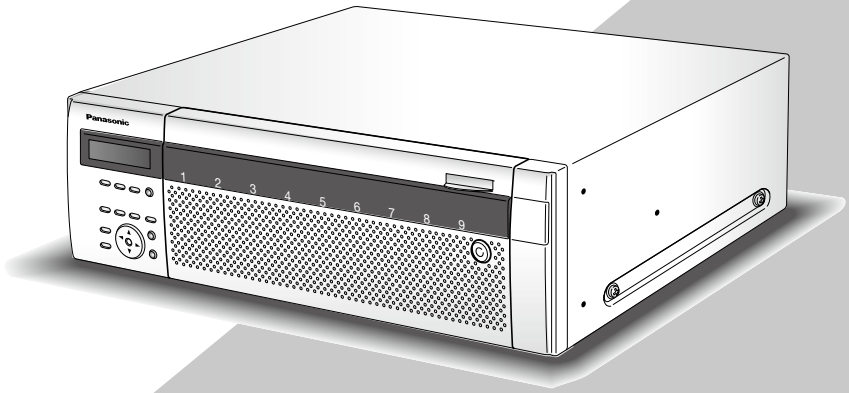
Panasonic

Operating Instructions

Network Disk Recorder

Model No. WJ-ND400K

WJ-ND400K/G



Before attempting to connect or operate this product,
please read these instructions carefully and save this manual for future use.
The model number is abbreviated in some descriptions in this manual.

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Preface

The network disk recorder (WJ-ND400K, WJ-ND400K/G) is designed for use within a surveillance system, and record images/audio from the connected network cameras on the hard disk drives. Up to 64 cameras can be connected via a network.
The HDDs encased in the provided HDD canisters (hereinafter referred as HDD units) can easily be installed/removed in/from this product.
It is possible to perform the settings or operate the recorder using a web browser installed on a PC connected to a network. (It is necessary to configure the network settings of a PC to operate this product using a PC.)
Up to 16 PCs (web browsers) can access the recorder concurrently and it is possible to perform the settings and operate the recorder. (The maximum number of PCs that can access the recorder varies depending on the network.)

About the user manuals

There are 4 manuals provided for the WJ-ND400K, WJ-ND400K/G as follows.

Installation Guide:	Contains descriptions of how to install/connect this product, and descriptions of how to operate this product with the buttons on the front panel.
Setup Instructions (PDF):	Contain descriptions of how to configure the required settings and how to connect to other devices.
Operating Instructions (PDF) (this book):	Contain descriptions of how to operate this product with a PC.
Quick Reference Guide:	Contains descriptions of how to configure the basic settings and how to use the major functions.

Adobe® Reader® is required to read the PDF files (the setup instructions and the operating instructions) on the provided CD-ROM.
When the Adobe® Reader® is not installed on the PC, download the latest Adobe® Reader® from the Adobe web site and install it.

"WJ-ND400" or "ND400" shown in the instructions and illustrations used in these operating instructions indicate the WJ-ND400K or WJ-ND400K/G.
The screens used in these operating instructions show the case of NTSC model.
Refer to "readme.txt" on the provided CD-ROM for further information about the optional dedicated software, compatible cameras and their versions.

System requirements for a PC

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

OS:	Microsoft® Windows Vista® Business SP1 (32-bit) Microsoft® Windows® XP Professional SP2, SP3* Microsoft® Windows® XP Home Edition SP2, SP3*
OS Language:	English, French, Spanish, German, Italian, Russian, Chinese
CPU:	Pentium® 4 3.0 GHz or faster
Memory:	1 GB or more (512 MB or more is required when using Microsoft® Windows® XP.)
Monitor:	Resolution: 1 024 x 768 pixels or more Color: 24-bit True color or better
Network interface:	10/100/1 000 Mbps Ethernet port x1
Web Browser:	Windows® Internet Explorer® 7.0 Microsoft® Internet Explorer® 6.0 SP2, SP3*
Audio interface:	Sound card (when using the audio function)

Other: CD-ROM drive: It is necessary to refer to the operating instructions and use the software 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.

* Microsoft® Internet Explorer® 6.0 SP2/SP3 is required when using Microsoft® Windows® XP Professional SP2/SP3 or Microsoft® Windows® XP Home Edition SP2/SP3, respectively.

Important:
- When using a PC that does not meet the above requirements, displaying of images may become slow or the web browser may become inoperable.
- Audio may not be heard if a sound card is not installed on a PC. Audio may be interrupted depending on the network environment.
- Microsoft® Windows® XP Professional x64 Edition is not supported.

Note:
- Refer to "Notes on Windows Vista®" (PDF) for further information about system requirements for a PC and precautions when using Microsoft® Windows Vista®.

Trademarks and registered trademarks

- Adobe and Reader are either registered trademarks or trademarks of Adobe Systems Incorporated in the United States and/or other countries.
- Microsoft, Windows, Windows Vista, Internet Explorer, ActiveX, DirectX are either a registered trademark or trademark of Microsoft Corporation in the United States and/or other countries.
- Intel and Pentium are trademarks or registered trademarks of Intel Corporation and its subsidiaries in the USA and other countries.
- Other names of companies and products contained in these operating instructions may be trademarks or registered trademarks of their respective owners.

Abbreviations

The following abbreviations are used in these operating instructions.
Microsoft® Windows Vista® Business SP1 (32-bit) is described as Windows Vista.
Microsoft® Windows® XP Professional SP2, SP3 and Microsoft® Windows® XP Home Edition SP2, SP3 are described as Windows XP.

Restrictions when operating MPEG-4 images

There are following restrictions when "MPEG-4" is selected for the image compression method of "NW camera" under "Camera" on the setup menu.

1. When displaying live images

(1) Black screen may be displayed for the first few seconds (*) when the following operations are performed while displaying live images.
- When MPEG-4 live images are displayed (by switching camera channel, etc.)
- When MPEG-4 image is enlarged (or when enlarged MPEG-4 image is resized to the original size)

(2) It may take several seconds (*) for refresh interval of MPEG-4 image when displaying images on a 4-screen.
Example: When "3 seconds" is selected for the refresh interval on the camera, MPEG-4 image will be refreshed in 3 seconds intervals.

2. When displaying images sequentially

When the image compression method of the camera selected for a camera channel is "MPEG-4", the respective sequence step will be skipped.

3. When playing recorded images

(1) Displayed playback time may be fast for several seconds (*) when the following operations are performed while playing recorded images.
- When MPEG-4 recorded images are played (by changing camera channel, etc.)
- When MPEG-4 image is enlarged (or when enlarged MPEG-4 image is resized to the original size)
(When operating to zoom in/out a paused MPEG-4 recorded image, image of several seconds later than the displayed image may be enlarged.)
- When the [PLAY] button is clicked again while playing MPEG-4 image
- When the first frame is displayed by clicking the [NEXT IMAGE] button during pausing

(2) Playback may be performed in several seconds intervals (*) when the following operations are performed while playing MPEG-4 image. Refer to the "Playback operations" section on page 20 for how to control playback.
- Reverse playback
- Fast playback/fast reverse playback
- Reverse frame playback

Example: When "3 seconds" is selected for the refresh interval on the camera, MPEG-4 image will be refreshed in 3 seconds intervals.

(3) When two records are played sequentially, the last few frames of the former record and the first few frames of the next record may be displayed overlapped.

(4) When playing MPEG-4 image by designating time and date, playback may start from a point several seconds (*) before or after the designated time and date or from the first frame of the next record.

4. When recording images

(1) Time and date displayed on the recording event list (actual start time of recordings) may not exactly indicate the actual time of recording trigger (event occurrence time, start time of the schedule recording, etc.), and also the recording duration may be shortened for seconds worth two times of the refresh interval set on the camera.
Example: When the set recording duration and the set refresh interval of the camera are 10 seconds and 1 second respectively
10 - (1 x 2) = 8 (sec)
The minimum actual recording duration is 8 seconds.

(2) When pre-event recording is set to be performed, pre-event recording duration may be longer than the set duration.
Example: Depending on the size of the image data, pre-recording duration may be around 10 seconds even when setting 5 seconds for the pre-event recording duration.

5. When copying images

Copying may start from a point several seconds (*) later than the designated start time when copying MPEG-4 images. To copy the desired images for sure, designate start time several seconds earlier than the time when the desired images are recorded, and set time range for copying longer than the refresh interval set on the camera.

6. When downloading recorded images

Downloading of recorded images may start from a point several seconds (*) earlier than the designated start time. Set time range for download longer than the refresh interval set on the camera.

7. When transmitting images recorded at an event occurrence to the FTP server

Duration of images to be transmitted to the FTP server, which are recorded at an event occurrence, may not be exactly the same as the duration set for "Duration-Pre" and "Duration-Post". Set "Duration-Pre" and "Duration-Post" longer than the refresh interval set on the camera.

8. Other

MPEG-4 images will not be attached to alarm mails.

Even when images are to be transmitted to the FTP server periodically, MPEG-4 images will not be transmitted.

* Time (seconds) differs depending on the refresh interval set on the camera (0.2 - 5 seconds). To shorten time lag, set the refresh interval on the camera shorter. Refer to the operating instructions of the camera for how to configure the refresh interval.

About the operation window

Display/Close the operation window

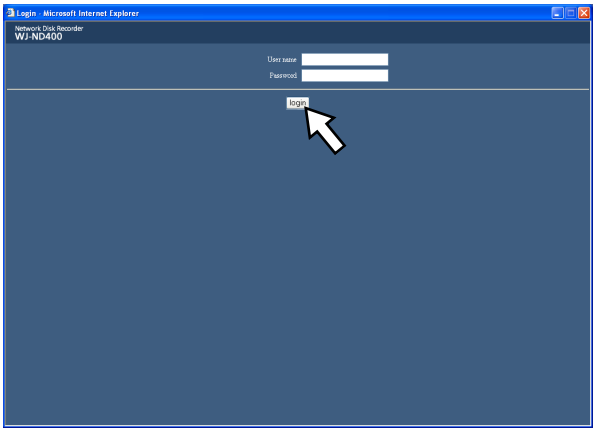
Display the operation window using a web browser installed on a PC.

1 Boot the PC.

2 Launch a web browser.

3 After the browser starts, enter the IP address set to the recorder in the address box, and press the enter key.

The authentication window will be displayed.
This window will not be displayed when "Off" is selected for "User authentication" on the "Basic" tab page of "User mng.". Refer to the setup instructions (PDF).

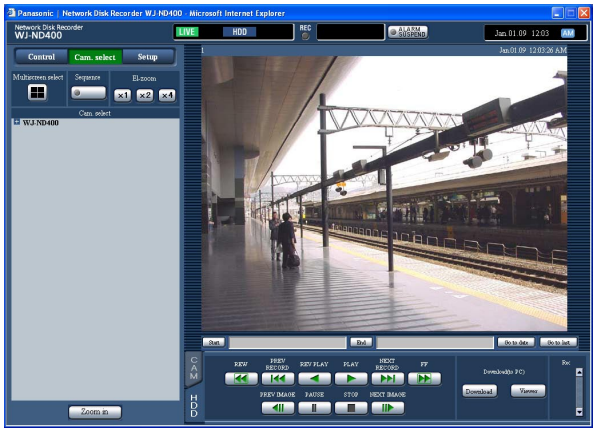


Important:

- Refer to a system administrator for the IP address of the recorder.
- It is impossible to access the recorder from a PC without a registered IP address when "On" is selected for "Host authentication" on the "Basic" tab page of "User mng.".
  Refer to a system administrator for further information.
- Do not attach "0" before the numbers when entering IP address.
  Example:
  OK: 192.168.0.50
  NG: 192.168.0.050
- If a message is displayed on the information bar, see page 74.

4 Enter the user name and password registered on the recorder and then click the [login] button.

The top page will be displayed.



Important:

- Refer to a system administrator for the user name and password.
  Refer to the Setup Instructions (PDF) for the descriptions of how to register users.
- The default user name and password are as follows.
  User name: ADMIN
  Password: 12345
- To enhance the security, change the password for the administrator before running the recorder. It is recommended to change the password for the administrator periodically.
  Refer to the Setup Instructions (PDF) for descriptions of how to change the password.
- When the recorder is being operated without changing the user name and password, the pop-up window saying that it is recommended to change the password will be displayed.

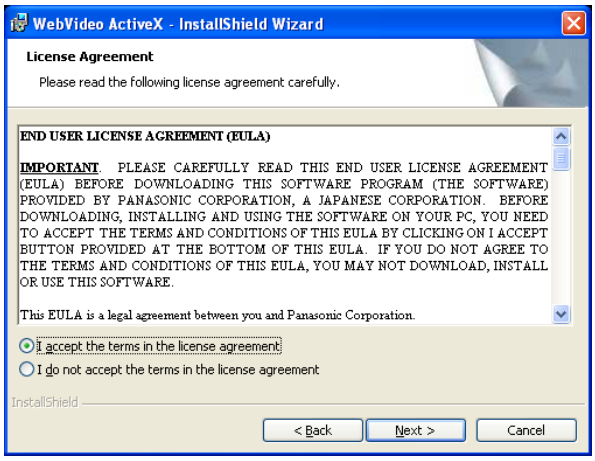
5 Configure the settings and perform operations by clicking the buttons and the tabs on the operation window.

Important:

- If a message is displayed on the information bar, see page 74.

Note:

- When the top page is displayed for the first time, the install wizard of the ActiveX control required to display images from the camera will be displayed. Follow the instructions of the wizard.



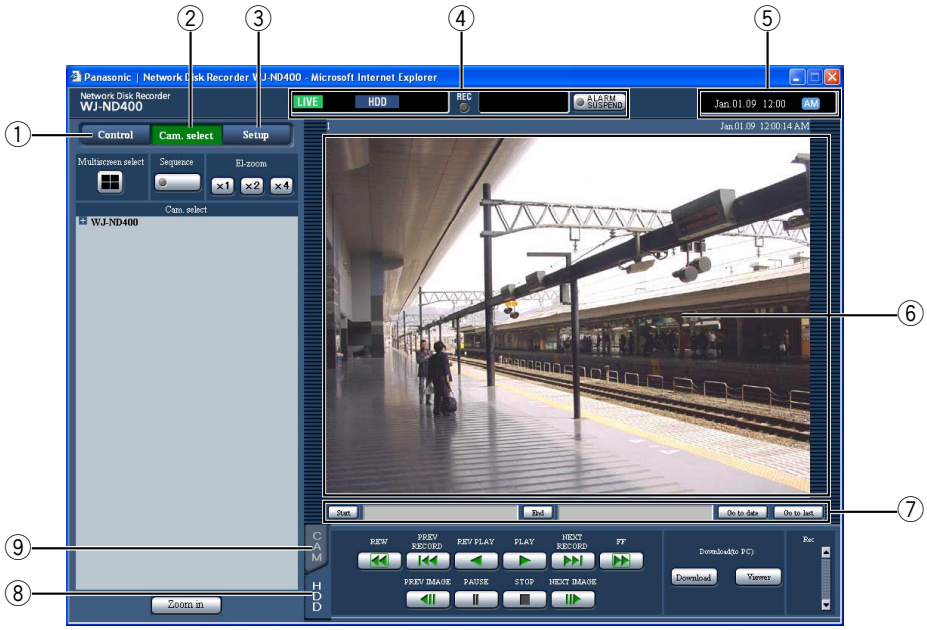
- When ActiveX for WJ-ND200/WJ-ND300 is installed, remove "WebVideo ActiveX" using the "Add or Remove Programs" control panel. After confirming that "WebVideo ActiveX" is deleted, install ActiveX of WJ-ND400.
- When the install wizard is displayed again even after completing the installation of the ActiveX, restart the PC.

6 Close the web browser when there is no more operation/settings configuration to be performed.

Click the [X] button at the top right of the window or shut down the browser.

Major operating controls and their functions

Top page



① **[Control] button (page 10)**
The operation panel will be displayed by clicking this button, and operations such as searching for recorded pictures on the hard disk drives and copying recorded images onto the copy area of the hard disk drives can be performed from the displayed operation panel. From the displayed operation panel, it is also possible to display images by switching the camera channels such as changing the screen of live image display from 1-screen to 4-screen, and the sequence display. Search results or log information will also be displayed on this panel.

② **[Cam. Select] button (page 12)**
The switcher functions such as switching camera channels are operable on this page.

③ **[Setup] button (page 13)**
The settings of the recorder can be configured on the setup menu pages displayed by clicking this button.

④ **Status display area (page 14)**
The status of the recorder such as the recording status, playback status, etc. will be displayed.

⑤ **Current time display area**
The current time will be displayed.

⑥ **Image display area**
Recorded images and live images will be displayed. The camera title is displayed at the upper left and the time and date (the current time and date of the camera's clock when displaying live images and the time and date when images were recorded when playing recorded images) at the upper right. Clicking the camera title during displaying images on a 4-screen will display images from the respective camera channel on a 1-screen.
At the default, the aspect ratio of each screen segment is 4:3. Refer to the Setup Instructions for the setting to change the aspect ratio to 16:9.

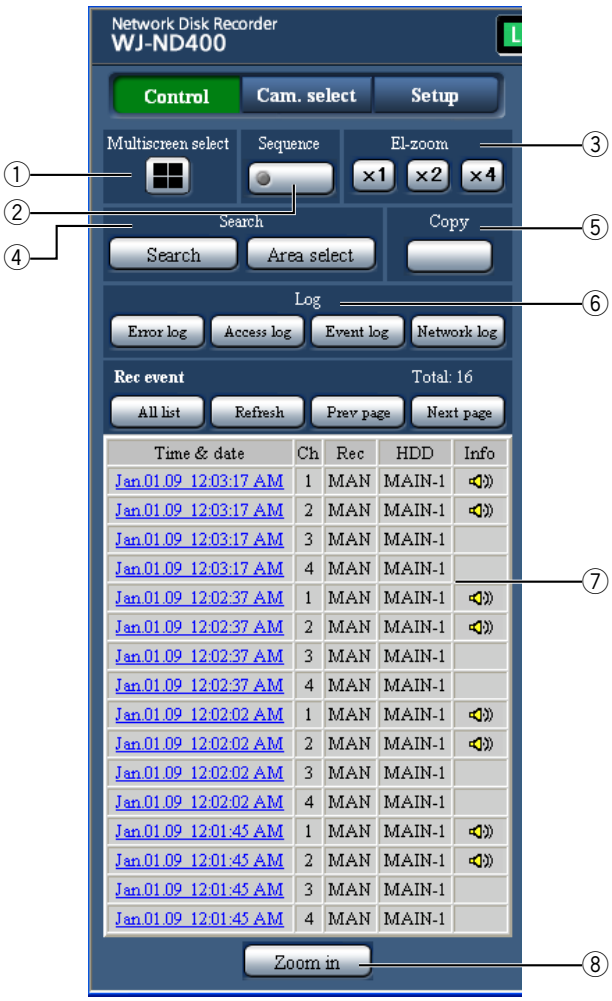
⑦ **Playback point operation area (page 15)**
It is possible to designate a playback point or to skip to the latest recorded image.

⑧ **[HDD] tab (page 15)**
Playback operation and downloading a recorded image onto a PC can be performed on this tab.

⑨ **[CAM] tab (page 17)**
Camera operations such as zooming, focusing, auto functions, etc. can be performed on this tab.

[Control] button

The following operation panel will be displayed when the [Control] button is clicked.



① **[Multiscreen select] box**

Up to 4 camera images can be displayed simultaneously on a multi-screen. Each time the button is clicked, images from the 4 cameras registered as a group in advance will be displayed on a 4-screen. (Up to 8 groups can be registered.)
Refer to the setup instructions (PDF).

② **[Sequence] box**

Camera images to be displayed will be switched by clicking this button. Camera images will be displayed sequentially according to the settings performed in advance. The indicator on the button will light (green) during sequence operation.
(Refer to the setup instructions (PDF).)

③ **[EL-zoom] box**

Camera images will be displayed in the proportion of the clicked zoom ratio button.

×1 : 1x

×2 : 2x

×4 : 4x

④ **[Search] box**

[Search] button

Use this button to search the recorded images. Search results will be displayed in list form in the list display area. (page 25, page 26)

[Area select] button

Use this button to select a disk to be played/searched. (page 28)

⑤ **[Copy] box**

The "Data copy" window will be displayed by clicking this button. The "Data copy" window is used to copy recorded images into the copy area of the hard disk drive. (page 44)

⑥ **[Log] box**

Logs will be displayed in list form in the list display area.

[Error log] button

The error logs will be in list form in the list display area.

[Access log] button

The time when logged in/out for the recorder, the user name, and the IP address will be displayed. The access logs will be displayed in list form in the list display area.

[Event log] button

The event logs (event occurrence times and their details) will be displayed. The event logs will be displayed in list form in the list display area.

[Network log] button

The network logs will be displayed in list form in the list display area.

⑦ **List display area**

Number of listed data (recording events or logs)

Total number of listed data (recording events or logs) will be displayed. When the total number of the listed data is more than 10 000, the ">10000" indication will be displayed.

[All list] button

Cancels filtering and lists all recording events.

[Refresh] button
Updates the list.
[Prev page] button
Displays the previous page of the list.
[Next page] button
Displays the next page of the list.
[Time & date]
Start time of recording will be displayed.
[Ch]
A camera channel used for recording will be displayed.
[Rec]
Recording mode will be displayed. (page 23)
[HDD]
The hard disk drive number in which the corresponding recorded images are stored will be displayed.
[Info]
Additional information will be displayed.
: Audio is attached to images.

⑧ **[Zoom in] button**
Enlarges live or recorded images displayed in the image display area.
Live images and recorded images will be displayed in the size selected for the aspect ratio setting. Refer to the Setup Instructions for further information about the aspect ratio setting.

Note:
- The recording event list will be displayed when the [Refresh] button is clicked or when performing the search (pages 25 and 26) or the area selection (page 28).
- The [All list] button is unavailable during playback.To list all recording events, stop playback and click the [All list] button.
- When using many cameras, the recording event list may not be displayed in the recording start time order of each camera channel.

[Cam. select] button

The following operation panel will be displayed when the [Cam. select] button is clicked.

① **[Multiscreen select] box**
Images from up to 4 cameras can be displayed simultaneously on a multi-screen. Each time the button is clicked, images from the 4 cameras registered as a group in advance will be displayed on a 4-screen. (Up to 8 groups can be registered.) (Refer to the setup instructions (PDF).)

② **[Sequence] box**
Camera images to be displayed will be switched by clicking this button. Camera images will be displayed sequentially according to the settings performed in advance. The indicator on the button will light (green) during sequence operation.
Refer to the setup instructions (PDF).

③ **[EL-zoom] box**
Camera images will be displayed in the proportion of the clicked zoom ratio button.

: 1x

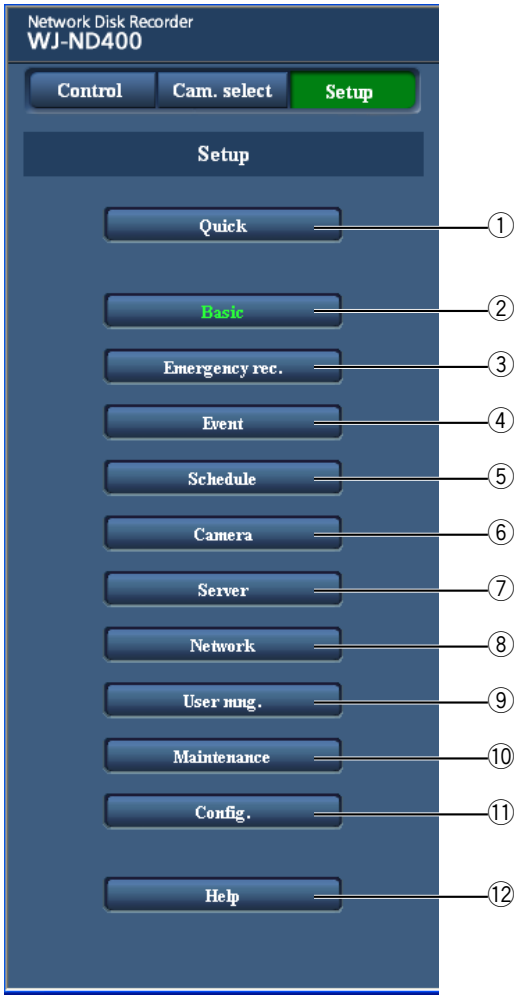
: 2x

: 4x

④ **[Cam. select] box**
When clicking "WJ-ND400", a group title (title of a group consisted of the 4 registered cameras) will be displayed.
Refer to the setup instructions (PDF) for how to register cameras as a group.
When clicking the group title, a list of the cameras consisting of the group will be displayed. Clicking the camera title will display images from the selected camera channel on a 1- screen in the image display area.

[Setup] button

The following operation panel will be displayed when the [Setup] button is clicked.
Refer to the setup instructions (PDF) for further information.



① **[Quick] button**
Displays the "Quick" page that contains the minimum required settings to be configured to operate the recorder.

② **[Basic] button**
Displays the "Basic" page that contains the basic system settings and the time & date settings.

③ **[Emergency rec.] button**
Displays the "Emergency rec." page that contains the settings relating to the emergency recording.

④ **[Event] button**
Displays the "Event" page that contains the settings relating to the event actions to be taken at an event occurrence for each event type (site alarm, terminal alarm, command alarm).

⑤ **[Schedule] button**
Displays the "Schedule" page that contains the settings relating to the schedule recording.

⑥ **[Camera] button**
Displays the "Camera" page that contains the network settings of cameras, and the settings relating to the group and the sequence display.

⑦ **[Server] button**
Displays the "Server" page that contains the settings of the NTP server, FTP server, mail server and proxy server.

⑧ **[Network] button**
Displays the "Network" page that contains the network settings.

⑨ **[User mng.] button**
Displays the "User mng." page that contains the settings relating to authentication.

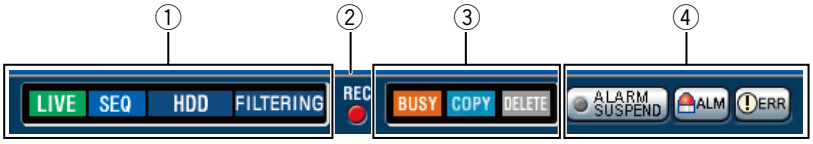
⑩ **[Maintenance] button**
Displays the "Maintenance" page that contains the information display pages (about the recorder, disk and network), and the settings relating to the hard disk drives and saving/loading of the settings.

⑪ **[Config.] button**
Displays the "Disk config." page that contains the disk partition information display page, the settings relating to formatting of the hard disk drives.

Important:
- When any of edited settings are applied, all login users will forcibly be logged out.

⑫ **[Help] button**
The "Help" page will be displayed.

Status display area



① **The status of the recorder such as the recording status, playback status, etc. will be displayed.**

LIVE **:** Indicates that live images are being displayed.

▶ **:** Indicates that playback images are being displayed.

◀ **:** Indicates that reverse playback images are being displayed.

▶▶ **:** Indicates that fast playback images are being displayed.

◀◀ **:** Indicates that fast reverse playback images are being displayed.

II **:** Indicates that a paused image is being displayed.

DL **:** Indicates that recorded images/audio are being downloaded.

END **:** Indicates that downloading of recorded images/audio is completed.

[Step 1] - [Step 7] : Indicates the playback speed.

Step 1 **:** Normal playback speed (1x)

Step 2 **:** Approx. 4x playback speed

Step 3 **:** Approx. 8x playback speed

Step 4 **:** Approx. 16x playback speed

Step 5 **:** Approx. 32x playback speed

Step 6 **:** Approx. 48x playback speed

Step 7 **:** Approx. 96x playback speed

SEQ **:** Indicates that the sequence display is being performed.

HDD **:** Indicates that playback of recorded images stored in the normal recording area or the event recording area of the hard disk drives on the recorder is being selected.

HDD COPY **:** Indicates that the HDD copy area is being selected.

SD ► HDD **:** Indicates that SD memory data is being obtained.

RECOVER **:** Indicates that data recovery in the RAID mode is being performed.

FILTERING **:** Indicates that the recording events are being filtered. Refer to page 25 for further information about filtering of recording events.

② **[REC] indicator**

Indicates the status of recording.

REC **:** Indicates that recording is being performed.

REC **:** Indicates that recording is not being performed.

③ **Indicates the following statuses:**

BUSY **:** Indicates that the camera is not operable because a user with higher priority is currently operating the camera.

COPY **:** Indicates that copying is being performed.

DELETE **:** Indicates that deletion of recorded images is being performed.

④ **Indicates information about events and errors.**
[ALARM SUSPEND] button

ALARM SUSPEND **:** Clicking this button will temporarily disable alarm actions. (page 37)

ALARM SUSPEND **:** Indicates that an alarm is being suspended.

[ALM] button

: Indicates an event occurrence. The alarm action will be canceled by clicking this button. (page 37)

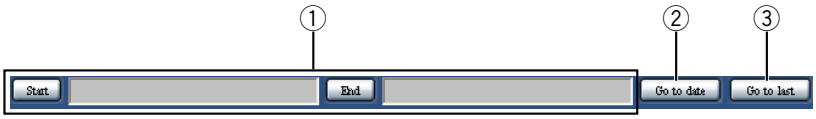
[ERR] button

: Indicates an error occurrence. The error action will be canceled by clicking this button. (page 38)

Note:

- Once an emergency recording starts, it will not stop even by clicking the [ALM] button. It will stop only when "Continue" is selected for "Recording duration" on the "Emergency rec." page. Refer to the setup instructions (PDF) for further information about the "Emergency rec." page.

Playback point operation area



① **Indicates the start time and the end time of recorded images to be downloaded. (page 47)**

[Start]: Designate the start time from when recorded images are to be downloaded.

[End]: Designate the end time till when recorded images are to be downloaded.

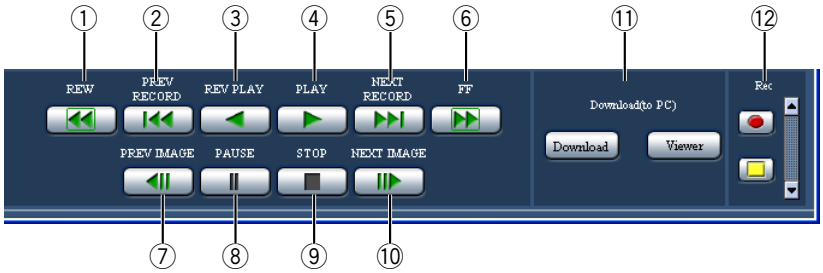
② **[Go to date]**

Designate the desired time and date from when playback of recorded images is to start. (page 23)

③ **[Go to last]**

Click this button to skip to a point that is the start time of the latest recorded image from the camera channel currently being displayed and start playback.

[HDD] tab



① **[REW] button**

Plays recorded images in reverse at high speed. Playback speed of fast reverse playback will be changed in the following order each time this button is clicked: Step2 (Approx. 4x) → Step3 (Approx. 8x) → Step4 (Approx. 16x) → Step5 (Approx. 32x) → Step6 (Approx. 48x) → Step7 (Approx. 96x)

② **[PREV RECORD] button**

Skips to the previous recorded image and plays it.

③ **[REV PLAY] button**

Plays recorded images in reverse.

④ **[PLAY] button**
Plays recorded images.

⑤ **[NEXT RECORD] button**
Skips to the next recorded image and plays it.

⑥ **[FF] button**
Plays recorded images at high speed.
Playback speed of fast playback will be changed in the following order each time this button is clicked:
Step2 (Approx. 4x) → Step3 (Approx. 8x) →
Step4 (Approx. 16x) → Step5 (Approx. 32x) →
Step6 (Approx. 48x) → Step7 (Approx. 96x)

⑦ **[PREV IMAGE] button**
The previous frame will be displayed when this button is clicked during playback/pause.

⑧ **[PAUSE] button**
Playback will be paused when this button is clicked during playback.
Playback will resume when this button is clicked during pause.

⑨ **[STOP] button**
Stops playback and displays live images.

⑩ **[NEXT IMAGE] button**
The next frame will be displayed when this button is clicked during playback/pause.

⑪ **[Download(to PC)] box**
Downloads the recorded images currently being played to a PC.
[Download] button: Downloads recorded images and audio.
[Viewer] button: Downloads the viewer software that can play downloaded images.

⑫ **[Rec] box**
The recording button and the recording stop button will be displayed when the Up button is clicked.
The recording button and the recording stop button will be hidden when the Down button is clicked.

Recording button: Starts manual recording.

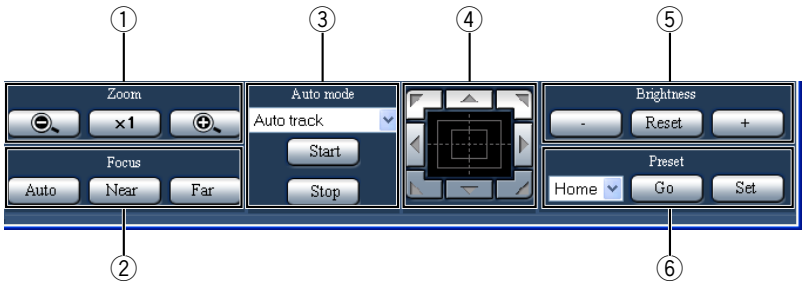
Recording stop button: Stops manual recording.

Important:
- To display the recording button and the recording stop button, hold down the Up button until they appear.

Note:
- When playing MPEG-4 images, results from operating the some buttons will be as follows.
  [Go to date] button: Playback sometimes may start from a point several seconds after the designated time and date.
  [REV PLAY] button: Some frames of recorded images will not be displayed. Reverse playback will be performed with the set refresh interval of the camera.
  [PLAY] button (during playback): When the [PLAY] button is clicked during playback, images will be skipped for several seconds.
  [PREV IMAGE] button: Some frames of recorded images will not be displayed. Reverse frame by frame playback will be performed with the set refresh interval of the camera.
  [FF]/[REW] button: Some frames of recorded images will not be displayed. Fast playback/fast reverse playback will be performed with the set refresh interval of the camera.
  [Download] button (during playback): Download may start from a point several seconds before the designated start time and end at a point several seconds after the designated end time.

[CAM] tab

When displaying live images from a camera with the panning/tilting function, it is possible to operate the camera (pan/tilt, zoom, focus, brightness, preset position and auto function). It may be impossible to operate the camera or some functions may be inoperable depending on the model of the camera.



① **[Zoom] box**
Zooming can be adjusted by clicking the [-] button or the [+] button. Click the [x1] button to reset zoom.

② **[Focus] box**
Focusing can be adjusted by clicking the [Near] button or the [Far] button.
The auto focus function can be performed by clicking the [Auto] button.

③ **[Auto mode] box**
Activate the designated auto function of the camera. Select the auto mode function (auto track, auto pan, preset sequence, sort, or patrol) of the camera by clicking the [V] button, and then click the [Start] button. Click the [Stop] button to stop the auto mode function.

④ **Control pad/buttons**
Clicking the buttons around the control pad can move (pan/ tilt) a camera in the clicked direction. Clicking inside the control pad also can adjust the vertical/horizontal position (pan/tilt) of the displayed image. Panning/ tilting speed will be faster if a clicked point gets farther from the center point of the control pad.

⑤ **[Brightness] box**
The brightness can be adjusted by clicking the [-] (darker) button or the [+] (brighter) button.
It is possible to reset the set brightness by clicking the [Reset] button.

⑥ **[Preset] box**
[Go] button
Move the camera to the preset position registered in advance. Select a preset position number (Home, 1 - 256) by clicking the [V] button, and then click the [Go] button.
It is necessary to register preset positions in advance to move the camera to the preset positions.
[Set] button
Register the camera position as a preset position by designating the desired preset position number. Select a preset position number (1 - 256) by clicking the [V] button after moving the camera to a position to be registered as a preset position, and then click the [Set] button. (It is impossible to register the position as "Home".)

Recording of images/audio

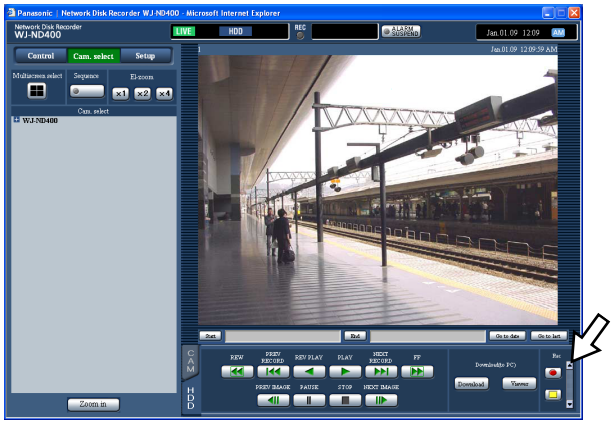
Manual recording of images/audio

It is possible to record images and audio manually.
Refer to the system administrator for information on the settings relating to manual recording.

1 Click the [HDD] tab.

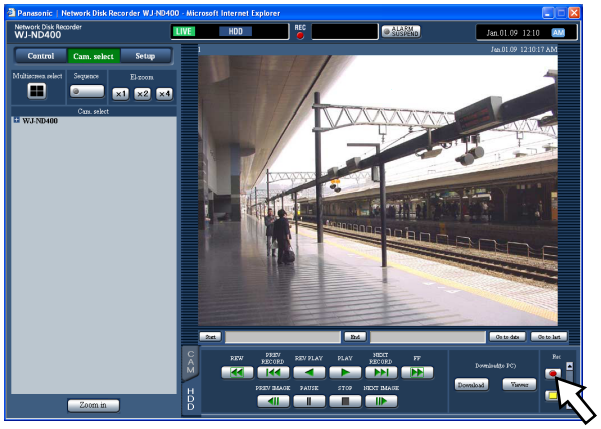
2 Click the Up button in the [Rec] box.

Continue clicking the Up button until the Recording button and the Recording stop button appear.



3 Click the recording button.

Recording will start and the [REC] indicator in the status display area will light.



4 Click the recording stop button.

Recording will stop and the [REC] indicator in the status display area will go off.

Note:

- When a recording with higher priority than manual recording is being performed, manual recording will be suspended until that recording finishes. Refer to the "Recording mode and its priority level" section on the following page for further information.
- When stopping manual recording while another recording with a different recording mode (emergency recording, event recording and schedule recording) is being performed, the [REC] indicator will remain lit and the other recording will continue.
- It is impossible to record images when images are not being received from cameras.

Recording mode and its priority level

There are 5 recording modes. The recording modes and their priority levels are as follows. When two or more recordings with different recording modes started simultaneously, only recording with the higher priority will start.

Priority level	Recording mode
1	Emergency recording
2	Post-event recording
3	Manual recording
4	Schedule recording
5	Pre-event recording

Audio recording

Audio can be recorded together with images. It is possible to determine whether or not to record audio for each camera channel.
Refer to the setup instructions (PDF) for further information.

Note:

- Audio can be recorded together with images. It is impossible to record audio without images.
- It is impossible to simultaneously perform audio recording and the SD memory recording.

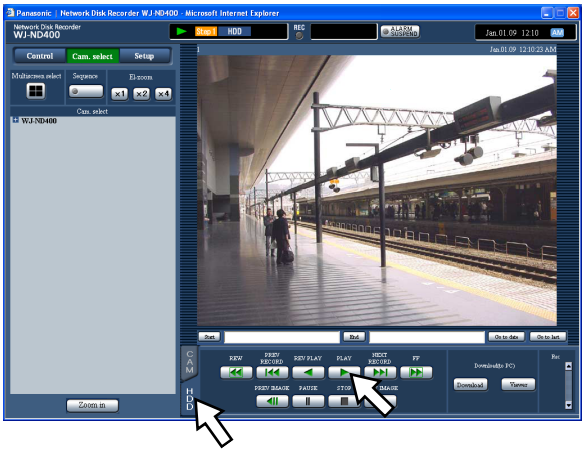
Playback

Playback of recorded images

It is possible to play recorded images. There are 3 ways to play recorded images as follows.

- Play recorded images by designating a time and date
- Search and play recorded images
- Select a recording area and play images recorded on the selected recording area

1 Click the [HDD] tab.



2 Click the [PLAY] button.

Playback of recorded images will start. The "Playback" indication and the "Step 1" indication will be displayed.
Playback will start from the finish point (time and date) of the last playback.

3 Click the [STOP] button on the [HDD] tab.

Playback will stop, and the "Playback" indication and the "Step 1" indication will disappear.

- Live images will be displayed.

Note:

- When playing recorded images on a 1-screen, audio recorded together with images will be heard.
- When displaying recorded images on a multi-screen, audio from the camera to be displayed on a screen at the upper left corner will be heard.
- When starting playback for the first time after login, the latest recorded image will be played. At the default, playback will start 30 seconds before the start time of the latest recorded image. The following are available for the playback start point.
  5s/10s/30s/1min/5min (before the latest recorded image)
  Refer to a system administrator for information of the setting.
- When a web browser and the viewer software are running at the same time, audio may not be heard correctly. Run either the web browser or the viewer software only to play audio.
- Playback speed may become slow or playback may stop for a while when load to be processed is getting higher (such when many cameras are connected or when live/recorded images from many cameras are displayed on multiple screens).
- When playing images on a multi-screen, images will be played with frame dropping.
- When simultaneously playing images recorded at a different recording rate (one at a higher rate and the other at a lower rate) on a multi-screen, the difference between the displayed playback time on each screen will be widen.
- To play SD memory data, filter data using the recording event search and select data to be played from the result list. (page 25)
- Playback images and audio may sometimes not be synchronized exactly.
- It is possible to change camera channels during playback by clicking the desired camera title on the list.
- It is possible to switch 1-screen to a multi-screen during playback by clicking the [Multiscreen select] button.
- Clicking the camera title during playback on a multi-screen will display images from the camera respective to the clicked camera title on a 1- screen.

Playback operation

Playback/Reverse playback		• Plays recorded images. • Plays recorded images in reverse. **Note:** • When the [PLAY] button or the [REV PLAY] button is clicked during recording at a low recording rate, playback or reverse playback may sometimes not be performed respectively.
Stop		• Playback will stop and live images will be displayed when this button is clicked during playback.
Pause		• Playback will be paused when this button is clicked during playback. • Playback will resume when this button is clicked during pause.
Frame by frame playback/ Reverse frame by frame playback		• The next frame will be displayed when this button is clicked during playback/pause. • The previous frame will be displayed when this button is clicked during playback/pause. **Note:** • When playing MPEG-4 images, some frames of recorded images will not be displayed. Reverse frame by frame playback will be performed with the set refresh interval of the camera.
Skip/Reverse skip		• When the [NEXT RECORD] button is clicked, playback point will skip to the start time of the next recorded images. • When the [PREV RECORD] button is clicked, playback point will skip to the start time of the previous recorded images. • When there is no next/previous recorded image to be skipped to, the current playback will continue. In this case, playback may start from a point around a minute before the point at the last playback stopped.

Fast playback/Fast reverse playback		• Playback speed of fast playback will be changed in the following order each time this button is clicked: Step2 (Approx. 4x) → Step3 (Approx. 8x) → Step4 (Approx. 16x) → Step5 (Approx. 32x) → Step6 (Approx. 48x) → Step7 (Approx. 96x) • Playback speed of fast reverse playback will be changed in the following order each time this button is clicked: Step2 (Approx. 4x) → Step3 (Approx. 8x) → Step4 (Approx. 16x) → Step5 (Approx. 32x) → Step6 (Approx. 48x) → Step7 (Approx. 96x) • When the [PLAY] button or the [REV PLAY] button is clicked during fast playback/fast reverse playback, playback speed will return to the normal playback speed. **Note:** • When playing MPEG-4 images, some frames of recorded images will not be displayed. Fast playback/fast reverse playback will be performed with the set refresh interval of the camera.
Skip to the latest recorded image	[Go to last]	• Click this button to skip to a point of the latest recorded image from the camera channel currently being displayed and start playback. At the default, clicking this button will skip the playback point to a point that is 30 seconds before the start time of the latest recorded image. The following points are available to be skipped to. 5s/10s/30s/1min/5min (before the start time of the latest recorded image) Refer to a system administrator for information on how to configure the setting. **Note:** • When the [Go to last] button is clicked while recording images at a lower recording rate, playback of the latest recorded images may be paused or images may not be displayed.

Playback on a multi-screen		• Displays playback images on a multi-screen (4-screen). • Images recorded using up to 4 cameras can be played simultaneously on a multi-screen. Each time the [Multiscreen select] button is clicked, recorded images will be switched and played on a 4-screen according to the camera group setting. Refer to the setup instructions (PDF) for information on how to register cameras as a group. • Click a camera title on the list displayed by clicking the [Cam. select] button or the camera title displayed on the playback image to display on a 1- screen again. **Note:** • When playing recorded images on a multi-screen, the displayed playback time on each screen may sometimes not be synchronized. In this case, click the [PLAY] button after clicking the [PAUSE] button to correct the synchronization between each channel. • When frame by frame playback is performed while playing recorded images on a multi-screen, displayed paused images (frames) on each screen may sometimes not simultaneously go to the next/previous frame.
Electronic zoom	 	• Displayed playback images will be enlarged. • When playing recorded images on a 1-screen, clicking a button in the [EL-zoom] box enlarges the displayed playback images. **[x1] button:** Displays playback images with the original displayed size. **[x2] button:** Displays playback images with x2 zoomed size. **[x4] button:** Displays playback images with x4 zoomed size. • Clicking a point in the zoomed image moves the zoomed image by positioning the clicked point as the center point.
Zoom in	[Zoom in]	• Enlarges the displayed playback images. • Right-click on the playback images and select "Zoom in" from the displayed pop-up menu. • To return the zoomed image to the original size, right-click on the zoomed image and select "BACK" from the displayed pop-up menu. **Note:** • When playing MPEG-4 images, clicking the [Zoom in] button (or selecting "Zoom in" from the right-click menu) may display zoomed playback image of a playback point that is several seconds later.

Play recorded images by designating a time and date

Start playback by designating the desired time and date of a recorded image. Playback is available even during recording.

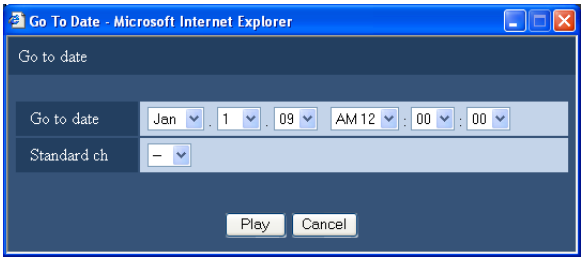
1 Click the [Cam. select] button.

A list of the registered cameras will be displayed in the [Cam. select] box.

2 Select the desired camera channel used for recording.

3 Click the [Go to date] button in the playback point operation area.

The "Go to date" window will be displayed.

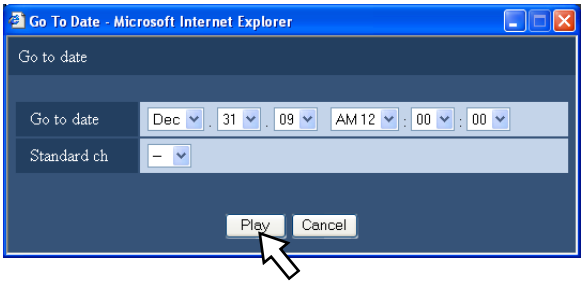


4 Click the [V] button and determine the desired time and date.

- Standard ch

  Determine which camera channel is to be used as a standard time zone. (It is necessary to determine the primary time and date by selecting a camera channel when cameras are installed in two or more countries.)

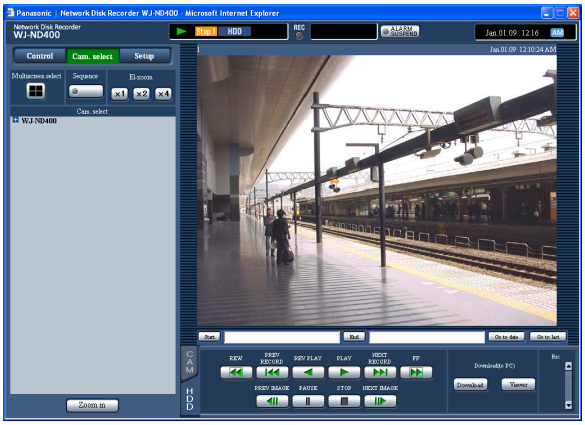
  Select "--" when the recorder and the cameras are installed in the same time zone area.



5 Click the [PLAY] button.

Playback will start from the designated time and date, and the "Playback" indication and the "Step 1" indication will be displayed.

Refer to page 20 for information about the playback operation.



6 Click the [STOP] button on the [HDD] tab.

Playback will stop, and the "Playback" indication and the "Step 1" indication will disappear.

- Live images will be displayed.

Note:

- When playing MPEG-4 image by designating time and date, playback may start from a point several seconds before or after the designated time and date.
- SD memory data saved on the recorder cannot be searched and played by designating a time and date. (Refer to page 25.)
- When no recorded image found at the designated time and date, playback of images recorded after and at the closest to the designated time and date will start.

Search and play recorded images

Search for a recording event and play it. (Rec event search)

Note:

- Recording area of the hard disk drive subject to search for recording events is different depending on the selected recording area.

  Refer to page 28 for further information about the recording area selection.

Search filter

Search filter	Search
Time & date	Designate a time range and search for images recorded in the designated time range.
Event	Searches for images recorded by the selected recording mode only. The following recording modes can be selected. • MAN: Manual recording (page 18) • SCH: Schedule recording (Refer to the setup instructions (PDF).) • EMR: Emergency recording (Refer to the setup instructions (PDF).) • CAM: Recording triggered by a site alarm (Refer to the setup instructions (PDF).) • TRM: Recording triggered by a terminal alarm (Refer to the setup instructions (PDF).) • COM: Recording triggered by a command alarm (Refer to the setup instructions (PDF).) • SD: SD memory recording (Refer to the setup instructions (PDF).)
Camera	Search for images recorded using the selected camera channel.

List display area (rec event list)

Number of listed data (recording events): Total number of listed data (recording events) will be displayed. When the total number of the listed data is more than 10 000, the ">10000" indication will be displayed.

[All list] button: Cancels filtering and lists all recording events.

[Refresh] button: Updates the list to the latest one.

[Prev page] button: Displays the previous page of the list.

[Next page] button: Displays the next page of the list.

[Time & date]: Start time of recording will be displayed.

[Ch]: A camera channel used for recording will be displayed.

[Rec]: Recording mode will be displayed.

[HDD]: The hard disk drive number in which the corresponding recorded images are stored will be displayed.

[Info]: Additional information will be displayed.

Note:

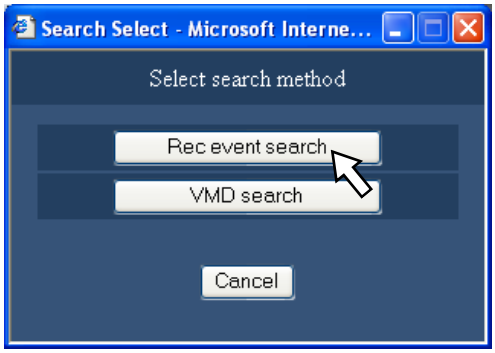
- Recording event list will be displayed in the following cases.
  - When the [All list] button is clicked
  - When the [Refresh] button is clicked
  - When the [OK] button on the "REC event search" window is clicked (page 25)
  - When the [OK] button on the "VMD search" window is clicked (page 26)
  - When the [OK] button on the "Area select" window is clicked (page 28)
- The [All list] button is unavailable during playback. To list all recording events, stop playback and click the [All list] button.
- When using many cameras, the recording event list may not be displayed in the recording start time order of each camera channel.

Search and play recording events

1 Click the [Control] button.

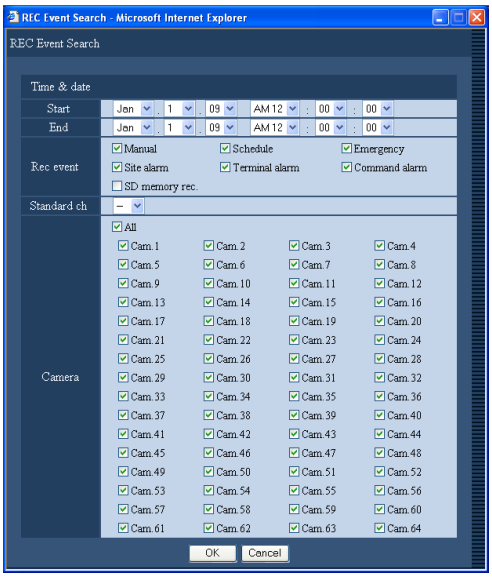
2 Click the [Search] button in the [Search] box.

The "Select search method" window will be displayed.



3 Click the [Rec event search] button.

The "REC Event Search" window will be displayed.

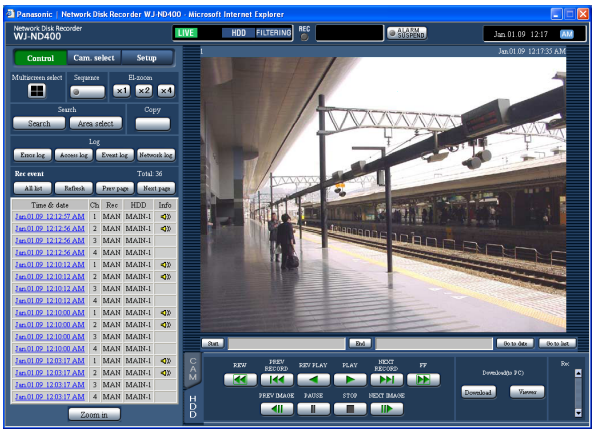


4 Select search filters.

- Time & date
  Filter by time and date. Select a start time and an end time by clicking the [V] button.
- Rec event
  Filter by recording event type. Check the checkbox to select the desired recording event type to be searched for.
- When checking the checkbox of "SD memory rec.", all the checked checkboxes other than "SD memory rec." will be unchecked.
- Standard ch
  Determine which camera channel is to be used as a standard time zone. (It is necessary to determine the primary time and date by selecting a camera channel when cameras are installed in two or more countries.)
  Select "--" when the recorder and the cameras are installed in the same time zone area.
- Camera
  Filter by camera channels used for recording. Check the checkbox to select the desired camera channels.

5 Click the [OK] button.

The "FILTERING" indication will be displayed in the status display area. The filtered result will be displayed.
The result will be displayed in the list display area.
To cancel the filtering, click the [All list] button. The "FILTERING" indication will disappear and all recording events will be listed.



6 Click the time and date of the desired recording event.

Playback of recorded images corresponding to the selected time and date of the recording event will start.
Refer to page 20 for information about the playback operation.

7 Click the [STOP] button on the [HDD] tab.

Playback will stop.

Note:

- Playback of SD memory data
  When recorded images corresponding to the recording event contain not many frames to play smoothly, a black screen may be displayed or it may take time to refresh images.
  In this case, display images by performing frame by frame playback/reverse frame by frame playback.
- Playback of SD memory data on a multi-screen
  When SD memory data cannot be played on a multi-screen, play SD memory data on a 1-screen.

Search and play images recorded triggered by the VMD function of the camera (VMD search)

Search for recorded images from images recorded triggered by the VMD function of cameras by designating a time range. Click a time and date on the result list to play corresponding recorded images.

Important:

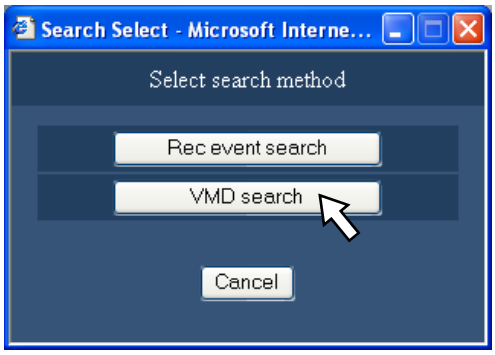
- To perform the VMD search, it is necessary to configure the settings of the connected cameras that support the VMD search function in advance.
  Refer to the "readme.txt" on the provided CD-ROM for information about the camera models that support the VMD search function.
  Refer to the operating instructions of the camera in use for further information.

1 Click the [Control] button.

2 Select a desired camera while live images are being displayed or play back the images from the desired camera.

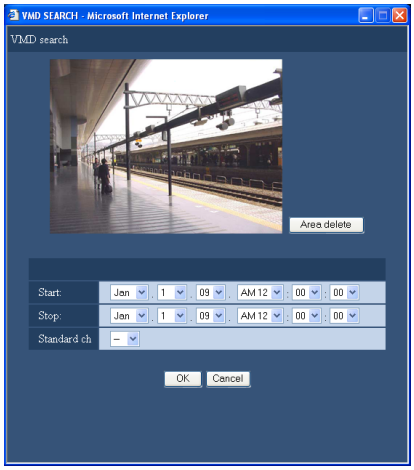
3 Click the [Search] button in the [Search] box.

The "Select search method" window will be displayed.



4 Click the [VMD search] button.

The "VMD search" window will be displayed.



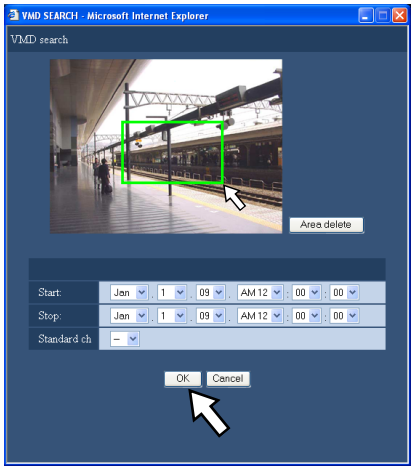
Note:

- When live images are currently being displayed, live images will be displayed in the image display area. When recorded images are being played, a paused recorded image will be displayed in the image display area.
- The image display area will be displayed in the selected size of aspect ratio. Refer to the Setup Instructions for the aspect ration setting.

5 Designate the search time range and the standard channel for the VMD search by clicking the [V] buttons.

6 Set the VMD (video motion detection) areas.

Designate an area to be set as the VMD area by dragging the mouse on the screen.



7 Click the [OK] button.

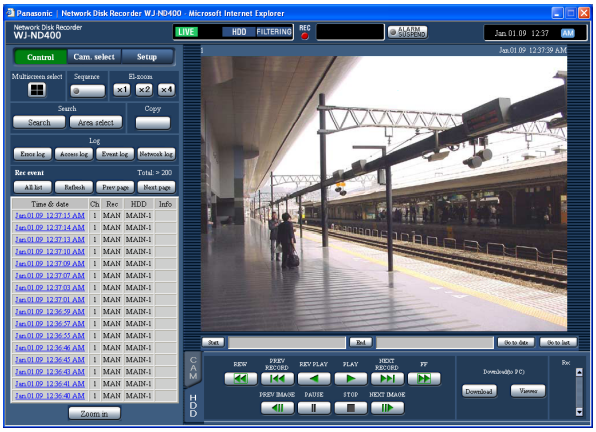
The VMD search will start.

The search result will be displayed in the list display area.

It may sometimes take time to complete the VMD search.

Important:

- No audio icon will be displayed in the "Info" column in the list display area for the VMD search result even when audio is attached to images.
- The VMD search of the SD memory data and the pre-event recording data will not be performed.



8 Click the time and date of the desired recording event.

Playback of recorded images corresponding to the selected time and date of the recording event will start.

Refer to page 20 for information about the playback operation.

Recorded images will be played on a 1-screen. To play on a multi-screen, click the [Multiscreen Select] button after starting playback.

9 Click the [STOP] button.

Playback will stop.

Note:

- When starting the VMD search while displaying images on a multi-screen, the camera channel whose images are displayed at the upper left corner will become subject to the VMD search.
- When starting the VMD search during the sequence display, the sequence display will stop.

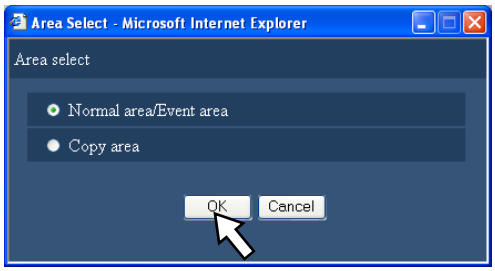
Select a recording area and play images recorded on the selected recording area

Search and play recorded images stored in the selected recording area.

1 Click the [Control] button.

2 Click the [Area select] button in the [Search] box.

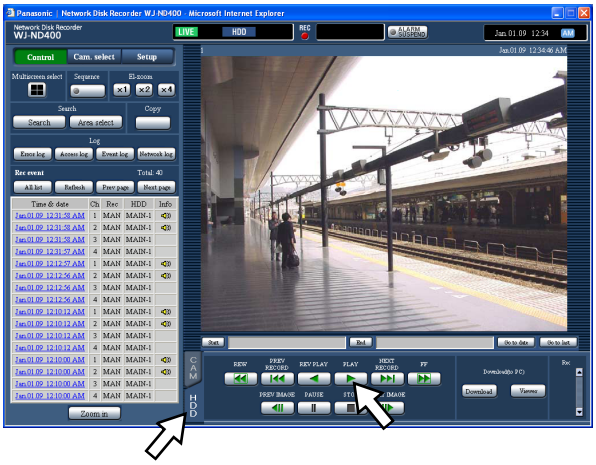
The "Area select" window will be displayed.
When the [Area select] button is clicked during playback, the "Area select" window will not be displayed.



3 Select "Normal area/Event area" or "Copy area".

4 Click the [OK] button.

The indication of the selected area will be displayed in the status display area.



5 Click the [HDD] tab.

6 Click the [PLAY] button.

Playback of recorded images stored in the selected recording area will start, and the "Playback" indication and the "Step 1" indication will be displayed.
Refer to page 20 for information about the playback operation.

7 Click the [STOP] button.

Playback will stop, and the "Playback" indication and the "Step 1" indication will disappear.
Live images will be displayed.
When the [PLAY] button is clicked after stopping the playback, playback will start from the playback point at the last playback stopped.

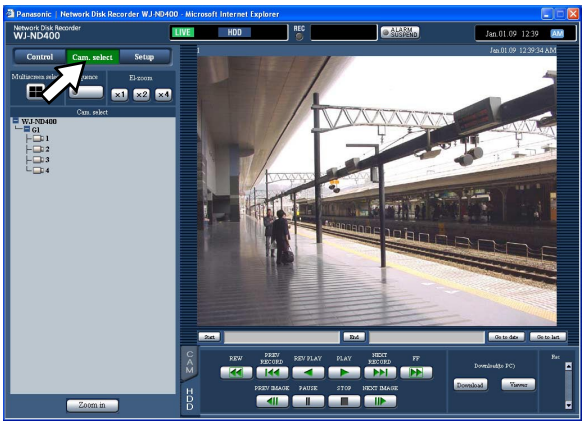
Monitor live images

Live images will be displayed in the web browser window. It is possible to display live images on a 1-screen or a multi-screen.
It is also possible to display live images from cameras while switching camera channels sequentially. (sequence display)

1-screen display

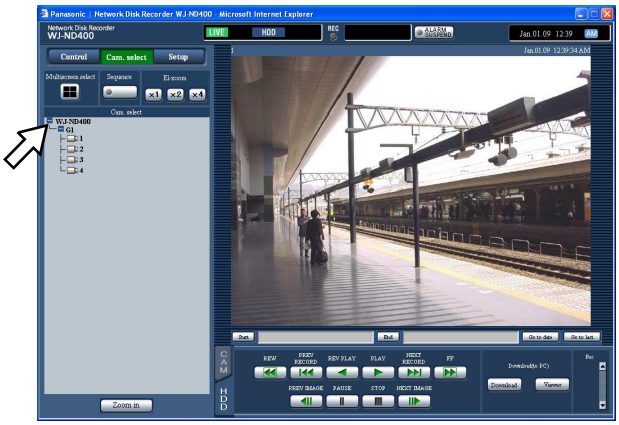
1 Click the [Cam. select] button.

A list of the registered cameras will be displayed in the [Cam. select] box.



2 Click the "WJ-ND400" icon, the group title and the camera title in order.

Live images from the selected camera channel will be displayed on a 1-screen.



Note:

- Camera selection
  When clicking "WJ-ND400", a group title (title of a group consisted of the 4 registered cameras) will be displayed. When clicking the group title, a list of the cameras consisting of the group will be displayed. Clicking the camera title will display images from the selected camera channel on a 1-screen in the image display area.
- Camera selection from the right-click pop-up menu
  Selecting a camera from the right-click pop-up menu will display images from the selected camera channel.

Functions available while displaying live images

Electronic zoom*		• Enlarges the displayed live images. When displaying live images on a 1-screen, clicking a button in the [EL-zoom] box enlarges the displayed live images. **[x1] button:** Displays live images with the original displayed size. **[x2] button:** Displays live images with x2 zoomed size. **[x4] button:** Displays live images with x4 zoomed size. • Clicking a point in the zoomed image moves the zoomed image by positioning the clicked point as the center point.
Zoom in	[Zoom in]	• Enlarges the displayed live images. • Right-click on the live images and select "Zoom in" from the displayed pop-up menu. • To return the zoomed image to the original size, right-click on the zoomed image and select "BACK" from the displayed pop-up menu. **Note:** • When displaying MPEG-4 live images, it may take some time to display enlarged live images by clicking the [Zoom in] button (or selecting "Zoom in" from the right-click menu).
Skip to the latest recorded image	[Go to last]	Click this button to skip to a point of the latest recorded image from the camera channel currently being displayed and start playback. Refer to page 15 for further information.

* Available only when displaying live images on a 1-screen.

Control cameras

When displaying live images from a camera with the panning/tilting function on a 1-screen, the following camera controls are available. It may be impossible to operate the camera or some functions may be inoperable depending on the model of the camera.

Pan/tilt: Adjust the horizontal/vertical position of the camera.

Zoom: Zoom in/out the displayed image.

Focus: Adjust the focal point.

Brightness: Adjust the lens iris (brightness).

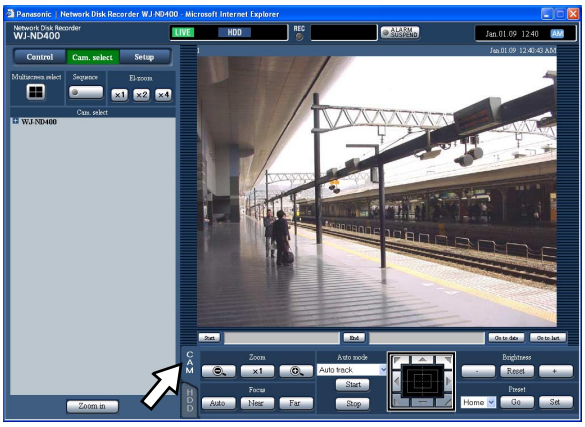
Preset position operation: Move the camera to the preset position (that is determined on the camera's setup menu and registered in the recorder).

Auto mode: Activate the designated auto function of the camera.

Panning/tilting operation

Adjust the horizontal/vertical position of the camera.

1 Click the [CAM] tab.



Control buttons: Click to move (pan/tilt) a camera in the clicked direction.

Control pad: Click to move (pan/tilt) a camera in the clicked direction. Panning/tilting speed will be faster if a clicked point gets farther from the center point of the control pad.

Image display area: Click the desired point to be located at the center of the angular field of view.
The camera will move to locate the clicked point as the center point in the image display area.

Zoom/focus/brightness adjustment operation

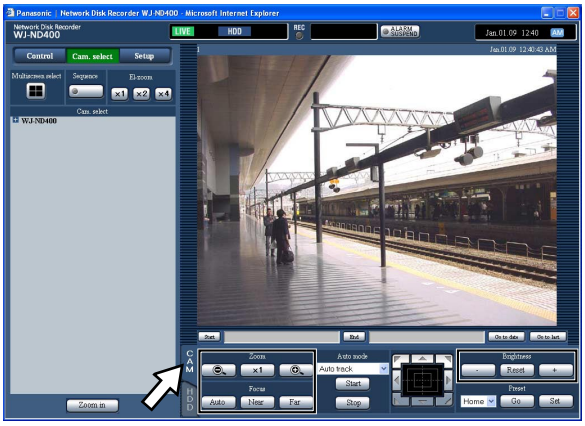
Adjust the zoom, focus, and brightness of live images.

Zoom: Zoom in/out the displayed image. Depending on the models of the connected cameras, the available zooming factors may be different. Refer to the operating instructions of the camera in use for further information.

Focus: Adjust the focal point. The auto focus function is available.

Brightness: Adjust the lens iris (brightness). The adjusted lens iris can be reset.

1 Click the [CAM] tab.



Zoom: Zooming can be adjusted by clicking the [-] button or the [+] button.
Click the [x1] button to reset zoom.

Focus: Focusing can be adjusted by clicking the [Near] button or the [Far] button.
The auto focus function can be performed by clicking the [Auto] button.

Brightness: The brightness can be adjusted by clicking the [-] (darker) button or the [+] (brighter) button.
It is possible to reset the set brightness by clicking the [Reset] button.

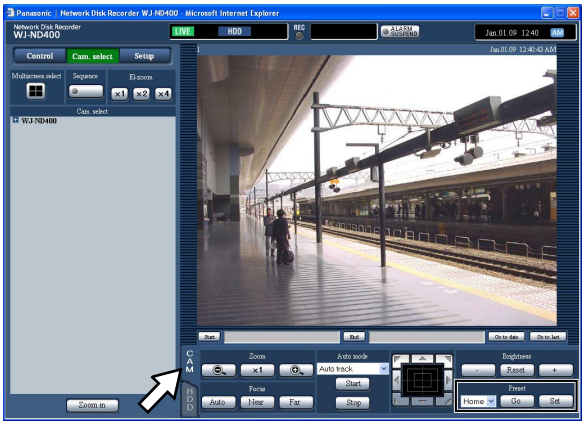
Note:

- It is also possible to adjust the zoom factor by rotating the wheel button of the mouse.

Registration of a camera direction on the preset position

Register the current camera position as a preset position. The preset positions can be registered only when using a camera supporting the preset position function.

1 Click the [CAM] tab.



2 Perform the pan/tilt operation to move the camera to the position to be registered.

3 Click the [V] button in the [Preset] box to select a preset number (1 - 256) to be registered. It is impossible to register the position as "Home".

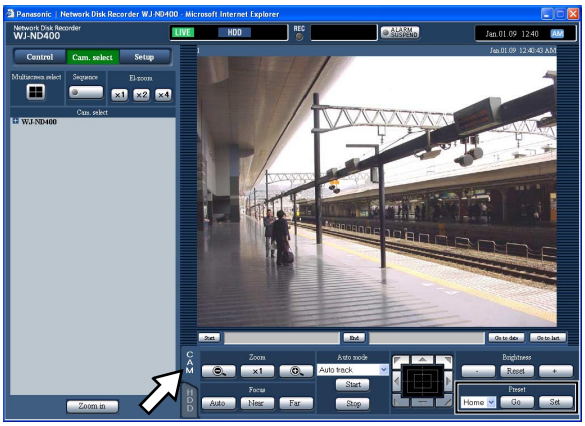
4 Click the [Set] button.

The current camera position will be registered as a preset position with the selected preset position number.

Move a camera to the preset position

Move the camera to the preset position registered in advance. It is necessary to register preset positions in advance to move the camera to the preset positions.

1 Click the [CAM] tab.



2 Click the [V] button in the [Preset] box to select a preset number (1 - 256).

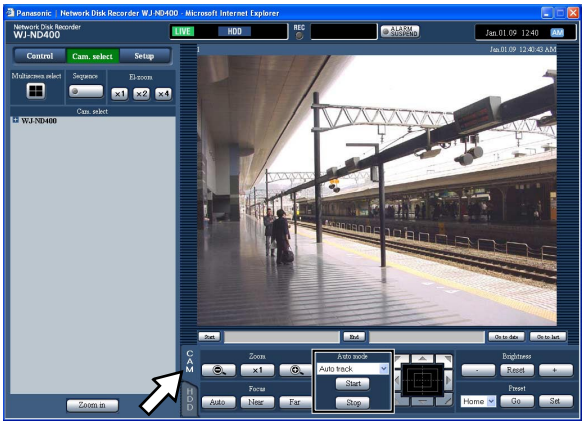
3 Click the [Go] button.

The camera moves to the registered preset position respective to the selected preset number.

Auto mode function (Auto pan, etc)

Activate the designated auto function of the camera.

1 Click the [CAM] tab.



2 Click the [V] button in the [Auto mode] box to select a mode function (auto tracking, auto pan, preset sequence, sort, patrol) to be activated.

3 Activate the selected auto mode function by clicking the [Start] button in the [Auto mode] box.

Click the [Stop] button to turn off the auto mode function.

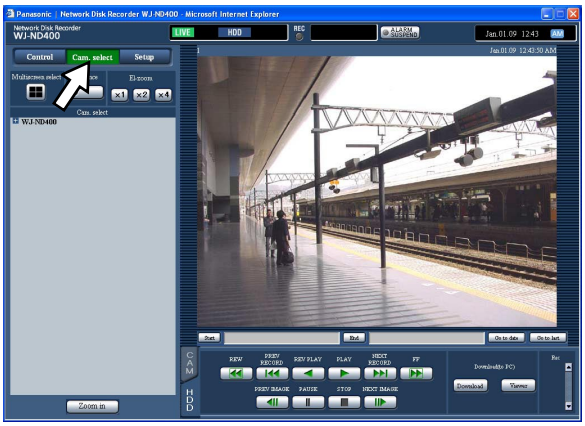
Note:

- Refer to the operating instructions of the connected camera for further information about the auto mode function of the camera.

Multi-screen display (4-screen)

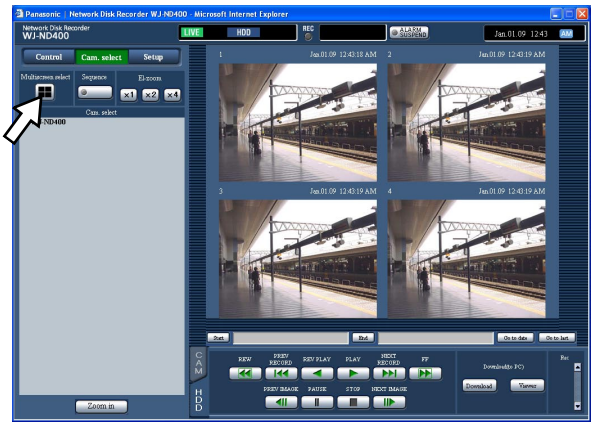
Live images from cameras will be displayed on a 4-screen.

1 Click the [Cam. select] button.



2 Click the [Multiscreen Select] button.

Live images from the cameras (registered as a group) will be displayed on a 4-screen.
Each time the [Multiscreen Select] button is clicked, camera channels will be changed to of another group's and images from them will be displayed on a 4-screen.
(Up to 8 groups can be registered.) Refer to the setup instructions (PDF).



3 Click a camera title in the [Cam. select] box or the camera title displayed on the image to display on a 1- screen again.

Note:

- Multi-screen display from the right-click pop-up menu
  Selecting "1 - 4" from the right-click pop-up menu will display images on a multi-screen.
- Image enlargement from the right-click pop-up menu
  Selecting "Zoom IN" from the right-click pop-up menu will enlarge the displayed images on a multi-screen.
- When the [Go to last] button is clicked while displaying live images, playback of the latest recorded images from the selected camera channel will start. (At the default, playback will start from a point 30 seconds before the start time of the latest recorded images.)
- When displaying recorded images on a multi-screen, audio from the camera to be displayed on a screen at the upper left corner will be heard.
- When starting the VMD search (page 26) while displaying images on a multi-screen, the camera channel whose images are displayed at the upper left corner will become subject to the VMD search.

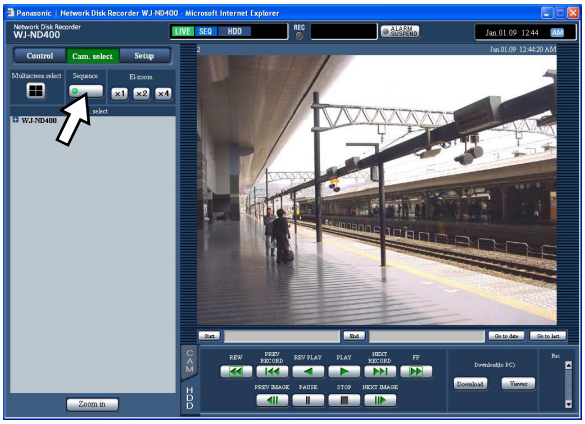
Sequence display

The camera channels will be switched automatically and images from them will be displayed sequentially. Images will be displayed sequentially according to the settings configured in advance.
Refer to page 30 for the available functions during the sequence display.

1 Click the [Cam. select] button.

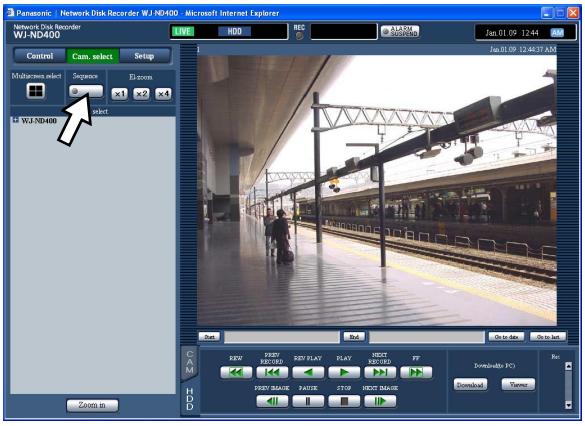
2 Click the [Sequence] button.

Live images from the cameras will be displayed sequentially according to the settings configured in advance.
The sequence display will start and the indicator on the button will light (green) during the sequence display. The "SEQ" indication will also light on the status display area.



3 To stop the sequence display, click the [Sequence] button again.

The sequence display will stop and the indicator on the [Sequence] button will disappear.



Note:

- When any of the following operations is performed during the sequence display, the sequence display will stop.
  - VMD search (page 26)
  - Display images on a 1-screen (page 29)
  - Display images on a multi-screen (page 33)
- A sequence step that is unavailable to display images will be skipped. (Images in MPEG-4 format will also be skipped.)
- When the [Go to last] button is clicked the sequence display, playback of the latest recorded images from the camera channel whose images are currently being displayed will start.
  (At the default, playback will start from a point 30 seconds before the start time of the latest recorded images.)
- Sequence display from the right-click pop-up menu
  Selecting "SEQ" from the right-click pop-up menu will start the sequence display. Selecting "SEQ" from the right-click pop-up menu during the sequence display will stop the sequence display.
- Image enlargement from the right-click pop-up menu
  Selecting "Zoom IN" from the right-click pop-up menu during the sequence display will stop the sequence display and the displayed images will be enlarged.
- Audio stops during sequence operations.
- Audio output will stop during the sequence display.

Event action

The recorder will take an event action according to the settings configured in advance when the following event occurs. Refer to the setup instructions (PDF) for information on how to configure the settings relating to the event actions.

How the event action is taken

About events

In this product, "event" is defined as phenomenon which triggers a specific action (event action) in the recorder. This product regards reception of a terminal alarm, a command alarm, and a site alarm as an "event".
For example, when the recorder receives a site alarm issued by a camera, the recorder regards it as an event occurrence.

Event action

When an event occurs, the recorder will take a specified event action.
The following actions will be taken as the event actions according to the settings.

- Record images/audio
- Record logs
- Notify of an event occurrence (by mail, LED, buzzer, image transmission to a FTP server, etc.)
  Notifications of an event occurrence are described as "alarm action" in these operating instructions.

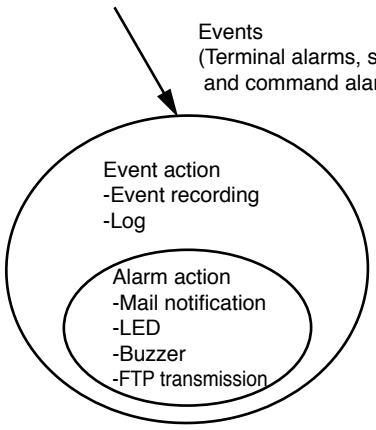


Image of event/alarm action

The recorder will take an event action when the following event occurs.

Terminal alarm: When a signal from an external alarm device such as a door sensor is supplied to the alarm input terminal (ALARM connector on the rear of the recorder), it will be regarded as a terminal alarm.

Command alarm: When receiving a command from a PC via a network, it will be regarded as a command alarm.

Site alarm: When receiving a Panasonic alarm protocol from a network camera, it will be regarded as a site alarm.

The following are the event actions and their descriptions.

- Start recording.
  Recording will start according to the settings configured on the setup menu such as the recording rate, the recording duration, etc.
  Refer to the setup instructions (PDF).
  Images recorded before an event occurrence can be associated with images recorded by the corresponding event recording so that images recorded at the event occurrence can be played as if the recording started before the event occurrence. (Pre-event recording)
- Display the event notification window
  A pop-up window that notifies of an event occurrence will be displayed.
- Blinks the alarm indicator
  The alarm indicator on the front panel will start blinking.
- Sounds the buzzer
  The buzzer will start sounding for the duration set in advance.
  Refer to the setup instructions (PDF).
- Move a camera to the preset position
  The camera registered in advance will move to the preset position according to the settings. Refer to the "Control cameras" section on page 31 for information on how to register preset positions.
- Notifies of an event occurrence by sending e-mails
  A mail that notifies of the event occurrence with the time and date of the event occurrence will be sent. (Alarm mail)
  It is possible to attach an image to the alarm mail. (Alarm image)
  Up to 4 destination addresses of the alarm mail can be registered. Refer to the setup instructions (PDF) for information on how to configure the settings.

- Output signals from the ALARM/CONTROL connector on the rear of the recorder. (Alarm output)
  When an event occurs, a signal will be output from the ALARM/CONTROL connector on the rear of the recorder to sound an external alarm buzzer, etc. The output duration can be configured on the setup menu. Refer to the setup instructions (PDF).
- Record a log
  A log that contains the event type and the time and date of the event occurrence will be recorded. (Event log)
- Send recorded images to an FTP server at an event occurrence
  When an event occurs, recorded images will be continued transmitting to an FTP server automatically for the set duration from the time when the event occurred. Refer to the setup instructions (PDF) for information on how to configure the settings.
- Notify a PC of an event or an error occurrence using the Panasonic alarm protocol
  When an event or an error occurs, information about the event/error will automatically be notified to the registered PC according to the "Panasonic alarm protocol" setting. To receive a notification and display the contents of it, it is necessary to install the optional dedicated software.
  Refer to the "readme.txt" on the provided CD-ROM about the dedicated software.

Cancel/suspend the alarm action

The alarm action (notification of an event occurrence) will be taken according to the settings when an event occurs. Refer to page 35 for further information about the alarm action.

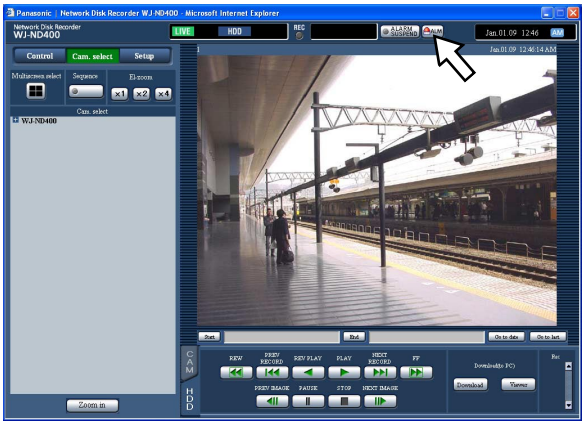
Note:

- When images from a camera to be recorded are in MPEG-4 format, images will be recorded from a several seconds after an event occurrence and the recording duration may become shorter.

Cancel the alarm action

The recorder will take an alarm action according to the settings configured in advance when an event occurs. It is possible to cancel the alarm action manually.

1 When an event occurs, the [ALM] button will be displayed in the status display area.



2 Click the [ALM] button.

The alarm action will be canceled.

Note:

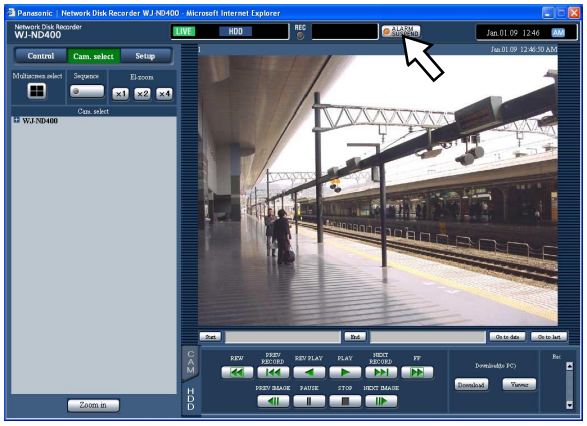
- Once an emergency recording starts, it will not stop even by clicking the [ALM] button. It will stop only when "Continue" is selected for "Recording duration" on the "Emergency rec." page. Refer to the setup instructions (PDF) for further information about the "Emergency rec." page.

Suspend the alarm action

Configure the settings to not to perform the alarm action even when an event occurs. It is useful to suspend the alarm action at an event occurrence such when maintaining the recorder for a certain period.
Even though the alarm action is suspended, the following actions will be taken.

- Start recording
- Record a log
- Move the registered camera to the preset position
- Display the [ALM] button

1 Display the operation window.



2 Click the [ALARM SUSPEND] button.

The alarm action will be suspended and the indicator on the [ALARM SUSPEND] button will light.

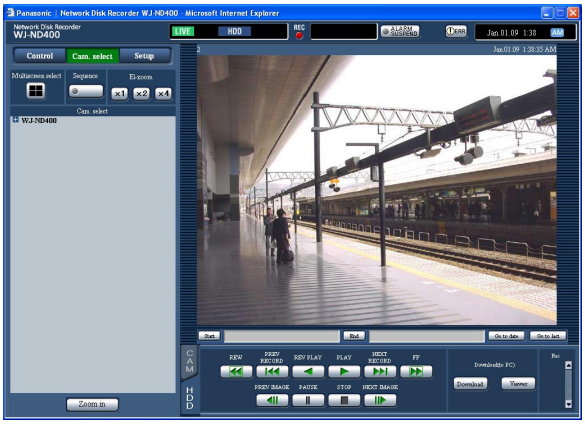
3 Click the [ALARM SUSPEND] button.

The suspended alarm action will be released and the indicator on the [ALARM SUSPEND] button will go off.

Cancel an error action

When an error occurred, this recorder will take an error action. Refer to page 66 for further information about the error action. To manually cancel an error action, perform the following operation.

1 When an error occurs, the [ERR] button will be displayed in the status display area.



2 Click the [ERR] button.

The error action will be canceled.

Note:

- Depending on the error type, the error indicator on the front panel may not go off even after the [ERR] button is clicked.

Enable/disable the key lock

It is possible to lock the buttons on the front panel to make them unusable.

Lock

1 Continue pressing the arrows buttons (up or down) until the "Keylock Mode" indication is displayed.

2 Press the [SET] button.

The "Keylock Enabled" indication will be displayed and the buttons on the front panel will be locked.

Release

1 Continue pressing the arrows buttons (up or down) until the "Keylock Mode" indication is displayed.

2 Press the [SET] button.

The "Locked" indication will be displayed, and then the password entry display will appear.

3 Enter the password. (Default: 12345)

Move the underscore mark using the arrows button (left or right), and then enter a number (0 - 9) using the arrows button (up or down).
The password can be changed on the setup menu. Refer to the setup instructions (PDF) for further information.

4 Press the [SET] button.

The key lock will be released.

Check logs

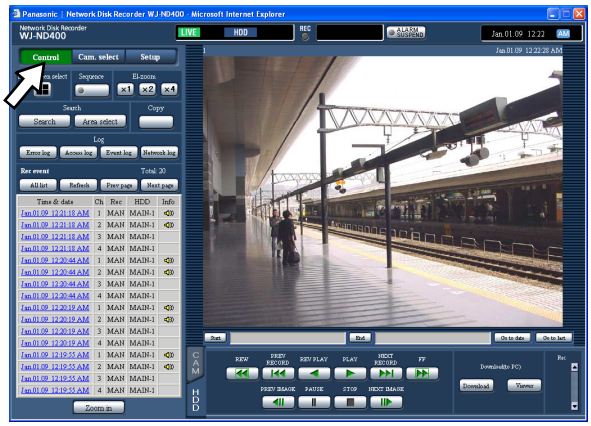
The following logs can be checked.

- Error log
- Access log
- Event log (event occurrence time and details)
- Network log

Check the error log

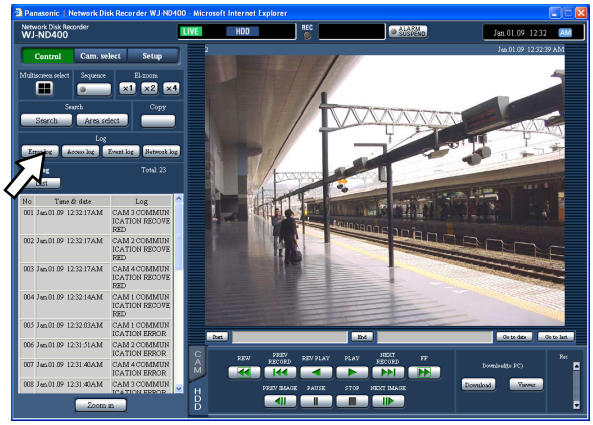
The error logs will be displayed in list form.

1 Click the [Control] button.



2 Click the [Error log] button of the [Log] box.

The error logs will be displayed in list form in the list display area. Refer to page 59 for further information about the error log.



3 Click the [List] button to close the network log window.

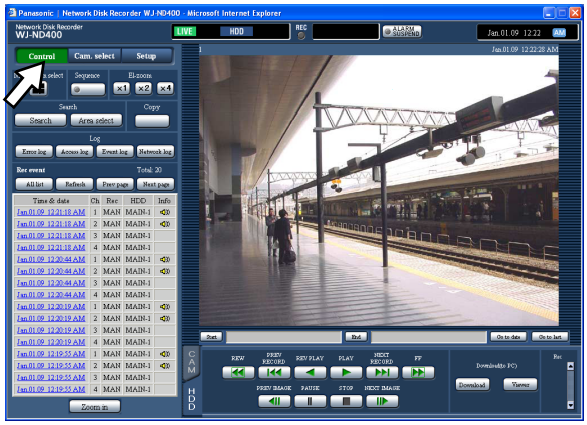
Note:

- Up to 100 error logs can be kept. When more than 100 error logs are filed, the older error logs will be overwritten by the newer error logs.
- When the same error as the one recorded on the latest log occurred newly, only the time and date of the latest log will be updated.
- Live images will not be refreshed correctly while the displayed logs are being updated.

Check the access log

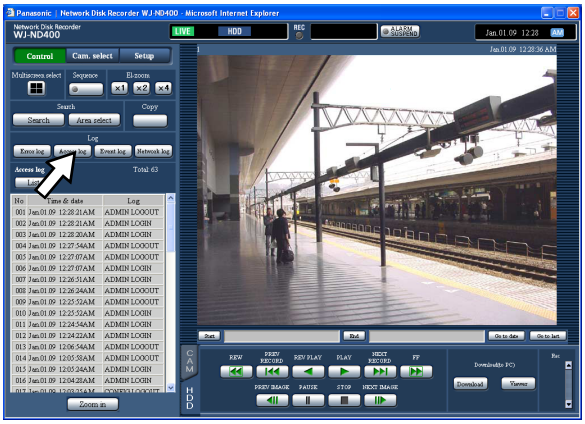
The time when logged in/out for the recorder, the user name, or the IP address will be displayed.

1 Click the [Control] button.



2 Click the [Access log] button of the [Log] box.

The access logs will be displayed in list form in the list display area.



Description of access log

****LOGIN/**LOGOUT:** A user or a host has logged in/out the recorder.

CONFIG LOGIN/CONFIG LOGOUT: A user or a host has logged in/out the "Disk config." page.

USE BUTTON PUSHED: A user has held down the [USE] button for 2 seconds or more.

** indicates a user name or an IP address.

3 Click the [List] button to close the network log window.

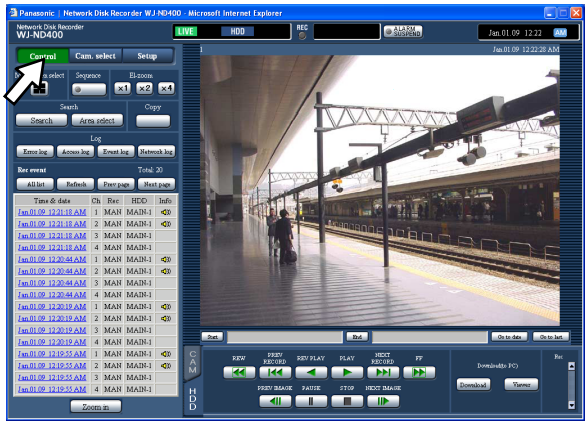
Note:

- Up to 100 access logs can be kept. When more than 100 access logs are filed, the older access logs will be overwritten by the newer access logs.
- Live images will not be refreshed correctly while the displayed logs are being updated.

Check the event log

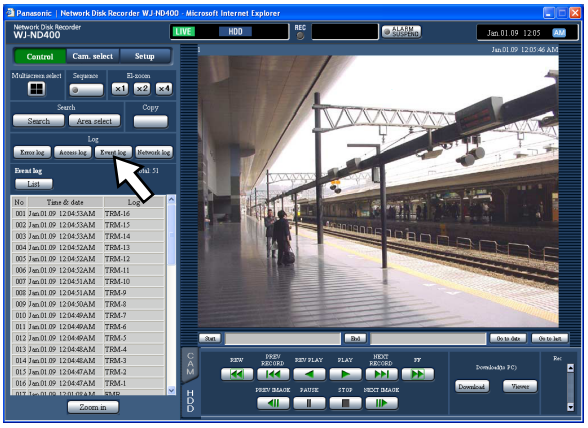
The time and date of event occurrences and their details will be displayed. Refer to page 35 for further information about each event.

1 Click the [Control] button.



2 Click the [Event log] button of the [Log] box.

The event logs will be displayed in list form in the list display area.



Description of event log
COM: Command alarm
EMR: Emergency recording
TRM: Terminal alarm
CAM: Site alarm
SCD: Scene change alarm
EXT START: External recording start
EXT STOP: External recording stop

3 Click the [List] button to close the network log window.

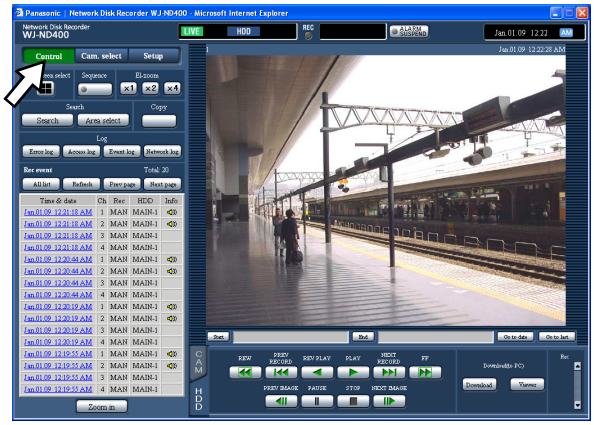
Note:

- Up to 750 event logs can be kept. When more than 750 event logs are filed, the older event logs will be overwritten by the newer event logs.
- Live images will not be refreshed correctly while the displayed logs are being updated.

Check the network log

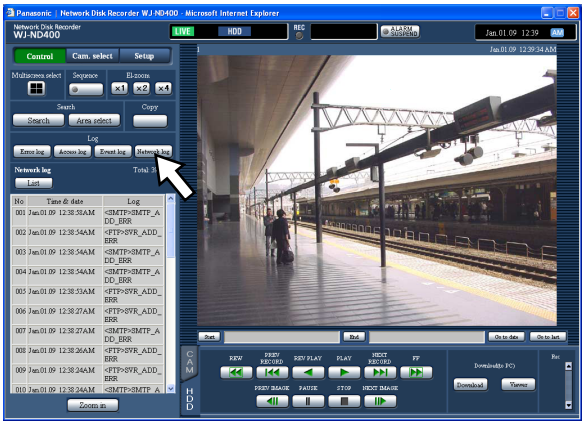
The time and date of network error occurrences and their details will be displayed.

1 Click the [Control] button.



2 Click the [Network log] button of the [Log] box.

The network logs will be displayed in list form in the list display area. Refer to page 59 for further information about the network log.



3 Click the [List] button to close the network log window.

Note:

- Up to 1 000 network logs can be kept. When more than 1 000 network logs are filed, the older network logs will be overwritten by the newer network logs.
- When the same error as the one recorded on the latest log occurred newly, only the time and date of the latest log will be updated.
- Live images will not be refreshed correctly while the displayed logs are being updated.

Copy recorded images

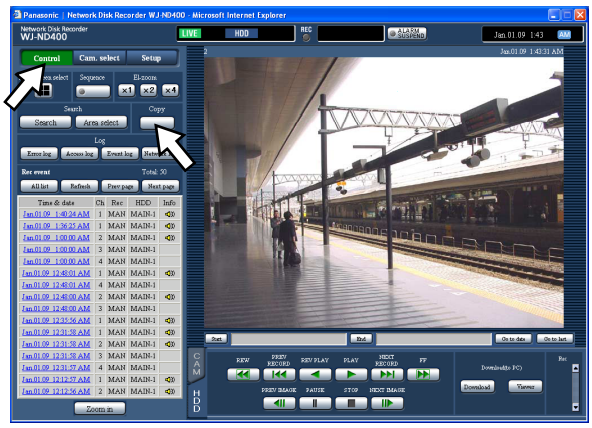
Recorded images can be copied onto the copy area on the hard disk drives.
It is recommended to make back-up copies on a regular basis for unexpected situations such as malfunction of the hard disk drives.

Copy

Images recorded on the normal recording area/event recording area can be copied onto the copy area during the following.

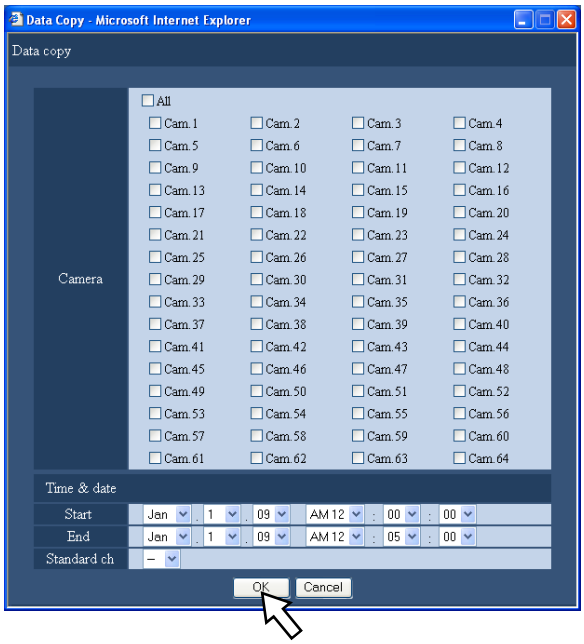
- During displaying live images
- During pausing playback of recorded images

1 Click the [Control] button.



2 Click the [Copy] button.

The "Data copy" window will be displayed.



3 Click to select the desired camera channels used for recording.

It is possible to select two or more camera channels.

4 Select a start time and an end time for copying by clicking the [V] button.

5 Determine which camera channel is to be used as a standard time zone.

It is necessary to determine the primary time and date by selecting a camera channel when cameras are installed in two or more countries. When both this recorder and the camera to be used as "Standard Ch" are installed in the same time zone, select "--".

6 Click the [OK] button.

Copying will start and the "COPY" indication will be displayed in the status display area.

Important:

- Images will be copied first, and then audio will be.
- Depending on the designated time range for copying, some images and audio may sometimes not be copied.

Note:

- In the following cases, copy will stop.
  - When another user edited the settings during the copying
  - When the web browser is closed by a user who started copying using the web browser (It will take around 90 seconds until the copying is stopped from the moment when the web browser is closed.)
- It is impossible to copy recorded images in the following cases. The pop-up window will be displayed when the button in the [Copy] box is clicked.
  - When another user is performing the copying
  - When "Copy area" is selected on the "Area select" window

- The copy cancel window will be displayed, and copying will be canceled when the user who started copying clicks the button in the [Copy] box during the copying.
- Copying may start from a point several seconds after the designated start time when copying MPEG-4 images.
- SD memory data of the selected camera channel and time range will also be copied onto the copy area.

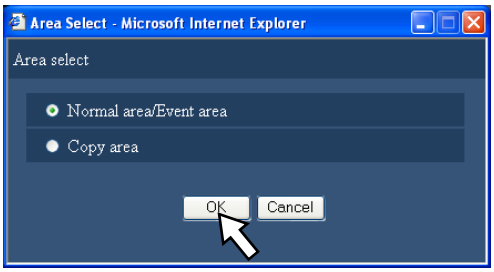
Play copied images

Copied images can be played as follows.

1 Click the [Control] button.

2 Click the [Area select] button of the [Search] box.

The "Area select" window will be displayed.

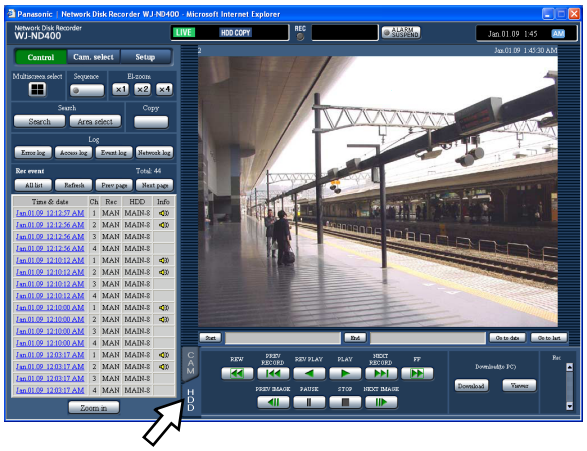


3 Check the "Copy area" checkbox.

4 Click the [OK] button.

Logs (time and date, description) of the copied images will be displayed in list form in the list display area.

5 Click the [HDD] tab.



6 Click the time and date of the copied images to be played.

Playback of recorded images stored in the selected recording area will start, and the "Playback" indication and the "Step 1" indication will be displayed.

7 Click the [STOP] button.

Playback will stop, and the "Playback" indication and the "Step 1" indication will disappear.
Live images will be displayed.
When the [PLAY] button is clicked after stopping the playback, playback will start from the playback point at the last playback stopped.

Delete recorded images

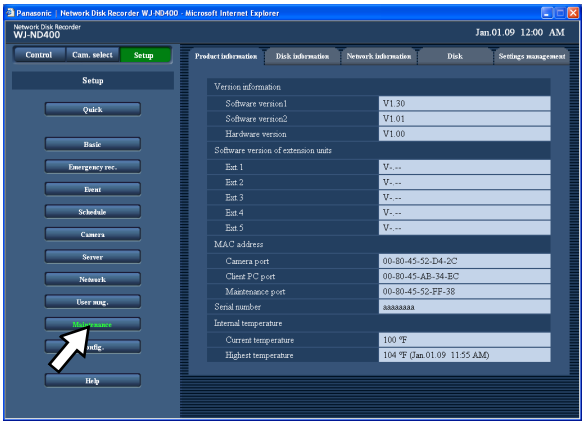
Deletion of recorded images saved on the hard disk drives manually

Delete recorded images and audio saved in the normal recording area, the event recording area or the copy area of the hard disk drives manually. By designating a time and date, all the images and audio recorded until the day before the designated time and date will be deleted.

Important:

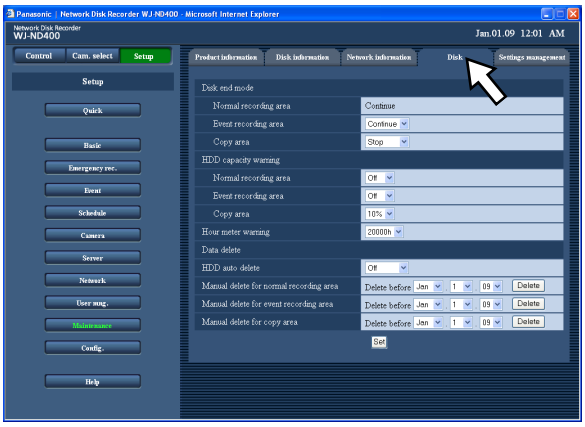
- It is impossible to recover the deleted images and audio.
- It is possible to delete recorded images and audio automatically when the set days have passed from the day the image was recorded (HDD auto deletion). Refer to a system administrator for further information.
- When "Stop" is selected for "Disk end mode" on the "Maintenance" page, the available disk capacity will not be increased even though deletion is performed.

1 Click the [Setup] button and then click the [Maintenance] button.



2 Click the [Disk] tab.

The "Disk" window will be displayed.

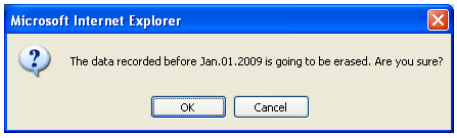


3 Select the area on which the images are to be deleted from "Manual delete for normal recording area", "Manual delete for event recording area" and "Manual delete for copy area", and then designate the time and date.

All images and audio recorded until the day before the designated time and date will be deleted.

4 Click the [Delete] button.

The confirmation pop-up window will be displayed.



5 Click the [OK] button.

Images and audio will be deleted.

Download recorded images

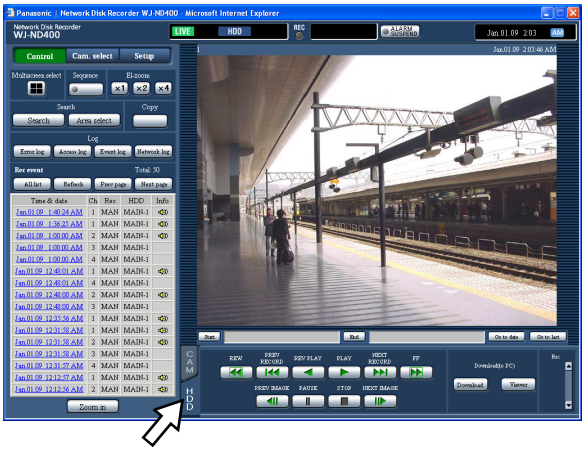
Download recorded images currently being played

Designate the start point and the end point of recorded images currently being played and download images to a PC.

When downloading recorded images, recorded images and audio will be downloaded as an image data file (filename.n3r) and an audio data file (filename.n3a) respectively.

Refer to page 48 for information on how to play downloaded recorded images.

1 Click the [HDD] tab.



2 Enter the desired start time of the download time range in the [Start] box on the playback point operation area.

It is also possible to designate the start time by clicking the [Start] button at the desired point to set as the start point of the recorded images to be downloaded. The time and date of the start point will be displayed in the playback point operation area.

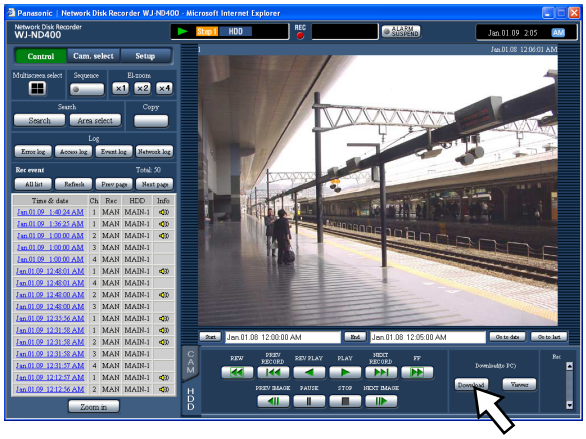
3 Enter the desired end time of the download time range in the [End] box on the playback point operation area.

It is also possible to designate the end time by clicking the [End] button at the desired point to set as the end point of the recorded images to be downloaded. The time and date of the end point will be displayed in the playback position operation area.

It is possible to designate up to 20 minutes of the time range per download.

4 Click the [Download] button.

The "Download" pop-up window will be displayed. The designated start time and end time will be displayed in the [Start] and [End] boxes respectively.



Note:

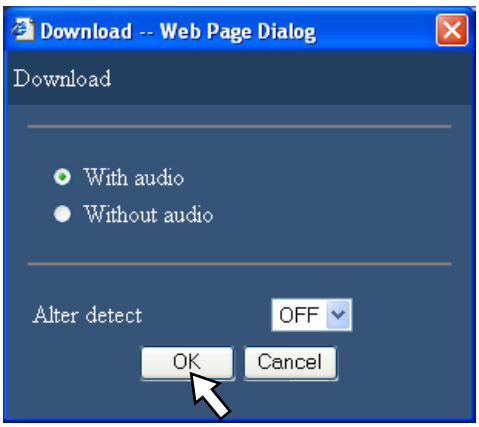
- Download may start from a point several seconds before the designated start time and may end at a point several seconds after the designated end time when downloading MPEG-4 images.

5 Click the [OK] button after selecting "With audio" or "Without audio" to determine whether or not to download images with audio and "ON" or "OFF" for "Alter detect" to determine whether or not to attach an alteration detection code to recorded images to be downloaded.

The "File download" window will be displayed.

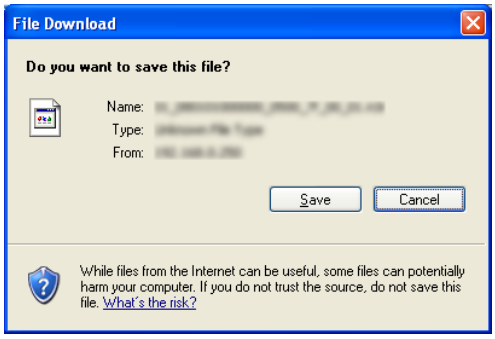
Note:

- The download time will be longer when "With audio" is selected or "ON" is selected for "Alter detect".



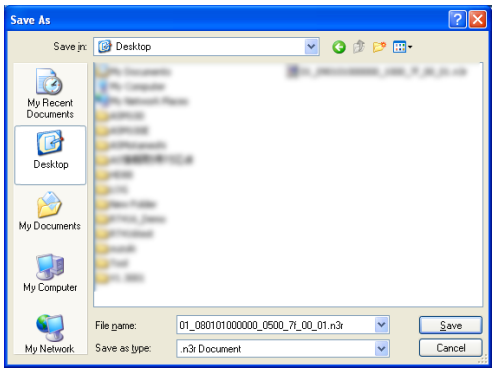
6 Click the [Save] button.

The "Save As" window will be displayed.
When "With audio" is selected in step 5, the "File download" window will be displayed for audio file download after the downloading of images is complete.



7 Create a new folder in the desired directory and click the [Save] button.

Recorded images and audio will be downloaded as an image data file (filename.n3r) and an audio data file (filename.n3a) respectively.



Important:

- When downloading, the available disk capacity must be 2 or more times the size of the file to be downloaded*.
  * It is a feature of Microsoft® Internet Explorer.
- When download is canceled in the process of the download, it may be impossible to properly play the downloaded file on a PC.

Play downloaded images

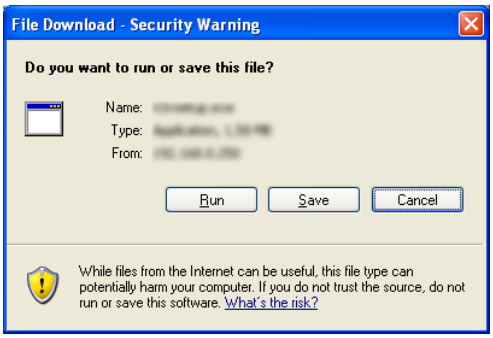
Recorded images and audio will be downloaded as an image data file (filename.n3r) and an audio data file (filename.n3a) respectively.
It is possible to play, save and print downloaded images using the viewer software available to download from the recorder to a PC.

Download the viewer software

1 Click the [HDD] tab.

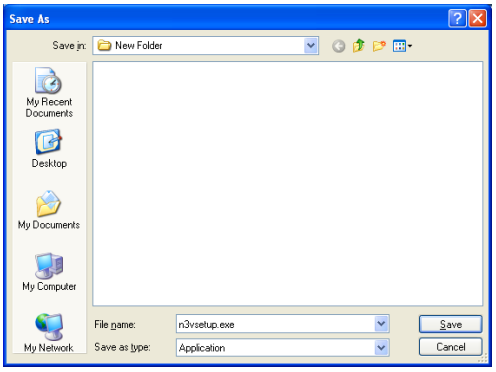
2 Click the [Viewer] button of the [Download(to PC)] box.

The "File Download" window will be displayed.



3 Click the [Save] button.

The "Save As" window will be displayed.



4 Create a new folder in the desired directory and click the [Save] button.

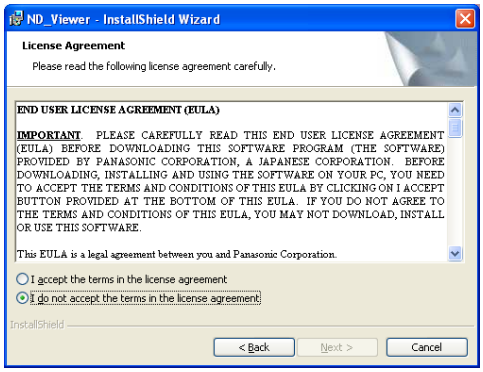
The viewer software will be downloaded.

Install the viewer software

When the older version of the viewer software is installed, installation may fail. Uninstall the older version first before starting the installation.

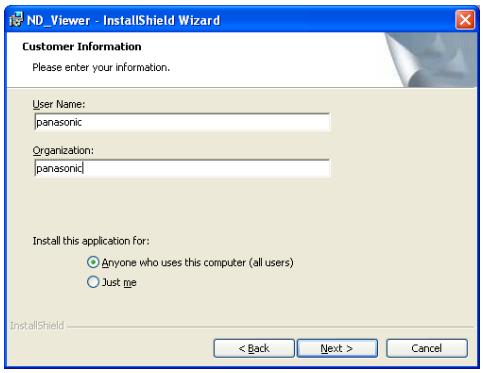
1 Double-click the downloaded file (n3vsetup.exe).

The install wizard window will be displayed.



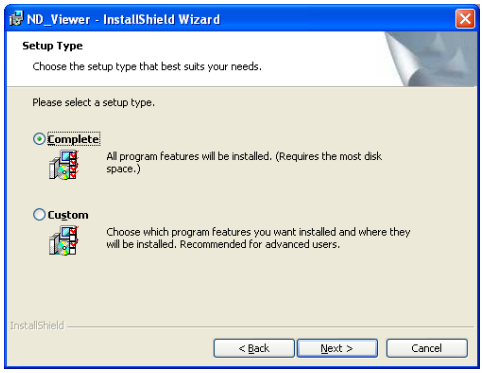
2 To proceed the installation after reading "License agreement", click the [Next] button after selecting "I accept the terms in the license agreement."

The user information entry fields will be displayed.



3 Complete the user entry fields.

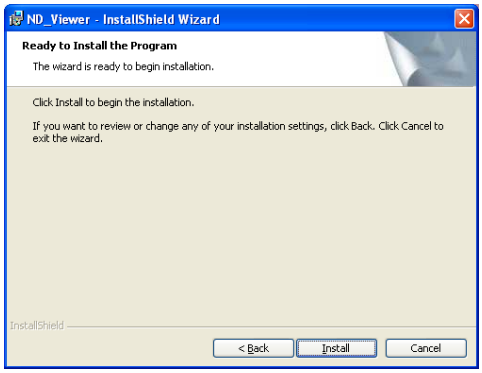
User information entry is not required to proceed.



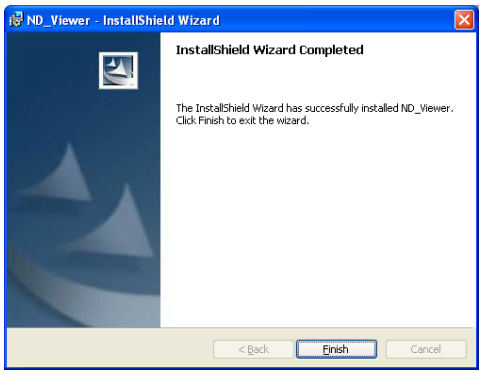
4 Click the radio button of "Anyone who uses this computer (all users)" and then click the [Next >] button.

The setup type section radio buttons will be displayed.

The wizard is ready to install.



5 Click the [Install] button.



6 When the installation completion message is displayed, click the [Finish] button.

Installation of the viewer software is complete.

Uninstalling the viewer software

For Windows XP

1 **Open "Add or Remove Programs" in "Control Panel".**

2 **Select "ND_Viewer" (the program to be deleted) from presently installed programs and click the [Remove] button.**
The uninstall program will be launched and the wizard will be displayed.

3 **Uninstall the program by following instructions of the wizard.**

For Windows Vista

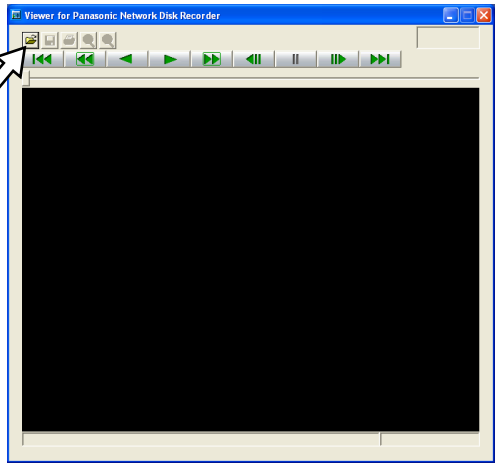
1 **Open "The uninstall program" in "Control Panel".**

2 **Select "ND_Viewer" (the program to be deleted) from presently installed programs and right-click on it. Select "Uninstall and Change" from the displayed right-click pop-up menu.**
The uninstall program will be launched and the wizard will be displayed.

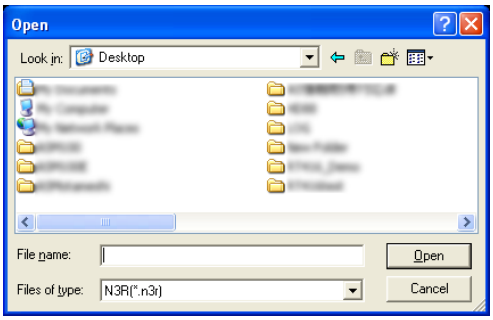
3 **Uninstall the program by following instructions on the wizard.**

Play downloaded images using the viewer software

1 **Launch the viewer software. The following window will be displayed.**



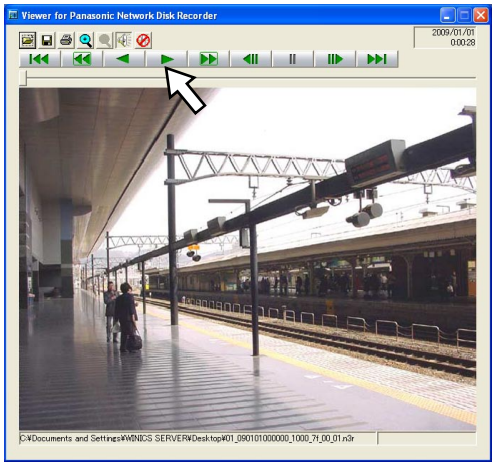
2 **Click the open file button.**
The "Open" window will be displayed.



3 **Select the downloaded image data file (filename.n3r).**
It is possible to select two files or more (up to 32 files) by clicking the desired files while holding down the [Ctrl] key or the [Shift] key.
To play audio data, the image data file "filename.n3r" and the audio data file "filename.n3a" are necessary to be saved in the same folder.

4 Click the [Open] button.

The first frame of the image data file will be displayed.



5 Click the play [*] button.

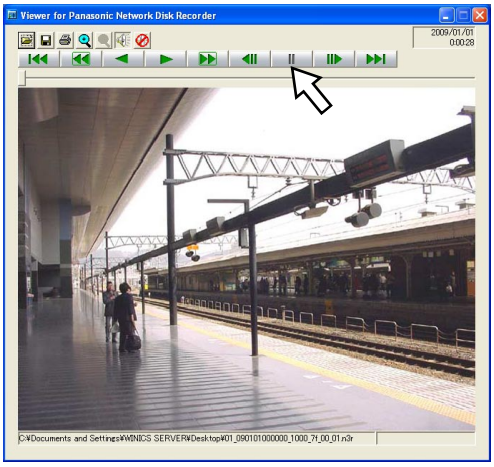
Note:

- When playback reached the end, a black screen will be displayed and paused.
- When two files or more are selected, it is possible to skip to play the previous/next file by clicking the [Previous file]/ [Next file] buttons.
- When the [Zoom in] button is clicked, the displayed image will be enlarged two times.
- When performance of the PC in use is low, images may not be played smoothly.
- It is possible to turn on/off audio by clicking the [Speaker (audio on)] button and the [Speaker (audio off)] button.
- When a web browser, the viewer software and the HDD viewer software are running at the same time, audio may not be heard correctly.
  Run either the web browser, the viewer software or the HDD viewer software only to play audio.

Save Downloaded Images

It is possible to save the paused image as a JPEG file (extension: jpg). Saving the downloaded file is available only when the image is paused.

1 Start operation when playing the downloaded images using the viewer software.

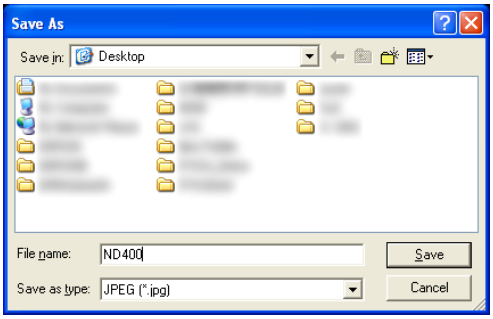


2 Click the pause button.

3 Click the save button.

The "Save As" window will be displayed.

4 Enter the file name and select "JPG (*.jpg)" for "Save as type".



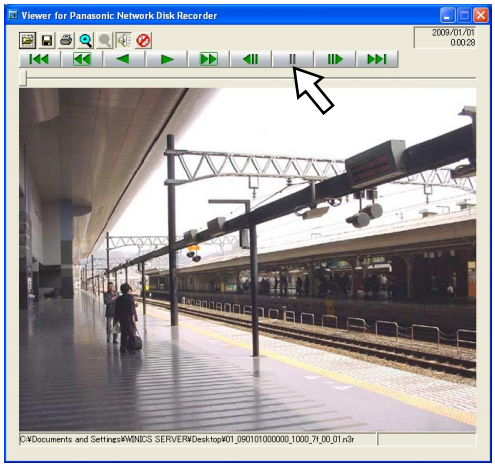
5 Designate the folder and click the [Save] button.

The image data will be saved as a JPEG file.

Print the displayed image

It is possible to print the paused image.

1 Start operation when playing the downloaded images using the viewer software.



2 Click the pause button.

3 Click the print button.

Note:

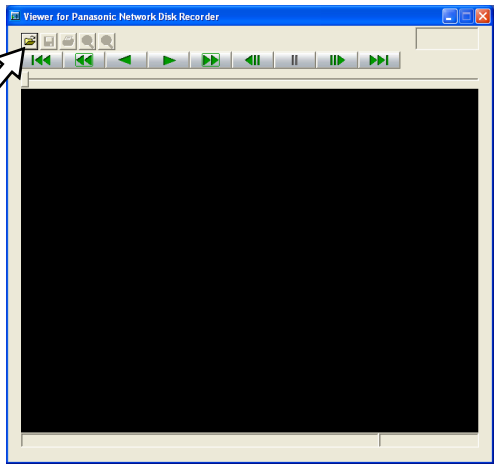
- When printing a image from the file whose extension is "n3r", the time and date when paused on the viewer software will also be printed.

Perform the alteration detection

It is possible to detect the alteration of the data if a code for the alteration detection has been attached to the downloaded data.

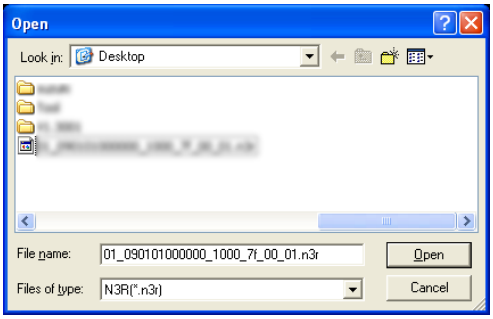
Refer to page 47 for information on how to attach a code for the alteration detection.

1 Launch the viewer software and display the following window.



2 Click the open file button.

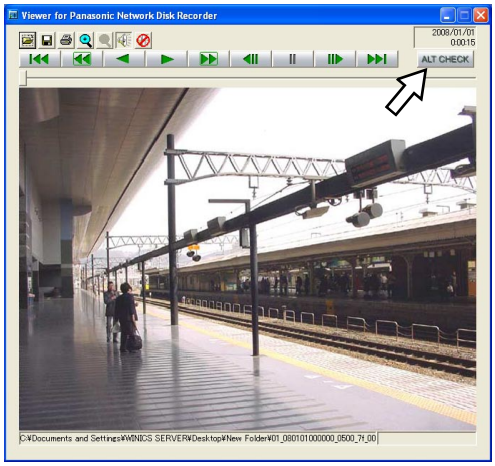
The "Open" window will be displayed.



3 Select the downloaded image data file (filename.n3r).

4 Click the [Open] button.

The first frame of the downloaded image will be displayed and paused.



5 Click the [ALT CHECK] button.

The alteration detection will start.
The following pop-up window will be displayed after the alteration detection.
OK (Not Altered): No alteration was detected.
NG (Altered): Alteration was detected.

Note:

- The [ALT CHECK] button will be displayed only when opening an image data file with a code for the alteration detection.

Transmit images

Transmit images from cameras to an FTP Server

It is possible to transmit images from cameras to an FTP server.
Image transmission can be performed at a designated time periodically (FTP transmission by periodic timer) or at an event occurrence (FTP image transmission by alarm).

Transmit images from cameras periodically

It is necessary to perform the settings on the setup menu in advance to transmit images from cameras to an FTP server periodically.
The settings relating to "Image transmission by periodic timer" such as FTP server directory, transmission interval, source camera channel, etc. can be performed on the setup menu ("Server" - "FTP" - "Image transmission by periodic timer").
Refer to the setup instructions (PDF) for information on how to configure the settings.
When the image compression method of the camera used for the camera channel selected for "Channel to send" (under "Image transmission by periodic timer" of "FTP" on the "Server" page) is "MPEG-4", images will not be transmitted.

Transmit images from cameras at an event occurrence

It is necessary to perform the settings on the setup menu in advance to transmit images from cameras to an FTP server at an event occurrence.
The settings relating to "FTP image transmission by alarm" such as FTP server name, "Duration-Pre", "Duration-Post", etc. can be performed on the setup menu ("Server" - "FTP " - "Image transmission by alarm").
Refer to the setup instructions (PDF) for information on how to configure the settings.

Send mails

A mail that notifies of the event occurrence with the time and date of the event occurrence will be sent. (Alarm mail)
To send alarm mails at an event occurrence, configure the settings in advance. Refer to the setup instructions (PDF).

Note:

- It is possible to attach an image to the alarm mail. (Alarm image)
- Up to 4 destination addresses of the alarm mail can be registered.

Check the system/disk information

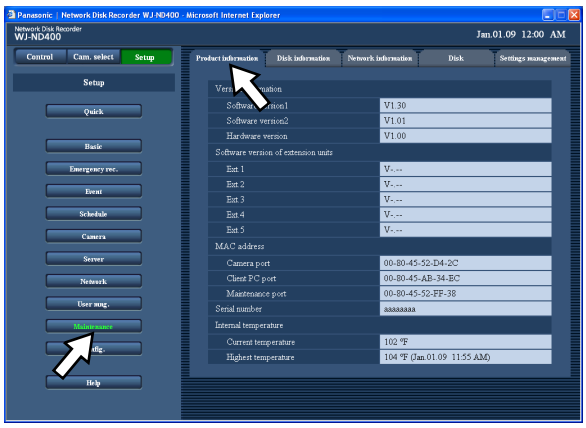
Check information about the system and the hard disk drives of the recorder.

System information

Versions of the software, the hardware (this recorder), MAC address, serial number, temperature inside the recorder and software version of the connected extension unit will be displayed.

1 Click the [Setup] button.

2 Click the [Maintenance] button and then click [Product information].



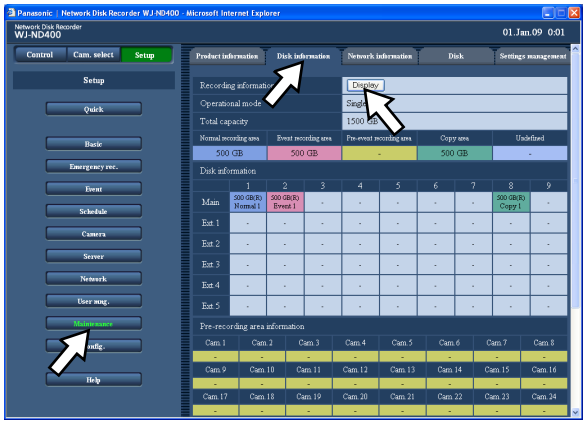
Disk information

The disk size and the available capacity of the hard disk drives of the recorder and the extension unit (EXT1-5) will be displayed. It is also possible to check the time range of the images recorded on the selected hard disk drive. Refer to the setup instructions (PDF) for further information about the hard disk drives in the recorder. Settings for the hard disk drive lifetime warning time (hour meter) can be performed on this menu.

1 Click the [Setup] button.

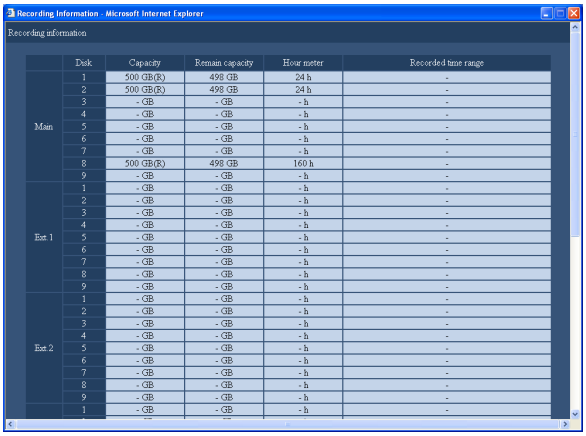
2 Click the [Maintenance] button and then click the [Disk information] tab.

The "Disk information" page will be displayed.



3 Click the [Display] button on the "Disk information" page.

The disk capacities of each hard disk drive, hour meter, and time and date range of recorded images saved on each hard disk drive will be displayed.



Notification by e-mail

Alarm mail

The alarm mail contains an URL of an alarm image that saved on the recorder as follows.
Contents of the alarm mail

ND400 (192.168.0.250), alarm was occurred.	
Alarm date:	xx-xxx-xxxx xx:xx:xx GMT xx:xx (Example: 01-JAN-2009 GMT+0:00)
Cause of alarm:	Displays an event type and a camera channel or an alarm number (Example: COMMAND ALARM 5CH)
File name of alarm image:	The file name of the image attached to an e-mail.
URL:http://192.168.0.250/	

Warning mail

The following mail will be sent to notify of a trouble occurrence to a registered address when the trouble occurs.
ND400 (192.168.0.250) STATUS REPORT.
DATE: 1-JAN-2009 12:00:00 GMT+0:00
STATUS: The description of the trouble will be displayed. (Ex. MAIN THERMAL ERROR)

Display	Description	
DATE	Time and date when the trouble occurred will be displayed.	
STATUS	The description of the trouble will be displayed.	
	HDD capacity warning*1:	<Anything other than FULL> NORMAL-HDD CAPACITY REMAINS **% EVENT-HDD CAPACITY REMAINS **% COPY-HDD CAPACITY REMAINS **% ** is remaining capacity (%). <FULL> EVENT-HDD FULL COPY-HDD FULL
	Power outage detection:	POWER LOSS
	Recover from a power outage:	POWER RECOVERED
	NW camera error detection:	CAM** COMMUNICATION ERROR ** is camera channel.
	NW camera error recovery:	CAM** COMMUNICATION RECOVERED ** is camera channel.
	NW camera error detection (audio):	CAM** COMMUNICATION ERROR (AUDIO) ** is camera channel.
	NW camera error recovery (audio):	CAM** COMMUNICATION RECOVERED (AUDIO) ** is camera channel.
	HDD smart warning*2:	Recorder: MAIN-y SMART WARNING Extension unit: EXTx-y SMART WARNING x is unit number, y is disk number.
	HDD hour meter warning:	Recorder: MAIN-y HOUR METER WARNING Extension unit: EXTx-y HOUR METER WARNING x is unit number, y is disk number.

Display	Description	
	Remove auto links (per HDD):	Recorder: MAIN-y LOGICALLY REMOVED Extension unit: EXTx-y LOGICALLY REMOVED x is unit number, y is disk number.
	Remove auto links (per unit):	Recorder: MAIN LOGICALLY REMOVED Extension unit: EXTx LOGICALLY REMOVED x is unit number.
	RAID5 recovery failure:	Recorder: MAIN RAID5 RECOVERY FAILURE Extension unit: EXTx RAID5 RECOVERY FAILURE x is unit number.
	RAID6 recovery failure:	Recorder: MAIN RAID6 RECOVERY FAILURE Extension unit: EXTx RAID6 RECOVERY FAILURE x is unit number.
	Fan trouble:	Recorder: MAIN FANy ERROR Extension unit: EXTx FANy ERROR x is unit number, y is FAN number.
	Thermal trouble:	Recorder: MAIN THERMAL ERROR Extension unit: EXTx THERMAL ERROR x is unit number.
	NW link error:	NETWORK LINK ERROR
	RAID5 1 DOWN:	Recorder: MAIN RAID5 1 DOWN Extension unit: EXTx RAID5 1 DOWN x is unit number.
	RAID5 2 DOWN:	Recorder: MAIN RAID5 2 DOWN Extension unit: EXTx RAID5 2 DOWN x is unit number.
	RAID6 1 DOWN:	Recorder: MAIN RAID6 1 DOWN Extension unit: EXTx RAID6 1 DOWN x is unit number.
	RAID6 2 DOWN:	Recorder: MAIN RAID6 2 DOWN Extension unit: EXTx RAID6 2 DOWN x is unit number.
	RAID6 3 DOWN:	Recorder: MAIN RAID6 3 DOWN Extension unit: EXTx RAID6 3 DOWN x is unit number.
	Camera SD memory card error	CAM ** SD ERR ** is camera channel.
	Camera SD memory card starting write error:	CAM ** SD START ERR ** is camera channel.
	Camera SD memory card ending write error:	CAM ** SD END ERR ** is camera channel.
	Camera SD memory card list request error:	CAM ** GET LIST ERR ** is camera channel.
	Camera SD memory card data obtainment failure:	CAM ** GET IMG ERR ** is camera channel.
	Camera SD memory card data deletion failure:	CAM ** DEL IMG ERR ** is camera channel.
	Video loss detection:	CAM ** VIDEO LOSS ** is camera channel.

Display	Description	
	Video loss recovery:	CAM ** VIDEO RECOVERED ** is camera channel.
	Single mode format failure:	Recorder: MAIN-y SINGLE FORMAT ERROR Extension unit: EXTx-y SINGLE FORMAT ERROR x is unit number, y is disk number.
	RAID5 mode format failure:	Recorder: MAIN RAID5 FORMAT ERROR Extension unit: EXTx RAID5 FORMAT ERROR x is unit number.
	RAID6 mode format failure:	Recorder: MAIN RAID6 FORMAT ERROR Extension unit: EXTx RAID6 FORMAT ERROR x is unit number.
	HDD remove error:	Recorder: MAIN-y SWAP WARNING Extension unit: EXTx-y SWAP WARNING x is unit number, y is disk number.
	Alteration detected:	ALTERED **CH ** is camera channel.

*1 HDD capacity warning
A warning mail with the <except FULL> content will be sent when the available disk capacity becomes less than the set value for "HDD capacity warning" on the [Disk] tab page under "Maintenance". After a warning mail is sent, a warning mail with the <except FULL> content will be sent each time 1% of the available disk capacity is reduced, and a warning mail with the <FULL> content will be sent when there is no available disk capacity.

*2 The HDD smart warning mail is not sent in the RAID 5 or RAID 6 mode.

Error log

About the error log

The following are the descriptions about the contents of the error log and the network log.

Description of error	Error log	Network log	LCD	Output from connector
Power outage detection	POWER LOSS	–	ERR POWER FAILURE	Power outage recovery completion output
Recover from a power outage	POWER RECOVERED	–	–	–
Alteration Detection	ALTERED **CH	–	–	–
No response from a notified address of Panasonic alarm protocol	PANASONIC_ALM_ RES_ERR	–	–	Network error output
Failed to resolve an address of Panasonic alarm protocol from DNS	PANASONIC_ALM_ ADD_ERR	–	–	Network error output
Other errors for an address of Panasonic alarm protocol	PANASONIC_ALM_ OTHER_ERR	–	–	Network error output
Parameter initialization error	–	–	Recorder: MAIN ERR INITIAL ERR Extension unit: EXTu ERR INITIAL ERR	–
FAN warning	Recorder: MAIN FANf ERROR Extension unit: EXTu FANf ERROR	–	Recorder: MAIN-f ERR FAN ERROR Extension unit: EXTu-f ERR FAN ERROR	Error output
Thermal error warning	Recorder: MAIN THERMAL ERROR Extension unit: EXTu THERMAL ERROR	–	Recorder: MAIN-t ERR THERMAL ERROR Extension unit: EXTu-t ERR THERMAL ERROR	Error output
Reboot by the system error	SYSTEM REBOOT	–	–	–
HDD remove error*1	Recorder: MAIN-d SWAP WARNING Extension unit: EXTu-d SWAP WARNING	–	Recorder: MAIN-d ERR HDD SWAP ERR Extension unit: EXTu-d ERR HDD SWAP ERR	HDD error output
HDD write error	Recorder: MAIN-d WRITE ERR Extension unit: EXTu-d WRITE ERR	–	–	–

Description of error	Error log	Network log	LCD	Output from connector
HDD read error	Recorder: MAIN-d READ ERROR Extension unit: EXTu-d READ ERROR	–	–	–
Single mode format failure	Recorder: MAIN-d SINGLE FORMAT ERROR Extension unit: EXTu-d SINGLE FORMAT ERROR	–	Recorder: MAIN-d ERR HDD FORMAT FAIL Extension unit: EXTu-d ERR HDD FORMAT FAIL	HDD error output
RAID5 format failure	Recorder: MAIN RAID5 FORMAT ERROR Extension unit: EXTu RAID5 FORMAT ERROR	–	Recorder: MAIN ERR HDD FORMAT FAIL Extension unit: EXTu ERR HDD FORMAT FAIL	HDD error output
RAID6 format failure	Recorder: MAIN RAID6 FORMAT ERROR Extension unit: EXTu RAID6 FORMAT ERROR	–	Recorder: MAIN ERR HDD FORMAT FAIL Extension unit: EXTu ERR HDD FORMAT FAIL	HDD error output
RAID5 1DOWN	Recorder: MAIN RAID5 1DOWN Extension unit: EXTu RAID5 1DOWN	–	Recorder: MAIN ERR RAID5 1DOWN Extension unit: EXTu ERR RAID5 1DOWN	HDD error output
RAID5 2DOWN	Recorder: MAIN RAID5 2DOWN Extension unit: EXTu RAID5 2DOWN	–	Recorder: MAIN ERR RAID5 2DOWN Extension unit: EXTu ERR RAID5 2DOWN	HDD error output
RAID6 1DOWN	Recorder: MAIN RAID6 1DOWN Extension unit: EXTu RAID6 1DOWN	–	Recorder: MAIN ERR RAID6 1DOWN Extension unit: EXTu ERR RAID6 1DOWN	HDD error output
RAID6 2DOWN	Recorder: MAIN RAID6 2DOWN Extension unit: EXTu RAID6 2DOWN	–	Recorder: MAIN ERR RAID6 2DOWN Extension unit: EXTu ERR RAID6 2DOWN	HDD error output
RAID6 3DOWN	Recorder: MAIN RAID6 3DOWN Extension unit: EXTu RAID6 3DOWN	–	Recorder: MAIN ERR RAID6 3DOWN Extension unit: EXTu ERR RAID6 3DOWN	HDD error output

Description of error	Error log	Network log	LCD	Output from connector
HDD S.M.A.R.T warning*2	Recorder: MAIN-d SMART WARNING Extension unit: EXTu-d SMART WARNING	–	Recorder: MAIN-d ERR SMART WARNING Extension unit: EXTu-d ERR SMART WARNING	HDD error output
HDD hour meter warning	Recorder: MAIN-d HOUR METER WARNING Extension unit: EXTu-d HOUR METER WARNING	–	Recorder: MAIN-d ERR HDD HOUR METER WARNING Extension unit: EXTu- d ERR HDD HOUR METER WARNING	HDD error output
HDD SKIP warning*3	Recorder: MAIN-d HDD SKIP Extension unit: EXTu-d HDD SKIP	–	–	–
Remove HDD auto links (per HDD)	Recorder: MAIN-d LOGICALLY REMOVED Extension unit: EXTu-d LOGICALLY REMOVED	–	Recorder: MAIN-d ERR HDD REMOVE ERROR Extension unit: EXTu-d ERR HDD REMOVE ERROR	HDD error output
Remove HDD auto links (per Unit)	Recorder: MAIN LOGICALLY REMOVED Extension unit: EXTu LOGICALLY REMOVED	–	Recorder: MAIN ERR HDD REMOVE ERROR Extension unit: EXTu ERR HDD REMOVE ERROR	HDD error output
HDD link error	–	–	Recorder: Link MAIN-d FAILURE Extension unit: Link EXTu-d FAILURE	–
Partition error (per HDD)	Recorder: MAIN-d PARTITION ERROR Extension unit: EXTu-d PARTITION ERROR	–	Recorder: MAIN-d ERR PARTITION ERROR Extension unit: EXTu-d ERR PARTITION ERROR	–
Partition error (per Unit)	Recorder: MAIN PARTITION ERROR Extension unit: EXTu PARTITION ERROR	–	Recorder: MAIN ERR PARTITION ERROR Extension unit: EXTu ERR PARTITION ERROR	–

Description of error	Error log	Network log	LCD	Output from connector
HDD RAID 5 recovery failure	Recorder: MAIN RAID5 RECOVERY FAILURE Extension unit: EXTu RAID5 RECOVERY FAILURE	–	Recorder: MAIN ERR RAID5 R-FAILURE Extension unit: EXTu ERR RAID5 R-FAILURE	HDD error output
HDD RAID 6 recovery failure	Recorder: MAIN RAID6 RECOVERY FAILURE Extension unit: EXTu RAID6 RECOVERY FAILURE	–	Recorder: MAIN ERR RAID6 R-FAILURE Extension unit: EXTu ERR RAID6 R-FAILURE	HDD error output
Normal area available capacity warning	NORMAL-HDD CAPACITY REMAINS **%	_	AREA ERR NORMAL-HDD **%	Available disk space warning output
Event area available capacity warning	EVENT-HDD CAPACITY REMAINS **%	_	AREA ERR EVENT-HDD **%	Available disk space warning output
Event area available capacity warning (FULL)	EVENT-HDD FULL	_	AREA ERR EVENT-HDD FULL	Available disk space warning output
Copy area available capacity warning	COPY-HDD CAPACITY REMAINS **%	–	AREA ERR COPY-HDD **%	Available disk space warning output
Copy area available capacity warning (FULL)	COPY-HDD FULL	–	AREA ERR COPY-HDD FULL	Available disk space warning output
Copy error	NO DATA COPY	–	–	–
Network link error	–	NETWORK LINK ERROR	NW ERR NW LINK ERROR	Network error output
Network camera error detection	CAM cc COMMUNICATION ERROR	–	NW ERR CAMERA cc ERROR	Camera error output
Network camera error detection (audio)	CAM cc COMMUNICATION ERROR (AUDIO)	–	NW ERR CAMERA cc ERROR	Camera error output
Network camera error recovery	CAM cc COMMUNICATION RECOVERED	–	–	–
Network camera error recovery (audio)	CAM cc COMMUNICATION RECOVERED (AUDIO)	–	–	–
Video loss detection*4	CAM cc VIDEO LOSS	–	NW ERR CAMERA cc ERROR	Camera error output
Video loss recovery*4	CAM cc VIDEO RECOVERED	–	–	–

Description of error	Error log	Network log	LCD	Output from connector
E-mail transmission complete	–	<SMTP>MAIL_ SEND	–	–
E-mail authentication error	–	<SMTP>SMTP_ ATTEST_ERR	–	Network error output
Failed to resolve POP3 server address from DNS	–	<SMTP>POP3_ ADD_ERR	–	Network error output
Failed to find POP3 server	–	<SMTP>POP3_ SVR_ERR	–	Network error output
POP3 authentication error	–	<SMTP>POP3_ ATTEST_ERR	–	Network error output
Failed to resolve SMTP server address from DNS	–	<SMTP>SMTP_ ADD_ERR	–	Network error output
Failed to find SMTP server	–	<SMTP>SMTP_ SVR_ERR	–	Network error output
MAIL FROM Command error	–	<SMTP>MAIL_ FROM_ERR	–	Network error output
RCPT TO Command error	–	<SMTP>RCPT_TO_ ERR	–	Network error output
Other errors for SMTP	–	<SMTP>OTHER_ ERR	–	Network error output
FTP client transmission complete	–	<FTP>CLIENT_OK	–	–
FTP server transfer complete	–	<FTP>SVR_FWD_ OK	–	–
Failed to resolve FTP server address from DNS	–	<FTP>SVR_ADD_ ERR	–	Network error output
Failed to find FTP server	–	<FTP>SVR_ERR	–	Network error output
FTP uploading error	–	<FTP>UPLOAD_ ERR	–	Network error output
FTP passive mode error	–	<FTP>PASSIVE_ ERR	–	Network error output
FTP log-in failure	–	<FTP>LOGIN_ FAULT	–	Network error output
FTP log-out failure	–	<FTP>LOGOUT_ FAULT	–	Network error output
Other error for FTP	–	<FTP>OTHER_ERR	–	Network error output
DDNS IP address update	–	<DDNS>IP_ADD_ UPDATE_OK	–	–

Description of error	Error log	Network log	LCD	Output from connector
No response from the DDNS server	–	<DDNS>SVR_ERR	–	Network error output
Password error for DDNS user name	–	<DDNS>USER_ PASS_ERR	–	Network error output
DDNS IP address update error	–	<DDNS>IP_ADD_ UPDATE_ERR	–	Network error output
Other error for DDNS	–	<DDNS>OTHER_ ERR	–	Network error output
Synchronization with the NTP server complete	–	<NTP>GET_TIME_ OK	–	–
Failed to resolve NTP server address from DNS	_	<NTP>SVR_ADD_ ERR	–	Network error output
Failed to adjust the time	_	<NTP>SET_TIME_ ERR	–	Network error output
No response from the NTP server	–	<NTP>SVR_ERR	–	Network error output
Time from the NTP server is invalid	–	<NTP>TIME_ INVALID	–	Network error output
Other errors for NTP	–	<NTP>OTHER_ERR	–	Network error output
SNMP transmission complete	–	<SNMP>SEND_OK	–	–
Password error for SNMP user name	–	<SNMP>USER_ PASS_ERR	–	Network error output
SNMP object inquiry failure	–	<SNMP>OBJ_ERR	–	Network error output
Other errors for SNMP	–	<SNMP>OTHER_ ERR	–	Network error output
Having IP address complete	–	<DHCP>IP_ADD_ OK	–	–
DHCP IP address lost	–	<DHCP>IP_ADD_ LOST	–	Network error output
DHCP IP address update failure	–	<DHCP>IP_ADD_ UPDATE_ERR	–	Network error output
DHCP IP address registration failure	–	<DHCP>IP_ADD_ ENT_ERR	–	Network error output
Other error for DHCP	–	<DHCP>OTHER_ ERR	–	Network error output
Password error for HTTP user name	–	<HTTP>USER_ PASS_ERR	–	Network error output
HTTP download failure	–	<HTTP>DOWN-LOAD_ERR	–	Network error output

Description of error	Error log	Network log	LCD	Output from connector
HTTP request invalid	–	<HTTP>REQUEST_ ERR	–	Network error output
Other errors for HTTP	–	<HTTP>OTHER_ ERR	–	Network error output
Move to Config	–	–	CONFIG	–
Camera SD memory card error	CAM cc SD ERR	–	NW ERR CAMERA cc SD ERROR	Camera error output
Request to start writing on the camera SD denied	CAM cc SD START ERR	–	NW ERR CAMERA cc SD ERROR	Camera error output
Request to finish writing on the camera SD denied	CAM cc SD END ERR	–	NW ERR CAMERA cc SD ERROR	Camera error output
Request to obtain a data list on the camera SD denied	CAM cc GET LIST ERR	–	NW ERR CAMERA cc SD ERROR	Camera error output
Request to obtain SD memory data on the camera SD denied	CAM cc GET IMG ERR	–	NW ERR CAMERA cc SD ERROR	Camera error output
Request to delete SD memory data on the camera SD denied	CAM cc DEL IMG ERR	–	NW ERR CAMERA cc SD ERROR	Camera error output

*1 "HDD Remove error" is an error that is recognized when a hard disk drive is removed without pressing the [USE] button during the operation.

*2 In the RAID 5 or RAID 6 mode, only "Error log" is displayed, but neither "Indication on the LCD" nor "Output from the connector at the rear panel" is displayed.

*3 "HDD SKIP" is the function that continues recording even when an error occurs, such as an HDD write error, by recording images on the next hard disk drive.

*4 "Video loss" is an error that may occur between the WJ-NT304, WJ-NT314 and the camera connected to the WJ-NT304.To make the WJ-ND400 detect a video loss error, it is necessary to configure the settings for "Panasonic alarm protocol" of the WJ-NT304/WJ-NT314 and the settings for "Site alarm" of the WJ-ND400. Refer to page 67 for information about the parameters used on the table above.

Error logs

When the error log is displayed

Do the following when the error log is displayed on the LCD. When the displayed error is not found in the following, contact your dealer.

Error log	Indication on the LCD	Description	Solution
MAIN-d WRITE ERR (EXTu-d WRITE ERR)		Failed to write/read data on the HDD. The HDD may be malfunctioning.	If this error occurs frequently, contact the dealer to replace the HDD. *1
MAIN-d READ ERR (EXTu-d READ ERR)			
MAIN-d HDD SKIP (EXTu-d HDD SKIP)			
MAIN RAID5 1DOWN (EXTu RAID5 1DOWN)	MAIN ERR RAID5 1DOWN (EXTu ERR RAID5 1DOWN)	One or more HDDs of RAID are failed.	Contact the dealer. After recovering/replacing the faulty disk(s), the error status will be canceled.
MAIN RAID5 2DOWN (EXTu RAID5 2DOWN)	MAIN ERR RAID5 2DOWN (EXTu ERR RAID5 2DOWN)		
MAIN RAID6 1DOWN (EXTu RAID6 1DOWN)	MAIN ERR RAID6 1DOWN (EXTu ERR RAID6 1DOWN)		
MAIN RAID6 2DOWN (EXTu RAID6 2DOWN)	MAIN ERR RAID6 2DOWN (EXTu ERR RAID6 2DOWN)		
MAIN RAID6 3DOWN (EXTu RAID6 3DOWN)	MAIN ERR RAID6 3DOWN (EXTu ERR RAID6 3DOWN)		
MAIN-d SMART WARNING (EXTu-d SMART WARNING)	MAIN-d ERR SMART WARNING (EXTu-d ERR SMART WARNING)	The HDD may be malfunctioning and may work incorrectly.	If this error occurs frequently, contact the dealer to replace the HDD. *1
MAIN-d HOUR METER WARNING (EXTu-d HOUR METER WARNING)	MAIN-d ERR HDD HOUR METER WARNING (EXTu-d ERR HDD HOUR METER WARNING)	The set time for the hour meter has passed. It may be reaching the end of the HDD's lifetime.	If this error occurs frequently, contact the dealer to replace the HDD. *1
NORMAL-HDD CAPACITY REMAINS **%	AREA ERR NORMAL HDD **%	When "Stop" is selected for "Disk end mode", the HDD is almost full or completely full.	Initialize or replace the HDD. *1
EVENT-HDD CAPACITY REMAINS **%	AREA ERR EVENT HDD **%		
EVENT-HDD FULL	AREA ERR EVENT HDD FULL		
COPY-HDD CAPACITY REMAINS **%	AREA ERR COPY HDD **%		
COPY-HDD FULL	AREA ERR COPY HDD FULL		

Error log	Indication on the LCD	Description	Solution
CAM cc COMMUNICATION ERROR	NW ERR CAMERA cc ERROR	Communication with the network camera is unstable, or no network camera is connected.	Check the communication status between this unit and the network camera.
CAM cc COMMUNICATION ERROR (AUDIO)			
NETWORK LINK ERROR	NW ERR NW LINK ERROR	The recorder is disconnected from the network.	Check the network connection.
CAM cc SD ERR	NW ERR CAMERA cc SD ERROR	An SD card memory error occurred. The SD memory card may be not detected, or there is no available capacity on the SD memory card on the camera.	Check the SD memory card and the settings on the camera.
CAM cc SD START ERR	NW ERR CAMERA cc SD ERROR	An SD card memory error occurred. Communication with the network camera is unstable, or no network camera is connected.	Check the SD memory card and the settings on the camera. Check the communication status between the recorder and the network camera.
CAM cc SD END ERR			
CAM cc GET LIST ERR			
CAM cc GET IMG ERR			
CAM cc DEL IMG ERR			

*1 Contact the dealer to replace the HDD.
Error logs in brackets are logs displayed on the LCD of the extension unit (WJ-HDE400).

Parameter in the logs above

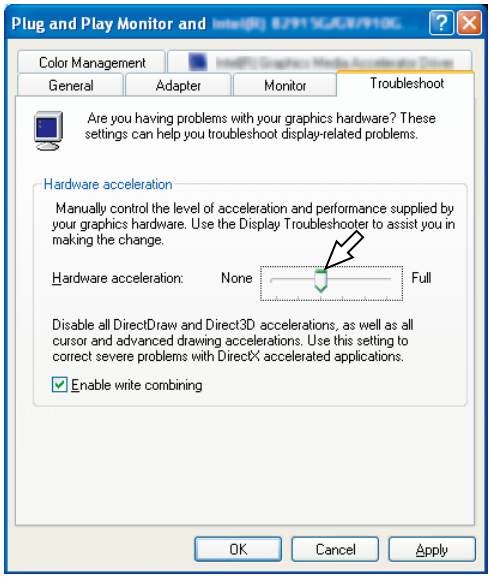
Parameter	Description	Detail
u	Unit number	1-5: Extension unit number
f	Fan number	1-5: Fan number (FAN1-FAN5)
d	Disk number	1-9: Disk number (HDD1-HDD9)
cc	Camera number	01-64: Camera number

Troubleshooting

Check the following before requesting repair. Contact your dealer if a problem cannot be solved even after checking and trying the solution or a problem is not described below, and when having a problem with installations.

Problem	Check item/Remedy	Reference page
Cannot access from the browser.	Is the Ethernet cable firmly connected to the 10BASE-T/100BASE-TX port? Confirm the cable is firmly connected.	–
	Is the connection indicator of the 10BASE-T/-100BASE-TX port lit? When it is not lit, connection to a LAN is not established or a network is not working correctly. Confirm that the connection indicator of the 10BASE-T/100BASE-TX port is lit. Refer to a system administrator if it is not lit.	–
	Contact your system administrator to confirm that the valid IP address is set.	Setup Instructions (PDF)
	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.	–
	Is the same IP address provided to other devices? Refer to a system administrator for further information.	Setup Instructions (PDF)
	Are there contradictions between the address and the network subnet to be accessed?	Setup Instructions (PDF)
	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?	Setup Instructions (PDF)
	Is the "Use Proxy Server" checkbox of the browser setting checked? When accessing this recorder in the same subnet, entering the address of this recorder in the "Don't Use Proxy For These Addresses" box is recommended.	Setup Instructions (PDF)

Problem	Check item/Remedy	Reference page
The buttons on the browser are displayed out of alignment.	The buttons may not be displayed orderly if the font setting of Windows has been changed from the default setting. Use with the default font setting.	–
Some contents are not displayed on the browser.	Press [F5] on the keyboard to request images.	–
The image is not being refreshed.	Depending on the traffic of the network, there might be difficulties in displaying images. Press [F5] on the keyboard to request images.	–
	Images recorded at low recording rate (less than 1 ips) may sometimes not be refreshed.	–
Live/recorded images in MPEG-4 format are not displayed in a normal manner.	When turning on the power of this recorder or when connecting the LAN cable to the camera port when the camera is active, images may not be displayed/recorded in a normal manner for around a minute (at a maximum) just after turning on the power of this recorder or after connecting the LAN cable to the camera port.	–
No SD memory data is listed in the list display area.	SD memory data cannot be searched by using other search filters together with "SD". Search SD memory data using the search filter "SD" only, and select and play the listed SD memory data.	–
	Recording time and date of SD memory data is recorded based on the clock of the camera. Check the clock of the camera.	–
Cannot play SD memory data.	When recorded frames are not many enough to play smoothly, playback of SD memory data may fail. In this case, display images by performing frame by frame playback/reverse frame by frame playback.	–

Problem	Check item/Remedy	Reference page
When displaying MPEG-4 images on a multi-screen, images from two cameras or more are displayed in sequence on a screen of multi-screen.	This may occur due to the display adapter and driver combination. When this occurred, update the driver of the display adapter to the latest version first. If updating the driver does not solve the problem, adjust the hardware acceleration as follows. The following are descriptions when using Windows XP. 1. After closing all browser windows, right-click on the desktop and select "Properties" from the displayed pop-up menu. 2. Select "Settings" from "Display Properties", and then click the [Advanced] button. 3. Click the [Troubleshoot] tab and disable the DirectDraw acceleration by adjusting the level of "Hardware acceleration". 	–
Cannot close the authentication window displayed when trying to open the basic operation window.	Confirm the correct user name and password.	Setup Instructions (PDF)
Cannot play the downloaded image file.	When any setting of the setup menu has been changed during the download, the download will be canceled automatically. In this case, the downloaded file is not a complete file and it is impossible to play it. Download again.	47
The message "Please Wait." remains on the screen.	The "ActiveX control" is not installed in the PC. Install the "Active X control" by referring to the following page.	74

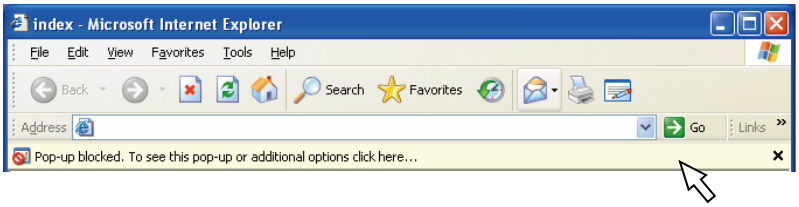
Problem	Check item/Remedy	Reference page
The audio output is not provided. Audio cannot be played correctly.	Is the audio output setting of the camera set correctly?	Setup Instructions (PDF)
	Is the audio bit rate of the camera set to "32kbps"? Check the audio bit rate setting of the camera.	Setup Instructions (PDF)
	When starting the playback of the latest images during recording, audio may sometimes not be heard. In this case, stop the playback and then start it again.	–
Audio cannot be played using the viewer software.	Are the image data file "filename.n3r" and the audio data file "filename.n3a" saved in the same folder? Check the folder.	50
No live image is displayed.	• Are the connected network cameras configured correctly? Check the settings of the setup menu ("Camera" -"Network camera setup").	Setup instructions (PDF)
	• Are the settings of the setup menu configured correctly? Check the settings of the setup menu ("Schedule" - "Program" - "Live video").	Setup instructions (PDF)
	• Are the network settings of the cameras and the recorder configured correctly? Check the settings of IP address, subnet mask and default gateway for them.	Setup instructions (PDF)
	When M-JPEG is selected for the image compression method of the camera, live images may not be displayed in the image display area and black screen will be displayed for a few minutes in the following cases. • When frequently checked if the appropriate values are set for the recording settings by clicking the [Measurement] button • When the settings of the recorder are saved repeatedly Wait around 10 minutes without any operations. The recorder will function normally.	–

Problem	Check item/Remedy	Reference page
When trying to display MPEG-4 images via Internet, images may not be displayed.	MPEG-4 image display via Internet is affected by the configurations of the network devices such as a router. Refer to the network administrator for further information.	–
Playback of recorded images stops, and resumes after a while.	Playback of recorded images may stop when auto-correction of the recorder clock causes a gap in playback time. In this case, wait for a while until playback resumes.	–
Live/recording images are not displayed.	• When logged in with "Limited" user account of Windows operating system, images will not be displayed since the active X control may not be installed correctly. Log in with "Computer administrator" user account. • When logging in to a network that requires the active directory authentication, installation of ActiveX may fail. 1. Register the URL of the recorder as a trusted site. 2. Launch Microsoft Internet Explorer and click "Tools" on the menu bar. 3. Select "Internet options". 4. Click the "Security" tab on the displayed window, and select "Trusted sites". 5. Select "Low" for "This zone's security level". (This may lower the security level of the PC being used). 6. Click "Site". Register the URL of the recorder by clicking "Add". Make sure that the "Must check all servers (https:) of sites in this zone" checkbox is not checked.	–

Problem	Check item/Remedy	Reference page
Refresh of live images is unstable. The web browser is disconnected. Network performance is poor. Image file downloaded from the FTP server is faulty. Images cannot be displayed/recorded/played correctly.	When the image compression method of all cameras in use is not the same, performance may become lower. (Refresh of images will be unstable.)	–
	It may be possible that the settings are configured to require performance beyond the capabilities of the network line and the network function of the recorder. Lower the value/rate of the settings relating to the network such as the transmission rate, recording rate, etc.	Setup Instructions (PDF)
	The line speed settings may be not the same between the recorder and the hub, for example, 100BASE-TX Full for the recorder and 100BASE-TX half, etc. The line speed may sometimes not be conformed depending on the hub. Check the line speed settings of both the recorder and the hub, and configure the line speed setting of both to conform them.	–
Cannot operate the camera.	Check the model of the camera on the setup menu ("Camera" - "NW camera").	Setup Instructions (PDF)
	Check if the user name and password are set correctly on the setup menu ("Camera" - "NW camera").	Setup Instructions (PDF)

Message displayed on the information bar

Depending on the operation system in use, the following may occur. Follow the instructions below when the following occurred. By performing the following solutions, other applications may not be affected.
The "Information Bar" expressed in the following symptom and solutions will be displayed just below the address bar only when there is information to communicate.



Symptom	Solutions
The following message is displayed on the information bar. "Pop-up blocked. To see this pop-up or additional options, click here…"	Click the information bar and select "Always Allow Pop-ups from This Site". The dialog window saying "Allow pop-ups from this site?" will be displayed. Click the [Yes] button.
The following message is displayed on the information bar. "This site might require the following Active X control: 'Wvasetup.exe' from 'Panasonic Corporation'. Click here to install..."	Click the information bar and select "Install ActiveX Control...". The "Security Warning" window will be displayed. Click the "Install" button on the displayed "Security Warning" window.
The following message is displayed on the information bar. "To help protect your security, Internet Explorer blocked this site from downloading files to your computer. Click here for options..."	Click the information bar and select "Download File...". When downloading fails even though you selected "Download File...", perform the following operation. Then, click the [Custom Level...] button. The "Security Settings" window will be displayed. Under "Downloads", select "Enable" for "Automatic prompting for file downloads". Click the [OK] button. The "Warning" window will be displayed. Click the [Yes] button.

Symptom	Solutions
The following message is displayed on the information bar when tried to execute a downloaded file. "The publisher could not be verified. Are you sure you want to run this software?"	Click the [Run] button.
Unnecessary status bar or scroll bar is displayed on the pop-up window.	Click "Internet Options" on the Tools menu of Internet Explorer, and then click the [Security] tab. Then, click the [Custom Level...] button to open the "Security Setting" window. Under "Miscellaneous", select "Enable" for "Allow script-initiated windows without size or position constraints". Click the [OK] button. The "Warning" window will be displayed. Click the [Yes] button.

Glossary

This manual uses the following words.

ActiveX Control
A software module developed by Microsoft. It is used to add functions, downloaded from a web server via the Internet or an Intranet, to Internet Explorer. The recorder uses it to display video.

Bit rate
Indicates how many bits of data can be processed or transmitted in a unit of time. Generally, the units are in bps, or bits per second. Used to indicate the compression rate of video and audio data, and how much data a communications line can send and receive in 1 second.

Broadband Router
Router used to access the Internet via high-speed ADSL or fiber optic lines.

Cable Modem
Device used for connecting to the Internet via a CATV line. Called a cable modem because it functions similar to a modem on a phone line. It differs from regular modems that use a serial port in that it is connected to a PC via an Ethernet connection.

Camera operation
Operations of the camera connected to the recorder such as pan and tilt (horizontal and vertical position), zooming, focusing, brightness, preset motions (movement towards a set horizontal and vertical position) and auto functions (automatic camera rotation, etc.).

DDNS
A technology for dynamically translating DNS server information to enable the transfer of only differences in information between DNS servers (refer to "DNS"). This reduces the data transfer amount necessary for updating information on the DNS server and reduces the load on the network.

DHCP
A protocol that enables PCs to automatically get information from a server needed for accessing a network.

DHCP Server
Maintains network-related information (assigns IP address ranges to (default) gateway servers and clients), and distributes that information when clients request it.

DNS
The long lists of numbers or IP addresses that are used in network environments are difficult to remember, which makes them impractical. This is why PCs are given an easy-to-follow name (domain name) which is converted to an IP address before they are communicated with. The DNS provides translation between domain names and IP addresses.

Default Gateway
Network device used as a gateway for networks, such as a local network, to access PCs on an external network. Data is sent using the default gateway if a gateway is not specified in the destination IP address.

Disk Configuration
Configure the HDD after replacing, removing, or adding a HDD. Disk Configuration is the menu for configuring the HDD.

Electronic Zoom
Enlarges live images and playback images during playback. The electronic zoom enlarges the images by the recorder and is separate from the zoom function included as part of the camera operations for enlarged images.

Emergency Recording
Gives priority to recording video and audio when an emergency occurs using the external switch connected to the recorder.

Ethernet
LAN communication developed by Xerox.

Event
Indicates an occurrence that causes the recorder to take an event action. Events include, terminal alarms, command alarms, and site alarms.

Event recording
Function that automatically starts video and audio recording when an event occurs. Event recording includes Pre-event recording that records images before the event and Post-event recording that records images after the event.

External Recording Mode
Use the external switch connected to the recorder to switch to time tables such as the recording settings and event action settings.

FTP
A protocol that is commonly used for transferring files over the Internet.

Firewall
A type of security used when accessing outside networks like the Internet. A PC is used to prevent computers outside a local network from accessing the network.

Full Duplex
Communications method that allows simultaneous sending and receiving by transmitting in both directions using an independent sending line and receiving line.

Global Address
IP address assigned to each device connected to the Internet that is equivalent to an address on the Internet. IP address is required for Internet communications.

HDD
Abbreviation for hard disk drive, a type of mass storage device.
Camera images are recorded onto a hard disk drive.

HTML
HTML is a markup language used for describing the logical structure of a document and its appearance. Links to images, audio, video and other documents can be inserted into the document. A web browser is used to view documents written in HTML.

Half Duplex
Communications method that switches between sending and receiving using a single communications line.

IP Masquerading
A technology for sharing a single global address between two or more PCs. Allows simultaneous connection of multiple machines to 1 global address to dynamically convert NAT and different TCP/UDP port numbers.

IP address
The identification number assigned to PCs connected via IP networks such as the Internet or an Intranet, or to individual communications devices. Do not assign the same address to multiple devices, especially on the Internet.

Internet
PC network that connects networks all over the world. Different types of PCs can communicate over the Internet.

LAN
A communications network for connecting PCs, printers and other network devices in a relatively small area such as in a building or floor of a building or campus in which data is transferred.

M-JPEG
Video format in which the camera sends continuous JPEG images.
Compared with sending images from the camera one at a time, this method reduces the load on the network. However, the transfer rate may change depending on the status of the camera. Images may be represented as a JPEG depending on the camera.

MAC address
Fixed physical address assigned to network devices. Devices send and receive data based on this.

Manual recording
Click the [Recording] button and the [Recording stop] button to manually start and stop recording of video and audio.

Multicast
A way to send the same data to multiple users specified on a network.

Multiscreen Display
This recorder can display multiple camera channels simultaneously while displaying live images or playback images.

NAT (Network Address Translation)
A technology for sharing a single global address between two or more PCs.

NTP (Network Time Protocol)
A protocol developed to accurately maintain time among hosts on the Internet.

POP 3
A protocol for receiving e-mail stored on a server on the Internet or an Intranet.

POP 3 Server
A server that supports POP3, currently the most widely used mail sending protocol.

Plug-in Software
Small programs used to add functions to application software.

PoE (Power over Ethernet)
A technique for supplying power and data simultaneously over an Ethernet cable. PoE was standardized in June, 2003 as "IEEE802.3af".

PoE Supplied Hub
A switching hub that provides PoE functionality. A maximum of 48 V 15.4 W of power can be supplied to cameras and other devices.

Port Number
A sub address set below the IP address to connect multiple parties simultaneously for communication (TCP, UDP, etc.) on the Internet.

Primary Server
DNS servers usually have more than 2 system and the primary server is the main system.

Private Address
IP address assigned when connecting primarily to LAN. Private IP addresses can be assigned freely on a network and do not require a formal application. However, because private IP addresses cannot be used to access the Internet, a router or other device is necessary to assign a global IP address.

Protocol
A set of rules that allows the exchange of data amongst different types PCs with information. The Internet uses the TCP/IP protocol as its base and information is transferred following http and ftp protocols depending on the application.

Proxy Server
PC or software that connects with the Internet as the proxy for a computer on a local network. It allows special connections from the internal network and blocks unauthorized access from external networks.

RAID (RAID5)
An abbreviation for Redundant Arrays of Inexpensive Disks 5 that provides a highly reliable disk array by distributing access over multiple HDDs, increasing both speed and capacity. Even if one HDD has errors, data can be recovered based on error correction data recorded on other HDDs. (RAID5 is used when 3 or more HDDs are connected. However, when 2 or more HDDs simultaneously have errors, data cannot be recovered.)

RAID (RAID6)
An abbreviation for Redundant Arrays of Inexpensive Disks 6 that provides a highly reliable disk array by distributing access over multiple HDDs, increasing both speed and capacity. Even if two HDD has errors, data can be recovered based on error correction data recorded on other HDDs. (RAID6 is used when 4 or more HDDs are connected. However, when 3 or more HDDs simultaneously have errors, data cannot be recovered.)

Recording rate (ips, I-Frame)
Unit that determines the smoothness when recorded images are played back. "ips" indicates the number of recorded frames in 1 second. When the recording rate is higher, the playback is smoother, but available recording time is reduced. I-Frame indicates the refresh rate set on the camera.

Resolution
Indicates the smoothness of the image quality and the size of the images recorded from the camera. Indicates the number of dots used in the image displayed on the screen. A horizontal resolution of 720 dots and a vertical resolution of 480 dots is expressed as 720-480.

Router
Placed in between different networks, a router sends data to the proper destination via network. If data on the network is addressed to an external network, routers send the data to the outside of the network after judging the optimum sending route.

SD memory recording, SD memory data
SD memory recording is a camera function that saves images in the camera's internal SD memory when communication with the camera is disconnected within the time table recording time set on the recorder. SD memory data refers to those images recorded on the card.

SMTP
A protocol for sending e-mail on the Internet or an Intranet. Used when transferring mail between servers or when clients send mail to the server.

SMTP authentication
SMTP mail transfer protocol appended with a user authentication function. It authenticates passwords and user accounts between SMTP servers and clients. Both SMTP servers and clients must support SMTP authentication.

SMTP Server
A server that supports SMTP, currently the most widely used mail transfer protocol.

SNMP
A protocol for monitoring and managing networked communications devices, such as routers, PCs, cameras and Network Disk Recorders via a network.

Schedule Recording
Function that automatically starts video and audio recording on a preset time schedule.

Secondary Server
DNS servers usually have more than 2 systems and the secondary server is the sub system. If there is trouble with the primary server, the secondary server takes over.

Sequence
Function that automatically switches the camera image in a preset order. Sequence is available on the recorder when live images are displayed.

Subnet
A small network used as a unit of administration when a larger network is divided into smaller networks. Large networks in corporations, for example, the network can be broken down into smaller networks called "subnets" to make the network more manageable and lines used more efficiently. In this case, these smaller networks are called subnets.

Subnet mask
Subnet mask consists of 32-bit numeric values. According to the values, devices can determine which part of the address is the network address and which part is the host address.

System Administrator
Person with the responsibility for setting up and monitoring the recorder.

TCP/IP
The standard network protocol for the Internet and Intranets.

URL
An address for locating information resources such as documents and images on the Internet.

Unicast
Way to send data to a single IP address on a network.

VPN
Service used to make public lines as private lines. Many companies are using this as a new medium of communication instead of costly private lines. Depending on service, VPN also provides a secure line using authentication technology and encryption.

Video Motion Detection (VMD)
Function that automatically detects objects moving in video images.
The main unit records the VMD information sent from the camera and has a VMD search function (*) to find images for only the time and date at which motion was detected.

* Refer to the readme.txt for information about cameras that support VMD search.

WAN
Allows physically separated PCs, such as between the head office and a branch office, to connect via a phone line or private line data for exchanging.

Web Browser
Application software necessary for viewing web pages. The software downloads HTML, image, and sound files from the Internet and displays them after analyzing them. Microsoft Internet Explorer is one of the web browsers.

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