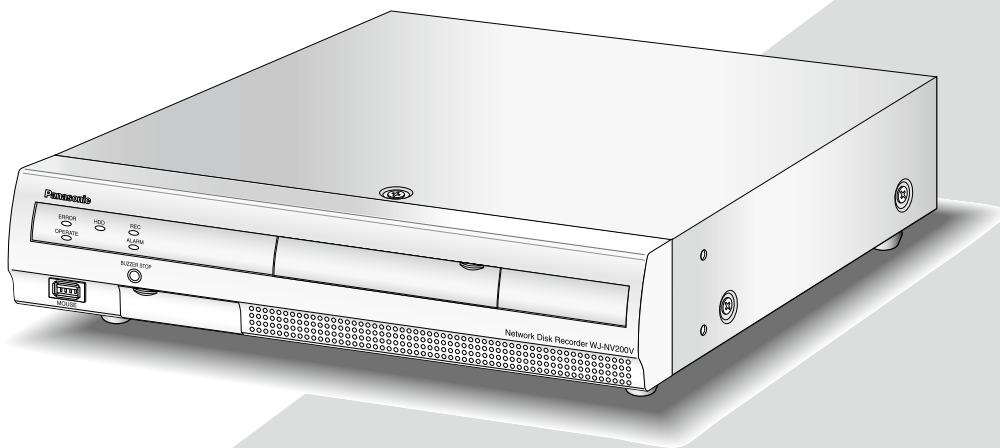# Panasonic

Installation Guide

Network Disk Recorder

Model No. WJ-NV200K, WJ-NV200VK
WJ-NV200K/G

(This illustration represents WJ-NV200VK.)

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

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

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(7) LOSS OF REGISTERED DATA CAUSED BY ANY FAILURE.

Warranty for U.S.

WJ-NV200K, WJ-NV200VK is warranted for three years. Refer to the warranty (accessory) about further information.

Important safety instructions

1) Read these instructions.

2) Keep these instructions.

3) Heed all warnings.

4) Follow all instructions.

5) Do not use this apparatus near water.

6) Clean only with dry cloth.

7) Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.

8) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

9) Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

10) Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.

11) Only use attachments/accessories specified by the manufacturer.

12) Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

13) Unplug this apparatus during lightning storms or when unused for long periods of time.

14) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

Contents

Preface

The network disk recorders WJ-NV200K, WJ-NV200VK and WJ-NV200K/G (hereinafter, recorders) are designed for use within a surveillance system, and record images/audio from up to 16 network cameras (hereinafter, cameras) on the hard disk drives. Up to 16 cameras can be registered.

Model	DVD drive	HDD slot(s)
WJ-NV200K	–	2
WJ-NV200VK	1 (DVD-R, +R)	1
WJ-NV200K/G	–	2

This recorder supports HDMI (High-Definition Multimedia Interface) standard which allows displaying playback/live images with superior quality when connecting to a high-definition monitor using an HDMI cable (option). It is possible to operate cameras from this recorder to display images from multiple cameras or switch cameras from which images are to be displayed, etc.
The recorders described in this installation guide are the models that are compatible as of February, 2012. Contact your dealer for further information.
* No hard disk drive is supplied with this recorder. For purchasing the hard disk drive, contact your dealer.

Features

High-definition image monitoring is available

Images from up to 16 cameras with the image capture size of Full HD (1920 x 1080) can be saved as video data.
Live images from up to 16 cameras with the image capture size of SXVGA (1280 x 960) can be displayed simultaneously.
In addition, this recorder supports the H.264 video compression format that can achieve recording at a high frame rate for a long time.
This recorder also supports the Full HD output (HDMI) that can display recorded images and live images from the cameras in high definition.

Quick setup and operations

By connecting the mouse (accessory) to this recorder, quick operations are available while viewing a monitor.
By using "Easy Start", the network cameras are automatically recognized without operations from the PC. Setup is available by following the guidance.
Quick search is also available using a calendar or the timeline.

Real-time face matching function

By matching registered face images with a face displayed on live images in real time and by notifying the matching result, it will be possible to check guests or discover suspicious people. That can be an aid to crime prevention.

SDHC/SD memory card slot equipped

It is possible to save images recorded from cameras on a SDHC/SD memory card. Images copied on the SDHC/SD memory card can be played back, printed or saved using the dedicated viewer software (☞ Operating Instructions (PDF)).
(Recommended SDHC/SD memory card ☞ page 99)

System configuration

Main monitor

Live monitor

Panasonic

ERROR   HDD   REC
OPERATE   ALARM

BUZZER STOP

Network Disk Recorder WJ-NV200V

MOUSE

(This illustration represents WJ-NV200VK.)

Powered
speaker

Network camera (x 16 max.)

. . . .

PC

Network
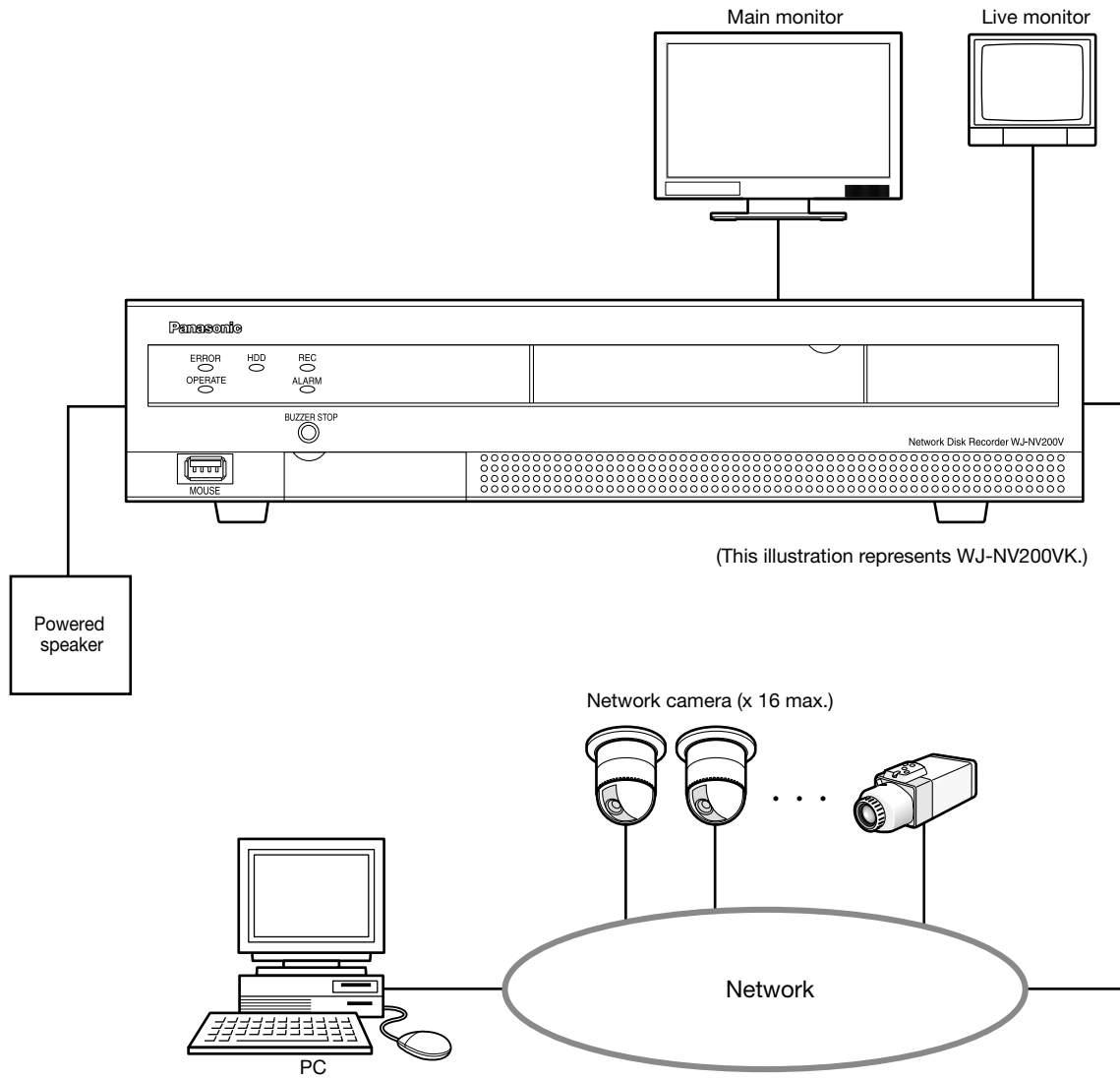
About the user manuals

There are 3 sets of operating instructions for the WJ-NV200K, WJ-NV200VK, WJ-NV200K/G as follows.

Installation Guide (this document): Contains descriptions of how to install/connect this product and how to configure the required settings.

Operating Instructions (PDF): Contains descriptions of how to operate this product.
(Both operations using the interface on the product and using a PC via a network are provided)

Quick Reference Guide: Contains descriptions of how to operate functions frequently used.

Operating Instructions of Additional
Business Intelligence Kit (PDF): Contains descriptions of how to use WJ-NVF20 (option), WJ-NVF20E (option) on trial, how to register the license, how to configure the settings and how to operate.

Adobe® Reader® is required to read the PDF files on the provided CD-ROM. When Adobe® Reader® is not installed on the PC, download the latest Adobe® Reader® from the Adobe web site and install it.
Depending on descriptions, the model name of this recorder may be omitted as "NV200" in the manuals and on the setup.
The screens used in these operating instructions show the case in which WJ-NV200VK is used and 16 cameras are connected.
Refer to "readme.txt" on the provided CD-ROM for further information about the dedicated software (option) that receives and displays the event and error information, compatible cameras and their versions.

System requirements for a PC

It is recommended to operate this product using a PC that meets the following system requirements.

OS: Microsoft® Windows® 7*
Microsoft® Windows Vista®

Web browser: Windows® Internet Explorer® 9.0 (32-bit)
Windows® Internet Explorer® 8.0 (32-bit)
Windows® Internet Explorer® 7.0 (32-bit)

CPU: Intel® Core™ 2 Duo 2.66 GHz or faster
Memory: 1 GB or more
Monitor: 1 024 x 768 pixels or more, 24-bit True color or better
Network interface: 10BASE-T/100BASE-TX/1000BASE-T 1 port
Audio: Sound card (When using the audio function)
Others: CD-ROM drive: It is necessary to refer to the operating instructions on the provided CD-ROM.
DirectX® 9.0c or later
Adobe® Reader®: It is necessary to refer to the operating instructions on the provided CD-ROM.

* Windows® XP compatibility mode is unavailable.

Important:
- When using a PC that does not meet the above requirements, displaying of images may become slower or the web browser may become inoperable.
- Microsoft® Windows® 7 Starter and Microsoft® Windows Vista® Starter are not supported.

Note:
- Refer to "Notes on Windows Vista® / Windows® 7" (PDF) for further information about system requirements for a PC and precautions.
- For information on the operation verification of the supported operating systems and web browsers, refer to our website at http://panasonic.net/pss/security/support/index.html.

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Abbreviations

The following abbreviations are used in this manual.
Microsoft® Windows® 7 Professional (32-bit) is described as Windows 7.
Microsoft® Windows Vista® Business SP1 (32-bit) is described as Windows Vista.
Windows® Internet Explorer® 9.0, Windows® Internet Explorer® 8.0 and Windows® Internet Explorer® 7.0 are described as Internet Explorer.
SDHC/SD memory card is described as SD card or SD memory card.
Network cameras are described as cameras.

GPL/LGPL

- This product contains software licensed under GPL (GNU General Public License), LGPL (GNU Lesser General Public License), etc.
- Customers can duplicate, distribute and modify the source code of the software under license of GPL and/or LGPL.
- Refer to the "readme.txt" file on the provided CD-ROM for further information about the source code of the software contained in this product and copyright notice comprised in the GPL/LGPL software.
- Please note that Panasonic shall not respond to any inquiries regarding the source code.

Copyright

Except for open source software licensed under GPL/LGPL and so on, distributing, copying, disassembling, reverse compiling and reverse engineering of the software provided with this product are all expressly prohibited. In addition, exporting any software provided with this product violating export laws is prohibited.

Network security

As you will use this product connected to a network, your attention is called to the following security risks.
① Leakage or theft of information through this product
② Use of this product for illegal operations by persons with malicious intent
③ Interference with or stoppage of this product by persons with malicious intent
It is your responsibility to take precautions such as those described below to protect yourself against the above network security risks.

- Use this product in a network secured by a firewall, etc.
- If this product is connected to a network that includes PCs, make sure that the system is not infected by computer viruses or other malicious entities (using a regularly updated anti-virus program, anti-spyware program, etc.).
- Protect your network against unauthorized access by restricting users to those who log in with an authorized user name and password.
- After the product is accessed by the administrator, make sure to close the web browser.
- Change the administrator password periodically.
- Apply measures such as user authentication to protect your network against leakage or theft of information, including image data, authentication information (user names and passwords), alarm mail information and FTP server information.

About the face matching function

This recorder (WJ-NV200K, WJ-NV200VK or WJ-NV200K/G) has the face matching function that compares the registered face images with a face displayed on live images to detect a person with a closer match. When the person is detected, it is possible to activate an alarm notification.
To use the face matching function, there are following restrictions.

- Only Camera 1 is available.
- A camera supporting the face detection function is required.
  Refer to the "readme.txt" on the provided CD-ROM about the available cameras.
  The maximum number of faces that can be detected simultaneously depends on the detection performance of the camera.
- When "Alarm action" is selected for "Mode" of "Advanced face matching alarm setup" (☞ page 58), the settings on the "Advanced recording setup" page (☞ page 54) for Camera 1 will automatically be changed as follows.
  Compression: H.264
  Image capture size: SXVGA (1280 x 960)
  Frame rate: 5 ips
  Image quality: SF
  HDD saving mode: Except
  * Note that face matching function is unavailable if these settings are changed.
- Face images can be registered only when images recorded under these setting conditions are played back on the recorder.
- It is impossible to register face images displayed on images from the camera while recording is not being performed.
  It is recommended to perform settings to record images for 24 hours.
- The face matching function is unavailable while recorded images are being played back or while the setup menu is being displayed.
- While the face matching function is being activated, the maximum number of multi-screen segments is 4.
- The performance of the face matching function depends on the detection performance of the camera and recorder. When many people appear on images at the same time, the following problems may happen: It may take time for face matching or several face images may not be matched.
- Face matching alarm does not apply event recording.

Notation about the installation and setup of the camera

When performing the installation and setup of the camera, note the following so that the performance of the face matching function is maintained.

- Install the camera so that the width ("a" in the illustration) of a face image becomes 125 pixels or more.
  Example) When the image capture size is "1280 x 960", the width of the face image should be 1/10 or more of the whole screen.
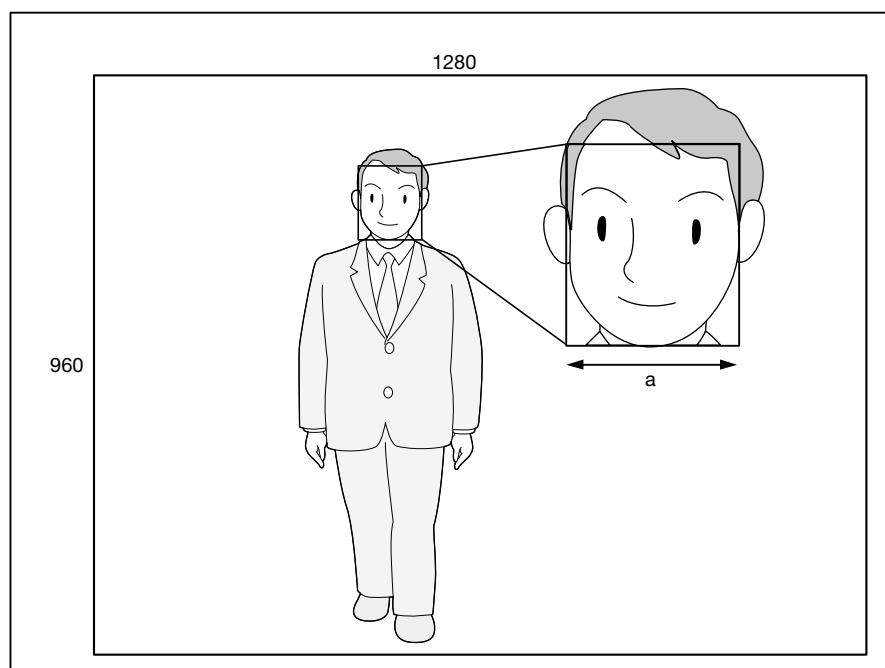
- Adjust the height, angle of depression and vertical angular field of view of the camera so that the angle between the camera and face ("θ" in the illustration) becomes 15° or less.
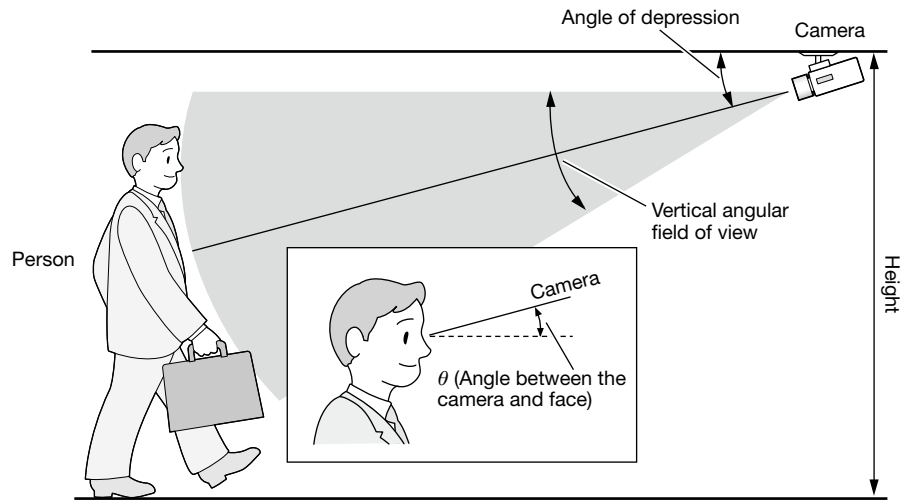
Example of camera adjustment (When shooting a person whose height is 170 cm {5.58 feet})

Height	Angle of depression	Vertical angular field of view (Zoom ratio)	Distance between the camera and a person
2.3 m {7.55 feet}	10°	12° (6x)	3.3 m - 8.5 m {10.83 feet - 27.89 feet}
2.3 m {7.55 feet}	15°	18° (4x)	3.0 m - 5.5 m {9.84 feet - 18.04 feet}

- When the face matching function is activated by the setting, the settings for Camera 1 will automatically be changed as follows. (Refer to the operating instructions of the connected camera for further information.)

Compression	H.264
Image capture size	1280×960
Frame rate	5 ips
Max bit rate (per client)	4096 kbps (as indication)
Refresh interval	1 s
Super Dynamic (SD)	Off
Adaptive black stretch	Off
Back light compensation (BLC)	Off
Shutter speed (Light control mode)	1/250 fix
AGC	On(High)
Black & white mode	Off
DNR	Low
Face detection	On

- By masking an area with remarkable luminance change, it is possible to shoot images on which faces can be recognized more accurately.
  When shooting images on a place where strong light sources may affect from outside, the following settings can reduce the light influence.

<Example of image (Near the entrance)>

<Example of mask area setting for the image>

Around the poster Not masked   Masked (White)
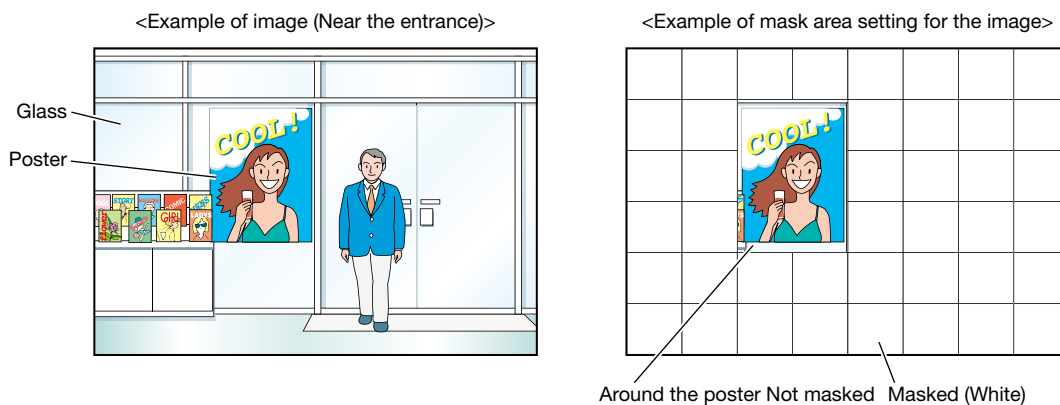
Cases not suited for face matching

The performance of the face matching function varies depending on such conditions as the camera installation, camera settings, camera adjustment, surroundings and photographic subjects. Therefore, face matching may not be performed in the following cases.

- Illuminance levels are dispersed. (Example: Outdoors)
- Faces are interrupted by such objects as medical masks, sunglasses or helmets.
- Faces are not directed to the front side.
- Photographic subjects are moving quickly.
- Strong light sources (such as the headlights of a car, rising sunlight or setting sunlight) may affect the shooting place from outside.

To improve the performance of face matching

- Register the target face images from the images recorded by the camera installed under the same conditions.
- Perform settings for the camera so that the camera can shoot face images at a balanced illuminance level both in the day-time and nighttime.
- Install the camera so that the camera can move within the assumed moving pathway of photogenic subjects.
- If people's faces are printed on a poster, perform the setting for "Setup area" (☞ page 61) so that these faces are not target-ed for face matching.

<Setting example of matching area>

Matching area

Precautions

Power source

The input power source for this product is 120 V AC 60 Hz (WJ-NV200K, WJ-NV200VK), 220 V – 240 V AC 50 Hz/ 60 Hz (WJ-NV200K/G). Do not connect to the outlet that provides the power to equipment that requires a measurable amount of power (such as a copy machine, air conditioner, etc.). Avoid placing this product in locations where is subject to water.
* The provided power cord(s) is (are) dedicated to the use with this product.

Ambient operating temperature

Use this product at temperatures between +5 °C to +45 °C {41 °F to 113 °F}. Failure to do so may damage the internal parts or cause malfunction.

* Performance and lifetime of hard disk drives are easily affected by heat (used at high temperature). It is recommended to use this product at a temperature of approx. +25 °C {77 °F}.

To cut the power supply

This product has no power switch. To cut the power supply, unplug the power plug of the product from the AC outlet. If it is hard to unplug the power cord due to the installation conditions, connect the power cord of the product to the AC outlet via the circuit breaker of a distribution board or to the AC inlet socket of a power supply control unit.

Built-in backup battery

• Before the first use, charge the built-in backup battery (lithium battery) by turning on the power for 48 hours or more. If it is not charged enough, in a case where the power goes down, the operative condition may be different to that before the electric power failure. For example, the internal clock may keep bad time or logs may be lost.

• The built-in battery life is around 5 years as an indication of replacement. (The built-in battery life may become shorter depending on the use condition.) Replace the built-in battery after 5 years of use. ("5 years of use" is just an indication of replacement. We are not providing any guarantee of the built-in battery lifetime.) When the built-in battery life runs out, some settings such as the date & time setting will not be saved once the power is turned off.

• Ask your dealer when replacement of the battery is required.

Hard disk drive (HDD)

• Hard disk drives are vulnerable to vibration. Handle them with care. It is possible to damage them if they are moved while their motors are still running.

• Do not move or install this product just after turning the power on or off (for around 30 seconds.) The hard disk drives are running.

• The lifetime of hard disk drives is limited by use. Write errors may occur frequently after around 20 000 hours of operation, and the head and motor deterioration may occur after around 30 000 hours of operation. They will reach the end of their lifetime after 30 000 hours of operation if they have been used at the recommended ambient temperature (approx. +25 °C {77 °F}).

• To prevent data loss from disk crashes, it is recommended to keep the ambient operating temperature at approx. +25 °C {77 °F} and to replace them after around 18 000 hours of operation.

• When hard disk drive trouble occurs, replace it immediately. Contact your dealer about servicing.

About SDHC/SD memory card

• When using an unformatted SDHC/SD memory card, format it with this product. Recorded data on the SDHC/ SD memory card will be deleted when formatted. If an unformatted SDHC/SD memory card or an SDHC/SD memory card formatted with other devices is used, the product may not work properly or performance deterioration may be caused. Refer to the Operating Instructions (PDF) for how to format a SDHC/SD memory card.

• When some SDHC/SD memory cards are used with the product, the product may not work properly or performance deterioration may be caused. Use the SDHC/SD memory cards recommended in page 97.

• Refer to page 19 for how to insert/remove a SDHC/SD memory card.

Prevent condensation from forming

If this happens, it can cause malfunction.
Leave it switched off for around 2 hours in the following cases.

• When this product is placed in an extremely humid place.

• When this product is placed in a room where a heater has just been turned on.

• When this product is moved from an air-conditioned room to a humid and high-temperature room.

About the monitor

When displaying the same image on the monitor for a long time, the monitor may be damaged.

When this product is not supposed to be used for a certain period

Turn on the power (around once a week), and perform recording/playback to prevent interferences with functions.

Cleaning

Turn the power off, and then use a soft cloth to clean this product.

Do not use strong or abrasive detergents when cleaning the body.

When using a chemical cloth for cleaning, read the caution provided with the chemical cloth product.

Indication label

Refer to the indication label placed on the surface of this product for the equipment classification and power source, etc.

MPEG-4 Visual Patent Portfolio License

This product is licensed under the MPEG-4 Visual Patent Portfolio License for the personal and non-commercial use of a consumer for (i) encoding video in compliance with the MPEG-4 Visual Standard ("MPEG-4 Video") and/or (ii) decoding MPEG-4 Video that was encoded by a consumer engaged in a personal and non-commercial activity and/or was obtained from a video provider licensed by MPEG LA to provide MPEG-4 Video. No license is granted or shall be implied for any other use. Additional information including that relating to promotional, internal and commercial uses and licensing may be obtained from MPEG LA, LLC. See http://www.mpegla.com.

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Handle this product with care

Do not strike or shake, as this may damage this product.

Do not strike or give a strong shock to this product

It may cause damage or allow water to enter this product.

About reboot of this product

In the following cases, this product will automatically reboot to continue recording.

- When an HDD is removed in a different way from the description of "Installation or replacement of the hard disk drives" (☞ page 29).
- When the software of this product has detected the internal error and reboot becomes necessary.

About DVD disks (DVD-drive-equipped models only)

- It is impossible to use commercially released or rental DVD disks. When the data were copied from this product, it is impossible to play back DVD disks on other DVD drives or players.
- Do not leave the disk tray open.
- Do not mount anything other than specified disks on the disk tray.
- Do not open the disk tray forcibly.
- Keep this product away from magnets or magnetized items. Otherwise, performance may be unstable due to magnetism.
- Do not use the product near the radio or television. Otherwise, the product may interrupt the reception.

Cleaning and handling DVD disks (DVD-drive-equipped models only)

- After a long period of use, the drive or disks may be dusty, and data may not be copied properly. It is recommended to clean the product periodically using the exclusive cleaning kit (option). (The recommended cleaning frequency may differ depending on number of times or environment of use.)
  Blu-ray / DVD disk cleaner: RP-CL750
  Blow dust away from the lens using the blower
- Wipe away the sebum or dust gently with a dry soft cloth when the recording surface of a disk becomes dirty. (Wipe the disk from the center to the margin.)When the dirt is hard to remove, wipe the product gently with a soft cloth wet with water. Wipe out the water completely using a soft cloth.
- Do not use solvents such as alcohol or thinner. These materials may damage the surface of disks.
- When using a chemical cloth for cleaning, read the caution provided with the chemical cloth product.
- When the dirt is hard to remove from the disk tray of this product, clean the tray as well as disks. When cleaning the disk tray, turn off the power of the product, and wipe with a dry soft cloth. When using a chemical cloth for cleaning, read the caution provided with the chemical cloth product.
- When picking up a disk to insert into or eject from this product, do not touch the recording surface (the side with no printing).
- Do not put adhesive papers, labels or stickers, or do not write anything with a pencil or ballpoint pen, etc. on the surface of disks.
- Not handling this product and disks properly may cause troubles such as failure in data copy, loss of written data or damage to the disk drive, etc.

Precautions for installation

This product is designed to be used indoors.

Panasonic 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 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. In addition, clear a space of approx. 5 cm {2 inches} from the both sides, the top, the bottom and the rear.

More than 5 cm {2 inches}

More than 5 cm {2 inches}

More than 5 cm {2 inches}
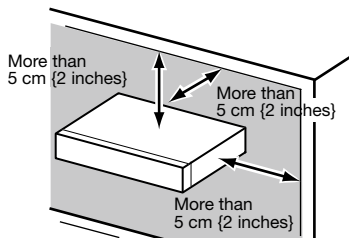
Heat dissipation
To prevent this product from overheating, heed the following. Failure to observe this may cause fire or trouble.
- Do not block the ventilation openings. Maintain the product periodically to prevent dust from blocking openings.
- The lifetime of the cooling fan is limited by use. It is recommended to replace them after around 30 000 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 openings on the front side since this product is designed to cool the hard disk drives by inhaling air from the front.
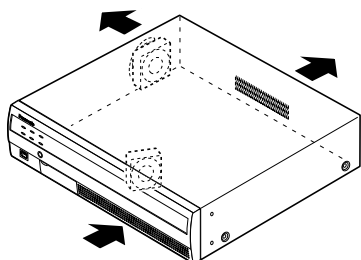
Avoid placing this product near noise sources
If the cables are placed near noise sources such as fluorescent lamps, noises may be produced. In this case, rewire avoiding the noise sources, or move the product to a place far from the source.

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 the recorder.
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)
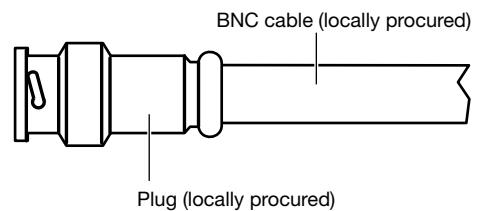
Tip dimensions inside the recommended BNC plug

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

ø0.13 mm - ø0.69 mm
{ø0.005 inches - ø0.027 inches}
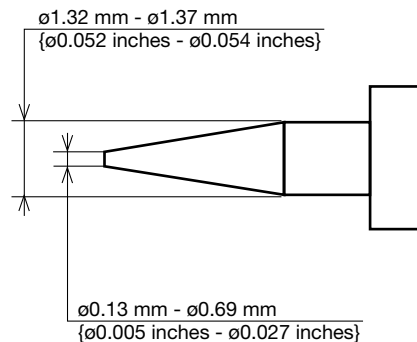
Important:
- A compatible plug shall be used. Failure to observe this may cause trouble such as poor contact. At worst, the connector of this product may be damaged.

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.

17

Major operating controls and their functions

Front view

① Status indicators

② Buzzer stop button

③ DVD drive (commercially available, only for WJ-NV200VK)

Panasonic

ERROR HDD REC
OPERATE ALARM

BUZZER STOP

Network Disk Recorder WJ-NV200V

MOUSE

RESTART

⑥ SDHC/SD memory card slot

(This illustration represents WJ-NV200VK.)

⑤ Restart button

④ Mouse connection port
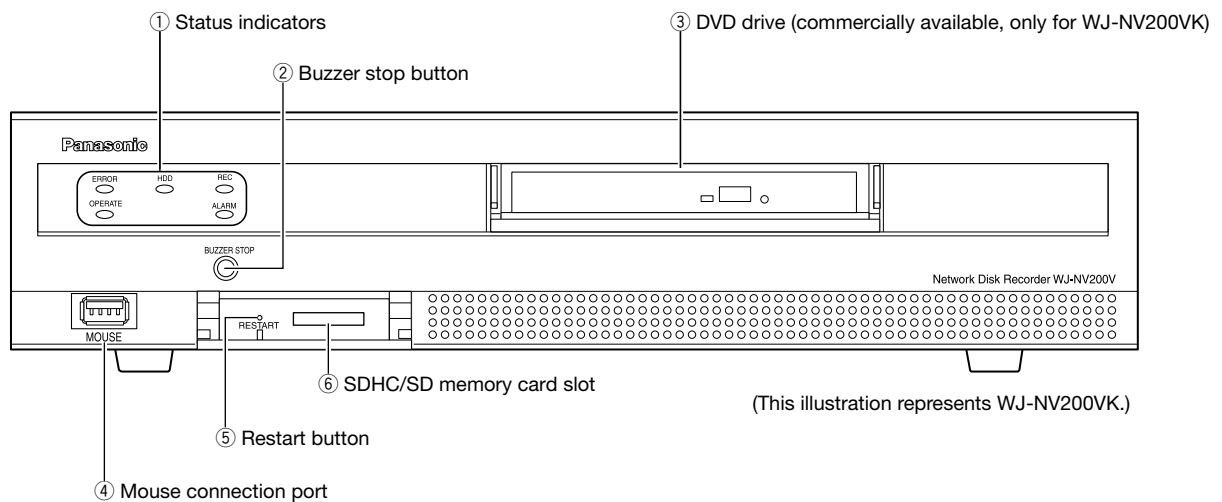
* It is impossible to connect a mouse to the mouse connection port if the connector from the mouse is upside down. When it is hard to connect, check the upside down position of the connector from the mouse.

① **Status indicators**
ERROR: Blinks when an error that can become a problem for the recorder to run the system occurs.
Blinks red: System error
Blinks orange: Thermal error, cooling fan malfunction, etc.
OPERATE: Lights when the power is on.
HDD [HDD1]/[HDD2]: Indicates the operational status (access/failure) of the respective hard disk drive.
Blinks green: Indicates that the respective hard disk drive is being accessed.
Lights red: Indicates that a fault (or an error) has occurred on a hard disk drive.
Off: Indicates that the respective hard disk drive is not being accessed.
REC: Lights orange when recording is being performed.
ALARM: Blinks when an alarm occurs, and lights when the alarm output stops. This indicator will go off when the [Reset] button (☞ Operating Instructions (PDF)) is clicked.

② **Buzzer stop button [BUZZER STOP]**
Press this button to stop the buzzer that started sounding at an alarm/error occurrence. Refer to the operating instructions (PDF) for further information about alarms and errors.

③ **DVD drive**
Recorded images can be saved on a DVD disc (commercially available). (☞ Page 19)

④ **Mouse connection port [MOUSE]**
The provided mouse is connected to this port.

⑤ **Restart button [RESTART]**
Press this button to reboot the recorder. When pressing this button, use a sharp object such as a clip.

⑥ **SDHC/SD memory card slot**
Recorded images can be saved on an optional SD memory card. (☞ Page 19)

Insert an SD memory card (option)

Step 1

Open the SDHC/SD memory card slot cover.

Pull the tab down.

SDHC/SD memory card slot cover
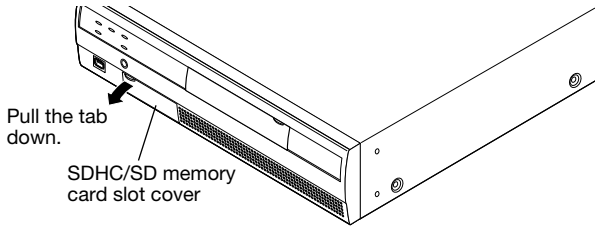
Step 2

Insert a SD memory card to the slot until it clicks. Hearing a click means that the card is properly inserted.

When inserting an SD memory card, confirm that the label on the SD memory card is upside and only the upper right corner of the card has different shape.
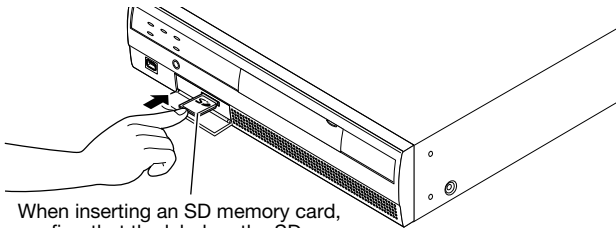
Step 3

Close the SDHC/SD memory card slot cover.

Note:
- When removing the SD memory card from the slot, push the card until it clicks and pull it out straight.
- When pulling out the SD memory card, hold both edges with your fingers.
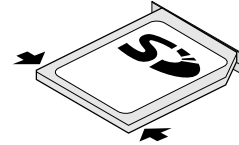
- The SDHC/SD memory card slot cover is designed to come off when an excessive force is applied. In this case, attach the slot cover to the original position.

Insert a DVD disc (commercially available, only for WJ-NV200VK)

Step 1

Open the DVD drive cover.

DVD drive cover

Pull the tab down.
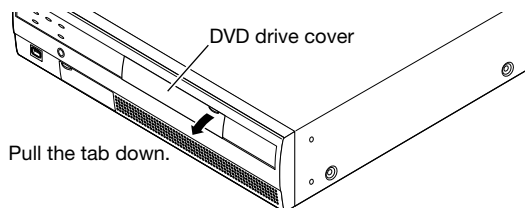
Step 2

After confirming that the power of the recorder is on, press the eject button located at the center of the DVD drive and pull the disc tray gently.
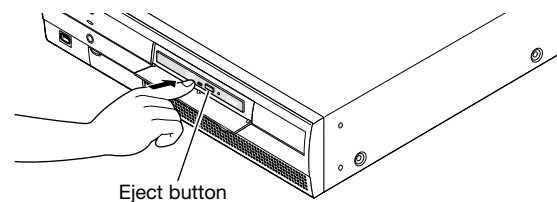
Eject button

Note:
- After copying the recorded data on a disc, perform finalization (the procedure to eject the DVD) to enable playback on a PC. (☞ Operating Instructions (PDF))
  If the disc is not finalized, the tray may not open even after the eject button is pressed.

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Step 3

Place a disc with the label side up and fit the hole of the disc to the center (spindle) of the tray. Then, push the tray gently. Click sound will be heard and the disc will fit in the tray.

Spindle
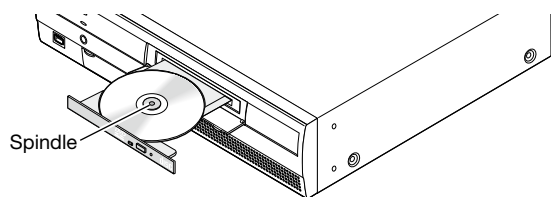
Step 4

Push the tray to the end. Click sound will be heard and the tray will be fixed.

Step 5

Close the DVD drive cover.

Important:
- When opening/closing the DVD drive tray, do not apply force on the tray.
- When not using the DVD drive, close the disc tray.
- When removing the disc from the tray, hold the spindle to detach the disc. If trying to detach the disc forcibly, it can damage both the disc and the DVD drive.

Rear view

⑥ Power cord inlet

⑬ SIGNAL GND terminal

⑫ HDD slots

Link indicator
Access indicator

⑦ Alarm/control connector (D-sub 25-pin)

⑧ Network port

⑨ Spot output connector (BNC)

⑩ Audio output connector (RCA pin jack)

⑪ Monitor output connector (HDMI)
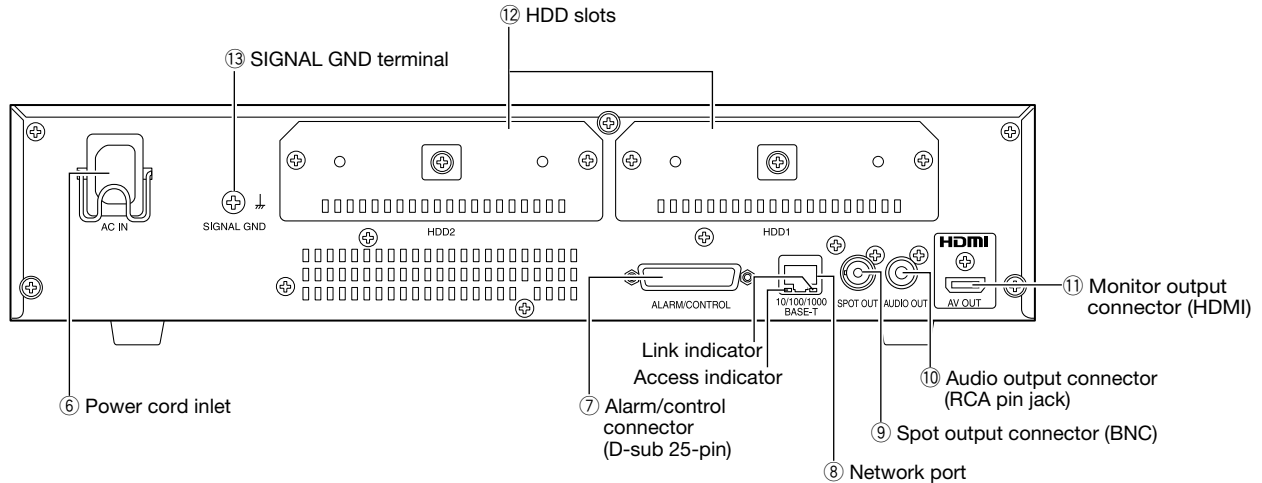
⑥ **Power cord inlet [AC IN]**
Connect the provided power cord to this inlet.

⑦ **Alarm/control connector [ALARM/CONTROL] (D-sub 25-pin)**
Connect a control switch to control the recorder using an external device such as a sensor or a door switch or an external alarm device such as a buzzer or a lamp.

⑧ **Network port [10/100/1000BASE-T]**
Use this port to connect the recorder to a network compatible with 10BASE-T, 100BASE-TX or 1000BASE-T to connect with a camera via a network. When the port is being accessed, the access indicator (green) blinks. When the port is being linked, the link indicator (orange) lights.

⑨ **Spot output connector (BNC) [SPOT OUT]**
Connect the live monitor. Camera images are output to be displayed on a 1-screen.

⑩ **Audio output connector (RCA pin jack) [AUDIO OUT]**
Audio from live images or recorded images is output. Connect such device as a powered speaker.

⑪ **Monitor output connector (HDMI) [AV OUT]**
This connector is used to connect to an HDMI-ready monitor (the main monitor).

⑫ **HDD slots [HDD1/HDD2]**
Hard disk drives (locally procured) can be installed into these slots. Contact your dealer for installing/replacing the hard disk drives.

⑬ **SIGNAL GND terminal [SIGNAL GND]**
Connect this terminal with the SIGNAL GND terminals of the devices in the system for signal ground. When operating the recorder and the devices in the system without signal ground, oscillation or noise may be produced.

How to use the power cord plug brace

Put the hooks of the power cord plug brace on the power cord inlet to fix the power cord plug.

Power cord plug brace
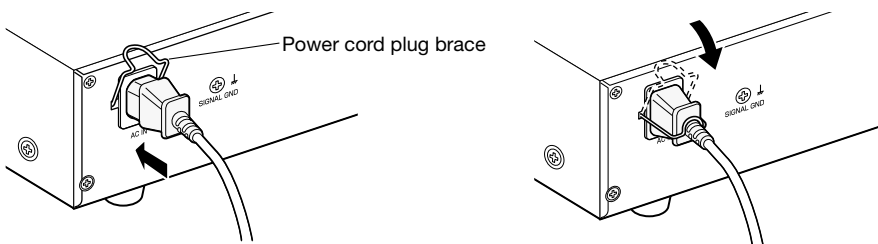
User/Host management

It is necessary to register users who operate the recorder and hosts (PC) that accesses the recorder via a network such as a LAN. Up to 16 users can be registered.
It is possible to register the following for the user information.

Item	Description
User name	User name is to be registered to log in to the recorder. The user name will be entered at the time of login.
Password	Password is to be registered to log in to the recorder together with the user name. The password will be entered at the time of login.
Level	Users are classified into the following levels depending on the available operations. Administrator/ Manager/ Operator/ Viewer/ Logged out The administrators can perform all the configurations and operations. It is possible to select in advance the functions that can be controlled by users at other levels. (☞ Page 71)
Priority level	Priority level indicates the operational priority. Users at each level are assigned the fixed priorities ranging from "0" (Highest) to "4" (Low). Administrator 0 Highest Manager 1 High Operator 2 Viewer 3 Logged out 4 Low When the two or more users at the same level perform the same operation, the recorder will be controlled in accordance with the latest operation.
Default screen	Select a startup screen to be displayed on the main monitor or a PC screen after login from the following.

When operating from a PC via a network

Operation of the recorder can be made using a PC via a network. Up to two hosts (PCs) can access the recorder at the same time. When another host (PC) tries to log in to the recorder after two hosts (PCs) have already logged in, the user with the lowest priority will be logged out. When the user who is trying to log in has the same priority as the users who have already logged in, the user whose login is the earlier is logged out.

When accessing the recorder from a PC via a network, the authentication method is different depending on the "User authentication" settings of the "Basic" tab under "User management". (☞ Page 71)

User authentication setting	User/Host to log in	Remarks
Off	Log in as an administrator.	
On	Log in as a registered user.	The login window will be displayed.

Operations flow

1 Obtain the license (Registration Key)
☞ **Activation Key Card**

⬇

2 Connection
☞ **Page 24**

⬇

3 Turn on the recorder
☞ **Page 32**

⬇

4 Register the license (Registration Key)
☞ **Page 34**

⬇

5 Quick setup
☞ **Page 39**

⬇

6 Basic setup and
Advanced setup
☞ **Pages 42-79**

⬇

Start operations
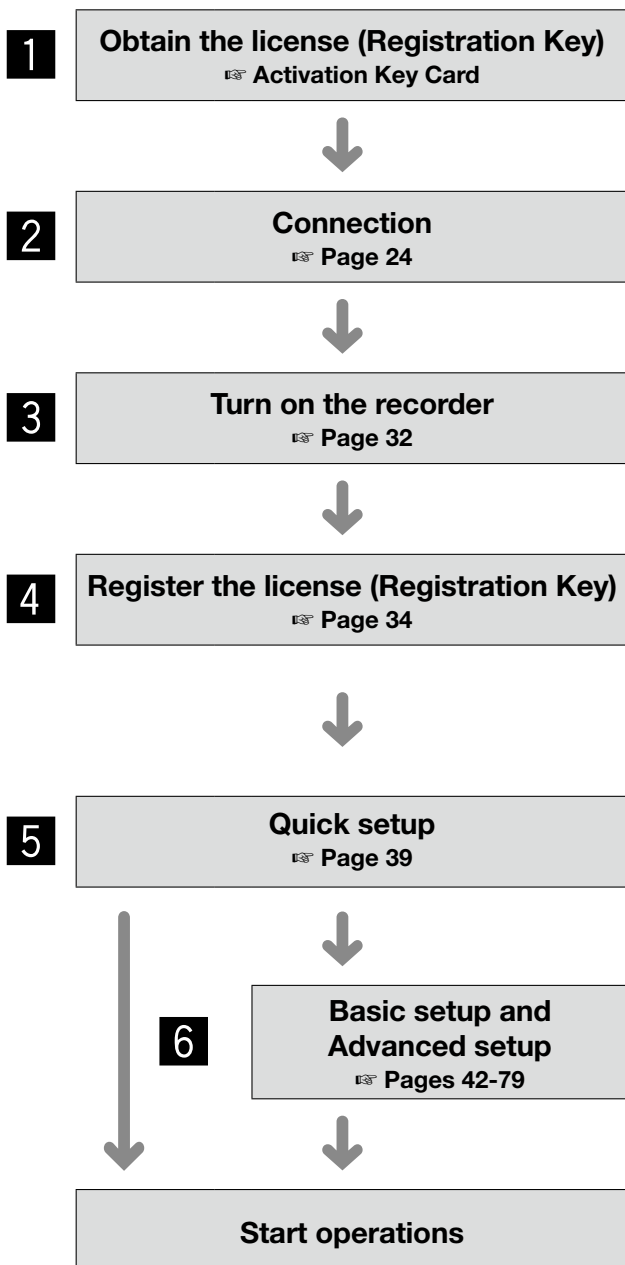
1 Obtain the "Registration Key" of the recorder by following the instructions on the provided Activation Key Card.

2 Install hard disk drives in the recorder (☞ page 29) and connect the recorder to each device.

3 Turn on the power of the recorder.

4 If necessary, register the "Registration Key" for the recorder and that for the Additional Business Intelligence Kit.

Important:
• Be sure to register the "Registration Key" of the recorder.

5 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. After cameras are added or replaced, register the cameras on "Easy Start".

6 If necessary, perform the detailed settings for each function.

Note:
• 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.

Connection

Connection of cameras

Up to 16 cameras can be connected to the recorder via a switching hub.
Use a LAN cable (straight) to connect the recorder and the switching hub.

Recorder

LAN cable (locally procured)
10BASE-T/100BASE-X/1000BASE-T:
category 5e or better (straight) for
WJ-NV200K, WJ-NV200VK category 7
(straight) for WJ-NV200K/G

Switching hub

Network camera (x 16 max.)
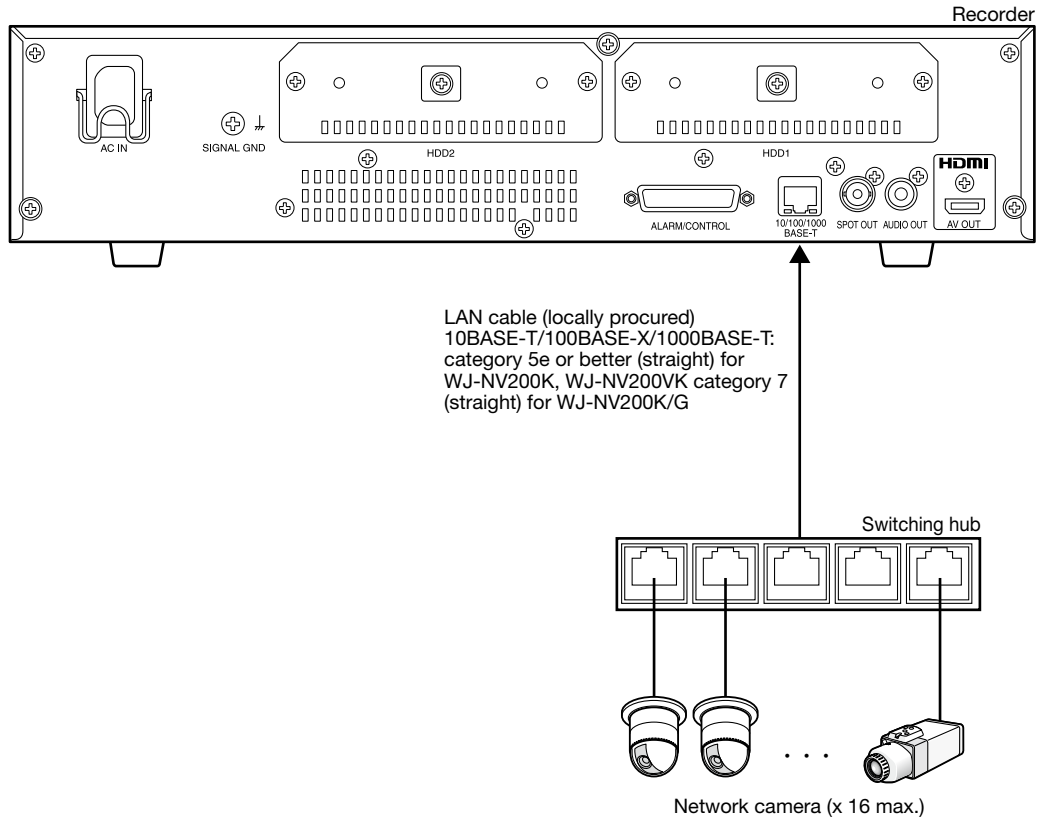
Connection of monitors

Connect the main monitor that displays recorded images or the setup menu to the monitor output connector (HDMI) using an HDMI cable (option).
Connect the live monitor to the spot output connector (BNC) using a BNC cable (locally procured).

Main monitor

Live monitor

* When outputting audio
Connect a powered speaker.

Powered speaker

Audio cable (locally procured)

HDMI cable (option)

BNC cable (locally procured)

Recorder

AC IN

SIGNAL GND

HDD2

HDD1

ALARM/CONTROL

10/100/1000 BASE-T

SPOT OUT   AUDIO OUT   AV OUT
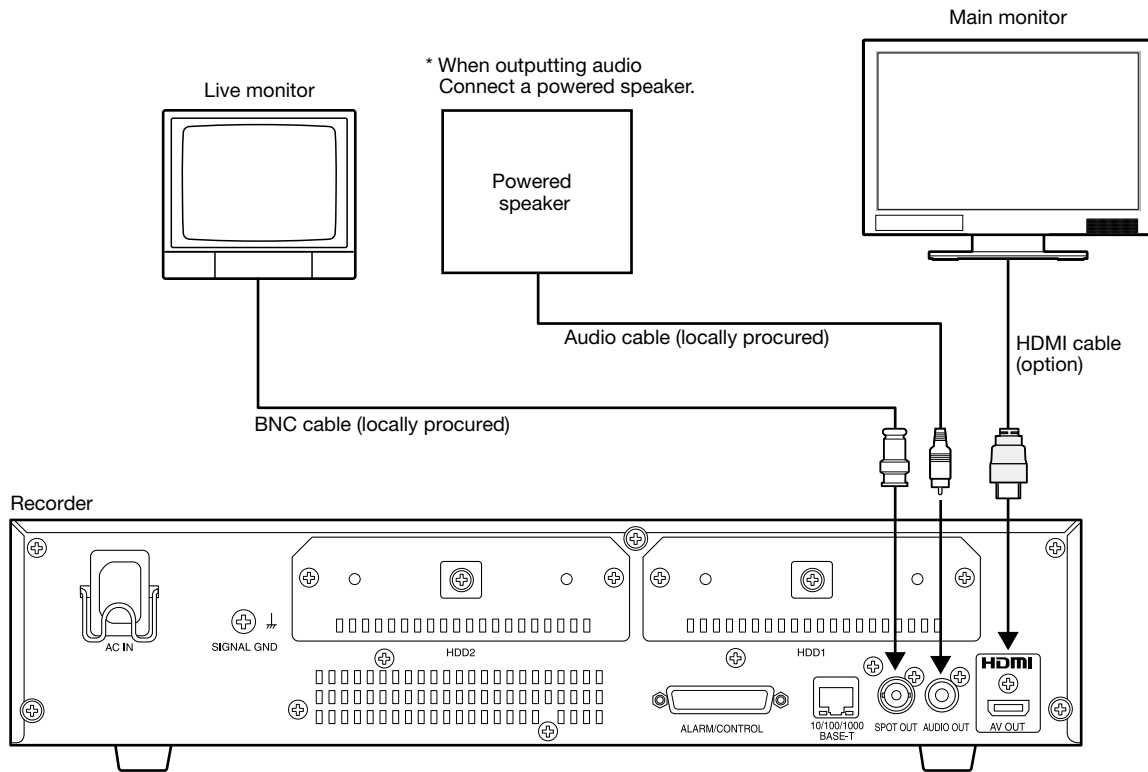
HDMI

Note:

- Use "High Speed HDMI® Cable".
- To maintain the stable performance without deteriorating the image quality, use an HDMI cable whose length is 10 m {32.81 feet} or less.
- When an HDMI cable is used, it is possible to output audio from the connected monitor.

Connection of a PC

Connect this recorder and a PC via a switching hub.

Recorder

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

LAN cable (locally procured)
10BASE-T/ 100BASE-TX/1000BASE-T:
category 5e or better (straight) for
WJ-NV200K, WJ-NV200VK category 7
(straight) for WJ-NV200K/G

PC

IP address: 192.168.0.x
(except 0, 1, 250 and 255)
Subnet mask: 255.255.255.0
Default gateway: 192.168.0.1

Network

Switching hub

IP address: 192.168.0.1
Subnet mask: 255.255.255.0

About the connector

How to use the terminals of the ALARM/CONTROL connector

This connector 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. The connector to be used should be compatible with the pin array.

Pin array

The pin array is different from other Panasonic recorders. Make sure that the connection is correct referring to the following.
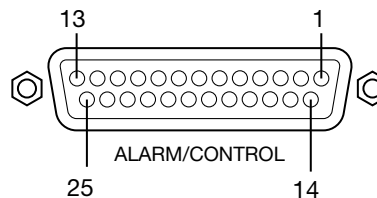
Pin No.	Signal	Operation	Remarks
1	Alarm input 1	Event action will be performed according to the settings.	Non-voltage make contact, 5 V pull-up/−100 mA
2	Alarm input 2		
3	Alarm input 3		
4	Alarm input 4		
5	Alarm input 5		
6	Alarm input 6		
7	Alarm input 7		
8	Alarm input 8		
9	Alarm input 9		
10	Network error output	Signal output upon detection of a broken Ethernet link	Open collector output, 24 V DC max., −100 mA
11	Alarm reset input	Canceling the alarm display	Non-voltage make contact, 5 V pull-up/−100 mA
12	N/A		
13	Signal ground		
14	Signal ground		
15	Face matching output	Signal output at the occurrence of a face matching alarm	Open collector output, 24 V DC max., −100 mA
16	HDD error output	Signal output upon detection of an HDD error	
17	Camera error output	Signal output upon detection of a camera error	
18	Recorder error output	Signal output upon detection of a recorder error	
19	Recording error output	Signal output upon detection of a recording error	
20	Time adjustment signal input	According to the signal input from the other device, the time of this recorder will be adjusted to the hour (00 minutes 00 seconds).	Non-voltage make contact, 5 V pull-up/−100 mA
21	Alarm output	Alarm signal will be supplied at an event occurrence (Except for a face matching alarm)	Open collector output, 24 V DC max., −100 mA
22	N/A		
23	N/A		
24	N/A		
25	+5 V output	+5 V output	200 mA max.

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Connection for the auto time adjustment function

When a signal output from the other device is supplied to the time adjustment signal input (pin no. 20) 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
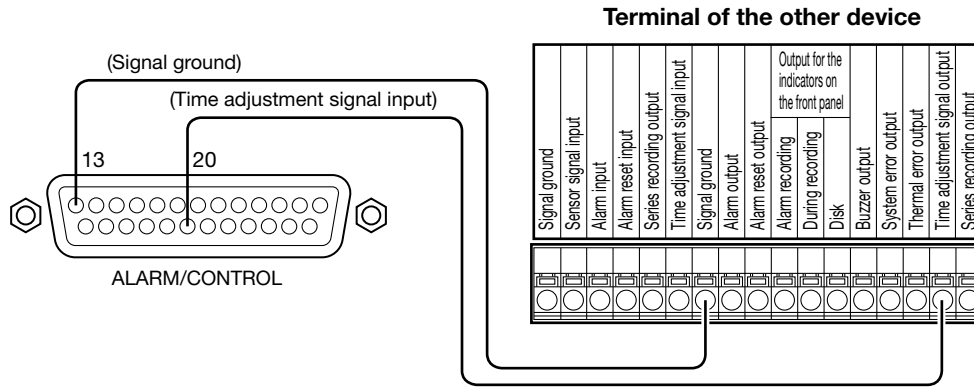
Note:
- When adjusting the time using the time adjustment signal input, select "On" for "Auto time adjustment". (☞ Page 43)

Connection of the control output

When an alarm device such as a buzzer or a lamp is connected, the signal output from pin no. 10 and pin nos. 15 - 19 can be used to notify the status by sounding a buzzer or lighting a lamp.

The connection example of the HDD error output (pin no. 16) is as follows.
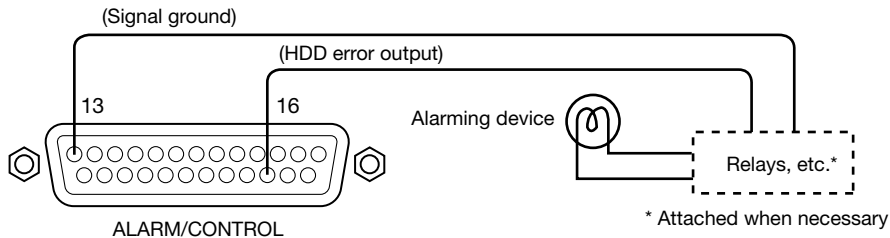
Alarm connection

When a signal output from the other device is supplied to the Alarm input 1 to 9 terminals (pin nos. 1 - 9), 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. 21).
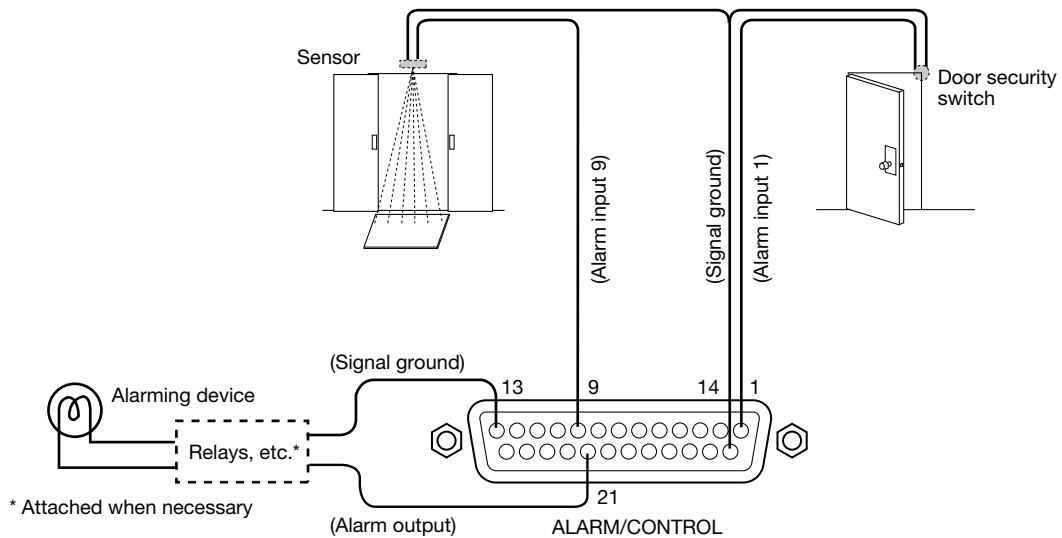
Time and polarities of the ALARM/CONTROL connector

Terminal	Activation time	Remarks
Alarm input	100 ms or more	N.O.: L active
		N.C.: H active
Network error output	At an error occurrence until the period selected for "Error output duration" has passed*	L active
Alarm reset input	100 ms or more	L active
Face matching output	The set time on the setup menu	L active
HDD 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
Recorder error output	At an error occurrence until the period selected for "Error output duration" has passed*	L active
Recording error output	At an error occurrence until the period selected for "Error output duration" has passed*	L active
Time adjustment signal input	Input: 100 ms or more	L active
Alarm output	The set time on the setup menu	L active

* The error output duration is configured on the "Advanced setup" menu - the "Maintenance" page of the setup menu.
 (☞ Page 74)

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.

Installation or replacement of the hard disk drives

Before installing the hard disk drives, turn off the power of this recorder first. When replacing the hard disk drives, the procedures will be same as those of installation. When installing or replacing the hard disk drives for playback use only (hard disk drives that are formerly used for recording), perform the link process.

Important:
- When securing the hard disk drives to the HDD brackets, do not mistake the direction of the connectors. (Do not install the hard disk drives in the opposite direction.)
- When installing hard disk drives, use a low-torque powered screwdriver or a torque screwdriver to tighten screws with the specified torque.
- Hard disk drives are precise devices. Handle with care while keeping the following in mind.
    - Do not subject the hard disk drive to any vibration or impact.
    - Before touching the hard disk drive, eliminate static electricity by touching a steel locker, etc. When holding the hard disk drive, hold the both sides of the hard disk drive.
    - Do not touch the circuit board or the connectors to prevent the hard disk drive from damaging by static electricity.
- Contact your dealer for hard disk drives that works on the recorder. Please be forewarned that operation with any hard disk drive other than the specified models is not guaranteed under any circumstances.
- When using multiple hard disk drives, use the same model.
  If different models are used together, even when the capacities of them are the same, the available capacity may be a few percent smaller.

Note:
- Hard disk drives are locally procured. Contact your dealer for purchasing, installing, and replacing the hard disk drives.

Install the hard disk drives

Step 1

Turn off the power of the recorder. (☞ Page 33)

Step 2

Remove the HDD bracket screws (x2) on the HDD slots on the rear panel of the recorder, and pull out the HDD bracket.

HDD bracket screw

Note:
- WJ-NV200VK is equipped with only an HDD slot.
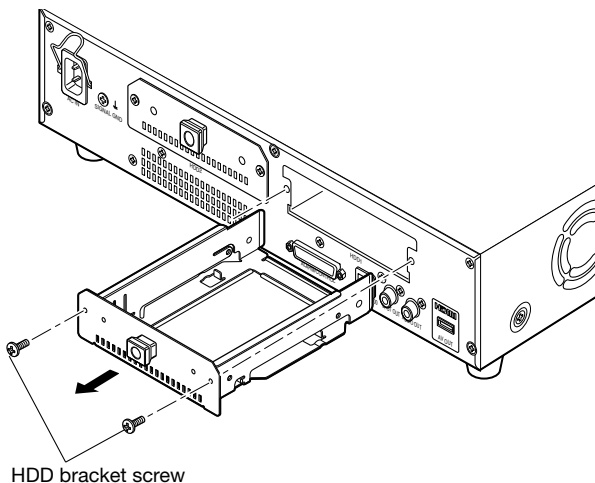
Step 3

Install the hard disk drive into the HDD bracket using 4 HDD fixing screws (accessories).
Tightening torque for the screws: 0.49 N·m {0.36 lbf·ft}

HDD fixing screw (accessory)

HDD fixing screw (accessory)

Step 4

Insert the HDD bracket with the hard disk drive all the way into the HDD slot, and secure the HDD bracket with the screws removed in Step 2.

HDD bracket screw
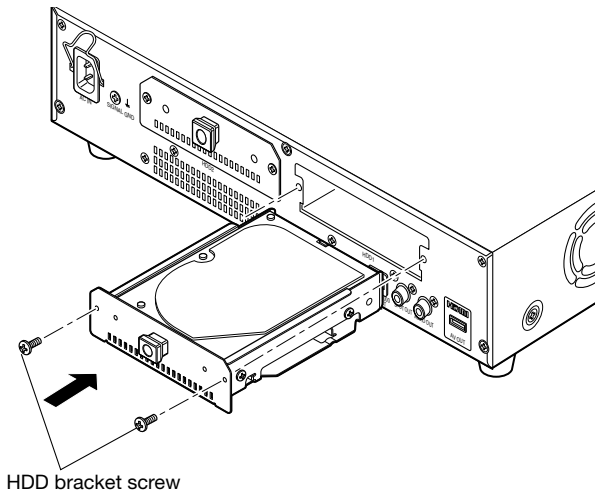
Step 5

Turn on the power of the recorder. (☞ Page 32)
→ New hard disk drive will be formatted automatically. When the formatting is completed, the hard disk drive will become operable.
When the hard disk drive is formerly used for recording, perform the link process (☞ page 81) on the "HDD management" page.
The status of hard disk drive can be checked on the setup menu - the "Maintenance" page - the "HDD information" tab. (☞ Page 75)

Replace the hard disk drives

When replacing a hard disk drive with another one, it is necessary to perform the removal process. In this case, do the following.

Step 1

Perform the removal process of the hard disk drive. (☞ Page 81)

Step 2

Turn off the power of the recorder. (☞ Page 33)

Step 3

Pull out the HDD bracket from the rear panel of the recorder by referring to Step 2 of "Install the hard disk drives" (☞ page 30).

Step 4

Install the hard disk drive into the HDD bracket by referring to Step 3 of "Install the hard disk drives" (☞ page 30).

Step 5

Insert the HDD bracket with the hard disk drive into the HDD slot by referring to Step 4 of "Install the hard disk drives" (☞ page 31).

Step 6

Turn on the power of the recorder. (☞ Page 32)
→ New hard disk drive will be formatted automatically. When the formatting is completed, the hard disk drive will become operable.
When the hard disk drive is formerly used for recording, perform the link process (☞ page 81) on the "HDD management" page.
The status of hard disk drive can be checked on the setup menu - the "Maintenance" page - the "HDD information" tab. (☞ Page 75)

Turn on the recorder

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 34)

Step 1

Connect the provided power cord to the power cord inlet on the rear panel of the recorder, and insert the power plug to an outlet. Be sure to use the following power source.
WJ-NV200K, WJ-NV200VK: 120 V AC, 60 Hz
WJ-NV200K/G: 220 V - 240 V AC, 50 Hz/60 Hz
→ The [OPERATE] indicator will light, the system check of the recorder and the hard disk drives will start, and the startup window will be displayed on the main monitor.

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

Note:
• If the license for the recorder has not been registered yet, the message asking you to register the "Registration Key" will be displayed.

Step 2

If the "Registration Key" for the recorder has not been registered yet, register the "Registration Key" by following the procedures on page 34.

Note:
• When the "Login" window is displayed during operation after startup, enter the user name and password. Refer to the Operating Instructions (PDF) for descriptions of how to operate.
• 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.

Turn off the power of the recorder

Turn off the power of the recorder. When turning off the power, follow the procedure "During recording" or the procedure "During playback" depending on the current operation status.

During recording

Step 1

Select "Off" for "Recording mode" on the "REC & event" page - [Advanced setup] tab of the setup menu to stop all recordings. (☞ Page 61)

Step 2

Unplug the power plug from the outlet after confirming that the [HDD1] and [HDD2] indicators are off.
→ The [OPERATE] indicator will go off.

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

During playback

Step 1

Stop playback.
(☞ Operating Instructions (PDF))

Step 2

Unplug the power plug from the outlet after confirming that the [HDD1] and [HDD2] indicators are off.
→ The [OPERATE] indicator will go off.

Important:
- Remove the plug from the outlet if not operating the recorder for a long period.
- Turn on the power (around once a week), and perform recording/playback to prevent interferences with functions.

Register the license (Registration Key)

When using this recorder for the first time, it is necessary to register the license (Registration Key) for the recorder.

Important:
- After registering the "Registration Key" for the recorder or adding the license for the Additional Business Intelligence Kit, be sure to click the [Restart] button to reboot the recorder. The license will not be effective before the recorder is rebooted.

Step 1

Obtain the "Registration Key" for the recorder by following the instructions on the provided "Activation Key Card". When using the extra functions, obtain the "Registration Key" for Additional Business Intelligence Kit WJ-NVF20 (option) or WJ-NVF20E (option).
Refer to the "Activation Key Card" for further information.

Step 2

Start the recorder. (☞ Page 32)
→ When the system check is complete, the operational screen will be displayed on the main monitor. If the license for the recorder has not been registered yet, the message asking you to register the license will be displayed.

Step 3

Click the [Setup] button.
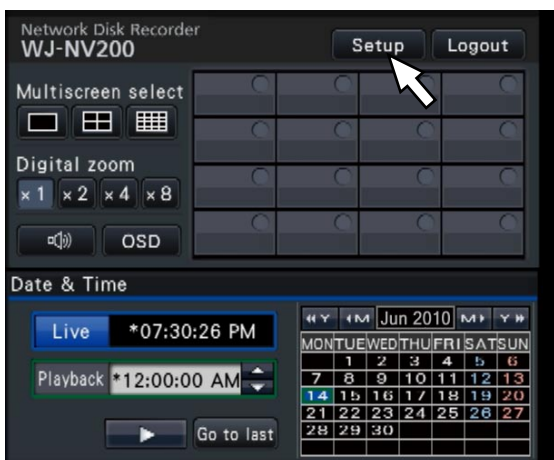
→ The setup menu will be displayed.
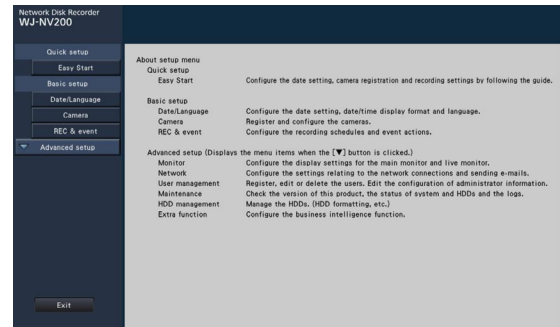
Step 4

Click [Advanced setup] → [Maintenance] → the [System management] tab on the setup menu.
→ The "System management" page will be displayed.
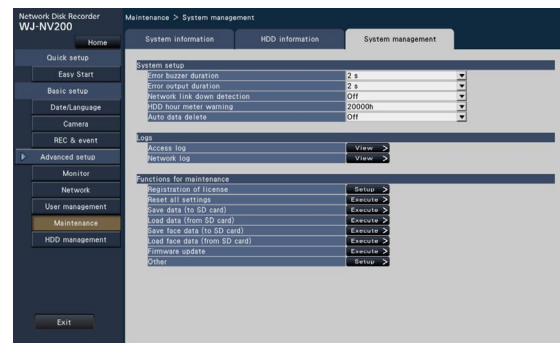
Step 5

Click the [Setup >] button of [Registration of license].
→ The registration window will be displayed.
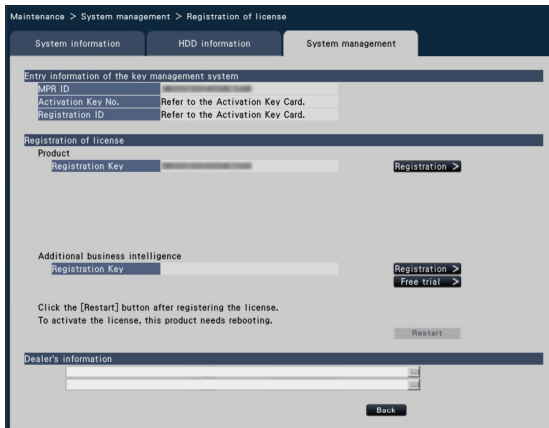
Step 6

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

Step 7

Enter the "Registration key" for the recorder in the "Registration key" field using the on-screen keyboard, and click the [Registration] button.
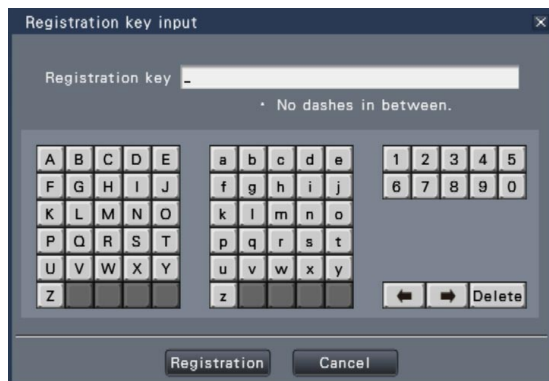
→ The "Registration key input" window will return to the registration window.

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

Step 8

When using the extra functions, enter the "Registration Key" for the Additional Business Intelligence Kit obtained in Step 1 on "Additional business intelligence" - "Registration Key" of the registration window in Step 5. The operations are the same as those of Step 6 and 7.

Note:
- Register the license for the recorder before registering that for the Additional Business Intelligence Kit. They cannot be registered in the reverse order.
- For the Additional Business Intelligence Kit, 3-month trial is available before purchasing the license. Refer to the operating instructions (PDF) of the Additional Business Intelligence Kit for further information.

Step 9

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

Basic operations

The recorder can be operated using the provided mouse connected to the mouse connection port on the front side of the recorder.
It is also possible to perform operations and some settings of the recorder from the web browser. Refer to the Operating Instructions (PDF) for further information about the operations from the web browser. In addition, refer to "List of the setting items (Setup menu)" (☞ page 83) for setup items that can be configured from the web browser and their further information.

Step 1

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

Step 2

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 when the mouse is moved.

Step 3

Click the [Setup] button.
→ The top screen of the setup menu will be displayed.
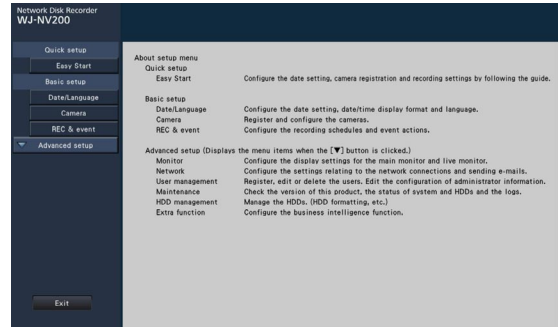
Note:
- If a setting window is in a list form and the [▼] button exists on the title column, it is possible to change all the settings in the same row at the same time.

Camera	Model	Compression	Basic setup			
			Image capture size ▼	Rate ▼	Quality ▼	Audio ▼
1	i-PRO2_HD	H.264	VGA(640x480) ▼	10 ips ▼	FQ ▼	Off ▼
2	i-PRO2_HD	H.264	VGA(640x480) ▼	10 ips ▼	FQ ▼	Off ▼
3	i-PRO2_HD	H.264	VGA(640x480) ▼	10 ips ▼	FQ ▼	Off ▼
4	i-PRO2_HD	H.264	VGA(640x480) ▼	10 ips ▼	FQ ▼	Off ▼
5	i-PRO2_HD	H.264	VGA(640x480) ▼	10 ips ▼	FQ ▼	Off ▼
6	i-PRO2_HD	H.264	VGA(640x480) ▼	10 ips ▼	FQ ▼	Off ▼
7	i-PRO2_HD	H.264	VGA(640x480) ▼	10 ips ▼	FQ ▼	Off ▼
8	i-PRO2_HD	H.264	VGA(640x480) ▼	10 ips ▼	FQ ▼	Off ▼

About the operation of on-screen keyboard

Setting items can be entered using the on-screen keyboard. 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.

Entry field

Language selection pull-down menu
Click the [▼] button to select the language for character entry.
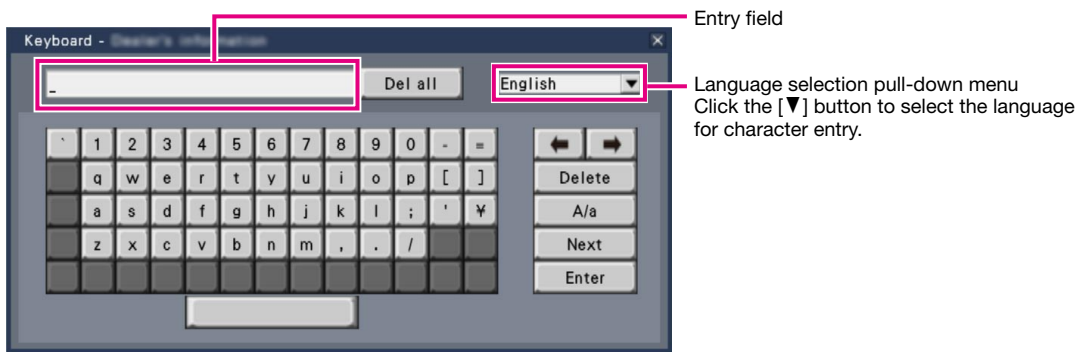
[Del all] button
Deletes all the characters in the entry field.

[←]/[→] buttons
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.
- Depending on the windows for character entry such as the camera title, capital letters may be displayed on the on-screen keyboard instead of small letters.

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 36) 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.
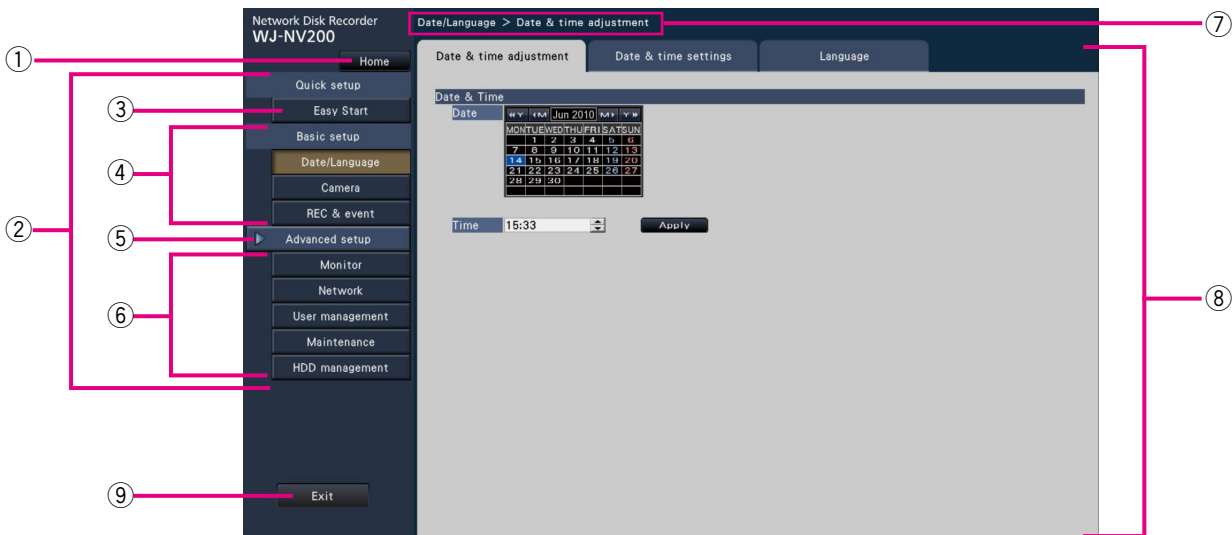
① **[Home] button**
It is possible to return to the top screen (☞ page 36) of the setup menu from any setup page.

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.

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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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
- Order change of the registered camera numbers
  * Other settings will remain default or will be conformed to the camera settings.
- Camera registration
- Recording frame rate and image quality

Step 1

Click the [Easy Start] button on the top screen of the setup menu.
Refer to "Basic operations" (☞ page 36) for how to display the setup menu.
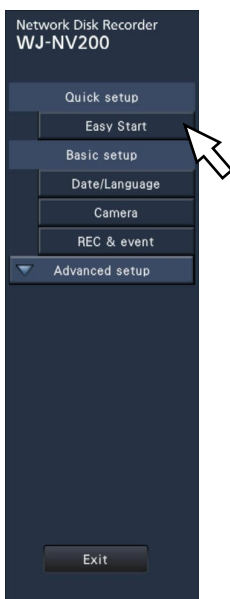
→ The setup menu for the date & time will be displayed.

Step 2

Set the date & time.

[Date]

Set the current date. Select the year, 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.

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-5:00(WJ-NV200K, WJ-NV200VK)
                GMT(WJ-NV200K/G)
Marking the checkbox for [Activate the Daylight saving time] will active daylight saving time.

Step 4

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

Step 5

Register the cameras connected to the recorder.
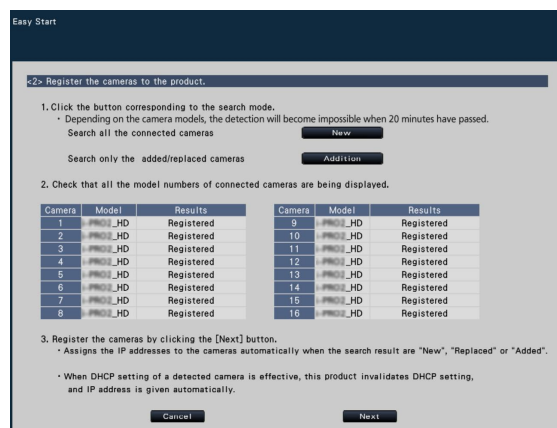
Note:
- To use the existing IP address of the connected cameras, refer to "Detect cameras for registration [Detect cameras]" (☞ page 46) instead of this section.

Note:
- Before the settings, register the cameras into the network.

[New] button
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
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:
- The system will assign new IP addresses to all the connected cameras (including currently-operated cameras) by clicking [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.

[Camera]
Up to 16 cameras can be connected.

[Model]
When Panasonic network 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.

Step 6
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:
- On "Easy Start", it is impossible to register the cameras in other subnets via the same router.
- For the security enhancement, camera detection will become impossible when 20 minutes have passed after the power of the camera is turned on. That depends on the camera models. 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.
- 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 7
When you wish to change the registered camera numbers, it is possible to change the order of the camera numbers.
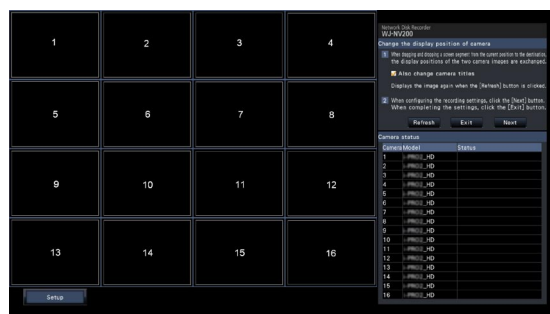
The registered cameras will be displayed in the order of 1, 2 ...16 at the upper left corner of the screen to the upper right corner of the screen.
Using the mouse, drag a desired camera image and drop the desired position. The order of the camera numbers will be changed.
To change the positions of the camera titles together with the order of the camera numbers, check "Also change camera titles".

[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. (☞ Page 45)

[Refresh] button
Obtains the latest image from the camera that has been replaced.

[Exit] button
Exits the setup menu and returns to the top screen of the setup menu.

[Next] button
Proceeds to the settings for recording.

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

[Frame rate]
Selects the frame rate for recording.
　　1 ips/ 3 ips/ 5 ips/ 10 ips/ 15 ips/ 30 ips
Default: 10 ips

[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

Note:
- If "XF" is selected when the compression method of the camera is not "H.264", "SF" will be set instead of "XF".

[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.
- When the HDD saving mode is set, the actual recording days are longer than the referenced recording days. (☞ Page 52)
- The HDD consumption for the event recording will be excluded.
- If a camera manufactured by other than Panasonic is used, the value of "Referenced recording days" will not be displayed.
- If two or more cameras with the image capture size of "FHD(1920x1080)", the image quality of "XF" and the frame rate of "10 ips" or more are connected, images may not be recorded at the configured rate.

Click the [Exit] button.
→ Saves the settings and returns to the top screen of the setup menu.

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Configure the basic settings [Basic setup]

The basic settings of the recorder such as date & time and recording mode, etc. can be configured on the "Basic setup" page. The "Basic setup" page provides access to the [Date/Language], [Camera] and [REC & event] pages.

Display the basic setup pages

Click the desired button on the setup menu.

[Date/Language] button: Displays the "Date/Language" page. Perform settings such as date & time and daylight saving time.
[Camera] button: Displays the "Camera" page. Perform registration and setup of network cameras.
[REC & event] button: Displays the "REC & event" page. Set up the recording schedules, cameras and the face matching function.

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

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

[Date & time adjustment] tab

Set the current date & time. Refer to "Configure the minimum settings [Easy Start]" (☞ page 39).

[Date & time settings] tab

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

■ Display format

Select a display format for the current date & time.

Note:
- "Date & time display" on the [Camera setup] tab (☞ page 49) corresponds to the display format settings on this tab.

[Date]
Select a date/time display format. (Example: April 1, 2010)
  yyyy/mm/dd: 2010/04/01
  Mmm/dd/yyyy: Apr/01/2010
  dd/Mmm/yyyy: 01/Apr/2010
  mm/dd/yyyy: 04/01/2010
  dd/mm/yyyy: 01/04/2010
Default: Mmm/dd/yyyy (WJ-NV200K, WJ-NV200VK)
    dd/mm/yyyy (WJ-NV200K/G)

[Time]
Select a time display format. (Example: 3 o'clock in the afternoon)
  24 h: 15:00:00
  12 h: 03:00:00 PM
Default: 12 h (WJ-NV200K, WJ-NV200VK)
    24 h (WJ-NV200K/G)

■ Time zone

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

[Set time zone]
Select your time zone.
  GMT-12:00 - GMT+13:00
Default: GMT-5:00 (WJ-NV200K, WJ-NV200VK)
    GMT (WJ-NV200K/G)

[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: No changeover to daylight saving time.
  Auto: Automatic changeover to daylight saving time according to the daylight saving time changeover settings.
Default: Auto

[Daylight saving time table]
Set the start (In)/end (Out) date & time of daylight saving time.
Clicking the [Setup >] button will open the "Daylight saving time table" window.
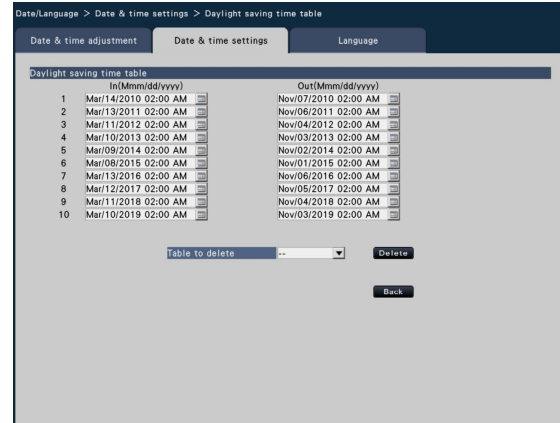
Enter the start (In) and end (Out) date & time for daylight saving time.
The calendar will be displayed by clicking the [🖼] icon.
Refer to the instructions "Configure the minimum settings" (☞ page 39) for how to perform the setting.
Up to 10 times and dates can be set for the changeover to daylight saving time.

To delete the set times and dates for switching to daylight saving time, select the number to be deleted from "Table to delete", and click the [Delete] button.
To return to the previous page, click the [Back] button.

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

[Auto time adjustment]
Select a method of auto clock adjustment from the following.
  Off: Does not adjust time automatically.
  On: Receives a signal from the ALARM/CONTROL connector on the rear panel of the recorder and adjusts the clock. When the signal is received and if the clock is within 29 minutes ± the hour, the time will be adjusted to 00 minutes 00 seconds.
Default: Off

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[Language] tab

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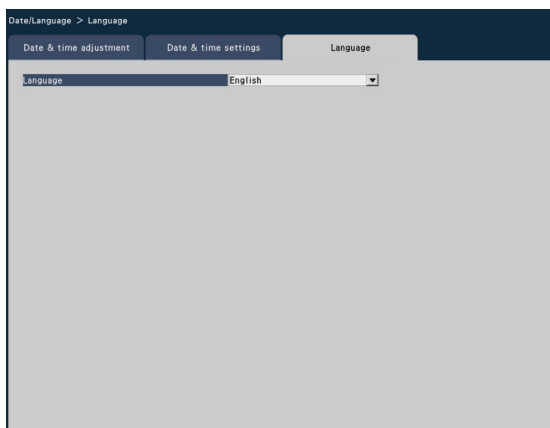
[Language]

日本語/ English/ Français/ Español/ Deutsch/ Italiano/
Русский/
Default: English

Camera setup [Camera]

The "Camera" page has 2 tabs; the [Camera registration] tab and the [Camera setup] tab.

[Camera registration] tab

Perform settings such as the network settings of the camera (IP address and port number), and the display position on the main monitor.
When performing the initial settings, displays camera information detected/set on the "Easy Start".

[Detect cameras]
The cameras connected to a network can be detected for registration. (☞ Page 46)

[Registered information]
Change the "Model", "IP address" and "Compression".
When the [Setup >] button is clicked, the "Registered information" window opens to edit the settings. (☞ Page 47)
In the event of communication trouble with the camera, one of the following error messages is displayed for "Error information".

Connection error: The communication with the camera disconnected.
Authentication error: The user authentication of the camera failed.
Camera error: The response from the camera is incorrect.

Note:
• When an error message is displayed, check the camera connections and settings (☞ operating instructions of the camera). If the problem cannot be solved, register the camera again on "Easy Start". (☞ Page 39)

[Change the display position of camera]
The camera numbers can be interchanged. When the [Setup >] button is clicked, the "Change the display position of camera" window opens to edit the settings. (☞ Page 48)

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.
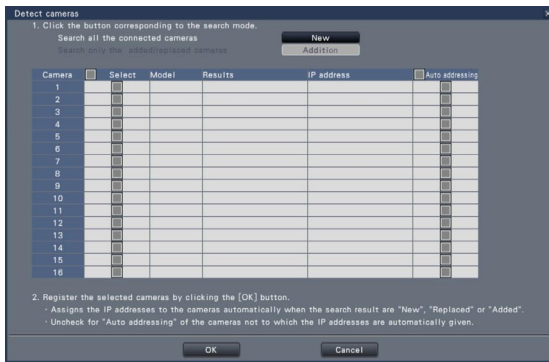
[New] button
Detects all the connected cameras. The models, results of the detected cameras and IP addresses will be displayed.

[Addition] button
Detects only the added or replacing cameras. The models, results of the detected cameras and IP addresses will be displayed.

[Camera]
Refer to "[Easy Start]" (☞ page 39) for further information.

[Select]
Mark the checkboxes of cameras to register.

[Model]
Refer to "[Easy Start]" (☞ page 39) for further information.

[Results]
Refer to "[Easy Start]" (☞ page 39) for further information.

[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.

Note:
- It is impossible to register the cameras in other subnets via the same router.
- For the security enhancement, camera detection will become impossible when 20 minutes have passed. That depends on the camera models. 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.
- Click the [Cancel] button to return to the [Camera registration] tab without applying the camera detection result.

Change the registered information [Registered information]

Click the [Setup >] button for "Registered information" on the [Camera registration] tab to display the following items.
After editing the settings, click the [OK] button to save the settings and return to the [Camera registration] tab.
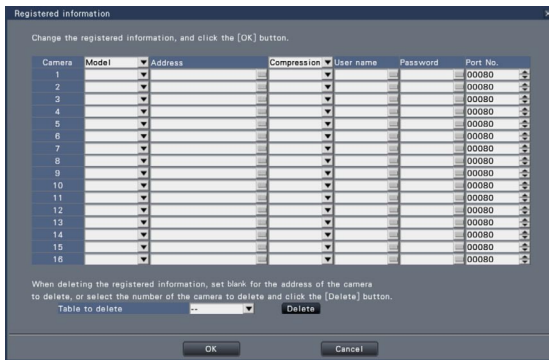
[Camera]
Up to 16 cameras can be connected.

[Model]
The model of a registered network camera will be displayed. (Blank: Camera is not registered)
Click the [▼] button to select the camera model from the camera categories. Refer to the "readme.txt" on the provided CD-ROM for camera categories.
It is unnecessary to change it for normal use.

[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 (.).

[Compression]
Select the image compression method.
  H.264/ MPEG-4/ MJPEG

Note:
- When selecting "MJPEG" for "Compression", the live image transmission rate and the frame rate will be changed automatically to "5 ips". (☞ Page 52)
- When selecting "MPEG-4" for "Compression, the image size will be changed automatically to "VGA". (☞ Page 53)
- When selecting "H.264" for "Compression", it will become possible to select "XF" for the image quality setting.
- Depending on the model of the camera, the camera may reboot when the compression method is changed. The reboot will be detected as a communication error, but that is not a malfunction.

[User name]
Enter the user name for accessing the cameras and logging in using the on-screen keyboard. (☞ Page 37) 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". (☞ Page 37) (Up to 32 alphanumeric characters)

[Port No.]
Set a port number from 1 - 65535 for use by the camera.
Default: 80

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

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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.
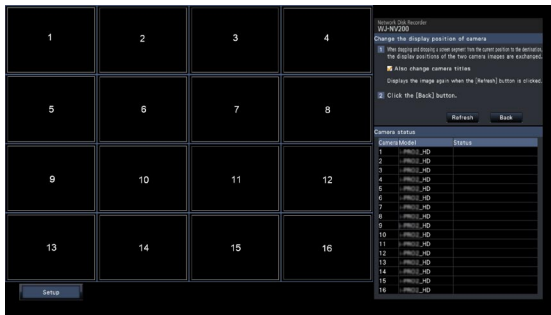
The registered cameras will be displayed on the screen in the order of 1, 2 ...16 from top left to right.
To interchange camera numbers, drag the camera image to be moved with the mouse and drop on the desired position.
If the camera titles are to be interchanged as well, mark the "Also change camera titles" checkbox.
Refer to page 40 for further information about [Camera status].

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

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

[Camera setup] tab

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

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

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

Select the date & time display position for each camera and transmit it to the cameras to change the camera settings.
Clicking the [Setup >] button for "Date & time display" on the [Camera setup] tab will display the following items.
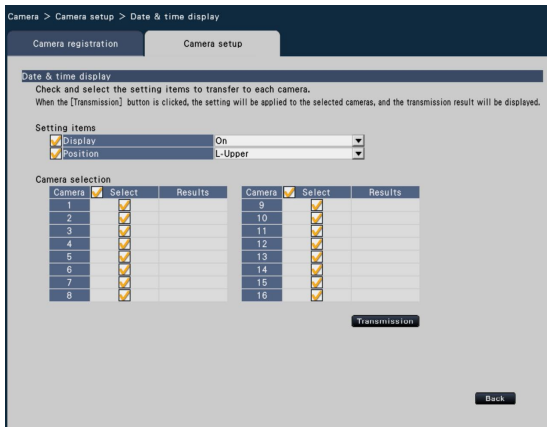
■ Setting items

[Display]

Choose whether or not to display the date & time. If date & time display is activated, date & time will be displayed on camera images and will also be recorded with the recorded images.
To transmit the settings to the camera, mark this item, and select either of the following.

    On: Date & time displayed
    Off: Date & time not displayed

Default: On

Note:
- The display format corresponds to the settings on the [Date & time settings] tab (☞page 43).

[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

Default: L-Upper

Note:
- The position to display the title edited on "Display Title" (☞ page 50) is the same as the "Position" selected here to display the date & time edited on "Date & time display".

■ Camera selection

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

[Transmission] button

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

[Back] button

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

Set up OSD [Display Title]

Determine whether to display the title and select the title to display for each camera; the settings will be changed after the settings have been transmitted to the camera.
Clicking the [Setup >] button for "Display Title" on the [Camera setup] tab will display the following items:
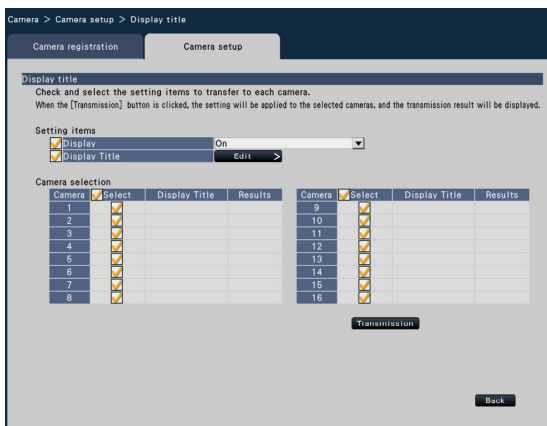
■ Setting items

[Display]

Select whether or not to display the title on camera images. If title display is activated, the title will be displayed on camera images and will also be recorded with the recorded images.
If the setting is to be transmitted to the camera, mark this item to select it.

    On: Title displayed
    Off: Title not displayed

Default: On

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[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. (☞ Page 37) (Up to 16 alphanumeric characters)
  Available characters: 0-9, A-Z and the following marks.
      ! # $ % ( )* + , - . / : ; = ? (space)

Camera > Camera setup > Display title > Edit

| Camera registration | Camera setup |

Edit

Camera	Display Title	Copy	Camera title
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

Back

- **[Camera title]**
  Display the camera title registered on the [Main monitor] tab of the monitor page (☞ page 62).

- **[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.

Note:
- Refer to page 49 for further information about "Camera Selection", the [Transmission] button and the [Back] button.

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
Default: 1 s

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 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.
Default: On

Set up Super Dynamic [Super Dynamic]

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" on the [Camera setup] tab will display the setup page.

[Super Dynamic]

Select "On" or "Off" to determine whether or not to activate the super dynamic function.
    On: The super dynamic function will work.
    Off: The super dynamic function will not work.
Default: On

Set up Light control mode [Light control mode]

Select how to control the amount of light for each camera and transmit the information to the cameras to change the camera settings. Clicking the [Setup >] button for "Light control mode" on the [Camera setup] tab will display the setup page.

[Light control mode]
    Outdoor scene: Depending on the brightness level (illuminance), the iris will automatically be controlled together with the shutter speed adjustment to control light.
    Indoor scene: The shutter speed will automatically be adjusted to prevent flicker caused by fluorescent light. (For the 50 Hz areas)
    Indoor scene(60 Hz): The shutter speed will automatically be adjusted to prevent flicker caused by fluorescent light. (For the 60 Hz areas)
Default: Indoor scene

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

Set up 360 pan-flip [360 pan-flip]

Select the 360 pan-flip function for each camera and transmit the information to the cameras to change the camera settings. Clicking the [Setup >] button for "360 pan-flip" on the [Camera setup] tab will display the setup page.

[360 pan-flip]
Select whether or not to activate the 360 pan-flip function that can achieve camera controllability equal to 360° endless cameras.
    On: The 360 pan-flip function will work.
    Off: The 360 pan-flip function will not work.
Default: Off

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

Select the method of camera 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.
Default: On (desktop)

Set up Max bit rate [Max bit rate (per client)]

Select the bit rate per a client when the compression method of the camera is MJPEG or H.264 for each camera and transmit the information to the cameras to change the camera settings. Clicking the [Setup >] button for " Max bit rate (per client) " on the [Camera setup] tab will display the setup page.

[Max bit rate (per client)]
    64 kbps/ 128 kbps/ 256 kbps/ 384 kbps/ 512 kbps/ 768 kbps/ 1024 kbps/ 1536 kbps/ 2048 kbps/ 3072 kbps/ 4096 kbps
Default: 1024 kbps

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. 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.
Default: Off

Note:
- Refer to page 49 for further information about "Camera Selection", the [Transmission] button and the [Back] button.

Set up recording/events [REC & event]

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

Recording setup tab [Recording setup]

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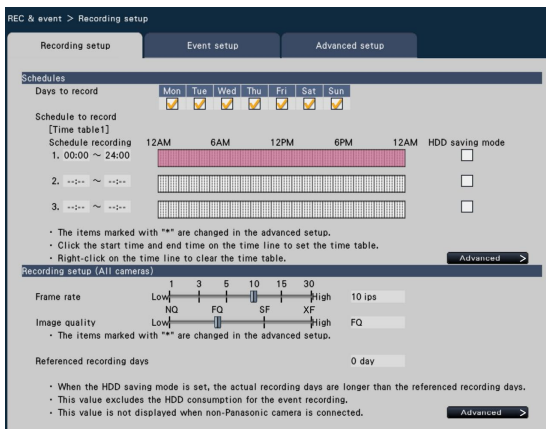
■ Schedules

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

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

[Schedule to record]
3 time tables for schedule recording can be set up for "[Time table 1]". 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 has been set for 24 hours on Time table 1. 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 3 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.

[HDD saving mode]
Reduce the frame rate to use less storage space on the HDD. Mark the checkbox of this item to save HDD storage space. Using H.264/MPEG-4 as compression method in this mode will record only refresh interval images; using MJPEG will record at a frame rate of 1 ips. This mode can be set separately for each time table.

[Advanced >] button
The "Advanced schedule setup" page will be displayed. In addition to 3 schedule recordings, 3 event recordings can be set up. (☞ Page 53)

■ 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:**
> * When selecting "MPEG-4" as compression method, the setting value will provide an indication.
> * When the compression method of the camera is MJPEG, 10 ips, 15 ips and 30 ips are unavailable. The default is "5 ips".

[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

> **Note:**
> * If "XF" is selected when the compression method of the camera is not "H.264", "SF" will be set instead of "XF".

[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.
> * When the HDD saving mode is set, the actual recording days are longer than the referenced recording days.
> * The HDD consumption for the event recording will be excluded.
> * If a camera manufactured by other than Panasonic 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.
> * If two or more cameras with the image capture size of "FHD(1920x1080)", the image quality of "XF" and the frame rate of "10 ips" or more are connected, images may not be recorded at the configured rate.

[Advanced >] button
The "Advanced recording setup" will be displayed. Each camera can be set up separately for recording. (☞ Page 54)

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

In addition to schedule recording, up to 3 event recordings each can be set up on Time table 1 and 2.
Clicking the [Advanced >] button in the "Schedules" field will open the "Advanced schedule setup" page.
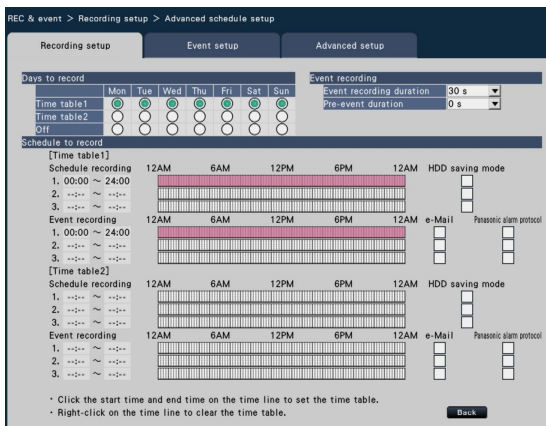
■ Days to record

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 table 1.
Time table2: Recording according to Time table 2.
Off: Neither schedule nor event recording will take place.

■ Event recording

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

[Event recording duration]

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

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

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.
• 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.
• The pre-event recording duration of cameras with the image capture size of "FHD(1920x1080)", the image quality of "XF" and the frame rate of "10 ips" or more will be less than 10 seconds.

■ Schedule to record

3 schedule recordings and 3 event recordings each can be set up on Time table 1 and 2. Within the same time table, event recording has priority over schedule recording.

[Schedule recording] (☞ Page 52)

[HDD saving mode] (☞ Page 52)

[Event recording]

Set the time table for recording in the event that an alarm occurs. Alarm that falls into a time table that has not been set up will not trigger recording. Refer to page 51 for how to configure the time bar.

[e-Mail]

To send an alarm e-mail when an event occurs, mark this item.

[Panasonic alarm protocol]

Mark the checkbox of this item to automatically transmit information on an event that occurs to a PC using the Panasonic alarm protocol.

[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] tab will open the advanced setup page.

REC & event > Recording setup > Advanced recording setup

			Basic setup				Schedule	
							Recording	Saving
Camera	Model	Compression	Image capture size	Rate	Quality	Audio		
1	PRO1_HD	H.264	VGA(640x480)	10 ips	FQ	Off	On	Depend
2	PRO1_HD	H.264	VGA(640x480)	10 ips	FQ	Off	On	Depend
3	PRO1_HD	H.264	VGA(640x480)	10 ips	FQ	Off	On	Depend
4	PRO1_HD	H.264	VGA(640x480)	10 ips	FQ	Off	On	Depend
5	PRO1_HD	H.264	VGA(640x480)	10 ips	FQ	Off	On	Depend
6	PRO1_HD	H.264	VGA(640x480)	10 ips	FQ	Off	On	Depend
7	PRO1_HD	H.264	VGA(640x480)	10 ips	FQ	Off	On	Depend
8	PRO1_HD	H.264	VGA(640x480)	10 ips	FQ	Off	On	Depend
9	PRO1_HD	H.264	VGA(640x480)	10 ips	FQ	Off	On	Depend
10	PRO1_HD	H.264	VGA(640x480)	10 ips	FQ	Off	On	Depend
11	PRO1_HD	H.264	VGA(640x480)	10 ips	FQ	Off	On	Depend
12	PRO1_HD	H.264	VGA(640x480)	10 ips	FQ	Off	On	Depend
13	PRO1_HD	H.264	VGA(640x480)	10 ips	FQ	Off	On	Depend
14	PRO1_HD	H.264	VGA(640x480)	10 ips	FQ	Off	On	Depend
15	PRO1_HD	H.264	VGA(640x480)	10 ips	FQ	Off	On	Depend
16	PRO1_HD	H.264	VGA(640x480)	10 ips	FQ	Off	On	Depend

· Select "Except" for "Saving", the schedule recording is performed at a full rate regardless of the settings for the HDD saving mode.

Referenced recording days 5 days

· When the HDD saving mode is set, the actual recording days are longer than the referenced recording days.
· This value excludes the HDD consumption for the event recording.
· This value is not displayed when non-Panasonic camera is connected.   Back

[Model]
The model of a registered network 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>
　　QVGA(320x240)/ VGA(640x480)/ SXVGA(1280x960)/
　　SXVGA(800x600)
　　<When the aspect ratio is 16:9>
　　QVGA(320x180)/ HVGAW(640x360)/ HD(1280x720)/
　　FHD(1920x1080)

Default: VGA(640x480)

Note:
- If two or more cameras with the image capture size of "FHD(1920x1080)", the image quality of "XF" and the frame rate of "10 ips" or more are connected, images may not be recorded at the configured 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.

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

[Rate] (Frame rate) (☞ Page 52)

[Quality] (Image quality) (☞ Page 52)

[Audio]
Select whether or not to record audio together with images.
　　On: Audio will be recorded.
　　Off: Audio will not be recorded.
Default: Off

[Recording]
Select whether or not to apply schedule recording.
　　On: Applies schedule recording.
　　Off: Does not apply schedule recording.
　　Anytime: Applies 24-hour recording every day regardless of the schedule settings.
Default: On

[Saving]
Select whether or not to apply the HDD saving mode.
　　Depend: Applies the HDD saving mode.
　　Except: Does not apply HDD the saving mode. Performs recording at the selected frame rate.
Default: Depend

[Referenced recording days] (☞ Page 52)

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

Configure event-related settings [Event setup] tab

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

■ Alarm action

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

[Output duration]

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

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

    Ext.: Alarm output will continue until the alarm action is reset. Refer to the Operating Instructions (PDF) for further information about alarm reset.

    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 Operating Instructions (PDF) for further information about alarm reset.

    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 operating instructions (PDF) for further information about alarm reset.

Default: Ext.

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

[Message display]

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

    On: Display a message.

    Off: Does not display a message.

Default: On

[Main monitor action]

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

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

    Off: Does not switch the monitor display.

Default: Off

Note:
- 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 has passed, the monitor display will return to the previous status. (However, if a mouse is operated while the main monitor action is being activated, the monitor display will not return to the previous status.)

■ Advanced event setup

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

Set up terminal alarm [Advanced terminal alarm setup]

Configure the settings relating to the recording triggered by an alarm signal supplied to the ALARM/CONTROL connector of the recorder from an external alarm device such as a door sensor.
Configure the necessary settings for each alarm input terminal of the ALARM/CONTROL connector on the rear panel of the recorder.
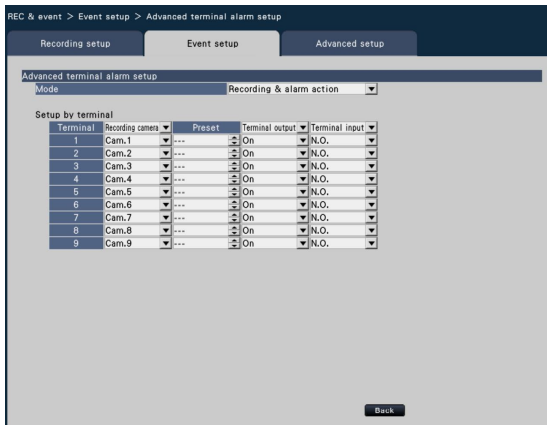
■ Advanced terminal alarm setup

[Mode]

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

Recording & alarm action: All event actions will be performed 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

[Setup by terminal]

Set up individual terminals numbered from 1 to 9.

[Recording camera]

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

All: Applies all the registered cameras for recording.

Default: Camera number associated with the terminal number

Note:

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

[Preset]

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

[Terminal output]

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

On: Outputs alarm signals.

Off: Does not output alarm signals.

Default: On

[Terminal input]

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

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

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

Default: N.O.

[Back] button

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

Note:

• Refer to the Operating Instructions (PDF) for further information about camera preset positions.

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

Set up the action to be taken when a Panasonic alarm protocol received from a camera triggers camera site alarm.
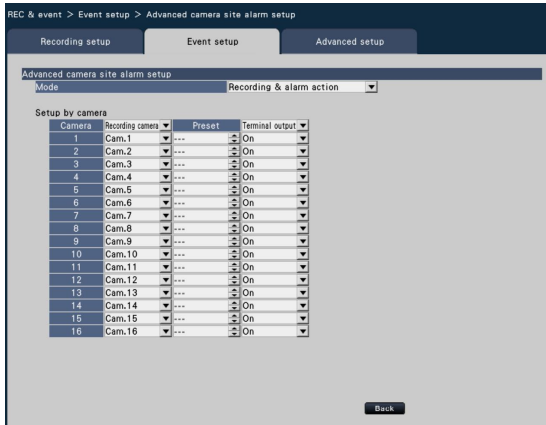
Refer to "Advanced terminal alarm setup" to set "Mode", "Recording camera", "Preset" and "Terminal output" in "Setup by camera" (☞ page 56).

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

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.
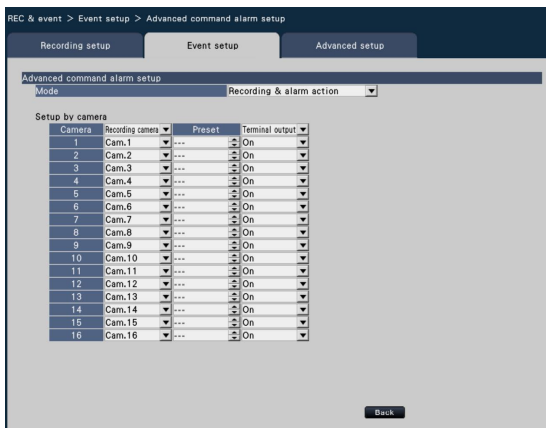
Refer to "Advanced terminal alarm setup" to set "Mode", "Recording camera", "Preset" and "Terminal output" in "Setup by camera" (☞ page 56).

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

Set up face matching alarm [Advanced face matching alarm setup]

Set up the face matching alarm triggered when a previously registered face image is detected among the camera's live images. Refer to "About the face matching function" (☞ page 12) for details and cautions for use regarding the face matching function. Also refer to the Operating Instructions (PDF) for further information about the face matching functions.

■ Advanced face matching alarm setup

[Mode]
Select the actions to be taken when receiving a face matching alarm input signal.

Off: Deactivates the face matching alarm function.

Alarm action: Activates a face matching alarm action.

Default: Off

Important:
• Face matching alarm does not apply event recording.

Note:
• When "Alarm action" is selected, the image quality and compression method of Camera 1 will automatically be changed as follows. Retaining the original values may considerably change the recording time.
Compression: H.264
Image capture size: SXVGA(1280×960)
Frame rate: 5 ips
Image quality: SF
HDD saving mode: Except
• When "Alarm action" is selected for "Mode" of "Advanced face matching alarm setup", the sequential display on the live monitor stops.
• To activate the face matching function, start face matching actions. (☞ Operating Instructions (PDF))

[Setup by camera]
Face matching can be triggered only by Camera 1 (fixed). To use the face matching function, a camera supporting this function needs to be installed as Camera 1.

[Face matching output]
Select whether or not to output an alarm signal from the face matching alarm output terminal of the ALARM/CONTROL connector on the recorder's rear panel when a face matching alarm is detected.

On: Outputs alarm signals.

Off: Does not output alarm signals.

Default: On

[Registration >] button
Click this button to display the face registration window. Register face images to be used for face matching. (☞ Page 59)

When "Alarm action" is set for "Mode" of "Advanced face matching alarm setup", it will be possible to register face image.

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

Register face images [Face registration]

Use this page to register new face images, to check already registered face images or to assign names to the face images.

Note:
- Face images can be registered only on images recorded when "Alarm action" is selected for "Mode" of "Advanced face matching alarm setup".
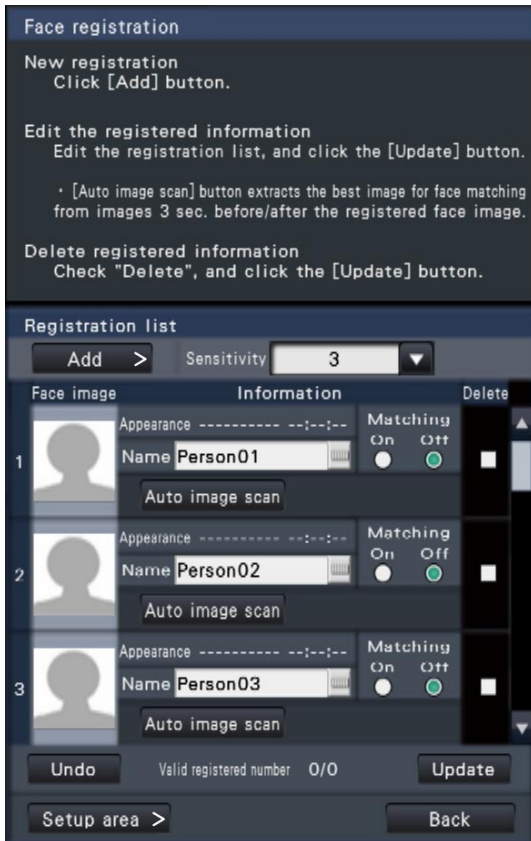
- **[Add >] button**
  Register new face images. (☞ Page 60)

- **[Sensitivity]**
  Set the sensitivity applied to the face matching process.
      1(Low)/ 2/ 3/ 4/ 5(High)
  Default: 3

- **[Face image]**
  This is the area where registered face image is displayed.

- **[Appearance]**
  Displays the date & time when a face image appeared.

- **[Name]**
  Enter the name to be assigned to the face image (in up to 12 characters) using the on-screen keyboard (☞ page 37).

- **[Matching]**
  Select whether or not to activate the face matching function.
  A maximum of 8 images can be matched at the same time.
      On: Activates the face matching function.
      Off: Does not activate the face matching function.
  Default: Off

- **[Auto image scan] button**
  Automatically searches for images suitable for face matching for around 3 seconds before and after the face image is registered. For details refer to [Auto image scan] in "Automatically search for face images [Auto image scan]" (☞ page 60).

- **[Delete]**
  To delete images, mark their checkboxes.

- **[Update] button**
  Use this button to register or delete the changes made to the image, the assigned name and the setting for face matching actions.

- **[Undo] button**
  Use this button to undo the changes made to the image, the assigned name and the setting for face matching actions, and to return it to the state it was in when last clicking the [Update] button. Once the [Update] button has been clicked, the state before updating cannot be restored. In addition, a face image once deleted cannot be restored.

- **[Setup area >] button**
  The face matching setup area window will be displayed (☞ page 61 "Set up matching area [Setup area]").

- **[Back] button**
  Return to the "Advanced face matching alarm setup" page.

Register face images [Add]

A maximum of 16 face images can be registered. If 16 face images have already been registered, add new images after having deleted some of the registered images.

Step 1

Click the [Add >] button in the face image registration window. If the face image automatically searched or changed name has not already been updated, click the [Update] button before adding it.

→ The "Face registration" window will be displayed.
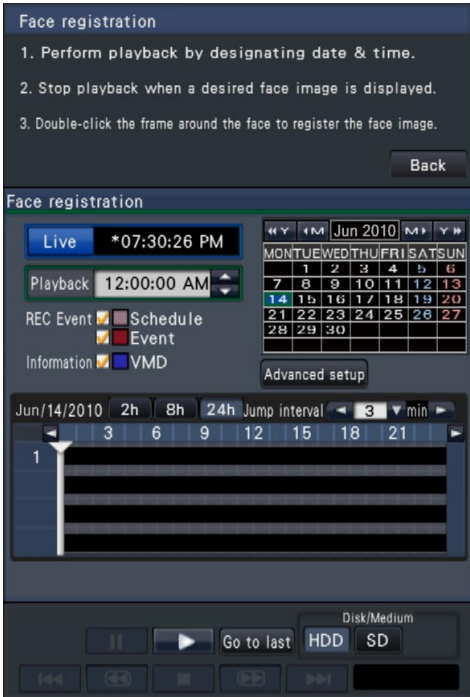
Step 2

On the playback operation panel, play back the recorded data containing the face image to register for face matching. Refer to the Operating Instructions (PDF) for further information about the playback operation.

→ The image is played back in the image display area.

Step 3

As soon as the face image to register is displayed, pause playback.

→ The facial features detected in the image are displayed inside a frame with the frame size (horizontal x vertical).

135 x 160
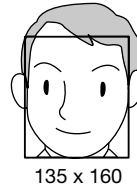
Note:
• Register the face image so that the face width (frame width) is 125 pixels or more.

Step 4

If the displayed face image is acceptable for registration, double-click the face frame.

→ The screen returns to the face image registration window, and the selected face image will be displayed in the face image display area.

Note:
• When returning to the face image registration window without applying the face image, click the [Back] button.

Step 5

If necessary, configure the setting for face matching actions, open the on-screen keyboard (☞ page 37) to assign a name, and click the [Update] button.

Automatically search for face images [Auto image scan]

The image suited for face matching for around 3 seconds before and after starting playback of registered face images is automatically searched.

Step 1

Click the [Auto image scan] button (☞ page 59) in the face image registration window.

→ "Auto image scan is in progress. Please wait." will be displayed in the center of the screen. When the search is completed, the search completion window will open. The images produced by the search will be displayed in the face image display area.

Note:
• Depending on the status of images, it may take around 2 minutes for the search.

Step 2

If acceptable, click the [Update] button to register.

Note:
• Images found by auto image scan will not be displayed in the image display area.

Set up matching area [Setup area]

Set up to 4 areas for matching face images while displaying live images. At the default, the whole area on the camera images is set to match face images. By designating the matching areas, it is possible to reduce the operation failure.
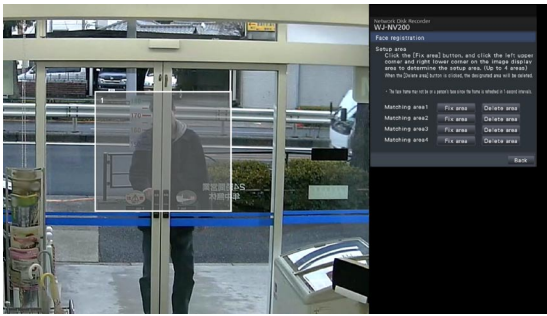
Step 1

Click the [Setup area >] button (☞ page 59) on the face image registration window.

→ The window for setting up the matching area will be displayed.
The portion where the camera detected a matching face will be displayed within a green frame in the image display area. (The frame will be updated every second.)

Step 2

Click the [Fix area] button next to the respective matching area. A maximum of 4 matching areas can be registered to allow for polygonal shapes.

Step 3

On the displayed image, click the top left corner and bottom right corner of the square that will become the area.

→ The designated portion will be displayed in gray and registered as a matching area. If even part of the green frame is overlapped with the matching area, the portion within a green frame will be targeted for the face matching function.

Note:
- To delete a registered area, click the [Delete area] button for the matching area to delete.
- Matching areas will be set according to the grid divided in 16 x 16 segments. It may be possible that the actual matching areas will not be exactly the same as the points designated by clicking the top left corner and bottom right corner.

Step 4

To complete the settings, click the [Back] button.

→ The screen returns to the face image registration window.

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 Panasonic alarm port number (the port number for incoming site alarm).
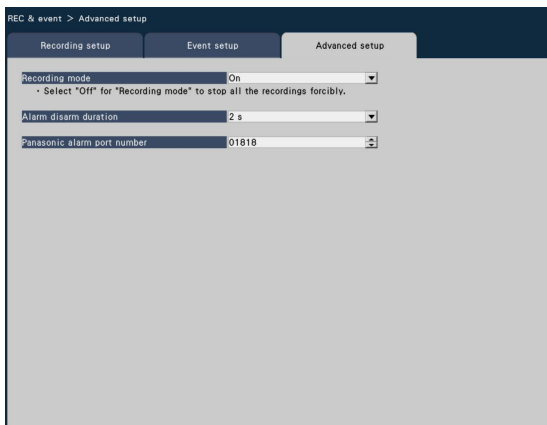
[Recording mode]
Determine whether or not to stop all recording actions. Set to "Off", primarily to stop access to the HDD before turning off the power.

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, face matching alarm) occurs repeatedly at the same camera.

2 s/ 3 s/ 5 s/ 10 s
Default: 2 s

[Panasonic 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".) To describe the port number, the "0"s actually prefixed to the setting value are abbreviated here.

Configure the settings relating to monitors [Monitor]

The settings relating to the display of the main monitor, the live monitor connected to the recorder and the monitor of the PC connected via a network are configured on the setup menu - the "Advanced setup" menu - 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 [Main monitor], [Live monitor] and [Advanced setup] tabs.

Set up the main monitor [Main monitor]

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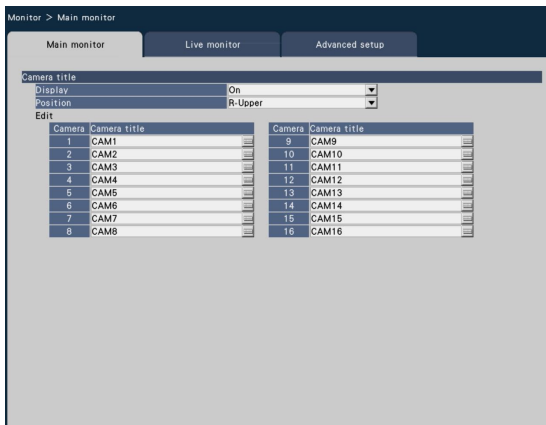
■ Camera title

[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 (☞ page 37)

Set up the live monitor [Live monitor]

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

Note:
- The terminal status (N.O. or N.C.) for supplying an alarm signal to the alarm terminal depends on the settings for "Terminal input" of "Advanced terminal alarm setup" (☞ page 56).

[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.

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

■ Live sequence

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

[Duration]
Set the interval (duration) for switching camera images.
5 s/ 10 s/ 15 s/ 30 s
Ext.: Switches Camera 1 to 9 to display images according to the signal input triggered by the terminal alarms from Terminal 1 to 9.
Default: 10 s

- When "Alarm action" is selected for "Mode" of "Advanced face matching alarm setup" (☞ page 58), the sequential display will not be performed. Instead, images from the camera whose number is the smallest among the cameras selected for "Camera selection" will be displayed.

Configure other settings relating to monitors [Advanced setup]

Configure other monitor settings such as the eco. monitor function and monitor audio output.
The eco. monitor function is designed to reduce the energy consumption of the main monitor by measures such as reducing its brightness in normal operation, turning off the backlight, and increasing the brightness when an alarm occurs or in other cases.
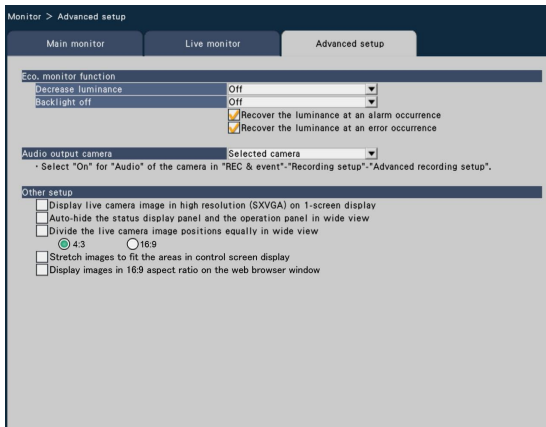
■ Eco. monitor function

Set up the eco. monitor function for the brightness and backlight of the main monitor.
(The eco. monitor function is not applicable to the live monitor.)
The eco. monitor function will be activated under the following circumstances:
- When this unit is connected to a Panasonic wide LCD color monitor (WV-LW1900, WV-LW1900/G, WV-LW2200, WV-LW2200/G: option)
- When no operations are performed with the mouse or with the buttons on the recorder's front panel
- When alarm reset or error reset is not performed
- When the recorder is not accessed in any other way
- * Regardless of the eco. mode setting and status of the connected monitor, the control from the recorder will be given priority.

[Decrease luminance]

Determine whether or not to reduce the brightness of the main monitor when the conditions for activation of the eco. monitor function are given.
If the brightness is to be reduced, set the delay between the point in time where the conditions are met and the point where the brightness will actually be reduced.
    Off/ After 1 min/ After 3 mins/ After 5 mins/ After 10 mins
Default: Off (Brightness will not be reduced)

[Backlight off]

Determine whether or not to turn off the backlight of the main monitor when the conditions for activation of the eco. monitor function are given.

If the backlight is to be turned off, set the delay between the point in time where the conditions are met and the point where the backlight is actually turned off.
    Off/ After 15 mins/ After 30 mins/ After 1 hour/
    After 3 hours
Default: Off (Backlight will not be turned off)

The brightness and the backlight will be reset by any mouse operation or operation of the buttons on the recorder's front panel (operations on the web browser of the PC will not reset the function). The function can also be reset as follows:
- Marking the checkbox for [Recover the luminance at an alarm occurrence] will reset brightness and backlight in the alarm state.
- Marking the checkbox for [Recover the luminance at an error occurrence] will reset brightness and backlight in the error state.

■ Audio output camera

The camera channel whose audio is output from the recorder will be fixed. To fix the camera channel, select the camera whose audio is to be output from the recorder.
    Selected camera: Does not fix the camera channel. (The recorder will output the audio of the camera whose images are being displayed.)
    Cam.1 - Cam.16: Fixes the camera channel. (The recorder will always output the audio of the selected camera.)
Default: Selected camera

■ Other setup

[Display live camera image in high resolution (SXVGA) on 1-screen display]
Mark the checkbox to display the camera images in the SXVGA size on a 1-screen or the left-side segment of a 3-screen. Refer to the "readme.txt" for compatible cameras.

[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.

[Divide the live camera image positions equally in wide view]
Mark the checkbox to display the live images on the screen segments equally divided in wide view.
The aspect ratio of 4:3 or 16:9 can be selected for layout.

[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.
When the images are enlarged with this setting, camera control or VMD search may sometimes not work properly in accordance with the specified coordinates or areas.

[Display images in 16:9 aspect ratio on the web browser window]
Mark the checkbox to display the images in the web browser window with the aspect ratio of 16:9.

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], [Panasonic alarm protocol] and [NTP/SNMP] tabs.

Configure the basic network settings [Basic]

The basic settings relating to the network can be configured on this tab.
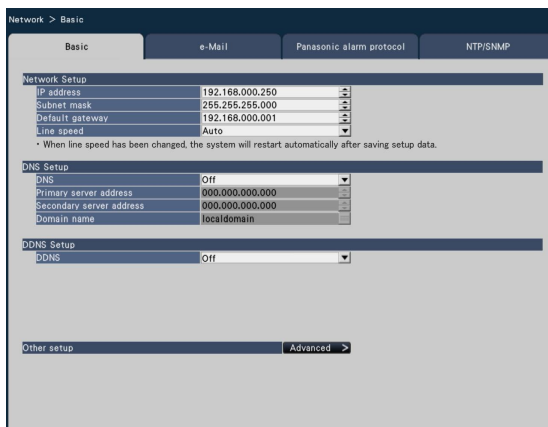
Note:
- Enter the address octets and port numbers right-aligned. [For example, for port number 80, enter 00080] The leading zeros are omitted here.

■ Network Setup

Configure the network settings of the recorder.

[IP address]
The IP address of the recorder will be displayed.
To change the IP address, click the [▲]/[▼] button.
Default: 192.168.0.250

[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

[Default gateway]
Select the address for the default gateway in accordance with the recorder's network environment. Enter in the same way as the IP address.
Default: 192.168.0.1

[Line speed]
Specify the line speed for data transmission.
   Auto: Line speed will be applied automatically.
   100M-Full: 100 Mbps full-duplex
   100M-Half: 100 Mbps half-duplex
   10M-Full: 10 Mbps full-duplex
   10M-Half: 10 Mbps half-duplex
Default: Auto

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

■ DNS Setup

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

[DNS]
Determine whether or not to use the DNS.
   Off: Does not use the DNS.
   Manual: When using DNS, it is possible to search IP addresses by host name.
Default: Off

[Primary server address]
[Secondary server address]
When the DNS is used, select the IP addresses for the primary and secondary DNS server. Enter in the same way as the IP address.
Default: 0.0.0.0

[Domain name]
Enter the domain name of the recorder. The first character of the domain name should be an alphabetical character.
Enter 3 to 63 alphanumeric characters including hyphens (-) and periods (.).
Default: localdomain

■ DDNS Setup

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

Off: Does not use the DDNS function.
Viewnetcam.com: Uses the "Viewnetcam.com" service.
Dynamic DNS Update: Uses Dynamic DNS Update (RFC2136 compliant).

Default: Off

Important:
- Before using the DDNS service, it is necessary to perform the port forwarding setting for the router.
- About Dynamic DNS Update (RFC2136 compliant) Operation using DDNS services other than the "Viewnetcam.com" service is not guaranteed. We are not responsible for any troubles or accidents on the circumstances where the camera is used arising out of such services.
  Refer to the DDNS service providers for the selection and configuration of the DDNS services other than the "Viewnetcam.com" service.

Note:
- "Viewnetcam.com" is a Dynamic DNS service designed for use with Panasonic Network Cameras. Refer to the "Viewnetcam.com" website (http://www.viewnetcam.com/) for further information about the service.

When using the "Viewnetcam.com" service

[Personal(Product) URL]
The URL of the camera registered for "Viewnetcam.com". When accessing the menu again after performing the initial settings, the temporary URL will be displayed.

[Your account link]
The URL of the registration window for the "Viewnetcam. com" service will be displayed.
Register the information in the registration window to enroll in the "Viewnetcam.com" service.

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

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

Default: 1 h

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

Step 1

Access the URL displayed on "Your account link" from the PC connected to the Internet.
→ The registration window for "Viewnetcam.com" will be displayed.

Step 2

Register the information for "Viewnetcam.com" by following the instructions of the wizard.
→ When the registration window is not displayed, check that the PC is being connected to the Internet, and click the reload button of the browser.
When the message is displayed to inform that the registration is successful, close the registration window.
The URL selected at the time of registration can be used for recorder access. However, this URL is unavailable when accessing the recorder from the PC connected to the same network (LAN).

Note:
- When the registration for the "Viewnetcam.com" service is completed, the URL of the recorder registered for "Personal(Product) URL". It may take up to around 30 minutes until the URL of the registered recorder is validated.

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

When using "Dynamic DNS Update"
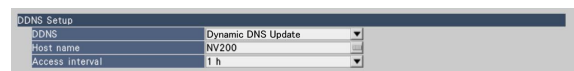
[Host name]
Enter the host name to be used for the Dynamic DNS Update service.

Available number of characters: 250 characters
Enter in the form of "(host name). (domain name)".

Default: NV200

Note:
- Refer to the network administrator for further information about the available host names.

[Access interval]
Select the interval to access the Dynamic DNS Update service server to check the IP address and the host name from the following.

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

Default: 1 h

■ Other setup

Click the [Advanced >] button to set bandwidth control, HTTP port number, and FTP port number.
The setup menu (advanced) will be displayed.
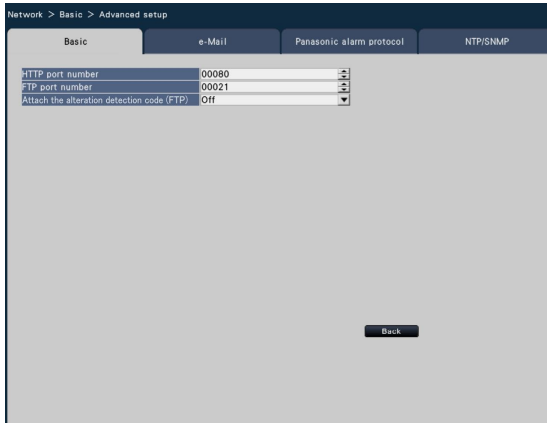
[HTTP port number]
Specify the HTTP port number to be used to send images from the recorder.
It is unnecessary to change it for normal use.

 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 and the FTP port number are unavailable for the HTTP port number. 20, 21, 23, 25, 42, 53, 67, 68, 69, 79, 105, 110, 123, 161, 162, 546, 547, 995, 10001, 10002, 10003, 10004, 10005, 10006, 10007

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

 1 - 65535

Default: 21

Note:
- The following numbers and the HTTP port number are unavailable for the FTP port number.
 20, 23, 25, 42, 53, 67, 68, 69, 79, 80, 105, 110, 123, 161, 162, 546, 547, 995, 10001, 10002, 10003, 10004, 10005, 10006, 10007

[Attach the alteration detection code (FTP)]
Determine whether or not to attach the alteration detection code to the recorded images to be downloaded from an FTP server.

 Off: Does not attach the alteration detection code.
 On: Attaches the alteration detection code.

Default: Off

[Back] button
Click the button after completing the settings.

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

The settings of alarm mail notice, the settings of error report mail (☞ Operating Instructions (PDF)) and the settings to use the mail functions can be configured on this tab.
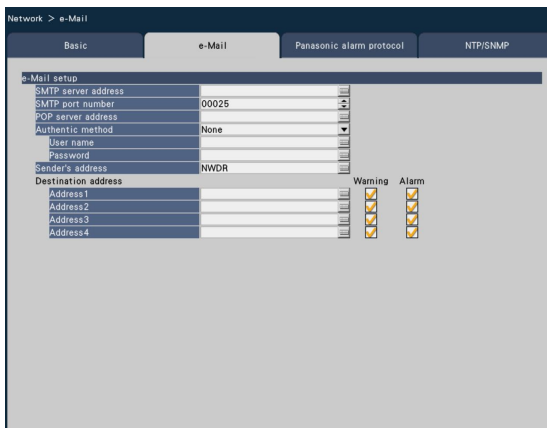
[SMTP server address]
Enter an IP address or a name of the SMTP server to send e-mails. The name of the SMTP server is available only when "Manual" is selected for "DNS" on the [Basic] tab accessed from the "Advanced setup" menu - the "Network" page of the setup menu. Enter up to 255 alphanumeric characters including hyphens (-) and periods (.).

[SMTP port number]
Enter the port number of the SMTP server.
    1 - 65535
Default: 25

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

[Authentic method]
Select the authentication method to send e-mails from the following.
    None/ POP before SMTP/ SMTP
Default: None

[Authentic method - User name]
Enter the user name to be required for the authentication. Enter up to 32 alphanumeric characters excluding "&" listed in the description of "Note".

[Authentic method - Password]
Enter the password to be required together with the user name for the authentication. Enter up to 32 alphanumeric characters excluding "&" listed in the description of "Note". An entered character for the password will be displayed as "*" or "●".

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

[Destination address - Address1 - Address4]
Enter the mail addresses of the recipients of the alarm mail and the warning mail (☞ Operating Instructions (PDF)). Enter up to 255 alphanumeric characters including hyphens (-), periods (.), @, and _.
Check the desired mail type (Warning/Alarm) to be sent.
Up to 4 destination addresses can be registered.

Configure the Panasonic alarm protocol settings [Panasonic alarm protocol]

The settings to notify the PC of the event and error information when an event or an error occurs can be configured on this tab.
To display the event and error information, it is necessary that the software (option) is installed on the recipient PC.
Refer to the "readme.txt" on the provided CD-ROM for details on the software.

[Port number(to PC)]
Enter the addresses 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 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 | Panasonic alarm protocol | NTP/SNMP |

NTP setup
Time adjustment: Off
NTP server address:

SNMP setup
Community:
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

[NTP 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 (.).

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.

Enter the items using the alphanumeric characters listed in "Note" (☞ page 67) and symbols.

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

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

Example: No.1

[Location]
Enter a location name (location where the recorder is installed) in alphanumeric characters.

Example: 2F

[Contact]
Enter the contact information such as a mail address of an administrator of this recorder.

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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] and [Administrator setup] 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.
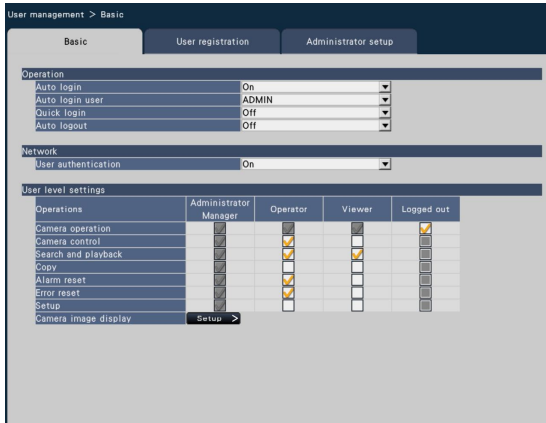
■ Operation

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: ADMIN

[Quick login]
Select "On" or "Off" to determine whether to enter or select the user name.
　　Off: User name needs to be entered.
　　On: Log in by selecting a displayed user name.
Default: Off

[Auto logout]
Set the time to wait until auto logout when no operations are made while displaying live images.
　　Off: Does not logout to the recorder automatically.
　　After 1 min/ After 3 mins/ After 5 mins/ After 30 mins
Default: Off

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".
- 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

■ User level settings

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

Note:
- Only a user logged in as "Administrator/Manager" can change the user level settings.
- At the default, operations allowed at the user level are as follows:
　Administrator/Manager: Possible to perform all the operations (Administrators)
　Operator: Possible to perform a part of the settings of the recorder and alarm reset (Head of operators)
　Viewer: Possible to monitor or play the images (Operators)
- * Administrators and managers can perform all operations. The difference between an administrator and a manager is that an administrator has priority over a manager; if both perform the same operation at the same time, that of the administrator will have priority.
- The screenshot shows the default.
- When a user tries to operate a function that is not checked (restricted function), the login window may sometimes be displayed to prompt a user with the required user level to log in.

Restrictable operations

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

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

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

Set up the user level for individual cameras

Select the cameras allowed for operation by each user level (operator/viewer/logged out) by marking the respective checkboxes. Remove the check mark from any cameras not to be displayed. The setting for the administrator/manager cannot be changed.
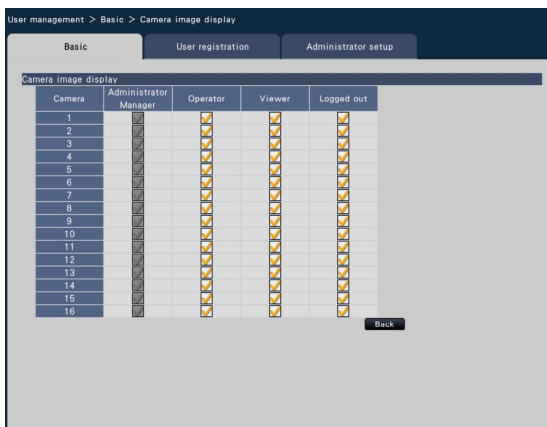
[Back] button
Click the button after completing the settings. The screen returns to the [Basic] tab.

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

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

■ Register new user

Register user information such as a user name, password and operation level.
The maximum number of users that can be registered is 16.

[User name]
Enter the user name using the on-screen keyboard. (☞ Page 37) Enter 5 to 14 alphanumeric characters for the name.

[Password]
Enter the user password using the on-screen keyboard. (☞ Page 37) Enter 5 to 8 alphanumeric characters for the password. The registered password will be displayed as "******" regardless of what is entered.

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

[Level]
Display the operation level of a user.
Operable functions can be set on the [Basic] tab (☞ page 71).

    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 from the following.

    Cam.1 - Cam.16: Displays an image from the selected camera channel on a 1-screen.
    4Screen-A/ 4Screen-B/ 4Screen-C/ 4Screen-D/ 16Screen

(Refer to the Operating Instructions (PDF) for further information about each setting value.)
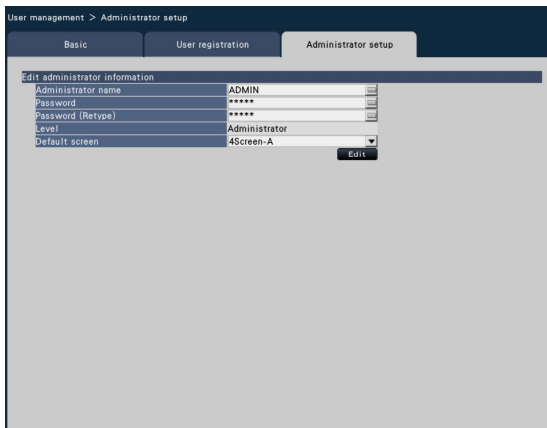
Default: 4Screen-A

Note:
- When "16Screen" is selected, the startup screen on the web browser of the PC will be set to "4Screen-A" (Camera 1 to 4 displayed on a 4-screen).

[Registration] button
Select this button to newly register the edited user information.

■ Edit user information

Edit or delete the user information that has been registered. Select the user whose user information is to be edited or deleted. To edit items, proceed as for new user registration.

[Edit] button
Registers the edited user information.

[Delete] button
Deletes the selected user.

Edit the administrator information [Administrator setup]

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

[Administrator name]
Enter the administrator name using the on-screen keyboard.
(☞ Page 37) Enter 5 to 14 alphanumeric characters for the administrator name.
Default: ADMIN

[Password]
Enter the administrator password using the on-screen keyboard. (☞ Page 37) Enter 5 to 8 alphanumeric characters for the password. The registered password will be displayed as "*****" regardless of what is entered.
Default: 12345

Important:

- For enhanced security, make sure to change the administrator name and password from the default. Change the password on a regular basis.

[Password (Retype)]
Enter the password that has been set for "Password" again for confirmation.

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

[Default screen]
Select a startup screen to be displayed after login.
(☞ Page 73)

[Edit] button
Register the edited administrator information.

Configure the settings relating to maintenance [Maintenance]

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

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

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

Note:
- System information will not be updated while the "Maintenance" page is being displayed.
- Besides the setting value for "Line speed", the actual line speed will be displayed in "( )".

Confirm the hard disk drive information [HDD information]

The capacity and operation time of the hard disk drives on the recorder and the time range of the images recorded on the hard disk drives are displayed on this tab.

Note:
- HDD information will not be updated while the "Maintenance" page is being displayed.
- The hard disk drives installed in the HDD1 slot and the HDD2 slot are displayed as "HDD1" and "HDD2" respectively.

[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
> 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 connection to hard disk drives

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

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

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

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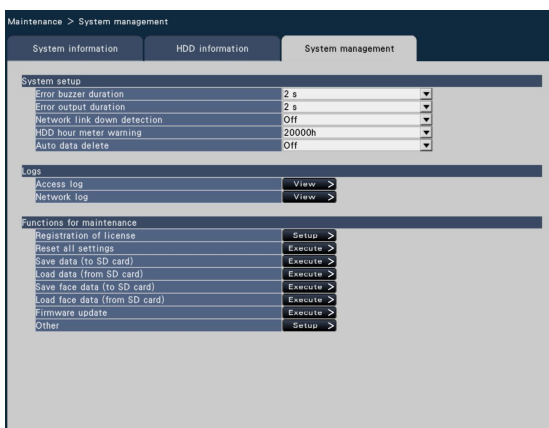
■ System setup

[Error 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 Operating Instructions (PDF) for further information about the buzzer stop.

[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 Operating Instructions (PDF) for further information about the error reset.

[Network link down detection]
Select "On" or "Off" to determine whether or not to detect the network disconnection on the network port of the recorder.
> On: Detects the network disconnection.
> Off: Does not detect the network disconnection.

Default: Off

[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/ 10000h/ 20000h/ 30000h/ 40000h/ 50000h

Default: 20000h

[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

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

■ Logs

The following logs can be checked.
- Access log: Logs of accessing the recorder
- Network log: Logs of network errors
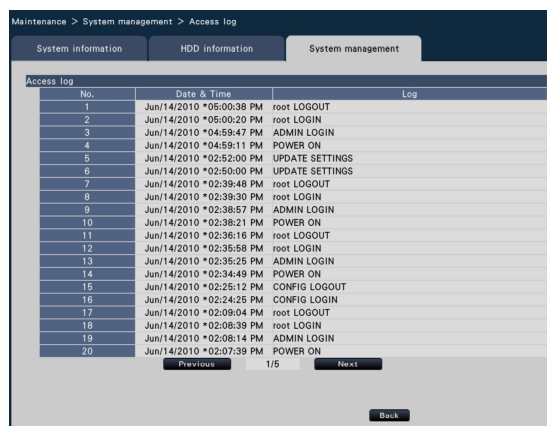
To check each log, click the [View >] button.

About the access log

The date & time when logged in/out for the recorder, the user name, and the IP address will be displayed.

Up to 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.

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

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

    UPDATE SETTINGS: Settings have been changed.

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

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

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

** indicates a user name or an IP address.

About the network log

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

Up to 100 logs are saved. When more than 100 logs are filed, the older logs will be overwritten by the newer logs. In this case, the oldest log is the first to be overwritten. Refer to page 91 for further information about the error logs.

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

■ Functions for maintenance

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

Note:
- When using an unformatted SDHC/SD memory card or an SDHC/SD memory card formatted with a PC or another device, it is necessary to format it with this recorder. Refer to the Operating Instructions (PDF) for how to format a SD memory card.

[Registration of license]

To use the recorder, it is necessary to obtain the "Registration Key" from the key management system and to register the license. Enter the license for the recorder.

Clicking the [Setup >] button will open the registration window to register the license. (☞ Page 78)

[Reset all settings]

Initializes the setting data. Click the [Execute >] button to display the confirmation window to start initializing.

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

[Save data (to SD card)]

Saves the setting data on the SD memory card. Click the [Execute >] button to display the confirmation window to start saving.

[Load data (from SD card)]

Loads the setting data saved in an SD memory card on the recorder. Click the [Execute >] button to display confirmation window to start loading.

[Save face data (to SD card)]

Saves the face matching data on the SD memory card. Click the [Execute >] button to display the confirmation window to start saving.

[Load face data (from SD card)]

Loads the face matching data saved in an SD memory card on the recorder. Click the [Execute >] button to display the confirmation window to start saving.

[Firmware update]

Updates the software saved on an SD memory card to 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:
- Consult the dealer for updating the firmware.

[Other]

The page to save the maintenance data on the SD memory card opens. (☞ Page 79)

Register the licenses for the recorder and the Additional Business Intelligence Kit [Registration Key]

The licenses to operate the recorder and activate the extra functions are registered.

Important:
- After registering the "Registration Key" for the recorder or that for the Additional Business Intelligence Kit, be sure to click the [Restart] button to reboot the recorder. The licenses will not be effective before the recorder is rebooted.

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

[Registration of license]
Register the "Registration Key" to operate the recorder and activate the extra functions.

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

Note:
- After registering the license, be sure to click the [Restart] button. The recorder will reboot and each license will become effective.

[Additional business intelligence - Registration Key]
When activating the extra functions, enter "Registration Key". Use on trial is also available before purchasing the license. Refer to the operating instructions (PDF) of the Additional Business Intelligence Kit for further information.

[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. (☞ Page 37) Registration is possible for a maximum of 32 characters for each entry field.

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

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

Saves the maintenance data on the SD memory card

Saves the data such as logs on the SD memory card. All logs are saved.
When using an unformatted SDHC/SD memory card or an SDHC/SD memory card formatted with a PC or another device, it is necessary to format it with this recorder. Refer to the Operating Instructions (PDF) for how to format a SD memory card.
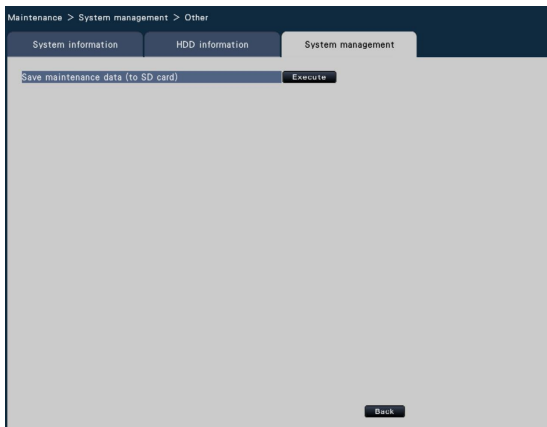
Step 1

Click the [Execute] button to display the confirmation window to start saving.
→ Saving the log data on the SD memory card will be started.

Step 2

Click the [Back] button when saving is completed.

Manage the hard disk drives [HDD management]

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

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

How to display the "HDD management" page

Step 1

Click the [HDD management] button of the setup menu - the "Advanced setup" menu.
→ The window with the administrator name and password entry fields will be displayed. The window is also displayed when a user has already logged in as the administrator.

Step 2

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

→ The "HDD management" page will be displayed. Click the [Operation] button to return from the "HDD management" page to the operational screen.
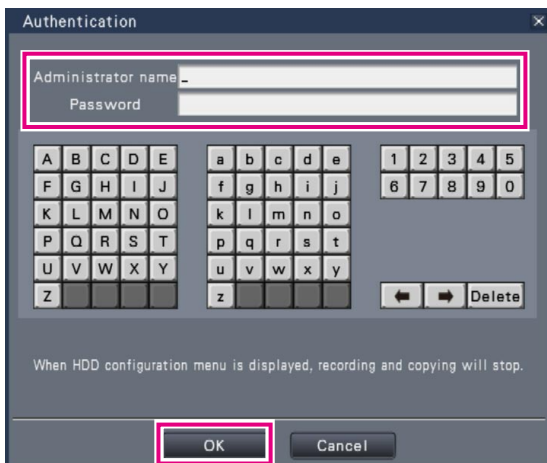
Check the hard disk drive information [HDD information]

The capacities, operation time and statuses of the hard disk drives are displayed.
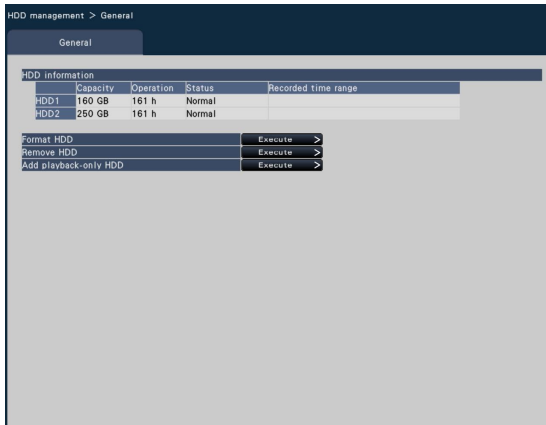
Refer to the setup menu - the "Advanced setup" menu - the "Maintenance" page - the [HDD information] tab for further information about the items displayed on the [HDD information] tab. (☞ Page 75)

Format the hard disk drives [Format HDD]

Hard disk drives are formatted.

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

Step 1

Click the [Execute >] button for "Format HDD" on the [General] tab - [HDD management] page.
→ The window to format hard disk drives will be displayed.

Step 2

Check the hard disk drives to format in the "Format" field, and click the [Start] button.
When "OK" is displayed on the "Results" field, click the [Back] button.
When "Error" is displayed, format the hard disk drives again.

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

When replacing hard disk drives, it is necessary to perform the removal process/ the link process.
Be sure to consult the dealer for the removal, installation, and the related process of hard disk drives.

Important:
- When the link process is performed, the data will be erased.

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

The settings relating to the extra functions such as the statistical processing are configured and the statistical processing data can be saved on an SDHC/SD memory card on the "Extra function" page of the setup menu - the "Advanced setup" menu.
The "Extra function" page has the [Business intelligence] tab.

Important:
- The [Extra function] button will be displayed under [Advanced setup] after registering the license for the product or starting using this product on trial.
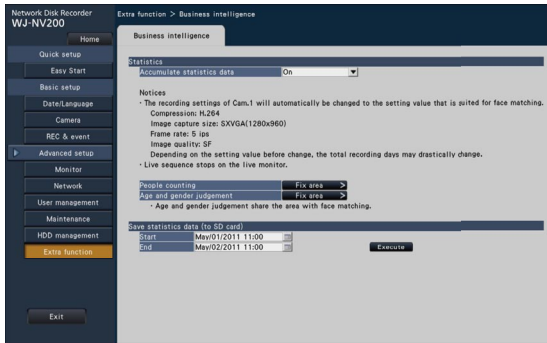
Refer to the operating instructions (PDF) of the Additional Business Intelligence Kit for further information about how to configure the settings.

Lists of the setting items (Setup menu)

Quick setup (Easy Start)

Tab	Setting item (including those of the "Advanced setup" menu)	Available range	Default
Date & time adjustment	–	2010/1/1 0:00 - 2034/12/31 23:59	20nn/mm/1 0:00 ("nn" and "mm" are calculated base on the serial number of the recorder.)
	Set time zone	GMT-12:00, GMT-11:00, GMT-10:00, GMT-9:00, GMT-8:00, GMT-7:00, GMT-6:00, GMT-5:00, GMT-4:30, GMT-4:00, GMT-3:30, GMT-3:00, GMT-2:00, GMT-1:00, GMT, GMT+1:00, GMT+2:00, GMT+3:00, GMT+3:30, GMT+4:00, GMT+4:30, GMT+5:00, GMT+5:30, GMT+5:45, GMT+6:00, GMT+6:30, GMT+7:00, GMT+8:00, GMT+9:00, GMT+9:30, GMT+10:00, GMT+11:00, GMT+12:00, GMT+13:00	GMT-5:00(NV200K, NV200VK), GMT(NV200K/G)
	Activate the Daylight saving time[1]	Checked/Not checked	Checked
Recording setup	Recording setup (The same setting for all cameras) Frame rate	1 ips, 3 ips, 5 ips, 10 ips, 15 ips, 30 ips	10 ips
		XF, SF, FQ, NQ	FQ
	Image quality 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.)

Menu/Tab	Setting item (including those of the "Advanced setup" menu)	Available range	Default	Remarks
Date & time adjustment	Date & Time	2010/1/1 0:00 - 2034/12/31 23:59	20nn/mm/1 0:00 ("nn" and "mm" are calculated base on the serial number of the recorder.)	● ◎
Date & time settings	Display format			
	Date	yyyy/mm/dd, Mmm/dd/yyyy, dd/Mmm/yyyy, mm/dd/yyyy, dd/mm/yyyy	Mmm/dd/yyyy (NV200K, NV200VK), dd/mm/yyyy (NV200K/G)	◎
	Time	24 h, 12 h	12 h (NV200K, NV200VK), 24 h (NV200K/G)	◎
	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[1]	Out, Auto	Auto	◎
	Daylight saving time table (In)	2010/1/1 0:00 - 2034/12/31 23:59	2012/3/11 2:00 AM (NV200K, NV200VK)[2] 2012/3/25 1:00 (NV200K/G)[3]	◎
	Daylight saving time table (Out)	2010/1/1 0:00 - 2034/12/31 23:59	2012/11/4 2:00 AM (NV200K, NV200VK)[4] 2012/10/28 1:00 (NV200K/G)[5]	◎

Menu/Tab	Setting item (including those of the "Advanced setup" menu)	Available range	Default	Remarks
	Auto time adjustment	Off, On	Off	◎

*1 Marking the checkbox for [Activate the Daylight saving time] is the same as selecting "Auto" for "Daylight saving time".
*2 The second Sunday in March, 2:00 AM this year and subsequent years
*3 The last Sunday in March, 1:00 this year and subsequent years
*4 The first Sunday in November, 2:00 AM this year and subsequent years
*5 The last Sunday in October, 1:00 this year and subsequent years

Menu/Tab	Setting item	Available range	Default	Remarks
Language				
	Language	日本語/ English/ Français/ Español/ Deutsch/ Italiano/ Русский		◎
Camera				
Camera registration	Model	(Indication only)	(Indication only)	◎
	Address	(Indication only)	(Indication only)	◎
	Compression	(Indication only)	(Indication only)	◎
	Error information	(Indication only)	(Indication only)	◎
	Registered information			
	Model	Model number of the camera	(Blank)	◎
	Address	(IP address)	(Blank)	● ◎
	Compression	H.264, MPEG-4, MJPEG	(Blank)	◎
	User name	(Text will be entered.)	(Blank)	◎
	Password	(Text will be entered.)	(Blank)	◎
	Port No.	(Port No.)	80	◎
Camera setup	Date & time display			
	Display (check box)	Checked/Not checked	Checked	
	Display (drop-down list)	Off, On	On	
	Position (check box)	Checked/Not checked	Checked	
	Position (drop-down list)	L-Upper, L-Lower, R-Upper, R-Lower	L-Upper	
	Camera selection	Checked/Not checked	(Registered cameras are checked.)	
	Display Title			
	Display (check box)	Checked/Not checked	Checked	
	Display (drop-down list)	Off, On	On	
	Display Title (check box)	Checked/Not checked	Checked	
	Display Title	(Text will be entered.)	(Blank)	
	Camera selection	Checked/Not checked	(Registered cameras are checked.)	
	Refresh interval			
	Refresh interval	0.2 s, 0.5 s, 1 s, 2 s, 3 s	1 s	
	Camera selection	Checked/Not checked	(Registered cameras are checked.)	
	VMD alarm			
	VMD alarm	Off, On	On	
	Camera selection	Checked/Not checked	(Registered cameras are checked.)	
	Super Dynamic			
	Super Dynamic	Off, On	On	
	Camera selection	Checked/Not checked	(Registered cameras are checked.)	
	Light control mode			
	Light control mode	Outdoor scene, Indoor scene, Indoor scene(60 Hz)	Indoor scene	
	Camera selection	Checked/Not checked	(Registered cameras are checked.)	

Menu/Tab	Setting item (including those of the "Advanced setup" menu)	Available range	Default	Remarks
	360 pan-flip			
	360 pan-flip	Off, On	Off	
	Camera selection	Checked/Not checked	(Registered cameras are checked.)	
	Upside-down			
	Upside-down	On (desktop), Off (ceiling)	On (desktop)	
	Camera selection	Checked/Not checked	(Registered cameras are checked.)	
	Max bit rate (per client)			
	Max bit rate (per client)	64 kbps, 128 kbps, 256 kbps, 384 kbps, 512 kbps, 768 kbps, 1024 kbps, 1536 kbps, 2048 kbps, 3072 kbps, 4096 kbps	1024 kbps	
	Camera selection	Checked/Not checked	(Registered cameras are checked.)	
	Indicator			
	Indicator	On, On(Access), Off	Off	
	Camera selection	Checked/Not checked	(Registered cameras are checked.)	
REC & event				
Recording setup	Days to record			
	Mon, Tue, ..., Sun	Checked/Not checked	Checked	
	Schedule to record			
	Time table1-Schedule recording (Schedule bar)	--:--, 00:00 - 24:00	Schedule bar 1: 00:00 - 24:00 Schedule bar 2: --:-- - --:-- Schedule bar 3: --:-- - --:--	
	Time table1-Schedule recording (HDD saving mode)	Checked/Not checked	Schedule bar 1: Not checked Schedule bar 2: Not checked Schedule bar 3: Not checked	
	Recording setup (All cameras)			
	Frame rate	1 ips, 3 ips, 5 ips, 10 ips, 15 ips, 30 ips	10 ips	●
	Image quality	XF, SF, FQ, NQ	FQ	●
	Referenced recording days	(Calculated result will be displayed.)	(Calculated result will be displayed.)	
	Advanced schedule 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	◎
	Event recording (Pre-event duration)	0 s, 5 s, 10 s, 15 s	0 s	◎
	Schedule to record (Time table1-Schedule recording-Schedule bar)	--:--, 00:00 - 24:00	Schedule bar 1: 00:00 - 24:00 Schedule bar 2: --:-- - --:-- Schedule bar 3: --:-- - --:--	◎
	Schedule to record (Time table1-Schedule recording-HDD saving mode)	Checked/Not checked	Schedule bar 1: Not checked Schedule bar 2: Not checked Schedule bar 3: Not checked	◎
	Schedule to record (Time table1-Event recording)	--:--, 00:00 - 24:00	Schedule bar 1: 00:00 - 24:00 Schedule bar 2: --:-- - --:-- Schedule bar 3: --:-- - --:--	◎
	Schedule to record (Time table1-Event recording-e-Mail)	Checked/Not checked	Schedule bar 1: Not checked Schedule bar 2: Not checked Schedule bar 3: Not checked	◎
	Schedule to record (Time table1-Event recording-Panasonic alarm protocol)	Checked/Not checked	Schedule bar 1: Not checked Schedule bar 2: Not checked Schedule bar 3: Not checked	◎
	Schedule to record (Time table2-Schedule recording-Schedule bar)	--:--, 00:00 - 24:00	Schedule bar 1: --:-- - --:-- Schedule bar 2: --:-- - --:-- Schedule bar 3: --:-- - --:--	◎

Menu/Tab	Setting item (including those of the "Advanced setup" menu)	Available range	Default	Remarks
	Schedule to record (Time table2-Schedule recording-HDD saving mode)	Checked/Not checked	Schedule bar 1: Not checked Schedule bar 2: Not checked Schedule bar 3: Not checked	◎
	Schedule to record (Time table2-Event recording)	--:--, 00:00 - 24:00	Schedule bar 1: --:-- - --:-- Schedule bar 2: --:-- - --:-- Schedule bar 3: --:-- - --:--	◎
	Schedule to record (Time table2-Event recording-e-Mail)	Checked/Not checked	Schedule bar 1: Not checked Schedule bar 2: Not checked Schedule bar 3: Not checked	◎
	Schedule to record (Time table2-Event recording-Panasonic alarm protocol)	Checked/Not checked	Schedule bar 1: Not checked Schedule bar 2: Not checked Schedule bar 3: Not checked	◎
	Advanced recording setup			
	Model	(Registered information will be displayed.)	(Registered information will be displayed.)	◎
	Compression	(Registered information will be displayed.)	(Registered information will be displayed.)	◎

	Image capture size	When the aspect ratio is 4:3
		  QVGA(320x240)/
		  VGA(640x480)/
		  SXVGA(1280x960)/
		  SXVGA(800x600)
		When the aspect ratio is 16:9
		  QVGA(320x180)/
		  HVGAW(640x360)/
		  HD(1280x720)/
		  FHD(1920x1080)
			VGA(640x480)	◎

	Rate	1 ips, 3 ips, 5 ips, 10 ips, 15 ips, 30 ips	10 ips	● ◎
	Quality	XF, SF, FQ, NQ	FQ	● ◎
	Audio	Off, On	Off	◎
	Recording	Off, On, Anytime	On	◎
	Saving	Depend, Except	Depend	◎
	Referenced recording days	(Calculated result will be displayed.)	(Calculated result will be displayed.)	◎
Event setup	Alarm action			
	Output duration	0 s, 2 s, 5 s, 10 s, 20 s, 30 s, 1 min, Ext., Rec.	2 s	◎
	Buzzer duration	0 s, 2 s, 5 s, 10 s, 20 s, 30 s, 1 min, Ext., Rec.	2 s	◎
	Auto reset time	2 s, 5 s, 10 s, 20 s, 30 s, 1 min, 3 min, 5 min, Ext.	Ext.	◎
	Message display	Off, On	On	◎
	Main monitor action	Off, On	Off	◎
	Advanced terminal alarm setup			
	Mode	Off, Recording only, Recording & alarm action	Recording & alarm action	◎
	Setup by terminal (Recording camera)	Off, Cam.1, ..., Cam.16, All	Camera number associated with the terminal number	◎
	Setup by terminal (Preset)	001 - 256, ---	---	◎
	Setup by terminal (Terminal output)	Off, On	On	◎
	Setup by terminal (Terminal input)	N.O., N.C.	N.O.	◎
	Advanced camera site alarm setup			
	Mode	Off, Recording only, Recording & alarm action	Recording & alarm action	◎
	Setup by camera (Recording camera)	Off, Cam.1, ..., Cam.16	Camera number	◎
	Setup by camera (Preset)	001 - 256, ---	---	◎
	Setup by camera (Terminal output)	Off, On	On	◎

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Menu/Tab	Setting item (including those of the "Advanced setup" menu)	Available range	Default	Remarks
	Advanced command alarm setup			
	Mode	Off, Recording only, Recording & alarm action	Recording & alarm action	◎
	Setup by camera (Recording camera)	Off, Cam.1, ..., Cam.16	Camera number	◎
	Setup by camera (Preset)	001 - 256, ---	---	◎
	Setup by camera (Terminal output)	Off, On	On	◎
	Advanced face matching alarm setup			
	Mode	Off, Alarm action	Off	◎
	Setup by camera (Face matching output)	Off, On	On	◎
	Face registration			
	Registration list (Sensitivity)	1(Low), 2, 3, 4, 5(High)	3	
	Registration list (Face image)	Undefined	(Undefined)	
	Registration list (Appearance)	(Indication only)	(Indication only)	
	Registration list (Name)	(Text will be entered.)	Person01 … Person16	
	Registration list (Matching)	On, Off	Off	
	Setup area	(Desired area on the screen)	Matching area1: All area Matching area2 - 4: Undefined	
Advanced setup	Recording mode	Off, On	On	◎
	Alarm disarm duration	2 s, 3 s, 5 s, 10 s	2 s	◎
	Panasonic alarm port number	(Port No.)	1818	◎

Advanced setup

Menu/Tab	Setting item (including those of the "Advanced setup" menu)	Available range	Default	Remarks
Monitor				
Main monitor	Camera title			
	Display	Off, On	On	◎
	Position	L-Upper, L-Lower, R-Upper, R-Lower	R-Upper	◎
	Camera title	(Text will be entered.)	CAM1, ..., CAM16	◎
Live monitor	Live sequence			
	Duration	5s, 10 s, 15 s, 30 s, Ext.	10 s	◎
	Camera selection	Checked/Not checked	Not checked	◎
	Secret view	Off, On	Off	◎
Advanced setup	Eco. monitor function			
	Decrease luminance	Off, After 1 min, After 3 mins, After 5 mins, After 10 mins	Off	◎
	Backlight off	Off, After 15 mins, After 30 mins, After 1 hour, After 3 hours	Off	◎
	Recover the luminance at an alarm occurrence	Checked/Not checked	Checked	◎
	Recover the luminance at an error occurrence	Checked/Not checked	Checked	◎
	Audio output camera	Selected camera, Cam.1, ..., Cam.16	Selected camera	◎

Menu/Tab	Setting item (including those of the "Advanced setup" menu)	Available range	Default	Remarks
	Other setup			
	Display live camera image in high resolution (SXVGA) on 1-screen display	Checked/Not checked	Not checked	◎
	Auto-hide the status display panel and the operation panel in wide view	Checked/Not checked	Not checked	◎
	Divide the live camera image positions equally in wide view	Checked (4:3 selected)/ Checked (16:9 selected)/ Not checked	Not checked	◎
	Stretch images to fit the areas in control screen display	Checked/Not checked	Not checked	◎
	Display images in 16:9 aspect ratio on the web browser window	Checked/Not checked	Not checked	◎
Network				
Basic	Network Setup			
	IP address	(IP address)	192.168.0.250	◎
	Subnet mask	(IP address)	255.255.255.0	◎
	Default gateway	(IP address)	192.168.0.1	◎
	Line speed	Auto, 100M-Full, 100M-Half, 10M-Full, 10M-Half	Auto	◎
	DNS Setup			
	DNS	Off, Manual	Off	◎
	Primary server address	(IP address)	0.0.0.0	◎
	Secondary server address	(IP address)	0.0.0.0	◎
	Domain name	(Text will be entered.)	localdomain	◎
	DDNS Setup			
	DDNS	Off, Viewnetcam.com, Dynamic DNS update	Off	◎
	Access interval (Viewnetcam.com)	10 min, 20 min, 30 min, 40 min, 50 min, 1 h	1 h	◎
	Host name (Dynamic DNS)	(Text will be entered.)	NV200	◎
	Access interval (Dynamic DNS)	10 min, 20 min, 30 min, 40 min, 50 min, 1 h, 6 h, 24 h	1 h	◎
	Other setup			
	HTTP port number	(Port No.)	80	◎
	FTP port number	(Port No.)	21	◎
	Attach the alteration detection code (FTP)	Off, On	Off	◎
e-Mail	e-Mail setup			
	SMTP server address	(Text will be entered.)	(Blank)	◎
	SMTP port number	(Port No.)	25	◎
	POP server address	(Text will be entered.)	(Blank)	◎
	Authentic method	None, POP before SMTP, SMTP	None	◎
	User name	(Text will be entered.)	(Blank)	◎
	Password	(Text will be entered.)	(Blank)	◎
	Sender's address	(Text will be entered.)	NWDR	◎
	Destination address (Address)	(Text will be entered.)	(Blank)	◎

Menu/Tab	Setting item (including those of the "Advanced setup" menu)	Available range	Default	Remarks
	Destination address (Warning)	Checked/Not checked	Checked	◎
	Destination address (Alarm)	Checked/Not checked	Checked	◎
Panasonic alarm protocol	Panasonic alarm protocol			
	Port number(to PC)	(Port No.)	1818	◎
	Retry	0, …, 8	2	◎
	Destination address (Address)	(Text will be entered.)	(Blank)	◎
NTP/SNMP	NTP setup			
	Time adjustment	Off, On	Off	◎
	NTP server address	(Text will be entered.)	(Blank)	◎
	SNMP setup			
	Community	(Text will be entered.)	(Blank)	◎
	System name	(Text will be entered.)	(Blank)	◎
	Location	(Text will be entered.)	(Blank)	◎
	Contact	(Text will be entered.)	(Blank)	◎
User management				
Basic	Operation			
	Auto login	Off, On	On	◎
	Auto login user	(Select from the registered user names.)	ADMIN	◎
	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	◎
	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)	◎
	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)	◎

Menu/Tab	Setting item (including those of the "Advanced setup" menu)	Available range	Default	Remarks
	Setup	Checked/Not checked	Manager: (Checked, Fixed) Operator: Not checked Viewer: Not checked Logged out: (Not checked, Fixed)	◎
	Camera image display	Checked/Not checked	Manager: (Checked, Fixed) Operator: Checked Viewer: Checked Logged out: Checked	◎
User registration	Register new user			
	User name	(Text will be entered.)	(Blank)	◎
	Password	(Text will be entered.)	(Blank)	◎
	Level	Manager, Operator, Viewer	Operator	◎
	Default screen	Cam.1, ..., Cam.16, 4Screen-A, 4Screen-B, 4Screen-C, 4Screen-D, 16Screen	4Screen-A	◎
	Edit user information			
	User name	(Select from the registered user names.)	(Undefined)	◎
	Password	(Text will be entered.)	(Blank)	◎
	Level	Manager, Operator, Viewer	(Undefined)	◎
	Default screen	Cam.1, ..., Cam.16, 4Screen-A, 4Screen-B, 4Screen-C, 4Screen-D, 16Screen	(Blank)	◎
Administrator setup	Administrator name	(Text will be entered.)	ADMIN	◎
	Password	(Text will be entered.)	12345	◎
	Password (Retype)	(Text will be entered.)	12345	◎
	Level	Administrator	Administrator	◎
	Default screen	Cam.1, ..., Cam.16, 4Screen-A, 4Screen-B, 4Screen-C, 4Screen-D, 16Screen	4Screen-A	◎
Maintenance				
System information	Software version1	(Indication only)	(Indication only)	◎
	Software version2	(Indication only)	(Indication only)	◎
	Hardware version	(Indication only)	(Indication only)	◎
	Serial number	(Indication only)	(Indication only)	◎
	Network port			
	MAC address	(Indication only)	(Indication only)	◎
	IP address	(Indication only)	(Indication only)	◎
	Line speed	(Indication only)	(Indication only)	◎
	Internal temperature	(Indication only)	(Indication only)	◎
	Highest temperature	(Indication only)	(Indication only)	◎
HDD information	Capacity	(Indication only)	(Indication only)	◎
	Operation	(Indication only)	(Indication only)	◎
	Status	(Indication only)	(Indication only)	◎
	Recorded time range	(Indication only)	(Indication only)	◎
	Overwrite cycle	(Indication only)	(Indication only)	◎

Menu/Tab	Setting item (including those of the "Advanced setup" menu)	Available range	Default	Remarks
System management	System setup			
	Error buzzer duration	0 s, 2 s, 5 s, 10 s, 20 s, 30 s, 1 min, Ext.	2 s	◎
	Error output duration	0 s, 2 s, 5 s, 10 s, 20 s, 30 s, 1 min, Ext.	2 s	◎
	Network link down detection	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	Off	◎
	Logs			
	Access log (Date & Time / Log)	(Indication only)	(Indication only)	
	Network log (Date & Time / Log)	(Indication only)	(Indication only)	
	Functions for maintenance			
	Registration of license	(Text will be entered.)	(Blank)	
	Reset all settings	(None)	(None)	◎
	Save data (to SD card)	(None)	(None)	
	Load data (from SD card)	(None)	(None)	
	Save face data (to SD card)	(None)	(None)	
	Load face data (from SD card)	(None)	(None)	
	Download face data	(None)	(None)	◎
	Upload face data	(None)	(None)	◎
	Firmware update	(None)	(None)	◎
	Other	(None)	(None)	
Registration Key	Entry information of the key management system			
	MPR ID	(None)	(Unique number given to the device)	
	Activation Key No.	(None)	(Described on the Activation Key Card)	
	Registration ID	(None)	(Described on the Activation Key Card)	
	Registration of license			
	Product-Registration Key	(Text will be entered.)	(Blank)	
	Additional business intelligence - Registration Key	(Text will be entered.)	(Blank)	
	Dealer's information	(Text will be entered.)	(Blank)	
	Download face data	(Not available)	(Not available)	◎
	Upload face data	(Not available)	(Not available)	◎
HDD management				
General	HDD information			
	Capacity	(Indication only)	(Indication only)	◎
	Operation	(Indication only)	(Indication only)	◎
	Status	(Indication only)	(Indication only)	◎
	Recorded time range	(Indication only)	(Indication only)	◎
	Format HDD			
	HDD information (Capacity)	(Indication only)	(Indication only)	◎
	HDD information (Operation)	(Indication only)	(Indication only)	◎

Menu/Tab	Setting item (including those of the "Advanced setup" menu)		Available range	Default	Remarks
	HDD information (Status)		(Indication only)	(Indication only)	◎
	HDD information (Format)		Checked/Not checked	Not checked	◎
	HDD information (Results)		(Indication only)	(Indication only)	◎
	Remove HDD				
	HDD information (Capacity)		(Indication only)	(Indication only)	
	HDD information (Operation)		(Indication only)	(Indication only)	
	HDD information (Status)		(Indication only)	(Indication only)	
	HDD information (Remove)		Checked/Not checked	Not checked	
	HDD information (Results)		(Indication only)	(Indication only)	
	Add playback only HDD				
	HDD information (Capacity)		(Indication only)	(Indication only)	
	HDD information (Operation)		(Indication only)	(Indication only)	
	HDD information (Status)		(Indication only)	(Indication only)	
	HDD information (Add)		Checked/Not checked	Checked	
	HDD information (Results)		(Indication only)	(Indication only)	
Extra function					
Business intelligence	Accumulate statistics data		Off, On	Off	◎
	People counting	Detection area	x: 0 – 1280, y: 0 - 960	Detection area1: All area Detection area2 - 4: No setting	
	Age and gender judgement	Matching area	x: 0 – 1280, y: 0 - 960	Detection area1: All area Detection area2 - 4: No setting	
	Save statistics data (to SD card)	Start	2010/1/1 0:00 - 2034/12/31 23:59	The day before "End"	
		End	2010/1/1 0:00 - 2034/12/31 23:59	The date & time when this tab is displayed	
	Download statistics data	Start	2010/1/1 0:00 - 2034/12/31 23:59	The day before "End"	◎
		End	2010/1/1 0:00 - 2034/12/31 23:59	The date & time when this tab is displayed	◎

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 HDD (hard disk drive) number.
- "f" indicates the cooling fan number.
- "cc" indicates the camera number.

Description	Status display panel	Error log	Output from connector
Thermal error warning	Thermal error	Thermal error	Recorder error
FAN warning	Fan error: Fanf	Fan error: Fanf	Recorder error
Network camera error detection	Communication error: Cam. cc	Communication error: Cam. cc	Camera error
Network camera error recovery	–	Communication error :	–
Network camera error detection (audio)	Communication error: Cam. cc	Communication error: Cam. cc	Camera error
Network camera error recovery (audio)	–	Audio communication recovered: Cam. cc	–
Video loss (Notification of video input signal loss occurred on the encoder)	Video loss: Cam. cc	Video loss: Cam. cc	Camera error
Video loss recovery (Notification of video input signal loss recovered on the encoder)	–	Video recovered: Cam. cc	–
Recording error detection	Recording error	Recording error	Recording error
SMART warning	SMART warning: HDDx	SMART warning: HDDx	HDD error
HDD hour meter warning	Hour meter warning: HDDx	Hour meter warning: HDDx	HDD error
HDD skip[1] warning	–	HDD skip: HDDx	–
HDD write error	–	Write error: HDDx	–
HDD read error	–	Read error: HDDx	–
Alteration detection	Altered: Cam. cc	Altered: Cam. cc	Recorder error
Remove auto links (per HDD)	HDD removed: HDDx	HDD removed: HDDx	HDD error
HDD format error	Format error: HDDx	Format error: HDDx	HDD error
HDD removal error (Properly recognized HDD was removed without proper operations.)	Swap warning: HDDx	Swap warning: HDDx	HDD error
Reboot (Related to CPU)	–	System reboot(CPU)	–
Reboot (Related to DEC)	–	System reboot(DEC)	–
Reboot (Related to NW error)	–	System reboot(NW error)	–
Failed to write data on the media	Copy error	Write error: SD card Write error: DVD[2]	–
Failed to read the data from the media	–	Read error: SD card Read error: DVD[2]	–
Copy media FULL	–	No available space: SD card No available space: DVD[2]	–
NW link error	Network link error	–	Network error
Line speed warning (When line speed becomes "Half" while "Auto" is being set)	Line speed warning	Line speed warning	–
When time is not adjusted due to the time difference of 1000 second or more from the NTP server	Skip time adjustment	Skip time adjustment	–
Failed to resolve an address of Panasonic alarm protocol from DNS	–	Address error: PANASONIC ALARM	Network error
No response from a notified address of Panasonic alarm protocol	–	No response: PANASONIC ALARM	Network error
Undefined error of Panasonic alarm protocol	–	Other error: PANASONIC ALARM	Network error

[1] "HDD skip" is the function that continues recording on another hard disk drive even if an error occurs, such as an HDD write error.

[2] DVD-drive-equipped models only

Network logs

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 or the web browser of a PC that is connected to the recorder.

The display contents of each error logs are common between the main monitor and the web browser.

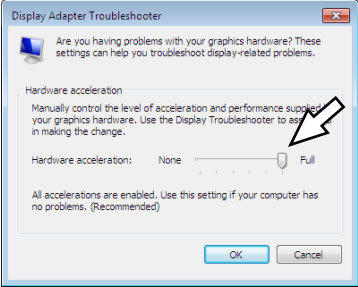| Description	Network log	Output from connector
NW link error	NETWORK LINK ERROR	Network error
E-mail transmission complete	<SMTP>MAIL_SEND	–
SMTP authentication error	<SMTP>SMTP_ATTEST_ERR	Network error
POP3 authentication error	<SMTP>POP3_ATTEST_ERR	Network error
Failed to resolve POP3 server address from DNS	<SMTP>POP3_ADD_ERR	Network error
Failed to find POP3 server	<SMTP>POP3_SVR_ERR	Network error
Failed to resolve SMTP server address from DNS	<SMTP>SMTP_ADD_ERR	Network error
Failed to find SMTP server	<SMTP>SMTP_SVR_ERR	Network error
MAIL FROM command error	<SMTP>MAIL_FROM_ERR	Network error
RCPT TO command error	<SMTP>RCPT_TO_ERR	Network error
Other errors for SMTP	<SMTP>OTHER_ERR	Network error
FTP server transfer complete	<FTP>SVR_FWD_OK	–
Other error for FTP	<FTP>OTHER_ERR	Network error
Synchronization with the NTP server complete	<NTP>GET_TIME_OK	–
Failed to resolve NTP server address from DNS	<NTP>SVR_ADD_ERR	Network error
Synchronization with the NTP server failed (Time is not synchronized.)	<NTP>TIME_INVALID	Network error
Failed to adjust the time	<NTP>SET_TIME_ERR	Network error
Failed to find NTP server	<NTP>SVR_ERR	Network error
Other errors for NTP	<NTP>OTHER_ERR	Network error
Password error for SNMP user name	<SNMP>USER_PASS_ERR	Network error
SNMP object inquiry failure	<SNMP>OBJ_ERR	Network error
Other errors for SNMP	<SNMP>OTHER_ERR	Network error
Password error for HTTP user name	<HTTP>USER_PASS_ERR	Network error
HTTP download failure	<HTTP>DOWNLOAD_ERR	Network error
HTTP request invalid	<HTTP>REQUEST_ERR	Network error
Other errors for HTTP	<HTTP>OTHER_ERR	Network error
Failed to resolve the DDNS server address from DNS.	<DDNS>SVR_ADD_ERR	Network error
No response from the DDNS server.	<DDNS>SVR_ERR	Network error
Same host name has registered.	<DDNS>HOST_NAME_ERR	Network error
Undefined error.	<DDNS>OTHER_ERR	Network error

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 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 power socket of the recorder.	21
The error indicator lights orange. The recorder stops because of the thermal error.	• The cooling fan is out of order. Contact your dealer.	18
	• Check if the ventilation openings on the front side and the cooling fan on the rear panel are not blocked.	17
	• Temperature inside the recorder is too high/low. Use the recorder at appropriate ambient temperatures.	15
	• When the error indicator blinks orange, the temperature inside the recorder may be too high. Check whether dust is collected around the ventilation openings or not.	18
Camera images are not displayed on the monitor.	• Is the lens cap of the camera detached from the camera? Check whether the lens cap is removed.	–
	• 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.	24, 25
	• Is the monitor luminance appropriately adjusted, or is the contrast appropriately adjusted? Check whether the monitor 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.	71
	• Is the camera set to record H.264 video on the SDHC/SD memory card? Select "i-PRO(St1Only)" for "Model" on the "Registered information" window.	47
Part of the displayed image is missing.	• This phenomenon is caused by dispersion of display area on the monitor. This is not a malfunction.	–
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.	71
	• Is the monitor connected to the spot output connector? The setup menu cannot be displayed on the spot output connector.	21
Recording cannot be performed.	• Is "On" is selected for "Recording mode"? Check whether the setting is appropriate.	61
	• Are the settings of the schedules appropriate? Check whether the settings are appropriate.	53

Symptom	Cause/solution	Reference pages
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. That is not a trouble.	–
Cannot play back images.	• Are there any recorded images on the hard disk drives? Check if there are recorded images.	75
	• 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.	71
	• Users who have logged into the system may not be authorized to display images from the cameras. Check the user level settings of these users.	71
Audio is not output from the camera. Or audio is accompanied by noise.	• Is the audio encoding format of the camera set to "G.726(32kbps)"? This recorder supports "G.726(32kbps)" only. Check the setting of the connected camera.	–
Cannot control the cameras.	• 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.	46
	• 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.	47
No alarm action is taken.	• Check if alarm input signals are properly input to the ALARM/CONTROL connector at the rear panel.	27
	• Are the settings of the alarm terminals appropriate?	27
	• Is "Off" or "Recording only" selected for "Mode"? Check whether the settings are appropriate.	56
The "Communication error :cc" indication is displayed on the main monitor.	• Confirm that the camera is connected correctly and firmly. Check the camera connection.	23
	• If the connection is appropriate, the cable may be broken or the camera may be out of order. Consult the dealer.	–
The "Thermal error" indication is displayed on the main monitor.	• The ambient operating temperature is +5 °C to +45 °C {41 °F to 113 °F}. The "Thermal error" indication is displayed when the ambient operating temperature exceeds +45 °C {113 °F}. If the "Thermal error" indication is displayed, it is recommended to change the installation environment so that the ambient temperature is maintained at approx. +25 °C {77 °F}. When the "Thermal error" indication is displayed frequently, contact your dealer.	15
The clock of the recorder may keep bad time.	• Has the built-in battery sufficiently been charged? Charge the built-in backup battery by turning on the power for 48 hours or more.	15
	• Is the built-in backup battery depleted? The built-in battery life is around 5 years as an indication of replacement. (The built-in battery life may become shorter depending on the use condition.)	15
The HDD indicator is being lit red/blinking red.	• The hard disk drive is faulty. Contact your dealer.	18
Cannot copy data on the SD memory card. Image data saved on the SD memory card cannot be searched or played back.	• Is a recommended SD memory card used? • Some SD memory cards cannot be used with this recorder. It is recommended to use Panasonic's SD memory card. • Is the SD memory card formatted? • Are data copied to the SD memory card	99
A pop-up is not displayed on the browser.	• It may be possible that a pop-up blocker other than Internet Explorer is activating. Check the installed software and cancel the pop-up blocker.	–

Symptom	Cause/solution	Reference pages
Cannot access from the web browser.	• Is the Ethernet cable firmly connected to the 10BASE-T, 100BASE-TX or 1000BASE-T port? Confirm the cable is firmly connected.	21
	• Is the link indicator (orange) of the network port lit? When it is not lit, connection to a LAN is not established or a network is not working correctly. Confirm that the link indicator of the network port is lit. Refer to the system administrator if it is not lit.	21
	• Is the valid IP address set? Refer to a system administrator for further information about the settings.	65
	• Are you accessing the wrong IP address? Check the connection as follows: >ping "IP address of this recorder" If there is reply from this recorder, the connection is normal. If not, check the settings of the IP address and the subnet mask.	65
	• Is the same IP address provided to other devices? Refer to a system administrator for further information about the settings.	65
	• 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.	65

When displaying images on a multi-screen, images from two cameras or more are displayed in sequence on a screen of multiscreen.	• This phenomenon may occur due to the display adaptor and driver combination. When the phenomenon has occurred, update the driver of the display adaptor to the latest version first.
	• If updating the driver does not solve the problem, adjust the hardware acceleration as follows. The following are descriptions when using Windows 7.
	  1. After closing all web browser windows, right-click on the desktop and select "Screen resolution" from the displayed pop-up menu.
	  2. Click "Advanced settings" on the "Screen resolution" window.
	  3. Select the [Troubleshoot] tab and click the [Change settings] button.
	  4. Disable the DirectDraw acceleration by adjusting the level of "Hardware acceleration" on "Display Adapter Troubleshooter".
	
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Inspect the power cord, power plug and connectors periodically.

Symptom	Cause/solution	Reference 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.		

Specifications

• General

Power source:	120 V AC 60 Hz (WJ-NV200K, WJ-NV200VK)
	220 V - 240 V AC 50 Hz/60 Hz (WJ-NV200K/G)
Power consumption:	45 W
Ambient operating temperature:	Main body: +5 °C to +45 °C {41 °F to 113 °F}
	Mouse (accessory): +5 °C to +40 °C {41 °F to 104 °F}
Ambient operating humidity:	5 % - 90 % (non condensing) (WJ-NV200K,WJ-NV200K/G)
	10 % - 80 % (non condensing) (WJ-NV200VK)
Maximum operating altitude:	2000 m {6562 feet} or less
Dimensions (excluding rubber feet and projections):	420 mm (W) x 88 mm (H) x 300 mm (D) {16-17/32 inches (W) x 3-15/32 inches (H) x 11-13/16 inches (D)}
Mass:	Approx. 4.8 kg {10.60 lbs} (WJ-NV200K,WJ-NV200K/G)
	When a single hard disk drive is installed: Approx. 5.6 kg {12.36 lbs}
	When two hard disk drives are installed: Approx. 6.4 kg {14.13 lbs}
	Approx. 4.8 kg {10.60 lbs} (WJ-NV200VK)
	When a single hard disk drive is installed: Approx. 5.6 kg {12.36 lbs}
Finish:	Front view: Solid metallic coating
	Top cover: Solid metallic coating
	Rear view: Galvanized steel

• HDD (Locally procured – Contact your dealer.)

Hard disk drive:	3.5 type Serial ATA hard disk drive (Up to 2 hard disk drives can be installed.)

• DVD (Only for WJ-NV200VK)

Supported DVD disk type:	DVD-R, +R (Not supported: DVD-R DL, +R DL, DVD-R for authoring. 8 cm disks)

• Input/Output

Video:	Spot output connector: 1 V [p-p]/75 Ω, x1 (BNC)
	Monitor (HDMI) connector: HDMI, x1
Audio:	Audio output connector: –10 dBv, 600 Ω, unbalanced x1 (RCA pin jack)
Others:	Mouse connection port: x1
	Alarm/control terminal: Alarm input 1-9 ch[1], Network error output[2], Alarm reset input[1], Face matching output[2], HDD error output[2], Camera error output[2], Recorder error output[2], Recording error output[2], Time adjustment signal input[1], Alarm output[2], +5 V output[3] (D-sub 25-pin)
	Network port: 10BASE-T/ 100BASE-TX/ 1000BASE-T (RJ-45) x1
	SDHC/SD memory card slot: SDHC/SD memory cards applicable (miniSD cards and microSD cards not applicable)

*1 Non-voltage make contact input, 50 kΩ +5 V DC pull-up
*2 Open collector output, 24 V DC, –100 mA max.
*3 200 mA max.

• Option

Additional Business Intelligence Kit	WJ-NVF20, WJ-NVF20E
Recommended SDHC/SD memory card	Manufactured by Panasonic
	SDHC memory card: 4 GB, 8 GB, 16 GB, 32 GB
	SD memory card: 256 MB, 512 MB, 1 GB, 2 GB

Standard accessories

CD-ROM*... 1 pc.
Mouse .... 1 pc.
Installation Guide (this document) .... 1 pc.
Quick Reference Guide.. 1 pc.
Warranty (provided with WJ-NV200K, WJ-NV200VK) .... 1 pc.

The following are for installation:
Power cord (WJ-NV200K, WJ-NV200VK) .... 1 pc.
Power cord (WJ-NV200K/G).. 2 pcs.
HDD fixing screw (WJ-NV200K, WJ-NV200K/G)................ 8 pcs.
HDD fixing screw (WJ-NV200VK)...................................... 4 pcs.

   * The CD-ROM contains the operating instructions (PDFs).

Information for Users on Collection and Disposal of Old Equipment and used Batteries

These symbols on the products, packaging, and/or accompanying documents mean that used electrical and electronic products and batteries should 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 and the Directives 2002/96/EC and 2006/66/EC.
By disposing of these products and batteries correctly, you will help to save valuable resources and prevent any potential negative effects on human health and the environment which could otherwise arise from inappropriate waste handling.
For more information about collection and recycling of old products and batteries, please contact your local municipality, your waste disposal service or the point of sale where you purchased the items.
Penalties may be applicable for incorrect disposal of this waste, in accordance with national legislation.

For business users in the European Union
If you wish to discard electrical and electronic equipment, please contact your dealer or supplier for further information.

[Information on Disposal in other Countries outside the European Union]
These symbols are only valid in the European Union. If you wish to discard these items, please contact your local authorities or dealer and ask for the correct method of disposal.

Note for the battery symbol (bottom two symbol examples):
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.

Cd

┌─ For U.S.A. ─┐
Disposal may be regulated in your community due to environmental considerations. For disposal or recycling information, please visit Panasonic website: http://www.panasonic.com/environmental or call 1-888-769-0149.

For U.S. and Canada:

Panasonic System Communications Company of North America,
Unit of Panasonic Corporation of North America
www.panasonic.com/business/
For customer support, call 1.800.528.6747
Three Panasonic Way, Secaucus, New Jersey 07094 U.S.A.

Panasonic Canada Inc.
5770 Ambler Drive, Mississauga, Ontario, L4W 2T3 Canada
(905)624-5010
www.panasonic.ca

For Europe and other countries:

Panasonic Corporation
http://panasonic.net

Importer's name and address to follow EU rules:

Panasonic Testing Centre
Panasonic Marketing Europe GmbH
Winsbergring 15, 22525 Hamburg F.R.Germany

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