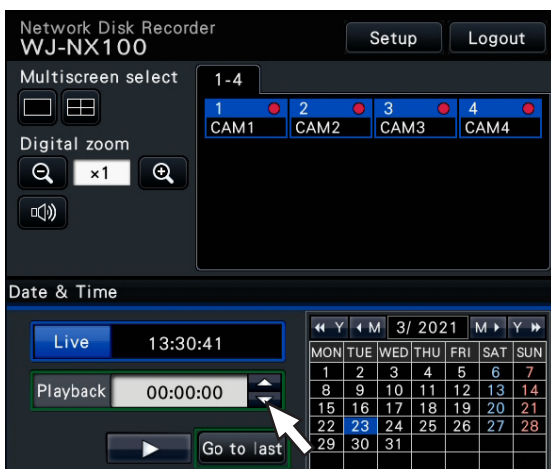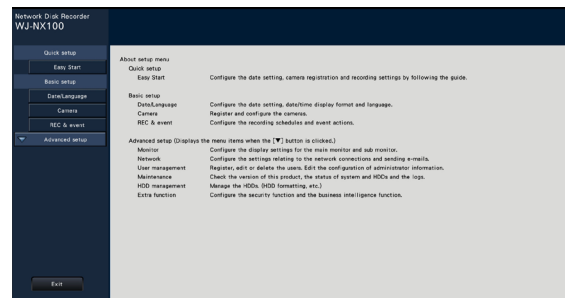When the entry field has the [▲] and [▼] buttons or the [▼] button, the setting value can be changed using the mouse wheel.
When no operation is made for 10 seconds or more, the mouse cursor will be hidden. The mouse cursor will be displayed again when the mouse is moved.

Display method of the setting screen

Click the [Setup] button.
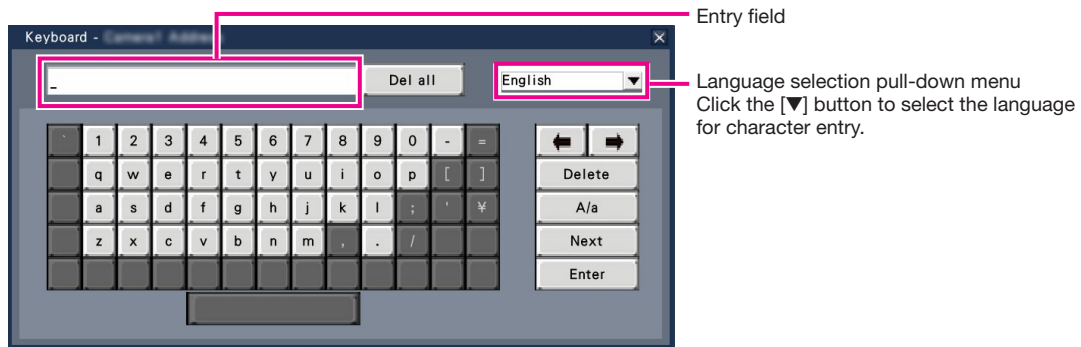→ The top screen of the setup menu will be displayed.

About the operation of on-screen keyboard

Use the on-screen keyboard to enter characters for the setting items. When clicking the [⌨] icon beside the entry field, the on-screen keyboard will be displayed, and it will become possible to enter characters by clicking the character keys on the keyboard.

On-screen keyboard screen

Entry field

Language selection pull-down menu
Click the [▼] button to select the language for character entry.

[Del all] button
Deletes all the characters in the entry field.

[←]/[→] button
Move the cursor in the entry field to either direction.

[Delete] button
Deletes a character pointed by the cursor in the entry field.

[A/a] button
This button changes the characters to be entered between capital letters and small letters.

[Next] button
Changes the keys to be displayed for character entry.
The displayed keys are changed as follows:
    Keys for the language selected by the language selection pull-down menu → Combination characters → Special characters

[Enter] button
Determines the entered characters and closes the on-screen keyboard.

Note:
- Basic operations are also applied to the "Login" window and registration window for license.
- Click the [×] button to close the window without determining the entered characters.
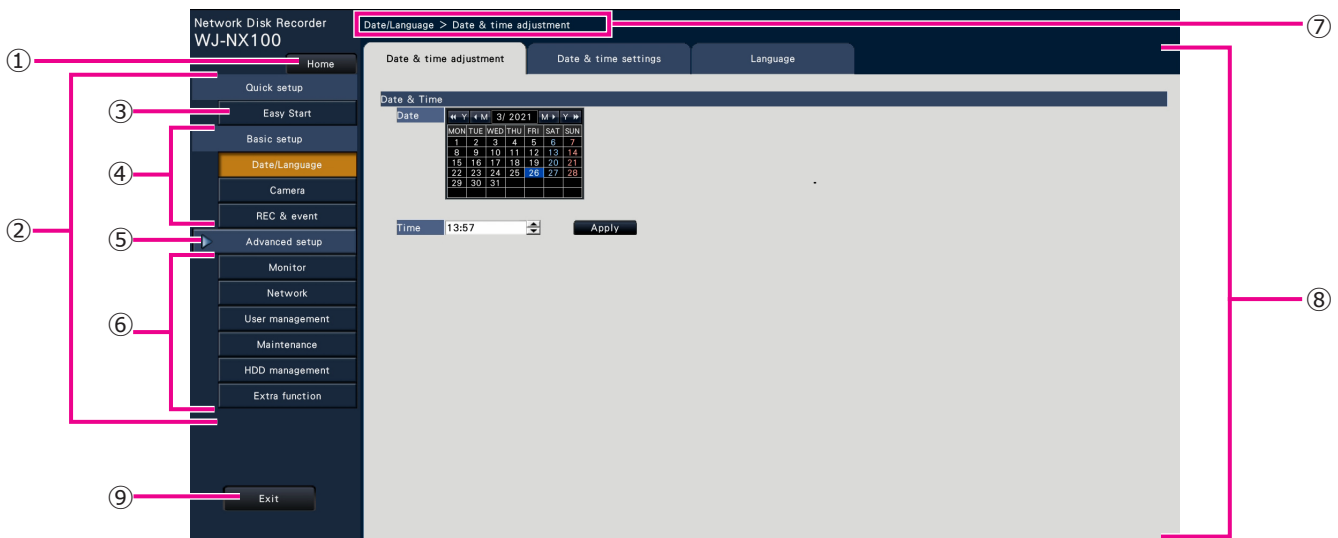

Setup menu

Configuration of each setting item in the setup menu should be completed in advance to use this recorder.

The setup menu has the following levels for the setting items. On "Easy Start", the minimum settings required to operate the recorder will be performed, but other settings will remain default. On the [Basic setup] or [Advanced setup] page, the settings can be customized in accordance with a variety of operational modes.

The following is the example of the setup menu that describes the features and operations.

The setup menu will be displayed when clicking the [Setup] button (☞ Page 7) at the upper right corner of the operational screen on the main monitor.

The buttons of the setup pages will be displayed on the left column of the setup menu.

① [Home] button
It is possible to return to the top screen (☞ Page 7) of the setup menu from any setup page.

② Setup menu panel
Displays buttons of the setup pages.

③ [Easy Start] button
It is possible to configure the minimum settings required to operate the recorder, such as date & time and camera registration.

④ [Basic setup] – Setup page buttons
Each "Basic setup" page will be displayed.

⑤ [Advanced setup] button
The buttons to open the corresponding setup pages of the "Advanced setup" menu will be displayed. When clicking this button again, the buttons will be hidden.

⑥ [Advanced setup] – Setup page buttons
Each "Advanced setup" page will be displayed.

⑦ Hierarchical display
The name of the current setup page will be displayed in the hierarchy. The tab name will also be included.

⑧ Setup page
Displays each setup page. If the current setup page is composed of two or more tabs, it is possible to change the page display by clicking the tabs.

⑨ [Exit] button
Applies the settings to the recorder and closes the setup menu to return to the operational screen (☞ Page 11).

Except for some cases, the descriptions of this document follow the hierarchical display and setup pages.

Important:
- If the settings are applied, all login users will be forcibly logged out.

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Operations flow

- **The main monitor is required for the settings.**
  * **The settings can be done through a web browser on the PC (Refer to the Operating Instructions (PDF)).**
- **The PC is required for reading the Important Information, the Operating Instructions (PDF) and camera settings.**

1
> **Obtain the license (Registration Key)**
> ☞ **Page 12 and Activation Key Card**

Obtain the "Registration Key" of the recorder by following the instructions on the included Activation Key Card. To use the secure function or the business intelligence function, get the registration key of the additional license according to the appropriate Additional Kit (option). The obtained "Registration Key" will be used in Step **5**.

2
> **Installation**
> ☞ **Page 13**

Install the recorder on a wall.
When using it flat without installation, go to Step **3**.

3
> **Connections**
> ☞ **Page 15**

Connect the camera and monitor to this product.

4
> **Turn on the devices**
> ☞ **Page 22**

Turn on the power to launch in the following order.
①Turn on the power of the camera and the monitor.
②Turn on the power of the recorder.

5
> **Register the license (Registration Key)**
> ☞ **Page 24**

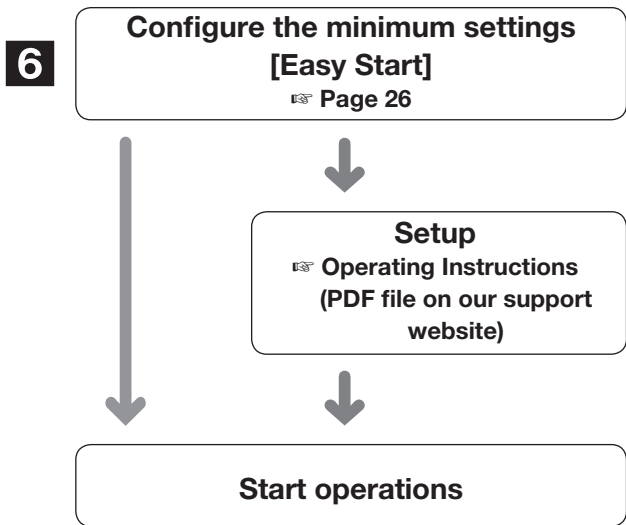Register the Registration Key of the recorder. If necessary, register the "Registration Key" for each Additional kit.

Important:
- Be sure to register the "Registration Key" of the recorder. If the "Registration key" of the recorder is not registered, the Additional Kit cannot be registered.

After registration, click [Restart] button on the license registration screen to reboot the recorder and activate the license.

Operations flow (continued)

6	**Configure the minimum settings [Easy Start]** ☞ **Page 26**	Register the date & time and cameras on "Easy Start". When it is not necessary to change other default settings, it is possible to start operations.

↓

Setup
☞ **Operating Instructions (PDF file on our support website)**

If necessary, perform the detailed settings for each function.

↓

Start operations

When the camera image is displayed on the main monitor or the web browser on the PC and can be recorded or played, the recorder is ready for operation.
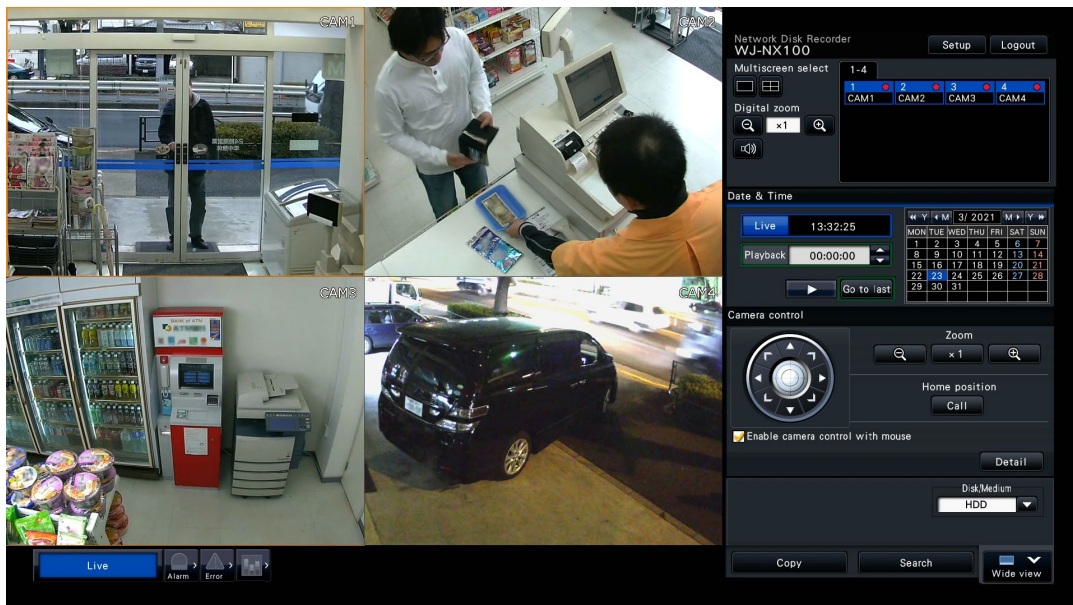
Example of an operational screen

1 Obtain the license (Registration Key)

Keep the "Activation Key Card" included with the recorder nearby.

Obtain the "Registration Key" of the recorder by following the instructions on the included Activation Key Card.

To use the secure function, get the Registration Key of the additional secure license according to the Secure Communication Kit (option).

To use the business intelligence function, get the Registration Key of the additional business intelligence license according to the additional business intelligence kit (option).

* Each additional kit is the "Activation Key Card" with "the Registration ID, Activation Key No." for the applicable additional license.

Note:
• A PC or a smartphone accessible to the Internet is necessary to acquire the registration key number.

2 Installation

Vertical installation

To install the recorder vertically, the rack mount bracket WV-Q202 (with 2 pieces in one set, optional) is required.
Only one rack mount bracket is used for vertical installation. Also, the included cushion rubber is used.

Important:
- The rack mount bracket (WV-Q202) does not guarantee that the recorder will not tip over.
- The rack mount bracket (WV-Q202) is not intended for mounting the recorder in a rack.
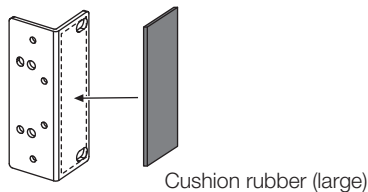

STEP1

Remove the screw on the lower left corner of the rear panel with a screwdriver.
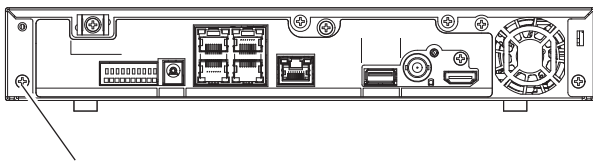
Remove the screw on the lower left corner of the rear side

Store the removed screws (M3 × 6 mm) properly.

STEP2

Paste the cushion rubber (large) onto the rack mount bracket (WV-Q202: optional) at the position shown in the following figure.

Cushion rubber (large)

STEP3

Paste two cushion rubbers (small) onto the right side of the recorder at the positions shown in the following figure.

Approx.9 cm
{3-9/16 inches}

Approx.2 cm
{13/16 inches}

Cushion rubber (small)   Cushion rubber (small)
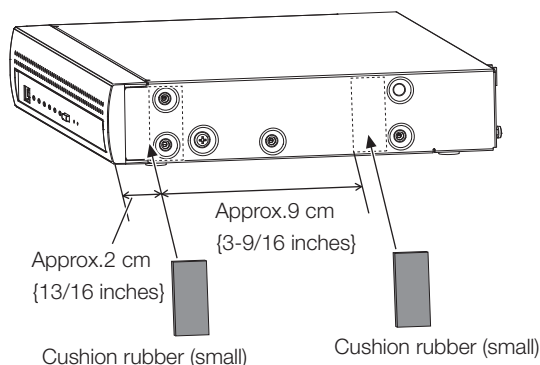
STEP4

Attach the rack mount bracket (WV-Q202: optional) to the rear side of the recorder.
Secure them using two rack mount bracket mounting screws (provided with WV-Q202).
- Tightening torque:
  0.69 N·m ~ 0.88 N·m (7.0 kgf·cm ~ 9.0 kgf·cm) {0.51 lbf·ft ~ 0.65 lbf·ft}

Note:
- The following mounting bracket and screws provided with the rack mount bracket WV-Q202 is used.
  Rack mount bracket × 1
  M3×10 mm × 2

Rack mount bracket mounting screw
(M3 × 10 mm: provided with WV-Q202) × 2

Important:
- The operating temperature of the recorder ranges from +5 °C to +45 °C {41 °F - 113 °F}.
* When the temperature of HDD rises, the features may deteriorate and the service life may be affected. It is recommended to use the recorder (including the AC power adapter) at approx. +25 °C {77 °F}.

Wall mounting

To install the recorder on a wall, the rack mount bracket WV-Q202 (with 2 pieces in one set, optional) is required.

Remove the screws (×2) behind both sides of the recorder.
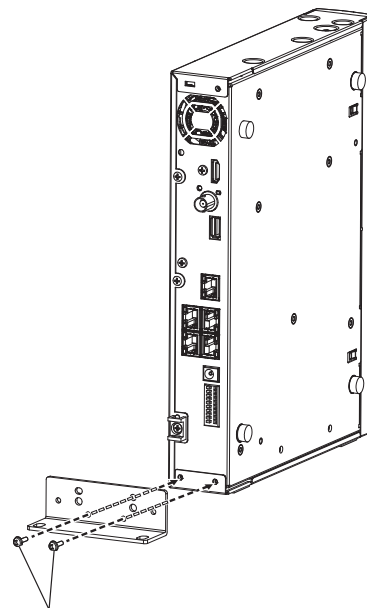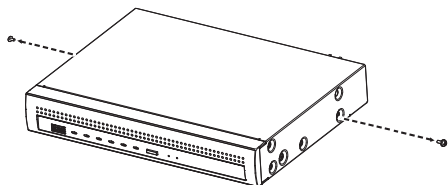Store the removed screws (M3 × 6 mm) properly.

Attach the rack mount bracket (WV-Q202: optional) onto both sides of the recorder.
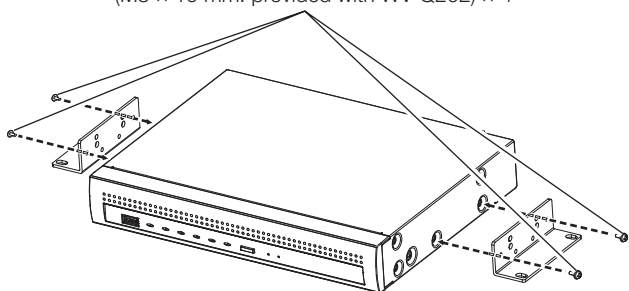Secure them using four rack mount bracket mounting screws (provided with WV-Q202).
- Tightening torque:
  0.69 N·m ~ 0.88 N·m (7.0 kgf·cm ~ 9.0 kgf·cm) {0.51 lbf·ft ~ 0.65 lbf·ft}

Note:
- The following mounting bracket and screws provided with the rack mount bracket WV-Q202 is used.
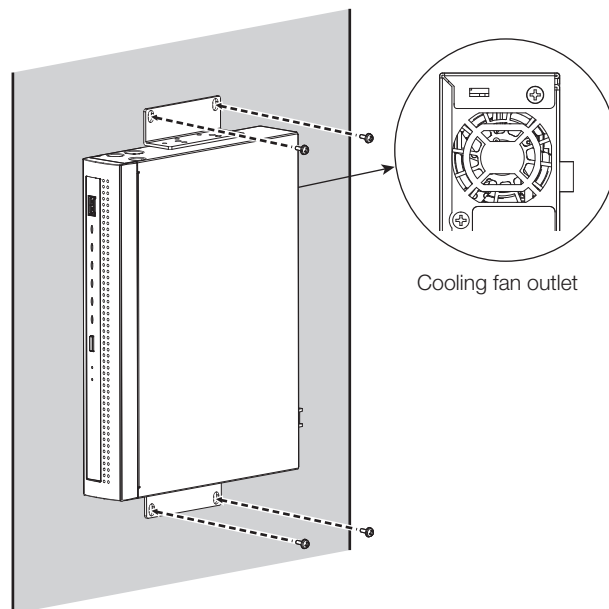 Rack mount bracket × 1
  M3×10 mm × 4

Rack mount bracket mounting screw
(M3 × 10 mm: provided with WV-Q202) × 4

Mount the recorder vertically on the wall.
Secure it onto the wall using 4 mounting screws (M5, 10 mm or longer, locally procured).

Cooling fan outlet

Important:
- When installing the recorder on a wall, the height should be no more than 2 m {6.6 ft}.
- Make sure that the minimum pullout strength of the mounting screws is 196 N (20 kgf) {44 lbf} per screw.
- Select the type of screws according to the material of the wall. Do not use wood screws or nails.
- Adequately reinforce the wall when mounting on a wall that is not strong enough, like a wall made of gypsum boards.
- The operating temperature of the recorder ranges from +5 °C to +45 °C {41 °F - 113 °F}.
* When the temperature of HDD rises, the features may deteriorate and the service life may be affected. It is recommended to use the recorder (including the AC power adapter) at approx. +25 °C {77 °F}.
- Route the cables (including the DC cable of the AC power adapter) properly so that they will not be pulled or bent and the AC power adapter will not be hung in the air.
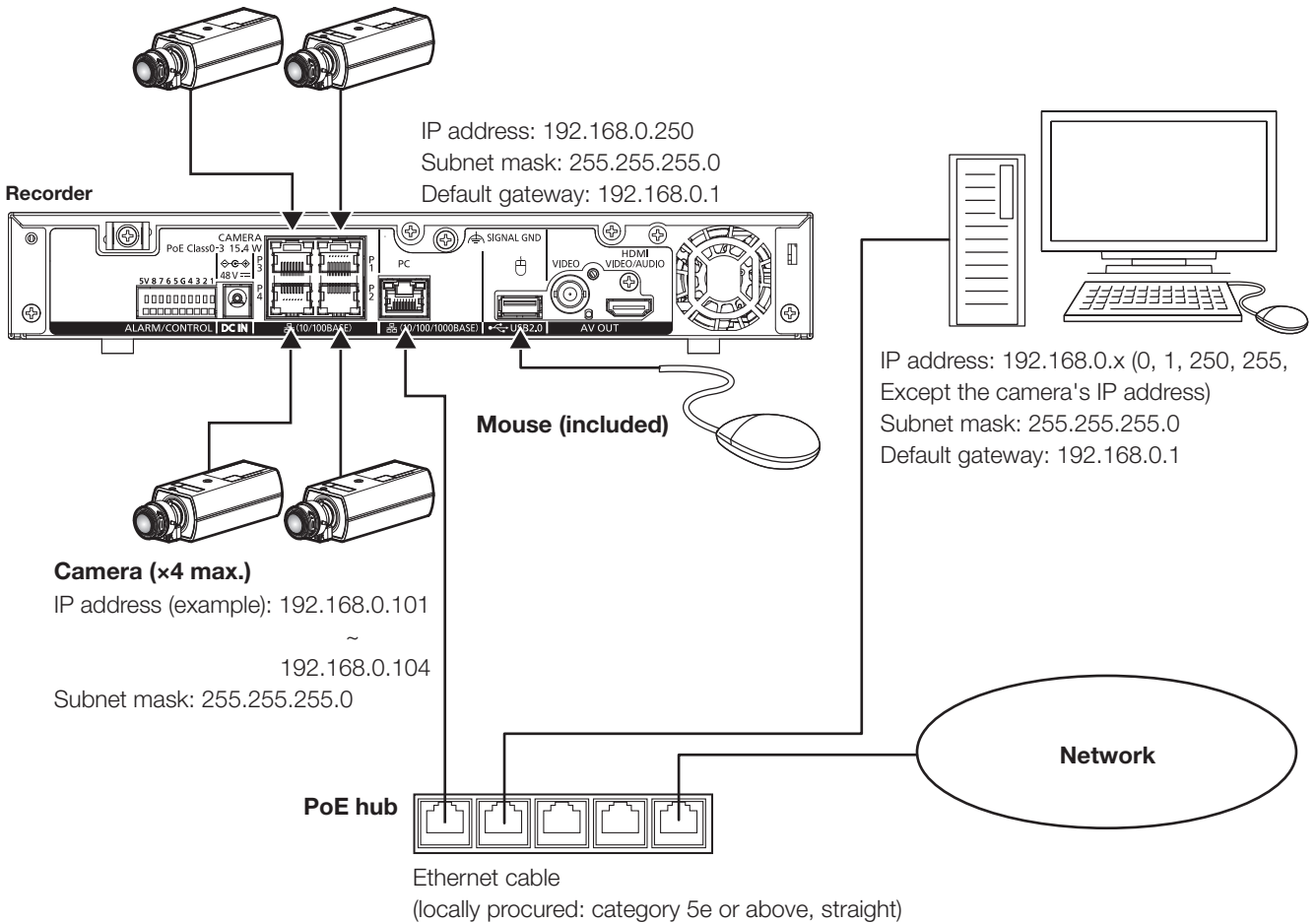
Note:
- If you install the recorder on a wall in the direction as shown in the above-mentioned STEP 3, the cooling fan outlet on the rear panel will be located at the top, and the cooling effect will be higher.

3 Connections

Connection of cameras, a mouse and a PC

Connect up to 4 cameras to the camera port on the rear side of the recorder.
Connect the included mouse to the mouse connection port on the rear side of the recorder.
Connect the PC to the PC port on the rear side of the recorder via a PoE hub.
Use an Ethernet cable (locally procured: Category 5e or above, straight) to connect the recorder to the camera and the PoE hub.

IP address: 192.168.0.250
Subnet mask: 255.255.255.0
Default gateway: 192.168.0.1

Recorder

IP address: 192.168.0.x (0, 1, 250, 255,
Except the camera's IP address)
Subnet mask: 255.255.255.0
Default gateway: 192.168.0.1

Mouse (included)

Camera (×4 max.)
IP address (example): 192.168.0.101
~
192.168.0.104
Subnet mask: 255.255.255.0

Network

PoE hub

Ethernet cable
(locally procured: category 5e or above, straight)

Note:
- Be sure to connect the cameras to the recorder with a wired network even if they come with the wireless LAN function.
- The camera port comes with the PoE power supply function that complies with IEEE802.3af.
- Connect the camera to the PC port via a PoE hub if the connection distance exceeds the PoE power supply distance (approx. 100 m).

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Connection of monitors

Connect a main monitor (HDMI, to be used to display live images, recorded images or the setup menu) to the HDMI (HDMI video/audio output) terminal with an HDMI cable (locally procured). Connect a sub monitor (BNC) to the video output (video) terminal with a BNC cable (locally procured).

Main monitor (HDMI)

Sub monitor (BNC)

BNC cable (locally procured)

HDMI cable (locally procured)

Recorder
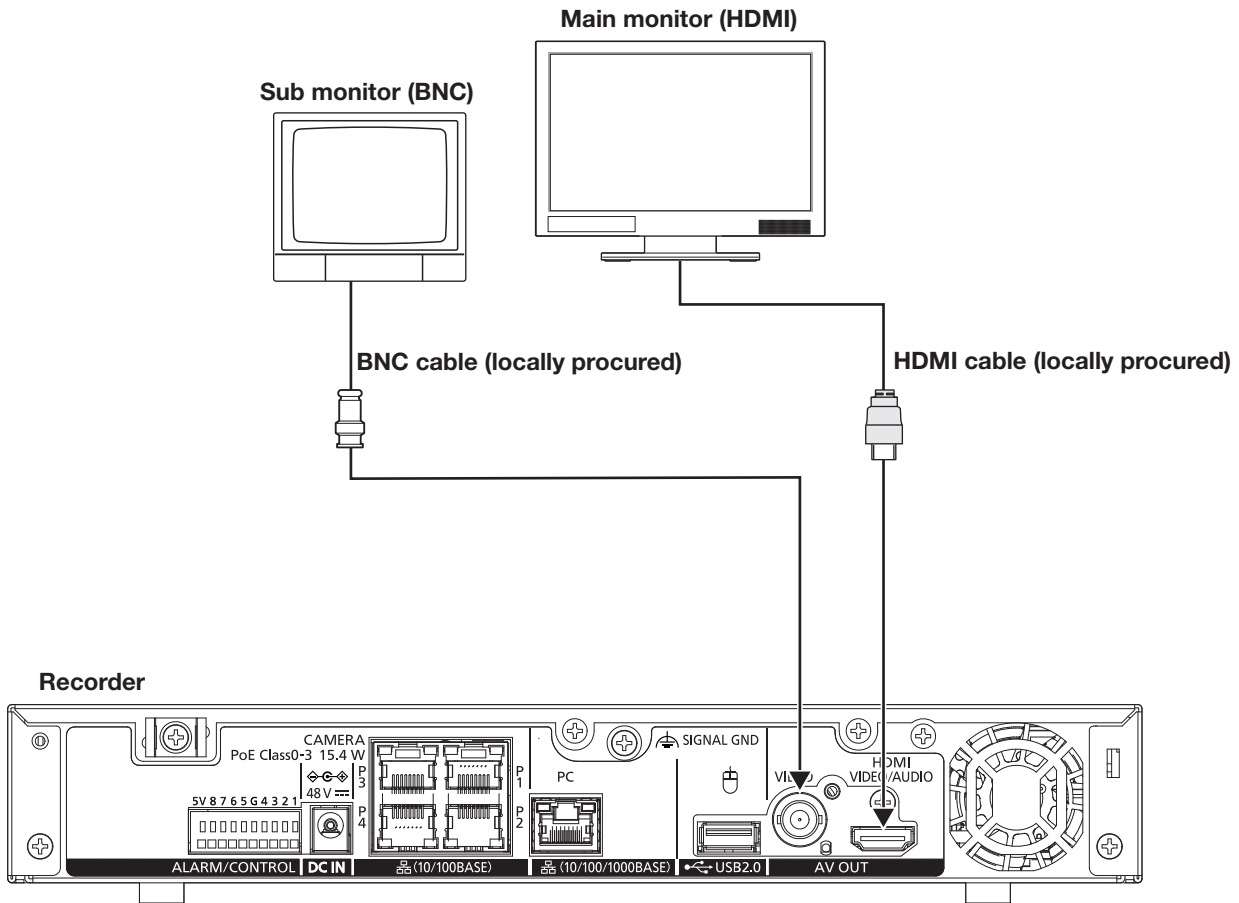
Note:
- Use a "High Speed HDMI® Cable". Also, when the main monitor is used in 4K/30P, use a 10.2 Gbps compatible HDMI cable.
- To maintain the stable performance without deteriorating the image quality, use an HDMI cable which is 5 m or shorter.
- Audio will be output from the monitor when the monitor is connected with an HDMI cable.

How to use the terminals of the ALARM/CONTROL

The ALARM/CONTROL terminals on the rear side is used when connecting an external device such as a sensor that outputs alarm signals or when installing an external alarm device such as a buzzer or a lamp outside.
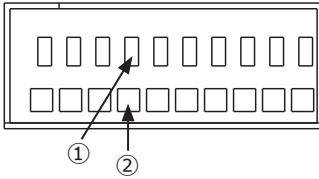Insert the unarmored cable into the ALARM/CONTROL terminals on the rear side.
* The cable should be a single or twisted wire with AWG 26~16 and an exposed length of 9 mm {11/32 inches}.

ALARM/CONTROL terminal on the rear side

Cable connections

5V 8 7 6 5 G 4 3 2 1

①
②

①Press the button.
②Insert the cable all the way into the hole and release the button.

Important:
• Do not connect two or more wires to a single terminal. When connecting two or more wires, branch the wires outside the recorder before connection.

Pin array

Pin No.	Signal	Operation	Remarks
1	Time adjustment I/O	According to the signal input from the other device, the time of the recorder will be adjusted to the hour based on the input time In addition, the signal is output at the setting time of the recorder and the time of other equipment is adjusted to the time of the recorder	Input: Non-voltage make contact input +3.3 V pull-up Approx. 23 kΩ Output: Open collector output 24 V DC max., –200 mA max.
2	Alarm input 1		Non-voltage make contact input +3.3 V pull-up Approx. 23 kΩ
3	Alarm input 2	Event action will be performed according to the settings	
4	Emergency recording input	Starting emergency recording signal input	
G	Signal ground		
5	Alarm output	Alarm signal will be supplied at an event occurrence	Open collector output 24 V DC max., –200 mA max.
6	Camera error output	Signal output upon detection of a camera error	
7	HDD error output/ Recording error output	Signal output upon detection of an HDD error or recording error in this product	
8	Face matching output	Signal output at the occurrence of a face matching alarm	
5V	+5 V output	+5 V output	+5 V±0.5 V, 200 mA max.

Connection example for emergency recording

When the external switch is turned on, emergency recording will start.
Recording time and recording rate for emergency recording differ according to the settings of "Emergency rec." on the setup menu. (Refer to the Operating Instructions.)
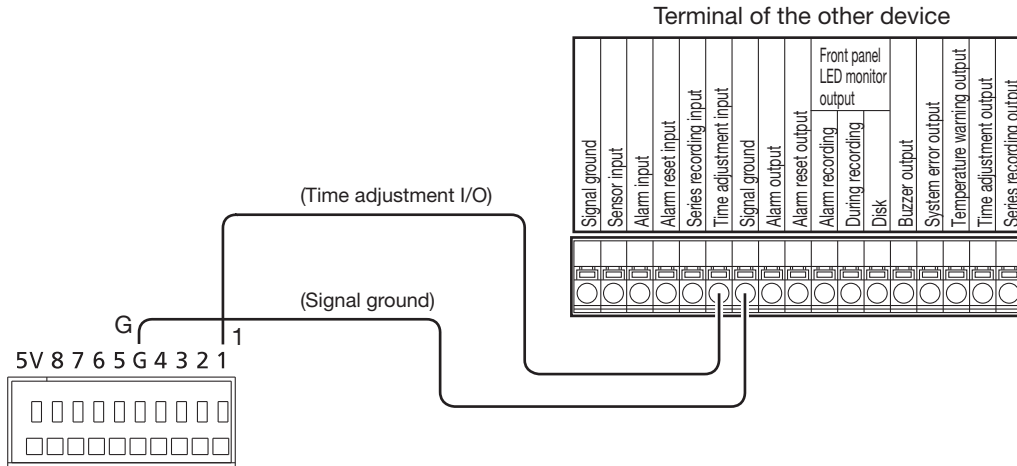
(Emergency recording input)
G   4
External switch   (Signal ground)
5V 8 7 6 5 G 4 3 2 1
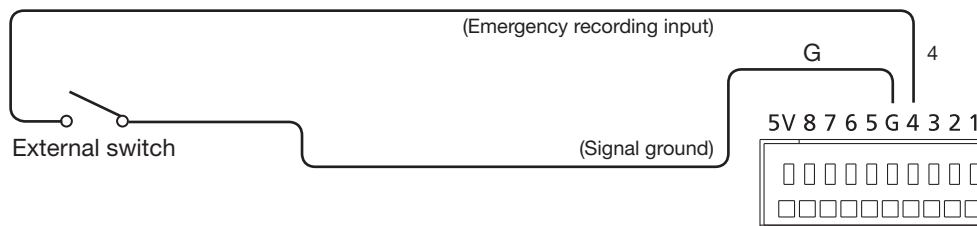
Connection example 1 for the auto adjustment time function

When "Auto time adjustment" found in "Date & time settings" under "Date/Language" on the setup menu is set to "Master".

"Time adjustment output" becomes available and the clock of this recorder will be applied to other devices.

The time adjust output signal will be supplied from terminal No.1 to other recorders at the time set for "Activation time" of "Time & date" under "Basic" on the setup menu.

Terminal of the other device

Connection example 2 for the auto adjustment time function

When "Auto time adjustment" found in "Date & time settings" under "Date/Language" on the setup menu is set to "Slave".

When a signal output from the other device is supplied to the time adjustment I/O terminal (pin no.1) and the time difference between the recorder and the other device is 29 minutes or less, the clock of the recorder will be set to the time set for the other device.

When a signal output is supplied to the recorder 29 minutes before/after the hour, the clock of the recorder will be set to the hour (nn:00:00). ("nn" is the hour.)

Example:

- Signal is supplied at 2:50:00 pm → Set at 3:00:00 pm
- Signal input supplied at 3:28:45 pm → Set at 3:00:00 pm
- Signal is supplied at 3:29:30 pm → Time will not be adjusted.

Terminal of the other device
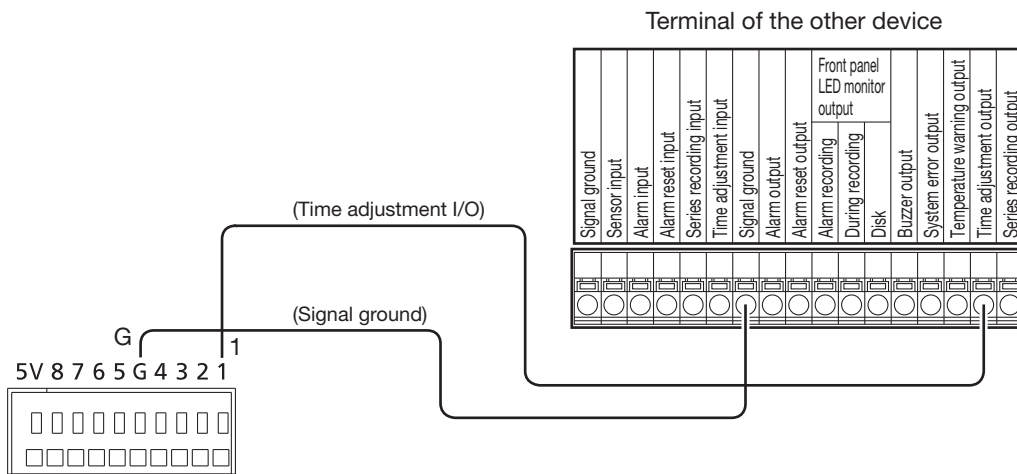
Important:
- When "Slave" is selected, the clock will not be adjusted during event recording or emergency recording.

Connection example of control output

When an alarm device such as a buzzer or a lamp is connected, the signal output from terminal No.5 - No.8 can be used to notify the status by sounding a buzzer or lighting a lamp.
The following example is of a connection with the HDD error output /Recording error output terminal (pin no.7).
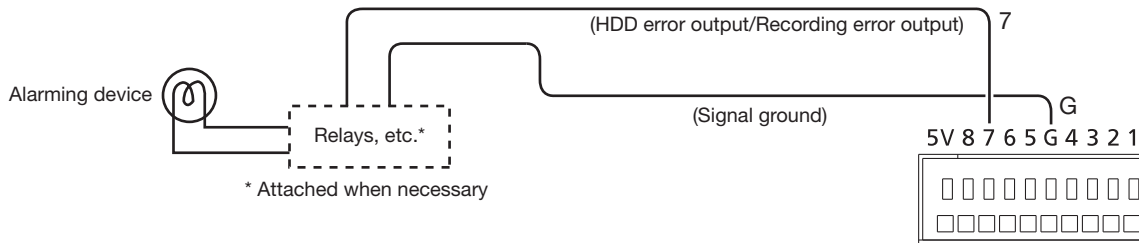
Alarm connection example

When a signal output from the other device is supplied to the Alarm input 1 terminal (pin no.2) or Alarm input 2 terminal (pin no.3), recording or an alarm action will be performed in accordance with the settings. When an alarm device such as a buzzer, a lamp, etc., is installed outside, connect them to the Alarm output terminal (pin no. 5).
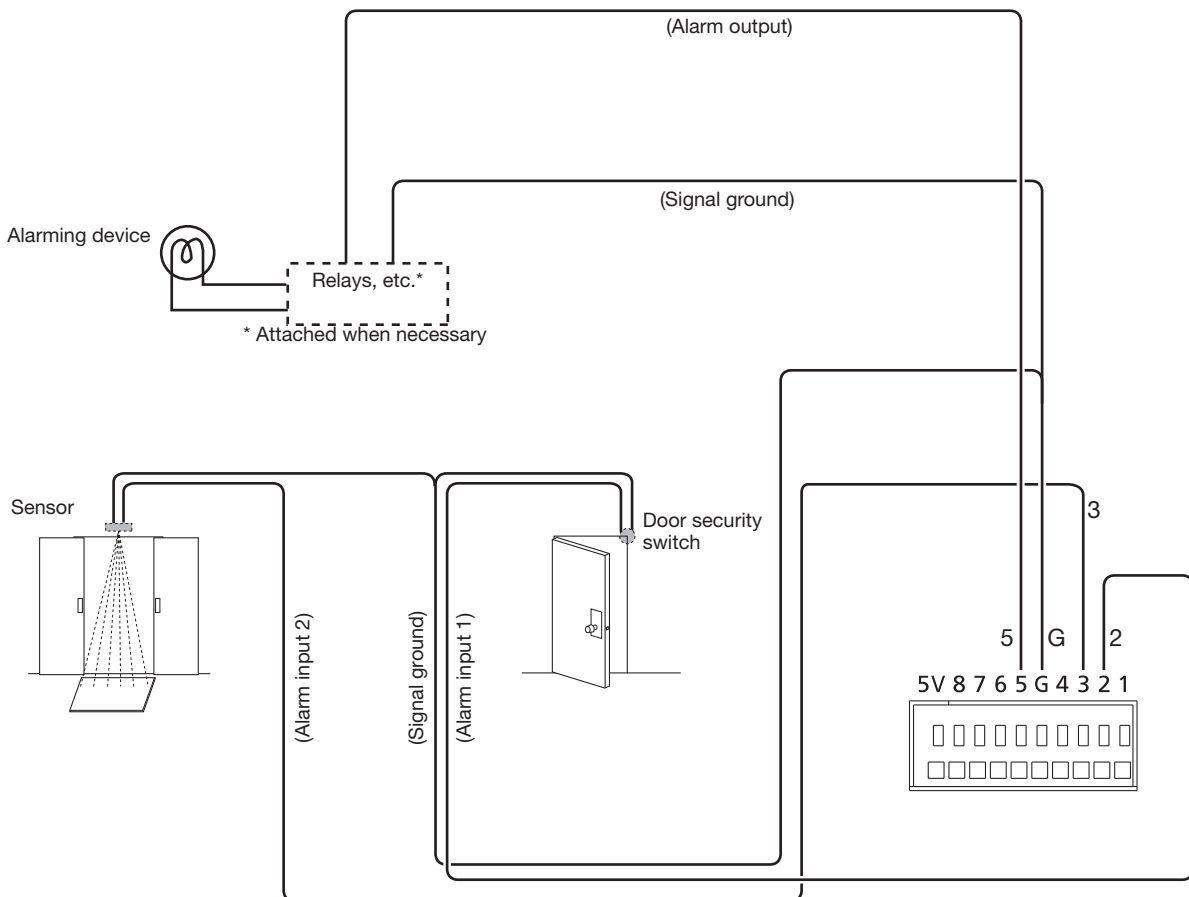
Time and polarities of the ALARM/CONTROL connector

Terminal name	Active Time	Remarks
Alarm input	100 ms or more	N.O.: L active N.O.: H active
Emergency recording input	100 ms or more	L active
HDD error output/ Recording error output	At an error occurrence until the period selected for "Error output duration" has passed*	L active
Camera error output	At an error occurrence until the period selected for "Error output duration" has passed* or the camera reset	L active
Face matching output	At an error occurrence until the period selected for "Error output duration" has passed*	L active
Alarm output	The set time on the setup menu	L active
Time adjustment I/O	Input: 100 ms or more Output: The set time on the setup menu	Input/Output: L active

* The error output duration is configured on the "Advanced setup" menu - the "Maintenance" page - "System management" of the setup menu. (☞ Operating Instructions (PDF))

Note:
- During "L active (Low active)", the logic will be implemented when the voltage level of signal is low.
- During "H active (High active)", the logic will be implemented when the voltage level of signal is high.

Connection of the AC power adapter

Connect the power cord (included) to the AC power adapter (included), and insert the DC plug of the AC power adapter to the DC jack on the rear panel.

Important:
- Do not insert the power plug into the power outlet yet as it will be plugged in "5 Turn on the devices (☞ Page 24)".
- Insert the DC plug all the way into the DC jack so that it will not loosen or come out.
- Secure the DC cable with the included cable clamp to prevent the DC plug from disconnection.
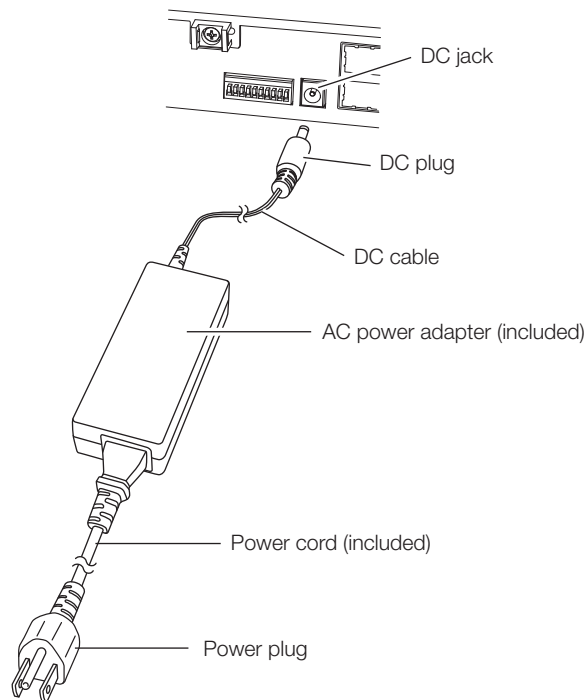
How to prevent the DC plug from disconnection

Secure the DC cable at 5 cm {2 inches} to 10 cm {4 inches} from the DC plug with the included cable clamp through the clamp mount.
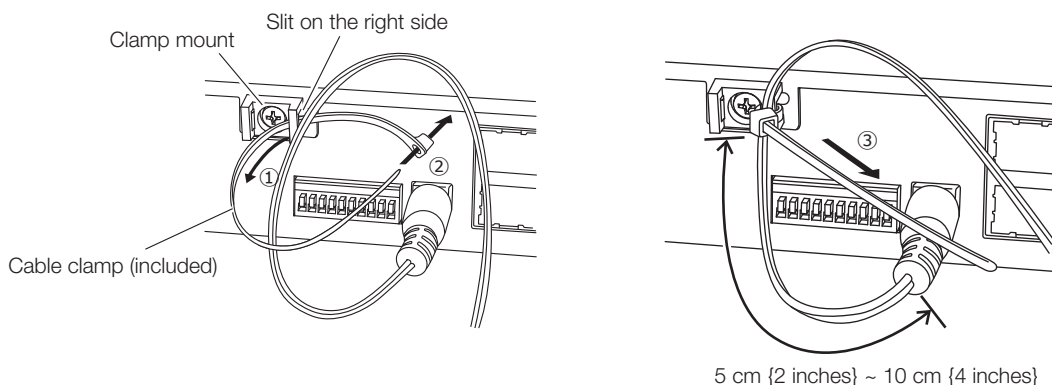
① Pass the cable clamp (included) through the slit on the right side of the clamp mount.

② Tighten the DC cable by making a loop with the cable clamp as shown in the figure.

③ Tighten the DC cable at 5 cm {2 inches} to 10 cm {4 inches} from the DC plug and fix it to the clamp mount.
   Cut the surplus part of the cable clamp as necessary.

4 Turn on the devices

Turn on the power of the recorder

Turn on the power of the recorder. When using the recorder for the first time, register the license for the recorder. (☞ Page 26)

Step 1

Connect the included power cord to the AC power adapter, and insert the power plug to an outlet whose rating is as follows.
100 V - 240 V AC, 50 Hz/60 Hz
→ The [OPERATE] indicator on the front of the recorder will light, the system check will start, and the startup window will be displayed on the main monitor.

NETWORK DISK RECORDER

:::i·PRO

Important:
• Never turn off the power of the recorder during startup.

Step 2

The administration registration window is displayed on the main monitor.

Administrator registration

Register the administrator name and the password of this recorder.
Administrator name (1 to 32 characters)
Password (8 to 32 characters)
Retype password

A	B	C	D	E		a	b	c	d	e		!	#	$	%	'
F	G	H	I	J		f	g	h	i	j		(	)	*	+	,
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						`	{			}	~

| 1 | 2 | 3 | 4 | 5 | | 6 | 7 | 8 | 9 | 0 | | ← | → | Delete |

Notices
1. Enter alphanumeric characters and symbols.
2. Distinguish between upper- and lower cases.
3. Password: use 3 or more types of characters from upper-/lowercase, numbers, and symbols.
4. Store the administrator name and the password so as not to forget.
5. It is recommended to change the password periodically.
6. Set the password which does not include the administrator name.

Registration

Enter an administrator, a password and a password confirmation following the instruction on the display, and click [Registration].
Clicking [OK] on the displayed confirmation screen completes the administration registration.

Important:
• Change the password periodically.

Precautions on storing the administrator name and the password

If you forget the set administrator name and password, you need to initialize* the recorder. Once the recorder is initialized, all the settings are deleted. Keep information on the administrator name and the password in a safe place where nobody can see it except you.
* Contact your dealer for initializing.

Step 3

If the license for the recorder has not been registered yet, the message asking you to register the "Registration Key" will be displayed after the completion of the system check and the administrator registration.

```
This window will not be displayed
after Registration Key is registered.

Refer to the provided Activation Key
Card for how to get Registration Key.
```

If the "Registration Key" for the recorder has not been registered yet, register the "Registration Key" by following the procedures on page 26.

Note:
• If the "Registration Key" for the recorder is once registered, the message asking you to register the "Registration Key" will not be displayed from the next time.

(When turn off the power of the recorder)

Follow the procedure below to turn off the power.

Step 1

During recording, set "Recording mode" on [Advanced setup] tab under "REC & event" under [Basic Setup] from Setup menu to "Off" to stop all recordings. (☞ Operating Instructions (PDF))

Step 2

Unplug the power plug from the power outlet after confirming that the [REC] indicator is off.
→ [OPERATE] indicator on the front of the recorder will go off.

Important:
• Remove the plug from the outlet if not operating the recorder for a long period.

Note:
• Be sure to perform the operation to start recording (select "On" for "Recording mode") after turning on the power of the recorder again.

5 Register the license (Registration Key)

When using the recorder for the first time, using the secure function, or increasing the number of the cameras to be connected, it is necessary to register the recorder license (Registration Key).

Important:
- In the following cases, the recorder must be rebooted by clicking the [Restart] button. The licenses will not be effective until the recorder is rebooted.
    - When the Registration Key of the recorder is registered
    - When the license of the additional camera kit or the additional business intelligence kit is added

---

Step 1

Obtain the "Registration Key" for the recorder by following the instructions on the included "Activation Key Card".
To use each extra function, get the "Registration Key" of each additional license according to the appropriate Additional kit (option).
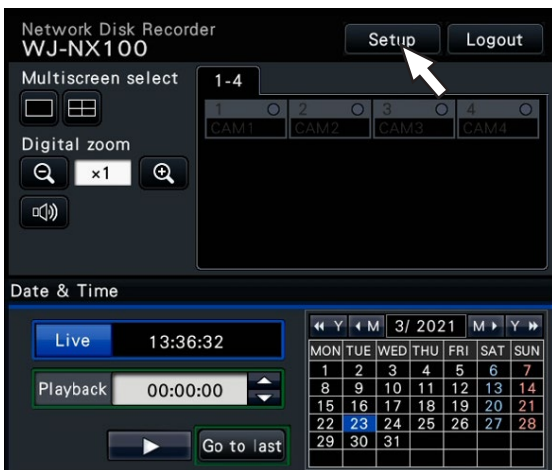Refer to the "Activation Key Card" for further information.
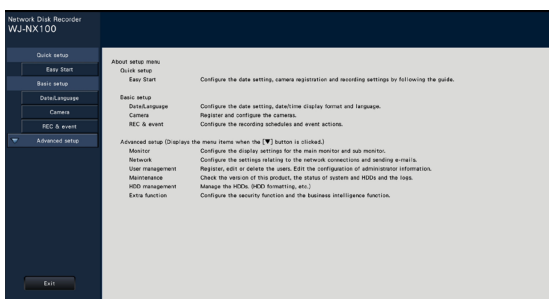
Step 2

Start the recorder. (☞ Page 24)
→ When the system check is complete, the operational screen will be displayed on the main monitor.
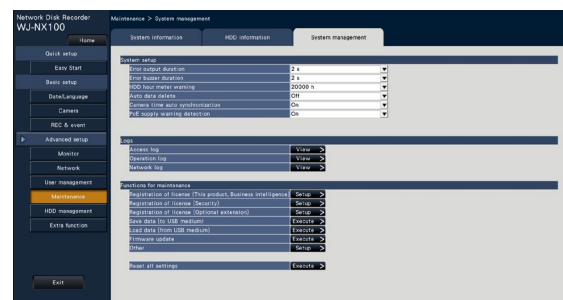
Step 3

Click the [Setup] button.

→ The setup menu will be displayed.

Step 4

Click [Advanced setup] - [Maintenance] - the [System management] tab on the setup menu.
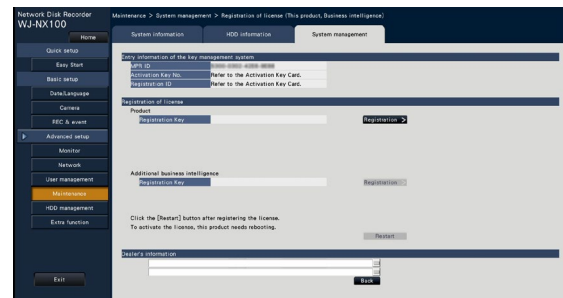→ The "System management" page will be displayed.

Step 5

Click the [Setup >] button of [Registration of license (This product, business intelligence)].
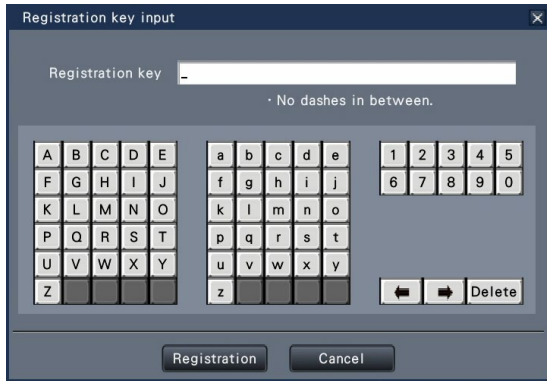→ The registration window will be displayed.

Step 6

Click the [Registration >] button of "Product" - "Registration Key".
→ The "Registration key input" window will be displayed.

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Step 7

Enter the "Registration key" for the recorder in the "Registration key" field using the on-screen keyboard, and click the [Registration] button.

→ The "Registration key input" window will return to the registration window.

Note:
- When an error message is displayed, enter the effective "Registration Key" again on the entry field.

Step 8

To use the business intelligence function, enter the "Registration Key" following "How to register the license" in the user manual of the additional business intelligence kit.
To use the secure function, click the [Setup >] button of [Registration of license (Security)] under the system management screen shown in Step 4, and then enter the registration key of the secure communication license obtained in Step 1 in the "Registration Key 1-32" fields under "Secure communication" on the "Registration of license" page.
The operations are the same as those of Step 6 and 7.

Note:
- Register the registration key for the recorder first, and then for each additional licenses.

Step 9

Click the [Restart] button on the registration window to register the license.
→ The recorder will reboot and each license will become effective.

6 Configure the minimum settings [Easy Start]

The minimum settings required to operate the recorder, such as the date & time, camera registration, recording, can be configured on the setup menu - the "Quick setup" menu - "Easy Start".
First, configure the minimum settings on "Easy Start", and to configure more advanced settings, go to each setup page.

Available settings on "Easy Start"

- Date & time of the recorder
- Camera registration
- Order change of the registered camera numbers
- Recording frame rate, image quality Smart coding (GOP control) and audio

* Other settings will remain default or will be conformed to the camera settings.
* To apply 25, 50 or 60 ips for the recording frame rate, configure on the advanced recording setup (for each camera) on the "Recording setup" tab under "REC & event" of "Basic setup", but not on Easy Start.
* To reset the time, do not use "Easy Start", and go to "Basic setup" menu - "Date/Language" page.


Important:
- Connect 4 or less cameras for registration. If 5 or more cameras are connected via a PoE hub or the like, refer to "Detect cameras for registration [Detect cameras]" (☞ Operating Instructions (PDF)).
- Only Panasonic and our cameras compatible with the recorder can be registered. Refer to "readme.txt" on the CD-ROM included in the recorder for compatible cameras.
- If you are using cameras other than Panasonic and our cameras with an ONVIF connection, it is not possible to start operation just with Easy Start. Set up the date & time, a static IP address, the user name/password, etc. on the camera side in advance, or register the camera with the recorder by detecting the camera or changing the registration information from [Basic setup] - [Camera] - [Camera registration].

Step 1

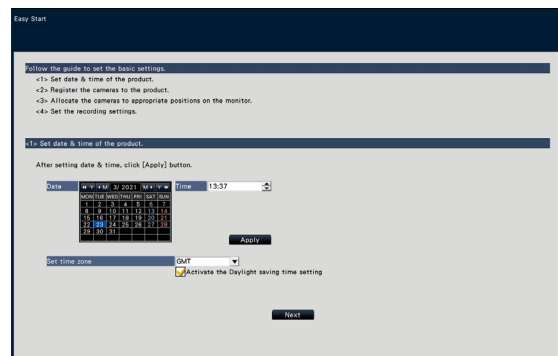**Click the [Easy Start] button on the top screen of the setup menu.**
Refer to "Basic operations" (☞ Page 7) for how to display the setup menu.
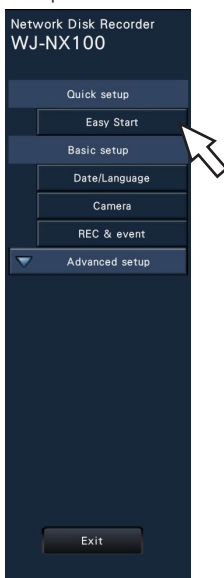
→ The setup menu for the date & time will be displayed.

Step 2

Set the date & time.

[Date]
Set the current date. Select the year and month using the buttons of the calendar and click the date.
[<<Y]/[Y>>] button: Selects the previous or next year.
[<M]/[M>] button: Selects the previous or next month.

[Time]
Set the current time.

Step 3

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

[Set time zone]
Select your time zone.
GMT-12:00 - GMT+13:00
Default: GMT
Marking the checkbox for [Activate the Daylight saving time setting] will active daylight saving time.

6 Configure the minimum settings [Easy Start] (continued)

Step 4

Click the [Next] button.
→ The camera registration window opens.

Note:
- To use the existing IP address of the connected cameras, refer to "Detect cameras for registration [Detect cameras]" (☞ Operating Instructions (PDF)) instead of "Easy Start".
- Before the settings, register the cameras into the network. Only the cameras added by license registration will be detected even though more cameras than the registered license number are connected.
  It is recommended to disconnect unnecessary cameras.
- Cameras shall be connected to the Camera/PC port. Cameras will not be detected if they are connected to the PC port.

Step 5

Register the cameras connected to the recorder.
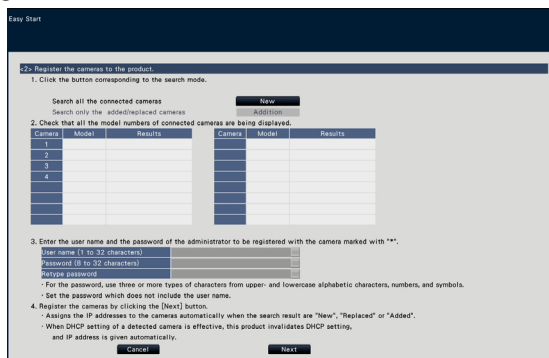
[New] button
Usually use it with no camera registered in the recorder.
Detects all the connected cameras.
The models and results of the detected cameras will be displayed.
Make sure that the model numbers of all the connected cameras are being displayed.

[Addition] button
Usually use it when there are added or replaced cameras during operation.
Detects only the added or replaced cameras.
The models and results of the detected cameras will be displayed.
Make sure that the model numbers of all the added or replaced cameras are being displayed.

Important:
- When there are cameras in use, the system can overwrite the registered information and assign new IP addresses to all connected cameras (including cameras currently in use) by clicking the [New] button.
- Cameras newly added after the operation start will be registered in the default settings. To conform the settings to those of the registered cameras, perform the settings for the added cameras.
- For the video encoder (WJ-GXE500), only the camera connected to CH1 will be detected. The channels CH2 to CH4 are needs to be registered from the setup menu.

Note:
- The camera number detected at Easy Start does not match the camera port number (P1 - P4) on the rear panel of the recorder. Follow STEP 8 to replace the camera number if you want to match the camera number and the port number.

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

[Results]
New: Displayed when the camera is newly connected to the recorder.
Replaced: Displayed when the camera has been replaced by another one.
Added: Displayed when the camera connection is added to the recorder.
Registered: Displayed when the camera has already been registered.
Lost: Displayed when the registered camera is not detected.
Blank: No camera is detected.
*: Administrator not registered

Note:
- If "Lost" is displayed or the column is left blank, check if the power of the camera is turned on, and make sure that cables are properly connected.

Step 6

Enter a user name and a password to register for a camera with "*" in the results.

Step 7

Click the [Next] button.
→ IP address will be given to the cameras newly connected, replaced or added, and the images from the camera will be displayed on the operational screen.

Note:
- 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. Perform the camera detection within 20 minutes, or turn off the power of the camera and turn it on again if more than 20 minutes has passed. Refer to the operating instructions of the camera for further information. When 20 minutes have passed after the power of the camera is turned on, "ONVIF" may be detected depending on the models of our cameras. In such a case, turn off the power of the camera and turn if on again to perform the camera detection.
- 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.
- When the [Cancel] button is clicked, the top screen of "Easy Start" (the menu to set the date & time) without applying the camera detection result will be displayed.

Step 8

When you wish to change the registered camera numbers, it is possible to change the order of the camera numbers.
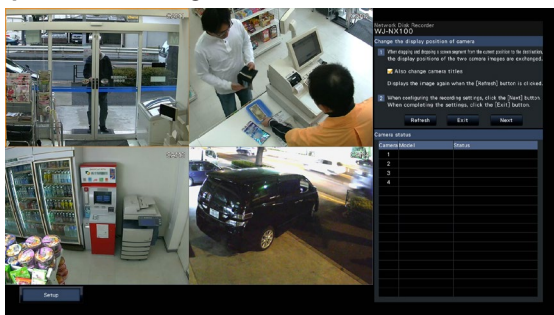
Images from the cameras will be displayed on the monitor from the upper left corner to the right in order of the camera number (1, 2 ... 4).
To interchange camera numbers, drag the camera image to be moved with the mouse and drop on the desired position. If the camera titles are to be interchanged as well, mark the "Also change camera titles" checkbox.

[Camera status]

The model numbers and statuses of each camera will be displayed in a list.

Displaying image: Displays the images from the camera using the IP address that is newly registered or that has already been registered.
Changing IP address: Images are being obtained from the camera whose IP address has been changed.
Undetectable: Cannot obtain images from the camera.
Authentication error: Failed in the authentication to display images from the camera.

Important:
- If "Undetectable" is displayed, check the camera connections, and retry the camera registration.
- If "Authentication error" is displayed, initialized the camera and retry the camera registration by referring to the operating instruction of the camera.
- If the registered camera is not correctly detected or if you wish to change the camera settings, change the registered information on the "Basic setup" menu - the "Camera" page - the "Camera registration" tab. (☞ Operating Instructions (PDF))

[Refresh] button

Obtain the latest camera image after interchanging cameras.
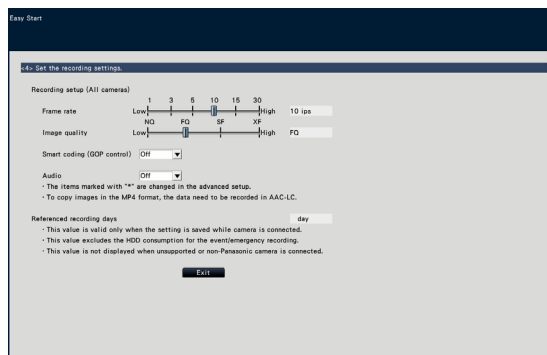
[Exit] button

Exits the setup menu and returns to the top screen of the setup menu.

[Next] button

Proceeds to the settings for recording.

Step 9

Perform the settings for recording. If the settings are performed on "Easy Start", the settings will be applied to all the cameras.

[Frame rate]

Select the recording frame rate.
1 ips/ 3 ips/ 5 ips/ 10 ips/ 15 ips/ 30 ips
Default: 10 ips

Important:
- To apply 60 ips, configure on "[Advanced >] of the "Recording setup (All cameras)" on the "Recording setup" tab under "REC & event" of "Basic setup".
- 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 >] in Recording setup (All cameras).

[Image quality]

Selects the image quality of recorded images.
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 >] in Recording setup (All cameras).

[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.

Default: Off

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

[Audio]

Select whether or not to record audio together with images.

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

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

Off: Audio will not be recorded.

Default: Off

[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 calculated based on the assumption that recording is started on Monday.
- The HDD consumption for the event recording will be excluded.
- If a camera manufactured by other than ours is used, the value of "Referenced recording days" will not be displayed.
- 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.

Step 10

Click the [Exit] button.

→ Saves the settings and returns to the top screen of the setup menu.

When the camera image is displayed on the main monitor or the web browser on the PC and can be recorded or played, the recorder is ready for operation.

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	Ref. pages
Power is not turned on.	• Is the power plug connected to the outlet firmly? Confirm the cable is firmly connected.	–
	• Check if the power cord is properly inserted into the AC power adapter. Check if it is connected firmly.	–
	• Is the DC cable inserted all the way into the DC jack of the recorder? Check that it is plugged in.	Important Information
Camera images are not displayed on the monitor	• Are the camera's user name and password registered correctly? Check if the user name and the password are correct on the "Change registration information" screen on the [Camera registration] tab under [Basic setup] - [Camera].	Operating Instructions
	• Is the power of the camera and connected devices on? Check whether the power is supplied to the camera and the devices.	–
	• Confirm that the cables are connected correctly and firmly. Confirm the cables are firmly connected.	16, 17
	• Is the connection distance to the camera too long? Check that the Ethernet cable is 100 m or shorter.	–
	• Depending on the HDMI monitor, it may not be displayed properly. Turn the monitor off and on and check whether it is displayed.	–
	• Is the monitor luminance appropriately adjusted, or is the contrast appropriately adjusted? Check whether the settings are appropriate.	–
	• 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.	Operating Instructions
Part of the displayed image is missing.	• This phenomenon is caused by dispersion of display area on the monitor. This is not a malfunction.	–
	• When a function to automatically enlarge the images in the connected monitor is enabled, some part of the images may not be displayed depending on the photographic subject.	–
Image is blurred.	• Is the lens of the camera soiled with dirt or dust? Check whether the lens of the camera is clean.	–
Cannot open the setup menu.	• Users who have logged into the system may not be authorized to display the setup menu. Check the user level settings of these users.	Operating Instructions
	• Isn't it the sub monitor you are currently operating? The setup menu cannot be displayed on the sub monitor.	17
The images or embedded characters displayed on the monitor look blurry.	• Depending on the photographic subject or HDMI monitor that is connected, images or embedded characters may look blurry. This phenomenon is not trouble.	–
No alarm action is taken.	• Check if alarm input signals are properly input to the ALARM/CONTROL connector at the rear panel.	20
	• Are the settings of the alarm connector appropriate?	Operating Instructions
	• Is "Off" or "Recording only" selected for "Mode"? Check whether the settings are appropriate.	Operating Instructions
The "Communication error: Cam.cc" indication is displayed on the main monitor. ("cc" indicates the camera number.)	• Confirm that the camera is connected correctly and firmly. Check the camera connection.	16
	• If the connection is appropriate, the cable may be broken or the camera may be out of order. Contact the dealer.	–

Troubleshooting (continued)

Symptom	Cause/solution	Ref. pages
The "Thermal error" indication is displayed on the main monitor.	• Check if the fan is malfunctioning.	Operating Instructions
	• Check if the recorder ventilation holes or cooling fan are blocked, and also check for dust collected around the ventilation holes.	6
	• The ambient operating temperature is +5 °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.	15
The clock of the recorder may keep bad time.	• The clock function of the recorder is accurate within ±30 seconds per month. To keep the correct recording, set the time periodically, or enable the auto time adjustment function on the rear panel terminal, or configure the system using the NTP function so as to keep the correct current time.	–
[HDD] indicator lights/blinks red.	• The hard disk drive is faulty. Contact your dealer.	–
The error indicator blinks red.	• A system error occurred. Contact your dealer.	–
"Authentication error" of the camera is displayed.	• With a new detection with Easy Start, "Authentication error" will be displayed since the registered user name and password of the camera will be cleared. • In that case, open the "Change registration information" screen on the [Camera registration] tab under [Basic setup] - [Camera], and manually re-enter the user name and the password.	Operating Instructions
	• Initialize the camera and retry the camera registration upon referring to the operating instructions of the camera.	–

Inspect the power cord, power plug and connectors periodically.

Symptom	Cause/solution	Ref. pages
The power cord insulation is damaged.	• The power cord, connector, or power plug is damaged. This may result in electric shock or a fire. Unplug the power plug from the AC outlet immediately, and refer to qualified service personnel.	–
The power cord, plug and connectors get hot during use.		
The power cord gets hot when bent or stretched.		

Disposal of Old Equipment and Batteries
Only for European Union and countries with recycling systems

These symbols on the products, packaging, and/or accompanying documents mean that used electrical and electronic products and batteries must not be mixed with general household waste.
For proper treatment, recovery and recycling of old products and used batteries, please take them to applicable collection points in accordance with your national legislation.
By disposing of them correctly, you will help to save valuable resources and prevent any potential negative effects on human health and the environment.
For more information about collection and recycling, please contact your local municipality.
Penalties may be applicable for incorrect disposal of this waste, in accordance with national legislation.

Note for the battery symbol (bottom symbol)
This symbol might be used in combination with a chemical symbol. In this case it complies with the requirement set by the Directive for the chemical involved.

For U.S.A.

Disposal may be regulated in your community due to environmental considerations. For disposal or recycling information, please visit our website.

For U.S. and Canada:

i-PRO Americas Inc.
https://www.i-pro.com/

For Europe and other countries:

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i-PRO EMEA B.V. UK Branch
1010 Cambourne Business Park,
Cambridgeshire CB23 6DP

Authorised Representative in EU:
i-PRO EMEA B.V.
Laarderhoogtweg 25, 1101 EB
Amsterdam, Netherlands

UK CA

CE

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