

**Panasonic**  
ideas for life

Digital Disk Recorders  
**WJ-HD316**  
**WJ-HD309**

The Comprehensive Digital Recording Solution



DIGITAL DISK RECORDERS  
**WJ-HD300**  
SERIES



# The WJ-HD300 Series offers high quality pictures and disk saving recording utilizing a new compression technology.

Panasonic presents the new WJ-HD300 Series with a unique new system featuring a high compression ratio of 1/30 for practical use. Under the "All-in-One Solution" concept, all the vital recording components and features are condensed into one unit. With one single unit, unprecedented, highly reliable surveillance recording is possible in a wide range of applications. The WJ-HD300 Series also features System Scalability to meet extended user needs.

## 1/30 Super Compression: Proprietary Algorithm, Core Development of the WJ-HD300 Series

- New algorithm divides entire screen into high and low frequency elements to reduce artificial distortion and noise compared to conventional compression.
- In addition, the mode-A compression data calculation within four (4) field images (called "Temporal Transforms"), outputs data according to the amount of movement: "No Movement," "Slow Speed Movement," "Medium Speed Movement," and "High Speed Movement." Redundant data can be reduced through this compression process.



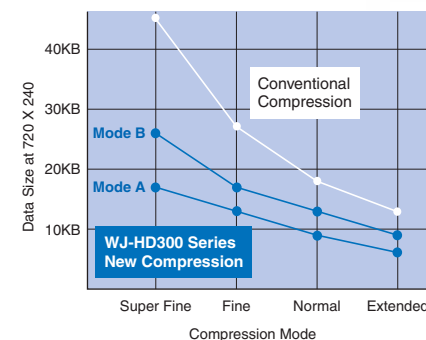
WJ-HD316

WJ-HD309

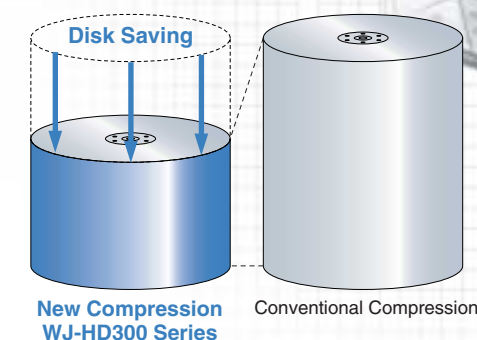
### Picture Quality & Disk Saving

Compared to a conventional algorithm, the data compression ratio has improved approximately 1.5 ~ 2, depending on object and compression mode.

#### ■ Data Size and Compression Mode



#### ■ Comparison

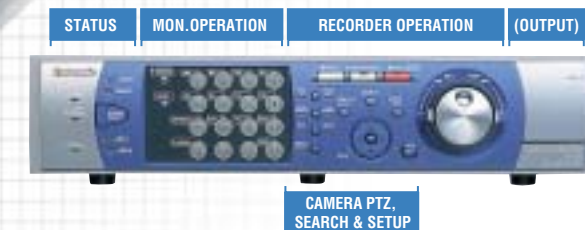


# All in One Solution

### Instinctive Operation

Simple and instinctive, the functional base layout of the WJ-HD300 Series front panel is designed for ease-of-use. Eight (8)\* directly connected Panasonic dome cameras can be controlled from the front panel. Also, the GUI based menu screen enables quick set up for flexible, more complex operations. (\* Six (6) cameras for the WJ-HD309)

#### OPERATION BASE LAYOUT



#### GUI BASE MENU



### Value Added Features

The WJ-HD300 Series is equipped with the latest value added features to satisfy your requirements such as system reliability, operation efficiency, and cost savings.

#### Features include:

- High-density recording: 60 ips\* (120 ips\* @SIF)
- Full rate live multi screen: 60 ips\*
- Simultaneous Live/Rec./Playback/Network
- 16 independent recording profiles
- Disk partitioning: Normal, Alarm, and Copy
- RAID 5 and mirror redundant recording
- Advanced VMD (Video Motion Detector): Area, vector, and duration.
- Various Network Operations: Live, PTZ control, Recording, Playback, and Downloading
- Network and serial open architecture

(\* ips = image per second)



# Superior surveillance made possible by state-of-the-art digital features.



## High-Refresh Rate Recording

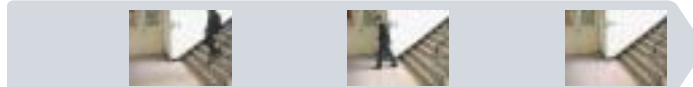
High-speed digital processing enables high-refresh rate recording — to ensure critical moments are not missed.

- Max. 30 image per sec. @ 720 x 480 (FRAME/NTSC)
- Max. 60 image per sec. @ 720 x 240 (FIELD/NTSC)
- Max. 120 image per sec. @ 360 x 240 (SIF/NTSC)

### WJ-HD300 Series



Conventional

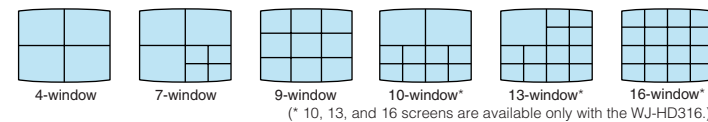


## Full Rate Live Multi-Screen

Even when images from multiple cameras are displayed on a multi-screen, live monitoring can be achieved on all cameras at a full rate of 60 ips (image per second). Experience real-time, full surveillance with full-rate video images.



### Multi-screen in versatile variations



## 16 Independent Recording Profiles

### Flexible recording setup

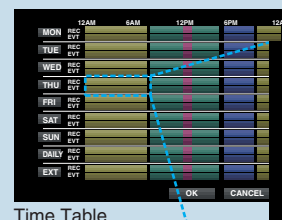
Independent recording settings (recording mode/recording rate/picture quality) for each camera\* enables flexible setup. (\*16 cameras for the WJ-HD316 and 9 cameras for the WJ-HD309.)

- **Recording mode:** Manual / Schedule / Event / Emergency
- **Recording rate:** Set the ips (image per second) as needed.
- **Picture quality:** Super Fine / Fine / Normal / Extended

### User-friendly setup

The user friendly GUI supports easy and smooth setup while confirming current status graphically.

### GUI Setup Menu



Time Table

### Recording Program 1

Resolution: FIELD  
Recording Table: Manual REC 15 ips Schedule REC 15 ips Event REC 30 ips

CAM	MODE	MANUAL		SCHEDULE		EVENT(PRE)		EVENT(POST)		
		RATE	QUALITY	RATE	QUALITY	RATE	QUALITY	TIME	RATE	QUALITY
CAM1	AUTO	EXA	1ips	EXA	1ips	FOB	5s	4ips	EXB	30s
CAM2	AUTO	NQA	1ips	NQA	1ips	FOB	5s	4ips	NQB	30s
CAM3	AUTO	FQA	1ips	FQA	1ips	FOB	5s	2ips	FQB	10s
CAM4	AUTO	SFA	1ips	SFA	1ips	SFB	5s	2ips	SFB	20s
CAM5	AUTO	NQA	1ips	EXA	1ips	EXB	5s	1ips	EXB	30s
CAM6	AUTO	FQA	1ips	NQA	1ips	NQB	5s	1ips	NQB	30s
CAM7	AUTO	SFA	1ips	FQA	1ips	FOB	5s	1ips	FQB	30s
CAM8	AUTO	SFA	1ips	NQA	1ips	SFB	5s	1ips	SFB	30s
CAM9	AUTO	EXA	OFF	—	1ips	EXB	5s	1ips	EXB	30s
CAM10	AUTO	NQA	OFF	—	1ips	NQB	5s	1ips	NQB	30s
CAM11	AUTO	FQA	OFF	—	1ips	FOB	5s	1ips	FOB	30s
CAM12	AUTO	SFA	OFF	—	1ips	SFB	5s	1ips	SFB	30s
CAM13	AUTO	EXA	1ips	EXA	1ips	SFB	5s	3ips	EXB	10s
CAM14	AUTO	NQA	1ips	NQA	1ips	SFB	5s	3ips	NQB	30s
CAM15	AUTO	FQA	1ips	FQA	1ips	FOB	5s	2ips	FQB	30s
CAM16	AUTO	SFA	1ips	SFA	1ips	SFB	5s	2ips	SFB	30s

### Actual recording result (Example)

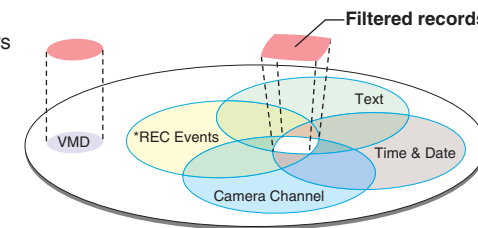
(ips = image per second)

CAM	Mode	Rate	Quality	Time
CAM1	1ips EXA	4ips EXB	1ips EXA	00:00 - 07:00
CAM2	1ips NQA	4ips NQB	1ips NQA	
CAM3	1ips FQA	2ips FQB	1ips FQA	
CAM4	1ips SFA	2ips SFB	1ips SFA	
CAM5	1ips EXA	1ips NQA	1ips EXA	
CAM6	1ips NQA	1ips FQA	1ips NQA	
CAM7	1ips FQA	1ips SFA	1ips FQA	
CAM8	1ips NQA	1ips SFA	1ips NQA	
CAM9	1ips EXA	OFF	1ips EXA	
CAM10	1ips NQA	OFF	1ips NQA	
CAM11	1ips FQA	OFF	1ips FQA	
CAM12	1ips SFA	OFF	1ips SFA	
CAM13	1ips EXA	3ips EXB	1ips EXA	
CAM14	1ips NQA	3ips NQB	1ips NQA	
CAM15	1ips FQA	1ips FQA		
CAM16	1ips SFA			

## Instant Search and Playback

### Filtered Search

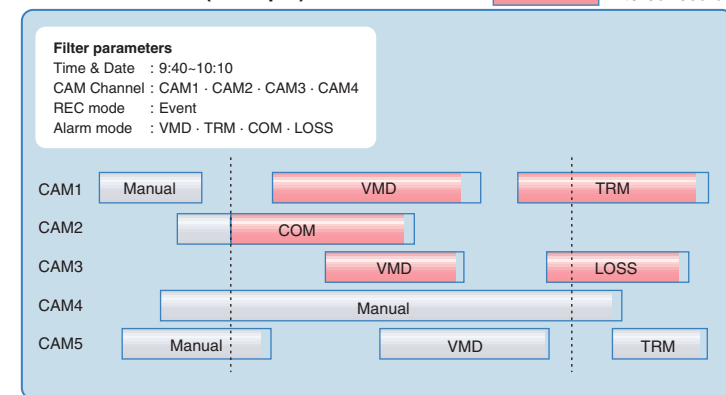
Various parameters/filters such as time & date, camera channel, REC events, text and VMD enables instant search and playback from mass recorded data.



### \* REC Event filter

REC mode	Emergency, Event, Schedule, Manual
Alarm mode	VMD, Terminal, Command, Video loss

### Filtered Search (Example)



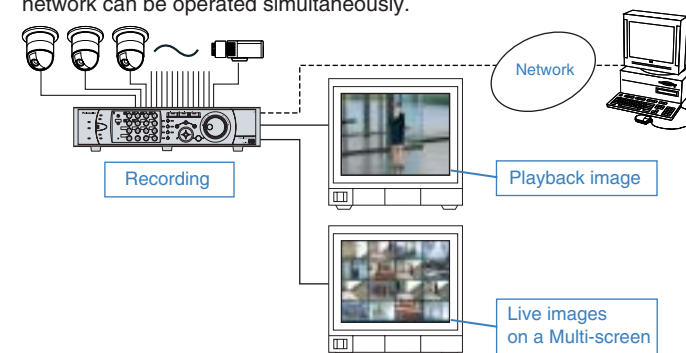
### Thumbnail Display

In addition to search result by "list", "thumbnail" display is available for visual confirmation.



## Live / Recording / Playback / Network Simultaneous Performance

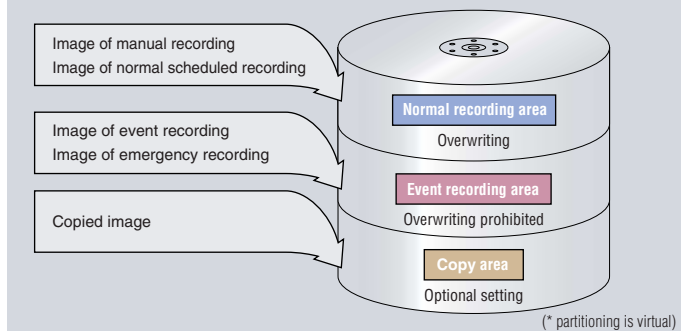
By adopting high speed signal processing, live / recording / playback / network can be operated simultaneously.



## Disk Management

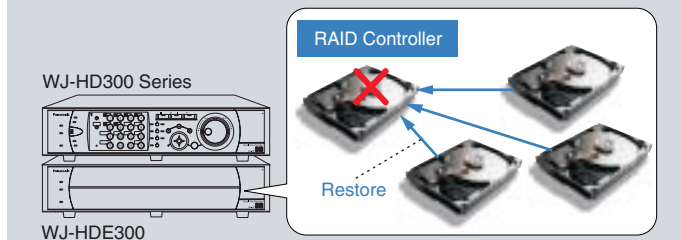
### Hard Disk Partitioning Function\* automatically selects the partition to be recorded.

The hard disk is divided into three partitions: "Normal Recording," "Event Recording," and "Copy." Image data is automatically recorded to the appropriate partition according to the recording mode. For the normal recording partition, the data is overwritten when the capacity is full. The event recording partition prohibits overwriting to protect data. Copy partition prepares data for retrieval to external medium.



### RAID5 / Mirroring Function

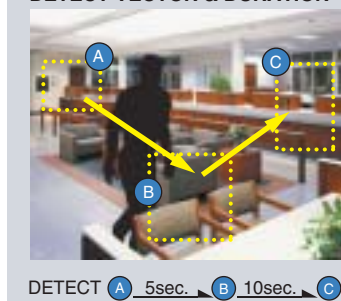
RAID5 distributes image data to multiple hard disks in the extension unit. Upon hard disk breakdown, lost data can be restored from other hard disks. When using one WJ-HD300 Series unit, mirroring function is available for data backup.



## Advanced VMD

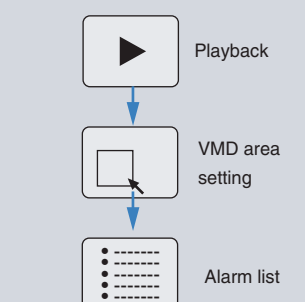
### A new mode is added for sophisticated VMD detection.

### DETECT VECTOR & DURATION



### Playback VMD

One VMD area can set one playback image for motion search.

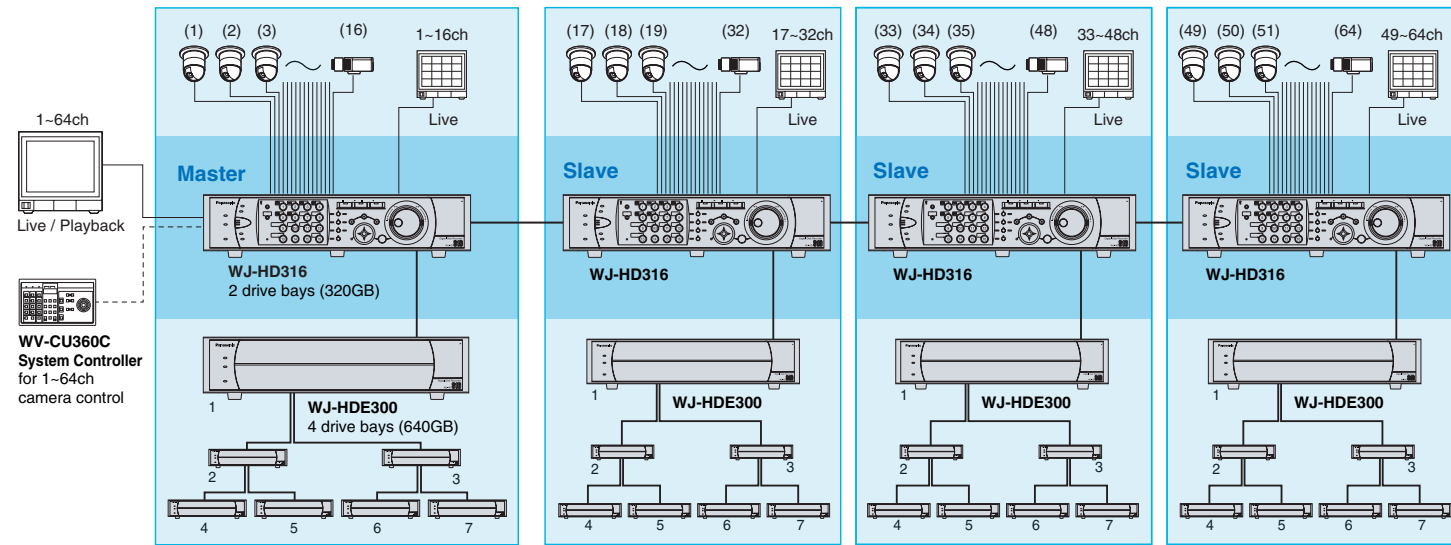




## System Scalability:

### Viewing cascade connection (up to 4 main units)

Up to four (4) WJ-HD316 units can be cascaded to increase maximum 64 video inputs. All 64 cameras can be switched and viewed in live and playback from the master, while each slave unit has its own live viewing monitor.

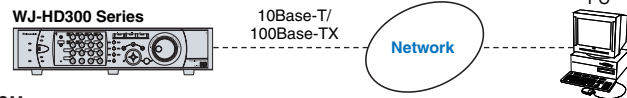


### Expandable to 4.8 Terabytes (TB)

In addition to a total 320 GB capacity of the main unit WJ-HD316/309, one WJ-HDE300 extension unit provides up to 640 GB. With seven (7) extension units, the maximum capacity can be extended up to 4.8 TB to satisfy long recording requirements.

## Built-In Network Interface:

Network functions include live image monitoring through multi-screen display, camera PTZ control, recording/search/playback, downloading image/log data, e-mail notification, and setup data upload/download.



### Network Operating Menu



**Control Tab**  
The switcher function for live monitoring is operable.



**Cam Tab** Remote control the camera selected on control tab page. (Only for 1-8ch Panasonic PTZ dome cameras)



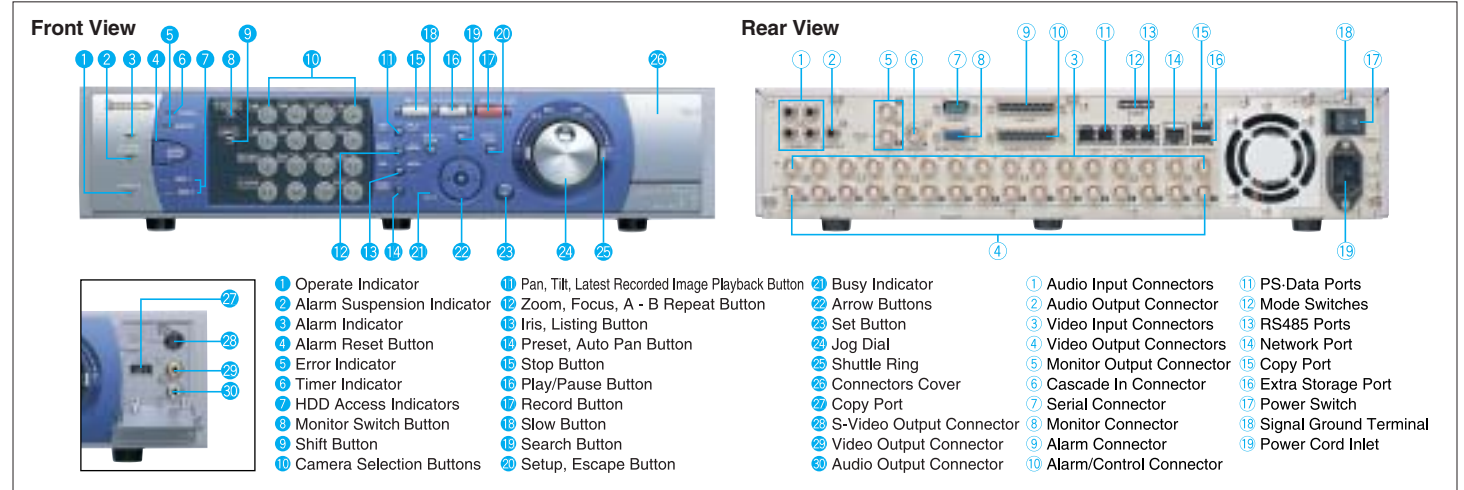
**HDD Tab** Operation for recorded images such as playback or downloading (saving) to PC.



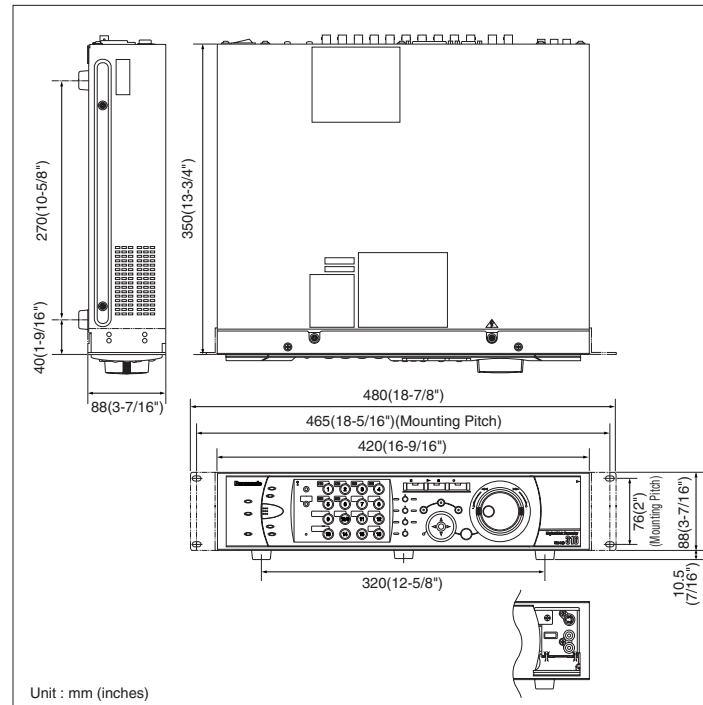
**Setup Tab**  
Setup of WJ-HD300 Series can be performed.



## MAJOR OPERATING CONTROLS: WJ-HD316



## DIMENSIONS: WJ-HD316



## SPECIFICATIONS: WJ-HD316

General	
Power Source	120 V AC, 60 Hz
Power Consumption	85 W
Ambient Operating Temperature	+5°C - +45°C (41°F - 113°F)
Ambient Operating Humidity	Less than 90 %
Dimensions	420 mm (W) x 88 mm (H) x 350 mm (D) [16-9/16" (W) x 3-7/16" (H) x 13-3/4" (D)] (excluding rubber feet and projections)
Weight	9.5 kg (21 lbs.)
Input/Output	
Video	Video Input Connectors: 1 V [P-P] / 75 Ω, with auto termination loop-thru, vertical timing pulse multiplexed, x8 (1 to 8 CH) (BNC) 1 V [P-P] / 75 Ω, with auto-termination loop-thru, x8 (9 to 16 CH) (BNC) Cascade Input Connector: 1 V [P-P] / 75 Ω (BNC) Video Output Connectors: 1 V [P-P] / 75 Ω, active loop-thru output, x8 (1 to 8 CH) (BNC)*1 1 V [P-P] / 75 Ω, active loop-thru output, x8 (9 to 16 CH) (BNC) Monitor Output Connectors: 1 V [P-P] / 75 Ω, x2 (BNC) Monitor Output Connector (VGA): RGB output, x1 (15-pin D-sub) S-Video Output Connector: Y = 1 V [P-P] / 75 Ω, C = 0.286 V [P-P] / 75 Ω, x1 (S-video output connector) Video Output Connector (Front Panel): 1 V [P-P] / 75 Ω, x1 (RCA pin)
Audio	Audio Input Connectors: -10 dB, 10 KΩ, x4 (RCA pin) Audio Output Connectors: -10 dB, 600 Ω, unbalanced, x2 (RCA pin)
Others	Expansion Connector: High-speed serial interface, 480 Mbps (theoretical value), x1 Copy Connectors: High-speed serial interface, 480 Mbps (theoretical value), x2 Control Connectors: Emergency recording input <sup>2</sup> , additional space warning output <sup>3</sup> (for devices connected to copy connectors), HDD trouble output <sup>3</sup> , camera trouble output <sup>3</sup> , trouble output <sup>3</sup> , electricity failure recovery completion output <sup>4</sup> , time adjust input/output <sup>5</sup> , sequence switching input/output <sup>5</sup> , electricity failure detection input <sup>2</sup> , external recording mode switching <sup>2</sup> (25-pin D-sub), +5 V output <sup>7</sup>
Alarm Port	1 to 8 CH alarm input <sup>6</sup> , 1 to 16 CH alarm input <sup>2</sup> , 1 to 16 alarm output <sup>3</sup> , alarm recovery input <sup>2</sup> , alarm suspension input <sup>2</sup> (25-pin D-sub)
RS-485 Ports	RS-485 (full duplex/half duplex <sup>9</sup> ), x2 (RJ-11)
DATA Ports	RS-485, x2 (RJ-11)
SERIAL Connector	RS-232C, x1 (9-pin D-sub)
Ethernet Port	10 Base-T/100 Base-TX (RJ-45)

\*1. When power is not supplied, video output signal was not sent from the unit even if video input signal is supplied.  
\*2. Non-voltage N.O. Contact, 100 mA, +5 V pull-up \*3. Open collector output, maximum under conditions of 24 V DC and 100 mA or less \*4. High (+12 V, 6.3 mA) \*5. 30 KΩ, 5 V pull-up, -100 mA, N.O. Contact \*6. 5 V pull-up, -100 mA, Non-voltage N.O. Contact input \*7. 240 mA at maximum \*8. Changeable with the mode switch

## DISK DATA REFERENCE CHART NTSC Color Video Signal, 320GB (160GB unit x 2), 16 Channel Video Inputs, Audio Signal: Off, Auto Mode Manual Recording

Sampling Pixel Size: 720 x 240 **Field Mode (Mode A)**

Compression Mode	EXTENDED	NORMAL	FINE	SUPER FINE
Global IPS*				
3	7,500	5,600	3,700	2,800
6	2,500	1,800	1,200	930
7.5	1,800	1,400	930	700
15	1,500	1,100	750	560
30	750	560	370	280
60	250	180	120	90

\*IPS (Image Per Second) (Hours)

Sampling Pixel Size: 360 x 240 **SIF Mode (Mode A)**

Compression Mode	EXTENDED	NORMAL	FINE	SUPER FINE
Global IPS*				
3	15,000	11,200	7,500	5,600
6	5,000	3,700	2,500	1,800
7.5	3,700	2,800	1,800	1,400
15	3,000	2,200	1,500	1,100
30	1,500	1,100	750	560
60	500	370	250	180
120	200	150	100	70

\*IPS (Image Per Second) (Hours)

(above figures are approximate, actual recording time may differ depending on picture imaging)

Sampling Pixel Size: 720 x 240 **Field Mode (Mode B)**

Compression Mode	EXTENDED	NORMAL	FINE	SUPER FINE
Global IPS*				
3	5,600	3,700	2,800	1,800
6	1,800	1,200	930	620
7.5	1,400	930	700	460
15	1,100	750	560	370
30	560	370	280	180
60	180	120	90	60

\*IPS (Image Per Second) (Hours)

Sampling Pixel Size: 360 x 240 **SIF Mode (Mode B)**

Compression Mode	EXTENDED	NORMAL	FINE	SUPER FINE
Global IPS*				
3	11,200	7,500	5,600	3,700
6	3,700	2,500	1,800	1,200
7.5	2,800	1,800	1,400	930
15	2,200	1,500	1,100	750
30	1,100	750	560	370
60	370	250	180	120
120	150	100	70	50

\*IPS (Image Per Second) (Hours)

\*The above all photographs were taken for the purpose of explanation ; actual images may differ. 7



## STANDARD PRODUCT CONFIGURATIONS

Digital Disk Recorder  
**WJ-HD316**



- 16ch camera inputs & independent recording settings
- Built-in 160GB HDD unit, and 1 drive bay for optional HDD unit
- Built-in an Ethernet port

Digital Disk Recorder  
**WJ-HD309**



- 9ch camera inputs & independent recording settings
- Built-in 160GB HDD unit, and 1 drive bay for optional HDD unit
- Built-in an Ethernet port

## OPTIONAL COMPONENT

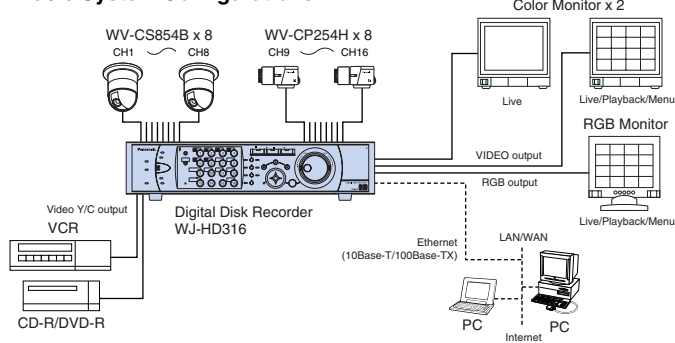
Extension Unit  
**WJ-HDE300**

(4 drive bays for optional HDD units)

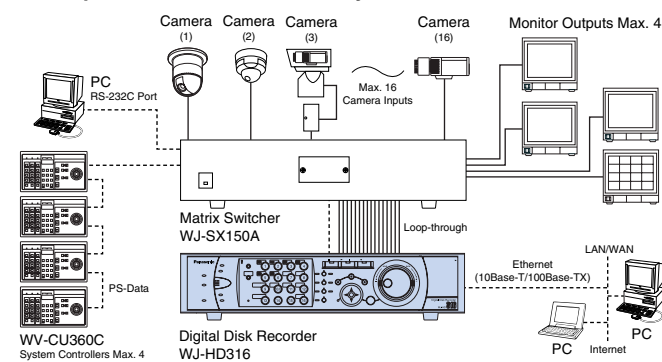


## SYSTEM EXAMPLES

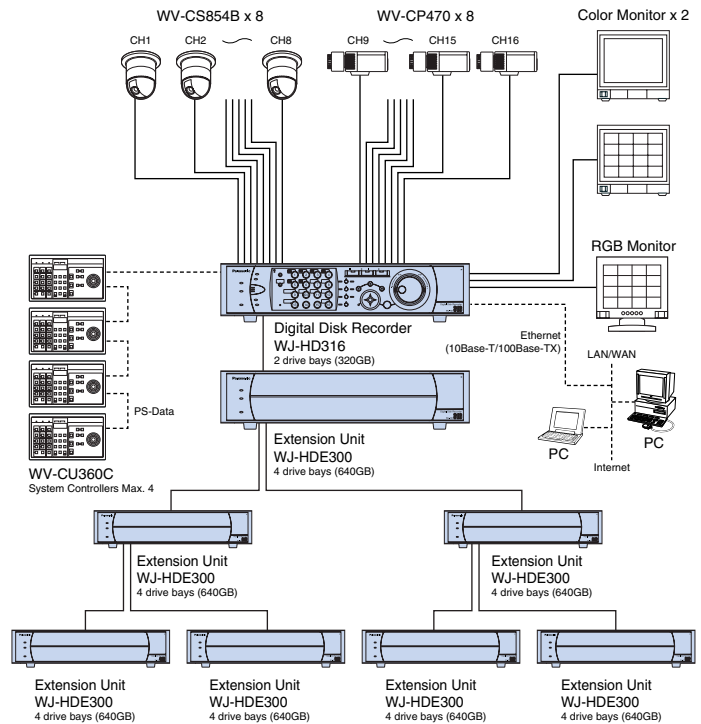
### 1 Basic System Configurations



### 2 With optional Panasonic Matrix System 150



### 3 Up to 4.8TB Capabilities with Optional Extension Unit & HDDs



## OPTIONAL COMPONENTS

### COLOR SURVEILLANCE CAMERAS

Weather Proof & Vandal Resistant  
Color Dome Camera  
**WV-CW864A**



**SDII**

Super Dynamic II  
Color Surveillance Cameras  
**WV-CP470 Series**



**SDII**

(Lens: option)

Super Dynamic II  
Color Dome Camera  
**WV-CS854B**



**SDII**

Compact Color Surveillance Camera  
**WV-CP254H**



(Lens: option)

Vandal Proof  
Super Dynamic II Color Cameras  
**WV-CW474 Series**



**SDII**

1/3-type DSP Color CCD Cameras  
**WV-CP240 Series**



(Lens: option)

Vandal Proof  
Color Cameras  
**WV-CW244 Series**



Color Dome Camera  
**WV-CF224**



### MATRIX SYSTEM 150

Matrix Switcher System Controller  
**WJ-SX150A WV-CU360C**



### SYSTEM CONTROLLER

System Controller  
**WV-CU360C**



**PS•Data**

**Important** – Safety Precaution: carefully read the operating instructions and installation manual before using this product.

• All TV pictures are simulated. • Weights and dimensions are approximate. • Specifications are subject to change without notice. • These products may be subject to export control regulations.

# Panasonic

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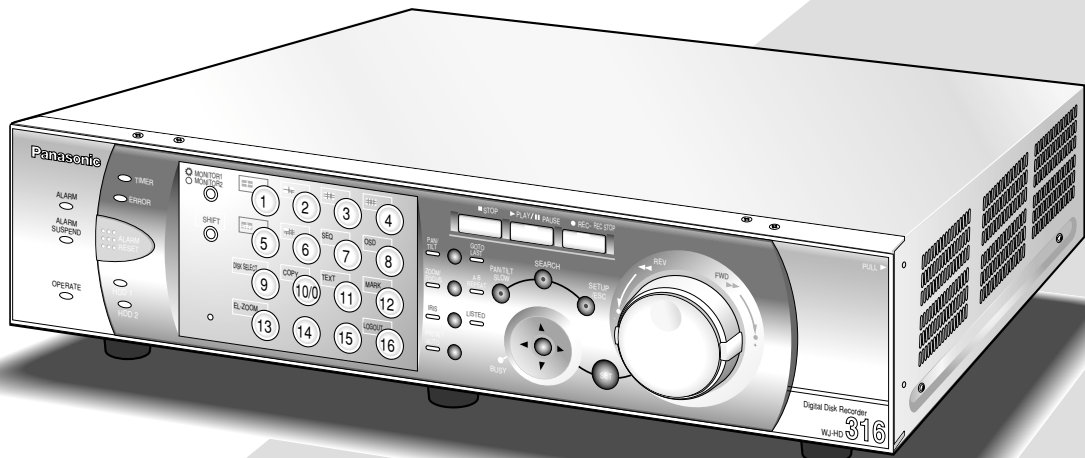


# Panasonic®

## Digital Disk Recorders

### Network Operating Instructions

Model Nos. **WJ-HD309**  
**WJ-HD316**



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







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# Preface

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## Features

It is possible to perform the settings or operate the unit using a web browser installed on a PC when this unit is connected to a network.

The following functions are available when using a PC via a network as well as the functions operable using the buttons on the front panel of the unit.

Refer to the provided Operating Instructions for further information about the available functions.

## Downloading/transmitting images

It is possible to download (save) the currently displayed image in the web browser window onto the hard disk of a PC. By establishing an FTP server, it is possible to transmit images to a designated FTP server. When an event occurs, it is possible to transmit images from the camera installed in the place where the alarm occurred.

## Event notification function

When an event occurs, it is possible to send e-mails to designated addresses to notify of the event occurrence. It is also possible to send an e-mail with an image recorded when an alarm occurred.

## Host authentication

It is possible to restrict devices from operating this unit if their IP addresses are not registered.

## About these operating instructions

There are 3 operating instructions for WJ-HD316/WJ-HD309 as follows.

- Operating Instructions (book)
- Network Operating Instructions (pdf, these Operating Instructions)
- Network Setup Instructions (pdf)

These "Network Operating Instructions" contain descriptions of how to operate this unit using a PC via a network. Refer to the provided "Operating Instructions (book)" for descriptions of how to operate this unit using the buttons on the front panel of the unit, installation and system configurations.

Refer to the "Network Setup Instructions (pdf)" on the provided CD-ROM for descriptions of how to perform the required settings to operate this unit using a PC and how to connect to other devices. These operating instructions are for system installers. It is not necessary for general users to read them.

Adobe® Reader is required to read these operating instructions (pdf) 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.



---

## System requirements for a PC

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

OS	Microsoft® Windows® 2000 Professional SP4 Microsoft® Windows® XP Professional or Home Edition SP1
Computer	IBM PC/AT Compatible
CPU	Pentium IV 1.4GHz or faster
Memory	256 MB or more
Monitor	1024 x 768 pixels or more, 16-bit HIGH color or better
Network Interface	10/100Mbps Network interface card must be installed
Web Browser	Microsoft® Internet Explorer 5.5SP2, 6.0SP1 Other web browsers are not compatible with this unit.

---

### Important

To operate this unit, the plug-in software is required to be installed. Install the plug-in software from the provided CD-ROM. Refer to "readme.txt" on the provided CD-ROM for the descriptions of how to install it.

---

## Trademarks and registered trademarks

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## Abbreviations

The following abbreviations are used in these operating instructions.

Microsoft® Windows® 2000 Professional Service Pack 4 is described as Windows 2000.

Microsoft® Windows® XP is described as Windows XP.

## About notations

**Important:** Restrictions or cautions to operate respective functions.

**Note:** Tips to operate respective functions.

# Display the operation window

## How to display the operation window

Start up the PC and operate this unit using the installed web browser.  
The operation window will be displayed in the following procedures.

### Screenshot 1

Start just after the PC is started up.



### Step 1

Start up the web browser.

### Screenshot 2

The web browser will start up and the set web site will be displayed.



### Step 2

Enter the IP address set to this unit in the address box, and press the enter key.

#### Important:

- Refer to a system administrator for the set IP address of this unit.
- It is impossible to access this unit from a PC without a registered IP address when "ON" is selected for "Host Authentication" on the "System" menu.  
Refer to a system administrator for further information.
- Do not attach "0" before the numbers when entering IP address.

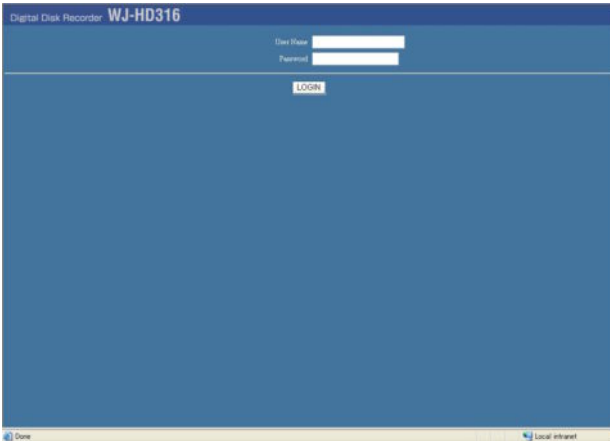
Example

Correct: 192.168.0.50

Wrong: 192.168.0.050

### Screenshot 3

The user authentication window will be displayed. This window will not be displayed when "OFF" is selected for "User Authentication" on the "System" menu.



### Step 3

Enter the user name and password registered on this unit.

#### Important:

- Refer to a system administrator for the set user name and password.  
Refer to the Network Setup Instructions on the provided CD-ROM for the descriptions of how to register users.
- The default user name and password are as follows.  
User Name: ADMIN  
Password: 12345

### Screenshot 4

The top page will be displayed.



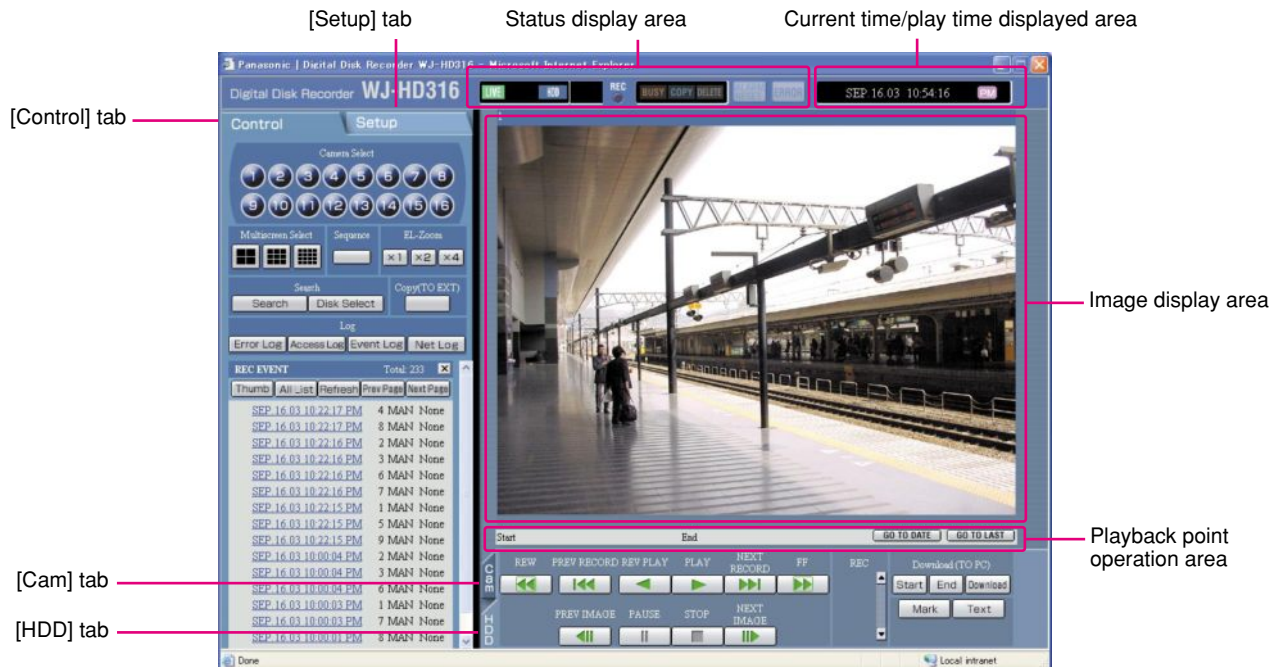
### Step 4

Click the buttons or the tabs for operations.



# About the operation window

## Top page



### [Control] tab (page 9)

The switcher functions such as switching camera channels or displaying sequentially, are operable on this page. Search results or log information will also be displayed on this page.

### [Setup] tab

Operations for setup of this unit can be performed on this tab. Refer to the Network Setup Instructions (pdf) on the provided CD-ROM for further information.

### Status display area (page 10)

Current status such as playback status or recording status will be displayed.

### Current time/play time displayed area

Current time and play time will be displayed during playback.

### Image display area

Recorded images and live images will be displayed. The setup menu will be displayed while setting up.

### Playback point operation area (page 11)

It is possible to mark playback points or skip to the latest recorded image.

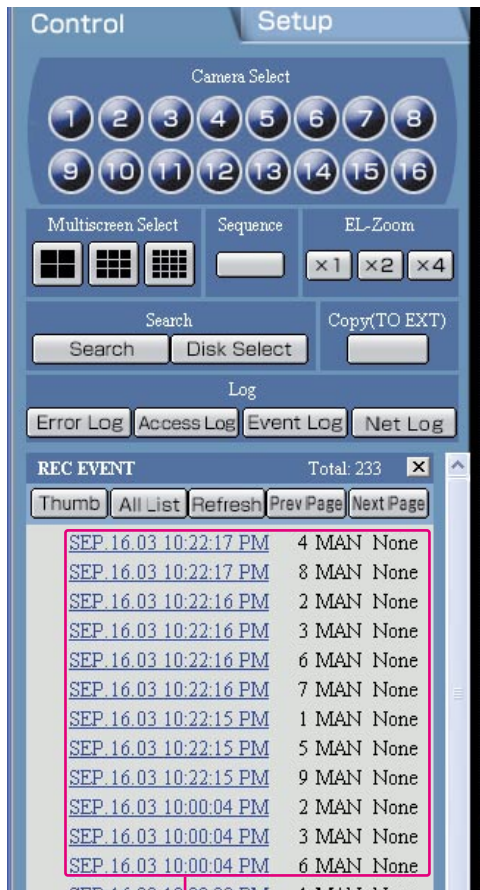
### [HDD] tab (page 11)

Operation for recorded images such as playback or downloading (saving) recorded images can be performed on this page.

### [Cam] tab (page 12)

Controlling cameras by zooming, focusing and auto panning can be performed on this page.

## [Control] tab



Log display area

### [Camera Select] buttons

Images from the selected camera channel will be displayed on the image display area by clicking one of these buttons.

### [Multiscreen Select] box

Up to 16 camera images can be displayed simultaneously on a multi-screen.



**4-split screen button:** 4 camera images will be displayed on a 4-split screen in the following order each time this button is clicked;  
For the WJ-HD316: 1 - 4 CH → 5 - 8 CH  
→ 9 - 12 CH → 13 - 16 CH → 1 - 4 CH ...

For the WJ-HD309: 1 - 4 CH → 5 - 8 CH → 9 CH  
→ 1 - 4 CH ...



**9-split screen button:** 9 camera images will be displayed on a 9-split screen in the following order each time this button is clicked;

For the WJ-HD316: 1 - 9 CH → 10 - 16 CH  
→ 1 - 9 CH...

For the WJ-HD309: 1 - 9 CH



### 16-split screen (Only for the WJ-HD316):

Images from 1 - 16 channels will be displayed on a 16-split screen.

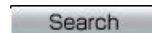
### [Sequence] button

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.

### [EL-Zoom] box

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

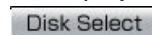
### [Search] box



**[Search] button:** The "Search Select" pop-up window will be displayed.

Use this button to search the recorded images and play them. (Refer to page 25.)

Search results will be displayed in list form in the log display area. (Refer to page 24.)

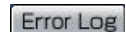


**[Disk Select] button:** The "Disk Select" pop-up window will be displayed. Use this button to select a disk to be played/searched. (Refer to page 20.)

### [Copy (TO EXT)] button

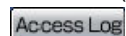
The copy window will be displayed by clicking this button. Use this when copying recorded images onto the copy area of the hard disk or external recording devices (DVD-RAM disk, DVD-R disk, CD-R disk) manually.

### [Log] box



**[Error Log] button:** The error logs of this unit will be displayed.

Logs will be displayed in list form in the log display area. (Refer to page 54.)



**[Access Log] button:** The time when logged in/out for this unit, the user name, and the IP address will be displayed. Logs will be displayed in list form in the log display area. (Refer to page 55.)

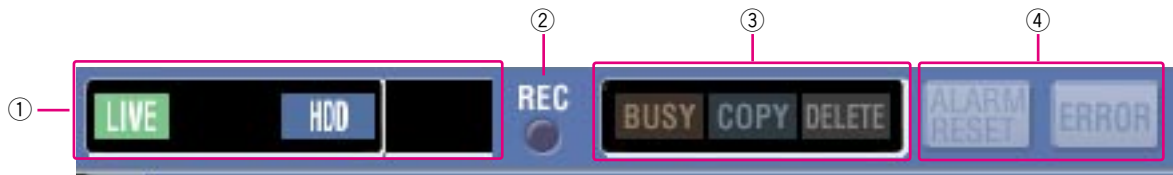


**[Event Log] button:** The event logs (event occurrence times and their details) will be displayed. Logs will be displayed in list form in the log display area. (Refer to page 56.)



**[Net Log] button:** The network error logs will be displayed. Logs will be displayed in list form in the log display area. (Refer to page 57.)

## Status display area



### ① The status of live/playback image will be displayed.

**LIVE** [LIVE]:

Indicates that a live image is being displayed.

**SEQ** [SEQ]:

Indicates that a live image is being displayed in the sequential display mode.



[Playback]:

Indicates that a playback image is being displayed.



[Reverse playback]:

Indicates that a reverse playback image is being displayed.



[Fast playback]:

Indicates that a fast playback image is being displayed.



[Fast reverse playback]:

Indicates that a fast reverse playback image is being displayed.



[Pause]:

Indicates that a paused image is being displayed.

**HDD** [HDD]:

Indicates that playback of a recorded image stored in the normal recording area or the event recording area of the built-in hard disk of this unit is being displayed.

**COPY1** [COPY1]:

Indicates that playback of a recorded image stored in the external recording device connected to the COPY 1 connector of this unit is being displayed.

**COPY2** [COPY2]:

Indicates that playback of a recorded image stored in the external recording device connected to the COPY 2 connector of this unit is being displayed.

**FILTERING** [FILTERING]:

Indicates that the recording event list/thumbna il is filtered.

Refer to page 23 for further information about filtering of recording event list.

**Step 1 – Step 7** [STEP1] – [STEP7]:

Indicates the playback speed.

STEP1: Normal playback speed

STEP2: Approx. 4x playback speed

STEP3: Approx. 8x playback speed

STEP4: Approx. 16x playback speed

STEP5: Approx. 32x playback speed

STEP6: Approx. 48x playback speed

STEP7: Approx. 96x playback speed

### ② REC indicator

The status of recording will be displayed.

When lit red:

Indicates that recording is being performed.

When not lit:

Indicates that recording is not being performed.

### ③ Indicates the following statuses:

**BUSY** [BUSY]:

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

**COPY** [COPY]:

Indicates that copying is being performed.

**DELETE** [DELETE]:

Indicates that deletion of a recorded image is being performed.

### ④ Indicates information about events and errors.

**ALARM RESET** [ALARM RESET]:

Indicates an event occurrence.

The alarm display action will be canceled by clicking this button. (page 43)

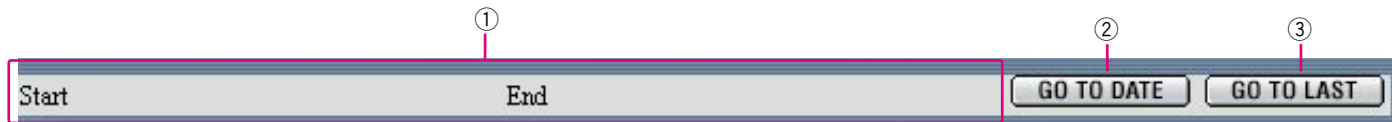
**ERROR** [ERROR]:

Indicates an error occurrence.

Refer to the provided operating instructions for further information about error action.



## Playback point operation area



- ① Indicates the start time and the end time of a download. (Refer to page 61.)
- ② **[GO TO DATE] button**  
Indicates the time and date of a marked point. Use this button to designate a desired time and date of a recorded image to be played. (Refer to page 22.)
- ③ **[GO TO LAST] button**  
Skips to the latest recorded time of a recorded image from the currently displayed camera channel and plays it.

## [HDD] tab



### **[REW] button**

Fast reverse playback will be performed. Playback speed for the 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)

### **[PREV RECORD] button**

Skips to the previous recorded image and plays it.

### **[REV PLAY] button**

Reverse playback of a recorded image will be performed.

### **[PLAY] button**

Playback of a recorded image will be performed.

### **[NEXT RECORD] button**

Skips to the next recorded image and plays it.

### **[FF] button**

Fast playback will be performed. Playback speed for the 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)

### **[PREV IMAGE] button**

The previous frame will be displayed when this button is clicked during pausing.

### **[PAUSE] button**

The playback will be stopped when this button is clicked during playback. The playback will be resumed when this button is clicked during pausing.


### **[STOP] button**


Stops playback and displays a live image.

### **[NEXT IMAGE] button**

The next frame will be displayed when this button is clicked during pausing.

### [REC] box


The recording button and the recording stop button will be displayed when the  button is clicked.

Displaying the recording button and the recording stop button will be unavailable when the  button is clicked.

 **[Recording] button:** Starts manual recording.



 **[Stop recording] button:** Stops manual recording.

#### Notes:

- It is possible to switch between all channels or the channel currently displayed in the web browser window to be selected for manual recording by performing the settings.
- To display the [Recording] button and the [Stop recording] button, press down the  button until they are displayed.


### [Download (TO PC)] box

Downloads the currently played image to a PC.

Sets the time range of a desired image to be downloaded by clicking the  [Start] button and the  [End]

[End] button.

The start time and the end time for download will be displayed in the playback position display area.

The dialog window for saving an image to be downloaded onto a designated location will be displayed by clicking the  [Download] button.

 **[Viewer] button**

The viewer software can be downloaded by clicking this button. (Refer to page 63 for further information.)

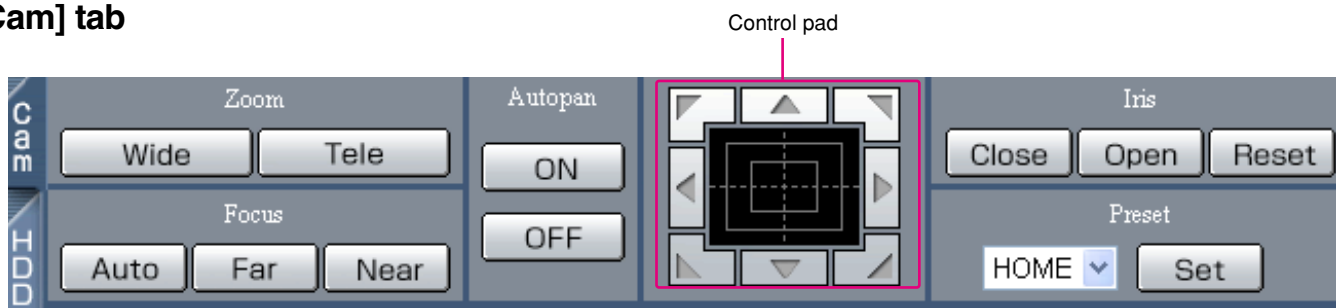
 **[Mark] button**

Mark by clicking this button during playback. When marked, playback after searching for the marked point is available. (Refer to page 31.)

 **[Text] button**

The attached text information will be displayed when this button is clicked during pausing. It is possible to edit the displayed text information.



### [Cam] tab



#### [Zoom] box

Zooming can be adjusted by clicking the  [Wide] button or the  [Tele] button.



#### [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.

#### [Autopan] box

Pans a camera automatically from the start point to the end point registered in advance.



The auto panning function can be performed by clicking the  [ON] button. The auto panning function can be stopped by clicking the  [OFF] button.

#### 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.

#### [Iris] box

Iris can be adjusted by clicking the  [Close] button or the  [Open] button.

#### [Preset] box

Moves a camera to the preset position registered in advance. Click the  [SET] button after selecting a preset number by clicking the  button.

Registering preset positions is required to perform the preset function.

# Adjust the clock

Adjust the clock of this unit to the correct time. Check the clock periodically and adjust the clock if it shows the wrong time.

## Screenshot 1

Start operation from the top page.

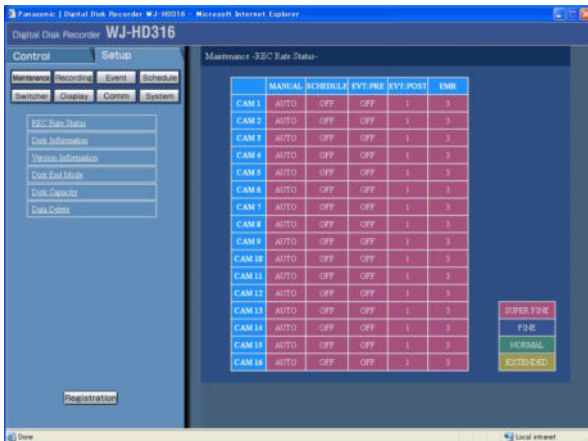


## Step 1

Click the [Setup] tab.

## Screenshot 2

The [Setup] page will be displayed.



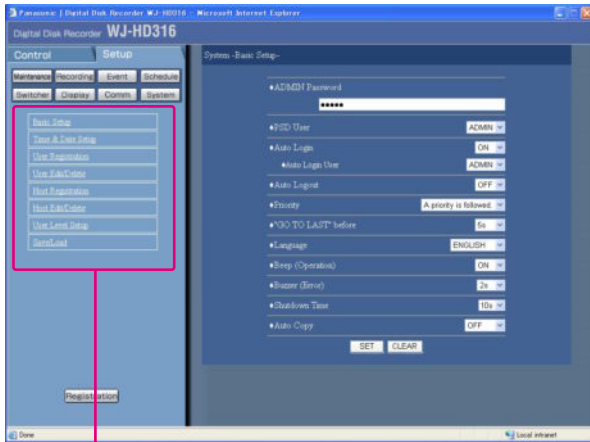
## Step 2

Click the [System] button.



### Screenshot 3

The [System] submenu will be displayed in the [Setup] page.



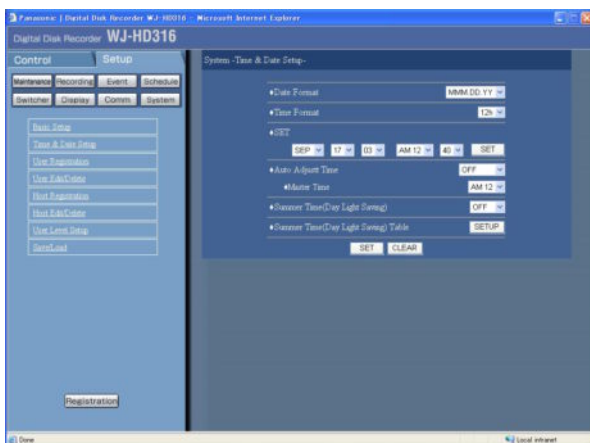
[System] submenu

### Step 3

Click "Time & Date setup".

### Screenshot 4

The [Time & Date setup] menu will be displayed.



### Step 4

Set the time and date by clicking the [✓] button.

### Step 5

Click the [SET] button on the right side.  
→ The set time and date will be applied.

# Recording/playback

## Recording (Manual recording)

Start/stop recording manually.

Refer to a system administrator for the required settings for manual recording.

### Screenshot 1

Start operation from the top page.



### Step 1

Click the [HDD] tab.

### Screenshot 2

The [HDD] page will be displayed.



### Step 2

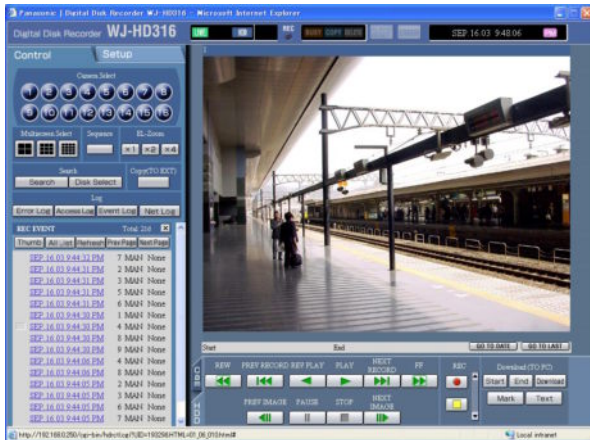
Click the [▲] button of the [REC] box.

### Note:

Hold down the [▲] button until the [Recording] button and the [Stop recording] button are displayed.

### Screenshot 3

The [Recording] button will be displayed in the [REC] box.



### Step 3

Start recording by clicking the [Recording] button.

- The REC indicator in the status display area will be lit red when recording has started.
- Images from all cameras connected to this unit will be recorded with the default settings.
- When images from cameras are currently recorded with higher priority than manual recording, manual recording will be suspended until that recording finishes.

Refer to the following for further information about each recording mode.

### Step 4

Click the [Stop recording] button to stop recording.

→ The REC indicator will go off.

### Note:

- The REC indicator will continue to be lit when recording in the other recording mode even though the [Stop recording] button is clicked.

## About the recording mode and the priority

There are 4 recording modes. Each recording mode and priority are as follows.

Recording Mode	Description	Priority <sup>*1</sup>
Emergency recording	When an emergency event occurs, perform recording manually using an external switch, etc..	1
Event recording	Perform recording manually at any event occurrence.	2 <sup>*2</sup>
Manual recording	Start/stop recording manually.	3 <sup>*2</sup>
Schedule recording	It is possible to perform recording automatically at a scheduled time on a designated day of a week.	4 <sup>*2</sup>

\*1: These priorities are the default settings. (Emergency recording is the highest priority.)

\*2: It is possible to change the priority for manual recording, schedule recording and event recording. Refer to a system administrator for further information.

# Playback

Play recorded images. Playback is also available during recording.

## Screenshot 1

Start operation from the top page.



## Step 1

Click the [HDD] tab.

## Screenshot 2


The [HDD] page will be displayed.



## Step 2

Click the [PLAY] button.

→ Playback of a recorded image will be performed.

 will be displayed in the status display area.

### When played for first time after logon:

The latest recorded image will be played.

Playback will start 5 seconds before the time of the latest recorded image with the default setting. The following are available for the playback start time.

5 s before latest/10 s before latest/30 s before latest/1 m before latest/5 m before latest

Refer to a system administrator for further information.

### Except for the settings above:


Playback will start from the finish point (time and date) of the last playback.

## Notes:

- It is possible to change camera channel by clicking a desired [Camera Select] button during playback.
- It is possible to switch the screen to a multi-screen by clicking a desired [Multiscreen Select] button during playback

## Step 3

Click the [STOP] button to stop playback.

→  displayed in the status display area will go off and a live image will be displayed.



## Other functions for playback

### Pausing



- The playback will be stopped when this button is clicked during playback.
- The playback will be resumed when this button is clicked during pausing.

### Frame play/reverse frame play



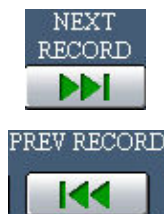
- Frame play/reverse frame play is available only during pausing.
- When the [NEXT IMAGE] button is clicked, the next frame is played and paused.
- When the [PREV IMAGE] button is clicked, the previous frame is played and paused.

### Fast playback/fast reverse playback



- Playback speed for the fast playback will be changed in the following order each time the [FF] button is clicked: STEP2 (approx. 4x) → STEP3 (approx. 8x) → STEP4 (approx. 16x) → STEP5 (approx. 32x) → STEP6 (approx. 48x) → STEP7 (approx. 96x)
- Playback speed for fast reverse playback will be changed in the following order each time [REW] 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, the playback speed will return to the normal playback speed.

### Skip/reverse skip



- When the [NEXT RECORD] button is clicked, playback is skipped to the latest recorded image.
- When the [PREV RECORD] button is clicked, playback is skipped to the oldest recorded image.
- When there is no latest/oldest recorded image to be skipped to, current playback will continue.

### Skips to the latest recorded image.



- Skips to the latest time of the currently played image and plays it. Skips to the point 5 seconds before the time of the latest recorded image with the default setting. The following points are available to be skipped to.  
10 s before latest/10 s before latest/30 s before latest/1 m before latest/5 m before latest  
Refer to a system administrator for further information.

---

**Playback on a multi-screen**

- Displays playback images on a 4-split screen, 9-split screen or 16-split screen (only for the WJ-HD316).
- 4 camera images will be displayed on a 4-split screen in the following order each time this button is clicked;  
For the WJ-HD316: 1 - 4 CH → 5 - 8 CH → 9 - 12 CH → 13 - 16 CH → 1 - 4 CH ...  
For the WJ-HD309: 1 - 4 CH → 5 - 8 CH → 9 CH → 1 - 4 CH ...
- 9 camera images will be displayed on a 9-split screen in the following order each time this button is clicked;  
For the WJ-HD316: 1 - 9 CH → 10 - 16 CH → 1 - 9 CH...  
For the WJ-HD309: 1 - 9 CH
- Images from channels 1 - 16 will be displayed on a 16-split screen (only for the WJ-HD316).
- Click a camera channel button in the [Camera select] box to return to a single screen display.

---

**Marking**

(Refer to page 31 for operation.)



- It is possible to start playback from a marked point. Click the [Mark] button at the point to be marked.
- Up to 100 points can be registered. When more than 100 points are marked, old marked point will be overwritten by newly marked point. In this case, the oldest point is the first to be overwritten.
- During playback in a multi-screen, the point when the [Mark] button is clicked for all played images will be registered. (The number of the points for all played images in a multi-screen will be registered simultaneously.)

---

**Text information display**

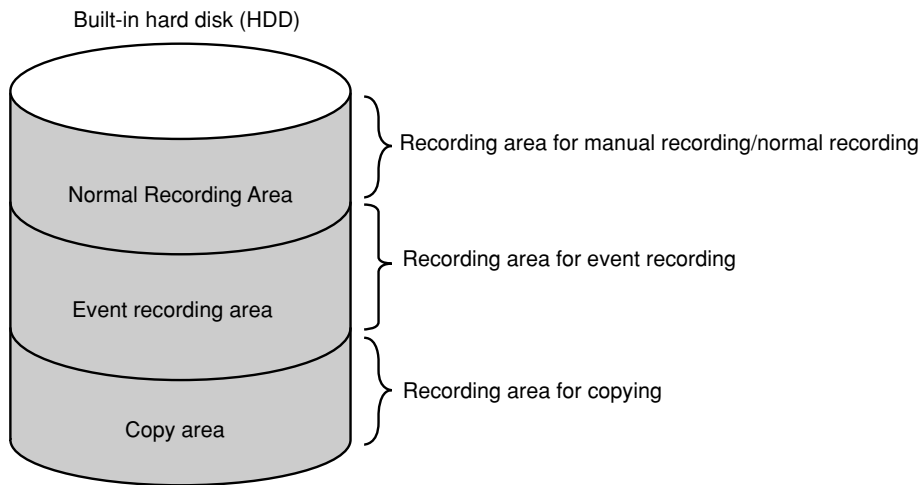
- The attached text information will be displayed when this button is clicked during pausing. Click the [Text] button after pausing playback.
  - The text information display/edit is available only when a recorded image is played in a single screen.
-

# Playback after selecting a disk

Images from cameras will be recorded on the built-in hard disk or external recording devices (DVD-RAM disk, DVD-R disk, CD-R disk). Select a disk and play images as follows.

The following disks can be selected.

- **HDD normal recording area/event recording area:** Recording area in the built-in hard disk of this unit. Recorded images by manual recording (page 15) or event recording will be stored in this area.
- **HDD copy area:** Recording area in the built-in hard disk of this unit. Recording area for copying recorded images (page 45).



### Notes:

- The built-in hard disk or external recording device is described as "disk" in these operating instructions.
- Playback is also available during recording.
- Capacity of each recording area will be different depending on the settings. Refer to a system administrator for further information.

### Screenshot 1

Start operation from the top page.

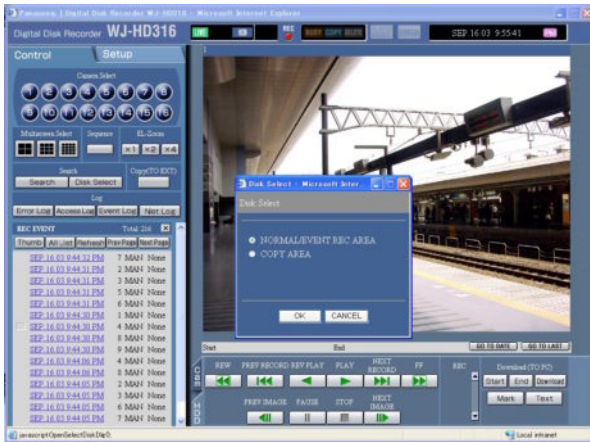


### Step 1

Click the [Disk Select] button in the [Search] box of the [Control] tab.

## Screenshot 2

The [Disk Select] window will be displayed.



### Step 2

Select a desired disk to be played.

### Step 3

Click the [OK] button.

### Step 4

Click the [HDD] tab.


## Screenshot 3

The [HDD] page will be displayed.



### Step 5

Click the [PLAY] button.


→ Recorded images on the selected disk will be played.  will be displayed in the status display area.

### Notes:

- When [HDD normal recording area]/[Event recording area] is selected, playback will start from the finished point (time and date) of the last playback by clicking the [PLAY] button after stopping playback.
- When [HDD copy area] is selected, the latest copied image on the selected disk will be played by clicking the [PLAY] button after stopping playback.

### Step 6

Click the [STOP] button to stop playback.

→  in the status display area will go off.



# Playback from a designated time and date

Start playback by designating a desired time and date of recorded image to be played. Playback is also available during recording.

## Screenshot 1

Start operation from the top page.



## Step 1

Click the [GO TO DATE] button in the playback position operation area.

## Screenshot 2

The "Go to Date" menu will be displayed.




## Step 2

Click the [✓] button and enter a desired time and date of recorded image to be played.

## Step 3

Click the [PLAY] button.

→ Play recorded images of entered time and date.

 will be displayed in the status display area.


When there is no image for entered time and date, the following action will be taken.

When there are images recorded after entered time and date, the oldest recorded image after the entered time and date will be played.

When there is no image recorded after entered time and date, the latest recorded image before the entered time and date will be played.

## Step 4

Click the [STOP] button to stop playback.

→  in the status display area will go off.

# Search and play

Search for a desired recorded image and play it. The 3 ways to search are as follows.

- Search for a recoded event and play it (REC Event search).
- Search recorded images for the time and date when motion was detected and play those images (VMD search).
- Search for a marked point (page 19) and play that image (Marking search).

**Note:** Recorded images will be played in a single screen on monitor 2 and the VGA monitor. Click the 4-split screen button, the 9-split screen button or the 16-split screen button to display in a multi-screen.

## Playback after searching for a recording event

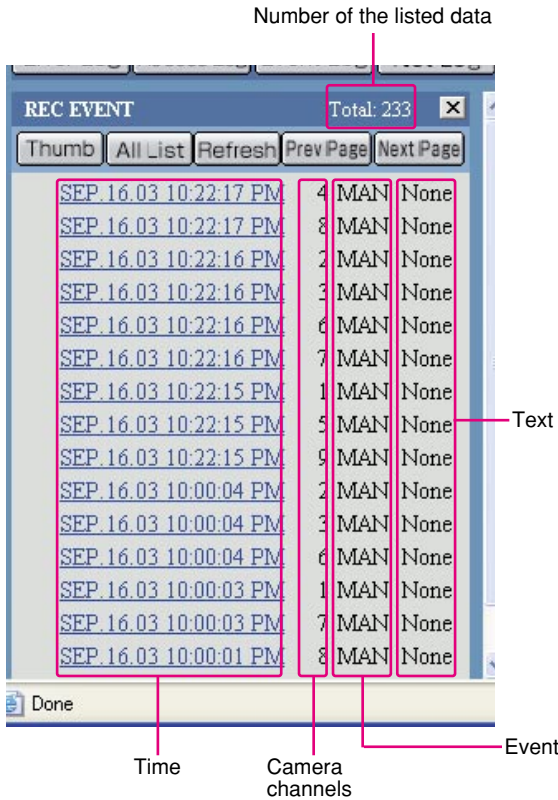
Display a list or thumbnails of recording events and select the desired one to be played.

Recording events can be searched by filtering as follows.

### About filtering

Conditions for filtering	How to search
Time and Date	Designate a time period and search images recorded in the designated period to play.
Camera	Searches for images from the selected camera channel only.
Event	Searches for images from the selected recording mode only. The following recording modes can be selected. <ul style="list-style-type: none"><li>• Manual: Manual recording (Refer to page 15.)</li><li>• Schedule: Schedule recording (Refer to the provided Operating Instructions for further information.)</li><li>• Emergency: Emergency recording (Refer to the provided Operating Instructions for further information.)</li><li>• Video Loss: Recording performed at a video loss (Refer to page 42.)</li><li>• VMD: Recording performed by a motion detection function (Refer to page 27.)</li><li>• TRM: Recording triggered by a terminal alarm (Refer to page 42.)</li><li>• COM: Recording triggered by a command alarm (Refer to page 42.)</li></ul>
Text	Searches only images recorded with text information.

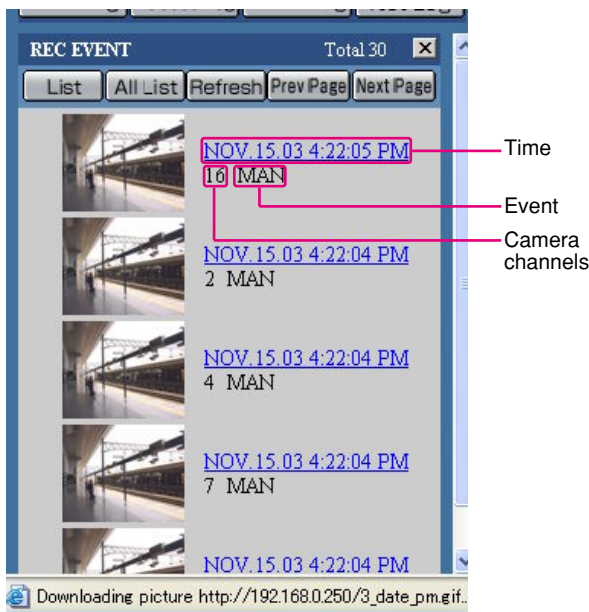
## About displaying the recording event list window



**Number of the listed data:** Displays the total number of the listed data

**[Thumb] button:** Switches to the thumbnail display shown below.

## About the recording event thumbnail window



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

**[Refresh] button:** Refreshes the displayed contents to the newest one.

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

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

**Time:** <When using the recording event search list>

Start time of recording will be displayed.

<When using the VMD search>

The time when motion is detected will be displayed.

<When using the marking search>

The time of the marked point will be displayed.

**Camera channels:** A camera channel currently used for recording will be displayed. Recorded images of the displayed camera channel will be played in a single screen.

**Event:** Recording mode will be displayed.

**MAN:** Manual recording

**SCH:** Scheduled recording

**EMR:** Emergency recording

**LOSS:** Recording at a video loss occurrence

**VMD:** Recording at a motion detection

**TRM:** Recording at a terminal alarm occurrence

**COM:** Recording At a command alarm occurrence

**Text:** When text information is attached to the recorded image, a part of the text information will be displayed.

**[List] button:** Switches to the list display shown above.  
**[All List] button:** Cancels filtering and lists all recording events.

**[Refresh] button:** Refreshes the displayed contents to the newest one.

**[Prev Page] button:** Displays the previous page of the thumbnail.

**[Next Page] button:** Displays the next page of the thumbnail.

**Time:** <When using the recording event search list>

Start time of recording will be displayed.

<When using the VMD search>

The time when motion is detected will be displayed.

<When using the marking search>

The time of the marked point will be displayed.

**Camera channels:** A camera channel currently used for recording will be displayed. Recorded images of the displayed camera channel will be played in a single screen.

**Event:** Recording mode will be displayed.

## Screenshot 1

Start operation from the top page.

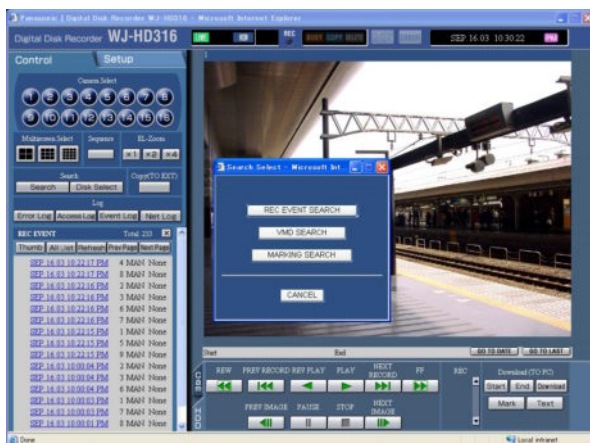


## Step 1

Click the [Search] button in the [Search] box of the [Control] tab.

## Screenshot 2

The [Search Select] window will be displayed.



## Step 2

Click the [REC EVENT SEARCH] button.



### Screenshot 3

The [REC EVENT SEARCH] window will be displayed.



### Step 3

Select searching conditions

- Filter by time and date  
Select a start time and an end time by clicking the [√] button.
- Click to select a desired recording event to be displayed when filtering by recording events.
- Filter by camera channel  
Click to select a desired camera channel to be displayed.
- Filter by with/without text information  
Click "with" or "without". When "—" is selected, searching will be performed without filtering by with/without text information.

### Step 4

Click the [OK] button.

- **FILTERING** will be displayed in the status display area. The filtered result will be displayed.

### Note:

Click the [All List] button to cancel the filtering.

**FILTERING** will go off and all recording events will be listed.

### Screenshot 4

The search results (recording event list) will be displayed in the log display area.



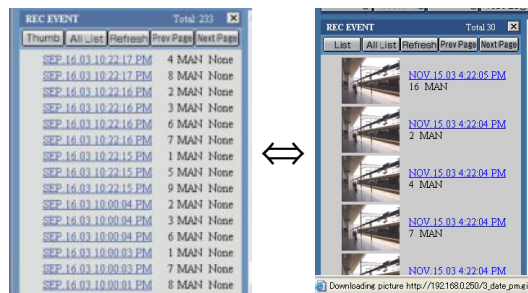
### Step 5

Click the time of a desired recording event.

- Play a recorded image of the recording event from the selected time.

### Note:

It is possible to switch to the recording thumbnail window (page 24) by clicking the [Thumb] button.



### Step 6

Click the [STOP] button to stop playback.

## Search for a time and date when motion was detected from the recorded images and play it (VMD search)

Searches time and date when motion was detected from recorded images in the all recording modes (page 16) and displays them in the list or the thumbnail window. Select a desired time and date from the search result list or thumbnail and play it. It is possible to filter time and date when motion is detected by the detection sensitivity or the searching mode.

### Note:

Recorded images will be played in a single screen. Click any of  (the 4-split screen button),  (the 9-split screen button) or  (the 16-split screen button) to display in a multi-screen.

### Screenshot 1

Start operation from the top page.

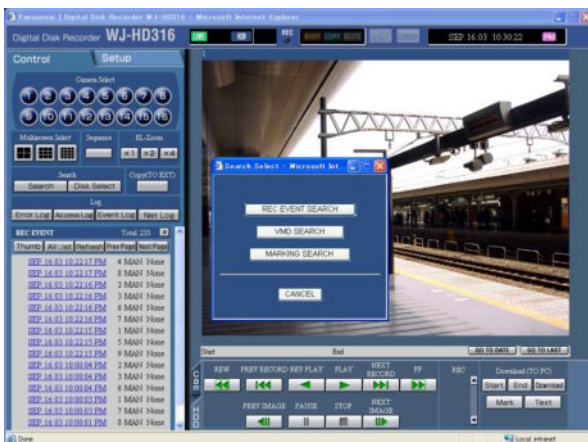


### Step 1

Click the [Search] button in the [Search] box of the [Control] tab.

### Screenshot 2

The [Search Select] window will be displayed.



### Step 2

Click the [VMD SEARCH] button.

### Screenshot 3

The [VMD Search 1] window will be displayed.



### Step 3

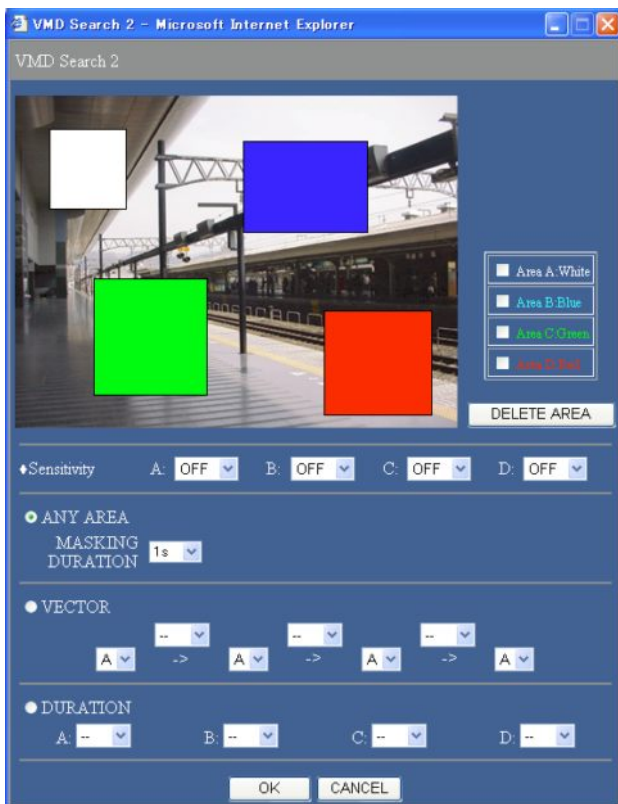
Click the [✓] button to designate a time period and camera channels for the VMD search.

### Step 4

Click the [OK] button.

### Screenshot 4

The [VMD Search 2] window will be displayed.



### Step 5

Drag the mouse to set a detection area. Up to 4 areas (A, B, C, D) can be set for the detection areas.

Each area will be displayed with the following colors: White for area A, blue for area B, green for area C and red for area D.

To delete a detection area, click the [Delete area] button after selecting a detection area to be deleted by checking it.

### Step 6

Press the [✓] button to select sensitivity for the selected area from the following.

HIGH: High sensitivity (Detects even a slight motion)

MID: Intermediate sensitivity

LOW: Low sensitivity

OFF: Ignores motions in the selected area

### Step 7

Perform the settings for the detection mode. It is possible to set how to detect motion in the motion detection area by performing the settings for each detection mode.

To select the desired detection mode, click the respective and perform the settings.

### ANY AREA

Click the [✓] button to select a mask period from the following.

1s/1m/1h/24h

### VECTOR

Click the [✓] button to select an interval time for an object moving between each area from the following.

--/5s/10s/20s/30s/40s/50s/1m

### DURATION

Click the [✓] button to select a moving duration for an object from the following.

--/5s/10s/20s/30s/40s/50s/1m

Refer to page 30 for further information about the detection mode.

### Step 8

Click the [OK] button.

→ **FILTERING** will be displayed in the status area. Filtered results will be displayed.

### Note:

Click the [All List] button to cancel the filtering.

**FILTERING** will go off and all recording events will be listed.

### Screenshot 4

The search results (recording event list) will be displayed below the [Control] tab.



### Step 9

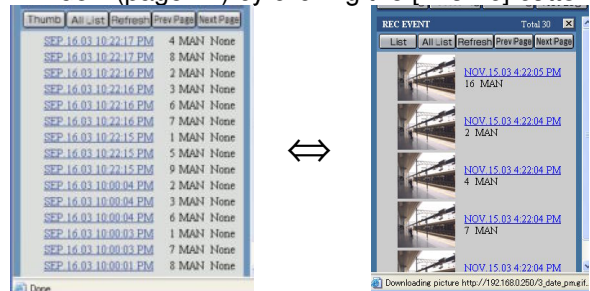
Click a time of a desired recording event.

### STEP10

Click the [STOP] button to stop playback.

### Note:

- It is possible to switch to the recording thumbnail window (page 24) by clicking the [Thumb] button.





## Detection mode

The three detection modes are as follows.

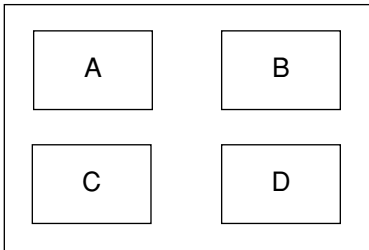
---

### Important:

- Activating two or more detection modes simultaneously is not possible.
- 

### <ANY AREA mode>

An event action will be performed according to the settings when "motion" is detected in any of the set motion detection areas.

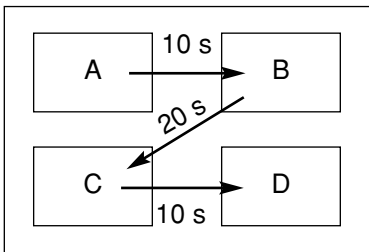


Any motion will be detected anywhere in the A, B, C, D areas.

### <VECTOR mode>

An event action will be performed according to the settings when an object moves within the set time to the other detection areas in the set order.

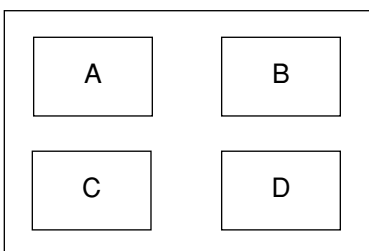
The following is an example.



Motion is detected in area B within 10 seconds after being detected in area A.  
Motion is detected in area C within 20 seconds after being detected in area B.  
Motion is detected in area D within 10 seconds after being detected in area C.  
When all of the above have occurred, an event action will be performed.

### <DURATION mode>

An event action will be performed according to the settings when an object keeps on moving for the set period in the detection area. For example, in case of the following settings; 10 sec. for areas A and B, 20 sec. for area C and 30 sec. for area D:






An event action will be performed when an object keeps on moving more than the set period in the specified detection area.

## Search for a marked point and play from that point.

Display the recording time of recorded images with a marked point in a list or a thumbnail and select the desired recording time to play. Refer to page 19 for further information about marking.

### Note:

Recorded images will be played in a single screen. Click any of  (the 4-split screen button),  (the 9-split screen button) or  (the 16-split screen button) to display in a multi-screen.

### Screenshot 1

Start operation from the top page.

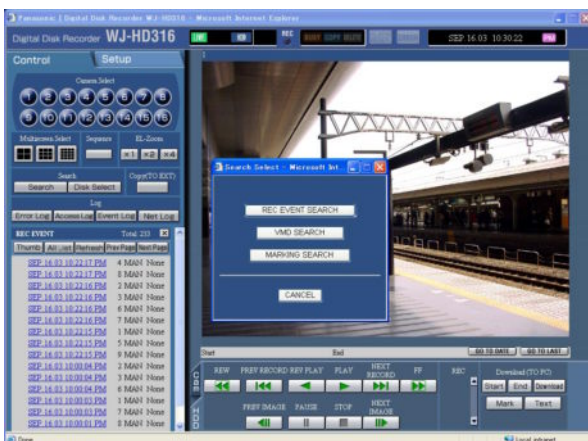


### Step 1

Click the [Search] button in the [Search] box of the [Control] tab.

### Screenshot 2

The [Search Select] window will be displayed.



### Step 2

Click the [MARKING SEARCH] button.

→ **FILTERING** will be displayed in the status area. Filtered results will be displayed.

### Note:

Click the [All List] button to cancel the filtering.

**FILTERING** will go off and all recording events will be listed.

### Screenshot 3

The search results (recording event list) will be displayed below the [Control] tab.

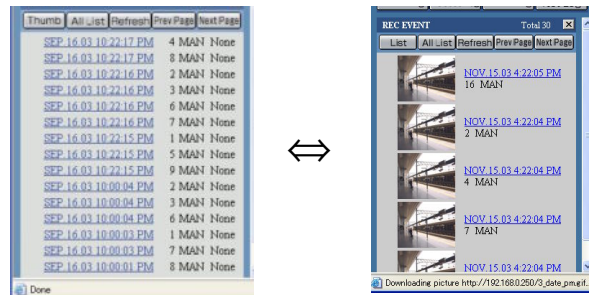


### Step 3

Click the time when a point had been marked to play.  
→ Play a recorded image from the selected marked time.

### Notes:

- It is possible to switch to the thumbnail window (page 24) by clicking the [Thumbnail] button.
- It is possible to switch to the list window by clicking the [List] button when the thumbnail window is displayed.



### Step 4

Click the [STOP] button to stop playback.

### Note:

To delete all the marked points, click the [All Del] button.

# Monitor live images

Live image will be displayed.

It is possible to display live images on a single screen or a multi-screen.

It is also possible to display live images sequentially (sequential display).

## Display images from cameras on a single screen

### Screenshot 1

Start operation from the top page.



### Step 1

Select a desired camera channel to display live images.

Click a desired camera channel button in the [Camera Select] box of the [Control] tab.

### Screenshot 2

Live images from the selected camera channel will be displayed.



### About the electrical zoom

When displaying image on a single screen, zooming of the displayed image is possible.

Click the button in the [EL-Zoom] box to zoom in on displayed image.

[x1] button: Returns to the original displayed size (x1 zoomed size).

[x2] button: Displays images with x2 zoomed size.

[x4] button: Displays 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.



# Display images from cameras on a multi-screen

Displays images on the 4-split screen, 9-split screen or 16-split screen (only for the WJ-HD316).

## Screenshot 1

Start operation from the top page.



## Step 1

Click a desired multi-screen button in the [Multiscreen Select] box of the [Control] tab.

**4-split screen button:** 4 camera images will be displayed on a 4-split screen in the following order each time this button is clicked;

For the WJ-HD316: 1 - 4 CH → 5 - 8 CH → 9 - 12 CH → 13 - 16 CH → 1 - 4 CH ...

For the WJ-HD309: 1 - 4 CH → 5 - 8 CH → 9 CH → 1 - 4 CH ...

**9-split screen button:** 9 camera images will be displayed on a 9-split screen in the following order each time this button is clicked;

For the WJ-HD316: 1 - 9 CH → 10 - 16 CH → 1 - 9 CH...

For the WJ-HD309: 1 - 9 CH

**16-split screen button (Only for the WJ-HD316):** Displays images from camera channels 1 - 16 on a 16-split screen.

## Screenshot 2

Live images will be displayed in a multi-screen.



## Step 2

Click a camera channel button in the [Camera Select] box to return to a single screen display.

# Display images in the sequential display

Displayed images from cameras will be switched automatically.

Camera images will be displayed sequentially according to the settings performed in advance.

## Screenshot 1

Start operation from the top page.

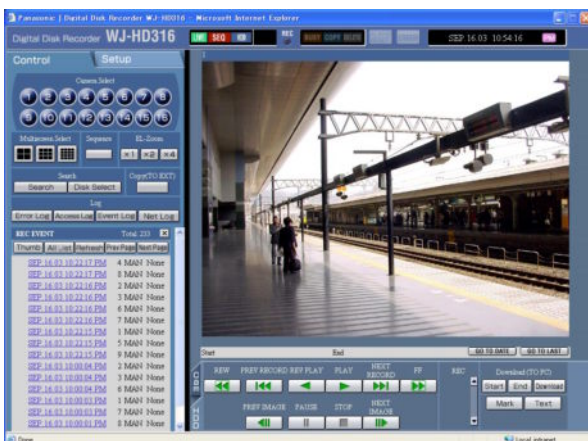


## Step 1

Click a button in the [Sequence] box of the [Control] tab.

## Screenshot 2

Live images will be displayed sequentially according to the settings performed in advance.



## Step 2

To stop the sequential display, click the button once again.

When operation to display images on a single screen (page 33) or on a multi-screen (page 34) are performed during the sequential display, the sequential display will be canceled.

# Control cameras

When displaying live images, the following camera controls are possible.

- Panning/tilting: Moves a camera horizontally/vertically.
- Zooming: Zooms in/out images.
- Focus: Adjusts the focus.
- Iris: Adjusts the iris of the lens.
- Preset action: Moves a camera to the preset position registered in advance.
- Auto pan: Pans a camera automatically from the start point to the end point registered in advance.

## Notes:

- Depending on models of the connected cameras, it may be impossible to control the camera or some functions may be not available.
- Controlling cameras is possible only when displaying live images on a single screen.

## Panning/tilting operation

Moves a camera horizontally/vertically.

### Screenshot 1

Panning and tilting are possible only when displaying live images on a single screen.



### Step 1

Click the [Cam] tab.

### Screenshot 2

The [Cam] tab will be displayed.



### Step 2

Moves a camera horizontally/vertically in the following ways.

- Control buttons: Click to move the camera.
- Control pad: Click to move the camera. Panning/tilting speed will be faster if a clicked point gets farther from the center point of the control pad.
- Image display area: Click a desired point to be the center of field angle in the displayed image. The camera moves to position the clicked point as the center point of its image.

# Zooming

Zooms in/out on images. Depending on models of the connected cameras, the image size for the respective zooming portion may be different. For further information, refer to the operating instruction for the camera.

## Screenshot 1

Start operation when live image is displayed on a single screen.



## Step 1

Click the [Cam] tab.

## Screenshot 2

The [Cam] tab will be displayed.



## Step 2

Adjust zooming by clicking the [Wide] button or the [Tele] button in the [Zoom] box.



# Focus adjustment

Adjusts the focus. The auto focus function is available.

## Screenshot 1

Start operation when live image is displayed on a single screen.

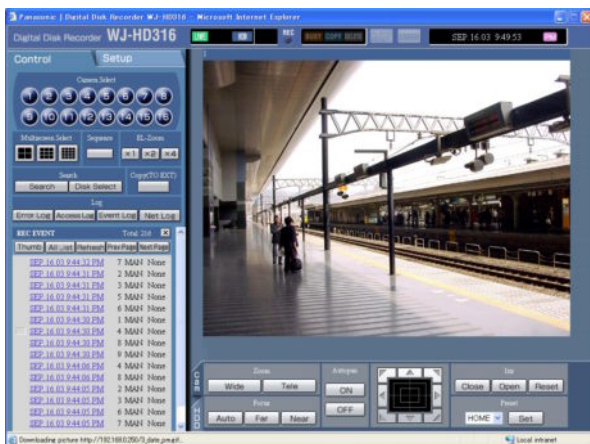


## Step 1

Click the [Cam] tab.

## Screenshot 2

The [Cam] tab will be displayed.



## Step 2

Adjust the focus by clicking the [Near] button or the [Far] button in the [Focus] box.

The auto focus function is available by clicking the [Auto] button.

# Iris adjustment

Adjusts the iris of the lens.

## Screenshot 1

Start operation when live image is displayed on a single screen.



## Step 1

Click the [Cam] tab.

## Screenshot 2

The [Cam] tab will be displayed.



## Step 2

Adjust the iris by clicking the [Open] button or the [Close] button in the [Iris] box. Click the [Reset] button to reset the setting for the iris.

# Move a camera to the preset position

Moves a camera to the preset position registered in advance. Refer to the provided operating instructions for the descriptions of how to register the preset position.

## Screenshot 1

Start operation when live image is displayed on a single screen.

### Step 1

Click the [Cam] tab.



## Screenshot 2

The [Cam] tab will be displayed.

### Step 2

Click the [✓] button in the [Preset] box to select a preset number (HOME, 1 - 64) to be registered.

### Step 3

Click the [Set] button.

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



# Auto panning

Pans a camera automatically from the start point to the end point registered in advance.

## Screenshot 1

Start operation when live image is displayed on a single screen.



## Step 1

Click the [Cam] tab.

## Screenshot 2

The [Cam] tab will be displayed.



## Step 2

The auto panning function can be performed by clicking the [ON] button in the [Autopan] box. Click the [OFF] button to stop the auto panning function.



# About the event function

The event action will be performed when the following events occur.

- **Motion detection:** When motion is detected by the motion detection function (see below), this is stated as an event of the motion detection.
- **Video Loss:** When a video signal supply is stopped because of a cable disconnection or malfunction of a camera, this is stated as an event of the video loss.
- **Terminal alarm:** When a signal is supplied from an external device such as a door sensor to the ALARM terminal, this is stated as an event of the terminal alarm.
- **Command alarm:** When a command alarm is supplied from a PC connected to the SERIAL connector on the rear panel of this unit, this is stated as an event of the command alarm.

---

## About the motion detection function (VMD)

A signal will be supplied when motion (luminance transition) is detected in a designated area. It is possible to save images recorded in the place where motion is detected, or send e-mails when motion is detected.

Refer to a system administrator for further information about the required settings for the motion detection function such as the settings of the detection area.

---

## Action at an event occurrence

The event action will be performed according to the settings when an event occurs.

There are 2 event action modes for the alarm mode (ALARM) and the activity mode (ACT DET) for each event type.

The event action will be different according to the set event action mode.

When an event of the alarm mode (ALARM) occurs, this unit activates the alarm action.

### About the event action mode

- **Alarm Mode (ALARM)**

This mode notifies an event occurrence outside. Action taken in the alarm mode is referred as the alarm action.

- **Activity Detection Mode (ACT DET)**

This mode records images in the place where an event occurred without notifying outside.

Event Action	Alarm Mode	Activity Detection Mode
Start recording.	✓	✓
Displays event information on the monitor.	✓	—
Blinks the alarm indicator.	✓	—
Sounds the buzzer.	✓	—
Switches the displayed image to the image from a location of an alarm occurrence.	✓	—
Move a camera to the preset position.	✓	✓
Notifies an event occurrence by sending e-mails.	✓	—
Notifies an event occurrence by the PS·DATA/RS232C commands.	✓	—
Supplies a signal from the ALARM connector or the ALARM/CONTROL connector on the rear panel of this unit (Alarm signal output).	✓	—
Record the event log.	✓	✓
Transmits images to on FTP server	✓	—

✓: Applicable —: Not applicable

## About the alarm action

These descriptions are how to perform the settings and confirm the alarm action from a PC. Refer to the provided operating instructions for further information about the alarm action available in this unit.

- **Display the alarm notification window.**



- **Display the [ALARM RESET] button in the status display area.**



- **Notifies an event occurrence by sending e-mails.**

When an event occurs, this unit notifies of the event occurrence with the time and date of the event occurrence by sending e-mails (alarm mails) to the registered addresses. It is also available to attach an image to the alarm mail. When the event recording of two or more camera channels is performed, the recorded image from the camera of the youngest camera channel number will be attached.

Up to 4 addresses can be registered as recipients of the alarm mail.

To send the alarm mail at an event occurrence, it is required to perform the settings on the SETUP MENU in advance. Refer to a system administrator for further information.

It is possible to edit the contents of the alarm mail.

Refer to page 64 for further information about the alarm mail.

- **Transmits recorded images to an FTP server at an event occurrence**

When an event occurs, recorded images will be kept on transmitting to an FTP server automatically for the set duration from the recording start time. To transmit images automatically, it is necessary to perform the settings on the SETUP MENU in advance. Refer to a system administrator for further information.

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### Note:

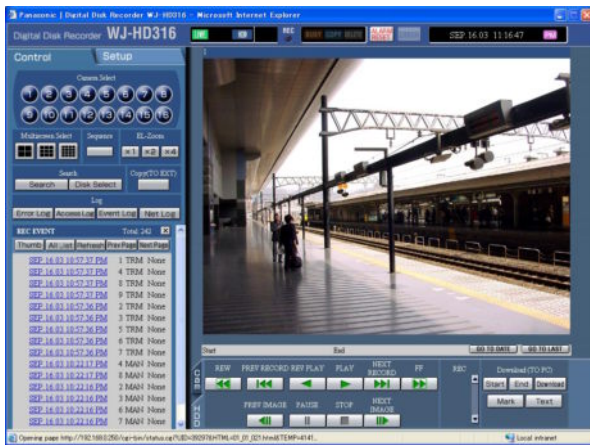
- Images to be transmitted automatically to an FTP server are images recorded during the set duration started from the start time of event recording (event occurrence time). When events occurred sequentially, only images recorded for the set duration started from the recording start time of the first event will be transmitted.
-

# Cancel the alarm action

The alarm action will be performed when an event is detected.  
To cancel the alarm action manually, do the following.

## Screenshot 1

[ALARM RESET] will be displayed in the status display area when an alarm occurs.



## Step 1

Click the [ALARM RESET] button.  
→ The alarm action will be canceled.

# Other functions

## Copying (Duplicate)

It is available to copy (duplicate) manually the recorded images in the copy area of the built-in hard disk to the external recording device (DVD-RAM disk, DVD-R disk, CD-R disk) connected to the unit.

It is recommended to make back-up copies on a regular basis for unexpected situations such as malfunction of the hard disk.

Manual copy is available during the following.

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

---

### Notes:

- The auto copy function is available for copying recorded images automatically. When the auto copy function is enabled, manual copy is not available. Refer to a system administrator for further information about the auto copy function.
  - To copy during playback of recorded images, pause playback temporarily.
  - To copy recorded images on the DVD-RAM disk, formatting (initializing) the DVD-RAM disk is required in advance. Refer to page 50 for the descriptions of how to format DVD-RAM disks.
- 

### Screenshot 1

Start operation from the top page.



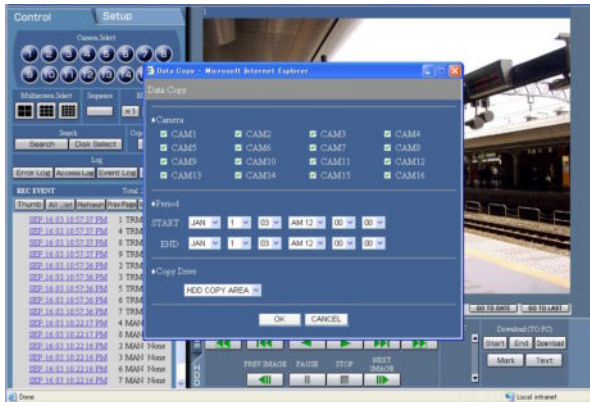
### Step 1

Click the button in the [Copy (TO EXT)] box of the [Control] tab.



## Screenshot 2

The [Data Copy] window will be displayed.



### Step 2

Click to select a desired camera channel to be copied. It is possible to select two or more camera channels.

### Step 3

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

### Step 4

Select a destination where the copied file is to be saved from the following by clicking the [V] button.

**HDD COPY AREA:** Built-in hard disk of this unit

**COPY1:** External recording device connected to the COPY 1 port of this unit

**COPY2:** External recording device connected to the COPY 2 port of this unit

### Step 5

Click the [OK] button.

→ **COPY** will be displayed in the status display area when copying starts.

When the warning window is displayed, copying will be canceled.

# Disk Management

Perform the settings for the built-in hard disk of the unit and the DVD-RAM disk. These are the descriptions of how to delete recorded images on the hard disk and how to format a DVD-RAM disk.

Refer to a system administrator for further information about the other disks.

## Deletion of recorded images saved on the hard disk manually

Delete recorded images saved in the normal area or the event area of the hard disk manually.

By setting a time and date, the images recorded the day before the set time and date will be subject to be deleted.

It is recommended to delete manually when available disk space is running out.

### Notes:

- It is impossible to recover the deleted images.
- It is possible to delete recorded images 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.

### Screenshot 1

Start operation from the top page.

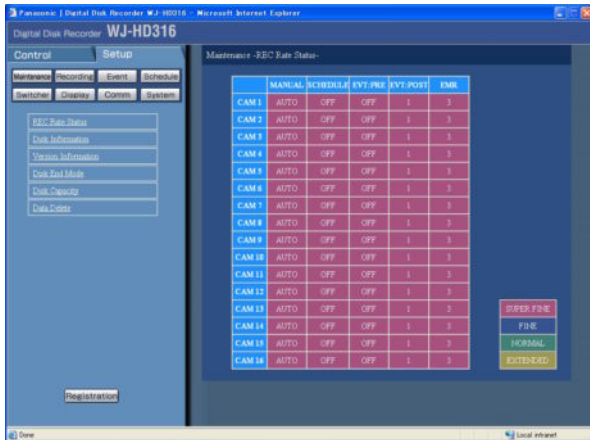


### Step 1

Click the [Setup] tab.

## Screenshot 2

The [Setup] page will be displayed.

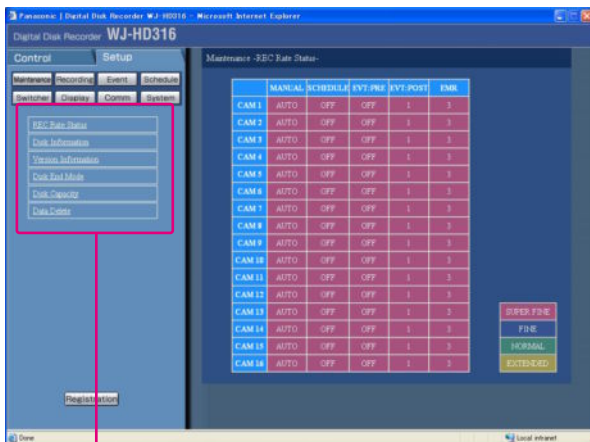


## Step 2

Click the [Maintenance] button.

## Screenshot 3

The [Maintenance] submenu will be displayed in the [Setup] tab.



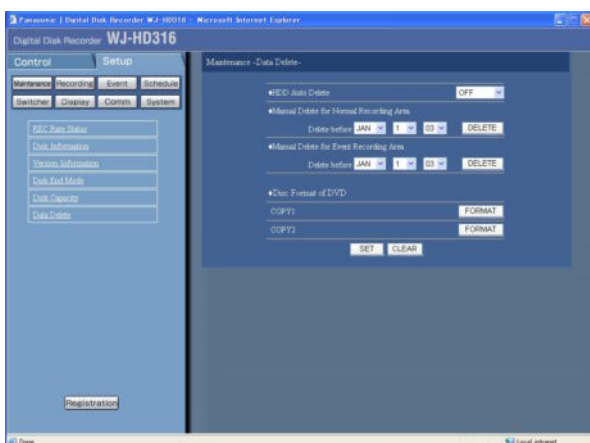
[Maintenance] submenu

## Step 3

Click "Data Delete".

## Screenshot 4

The [Data Delete] menu will be displayed.



## Step 4

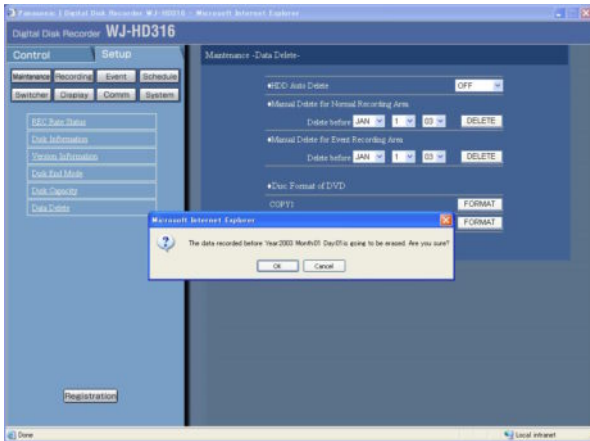
Set the time and date for "Manual Delete for the normal recording area" or "Manual Delete for the event recording area". Images recorded before the set time and date will be deleted.

## Step 5

Click the [DELETE] button.

### Screenshot 5

The confirmation window will be displayed.



### Step 6

Click the [OK] button.  
→ Start deletion.

### Screenshot 6

The data deletion status window will be displayed.



### Step 7

Click the [OK] button.

### Screenshot 7

The data deletion status window will close and returns to the "Data Delete" menu.



### Step 8

Click the [Set] button.



# Format (initialize) a DVD-RAM disk

To copy (duplicate) recorded images onto the DVD-RAM disk, formatting (initializing) the DVD-RAM disk is required in advance.

Format (initialize) the DVD-RAM disk to delete images recorded on the DVD-RAM disk.

## Screenshot 1

Start operation from the top page.

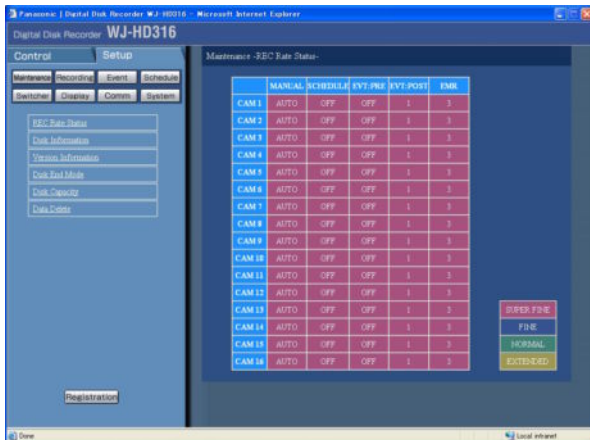


## Step 1

Click the [Setup] tab.

## Screenshot 2

The [Setup] page will be displayed.

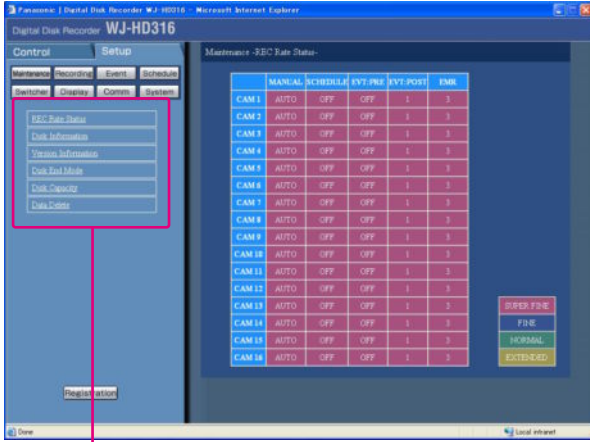


## Step 2

Click the [Maintenance] button.

### Screenshot 3

The [Maintenance] submenu will be displayed in the [Setup] tab.



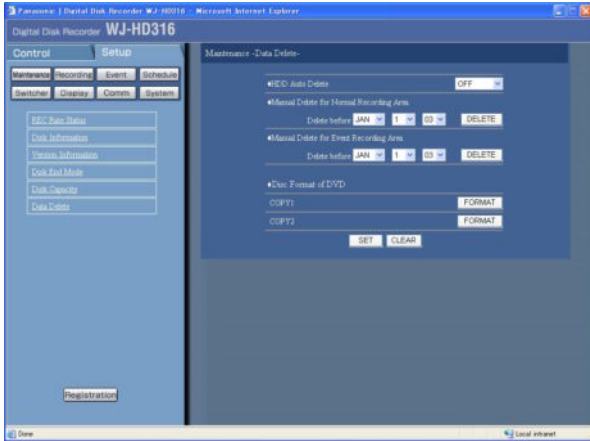
[Maintenance] submenu

### Step 3

Click "Data Delete".

### Screenshot 4

The "Data Delete" menu will be displayed.

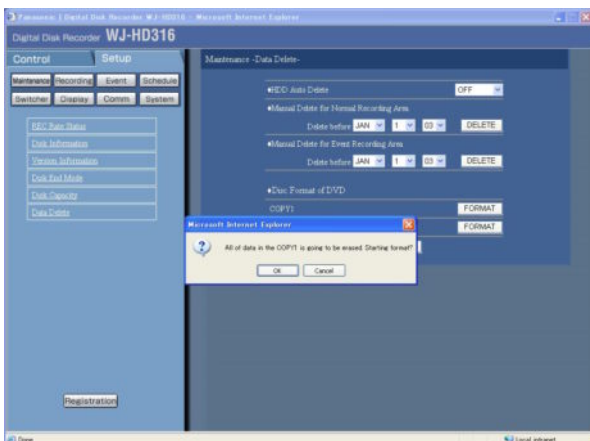


### Step 4

Click the [FORMAT] button of [COPY 1] or [COPY 2] of [Disk format of DVD].  
(Click the [FORMAT] button for the port to which the disk to be formatted is connected.)

### Screenshot 5

The confirmation window will be displayed.

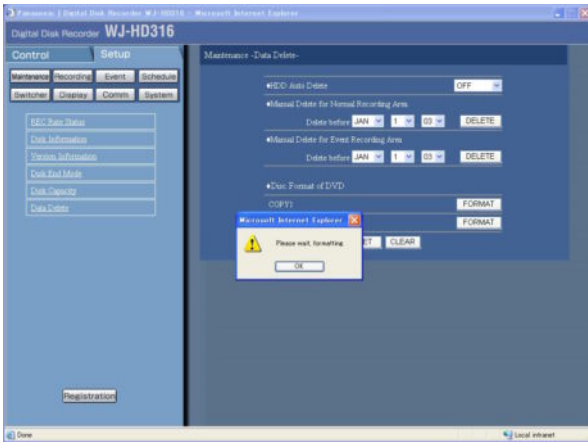


### Step 5

Click the [OK] button.  
→ Formatting will begin.

### Screenshot 6

The formatting status window will be displayed.

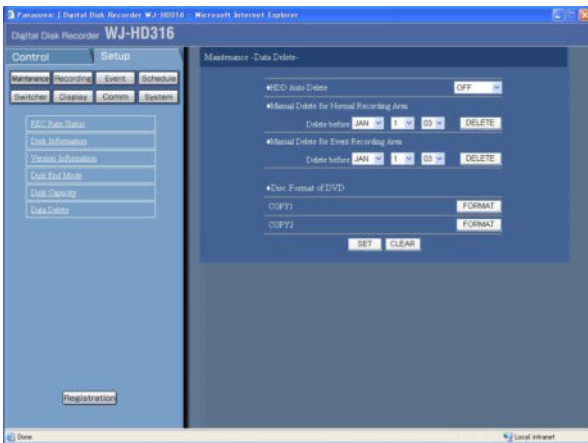


### Step 6

Click the [OK] button.

### Screenshot 7

The formatting status window will close and returns to the "Data Delete" menu.



### Step 7

Click the [Set] button.

# Display/edit the text information

It is possible to attach text information to images when recording.

Up to 200 characters including line feed for text information is possible. (Line feed character will be counted as two characters.)

These are the descriptions of how to display/edit the attached text information to images.

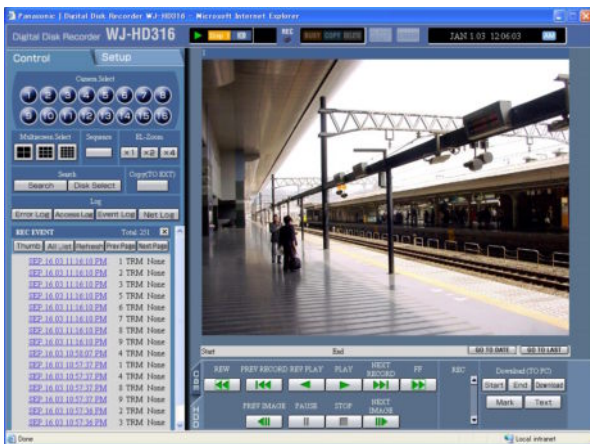
## Note:

Displaying/editing text information is possible during the following.

- While pausing playback on a single display
- While displaying the recording event list window (page 24)

## Screenshot 1

Start operation after starting playback of recorded images in a single screen.



## Step 1

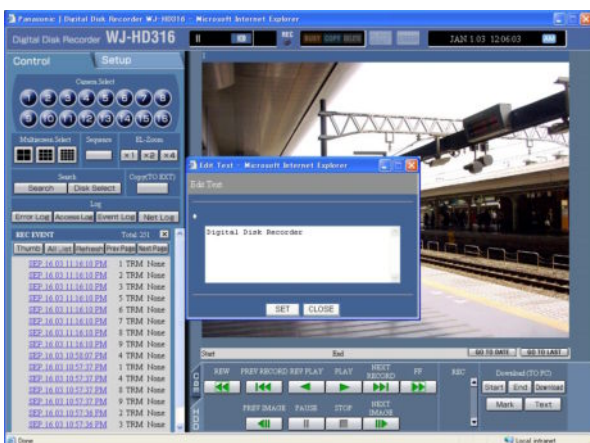
Pause playback by clicking the [Pause] button.

## Step 2

Click the [TEXT] button in the [HDD] tab.

## Screenshot 2

The [Edit Text] window will be displayed.



## Step 3

The text information attached to the recorded images will be displayed.

## Step 4

Edit text information

### • About available characters

The following alphanumeric characters can be entered.

ABCDEFGHIJKLMNOPQRSTUVWXYZ  
abcdefghijklmnopqrstuvwxyz01  
23456789!#\$%()'\*, -./: ;<=>?@[ \ ] ^ \_ ` } ~

## Step 5

Click the [SET] button.

→ The text information will be registered.

## Step 6

Click the [CLOSE] button.

→ The [Edit Text] window will close.

# Check logs

The following logs can be checked.

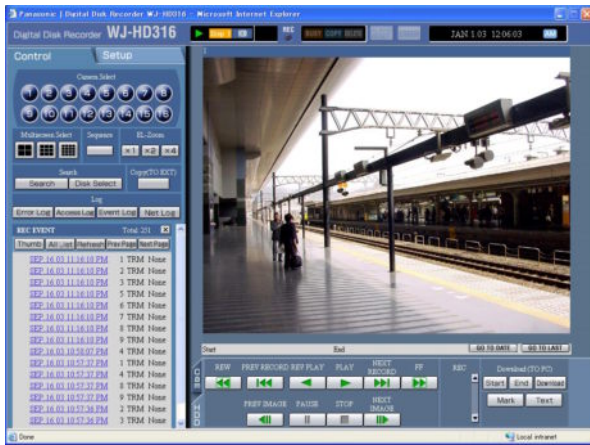
- Error log
- Access log
- Event log (event occurred time and details)
- Network trouble log

## Check the error log.

The error log will be displayed in list form.

### Screenshot 1

Start operation from the top page.

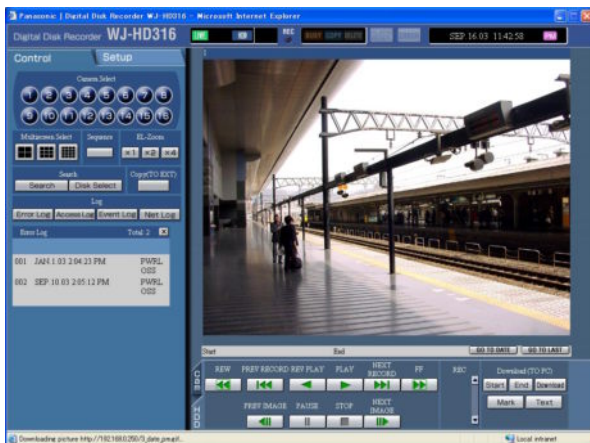


### Step 1

Click the [Error Log] button in the [Log] box of the [Control] tab.

### Screenshot 2

The error log (the error log window) will be displayed in list form below the [Control] tab.



### Step 2

Click the [X] button to close the error log window.



## About the error log

Indication	Description	Cause
AL*-YYMMDDhhmmss	Asterisk (*) indicates the camera channel number YYDDMMhhmmss indicates the played time when the alteration was detected.	Detects alteration
W-ERR X-Y	X indicates the unit/unit number that has the hard disk error Y indicates the disk number in the unit (unit number)	Failed to write data on the HDD
R-ERR X-Y	X indicates the unit/unit number that has the hard disk error Y indicates the disk number in the unit (unit number)	Failed to read data on the HDD
REMOVE X-Y	X indicates the unit/unit number that has the hard disk that has been removed from the subject for recording. Y indicates the disk number in the unit/unit number	Auto removal of the link
#-FULL	# indicates the partition name/external recording device port number	No available disk space
THERMAL -X	X indicates the unit/unit number in which the thermal error occurred	Thermal error
FAN X-Y	X indicates the unit/unit number Y indicates the fan number (1-4) Y will be left out if the malfunctioning fan is in the extension unit	The fan is malfunctioning
#-nn%	# indicates the partition name of the hard disk/external recording device nn indicates the available disk space	Warning that the disk space is running out
SMART X-Y	X indicates the unit/unit number that has the hard disk error Y indicates the unit/unit number	HDD SMART error
PWR LOSS		Detects a power outage
H.METER X-Y	X indicates the unit/unit number that has the hard disk error Y indicates the unit/unit number	Hour-meter warning
PROTECT -#	# indicates port number to which the external recording device is connected	Disk has the write protection
NO DISK -#	# indicates port number to which the external recording device is connected	Disk is not inserted

Indication	Description	Cause
MEDIUM -#	# indicates port number to which the external recording device is connected	Incompatible disk
UNFORMATTED -#	# indicates port number to which the external recording device is connected	Unformatted disk
W-ERR (MEDIUM-#)	# indicates port number to which the external recording device is connected	Failed to write data on the disk (CD-R, DVD-RAM, DVD-R)
PWR RECOVER	# indicates port number to which the external recording device is connected	Recover from a power outage

**Note:**

Up to 100 error logs can be kept. When more than 100 error logs are filed, the old error logs will be overwritten by new error logs. In this case, the oldest log is the first to be overwritten.

## Check the access log.

Information on logging on/out for this unit such as the time, user name, and IP address will be displayed.

### Screenshot 1

Start operation from the top page.

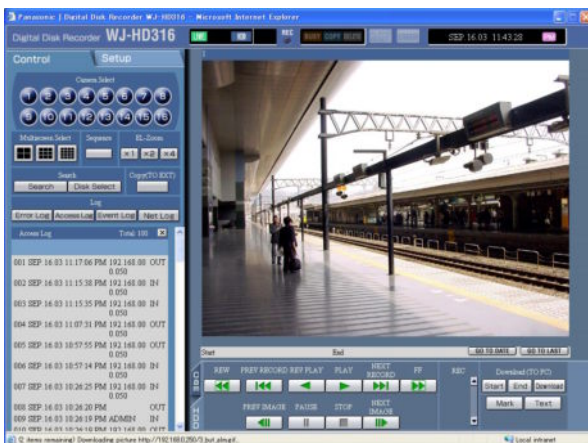


### Step 1

Click the [Access Log] button in the [Log] box of the [Control] tab.

### Screenshot 2

The access log (the access log window) will be displayed in list form below the [Control] tab.



\*\*IN: The user name or the IP address displayed before IN indicates the user/host logged in.

\*\*OUT: The user name or the IP address displayed before OUT indicates the user/host logged out.

\*\* : User name or host name

### Step 2

Click the [x] button to close the access log window.

### Note:

Up to 100 access logs can be kept. When more than 100 access logs are filed, old access logs will be overwritten by new access logs. In this case, the oldest log is the first to be overwritten.

## Check the event log.

The event log (event occurrence time and details) will be displayed in list form. Refer to page 42 for further information about each event.

### Screenshot 1

Start operation from the top page.

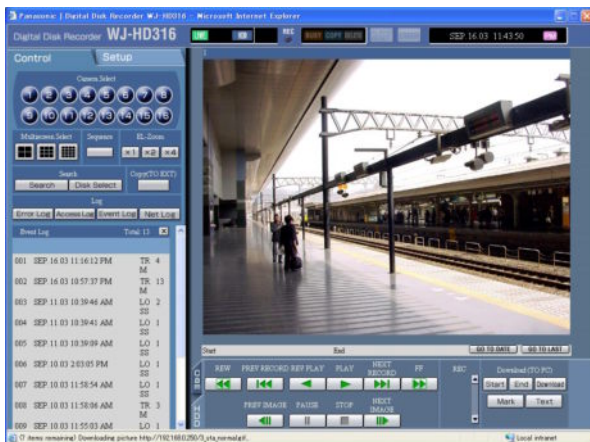


### Step 1

Click the [Event Log] button in the [Log] box of the [Control] tab.

### Screenshot 2

The event log (the event log window) will be displayed in list form below the [Control] tab.



### Indications for event log

COM:	Command alarm
EMR:	Emergency recording
LOSS:	Video Loss
TRM:	Terminal Alarm
VMD:	Motion detection alarm

### Step 2

Click the [X] button to close the event log window.

### Note:

Up to 750 event logs can be kept. When more than 750 event logs are filed, old event logs will be overwritten by new event logs. In this case, the oldest log is the first to be overwritten.

## Check the network trouble log.

The network log (network event) will be displayed in list form.

### Screenshot 1

Start operation from the top page.

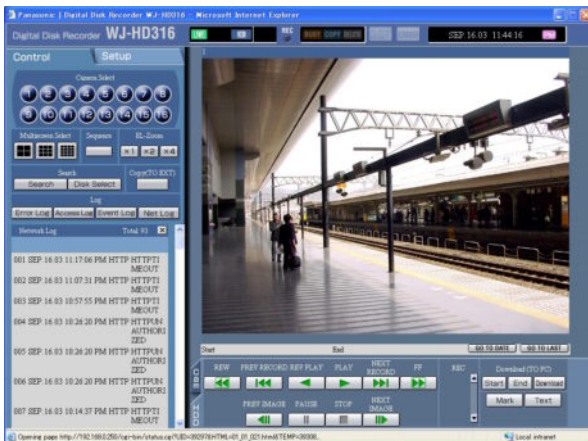


### Step 1

Click the [Net Log] button in the [Log] box of the [Control] tab.

### Screenshot 2

The network trouble log (the NW log window) will be displayed in list form below the [Control] tab.



### Step 2

Click the [x] button to close the NW log window.

### Note:

Up to 1 000 network trouble logs can be kept. When more than 1 000 network trouble logs are filed, old network trouble logs will be overwritten by new network trouble logs. In this case, the oldest log is the first to be overwritten.



## About the network trouble log

Indication	Description
SMTPMAIL_SEND	Send mail
SMTPATTEST_ERR	Authentication error
SMTPPOP3ADD_ERR	Failed to resolve POP3 server address from DNS
SMTPPOP3SVR_ERR	Failed to find POP3 server
SMTPSVRADD_ERR	Failed to resolve SMTP server address from DNS
SMTPSVR_ERR	Failed to find SMTP server
SMTPMAILFROM_ERR	MAIL FROM command error
SMTPRCPTTO_ERR	RCPT TO command error
SMTPOTHER	Other error for SMTP
FTPCLIENT_OK	Client transmission succeeded
FTPSVRFWD_OK	Server transmission succeeded
FTPSVRADD_ERR	Failed to resolve FTP server address from DNS
FTPSVR_ERR	Failed to find FTP server
FTPUPLOAD_ERR	FTP uploading error
FTPPASSIVE_ERR	Passive mode error
FTPLOGOUT_ERR	Failed to log out
FTPDIR_ERR	Failed to change directory
FTPOTHER	Other error for FTP
DDNSIPADDUIPDATE_OK	IP address updated
DDNSSVRRES_ERR	No response from the server
DDNSUSERPASS_ERR	Password error for user name
DNSIPADDUPDATE_OK	IP address updated
DNSOTHER	Other error for DNS
NTPGETTIME_OK	Synchronization with the NTP server succeeded
NTPSVRADD_ERR	Failed to resolve NTP server address from DNS
NTPSETTIME_ERR	Failed to synchronize with the NTP server
NTPSVRRES_ERR	No response from the server
NTPOTHER	Other error for NTP
SNMPSEND_OK	Transmission succeeded
SNMPUSERPASS_ERR	Password error for user name
SNMPOBJ_ERR	Failed to acquire SNMP object
SNMPOTHER	Other error for SNMP
DHCPIPADD_OK	Having IP address succeeded
DHCPIPADD_LOST	Lost IP address
DHCPIPADDUPDATE_ERR	Failed to update IP address xx%
DHCPIPADDENT_ERR	Failed to register IP address
DHCPOTHER	Other error for DHCP
HTTPLOGIN	Login
HTTPTIMEOUT	Timeout
HTTPUSERPASS_ERR	Error of user name/password
HTTPUSERPASS_ERR	Failed to download
HTTPUSERPASS_ERR	Invalid request
HTTPUSERPASS_ERR	No authority
HTTPOTHER	Other error for HTTP

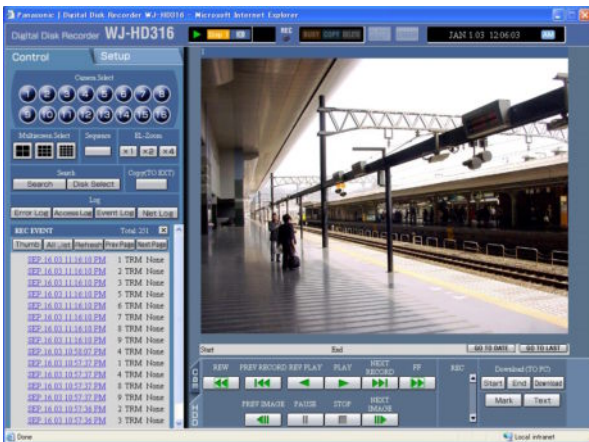
# Download recorded images

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

Recorded images will be downloaded as image data files (filename.h3r). Refer to page 65 for the descriptions of how to play the downloaded images.

## Screenshot 1

Start operation after starting playback of recorded images in a single screen.

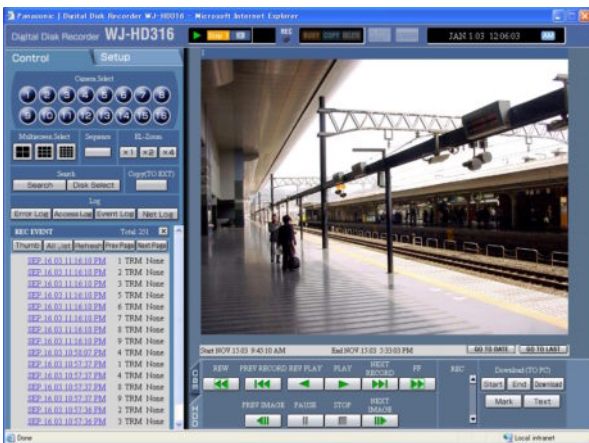


### Step 1

Click the [HDD] tab.

## Screenshot 2

The [HDD] page will be displayed.



### Step 2

Click the [Start] button in the [Download (TO PC)] box at the desired point of the image to be downloaded.

→ The time and date of the start point will be displayed in the playback position display area.

### Step 3

Click the [End] button in the [Download (TO PC)] box at the desired point of the image to be downloaded.

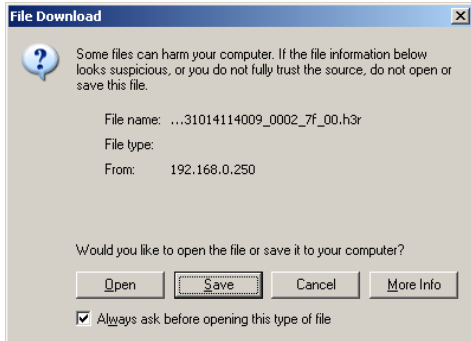
→ The time and date of the end point will be displayed in the playback position display area.

### Step 4

Click the [Download] button.

### Screenshot 3

The download window will be displayed.

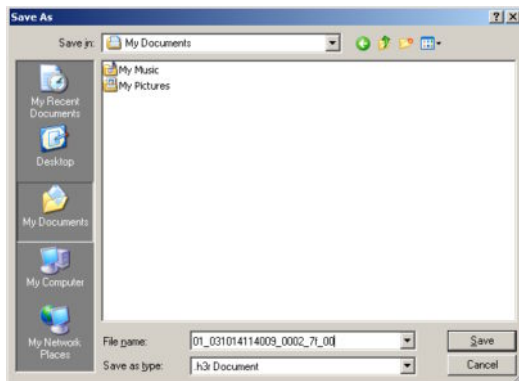


### Step 5

Click the [Save] button.

### Screenshot 4

The window designating a directory for the downloaded file will be displayed.



### Step 6

Create a new folder in a desired directory and click the [Save] button.  
→ The image data file (extension: h3r) will be downloaded.

# Download the viewer software

To play images downloaded to a PC (filename.h3r), use the viewer software.

The viewer software is included on the provided CD-ROM, but downloading of the viewer software is also available by using the [Viewer] button on the [HDD] tab in the operation window.

---

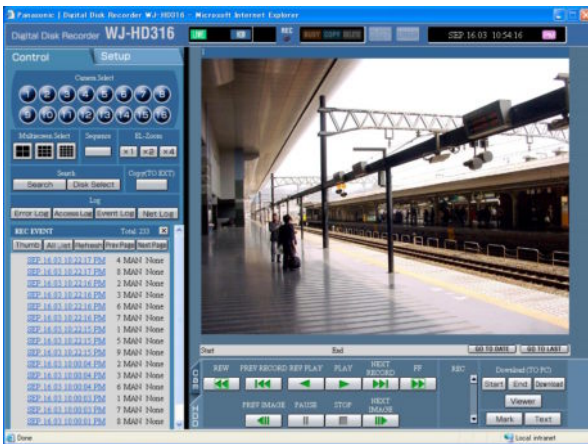
## Note:

The viewer software that can be downloaded using the [Viewer] button is the same viewer software as one on the provided CD-ROM.

---

## Screenshot 1

Start operation from the top page.

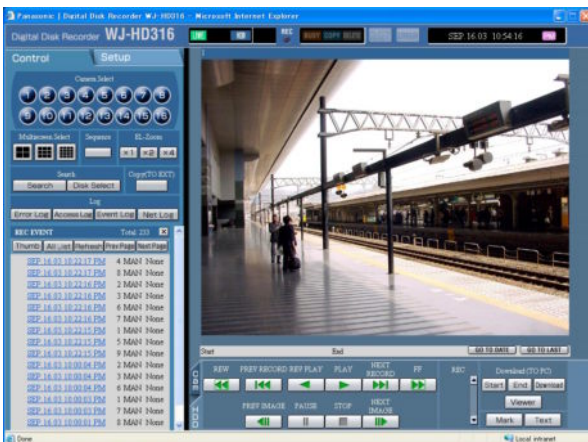


## Step 1

Click the [HDD] tab.

## Screenshot 2

The [HDD] tab will be displayed.

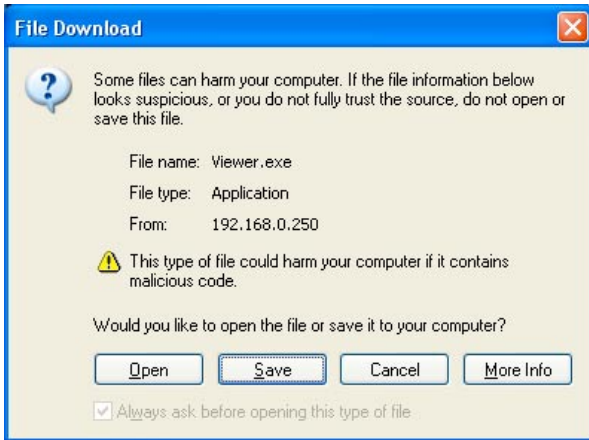


## Step 2

Click the [Viewer] button on the [HDD] tab.

### Screenshot 3

The "File Download" window will be displayed.

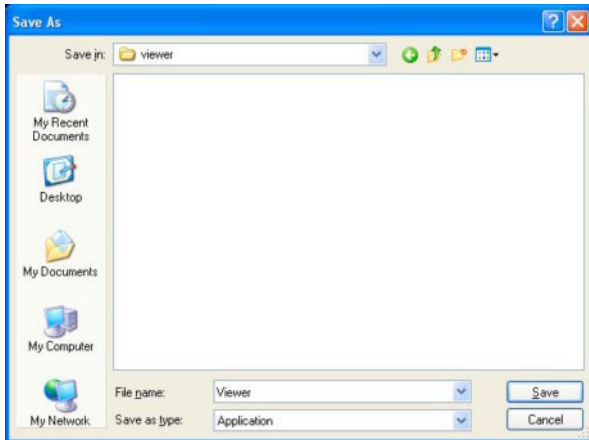


### Step 3

Click the [Save] button.

### Screenshot 4

The "Save As" window will be displayed.



### Step 4

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

→ The viewer software (viewer.exe) will be downloaded in the created folder.

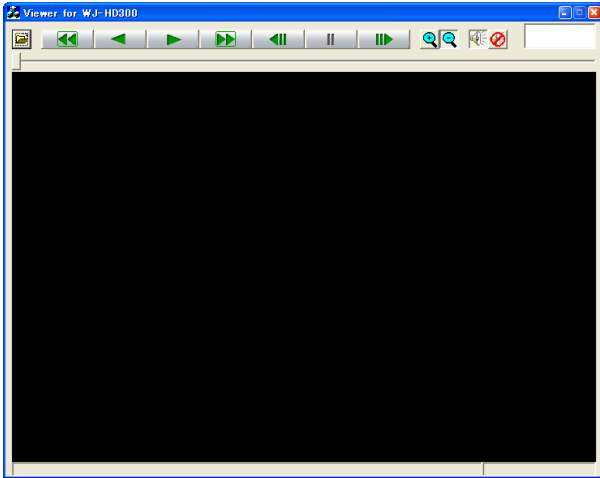


## Play downloaded images

Recorded images will be downloaded as image data files (filename.h3r). Use the viewer software on the provided CD-ROM to browse downloaded image data.

### Screenshot 1

Double click the viewer software on the provided CD-ROM to start up and display the following window.

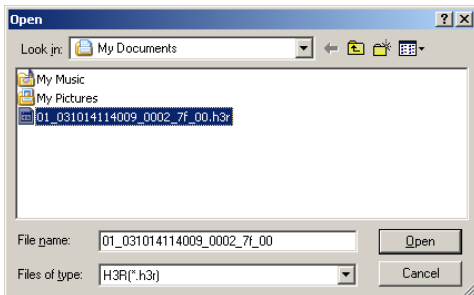


### Step 1

Click the [Open file] button.

### Screenshot 2

The [Open file] window will be displayed.



### Step 2

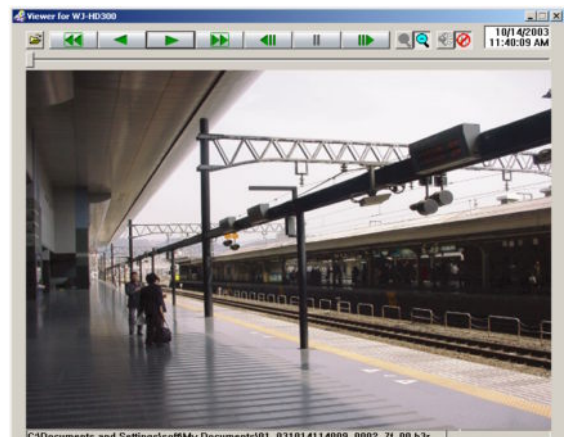
Select the downloaded image data file (filename.h3r).

### Step 3

Click the [Open] button.

### Screenshot 3

An image will be displayed and playback will start.



# Notification by e-mail

## Alarm mail notification

The following mail will be sent to notify of an alarm occurrence to a registered address when an alarm occurs.

In HD316 (192.168.0.250), alarm was occurred.  
Time and date: xxxx.xx.xx xx:xx:xx (Example Sep.24.02 12:00:00 AM)  
Cause of the alarm: Displays an event type and a camera channel or an alarm number (Example VMD5CH)  
File name of alarm image: The file name of the image attached to an e-mail:

It is possible to edit the contents of the alarm mail that notifies the event occurrence with the time and date of the event occurrence.

To edit the alarm mail, do the following.

### Step 1

Edit the contents using text editing software and save in the text format.

Depending on the item (time and date at an event occurrence, cause of alarm, host address, etc.) to be displayed, the characters to be entered will be different. Refer to the following list of characters to be replaced when editing the contents of the mail. Save the edited mail contents as the file name of "almmail.tmp".

### Step 2

Start up the FTP software and enter the IP address of the unit to connect to that unit.

Enter the user name and password as follows.

User Name: ADMIN

Password: Password entered for ADMIN on the SETUP MENU. (The default password is 12345.)

Refer to a system administrator for further information about the settings of user name and password.

### Step 3

Transfer the edited file (almmail.tmp) in the text format.

The directory to be sent is as follows.

/user/HD300/USER\_DATA

---

## List of characters to be replaced

Item to be displayed	Display style of entered characters	Example
Year when the event occurred (4 digits)	#05000000	4 digits display (2002 - 2099)
Month when the event occurred (number)	#05000100	2 digits display (01 – 12)
Month when the event occurred (number)	#05000200	Displays first 3 letters (Jan, Feb ... Dec)
Day when the event occurred	#05000300	2 digits display (01 – 31)
Time when the event occurred	#05000400	24-hour display (15:00:00)
Mail address of the sender	#05000500	
Host name of HD316	#05000600	
IP Address of HD316	#05000700	192.168.0.250
Cause of the alarm	#05000800	Terminal: Terminal VMD: VMD Command: Command
Alarm number	#05000900	4 digits Number 2 digits (01 – 32) + CH
File name of the alarm image	#050010000	xx_ALMyymmddhhmmss.GO4 Remain blank when no alarm image exists. xx: Camera channel number yymmdd: Time and date when the alarm occurred hhmmss: Time (hour, minute, second) when the alarm occurred

---

# Problem mail notification

The following mail will be sent to notify of a trouble occurrence to a registered address when a trouble occurs.

WJ-HD316 (192.168.0.250) STATUS REPORT.  
 DATE: Apr.27.01 10:14:21  
 STATUS: VIDEO-LOSS 1CH  
 LOG URL: http://192.168.0.250/

Display	Description
DATE	Time and date when the trouble occurred will be displayed.
STATUS	<p>The description of a trouble will be displayed.</p> <p>Thermal trouble: THERMAL ERROR</p> <p>Alteration detection: ALTERED</p> <p>HDD smart warning: DISK WARNING XX            XX indicates disk number.            MAIN-*: this unit * disk number            MAIN-*: expansion unit number * disk number</p> <p>HDD Capacity warning*<sup>1</sup>: &lt;except FULL&gt;            HDD CAPACITY REMAINS * * %            * * indicates set value (%) - 0            &lt;FULL&gt;            HDD IS FULL</p> <p>HDD hour meter warning: HDD HOUR METER WARNING</p> <p>Power outage detection: POWER LOSS</p> <p>Remove auto links: XX IS LOGICALLY REMOVED</p> <p>Video loss: VIDEO-LOSS *CH "*" indicates a camera channel"</p> <p>Other troubles: UNDEFINED ERROR</p>
LOG URL	URL of this unit

\* 1: HDD capacity warning

A problem mail with the contents of <except FULL> will be sent when the available disk space becomes less than the set value for "Capacity warning" in the "Maintenance" menu. After a problem mail is sent, a problem mail with the <except FULL> content will be sent each time 1% of the available disk space is reduced, and a problem mail with the <FULL> content will be sent when there is no available disk space.

**Note:**

- It is impossible to edit a problem mail.

# About error mail

An error mail with the following contents will be sent to a registered address when the available hard disk space of the copy area or an external recording disk (DVD-RAM disk, DVD-R disk, CD-R disk) is less than the set level, or when the disk has no available disk space.

WJ-HD316 (192.168.0.250) INFORMATION REPORT.

DATE: Apr.27.01 10:14:21  
INFORMATION: HDD-COPY CAPACITY REMAINS 10%  
LOG URL: http://192.168.0.10/

Display	Description
DATE	Time and date when an error occurred will be displayed.
STATUS	The description of the capacity warning will be displayed. <except FULL> HDD - CAPACITY REMAINS * * % ** : indicates set value (%) - 0 <FULL> HDD - COPY IS FULL When a DVD - RAM, DVD - R or CD - R is used, replace "HDD - COPY" with COPY1/COPY2. (Describe the COPY port number being used)
LOG URL	URL of this unit

## HDD capacity warning

A problem mail with the <except FULL> content will be sent when the available disk space becomes less than the set value for "Capacity warning" in the "Maintenance" menu. After a problem mail is sent, a problem mail with the <except FULL> content will be sent each time 1% of the available disk space is reduced, and a problem mail with the <FULL> content will be sent when there is no available disk space.

---

### Note:

- It is impossible to edit a problem mail.
-



# Troubleshooting

Before asking for repairs, check the symptoms with the following table.

Refer to the dealer if the respective solutions can not solve the problems or the symptom is not described in the following table.

Symptom	Cause/solution	Reference pages
Can not access from the browser.	<ul style="list-style-type: none"> <li>Is the Ethernet cable connected to the 10/100BASE-T port firmly? Confirm the cable is connected firmly.</li> </ul>	-
	<ul style="list-style-type: none"> <li>Is the connection indicator of the 10/100BASE-T 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 10/100BASE-T port is lit. Refer to a system administrator if it is not lit.</li> </ul>	-
	<ul style="list-style-type: none"> <li>Is the valid IP address set? Refer to a system administrator for further information.</li> </ul>	Refer to the Network Setup Instructions on the provided CD-ROM.
	<ul style="list-style-type: none"> <li>Aren't you accessing the wrong IP address? Check the connection as follows: &gt;ping "IP address of this unit" If there is reply from this unit, the connection is normal. If not, check the settings of the IP address and the subnet mask.</li> </ul>	-
	<ul style="list-style-type: none"> <li>Isn't the same IP address provided to other devices? Refer to a system administrator for further information.</li> </ul>	Refer to the Network Setup Instructions on the provided CD-ROM.
	<ul style="list-style-type: none"> <li>Aren't there contradictions between the address and the network subnet to be accessed? Or isn't "Use Proxy Server" for the setting of the browser checked? When accessing this unit in the same subnet, entering the address of this unit in the "Don't Use Proxy For These Addresses" box is recommended.</li> </ul>	Refer to the Network Setup Instructions on the provided CD-ROM.

Symptom	Cause/solution	Reference pages
The image is not refreshed.	<ul style="list-style-type: none"> <li>Depending on the traffic of the network, there might be difficulties in displaying images. Press the [F5] button on the keyboard to request images.</li> </ul>	-
Can not close the authentication window displayed when displaying the basic operation window.	<ul style="list-style-type: none"> <li>Are the correct user name and password entered? Confirm the correct user name and password.</li> </ul>	Refer to the Network Setup Instructions on the provided CD-ROM.

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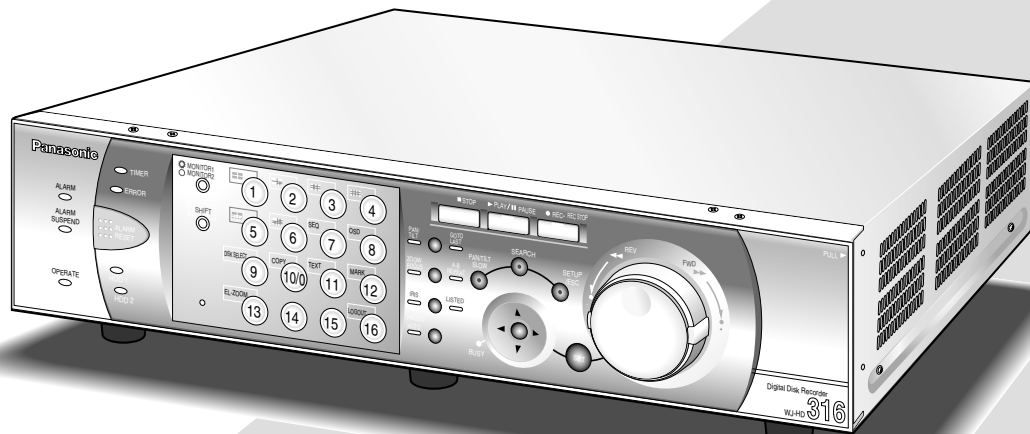
San Gabriel Industrial Park 65th Infantry Ave. KM. 9.5 Carolina,  
P.R. 00985 (809)750-4300

# Panasonic®

## Digital Disk Recorders Operating Instructions

### WJ-HD309

Model Nos. **WJ-HD316**

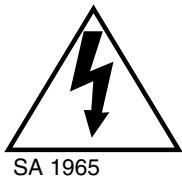


Before attempting to connect or operate this product,  
please read these instructions carefully and save this manual for future use.

# ENGLISH VERSION

**Caution:**

Before attempting to connect or operate this product, please read the label on the bottom.



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.



Power disconnection. Unit with or without ON-OFF switches have power supplied to the unit whenever the power cord is inserted into the power source; however, the unit is operational only when the ON-OFF switch is in the ON position. The power cord is the main power disconnect for all units.

For U.S.A

**NOTE:** This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.

Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

**FCC Caution:** To assure continued compliance, (example - use only shielded interface cables when connecting to computer or peripheral devices). Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

The serial number of this product may be found on the bottom of the unit.

You should note the serial number of this unit in the space provided and retain this book as a permanent record of your purchase to aid identification in the event of theft.

Model Nos. \_\_\_\_\_

Serial No. \_\_\_\_\_

**WARNING:** To prevent fire or electric shock hazard, do not expose this appliance to rain or moisture. The apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on the apparatus.



# IMPORTANT SAFETY INSTRUCTIONS

- 1) Read these instructions.
- 2) Keep these instructions.
- 3) Heed all warnings.
- 4) Follow all instructions.
- 5) Do not use this apparatus near water.
- 6) Clean only with dry cloth.
- 7) Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- 8) Do not use near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- 9) Do not misuse the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- 10) Protect the power cord from being stepped on or pinched particularly at plugs, convenient receptacles and the points where they exit from the apparatus.
- 11) Only use attachments/accessories specified by the manufacturer.
- 12) Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-overs.



- 13) Unplug this apparatus during lightning storms or when unused for long periods of time.
- 14) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as when the power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

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# PREFACE

The Digital Disk Recorders WJ-HD316/309 are designed for use within a surveillance system and are a combination of a hard disk recorder and a video multiplexer (16-input for the WJ-HD316, 9-input for the WJ-HD309).

The digital hard disk recorder is a recording device using a hard disk drive to record camera pictures instead of using videotapes so that pictures recorded by repeated overwriting will not cause deterioration of the recorded picture quality. Up to 16 cameras can be connected to the WJ-HD316

directly (up to 9 cameras to the WJ-HD309) and it is possible to record their camera pictures. It is also possible to display four or more camera pictures on a single monitor, to switch camera pictures, and to operate cameras using this unit.

# FEATURES

## Various Recording Functions

### • Multi-Recording

It is possible to perform multiple recording using a single digital disk recorder even if the operating environments are different, for example, recording pictures of cameras in different places at different times.

### • Schedule recording

It is possible to perform recording automatically at a scheduled time on a designated day of the week. Schedules can be set on each camera.

### • Emergency Recording

In case of emergency, emergency recording will be given a higher priority than other recording modes by operating an external switch.

### • External Timer Recording

It is possible to perform recording automatically using an external timer.

### • Event Recording

At an event occurrence, such as when an alarm signal is supplied, the recording mode (quality and recording rate) can be changed to high quality to record pictures.

### • Motion Detection Function (VMD)

It is possible to start recording automatically when motion is detected in a shooting area.

## Frame Switcher Function

- It is possible to display pictures of four or more cameras on a single monitor (multi-screen) splitting the monitor screen into 4, 7, 9, 10, 13, or 16 sections using the WJ-HD316, and into 4, 7, or 9 sections using the WJ-HD309.

While monitoring a multi-screen, each camera picture will be displayed as a moving image.

## Remote Operation via Network

It is possible to operate this unit using a PC connected to a LAN (Local Area Network) or the Internet by the featured network function.

## Security Function and Reliability

- Authentication function (registration of ID and password) allows users access to a predetermined selection of the available functions. Up to 32 users can be registered.
- If alteration of a recorded image data is made for any reason, the alteration alert function will announce it.
- If a hard disk crashes, the backup function<sup>\*1</sup>, the mirroring function<sup>\*2</sup> and the RAID 5 function<sup>\*3</sup> prevent there being any data loss.

<sup>\*1</sup>: Only when the recommended DVD-RAM drive, DVD-R drive or CD-R drive is used

<sup>\*2</sup>: The mirroring function does not work with an external hard disk drive such as an extension unit.

<sup>\*3</sup>: To use the RAID 5 function, an optional extension unit is required.

## Transmission with Coaxial Cable, PS-Data and RS485 Compatible

- It is possible to control a Panasonic combination camera such as the WV-CS850 using only a coaxial cable but not other devices. Using a coaxial cable also compensates for transmission loss.
- It is easy to establish the surveillance system by connecting a PS-Data compatible system controller and peripherals.

# PRECAUTIONS

- **Refer all work related to the installation of these products to qualified service personnel or system installers.**

- **Do not operate the appliances beyond their specified temperature, humidity, or power source ratings.**

Use the appliance at temperatures within +5 °C - +45 °C (41 °F - 133 °F) and humidity below 85 %.

The input power source for this appliance is 120 V AC 60 Hz.

- **Handle the appliance with care.**

Do not strike or shake, as this may damage the appliance.

- **Do not strike or give a strong shock to the unit.**

It may cause damage or allow water to enter the unit.

- **Built-in backup battery**

Before the first use, charge the built-in backup battery by turning on the power for 48 hours or more.

If it is not charged enough, in a case where the power goes down, the internal clock may keep bad time or the operative condition may be different to that before the electric power failure.

The built-in battery life is approximately 5 years. Ask the shop where you purchased the unit when replacement of the battery is required.

- **Cooling Fan**

Turn the power off when cleaning the unit. Otherwise it may cause injuries.

Replacement costs of the cooling fan are not covered by the warranty even if it needs to be done within the warranty period. Consult your dealer for servicing.

- **Cleaning**

Turn the power off when cleaning the unit. Otherwise it may cause injuries.

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

Use a dry cloth to clean the appliance when it is dirty.

When the dirt is hard to remove, use a mild detergent and wipe gently.

- **Built-in hard disk drives**

Hard disk drives are vulnerable to vibration. Handle them with care.

It is possible to damage them if they are moved while their motors are still running. Do not move them just after turning the power of them on or off (for around 30 seconds).

Hard disk drives are perishable. They will need to be replaced after around 30 000 hours of operation in case they are used at temperature of 25 °C (77 °F).

Replacement costs of the hard disk drives are not covered by the warranty even if it needs to be done within the warranty period. Consult your dealer for servicing.

Set all the hard disk drives as master using the jumper pin. Refer to the diagram attached on the HDD or the operating instructions of the HDD for the jumper pin assignment.

When hard disk drive trouble occurs, replace it immediately. Consult your dealer for servicing.

When replacing the hard disk drives, take notice that the following.

Do not detach the hard disk drives or the cables connecting the unit and the front cover while the HDD1/HDD2 indicators are lit or for around 30 seconds after the indicators go off.

Protect the hard disk drives from static electricity.

Do not stack them, or keep them upright.

Do not use an electric screwdriver to fix them. (Tightening torque: Approx. 0.49 N · m (5 kgf · cm))

Avoid rapid changes of the temperature/humidity to prevent condensation. (Acceptable change: within 15 °C/h (59 °F/h))

- **Indication label**

Refer to the indication label placed on the bottom of the unit as to the indications of equipment classification and power source, etc.

- Avoid placing receptacles that contain liquids such as water near the unit.

If liquid spills onto the unit, it may cause fire or an electric shock.

- Do not expose the unit to water or moisture, or try to operate it in wet areas.

- Prevent condensation from forming on the surface of the hard disk.

Wait until the dew evaporates in any of the following cases.

The recorder is moved to a place significantly different in temperature or humidity.

The recorder is moved out of an air-conditioned room.

The recorder is placed in an extremely humid place.

The recorder is placed in a room where a heater has just been turned on.

- We recommend that you make a note of your settings and save them. This will help when you are required to change the system configuration, or when unexpected trouble or failure occurs.

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- Distributing, copying, disassembling, reverse compiling, reverse engineering, and also exporting in violation of export laws of the software provided with this product, is expressly prohibited.

### About These Operating Instructions

There are 3 operating instructions for the WJ-HD316/WJ-HD309 as follows.

- Operating Instructions (book, these operating instructions)
- Network Operating Instructions (pdf)
- Network Setup Instructions (pdf)

These "Operating Instructions" contain descriptions of how to operate this unit with the buttons on the front panel.

Refer to the "Network Operating Instructions" on the provided CD-ROM for descriptions of how to operate this unit from a PC.

Refer to the "Network Setup Instructions" on the provided CD-ROM for descriptions of how to perform the required settings and how to connect to other devices.

Adobe® Reader is required to read these operating instructions (pdf) 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.

## LIMITATION OF LIABILITY

IN NO EVENT SHALL MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD. BE LIABLE TO ANY PARTY OR ANY PERSON, EXCEPT FOR REPLACEMENT OR REASONABLE MAINTENANCE OF THE PRODUCT, FOR THE CASES, INCLUDING BUT NOT LIMITED TO BELOW:

(1) ANY DAMAGE AND LOSS, INCLUDING WITHOUT LIMITATION, DIRECT OR INDIRECT, SPECIAL, CONSEQUENTIAL OR EXEMPLARY, ARISING OUT OF OR RELATING TO THE PRODUCT;

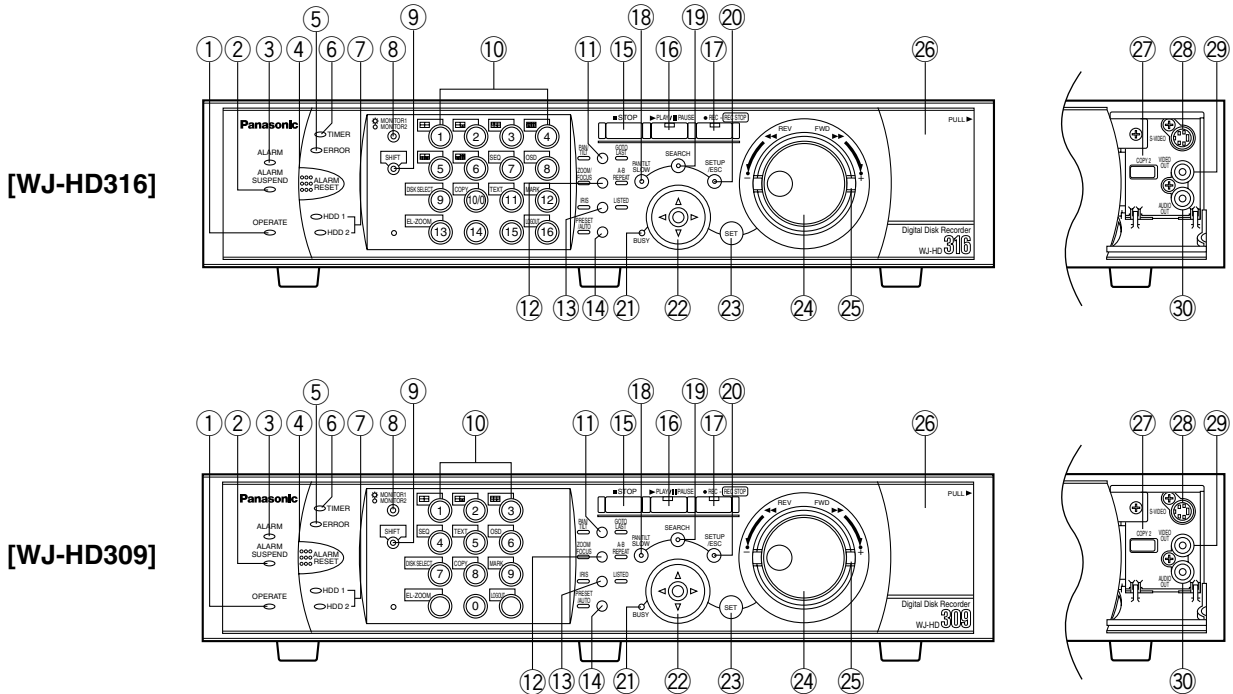
(2) PERSONAL INJURY OR ANY DAMAGE CAUSED BY INAPPROPRIATE USE OR NEGLIGENT OPERATION OF THE USER;

(3) UNAUTHORIZED DISASSEMBLE, REPAIR OR MODIFICATION OF THE PRODUCT BY THE USER;

(4) ANY PROBLEM, CONSEQUENTIAL INCONVENIENCE, OR LOSS OR DAMAGE, ARISING OUT OF THE SYSTEM COMBINED BY THE DEVICES OF THIRD PARTY.

# MAJOR OPERATING CONTROLS AND THEIR FUNCTIONS

## ■ Front View



- ① **Operate Indicator (OPERATE)**  
Lights up when the power is turned on.
- ② **Alarm Suspension Indicator (ALARM SUSPEND)**  
Lights up when the alarm suspension mode is selected.
- ③ **Alarm Indicator (ALARM)**  
Blinks when an alarm occurs, and lights steadily when the activated alarm is reset automatically.  
To turn this indicator off, press the ALARM RESET button.
- ④ **Alarm Reset Button (ALARM RESET)**  
Pressing this button cancels alarm activation, and returns the system to the condition before the alarm was activated.
- ⑤ **Error indicator (ERROR)**  
Blinks orange when an error occurs that will not keep the unit from running .  
Blinks red when an error occurs that may cause the system to go down.
- ⑥ **Timer Indicator (TIMER)**  
Lights up when the schedule recording is set, and blinks while the schedule recording is being performed.
- ⑦ **HDD Access Indicators (HDD1/HDD2)**  
Blinks when the HDD1 or the HDD2 is accessed respectively.
- ⑧ **Monitor Switch button (MONITOR1/MONITOR2)**  
Pressing this button switches the monitor. This button lights up when monitor 1 is selected, and goes off when monitor 2 or the VGA monitor is selected.
- ⑨ **Shift Button (SHIFT)**  
Toggles the functions of the camera selection buttons.
- ⑩ **Camera Selection Buttons ([1] - [10/0], [11] - [16] for the WJ-HD316, [1] - [9], [0] for the WJ-HD309)**  
Pressing a button displays live or playback images of the selected camera. The LED in the button indicates the status as follows.  
**Green:** When a button is lit green, the currently displayed image on the monitor is live from a respective camera.  
**Orange:** When a button is lit orange, the image from a respective camera is recorded.  
**Blue:** When a button is lit blue, the currently displayed image on the monitor is live from a respective camera and is also recorded.



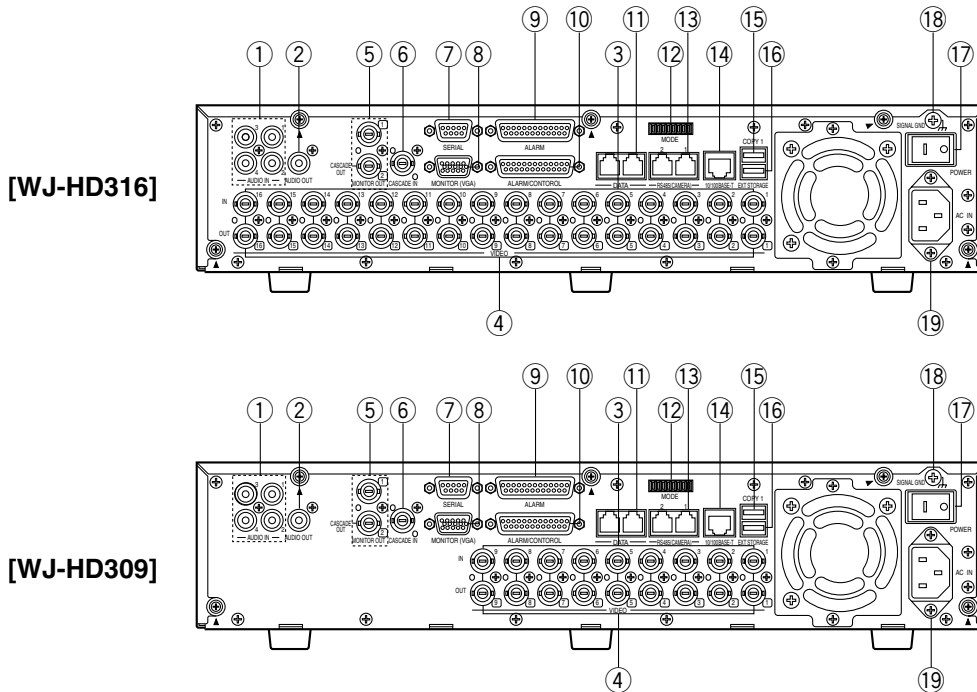
When the shift button is lit, these buttons work as the toggled function buttons.

(The buttons available as the toggled function buttons will light green when the shift button is lit.)

- ⑪ **Pan, Tilt, Latest Recorded Image Playback Button (PAN/TILT, GO TO LAST)**  
Pans/tilts a selected camera, or plays back the latest recorded image.  
(Refer to page 41 and 23 respectively.)
- ⑫ **Zoom, Focus, A - B Repeat Button (ZOOM/FOCUS, A-B REPEAT)**  
Zooms in/out, adjusts focus, or repeats playback of recorded images between two designated points.  
(Refer to page 41 and 24 respectively.)
- ⑬ **Iris, Listing Button (IRIS, LISTED)**  
Adjusts iris, or enables/disables the filtering playback.  
(Refer to page 42 and 28 respectively.)
- ⑭ **Preset, Auto Pan Button (PRESET/AUTO)**  
Moves a camera to the preset position, or activates the auto pan operation.  
(Refer to page 42 and 44 respectively.)
- ⑮ **Stop Button (STOP)**  
Stops playback.
- ⑯ **Play/Pause Button (PLAY/PAUSE)**  
Plays recorded images, or pauses playback.
- ⑰ **Record Button (REC/REC STOP)**  
Starts recording. To stop recording, press this button down for 2 seconds or more.
- ⑱ **Slow Button (SLOW)**  
Pans/tilts a selected camera slowly.
- ⑲ **Search Button (SEARCH)**  
Displays the searching menu.
- ⑳ **Setup, Escape Button (SETUP/ESC)**  
Displays the setup menu, or cancels operation on the setup menus, etc.
- ㉑ **Busy Indicator (BUSY)**  
Lights when a selected camera is not available to operate because another user is operating it using a controller or a PC via a network. In this case, wait until this indicator goes off.
- ㉒ **Arrow Buttons (▼▲◀▶)**  
Adjusts zooming/focus, or moves the cursor on the setup menus and the searching menu.

- ㉓ **Set Button (SET)**  
Works differently depending on the situations listed below:
  - Plays recorded images at the current playback speed when this button is pressed during fast playback.
  - Registers preset positions of cameras.
  - Activates the auto focus function.
  - Sets the alarm suspension mode on/off.
  - Determines the setting of parameters on the setup menus.
- ㉔ **Jog Dial**  
Works differently depending on the situations as follows:
  - Plays recorded images frame by frame when this dial is rotated during pausing playback.
  - Skips playback time when this dial is rotated during playback at normal speed.
  - Moves the cursor on the searching menu or the thumbnail menu.
  - Selects a parameter setting or a character on the setup menus.
- ㉕ **Shuttle Ring**  
Works differently depending on the situations as follows:
  - Plays fast when this dial is rotated during playback at normal speed.
  - Turns the searching menu pages or the thumbnail menu pages.
- ㉖ **Connectors Cover**
- ㉗ **Copy Port (COPY2)**  
Connect a recommended DVD-RAM drive, CD-R drive or DVD-R drive with this port.
- ㉘ **S-Video Output Connector (S-VIDEO)**  
Connect the S-video input connector of a VCR with this connector. The same video signal supplied to the MONITOR OUT2 connector on the rear panel will be supplied to this connector.
- ㉙ **Video Output Connector (VIDEO OUT)**  
Connect the video input connector of a VCR with this connector. The same video signal supplied to the MONITOR OUT2 connector on the rear panel will be supplied to this connector.
- ㉚ **Audio Output Connector (AUDIO OUT)**  
This connector, for an RCA standard jack, supplies an unbalanced -10 dBV, 600 Ω line output audio signal to an external device.  
Recorded audio will be supplied from this connector during playback.  
The same audio signal supplied to the AUDIO OUT connector on the rear panel will be supplied to this connector.

## ■ Rear View



### ① Audio Input Connectors (AUDIO IN 1 - 4)

These connectors, for RCA pin jacks, accept an unbalanced  $-10$  dBV,  $10\text{ k}\Omega$  line input audio signal supplied from an external device such as a microphone amplifier.

### ② Audio Output Connector (AUDIO OUT)

This connector, for an RCA standard jack, supplies an unbalanced  $-10$  dBV,  $600\ \Omega$  line output audio signal to an external device. Recorded audio will be supplied from this connector during playback.

### ③ Video Input Connectors (CAMERA IN 1 - 16 for the WJ-HD316/CAMERA IN 1 - 9 for the WJ-HD309)

Connect system cameras or combination cameras to these BNC connectors. A  $75\ \Omega$  termination is made unless the video output terminal is connected. To connect combination cameras, connect them to the CAMERA IN 1 - 8 connectors of the WJ-HD316, or the CAMERA IN 1 - 6 of the WJ-HD309 (accept connection with coaxial cables).

### ④ Video Output Connectors (CAMERA OUT 1 - 16 for the WJ-HD316/CAMERA OUT 1 - 9 for the WJ-HD309)

These BNC connectors supply video signals looped through the video input connectors.

**Note:** Video signals will not be supplied from the CAMERA OUT 1 - 8 connectors (CAMERA OUT 1 - 6 connectors for the WJ-HD309) if the power of the unit is off.

### ⑤ Monitor Output Connector (MONITOR OUT1, MONITOR OUT2/CASCADE OUT)

Connect monitors to these BNC connectors. The MONITOR OUT2 connector can also be used as the CASCADE OUT connector. When using two or more units of the WJ-HD316/WJ-HD309 and using the MONITOR OUT2 connector as the CASCADE OUT connector, connect with the CASCADE IN connector of another WJ-HD316/WJ-HD309.

### ⑥ Cascade In Connector (CASCADE IN)

Connect with the CASCADE OUT connector of another WJ-HD316/WJ-HD309 when using two or more units of the WJ-HD316/WJ-HD309.

### ⑦ Serial Connector (SERIAL)

Connect a PC with this D-Sub 9-pin connector when controlling this unit.

### ⑧ Monitor Connector (MONITOR (VGA))

Connect a VGA monitor with this connector. The same video signal supplied to the MONITOR OUT2 connector will be supplied to this connector.

### ⑨ Alarm Connector (ALARM)

Connect an external device such as a sensor or a door switch with this D-Sub 25-pin connector.

### ⑩ Alarm/Control Connector (ALARM/CONTROL)

Connect a control switch with this D-Sub 25-pin connector when controlling this unit using an external device, or when controlling an alarm device such as a buzzer or a lamp.

⑪ **PS-Data Ports (DATA)**

Connect PS-Data compatible devices with these ports.

⑫ **Mode Switches (MODE)**

Set the operation mode of this unit with these dip switches.

⑬ **RS485 Ports (RS485 (CAMERA))**

Connect RS485 compatible combination cameras with these ports.

⑭ **Network Port (10/100BASE-T)**

Connect this unit to a network compatible with 10BASE-T or 100BASE-Tx when controlling this unit using a PC via a network.

⑮ **Copy Port (COPY1)**

Connect a recommended DVD-RAM drive, CD-R drive or DVD-R drive with this port.

⑯ **Extra Storage Port (EXT STORAGE)**

Connect an optional extension unit (WJ-HDE300) with this port.

⑰ **Power Switch (POWER)**

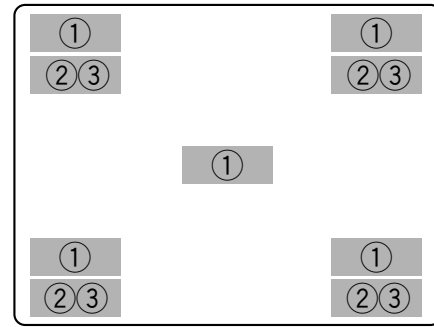
Turns the power of this unit on and off.

⑱ **Signal Ground Terminal (SIGNAL GND)**

⑲ **Power Cord Inlet (AC IN)**

Connect the power cord to this inlet.

## ■ On the Monitor 1 (To display only live image)



### 1. Camera Title

Displays the edited camera title.

A position to display a camera title can be selected from the following.

Upper left, upper right, lower left, lower right, center

The default camera title position is lower right (R-LOWER).

### 2. Time

Displays the current time (hour:minute:second) and date (month:day:year).

A position to display the time can be selected from the following.

Center, upper left, lower left, upper right, lower right

The default time display position is lower left (L-LOWER).

**Note:** When the camera title and the time display are layered, only the time display will be displayed.

### 3. Alarm Display

When an alarm has occurred, an alarm display will be displayed.

The alarm display will be displayed differently as follows depending on which alarm has occurred.

**VMD-#:** When motion is detected.

**LOSS-#:** When video loss has occurred.

**COM-#:** When a command alarm has occurred.

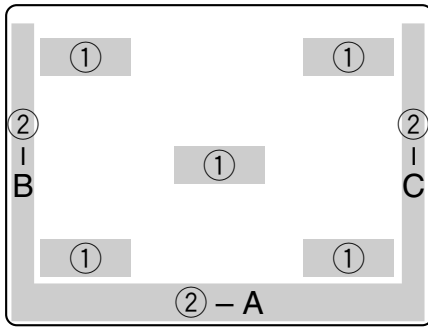
**TRM-#:** When a terminal alarm has occurred.

\*: Camera number (1 - 16 for the WJ-HD316, 1 - 9 for the WJ-HD309)

#: Event number

**Note:** Refer to page 45 for further information about event types and event actions.

## ■ On the Monitor 2 (To display live or recorded image)



**Note:** Refer to page 45 for further information about event types and event actions.

### Important:

Since the VGA output from this unit is the same as for televisions (720 H x 480 V pixels/vertical frequency of 59.94 Hz), it may be possible that both the left and right edges can not be fit onto the screen depending on the VGA monitor.

### 1. Camera Title

Displays the edited camera title.

A position to display a camera title can be selected from the following.

Upper left, upper right, lower left, lower right, center

The default camera title position is lower right (R-LOWER).

### 2. Task Bar

Displays the current status.

The task bar consists of the main bar ((2) - A), the left bar ((2) - B), and the right bar ((2) - C).

There are 3 different ways to display the task bar as follows.

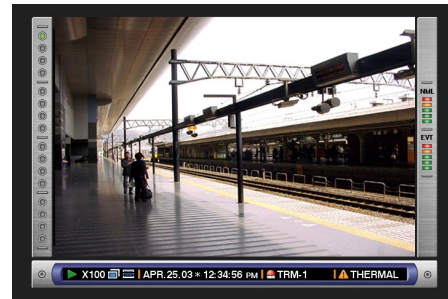
#### Mode 1

Displays only the main bar and the status is displayed on it.



#### Mode 2

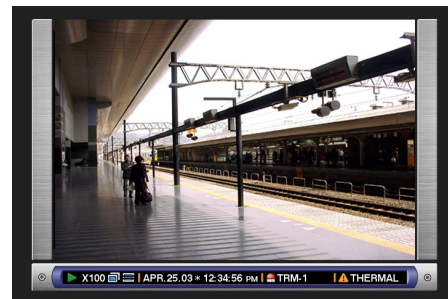
Displays the status on the main bar, the left bar and the right bar.



#### Mode 3

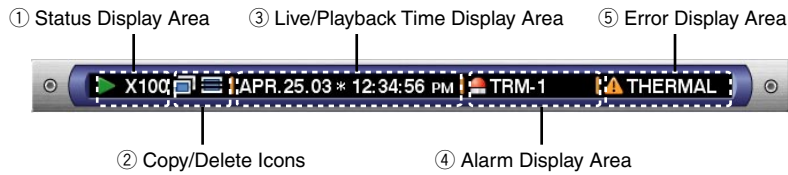
Displays the status only on the main bar, and does not display information on the left bar and the right bar.

**Note:** Mode 2 and Mode 3 are graphic images. They may not be as clear as Mode 1.



## ● Status on the Task Bar

### • On the Main Bar



#### ① Status Display Area

Indicated Item	Status	Indication
Live	Indicates live image display status	: Live image is displayed : Live images are displayed sequentially
Playback	Indicates that playback is currently being performed with the displayed playback speed	: Currently playing : Currently playing in reverse : Currently pausing : Currently playing at fast speed : Currently playing in reverse at fast speed
Recording	Indicates that recording is currently being performed	: Currently recording
Search	Indicates that searching is currently being performed	: Currently searching

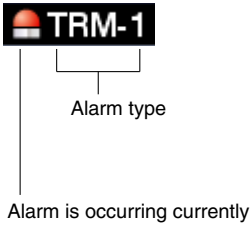
#### ② Copy/Delete Icons

Indicated Item	Status	Indication
Copy	Indicates that data copy is currently being performed	: Currently copying
Delete	Indicates that data deletion is currently being performed	: Currently deleting data

#### ③ Live/Playback Time Display Area

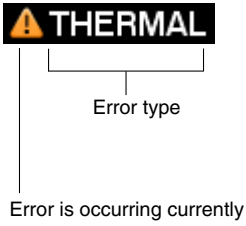
Indicated Item	Status	Indication
Time	Displays time of the displayed image When displaying live image: Current time When playing recorded image: Time when recorded  *: During summer time, an asterisk (*) will be displayed on the left side of the displayed time.	 Year:Month:Day      Hour:Minute:Second

④ Alarm Display Area

Indicated Item	Status	Indication
Alarm	<p>Indicates that an alarm has occurred</p> <p><b>VMD-*</b>: When motion is detected</p> <p><b>LOSS-*</b>: When video loss has occurred</p> <p><b>COM-*</b>: When a command alarm has occurred</p> <p><b>TRM-*</b>: When a terminal alarm has occurred</p> <p>*: Camera number (1 - 16 for the WJ-HD316, 1 - 9 for the WJ-HD309)</p> <p>#: Alarm number</p>	

**Note:** Refer to page 45 for further information about event types and event actions.


⑤ Error Display Area

Indicated Item	Status	Indication												
Error Warning	<p>Indicates an error occurrence or warning</p> <p><b>ALT-*</b>: Alteration is detected</p> <p><b>R-ERROR</b>: Failed to read data from the HDD</p> <p><b>W-ERROR</b>: Failed to write data on the HDD</p> <p><b>SMART</b>: Warning of the HDD malfunction</p> <p><b>H-METER</b>: Set time for hour-meter (active time of the HDD) warning has passed</p> <p><b>THERMAL</b>: The temperature inside the unit is too high</p> <p><b>POWER</b>: A power outage has been detected</p> <p><b>#-nn%</b>: Warning about running out of disk space while displaying available disk space percentage</p> <p><b>#-FULL</b>: No available disk space</p> <p><b>MEDIUM-n</b>: An error occurred in an external recording device</p> <p><b>REMOVE</b>: The hard disk is removed from the system automatically because of an access error</p> <p><b>FAN</b>: The fan is faulty</p> <p>*: Camera number (1 - 16 for the WJ-HD316, 1 - 9 for the WJ-HD309)</p> <p>#: Abbreviation that indicates partition</p> <p>nn: Available disk size</p> <p>n: Number of connector that an external recording device is connected to</p>	  <p><b>Abbreviation of partition</b></p> <table border="1"> <thead> <tr> <th>Status</th> <th>Displayed abbreviation</th> </tr> </thead> <tbody> <tr> <td>Normal recording area</td> <td>NML</td> </tr> <tr> <td>Event recording area</td> <td>EVT</td> </tr> <tr> <td>Copy area</td> <td>CPY</td> </tr> <tr> <td>External recording device connected to the COPY1 port on the rear panel</td> <td>CP1</td> </tr> <tr> <td>External recording device connected to the COPY2 port on the front panel</td> <td>CP2</td> </tr> </tbody> </table>	Status	Displayed abbreviation	Normal recording area	NML	Event recording area	EVT	Copy area	CPY	External recording device connected to the COPY1 port on the rear panel	CP1	External recording device connected to the COPY2 port on the front panel	CP2
Status	Displayed abbreviation													
Normal recording area	NML													
Event recording area	EVT													
Copy area	CPY													
External recording device connected to the COPY1 port on the rear panel	CP1													
External recording device connected to the COPY2 port on the front panel	CP2													


**Note:** Refer to page 56 for further information about error types and what to do when an error has occurred.



• On the Left Bar

Indicated Item	Status	Indication
Camera	<p>Indicates recording and displaying status</p> <p><b>Gray:</b> Camera currently not displayed or not connected to a respective channel</p> <p><b>Green:</b> Camera displayed on the monitor</p> <p><b>Orange:</b> Camera currently being recorded</p> <p><b>Blue:</b> Camera currently being recorded and displayed on the monitor</p>	 <p>Camera 1 is on the top and camera 16 is on the bottom</p>

• On the Right Bar

Indicated Item	Status	Indication
Used disk space	<p>Indicates the available disk space of each partition.</p> <p><b>Top:</b> 100 % of the disk space is used (no available disk space)</p> <p><b>Second from the top:</b> 80 % of the disk space is used</p> <p><b>Center:</b> 60 % of the disk space is used</p> <p><b>Second from the bottom:</b> 40 % of the disk space is used</p> <p><b>Bottom:</b> 20 % of the disk space is used</p> <p><b>Note:</b> When "CONTINUE" is selected on the "Termination" page of the "Maintenance" setup menu, available disk space will not be displayed. Refer to a system administrator for further information.</p> <p><b>NML:</b> Available disk space of the normal recording area used for manual recording and schedule recording</p> <p><b>EVT:</b> Available disk space of the event recording area used for event recording and emergency recording</p>	 <p>Normal Recording Area</p> <p>Event Recording Area</p>

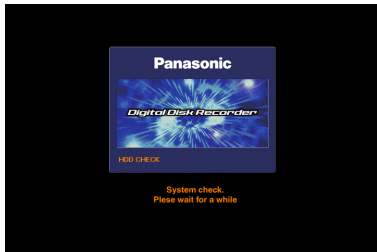
# STARTUP

## 1 Insert the power plug to an outlet (AC 120 V, 60 Hz)

**Note:** Make sure the power source is AC 120 V, 60 Hz.

## 2 Turn on the power switch on the rear panel.

The OPERATE indicator will light and the system check (checking the system and hard disk) will start. The startup splash image below will be displayed on monitor 2 and the VGA monitor during the system check.

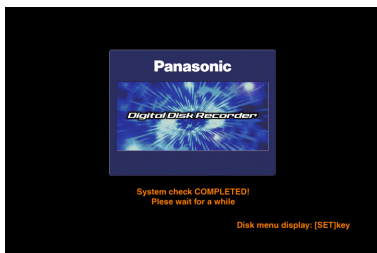


When the auto login is off, the login window will be displayed if any button on the front panel of this unit is pressed after the system check. (Go to step 3)

When the auto login is on, live images will be displayed after the system check.

### Notes:

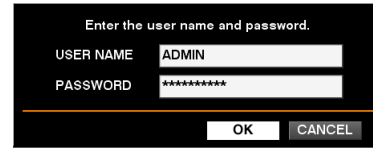
- If the hard disk configuration had been changed after the last startup or the hard disk has problems, the HDD DISK MENU will be displayed automatically after the startup splash. (Refer to page 127 for further information.)
- It is possible to display the disk configuration menu by pressing the SET button when the image below that says the system check has been completed is displayed.



### Important:

When using the optional extension unit (WJ-HDE300), turn the power of this unit after turning on the power of all extension units.

## 3 Enter a user name and password.



Rotate the jog dial to select a character to be entered in the cursor position.

It is also possible to enter numbers by pressing the camera selection buttons ([1] - [10/0] for the WJ-HD316, [1] - [9], [0] for the WJ-HD309).

To move the cursor, press the arrow buttons.

Use the same method to enter or edit characters attached to images. Refer to page 54 for further information.

## 4 Display a live image.

Press the SET button to display a live image.

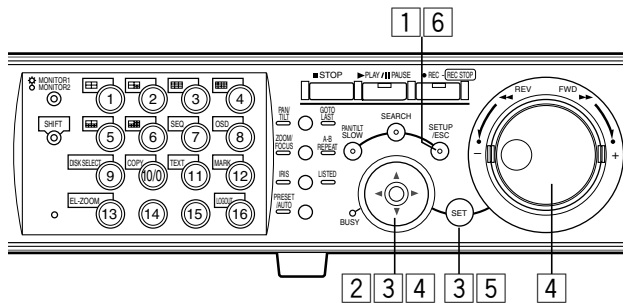
If the authentication window is displayed, enter user name and password.

When authenticated, a live image will be displayed.

When not authenticated, the authentication window will be displayed again.

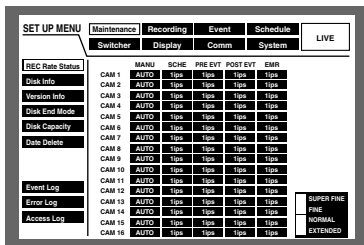
# CLOCK ADJUSTMENT

It is recommended to check the clock periodically and put the clock right if it shows the wrong time. Adjust the clock when displaying a live image.

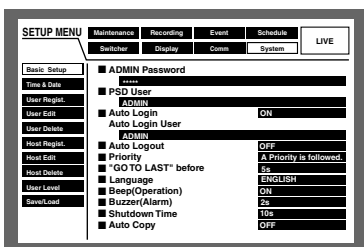


- 1 Press the **SETUP/ESC** button for 2 seconds or more.

The **SETUP MENU** will be displayed on monitor 2 and the VGA monitor.

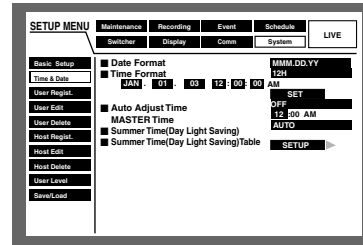


- 2 Move the cursor to **"System"** using the arrows button (▼ ▲ ◀ ▶) and press the **SET** button.

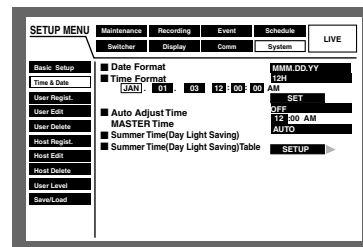


- 3 Move the cursor to **"Time & Date"** using the arrows button (▼ ▲), and press the **SET** button.

The **"Time & Date"** menu will be displayed.

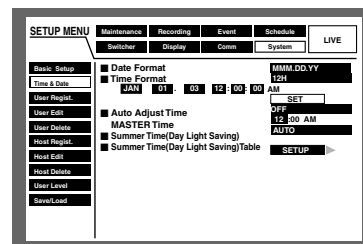


- 4 Move the cursor to **"Time Format"** using the arrows button and set the time (Month, Day, Year, Time) using the jog dial.



- 5 Move the cursor to **"SET"** and press the **SET** button.

The selected date format and the set time will be applied.



- 6 Press the **SETUP/ESC** button for 2 seconds or more.

The **SETUP MENU** will disappear and live image will be displayed.

# SHUTDOWN

To shutdown the unit, do the following.

When recording is being performed, press the REC button for 2 or more seconds. Recording will stop and the indicator on the REC button will go off.

When playback is being performed, press the STOP button. Playback will stop and the indicator on the PLAY/PAUSE button will go off.

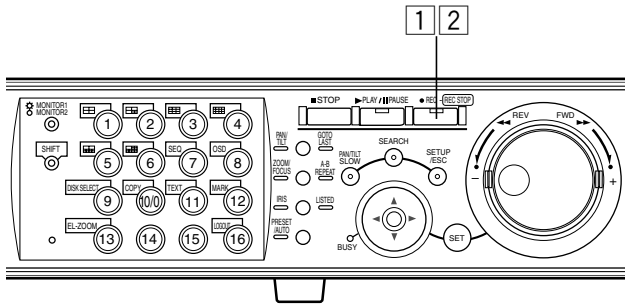
Turn the power of the unit off using the POWER switch on the rear panel. The OPERATE indicator will go off.

**Important:**

- Detach the plug from the outlet if not operating the unit for a length of time.
- When the unit has not been operated for a certain period, turn on the power of the unit twice a week to prevent interference with functions.

# RECORDING (Manual Recording)

Do the following to record manually.  
Refer to a system administrator about the required settings for manual recording.



## 1 Start recording.

Press the REC button to start recording.  
The indicator on the button will light and recording will start.  
Images from all the connected cameras will be recorded with the default setting.  
It is possible to record only images displayed on monitor 2 and the VGA monitor by changing the settings.

When recording with higher priority than manual recording is performed, manual recording will not be performed until this recording finishes.  
Refer to the following about the recording mode.

## 2 Stop recording.

Press the REC button down for around 2 seconds.  
The indicator on the button will go off and recording will stop.

### Notes:

- The camera selection button will light orange (currently recording) or blue (currently being recorded and displayed on the monitor) to indicate which camera is being recorded.
- When recording with other recording modes being performed, the indicator on the REC button will not go off even though the REC button is pressed to stop manual recording.

## ● Recording Mode and Priority

There are 4 recording modes as follows.

Recording Mode	Description	Priority*1
Emergency Recording	Start recording manually using an external switch at an emergency event occurrence	1
Event Recording	Recording will be performed automatically at an event occurrence	2*2
Manual Recording	Start and stop recording manually	3*2
Schedule Recording	Recording will be performed automatically with a designated start/stop time and date	4*2

\*1: Priorities on the above table are the default settings. (Emergency recording is the highest priority.)

\*2: Priorities for manual recording, schedule recording and event recording can be changed. Refer to a system administrator about the settings.

## ● Recording Time

Approximate possible recording durations will be as follows (with built-in HDD, manual recording):

### Recording with audio

Unit: Hour				
Recording Rate [ips]	EXA (For Extended Recording)	NQA (Standard)	FQA (High Quality)	SFA (Highest Quality)
2	2 040	1 730	1 320	1 070
3	2 040	1 730	1 320	1 070
5	680	570	440	1 070
6	1 270	950	630	470
7.5	680	570	440	350
10	510	430	330	260
15	400	340	260	210
30	200	170	130	100
60	60	50	40	30

### Recording without audio

Unit: Hour				
Recording Rate [ips]	EXA (For Extended Recording)	NQA (Standard)	FQA (High Quality)	SFA (Highest Quality)
2	3 810	2 860	1 900	1 430
3	3 810	2 860	1 900	1 430
5	1 270	950	630	470
6	1 270	950	630	470
7.5	950	710	470	350
10	760	570	380	280
15	760	570	380	280
30	380	280	190	140
60	120	90	60	40

#### Important:

The possible recording durations on the above tables are approximate durations under the conditions below. The possible recording durations varies depending on object of shooting. Refer to a system administrator for further information.

- Recording on the built-in hard disk (160 GB x 1)
- Recording all camera channels by manual recording
- "AUTO" is selected for the recording rate
- Resolution: FIELD
- Color Mode: COLOR STD (The color mode setting is available only using a PC via a network.)

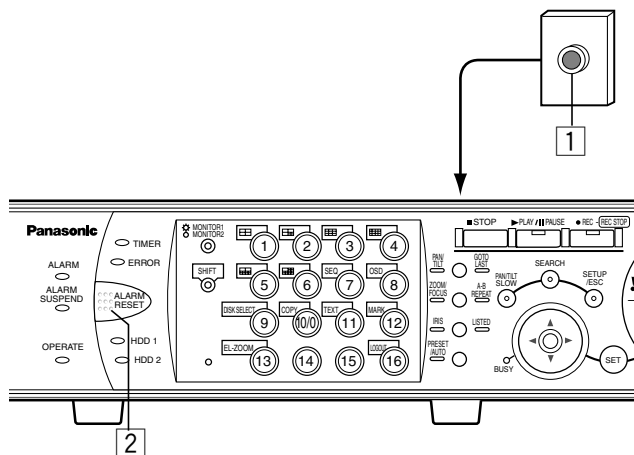


# RECORDING (Emergency Recording)

Record manually using an external switch at an emergency event occurrence.

For example, install an external switch at the reception counter, and start recording with it when a suspicious individual appears.

Refer to a system administrator about the required settings for emergency recording.



## 1 Press the external switch.

The indicator on the REC button will light and recording will start.

With the default setting, recording will be performed for 10 seconds.

Emergency recording is the highest priority. Emergency recording will be performed even when this unit is recording in other recording modes.

## 2 Stop recording.

When the recording duration set in advance has passed, recording will stop automatically.

With the default setting, recording will stop automatically after recording for 10 seconds.

When "CONTINUE" is selected for "Recording Time" of "Emergency REC" on the SETUP MENU (Recording), press the ALARM RESET button to stop recording.

The indicator on the REC button will go off and recording will stop.

### Important:

- The camera selection button will light orange (currently recording) or blue (currently being recorded and displayed on the monitor) to indicate which camera is being recorded.

- When starting emergency recording while another recording with a different recording mode is being performed, the indicator on the REC button will remain lit and the other recording will resume after the emergency recording has finished.

## ● Recording duration of emergency recording

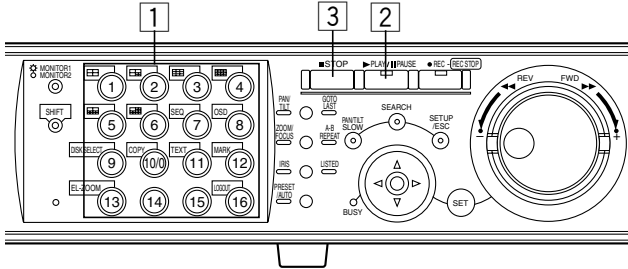
Recording duration of emergency recording can be set as follows. Refer to a system administrator for further information.

Parameter	Recording Duration
1 s - 10 s	Record for the selected time (1 - 10 seconds , can be set in 1 second step)
20 s	Record for 20 seconds
30 s	Record for 30 seconds
1 m - 10 m	Record for the selected time (1 -10 minutes can be set in 1 minute intervals)
20 m - 60 m	Record for the selected time (20 - 60 minutes, can be set in 10 minutes intervals)
MANUAL	Record only while the external switch is being pressed down
CONTINUE	Record until the ALARM RESET is pressed

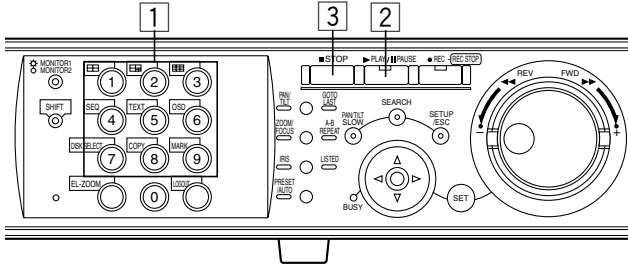
# PLAYBACK

It is possible to play recorded images without stopping recording.  
 The playback images will be displayed on monitor 2 and the VGA monitor.

## [WJ-HD316]



## [WJ-HD309]



### 1 Select a camera respective to the recorded images to be played. (Go to step 2 if not necessary)

Press the desired camera selection button.  
 The pressed camera selection button will light green or blue and the respective live images will be displayed.

### 2 Start playback.

Press the PLAY/PAUSE button.  
 The indicator on the PLAY/PAUSE button will light and the recorded images of the selected camera will be played.

**First playback after login:** The latest recorded image will be played.

With the default setting, playback will start 5 seconds before the start time of the latest recorded image. The start time can be selected from the following:  
 5 s/10 s/30 s/1 m/5 m

Refer to a system administrator about the settings.

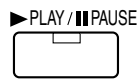
**Other than those above:** Playback will start from the end point of the recorded image played last time.

### 3 Stop playback.

Press the STOP button.  
 The indicator on the PLAY/PAUSE button will go off and playback will be stopped.  
 Live images will be displayed on monitor 2 and the VGA monitor.

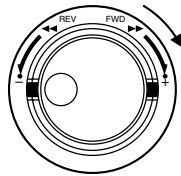
## ● Available functions during playback

Pause



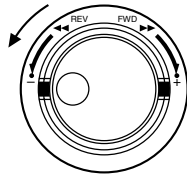
Pressing the PLAY/PAUSE button to pause playback. While pausing, the indicator on the PLAY/PAUSE button will blink. Pressing this button again will resume playback.

Single frame skip



Rotating the jog dial during pause will skip to the next or previous frame.  
 Rotating the jog dial clockwise will skip to the next frame and rotating it counterclockwise will skip to the previous frame.

Fast forward/Fast reverse

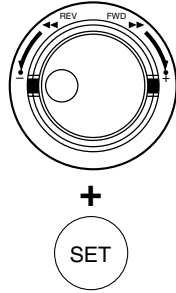


Rotating the shuttle ring will change the playback speed (1/2x, 1x, 2x, 5x, 10x, 20x) according to rotated degree. When the shuttle ring is held in the 20x position (rotated to the end) for 10 seconds, the playback speed will be 50x. When the shuttle ring is held 5 more seconds after the playback speed became 50x, the playback speed will be 100x.

Rotating the shuttle ring clockwise will play at a faster speed and rotating it counterclockwise will play images in reverse at a faster speed.

To play at normal speed, release the shuttle ring.

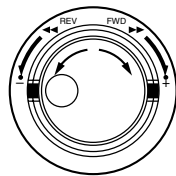
Hold playback speed



Press the SET button while holding the rotated shuttle ring to hold a desired playback speed. (Playback speed will be held even though the shuttle ring is released.)

To return to the normal playback speed, press the SET button.

Skip

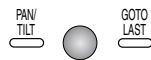


Rotating the jog dial during playback will skip to the next or previous recorded image.

Rotating the jog dial clockwise will skip to the next recorded image and rotating it counterclockwise will skip to the previous one.

If there is no next or previous recorded image, current playback will continue.

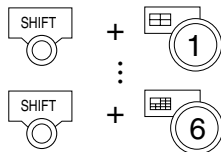
Play the latest recorded image



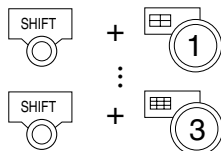
Press the GO TO LAST button to play the latest recorded image.

Multi-screen display

(For the WJ-HD316)



(For the WJ-HD309)



It is possible to display recorded images in multi-screen format (4/7/9/10/13/16 for the WJ-HD316, 4/7/9 for the WJ-HD309).

- ① Press the SHIFT button. The SHIFT indicator will light.
- ② Press a camera selection button (1 - 6 for the WJ-HD316, 1 - 3 for the WJ-HD309) to select a desired multi-screen.

Camera selection button 1: 4-split screen

Camera selection button 2: 7-split screen

Camera selection button 3: 9-split screen

Camera selection button 4: 16-split screen (Only for the WJ-HD316)

Camera selection button 5: 10-split screen (Only for the WJ-HD316)

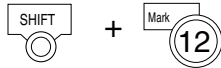
Camera selection button 6: 13-split screen (Only for the WJ-HD316)

- ③ To display recorded images on a single screen, press the SHIFT button again.

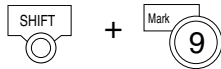
After the SHIFT indicator goes off, press the camera selection button.

## Marking

(For the WJ-HD316)



(For the WJ-HD309)



It is possible to play from a marked point. Do the following to mark a desired point.

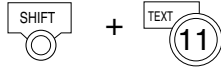
1. Press the SHIFT button. The SHIFT indicator will light.
2. Press the camera selection button 12 (9 for the WJ-HD309) (MARK)

Up to 100 points can be marked. When more than 100 points are marked, the old marked point will be overwritten by new marked point. In this case, the oldest marked point is the first to be overwritten.

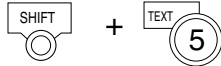
When marked while displaying in multi-screen, the same number of split screens will be counted as marked points. (When a point is marked while displaying a 16-split screen, 16 points will be marked simultaneously.)

## Text display

(For the WJ-HD316)



(For the WJ-HD309)

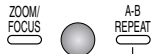


It is possible to display text information attached to recorded image while playback.

Text display is available only when playing on a single screen.

- ① Pause playback.
- ② Press the SHIFT button. The SHIFT indicator will light.
- ③ Press the camera selection button 11 (5 for the WJ-HD309) (TEXT).

## A - B repeat playback



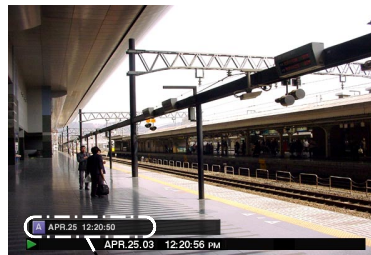
Blink: When designating a start point (A)

Light: During the A-B repeat playback

It is possible to play recorded images between two designated points repeatedly.

- ① Designate a start point (A) by pressing the A - B REPEAT button during playback.

The A - B REPEAT indicator will start blinking, and the time of point A will be displayed.



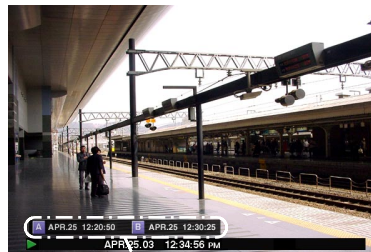
Time of point A

To cancel the designated point, press the SETUP/ESC button.

- ② Designate an end point (B) by pressing the A - B REPEAT button during playback.

Playback between point A and B will start and keep playing repeatedly.

The time of point A and B will be displayed during playback.



Time of point A and B

- ③ Press the A - B REPEAT button during A - B repeat playback to return to normal playback.

# PLAYBACK IMAGE ON A DESIGNATED DISK

Images from a camera will be recorded on the built-in hard disk or external recording devices (DVD-RAM drive, DVD-R drive or CD-R drive) connected to this unit.

Available disk space or disks are as follows.

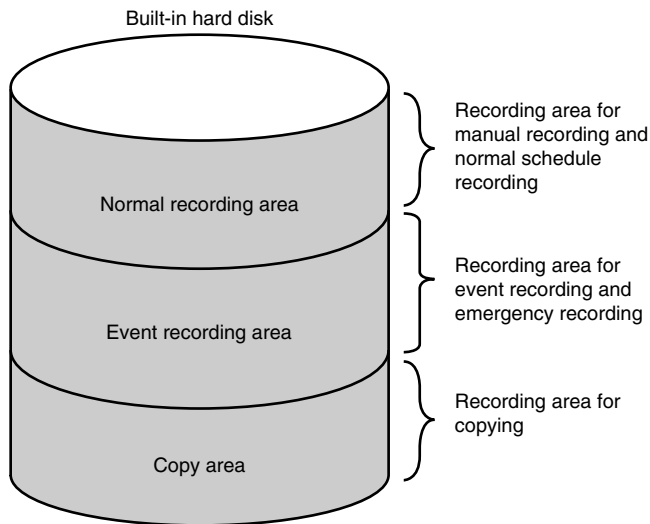
**Note:** External recording devices can be used as a copy area for images recorded on the hard disk. It is impossible to record images on the external recording devices directly.

## HDD Normal Recording Area/Event Recording Area:

Disk space for recording on the built-in hard disk  
Recorded images by manual recording (refer to page 19) or event recording will be stored in this area.

## HDD Copy Area:

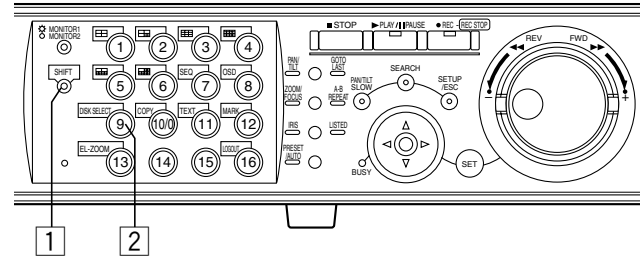
Disk space for recording on the built-in hard disk  
Recorded images will be copied in this area (refer to page 48).



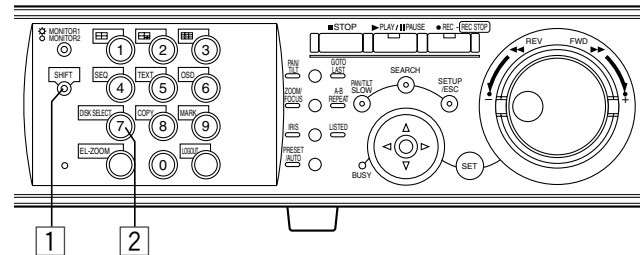
## Notes:

- Playback images will be displayed only on monitor 2 and the VGA monitor.
- Playback can be performed during recording.
- Disk space size of each recording area differs depending on the settings.  
Refer to a system administrator for further information.

## [WJ-HD316]



## [WJ-HD309]

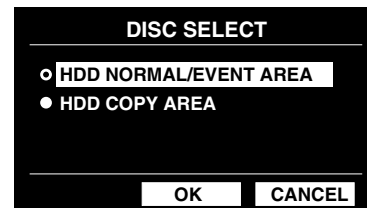


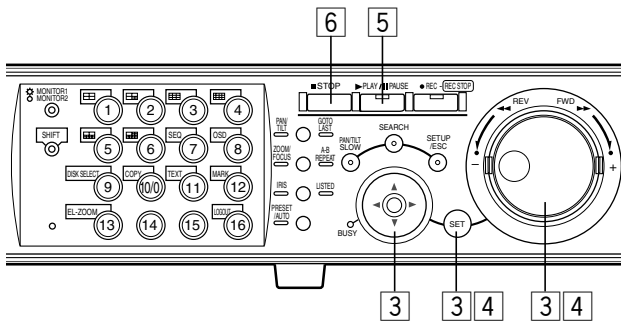
### 1 Press the SHIFT button.

The SHIFT indicator will light.

### 2 Press the camera selection button 9 (7 for the WJ-HD309) (DISK SELECT).

The DISK SELECTION window will be displayed on monitor 2 and the VGA monitor.





3 Move the cursor to select a disk to be played using the arrow buttons and rotate the jog dial to check the radio button next to the selected disk. Press the SET button to determine the selection.



The RECORDING EVENT LIST window will be displayed. (Refer to page 28 for further information.)

To close the DISK SELECTION window, move the cursor to select "CANCEL" and press the SET button.

4 Rotate the jog dial to select a desired recorded image to be played, and press the SET button to determine the selection.

TIME&DATE	CAMERA	REC EVENT	TEXT	UNLOCK FILTER
TIME&DATE	CAM	REC EVT	TEXT	
▶ APR.25.03*12:34:56 AM	01ch	MANUAL	ABCDEFGHIJ	
▶ APR.25.03*12:34:56 AM	01ch	MANUAL	ABCDEFGHIJ	
▶ APR.25.03*12:34:56 AM	01ch	MANUAL	ABCDEFGHIJ	
▶ APR.25.03*12:34:56 AM	01ch	MANUAL	ABCDEFGHIJ	
▶ APR.25.03*12:34:56 AM	01ch	MANUAL	ABCDEFGHIJ	
▶ APR.25.03*12:34:56 AM	01ch	MANUAL	ABCDEFGHIJ	
▶ APR.25.03*12:34:56 AM	01ch	MANUAL	ABCDEFGHIJ	
▶ APR.25.03*12:34:56 AM	01ch	MANUAL	ABCDEFGHIJ	
▶ APR.25.03*12:34:56 AM	01ch	MANUAL	ABCDEFGHIJ	
▶ APR.25.03*12:34:56 AM	01ch	MANUAL	ABCDEFGHIJ	
APR.25.03*12:34:56 AM -- APR.25.03*12:34:56 AM			TOTAL	100
TIME&DATE ▶ SEARCH ▶ REC EVENT ▶ SEARCH ▶ VMD ▶ SEARCH ▶ MARK				

5 Press the PLAY/PAUSE button to play the selected recorded image.

The indicator on the PLAY/PAUSE button will light and playback will start.

6 To stop playback, press the STOP button.

The indicator on the PLAY/PAUSE button will go off and playback will stop.

Live images will be displayed on monitor 2 and the VGA monitor.

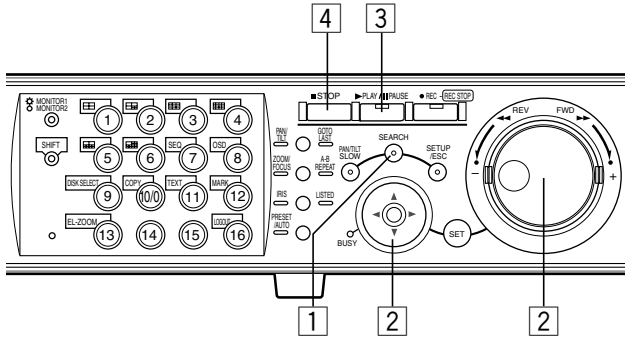
**Notes:**

- When "HDD Normal Recording Area/Event Recording Area" is selected, pressing the PLAY/PAUSE button after stopping playback will start playback from the end point of the recorded image played last time.
- When "HDD Copy Area" is selected, pressing the PLAY/PAUSE button after stopping playback will start playback of the latest image copied on the selected disk.



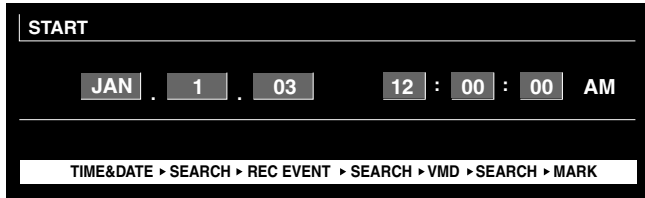
# PLAYBACK FROM A DESIGNATED TIME AND DATE

It is possible to play recorded images from a designated time and date without stopping recording. Playback images will be displayed on monitor 2 and the VGA monitor.



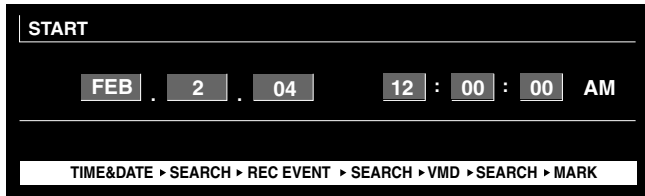
**1 Press the SEARCH button repeatedly until the time and date designation window is displayed.**

The time and date designation window will be displayed on monitor 2 and the VGA monitor.



**2 Enter the start time using the jog dial and the arrows button.**

Select time and date using the jog dial. To move the cursor, use the arrows button (◀ ▶).



**3 Press the PLAY/PAUSE button.**

The indicator on the PLAY/PAUSE button will light and start playback from the entered time and date.

If there is no recorded image after the entered time:  
When there are images recorded after the entered time, the oldest recorded image after the entered time will be played.  
When there are no images recorded after the entered time, the newest recorded image before the entered time will be played.

**4 Press the STOP button.**

The indicator on the PLAY/PAUSE button will go off and stop playback.  
Live images will be displayed on monitor 2 and the VGA monitor.

# SEARCH AND PLAY

There are 3 ways to search for a recorded image and play it.

- Search for a recording event and play it (Recording event search)
- Search for a motion detected time and date from recorded images and play it (VMD search)
- Search for a marked point and play it (Marking search)

**Note:** Playback images will be displayed on a single screen on monitor 2 and the VGA monitor. To play in a multi-screen, switch to a multi-screen after starting playback.

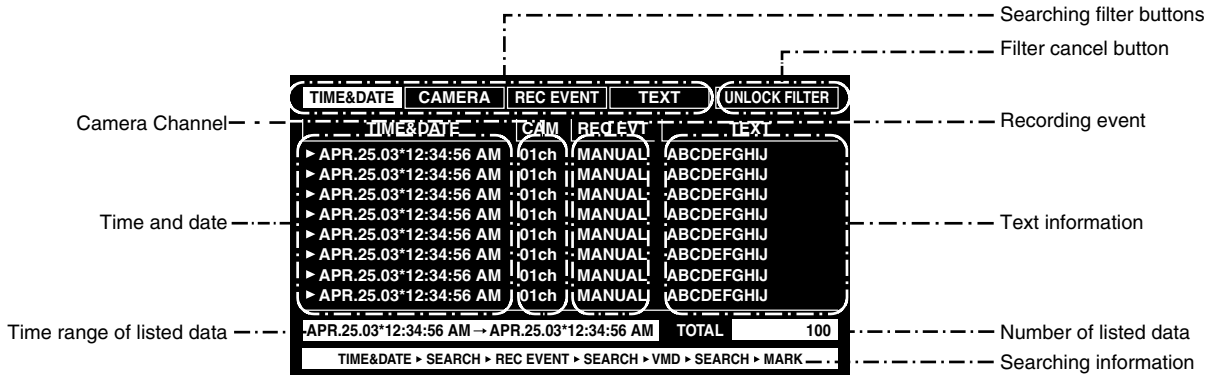
## ■ Searching For a Recording Event and Playback (Recording Event Search)

Display a list or a thumbnail of recording events, and select the desired recording event from them to play it.

It is possible to search using the following filters:

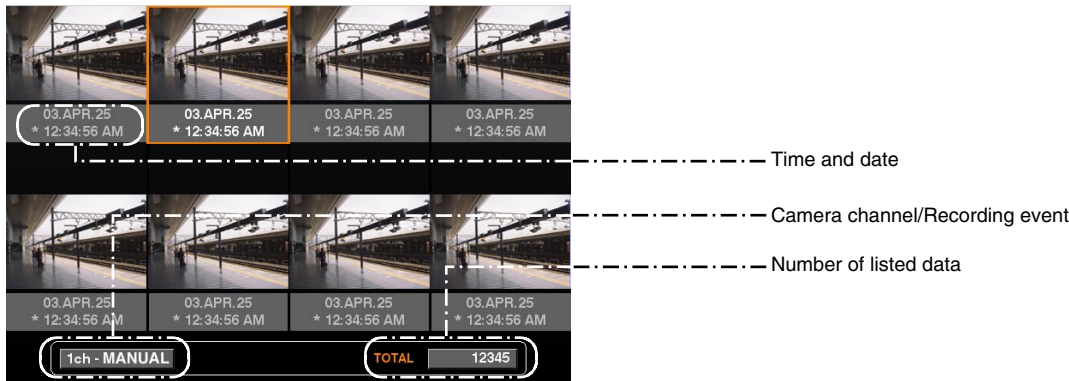
Searching Filters	
TIME & DATE	Search for only images recorded in the entered time range.
CAMERA	Search for only recorded images from the selected camera channel.
REC EVENT	Search for only images recorded in the selected recording mode. It is possible to search for images recorded in the following recording modes: EMERGENCY: Emergency recording (Refer to page 21.) VMD: Event recording performed when motion had been detected (Refer to page 32.) TERMINAL: Event recording performed when a terminal alarm had been detected. COMMAND: Event recording performed when a command alarm had been detected. VIDEO LOSS: Event recording performed when video loss had occurred. MANUAL: Manual recording (Refer to page 19.) SCHEDULE: Schedule recording (Refer to page 102.)
TEXT	Search for only images recorded with text information

## ● Recording Event List Window

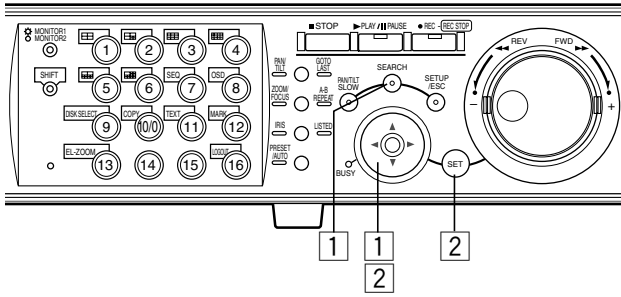


<b>Searching filter buttons:</b>	Selects the searching filter
<b>Filter cancel button:</b>	Cancels the selected searching filter and lists all recording events
<b>Time and date:</b>	<When searched by recording event> Time when recording started will be displayed. <When searched by VMD> Time when motion had been detected will be displayed. <When searched by marked point> Time when the point was marked will be displayed.
<b>Camera channel:</b>	Camera channel of the recorded image will be displayed. The recorded image of the displayed camera channel will be played on a single screen.
<b>Recording event:</b>	Recording mode will be displayed.
<b>Text information:</b>	First several characters of text information will be displayed if the image has text information.
<b>Time range of the listed data:</b>	Time range of the listed data will be displayed.
<b>Number of the listed data:</b>	Number of the listed data will be displayed.
<b>Searching information:</b>	Searching filter will be displayed. (A filter of the currently displayed list will be displayed in orange.)

## ● Recording Event Thumbnail Window



<b>Time and date:</b>	<When searched by recording event> Time when recording started will be displayed. <When searched by VMD> Time when motion had been detected will be displayed. <When searched by marked point> Time when the point was marked will be displayed.
<b>Camera channel/Recording event:</b>	Camera channel of the recorded image will be displayed. The recorded image of the displayed camera channel will be played on a single screen. Recording mode also will be displayed.
<b>Number of the listed data:</b>	Number of the listed data will be displayed.



1 Press the SEARCH button repeatedly until the recording event list window is displayed.

TIME&DATE	CAMERA	REC EVENT	TEXT	UNLOCK FILTER
TIME&DATE	CAM	REC EVT	TEXT	
▶ APR.25.03*12:34:56 AM	01ch	MANUAL	ABCDEFGHJI	
▶ APR.25.03*12:34:56 AM	01ch	MANUAL	ABCDEFGHJI	
▶ APR.25.03*12:34:56 AM	01ch	MANUAL	ABCDEFGHJI	
▶ APR.25.03*12:34:56 AM	01ch	MANUAL	ABCDEFGHJI	
▶ APR.25.03*12:34:56 AM	01ch	MANUAL	ABCDEFGHJI	
▶ APR.25.03*12:34:56 AM	01ch	MANUAL	ABCDEFGHJI	
▶ APR.25.03*12:34:56 AM	01ch	MANUAL	ABCDEFGHJI	
▶ APR.25.03*12:34:56 AM	01ch	MANUAL	ABCDEFGHJI	
▶ APR.25.03*12:34:56 AM	01ch	MANUAL	ABCDEFGHJI	
APR.25.03*12:34:56 AM → APR.25.03*12:34:56 AM			TOTAL	100
TIME&DATE ▶ SEARCH ▶ REC EVENT ▶ SEARCH ▶ VMD ▶ SEARCH ▶ MARK				

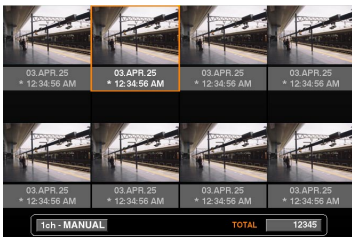
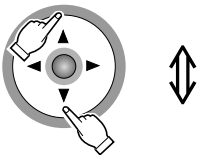
The recording event list window will be displayed on monitor 2 and the VGA monitor.

Use the arrows button (▼ ▲) to switch displaying the list window and the thumbnail window alternately.

To search using a searching filter, go to step 4.

TIME&DATE	CAMERA	REC EVENT	TEXT	UNLOCK FILTER
TIME&DATE	CAM	REC EVT	TEXT	
▶ APR.25.03*12:34:56 AM	01ch	MANUAL	ABCDEFGHJI	
▶ APR.25.03*12:34:56 AM	01ch	MANUAL	ABCDEFGHJI	
▶ APR.25.03*12:34:56 AM	01ch	MANUAL	ABCDEFGHJI	
▶ APR.25.03*12:34:56 AM	01ch	MANUAL	ABCDEFGHJI	
▶ APR.25.03*12:34:56 AM	01ch	MANUAL	ABCDEFGHJI	
▶ APR.25.03*12:34:56 AM	01ch	MANUAL	ABCDEFGHJI	
▶ APR.25.03*12:34:56 AM	01ch	MANUAL	ABCDEFGHJI	
▶ APR.25.03*12:34:56 AM	01ch	MANUAL	ABCDEFGHJI	
▶ APR.25.03*12:34:56 AM	01ch	MANUAL	ABCDEFGHJI	
APR.25.03*12:34:56 AM → APR.25.03*12:34:56 AM			TOTAL	100
TIME&DATE ▶ SEARCH ▶ REC EVENT ▶ SEARCH ▶ VMD ▶ SEARCH ▶ MARK				

<List window>



<Thumbnail window>

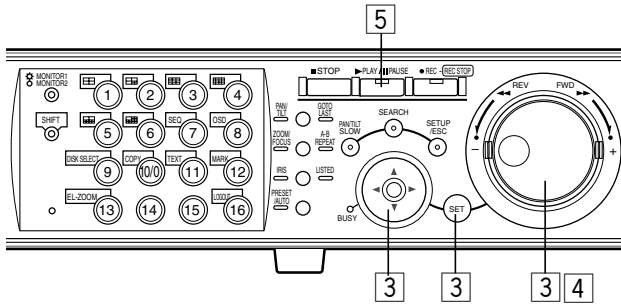
2 Use the arrows button (◀ ▶) to select a searching filter (TIME & DATE, CAMERA, EVENT, TEXT), and press the SET button.

TIME&DATE	CAMERA	REC EVENT	TEXT	UNLOCK FILTER
TIME&DATE	CAM	REC EVT	TEXT	
▶ APR.25.03*12:34:56 AM	01ch	MANUAL	ABCDEFGHJI	
▶ APR.25.03*12:34:56 AM	01ch	MANUAL	ABCDEFGHJI	
▶ APR.25.03*12:34:56 AM	01ch	MANUAL	ABCDEFGHJI	
▶ APR.25.03*12:34:56 AM	01ch	MANUAL	ABCDEFGHJI	
▶ APR.25.03*12:34:56 AM	01ch	MANUAL	ABCDEFGHJI	
▶ APR.25.03*12:34:56 AM	01ch	MANUAL	ABCDEFGHJI	
▶ APR.25.03*12:34:56 AM	01ch	MANUAL	ABCDEFGHJI	
▶ APR.25.03*12:34:56 AM	01ch	MANUAL	ABCDEFGHJI	
APR.25.03*12:34:56 AM → APR.25.03*12:34:56 AM			TOTAL	100
TIME&DATE ▶ SEARCH ▶ REC EVENT ▶ SEARCH ▶ VMD ▶ SEARCH ▶ MARK				

When a searching filter is selected, the respective searching filter window will be displayed.

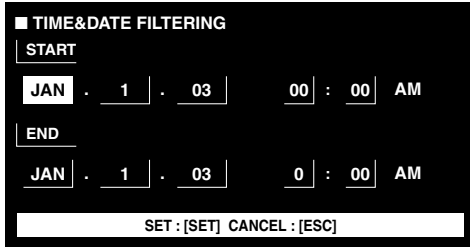
Select "UNLOCK FILTER" and press the SET button to cancel the selected filter.

Refer to page 28 about the searching filters.



### 3 Filter recording events.

#### Filter recording events by time and date



Move the cursor using the arrows button and rotate the jog dial to enter time and date.

Press the SET button to determine the entered time and date.

The recording event in the entered time range will be listed and displayed.

#### Filter recording events by camera channel



Select camera channel numbers (1 - 16 for the WJ-HD316, 1 - 9 for the WJ-HD309) by pressing the camera selection buttons to apply filtering.

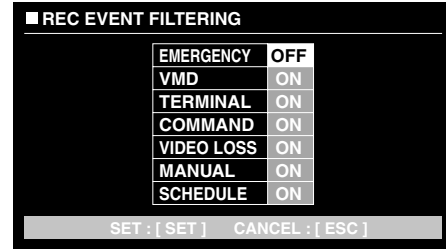
The selected camera channels will turn to blue.

Press the SET button to determine the selection of camera channel numbers.

The recording events of the selected camera channels will be listed.

**Note:** When operating the system controller, select a camera channel using the numeric keypad. In this case, it is impossible to select 10 CH to 16 CH.

#### Filter recording events by recording event



Move the cursor to select the recording event (refer to page 28) using the arrows button (▼ ▲) and rotate the jog dial to ON.

Press the SET button to determine the selection.

The recording events of the selected filter will be listed.

#### Filter recording events by text information



Rotate the jog dial to select OFF, WITH TEXT or WITHOUT TEXT.

Press the SET button to determine the selection.

The recording events filtered by the selected filter will be listed.

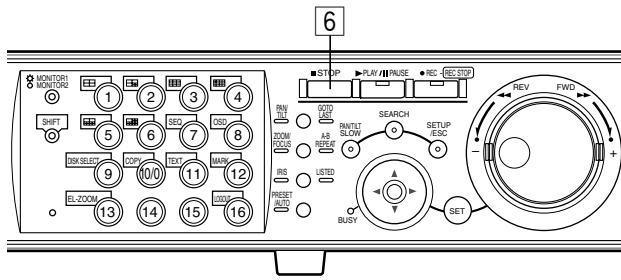
### 4 Rotate the jog dial to select a recording event to be played.

TIME&DATE	CAMERA	REC EVENT	TEXT	UNLOCK FILTER
▶ APR.25.03*12:34:56 AM	01ch	MANUAL	ABCDEFGHIJ	
▶ APR.25.03*12:34:56 AM	01ch	MANUAL	ABCDEFGHIJ	
▶ APR.25.03*12:34:56 AM	01ch	MANUAL	ABCDEFGHIJ	
▶ APR.25.03*12:34:56 AM	01ch	MANUAL	ABCDEFGHIJ	
▶ APR.25.03*12:34:56 AM	01ch	MANUAL	ABCDEFGHIJ	
▶ APR.25.03*12:34:56 AM	01ch	MANUAL	ABCDEFGHIJ	
▶ APR.25.03*12:34:56 AM	01ch	MANUAL	ABCDEFGHIJ	
▶ APR.25.03*12:34:56 AM	01ch	MANUAL	ABCDEFGHIJ	
APR.25.03*12:34:56 AM -- APR.25.03*12:34:56 AM				TOTAL 12345
TIME&DATE • SEARCH • REC EVENT • SEARCH • VMD • SEARCH • MARK				

### 5 Press the PLAY/PAUSE button.

The LISTED indicator and the indicator on the PLAY/PAUSE button will light and playback of the selected recording event will start.

**Note:** When the LISTED indicator is lit, only listed recording events are available to be played. Press the LISTED button during playback to make all recording events available to be played.



**6 To stop playback, press the STOP button.**

The indicator on the PLAY/PAUSE button will go off and playback will be stopped.

Live images will be displayed on monitor 2 and the VGA monitor.

**Important:**

In the recording event list, start time of recording will be displayed.

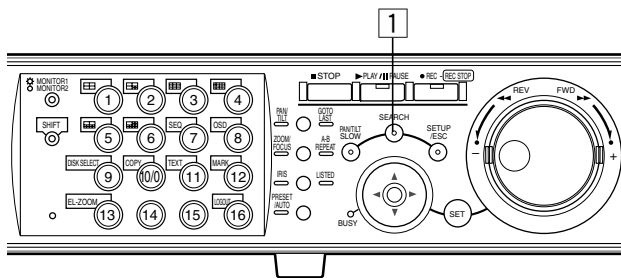
When events occurred successively, contents of the event log and the recording event list will not always match since the unit continues to record the first occurred event.

**■ Searching for a motion detected time and date from recorded images and play it (VMD search)**

Search for a motion detected time and date from all images recorded in all the recording modes, and display a list or a thumbnail of the results.

Select a time and date displayed on the result list or thumbnail to play it.

It is possible to filter by camera channel, time and date, detection area or searching mode, to list time and date of events that were recorded when motion was detected.



**1 Press the SEARCH button repeatedly until the VMD search list is displayed.**

VMD SEARCH	
TIME&DATE	CAM
▶ APR.25.03*12:34:56 AM	01ch
▶ APR.25.03*12:34:56 AM	01ch
▶ APR.25.03*12:34:56 AM	01ch
▶ APR.25.03*12:34:56 AM	01ch
▶ APR.25.03*12:34:56 AM	01ch
▶ APR.25.03*12:34:56 AM	01ch
▶ APR.25.03*12:34:56 AM	01ch
▶ APR.25.03*12:34:56 AM	01ch
APR.25.03*12:34:56 AM → APR.25.03*12:34:56 AM	TOTAL 12345
TIME&DATE ▶ SEARCH ▶ REC EVENT ▶ SEARCH ▶ VMD ▶ SEARCH ▶ MARK	

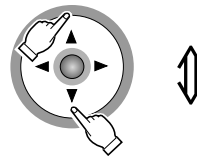
The result list of the VMD search will be displayed on monitor 2 and the VGA monitor.

(The list in the displayed window is of the results of the previous search.)

Use the arrows button (▼ ▲) to switch between displaying the list window and the thumbnail window alternately.

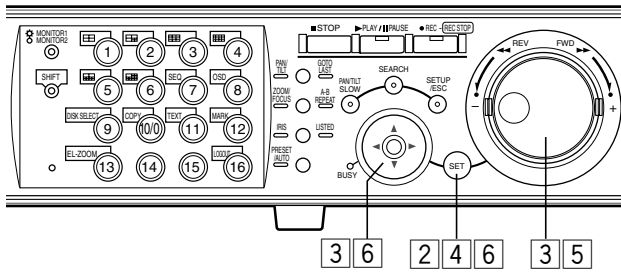
VMD SEARCH	
TIME&DATE	CAM
▶ APR.25.03*12:34:56 AM	01ch
▶ APR.25.03*12:34:56 AM	01ch
▶ APR.25.03*12:34:56 AM	01ch
▶ APR.25.03*12:34:56 AM	01ch
▶ APR.25.03*12:34:56 AM	01ch
▶ APR.25.03*12:34:56 AM	01ch
▶ APR.25.03*12:34:56 AM	01ch
▶ APR.25.03*12:34:56 AM	01ch
APR.25.03*12:34:56 AM → APR.25.03*12:34:56 AM	TOTAL 12345
TIME&DATE ▶ SEARCH ▶ REC EVENT ▶ SEARCH ▶ VMD ▶ SEARCH ▶ MARK	

**<List window>**

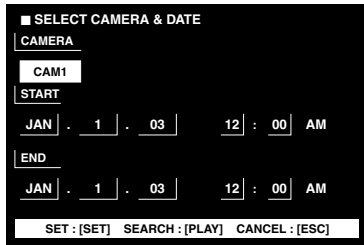


**<Thumbnail window>**



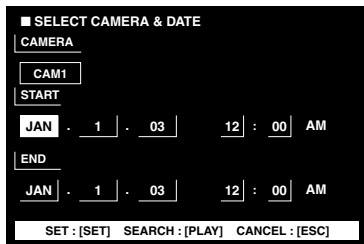


**2** Press the SET button.

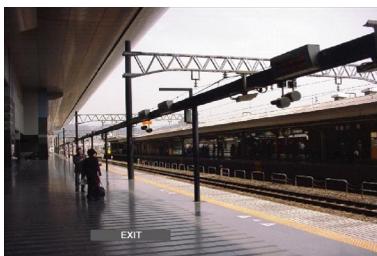


The VMD search window will be displayed. Enter a camera channel number and time range on the VMD search window for the VMD search. To search using the same conditions as the previous search, press the PLAY/PAUSE button. Go to step 12 when the VMD search is performed and a list of the results is displayed after the PLAY/PAUSE button is pressed.

**3** Move the cursor using the arrows button and rotate the jog dial to enter a camera channel number and time range for the VMD search.



**4** Press the SET button.



The motion detection area setup window will be displayed. To search using the same conditions as the previous search, press the PLAY/PAUSE button. Go to step 12 when the VMD search is performed and a list of the results is displayed after the PLAY/PAUSE button is pressed.

**Note:** If no image had been recorded in the time range set in step 3, the motion detection area setup window will not be displayed when the SET button is pressed.

**5** Rotate the jog dial to select "SETUP AREA" on the status bar.

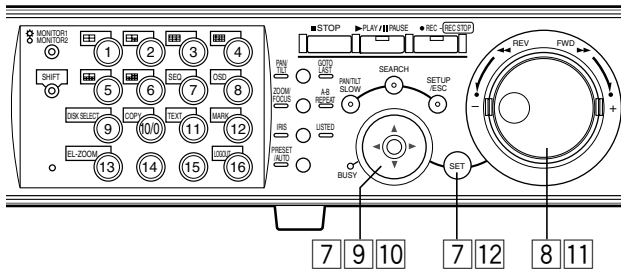


**Note:** It is possible to set all displayed areas as motion detection areas by pressing the SET button after selecting "ALL AREAS".

**6** Move the cross cursor using the arrows button to a point to be determined as the start point of the motion detection area.



Press the SET button to determine the selected point as the start point of the motion detection area.

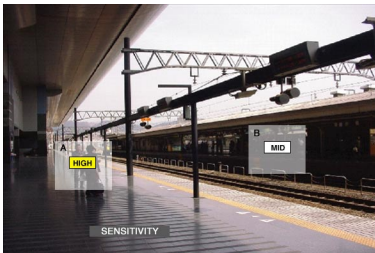


- 7 Move the cross cursor using the arrows button to a point to be determined as the end point of the motion detection area.



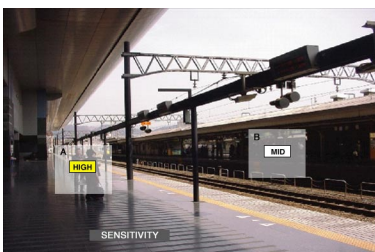
Press the SET button to determine the selected point as the end point of the motion detection area. It is possible to set up to 4 motion detection areas by repeating step 6 and 7.

- 8 Rotate the jog dial to select "SENSITIVITY" on the status bar.



**Note:** Depending on the position of the set detection areas, the sensitivity indications of the detection areas may be displayed overlapping each other.

- 9 Move the cross cursor to the motion detection area to apply the sensitivity using the arrow button (◀ ▶).



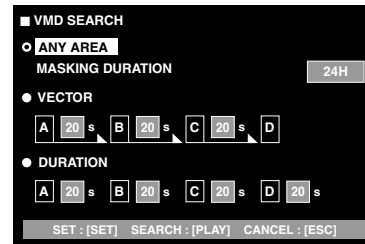
- 10 Select the sensitivity using the arrows button (▲ ▼) from the following.

**OFF:** Motion will not be detected  
**LOW:** Low sensitivity  
**MID:** Standard sensitivity  
**HIGH:** High sensitivity

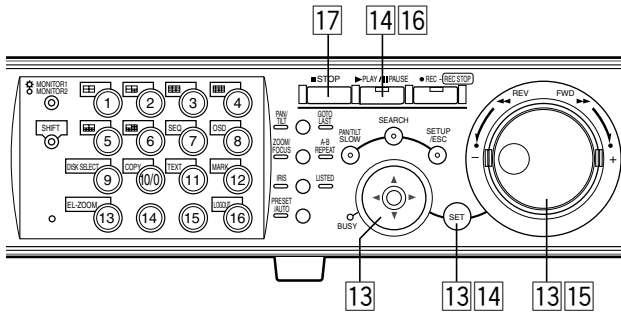
- 11 Rotate the jog dial to select "EXIT" on the status bar to exit from the motion detection area setup window.



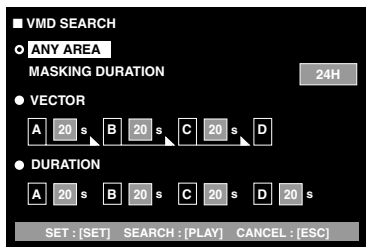
- 12 Press the SET button to display the VMD search window.



Refer to page 36 for further information about each of the detection modes.



**13** Move the cursor to select a detection mode using the arrow buttons and rotate the jog dial to check the radio button next to the selected detection mode. Press the SET button to determine the selection.



Refer to page 36 for further information about each of the detection modes.

**<ANY AREA mode>**

Move the cursor to the parameter box using the arrows button (▶) to select a masking duration from the following.  
1S/1M/1H/24H

**<VECTOR mode>**

Move the cursor to an area for the settings of VECTOR using the arrows button (▶) and rotate the jog dial to select an area. Move the cursor to the parameter box of the selected area using the arrows button (▶) to select an interval time for an object moving between each area from the following.

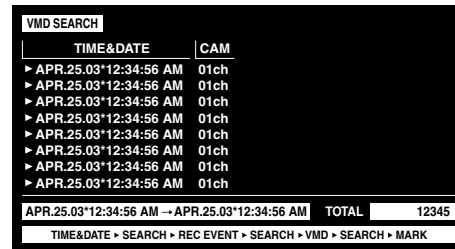
--/5 s/10 s/20 s/30 s/40 s/50 s/1 m

**<DURATION>**

Move the cursor to the parameter box of each area using the arrows button (▶) and rotate the jog dial to select a moving duration for an object in each area from the following.

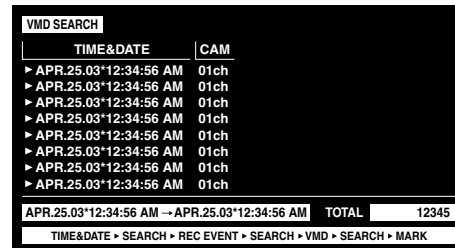
--/5 s/10 s/20 s/30 s/40 s/50 s/1 m

**14** Press the SET button or the PLAY/PAUSE button to start searching and display the results of the VMD search.



Up to 200 results will be displayed. (When 200 results are listed, searching will stop.)

**15** Rotate the jog dial to select a result to be displayed.



**16** Press the PLAY/PAUSE button to start playback.

The LISTED indicator and the indicator on the PLAY/PAUSE button will light and playback of the selected recording will start.

**Note:** It is possible to skip the playback point to the listed time (motion detected time) by rotating the jog dial when the LISTED indicator is lit.

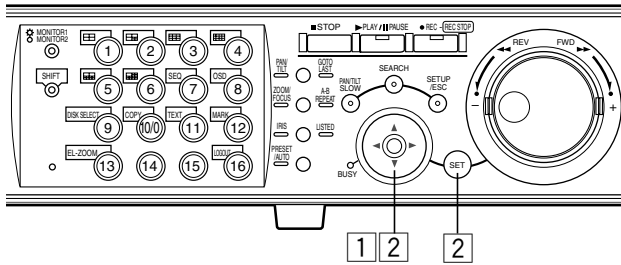
To return to normal playback, press the LISTED button.

**17** Press the STOP button to stop playback.

The indicator on the PLAY/PAUSE button will go off and playback will be stopped.

Live images will be displayed on monitor 2 and the VGA monitor.

## ■ To delete the motion detection area



- 1 Rotate the jog dial to select "DELETE AREA" on the status bar.



**Note:** To delete all the motion detection areas, select "DELETE ALL AREA" and press the SET button.

- 2 Move the cursor to the motion detection area to be deleted using the arrows button and press the SET button.

The selected area will be deleted.

## ● Detection Mode

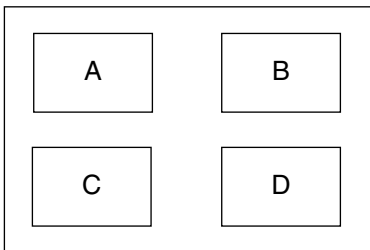
Set how to detect motion in the set motion detection area. There are 3 detection modes as follows:

### Important:

It is impossible to set two or more detection modes simultaneously.

### <ANY AREA mode>

It will be subject to be listed if "motion" is detected in any of the set motion detection areas.



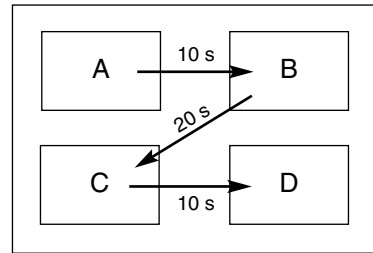
Any motion will be detected anywhere in the A, B, C, D areas.

**Note:** In the ANY AREA mode, it is possible to set the masking duration. When the masking duration is set, motion will be ignored for a certain period (set duration as the masking duration) in the same area. It is convenient to set the masking duration to make the subject period shorter in case it is necessary to search an extended time range or searching through many results.

### <VECTOR mode>

It will be subject to be listed if an object moves within the set time to the other detection areas in the set order.

The following is an example.

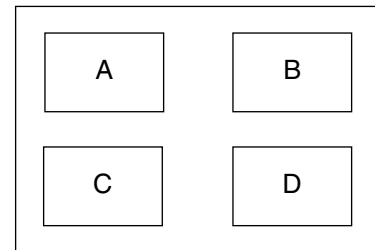


Motion is detected in area B within 10 seconds after being detected in area A.

Motion is detected in area C within 20 seconds after being detected in area B.

Motion is detected in area D within 10 seconds after being detected in area C.

When all of the above have occurred, an event action will be performed.



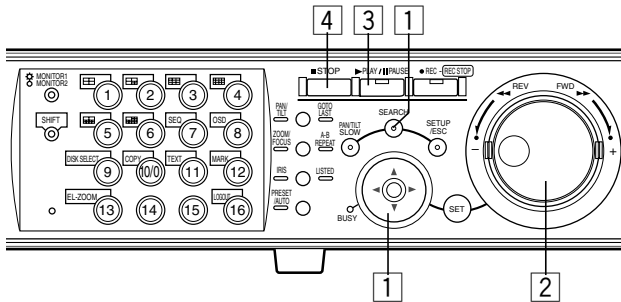
### <DURATION mode>

It will be subject to be listed if an object keeps moving for the set period in the detection area. For example, in case of the following settings; 10 sec. for areas A and B, 20 sec. for area C and 30 sec. for area D:

An event action will be performed when an object keeps moving more than the set period in the specified detection area.

## ■ Searching for a marked point and play from that point (Marking search)

Display the recording time of recorded images with a marked point in a list or a thumbnail and select the desired recording time to play. Refer to page 24 for further information about marking.



### 1 Press the SEARCH button repeatedly until the marking list window is displayed.

TIME&DATE	CAM
▶ APR.25.03*12:34:56 AM	01ch
▶ APR.25.03*12:34:56 AM	01ch
▶ APR.25.03*12:34:56 AM	01ch
▶ APR.25.03*12:34:56 AM	01ch
▶ APR.25.03*12:34:56 AM	01ch
▶ APR.25.03*12:34:56 AM	01ch
▶ APR.25.03*12:34:56 AM	01ch
▶ APR.25.03*12:34:56 AM	01ch
▶ APR.25.03*12:34:56 AM	01ch
▶ APR.25.03*12:34:56 AM	01ch

APR.25.03\*12:34:56 AM → APR.25.03\*12:34:56 AM TOTAL 12345

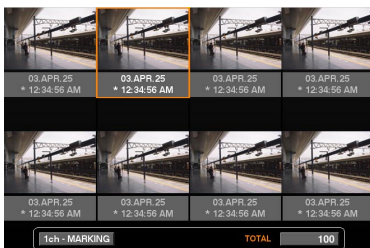
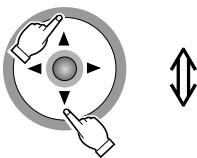
TIME&DATE ▶ SEARCH ▶ REC EVENT ▶ SEARCH ▶ VMD ▶ SEARCH ▶ MARK

The result list of the marking search will be displayed on monitor 2 and the VGA monitor. Use the arrows button (▼ ▲) to switch between displaying the list window and the thumbnail window alternately.

TIME&DATE	CAM
▶ APR.25.03*12:34:56 AM	01ch
▶ APR.25.03*12:34:56 AM	01ch
▶ APR.25.03*12:34:56 AM	01ch
▶ APR.25.03*12:34:56 AM	01ch
▶ APR.25.03*12:34:56 AM	01ch
▶ APR.25.03*12:34:56 AM	01ch
▶ APR.25.03*12:34:56 AM	01ch
▶ APR.25.03*12:34:56 AM	01ch
▶ APR.25.03*12:34:56 AM	01ch
▶ APR.25.03*12:34:56 AM	01ch

APR.25.03\*12:34:56 AM → APR.25.03\*12:34:56 AM TOTAL 12345

TIME&DATE ▶ SEARCH ▶ REC EVENT ▶ SEARCH ▶ VMD ▶ SEARCH ▶ MARK



To delete all displayed marking list, press the camera selection buttons [1] and [2] simultaneously for 2 seconds or more when displaying the marking list window.

### 2 Rotate the jog dial to select a desired marked time.

TIME&DATE	CAM
▶ APR.25.03*12:34:56 AM	01ch
▶ APR.25.03*12:34:56 AM	01ch
▶ APR.25.03*12:34:56 AM	01ch
▶ APR.25.03*12:34:56 AM	01ch
▶ APR.25.03*12:34:56 AM	01ch
▶ APR.25.03*12:34:56 AM	01ch
▶ APR.25.03*12:34:56 AM	01ch
▶ APR.25.03*12:34:56 AM	01ch
▶ APR.25.03*12:34:56 AM	01ch
▶ APR.25.03*12:34:56 AM	01ch

APR.25.03\*12:34:56 AM → APR.25.03\*12:34:56 AM TOTAL 12345

TIME&DATE ▶ SEARCH ▶ REC EVENT ▶ SEARCH ▶ VMD ▶ SEARCH ▶ MARK

### 3 Press the PLAY/PAUSE button.

The LISTED indicator and the indicator on the PLAY/PAUSE button will light, and playback a recorded image from the selected marked time will start.

#### Notes:

- It is possible to skip the playback point to the listed time (marked time) by rotating the jog dial when the LISTED indicator is lit. To return to normal playback, press the LISTED button.
- It is possible some recorded images with marked points may have been deleted by overwrite recording or the delete function.

### 4 Press the STOP button.

The indicator on the PLAY/PAUSE button will go off and playback will be stopped. Live images will be displayed on monitor 2 and the VGA monitor.

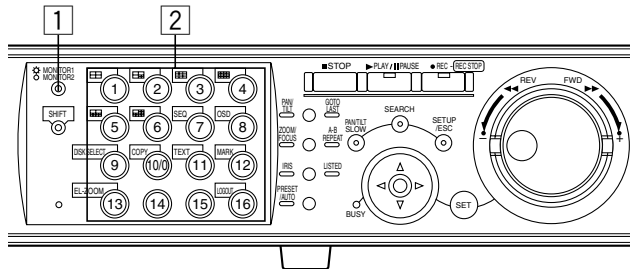
# MONITOR LIVE IMAGES

It is possible to display live images on a single screen or a multi-screen.

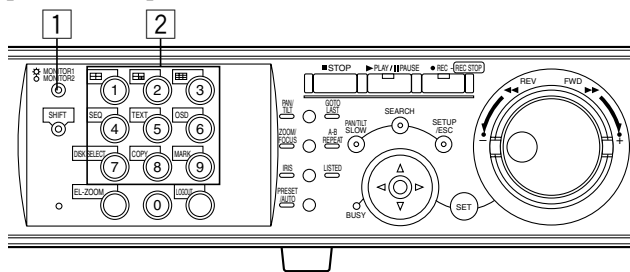
On a single sequential display (It is also possible that displayed images from cameras will be switched automatically)

## ■ Displaying Live Images on a Single Screen

[WJ-HD316]



[WJ-HD309]



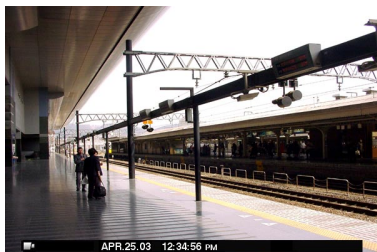
- 1 Press the MONITOR1/MONITOR2 button to select the monitor.

When monitor 1 is selected, the indicator will light.  
When monitor 2 or the VGA monitor is selected, the indicator will not light.

- 2 Press a camera selection button (1 - 16 for the WJ-HD316, 1 - 9 for the WJ-HD309) to select a camera.

Live images from the selected camera will be displayed and the respective camera selection button will light green or blue.

When monitor 2 is selected, live images will be displayed on the VGA monitor.

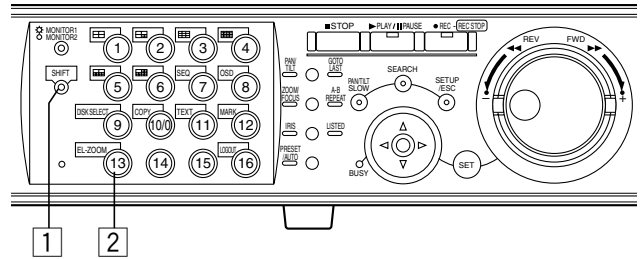


## ■ Electronic Zoom

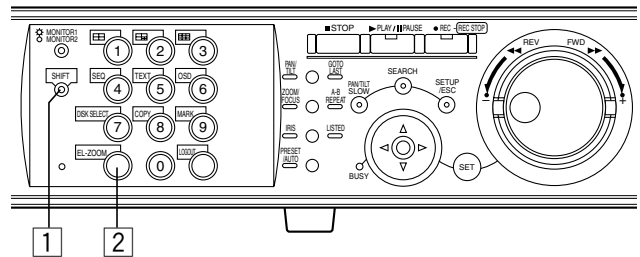
When displaying a single screen, zooming in on the displayed image is possible.

Electronic zoom is available only on the selected monitor. When the MONITOR1/MONITOR2 indicator is lit (the monitor 1 is selected), electronic zoom works only on monitor 1.

[WJ-HD316]



[WJ-HD309]



- 1 Press the SHIFT button when monitoring live images on a single screen.

The SHIFT indicator will light.

- 2 Press the EL-ZOOM button to enlarge the displayed image.

The displayed image will be displayed with x2 zoomed size.

Zooming level will change each time the EL-ZOOM button is pressed.

x2 → x4 → OFF

### Notes:

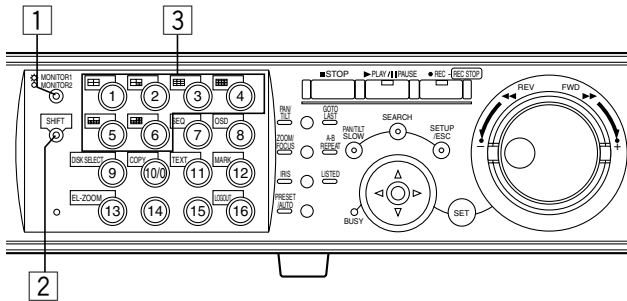
- When an image is zoomed in on (x2 or x4), it is possible to move the zoomed image using the arrows button.
- When any indicator of PAN/TILT, ZOOM/FOCUS, IRIS, PRESET/AUTO is lit, it is impossible to use the EL-ZOOM function.



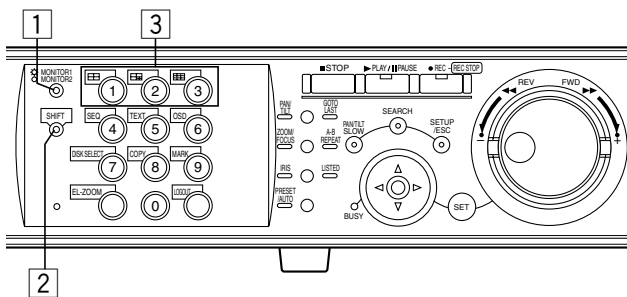
## ■ Displaying on a Multi-screen

It is possible to display images on a multi-screen (4, 7, 9, 10, 13, 16 for the WJ-HD316, 4, 7, 9 for the WJ-HD309).

### [WJ-HD316]



### [WJ-HD309]



#### 1 Press the MONITOR1/MONITOR2 button to select the monitor.

When monitor 1 is selected, the indicator will light.  
When monitor 2 is selected, the indicator will not light.

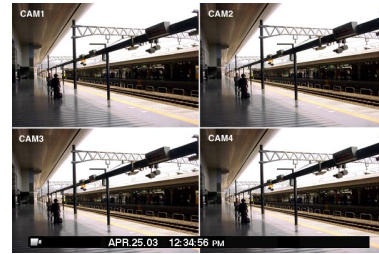
#### 2 Press the SHIFT button.

The SHIFT indicator will light.

#### 3 Press a camera selection button 1 - 6 (1 - 3 for the WJ-HD309) to select a desired multi-screen.

Camera selection button 1: 4-split screen  
Camera selection button 2: 7-split screen  
Camera selection button 3: 9-split screen  
Camera selection button 4: 16-split screen (Only for the WJ-HD316)  
Camera selection button 5: 10-split screen (Only for the WJ-HD316)  
Camera selection button 6: 13-split screen (Only for the WJ-HD316)

The camera selection buttons respective to live images displayed on a multi-screen will light green or blue.



When monitor 2 is selected in step 1, live images will also be displayed on the selected multi-screen on the VGA monitor.

#### To display on a single screen

Press the SHIFT button. The SHIFT indicator will go off.  
Press any of the camera selection buttons.  
Live images will be displayed on a single screen.

#### When displaying on a 4-split screen

Each time the camera selection button 4 is pressed, displayed camera channels will be changed as follows:  
WJ-HD316: 1-4 CH – 5-8 CH – 9-12 CH – 13-16 CH  
WJ-HD309: 1-4 CH – 5-8 CH – 9 CH

#### When displaying on a 9-split screen

Each time the camera selection button 9 is pressed, displayed camera channels will be changed as follows:  
Only for the WJ-HD316: 1-9 CH – 10-16 CH

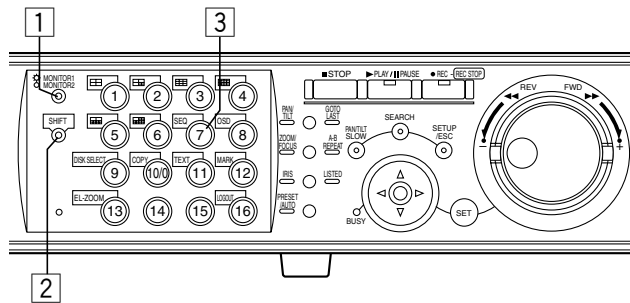


## ■ Sequential Display

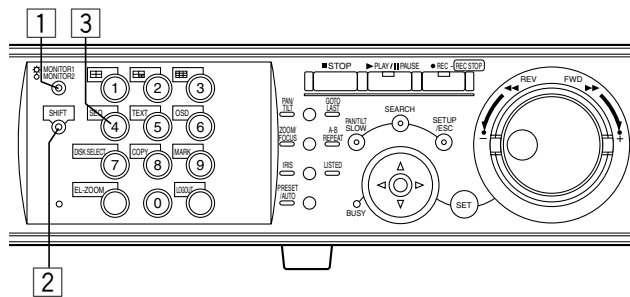
Displayed images from cameras will be switched automatically.

Camera images will be displayed sequentially according to the settings performed in advance.

### [WJ-HD316]



### [WJ-HD309]



#### 1 Press the MONITOR1/MONITOR2 button to select the monitor.

When monitor 1 is selected, the indicator will light.

When monitor 2 is selected, the indicator will not light.

#### 2 Press the SHIFT button.

The SHIFT indicator will light.

#### 3 Press the SEQ button.

The camera selection button respective to the displayed image will light green.

To stop sequential display, press the SEQ button.

When trying to display on a single screen or multi-screen during the sequential display, the sequential display will be stopped.

When monitor 2 is selected in step 1, the sequential display will also start on the VGA monitor.

# CONTROL CAMERAS

When displaying live images, the following camera controls are possible.

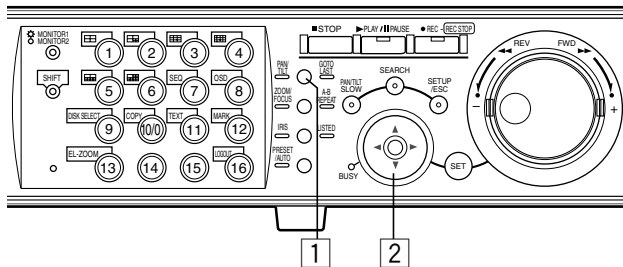
- Panning/tilting: Moves a camera horizontally/vertically.
- Zooming: Zooms in/out on images.
- Focus: Adjusts the focus.
- Iris: Adjusts the iris of the lens.
- Preset action: Moves a camera to the preset position registered in advance.
- Auto pan: Pans a camera automatically from the start point to the end point registered in advance.

## Notes:

- Controlling cameras is possible only when displaying images on a single screen.
- Depending on models of the connected cameras, it may be impossible to control the camera or some functions may not be available.
- Refer to page 123 for descriptions of how to display and perform the settings with the settings menu of the camera from this unit.

## ■ Panning/Tilting

Moves a camera horizontally/vertically.



### 1 Press the PAN/TILT button.

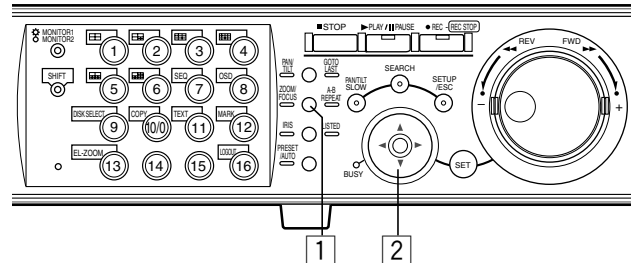
The PAN/TILT indicator will light.

### 2 Use the arrows button to adjust the vertical or horizontal position.

Camera will move slowly by pressing the arrows button while holding the SLOW button down.

## ■ Zoom

Zooms in/out on images. Depending on models of the connected cameras, the image size for the respective zooming level may be different. For further information, refer to the operating instruction for the camera.



### 1 Press the ZOOM/FOCUS button.

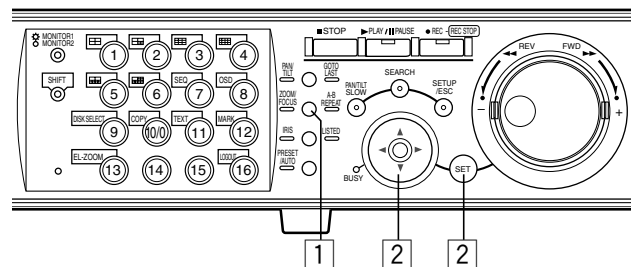
The ZOOM/FOCUS indicator will light.

### 2 Use the arrows button (▼▲) to zoom in on or out of the displayed image.

Press the arrows button downward (▼) to zoom out and upward (▲) to zoom in.

## ■ Focus

Adjusts the focus. The auto focus function is available.



### 1 Press the FOCUS button.

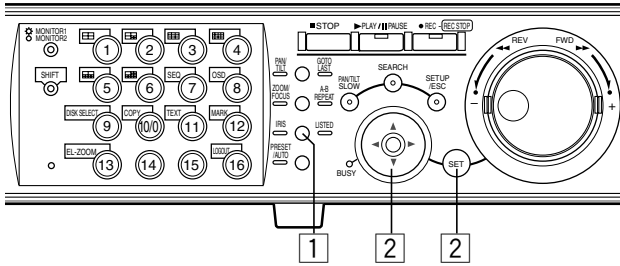
The ZOOM/FOCUS indicator will light.

### 2 Use the arrows button (◀▶) to adjust the focus.

Auto focus is available by pressing the SET button.

## ■ Iris

Adjusts the iris of the lens.



### 1 Press the IRIS button.

The IRIS indicator will light.

### 2 Use the arrows button (◀▶) to adjust the iris.

To reset the set iris, press the SET button.

## ■ Preset Action

Moves a camera to the preset position registered in advance.

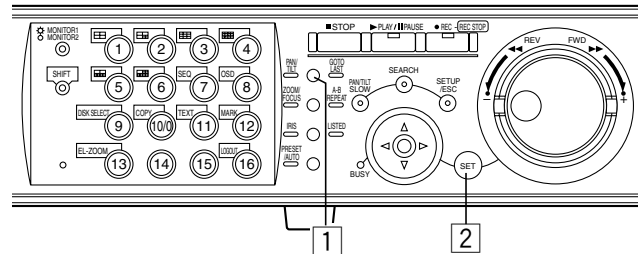
### Important:

When using the WV-CS654 or the WV-CS604A, register preset positions using the settings menu of the camera.

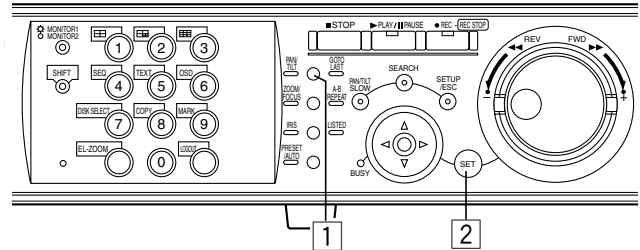
## ● Register Preset Positions of Cameras

Up to 64 preset positions can be registered.

### [WJ-HD316]

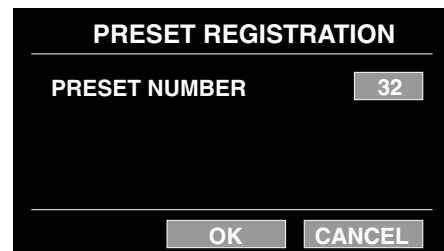


### [WJ-HD309]

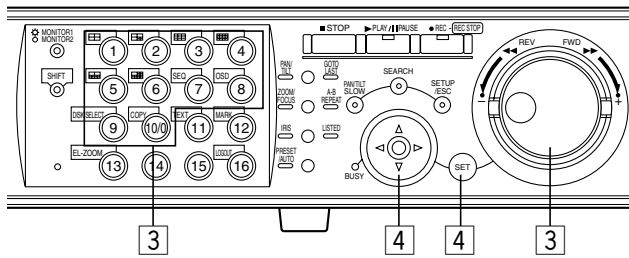


1 Press the PAN/TILT button and move the camera to a desired position to be registered as a preset position.

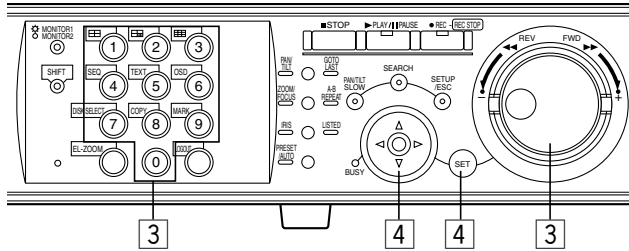
2 Press the SET button. The PRESET REGISTRATION window will be displayed.



## [WJ-HD316]



## [WJ-HD309]



- 3 Press a camera selection button ([1] - [10/0] for the WJ-HD316, [1] - [9], [0] for the WJ-HD309) to register a preset position number.

The pressed button number will be registered as a preset position number.

The jog dial also can be used to select a preset position number by rotating it.

Up to 64 can be registered as a preset position number.

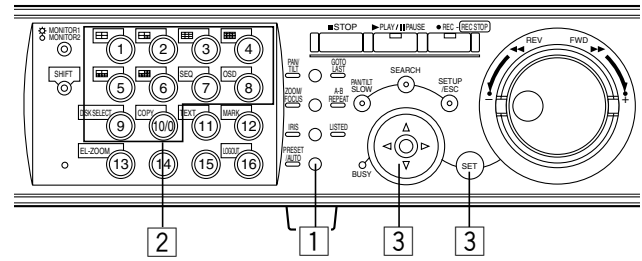
- 4 Select "OK" using the arrows button and press the SET button.

The adjusted camera position (currently displayed on the monitor) will be registered as a preset position with the selected preset position number.

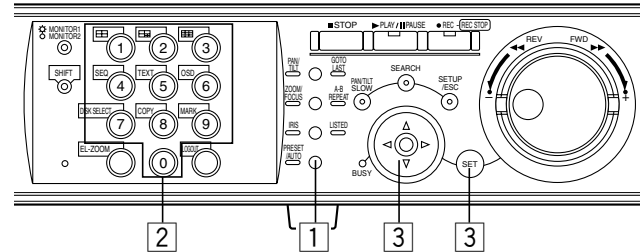
To cancel the selected preset position, select "CANCEL" using the arrows button and press the SET button. The setting will be canceled and the preset registration window will be closed.

## ■ Move a camera to the preset position

### [WJ-HD316]



### [WJ-HD309]



- 1 Press the PRESET/AUTO button.

The PRESET/AUTO indicator will light and the PRESET/AUTO PAN window will be displayed.

- 2 Press a camera selection button ([1] - [10/0] for the WJ-HD316, [1] - [9], [0] for the WJ-HD309) to select a desired preset position.

The jog dial can also be used to select a preset position number by rotating it.



- 3 Select "OK" using the arrows button and press the SET button.

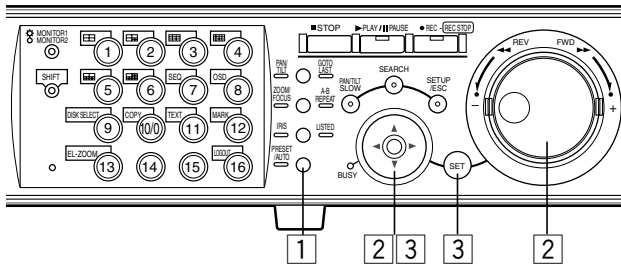
The PRESET/AUTO PAN window will be closed and the camera will move to the selected preset position.

When selecting "CANCEL" using the arrows button and press the SET button, the PRESET/AUTO PAN window will be closed.

**Note:** To move the camera to another registered preset position, press the SET button after selecting a desired preset position number in step 2. The PRESET/AUTO PAN window will not close and it is possible to select another preset number.

## ■ Auto Panning

Pans a camera automatically from the start point to the end point registered in advance.



### 1 Press the PRESET/AUTO button.

The PRESET/AUTO indicator will light and the PRESET/AUTO PAN window will be displayed.

### 2 Move the cursor to "AUTO PAN" using the arrows button and check the radio button next to "AUTO PAN" using the jog dial.



### 3 Select "OK" using the arrows button and press the SET button.

The PRESET/AUTO PAN window will be closed and auto panning will start.

During auto panning, it is impossible to register a preset position. To close the PRESET/AUTO PAN window, select "CANCEL" using the arrows button and press the SET button. The setting will be canceled and the PRESET/AUTO PAN window will be closed.

# ABOUT THE EVENT FUNCTION

The event action will be performed when the following events occur.

- **Motion detection:** When motion is detected by the motion detection function (see below), this is stated as an event of motion detection.
- **Video Loss:** When a video signal supply is stopped because of a cable disconnection or malfunction of a camera, this is stated as an event of video loss.
- **Terminal alarm:** When a signal is supplied from an external device such as a door sensor to the ALARM terminal, this is stated as an event of the terminal alarm.
- **Command alarm:** When a command alarm is supplied from a PC connected to the SERIAL connector on the rear panel of this unit, this is stated as an event of the command alarm.

## About the Motion Detection Function (VMD)

An alarm signal will be supplied when motion (luminance transition) is detected in a designated area. It is possible to save images recorded in the place where motion is detected, or send e-mails when motion is detected.

Refer to a system administrator for further information about the required settings for the motion detection function such as the settings of the detection area.

## ■ Action at an event occurrence

The event action will be performed according to the settings when an event occurs.

There are 2 event action modes for the alarm mode (ALARM) and the activity detection mode (ACT DET) for each event type. The event action will be different according to the event action mode set.

When an event of the alarm mode (ALARM) occurs, this unit activates the alarm action.

## About the event action mode

### ● Alarm Mode (ALARM)

This mode announces an event occurrence outside. Action taken in the alarm mode is referred to as the alarm action.

### ● Activity Detection Mode (ACT DET)

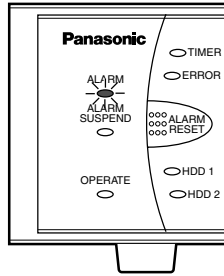
This mode records images in the place where an event occurred without announcing it.

Event Action	Alarm Mode	Activity Detection Mode
Start recording	✓	✓
Displays event information on the monitor.	✓	–
Blinks the alarm indicator.	✓	–
Sounds the buzzer.	✓	–
Switches from a displayed image to the image from the location of the alarm occurrence.	✓	–
Moves a camera to the pre-set position.	✓	✓
Announces an event occurrence by sending e-mails.	✓	–
Announces an event occurrence by the PS-Data/Serial (RS232C) commands.	✓	–
Supplies a signal from the ALARM connector or the ALARM/CONTROL connector on the rear panel of this unit (Alarm signal output).	✓	–
Records the event log.	✓	✓

✓ : Applicable    – : Not applicable

## ■ Alarm Function

- Blinks the ALARM indicator on the front panel

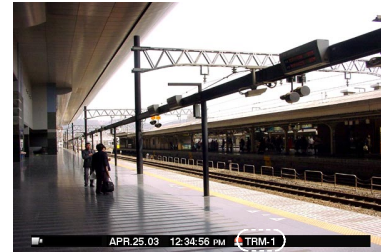
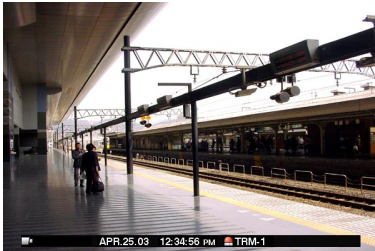
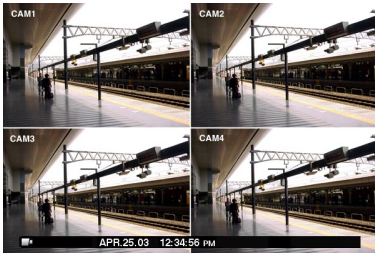


- Displays the event information in the alarm display area on monitor 1 and the camera title display area on monitor 2



<Monitor 1>

- Switches from the images displayed on monitor 1 and monitor 2 to the images from the location of the alarm occurrence (on a single screen)



<Monitor 2>

- Sounds the buzzer

Contact a system administrator about sounding duration.

- Announces an event occurrence to the connected system device (Alarm Output)

Sends a signal to the device connected to the ALARM/CONTROL connector, and the connected device such as a buzzer will be activated.

- Starts recording automatically

Starts recording the image from the location of the event occurrence automatically.

- Moves a camera to the preset position

A camera will move to the preset position registered in advance.

- Announces an event occurrence by sending e-mails

E-mails will be sent to addresses registered in advance. Refer to the Network Operating Instructions (pdf) on the provided CD-ROM.



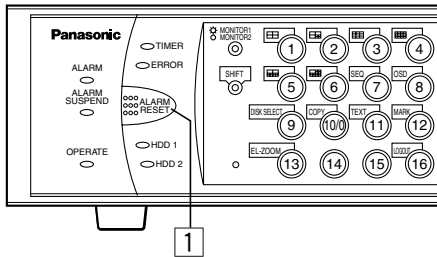
## ■ Cancel the Alarm Action

When an alarm has occurred, this unit will start the alarm action according to the selected alarm action mode.

To cancel the alarm action, press the ALARM RESET button.

When "ON" is selected for "Alarm Auto Reset" (on the "Alarm Setup" menu of "Event"), the following will be performed automatically even if the alarm action is not canceled by pressing the ALARM RESET button on the front panel.

- The ALARM indicator will stop blinking and light steadily
- The displayed alarm information will disappear
- The buzzer will stop beeping



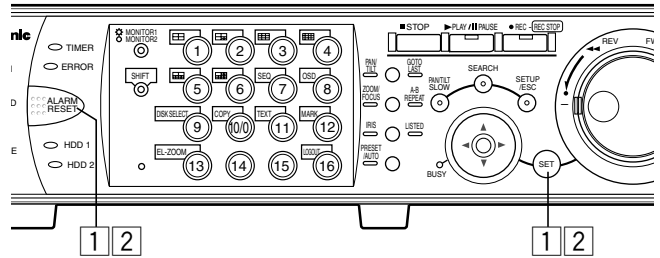
- 1 Press the **ALARM RESET** button to cancel the alarm actions.

The ALARM indicator will go off.

## ■ Suspend the Alarm Actions

It is possible to suspend (deactivate temporarily) the alarm actions even when an event has occurred.

This function will be useful when it is necessary not to activate the alarm actions for a certain period, such as when configuring the system. However, images and event logs will be recorded even when alarm actions are suspended.



### ● To suspend (deactivate temporarily) the alarm actions

- 1 Press both the **ALARM RESET** button and the **SET** button at the same time.

The ALARM SUSPEND indicator will light.

### ● To stop suspending the alarm actions

- 2 Press both the **ALARM RESET** button and the **SET** button at the same time again.

The ALARM SUSPEND indicator will go off.

**Note:** When an external switch is connected to the ALARM/CONTROL connector on the rear panel, it is possible to suspend the alarm actions using the external switch.

In this case, the alarm actions will be suspended when the external switch is on.

To stop suspending the alarm actions, set the external switch to off.

# COPYING (Duplicate)

It is available to copy (duplicate) manually the recorded images in the copy area of the built-in hard disk to the external recording device (DVD-RAM disk, DVD-R disk, CD-R disk) connected to the unit.

It is recommended to make back-up copies on a regular basis for unexpected situations such as malfunction of the hard disk.

Manual copy is available during the following.

- While displaying live images
- While pausing playback of recorded images
- When displaying a searching window (Recording event list window, VMD search list window, Marking list window)  
(Manual copy is not available when a thumbnail window is displayed.)

## Notes:

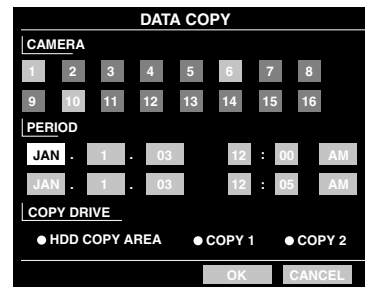
- The auto copy function is available for copying recorded images automatically. When the auto copy function is enabled, manual copy is not available. Refer to a system administrator for further information about the auto copy function.
- To copy during playback of recorded images, pause playback temporarily.
- To copy recorded images on the DVD-RAM disk, formatting (initializing) the DVD-RAM disk is required in advance. Refer to page 52 for the descriptions of how to format DVD-RAM disks.

## 1 Press the SHIFT button.

The SHIFT indicator will light.

To copy recorded images during playback, pause the playback temporarily.

## 2 Press the COPY button.



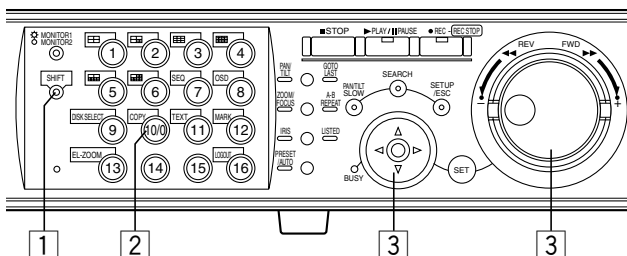
The DATA COPY window will be displayed on monitor 2 and the VGA monitor.

The DATA COPY window will not be displayed when a thumbnail window is displayed.

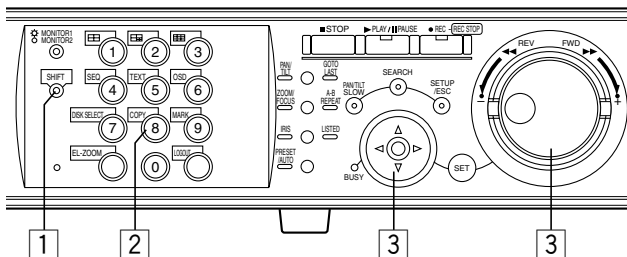
In this case, display a list window using the arrows button (▼ ▲).

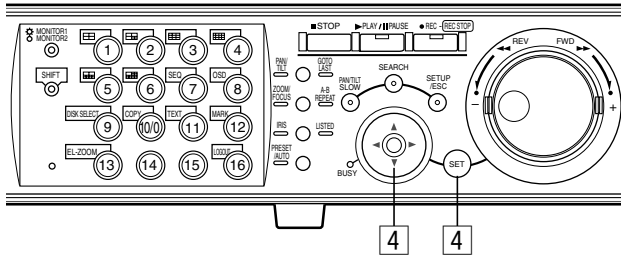
## 3 Perform the settings for data copy (camera channel, time range, the disk on which images are to be copied). Move the cursor to each setting item using the arrows button and select a parameter by rotating the jog dial.

### [WJ-HD316]



### [WJ-HD309]



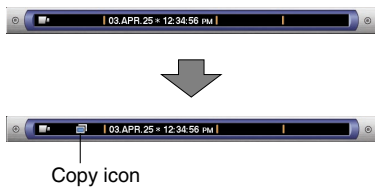


**4 Select the "OK" button using the arrows button and press the SET button.**

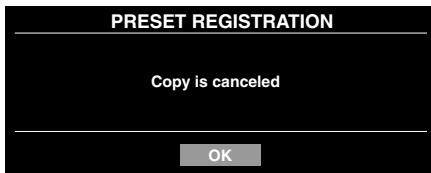
The DATA COPY window will be closed and data copy will start.

The copy icon will be displayed on the task bar during copying.

To close the DATA COPY window, select "CANCEL" using the arrows button and press the SET button. The setting will be canceled and the DATA COPY window will be closed.



When the selected COPY DRIVE is not found, copying will not start and the DATA COPY window will not be closed even when the SET button is pressed after selecting "OK".



**Important:**

To eject the disk, do the following during live images are displayed.

**<To eject the disk of COPY1>**

Confirm the SHIFT indicator is lit. Then, press the camera selection button [10/0] and [1] ([0] and [1] for the WJ-HD309) simultaneously for 2 seconds or more.

**<To eject the disk of COPY2>**

Confirm the SHIFT indicator is lit. Then, press the camera selection button [10/0] and [2] ([0] and [2] for the WJ-HD309) simultaneously for 2 seconds or more.

# DISK MANAGEMENT

Perform the settings for the built-in hard disk of the unit, the extension unit and the DVD-RAM disk. These are the descriptions of how to delete recorded images on the hard disk and how to format a DVD-RAM disk. Refer to a system administrator for further information about the other disks.

## ■ Deletion of recorded images saved on the hard disk manually

Delete recorded images saved in the normal area or the event area of the hard disk manually.

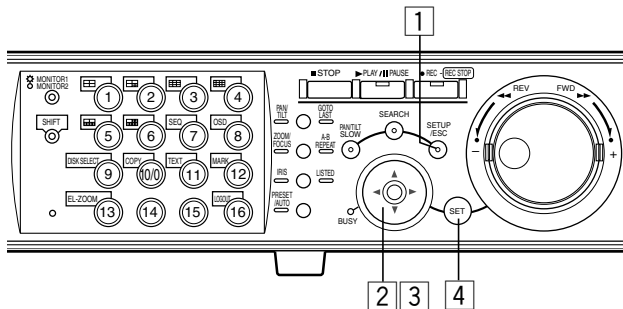
By setting a time and date, images in the normal record area of the hard disk recorded before the set time and date will be deleted.

It is recommended to delete manually when available disk space is running out.

### Important:

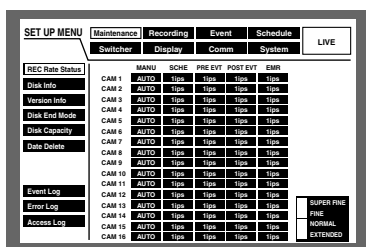
It is impossible to recover the deleted images.

**Note:** It is possible to delete recorded images automatically when the set days have passed from the day the image was recorded (Auto Delete). Refer to a system administrator for further information.

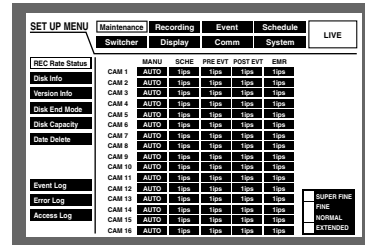


- 1 Press the **SETUP/ESC** button for 2 seconds or more.

The SETUP MENU will be displayed on monitor 2 and the VGA monitor.

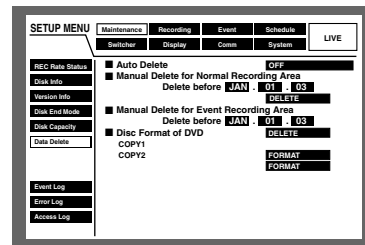


- 2 Move the cursor to **"Maintenance"** using the arrows button (▼ ▲ ◀ ▶) and press the **SET** button.



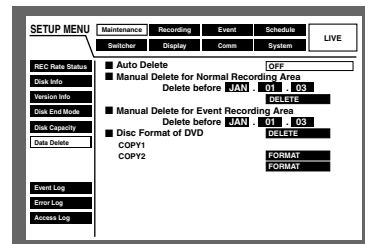
- 3 Move the cursor to **"Data Delete"** using the arrows button (▼ ▲).

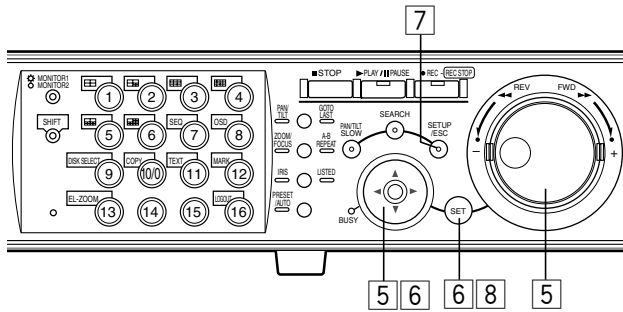
The "Data Delete" menu will be displayed.



- 4 Press the **SET** button.

The cursor will be displayed on the "Data Delete" menu.



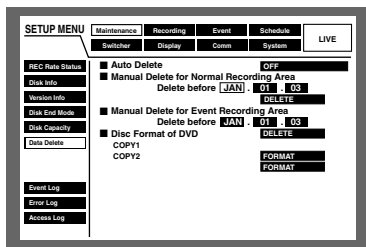


**8 Press the SET button for 2 seconds or more.**

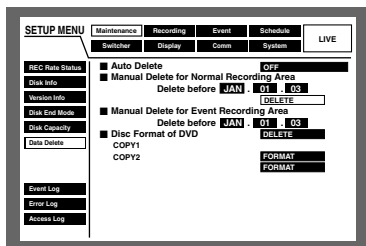
The SETUP MENU will be closed and the live images will be displayed.

**5 Move the cursor to "Manual Delete for Normal Recording Area" or "Manual Delete for Event Recording Area" using the arrows button, and set time and date using the jog dial.**

The images recorded the day before the set time and date will be subject to be deleted.

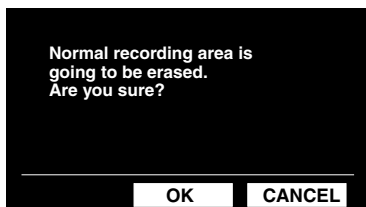


**6 Move the cursor to "DELETE" using the arrows button and press the SET button.**



The confirmation window will be displayed.

**7 Select "OK" using the arrows button and press the SETUP/ESC button.**



To not delete, select "CANCEL".

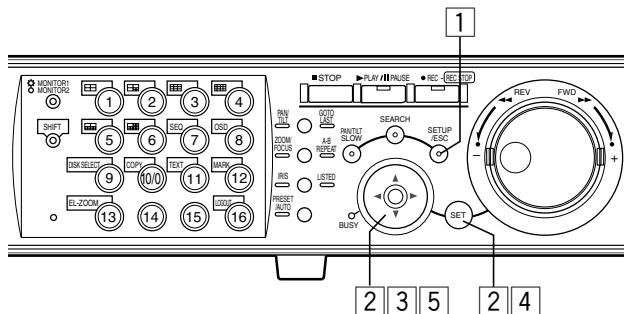
# FORMAT (INITIALIZE) A DVD-RAM DISK

To copy (duplicate) recorded images onto the DVD-RAM disk, formatting (initializing) the DVD-RAM disk is required in advance.

To delete images recorded on the DVD-RAM disk, formatting (initialization) of the DVD-RAM disk is also required.

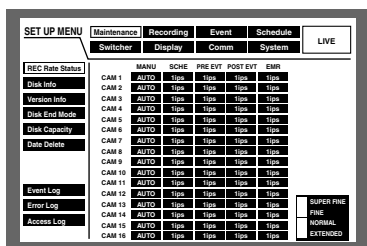
## Important:

All data on the disk will be deleted if formatted (initialized). It is impossible to recover the deleted images.

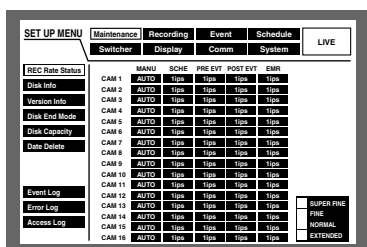


- 1 Press the ESC/SETUP button for 2 seconds or more.

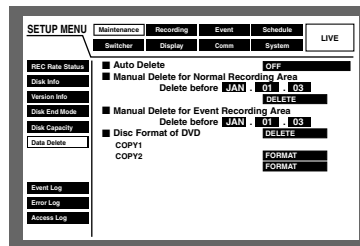
The SETUP MENU will be displayed on monitor 2 and the VGA monitor.



- 2 Select "Maintenance" using the arrows button and press the SET button.

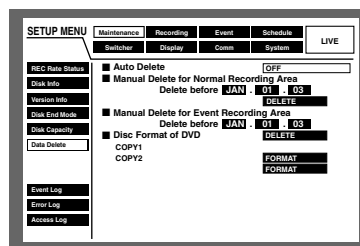


- 3 Select "Data Delete" using the arrows button (▼ ▲).

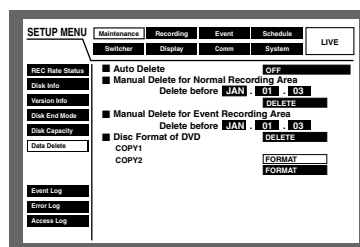


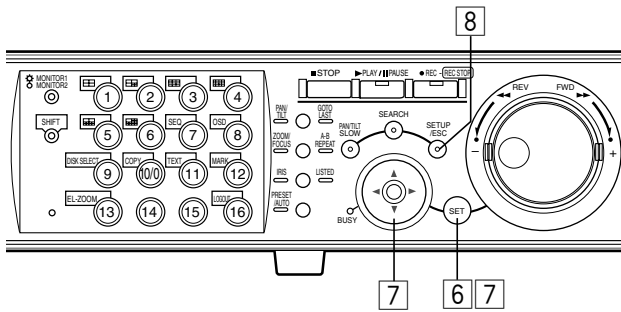
- 4 Press the SET button.

The cursor will be displayed on the "Data Delete" menu.



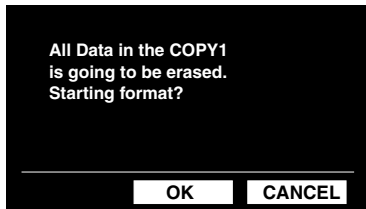
- 5 Select either "COPY1" or "COPY2" (port to which the DVD-RAM is connected) for "Disc Format of DVD" using the arrows button.





**6 Press the SET button to select "FORMAT".**

The confirmation window will be displayed.



**7 Move the cursor to "OK" using the arrows button and press the SET button to start formatting.**

To stop formatting, select "CANCEL" and press the SET button.

During formatting, the status window will be displayed.

The status window will be closed automatically after completing formatting.

**8 Press the SETUP/ESC button to close the SETUP MENU window.**

Live images will be displayed on monitor 2 and the VGA monitor.



# DISPLAY/EDIT TEXT INFORMATION

It is possible to attach text information to images when recording.

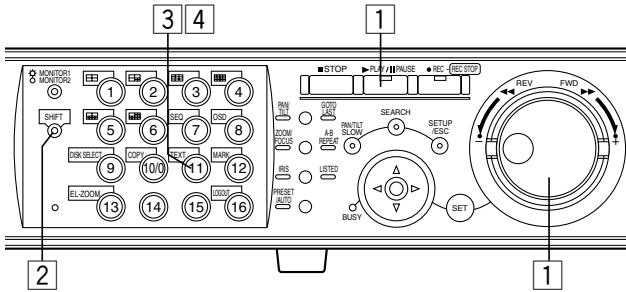
Entering 20 characters for a line (up to 10 lines, with a total of 200 characters) is possible.

These are the descriptions of how to display/edit the attached text information for images.

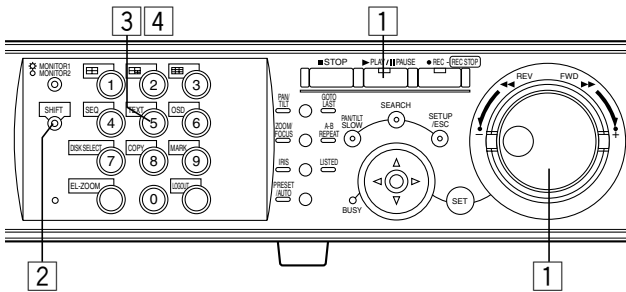
**Note:** Displaying/editing text information is possible during the following.

- While pausing playback on a single screen
- While displaying the recording event list window

## [WJ-HD316]



## [WJ-HD309]



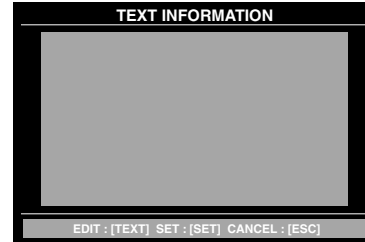
- 1 **<While pausing playback on a single screen>**  
Press the **PLAY/PAUSE** button to stop playback.  
**<While displaying the recording event list window>**  
Select a desired recording event by rotating the jog dial.

TIME&DATE	CAMERA	REC EVENT	TEXT	UNLOCK FILTER
▶ APR.25.03*12:34:56 AM	01ch	MANUAL	ABCDEFGHIJ	
▶ APR.25.03*12:34:56 AM	01ch	MANUAL	ABCDEFGHIJ	
▶ APR.25.03*12:34:56 AM	01ch	MANUAL	ABCDEFGHIJ	
▶ APR.25.03*12:34:56 AM	01ch	MANUAL	ABCDEFGHIJ	
▶ APR.25.03*12:34:56 AM	01ch	MANUAL	ABCDEFGHIJ	
▶ APR.25.03*12:34:56 AM	01ch	MANUAL	ABCDEFGHIJ	
▶ APR.25.03*12:34:56 AM	01ch	MANUAL	ABCDEFGHIJ	
▶ APR.25.03*12:34:56 AM	01ch	MANUAL	ABCDEFGHIJ	
APR.25.03*12:34:56 AM → APR.25.03*12:34:56 AM			TOTAL	100
TIME&DATE ▶ SEARCH ▶ REC EVENT ▶ SEARCH ▶ VMD ▶ SEARCH ▶ MARK				

- 2 **Press the SHIFT button.**

The SHIFT indicator will light.

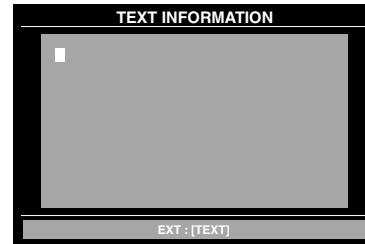
- 3 **Press the TEXT button to display the TEXT INFORMATION window.**



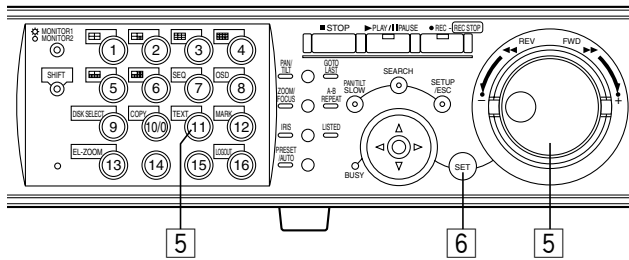
Text information attached to the paused playback image or text information attached to the selected recording event will be displayed.

To close the TEXT INFORMATION window, press the SETUP/ESC button or the SET button.

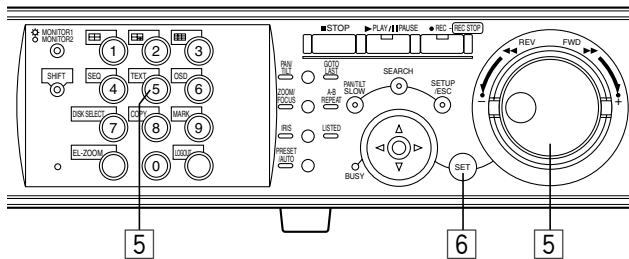
- 4 **Press the TEXT button again to edit text information.**



## [WJ-HD316]



## [WJ-HD309]



### 5 Edit text information using the arrows button and the jog dial.

- **To insert a character**

Move the cursor to a desired point where a character is to be inserted using the arrows button, and select a character using the jog dial.

- **To delete a character**

Move the cursor to a character to be deleted using the arrows button, and press the STOP button.

- **To delete all characters**

Press the STOP button for 2 seconds or more.

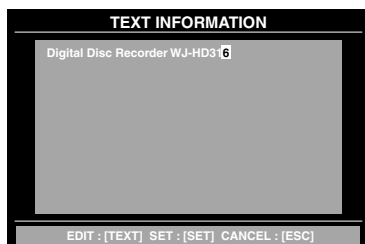
- **Available characters**

The following characters can be entered:

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

Press the TEXT button after editing text.

### 6 Press the SET button to apply the edited characters.



To cancel the edit, press the SETUP/ESC button. The edited characters will not be applied.

## Important:

It is impossible to edit text information using the system controller.

# ERROR/WARNINGS

- **The "error" status**

When a fatal error (one that might cause the system to go down) has occurred, the ERROR indicator will blink red.

- **The "warning" status**

When an error (even though it has not caused the system trouble yet, but which may become a fatal error) has occurred, the ERROR indicator will blink orange.

Indication	Status	Description	Solution
ALT-*	Error	Recorded image has been altered. Playback will be paused.	Press the ALARM RESET button to cancel the error status. Press the PLAY/PAUSE button to resume playback.
R-ERROR	Error	Failed to read data from the HDD. The HDD may be malfunctioning.	Press the ALARM RESET button to cancel the error status. Contact the dealer to replace the hard disk.
W-ERROR	Error	Failed to write data on the HDD.	Press the ALARM RESET button to cancel the error status. Contact the dealer to replace the hard disk.
SMART	Warning	The hard disk may be malfunctioning and may not work correctly.	Press the ALARM RESET button to cancel the warning status. Contact the dealer to replace the hard disk.
H-METER	Warning	The set time for the HOUR METER has passed. (Refer to page 91.) It may be reaching the end of the hard disk's lifetime.	Press the ALARM RESET button to cancel the warning status. Contact the dealer to replace the hard disk.
THERMAL	Warning	Thermal error of the unit or the extension unit has been detected.	Press the ALARM RESET button to cancel the warning status. If thermal errors occur frequently, the unit may be malfunctioning. Contact the dealer.
POWER	Warning	The power outage alert signal is supplied from the uninterruptible power supply system (UPS). Internal processing will start when the set time for "Shutdown Time" on the "Basic Setup" menu of "System" has passed after having received the power outage alert signal. (Refer to page 117.) When the internal processing starts, recording will stop and all operations will be invalid.	Press the ALARM RESET button to cancel the warning status. The unit will start operation automatically after the UPS starts power supply.
#-nn% (available disk space is running out) #-FULL (no available disk space)	Error Warning	The hard disk is almost full or completely full.	Press the ALARM RESET button to cancel the error or the warning status. Initialize or replace the hard disk. (Refer to page 124, 129.) When initialized, all recorded data will be deleted. It is recommended to copy the data using an external recording device.
		The DVD-RAM disk is almost full or completely full.	Press the ALARM RESET button to cancel the error or the warning status. Initialize the DVD-RAM disk. (Refer to page 52.) When initialized, all recorded data will be deleted.
		The CD-R or DVD-R disk is almost full or completely full.	Press the ALARM RESET button to cancel the error or the warning status. Replace the disk with new one.

Indication	Status	Description	Solution
MEDIUM-n	Warning	The external recording device is not operable because no disk or different format disk has been inserted, etc.	Press the ALARM RESET button to cancel the warning status. Confirm that a disk has been inserted, or check the inserted disk format.
REMOVE	Error	An error has occurred on the hard disk and the hard disk has been unmounted from the system automatically.	Press the ALARM RESET button to cancel the error status. Contact the dealer.
FAN	Warning	The fan of this unit or the extension unit is malfunctioning. It may produce an increase in temperature in the unit and cause malfunction of the HDDs.	Press the ALARM RESET button to cancel the warning status. Contact the dealer.

\* : Camera number

# : Partition number (Refer to page 14.)

nn : Available disk space (percentage)

n : COPY port number to which an external recording device is connected

# OPERATION USING A SYSTEM CONTROLLER

It is possible to operate this unit using a PS-Data compatible system controller.















































































The following are the descriptions of how to operate this unit using the system controller WV-CU360C.

To operate this unit using a PS-Data compatible system controller, perform the required settings in advance. Refer to a system administrator for further information.
























































**Note:** To perform the operation with buttons with the shadowed background (■), press the SHIFT button of the system controller to light the SHIFT indicator on the right side of the SHIFT button.

Item	WJ-HD316/WJ-HD309	WV-CU360C	Note
Open/Close the SETUP MENU			
Select an item			
Change the set parameter			
Change the cursor position			
Press a button on the pop-up menu			
Return to the previous menu			
Summer time OFF	Set on the SETUP MENU		
Summer time ON	Set on the SETUP MENU		
Timer recording OFF	Set on the SETUP MENU		
Timer recording EXT	Set on the SETUP MENU		
Display the recording event list			Press the [5] button to select whether or not to display the searching filter window.
Display the VMD search list			
Display the marking list			
Display the menu for playback by designating time and date			Press the SET button to resume playback.
Move the cursor to search for an item	Press ◀ or ▶.		
Display a list/thumbnail			
Move the cursor to select			
Close the searching window			

Item	WJ-HD316/WJ-HD309	WV-CU360C	Note
Alarm reset			
Alarm suspension	+		
Manual recording		→	
Stop manual recording	Press for 2 seconds or more	→	Available only during recording
Stop playback/manual recording	Press for 2 seconds or more	→	Both recording and playback will be stopped if operating the controller as shown on the left.
Play		→	Press the SET button to play the selected result from the searching window.
Play at normal speed	During playback  Rotate the shuttle ring	→	
Play at 2x speed	During playback  Rotate the shuttle ring	→	
Play at 5x speed	During playback  Rotate the shuttle ring	→	
Play at 10x speed	During playback  Rotate the shuttle ring	→	
Play at 20x speed	During playback  Rotate the shuttle ring	→	
Play at 50x speed	During playback  Rotate the shuttle ring	→	
Play at 100x speed	During playback  Rotate the shuttle ring	→	
Reverse play at normal speed	During playback  Rotate the shuttle ring	→	
Reverse play at 2x speed	During playback  Rotate the shuttle ring	→	
Reverse play at 5x speed	During playback  Rotate the shuttle ring	→	
Reverse play at 10x speed	During playback  Rotate the shuttle ring	→	
Reverse play at 20x speed	During playback  Rotate the shuttle ring	→	
Reverse play at 50x speed	During playback  Rotate the shuttle ring	→	
Reverse play at 100x speed	During playback  Rotate the shuttle ring	→	
Pause playback		→	Available only during playback

Item	WJ-HD316/WJ-HD309	WV-CU360C	Note
Skip to the next frame	During pausing  Rotate the jog-dial	 → 	Available only during pause
Skip to the previous frame	During pausing  Rotate the jog-dial	 → 	Available only during pause
Skip forward	During playback  Rotate the jog-dial	  → 	The point to be skipped to will be different between normal playback and filtered playback.
Skip backward	During playback  Rotate the jog-dial	  → 	The point to be skipped to will be different between normal playback and filtered playback.
Mark start point for the A - B repeat playback	 	  → 	Available only during playback
Mark end point for the A - B repeat playback	 	  → 	Available only during playback
Cancel the A-B repeat playback	 	  → 	Available only during playback
Skip to the latest recorded image	 	  → 	Available only during playback
Filtering off	 	  → 	Available only during the filtered playback
Filtering on	 	  → 	Available only when it is possible to switch to the filtered playback
Mark a point (For the WJ-HD316)	 + 	  → 	
Mark a point (For the WJ-HD309)	 + 	  → 	
Select monitor 1		 → 	
Select monitor 2		 → 	
Sequential display ON (For the WJ-HD316)	 + 		It is possible to stop the sequential display by pressing a camera selection button.
Sequential display ON (For the WJ-HD309)	 + 		It is possible to stop the sequential display by pressing a camera selection button.
Select a camera (For the WJ-HD316)	Camera selection buttons (1 - 16)	Camera number → 	
Select a camera (For the WJ-HD309)	Camera selection buttons (1 - 9)	Camera number → 	
Select a multi-screen (For the WJ-HD316)	 +  ⋮  + 		Switches in the following order each time the button is pressed 1 - 4 CH → 5 - 8 CH → 9 - 12 CH → 13 - 16 CH → 1 - 7 CH → 1 - 9 CH → 10 - 16 CH → 1 - 13 CH → 1 - 16 CH
Select a multi-screen (For the WJ-HD309)	 +  ⋮  + 		Switches in the following order each time the button is pressed 1 - 4 CH → 5 - 8 CH → 9 CH → 1 - 7 CH → 1 - 9 CH



Item	WJ-HD316/WJ-HD309	WV-CU360C	Note
Zoom ON/OFF	 		Zooming level changes in this order: 2x → 4x → 1x
Text information display ON (For the WJ-HD316)	 + 	  → 	Available only when displaying a list or when pausing playback
Text information display ON (For the WJ-HD309)	 + 	  → 	Available only when displaying a list or when pausing playback
Text information display OFF (For the WJ-HD316)	 + 	  → 	Available only when displaying text information
Text information display OFF (For the WJ-HD309)	 + 	  → 	Available only when displaying text information
Display the DATA COPY menu (For the WJ-HD316)	 + 	  → 	Available only when displaying live images or a list, or when pausing playback
Display the DATA COPY menu (For the WJ-HD309)	 + 	  → 	Available only when displaying live images or a list, or when pausing playback
Close the DATA COPY menu	When displaying the copy setup menu 	  → 	Available only when displaying the DATA COPY menu
Cancel copying (For the WJ-HD316)	During copying 	  → 	
Cancel copying (For the WJ-HD309)	During copying 	  → 	
Switch displayed information (For the WJ-HD316)	 + 	  → 	
Switch displayed information (For the WJ-HD309)	 + 	  → 	

# OPERATION USING A PC

It is possible to perform the settings or operate the unit using a web browser installed on a PC when this unit is connected to a network.

The available features and the system requirements of a PC are as follows.

Refer to the Network Operating Instructions (pdf) on the provided CD-ROM.

## ■ Features

It is possible to operate this unit using a web browser in much the same way as using the buttons on the front panel of this unit.

The following functions are available when using a PC via a network as well as the functions operable using the buttons on the front panel of the unit.

### ● Downloading/transmitting images

It is possible to download (save) the currently displayed image in the web browser window onto the hard disk of a PC. By establishing an FTP server, it is possible to transmit images to a designated FTP server. When an event occurs, it is possible to transmit images from the camera installed in the place where the event occurred.

### ● Event notification function

When an event occurs, it is possible to send e-mails to designated addresses to notify of the event occurrence. It is also possible to send an e-mail with a recorded image of the place where the event occurred.

### ● Host authentication

It is possible to restrict devices from operating this unit if their IP addresses are not registered.

## ■ System Requirements of a PC

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

### OS:

One of the following operating systems:  
Microsoft® Windows® 2000 Professional SP4  
Microsoft® Windows® XP Professional or Home Edition SP1

### PC:

IBM PC/AT Compatible

### CPU:

Intel Pentium, IV 1.4 GHz or faster

### Memory:

256 MB or more

### Monitor:

1024 x 768 pixels or more, HIGH color 16 bit or more

### Interface:

Built-in network interface card compatible 10/100 Mbps

### Recommended web browser:

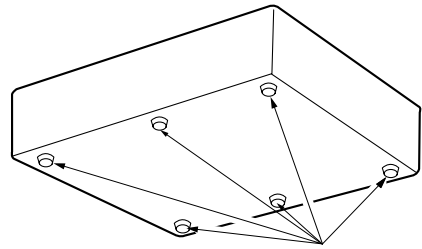
Microsoft Internet Explorer 5.5SP2, 6.0 SP1  
Other web browsers are not compatible with this unit.

### Important:

The plug-in software must be installed. Install the plug-in software from the provided CD-ROM.  
Refer to "readme.txt" on the provided CD-ROM for the descriptions of how to install it.

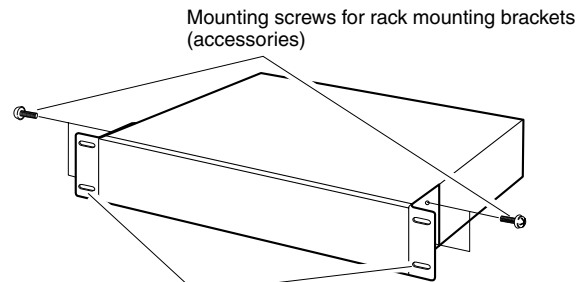
# INSTALLATION IN THE RACK

1. Remove the rubber legs (6 pcs.) on the bottom of the unit.
  - Use a flat-blade screwdriver and remove the screws.



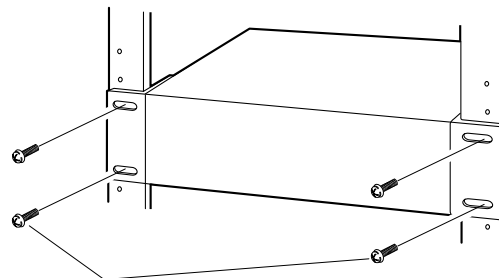
Remove the rubber legs.

2. Install the rack mounting brackets on both sides of the unit.
  - Using the mounting screws (4 pcs.) for the rack mounting brackets, fix them firmly.



Rack mounting brackets (accessories)

3. Install the unit in the rack.
  - Fix the unit firmly with the rack mounting screws (4 pcs.).



Rack mounting screws  
For our rack: Nominal diameter 5 tapping (accessory)

## Important:

- The cooling fan inside the unit is perishable and must be replaced periodically.
- Do not block the ventilation openings or slots in the cover to prevent the unit from overheating.
- If the rack is subject to vibration, secure the rear of the unit to the rack using additional mounting brackets (not included).

# OPERATING THE UNIT FOR THE FIRST TIME

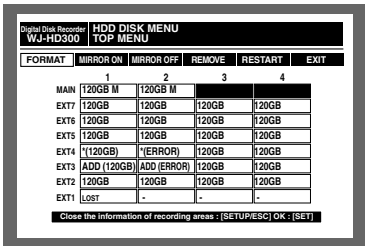
**Important:**

When connecting an optional extension unit (the WJ-HDE300 series), turn on the power of the extension unit before turning the power of this unit on.

**1 Turn on the POWER switch.**

**2 Press the SET button during the system check complete window is displayed.**

The HDD DISK MENU window will be displayed. Perform the settings with this menu according to your needs. Refer to page 16 for further information.

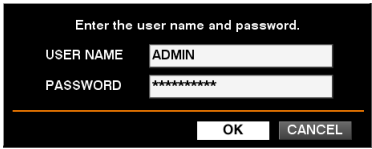


After completing the settings, press any button to close the HDD DISK MENU.

The login window will be displayed. When "ON" is selected for "Auto Login" of "Basic Setup" on the "System" menu, the login window will not be displayed. (The default setting is ON.)

**3 Enter a user name and password.**

Live images will be displayed after logging in. Refer to page 16 for further information about the user name and password.

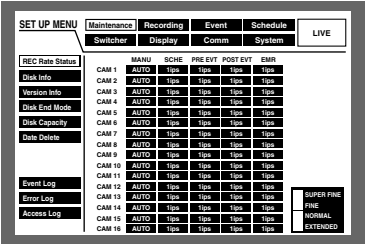


**Notes:**

- With the default setting, the disk space is set as the normal recording area. Perform the settings for each recording area according to your needs.
- The default user name and password are as follows:  
**User name:** ADMIN  
**Password:** 12345

**4 Press the SETUP/ESC button for 2 seconds or more.**

The SETUP MENU will be displayed. Adjust the clock of the unit with this menu. Refer to page 17 for further information about clock adjustment.



**5 With the default setting, the unit is ready to start manual recording. Perform the settings for recordings or event actions according to your needs.**

# Preparation for maintenance (HDD replacement, installation, etc.)

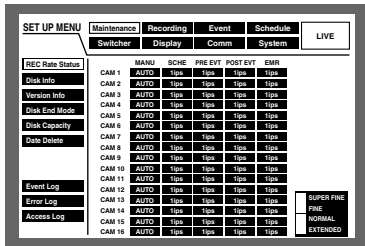
When maintaining (HDD replacement, installation, etc.) without turning the power of the unit off, carry out the following operation after setting the HDD SAFETY MODE to ON. (The default setting is OFF.)

This can be set on the "Disk Info" menu of "Maintenance". Refer to page 91 for further information.

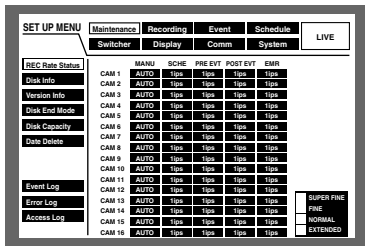
Do the following before starting operation when maintaining (HDD replacement, installation, etc.).

## 1 Press the SETUP/ESC button for 2 seconds or more.

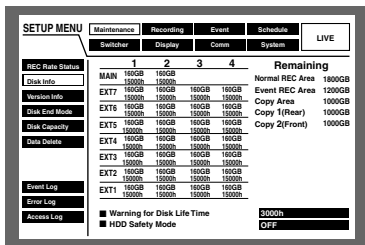
The SETUP MENU will be displayed on the monitor 2 and the VGA monitor.



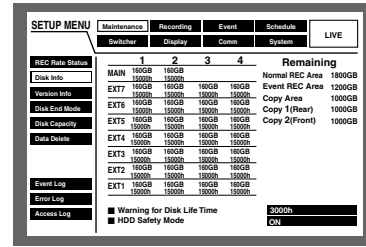
## 2 Select "System" using the arrows button and press the SET button.



## 3 Move the cursor to "Disk Info" using the arrows button (▼ ▲) and press the SET button.

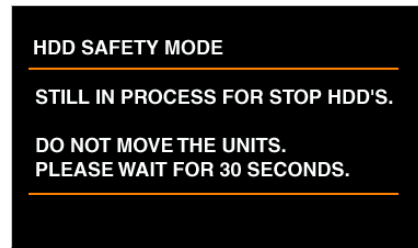


## 4 Move the cursor to "HDD Safety Mode" and rotate the jog dial to select "ON".



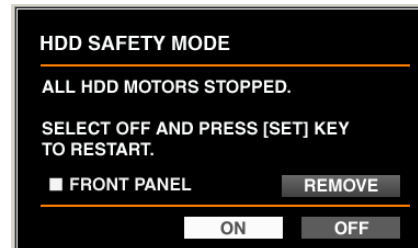
## 5 Press the SETUP/ESC button for 2 seconds or more.

The SETUP MENU will be closed. The unit will restart automatically and the HDD SAFETY MODE window will be displayed. The HDD safety mode will begin.



The camera selection buttons (1 - 16 for the WJ-HD316, 1 - 9, 0 for the WJ-HD309) will light green and orange (for 2 seconds each) alternately.

The following window will be displayed after around 30 seconds.



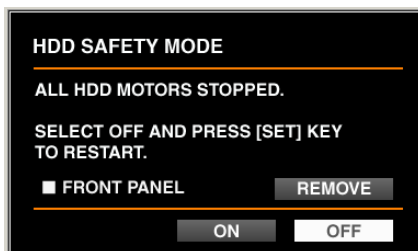
Start maintenance after this window is displayed. The procedures are different between the replacement of the hard disks and the installation of the unit (rack mounting/unmounting).

Refer to the following descriptions.

When the system check has been completed, the HDD SAFETY MODE window (as shown below) will be displayed. The camera selection buttons on the front panel (1 - 16 for the WJ-HD316, 1 - 9, 0 for the WJ-HD309) will light green and orange (for 2 seconds each) alternately.



Move the cursor to OFF using the arrows button and press the SET button.



The unit will restart automatically and the system check complete window will be displayed.

When the system check complete window is displayed, carry out the procedure described on page 64 (start from 1).

**Important:**

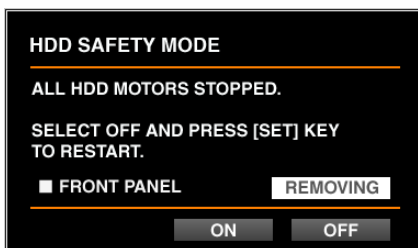
Detach the cable from the front panel after confirming that "REMOVING" is displayed. Otherwise, it may cause malfunction.

**● When replacing the built-in hard disk of the unit**

Move the cursor to "REMOVE" using the arrows button and press the SET button.

The "REMOVE" indication will change to the "REMOVING".

The power supply to the front panel will be cut and the unit will be unable to operate with the front panel.



Detach the cable from the front panel and start replacing the built-in hard disk.

Start from step 2 on page 124 to replace the built-in hard disk.

The "REMOVING" indication will return to the "REMOVE" by attaching the cable to the front panel. The power will be supplied to the front panel and the unit will be enabled to operate with the front panel.

**● When replacing the built-in hard disk of the extension unit**

With displaying the HDD SAFETY MODE window in step 5, start replacing the built-in hard disk of the extension unit.

Refer to the operating instructions of the extension unit for the descriptions of how to replace the hard disk.

**● When installing/uninstalling the unit into/from the rack (rack mounting/unmounting)**

With displaying the HDD SAFETY MODE window in step 5, start installing/uninstalling the unit.

# CONNECTIONS

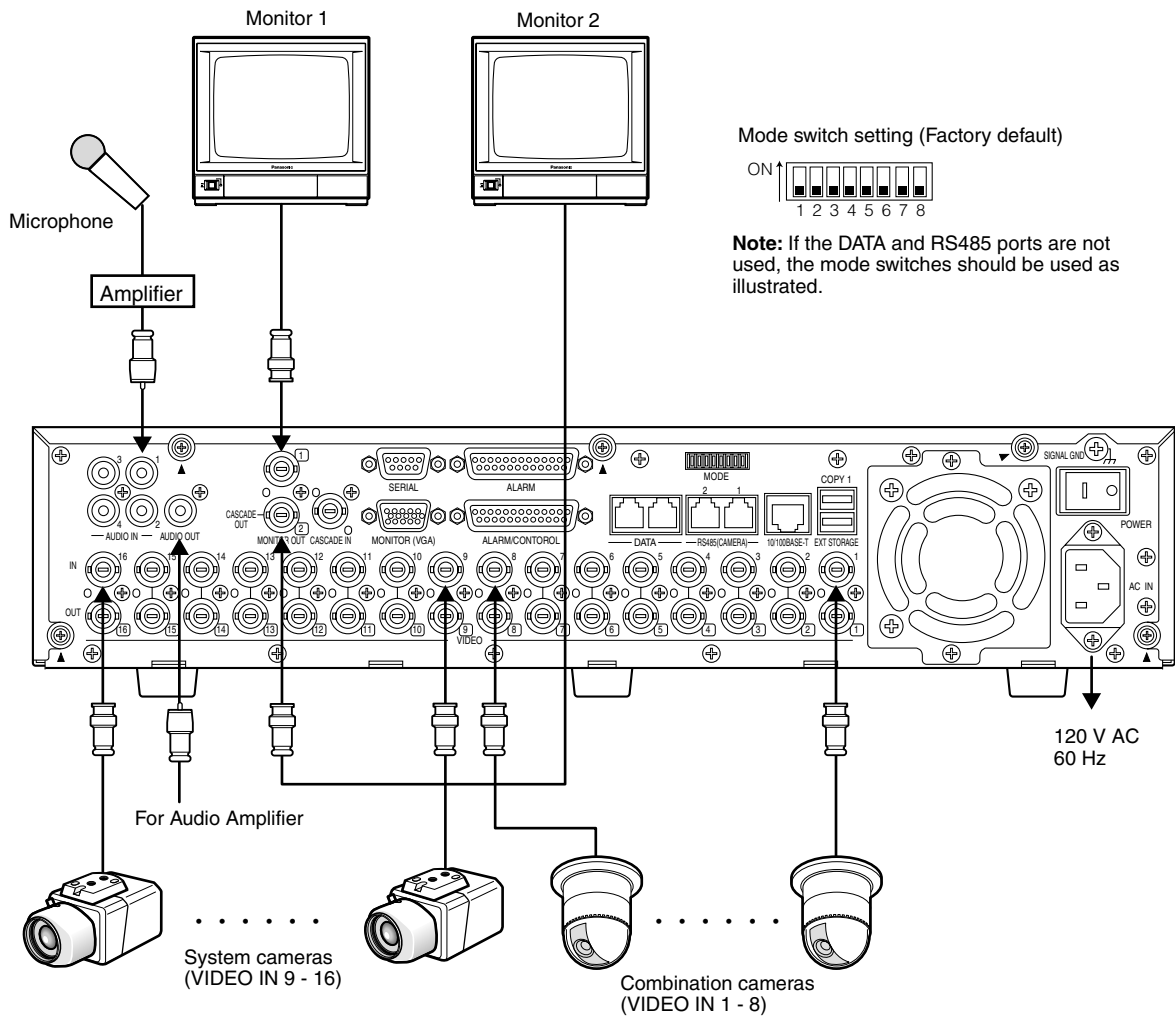
## ■ Connections when the unit is used independently

An example of connections is shown below when the unit is used independently.

### Important:

- The power plug should be connected last.
- When connecting combination cameras, connect them to the video input connectors 1 - 8 when using the WJ-HD316 or 1 - 6 when using the WJ-HD309 (for coaxial communication).

## ● Examples of connections





## ■ Connections with an extension unit

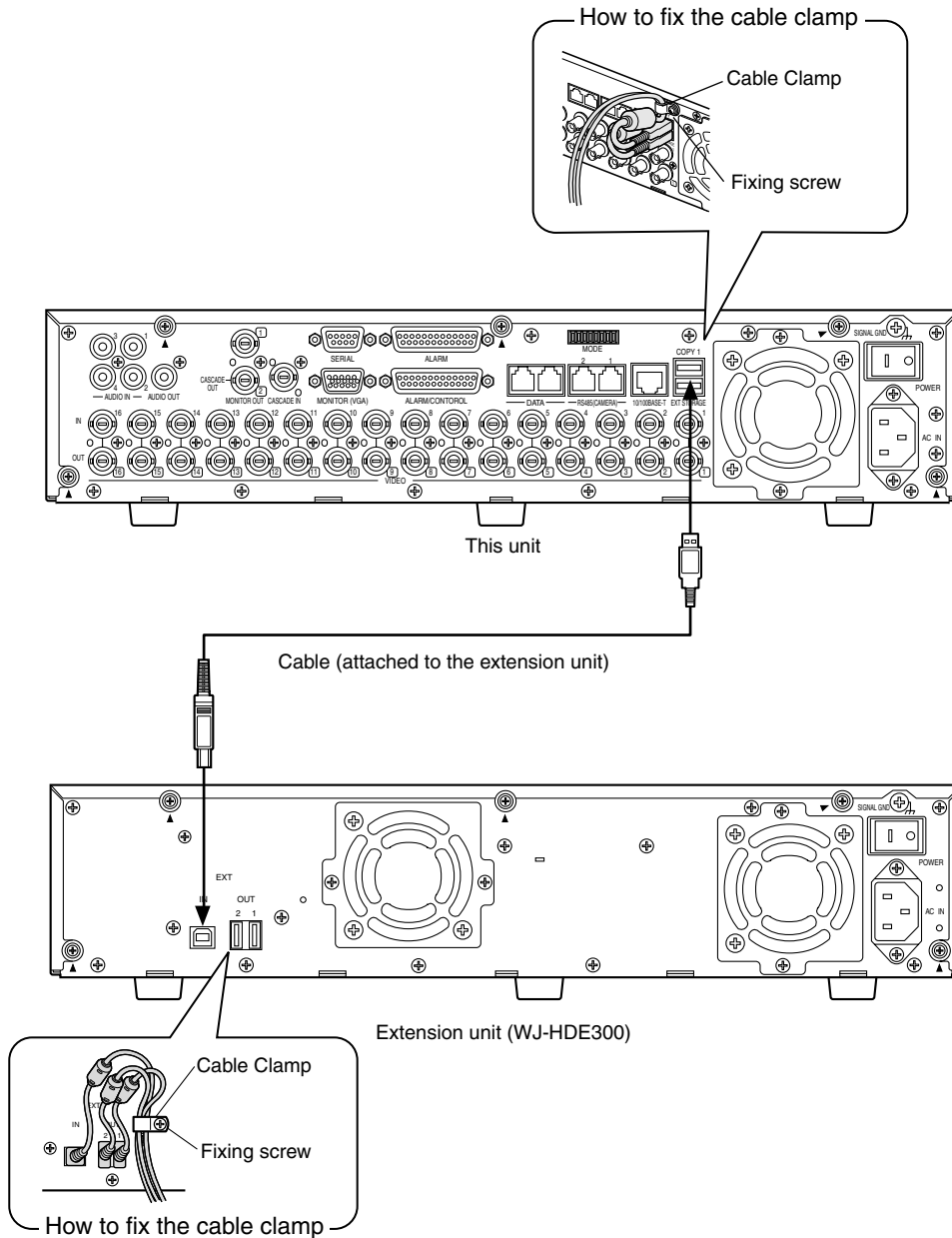
An example of connections is shown below when the unit is used together with an extension unit.

This unit can be connected with up to seven extension units.

Connect the EXT IN port on the rear panel of the extension unit and the EXT STORAGE port on the rear panel of this unit using the cable provided with the extension unit.

### Important:

- Use the cable provided with the extension unit.
- Fix the cables with the cable clamp (provided with each unit) to prevent disconnection or unstable connections that may cause recording failures or an unstable system.

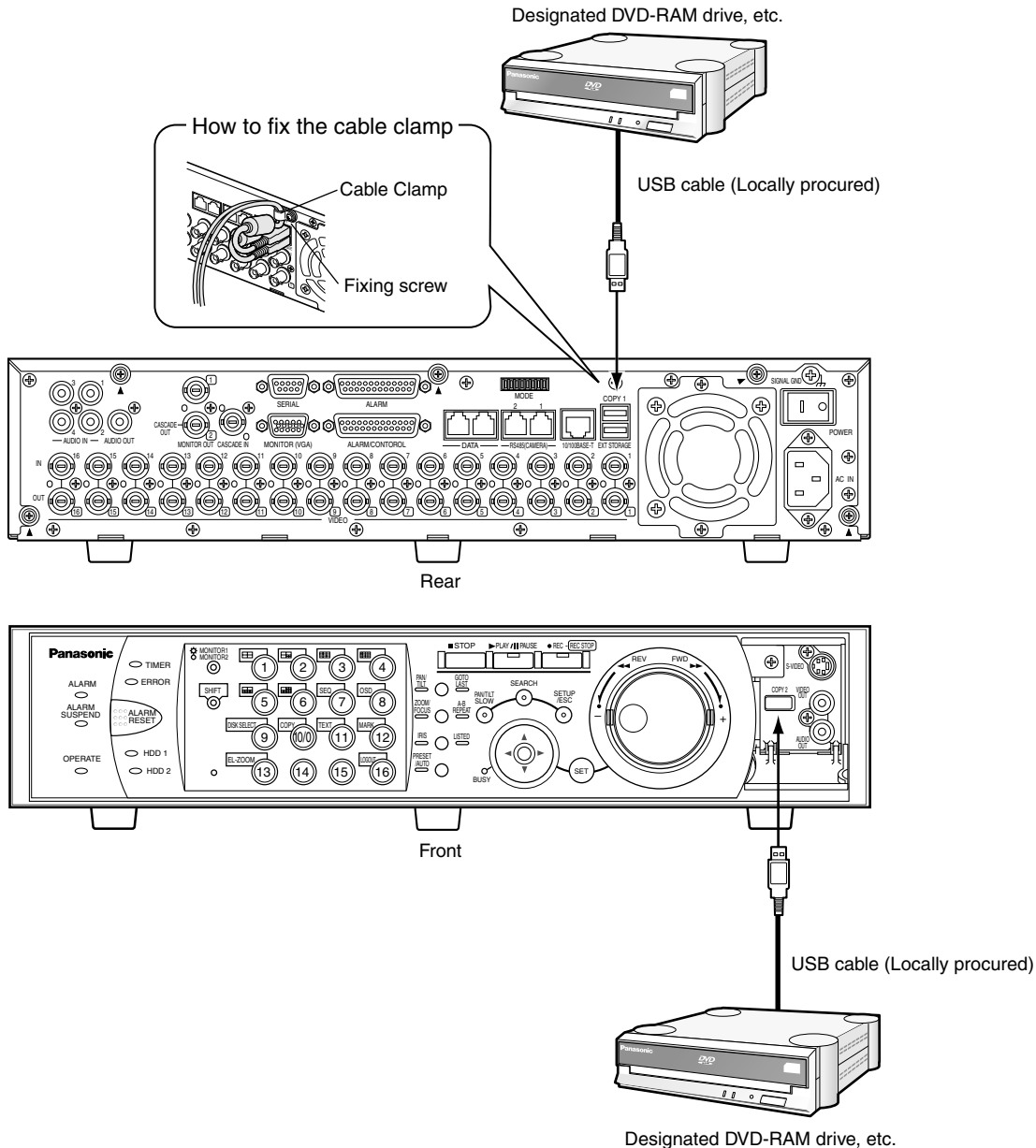


## ■ Connections with DVD-RAM, CD-R, and DVD-R drives

This is an example of connection when the unit is used together with the designated DVD-RAM, DVD-R and CD-R drive. Connect the designated DVD-RAM, DVD-R and CD-R drive and the COPY1 port on the rear panel or the COPY2 port inside the connectors cover on the front panel of this unit using a USB cable (not included).

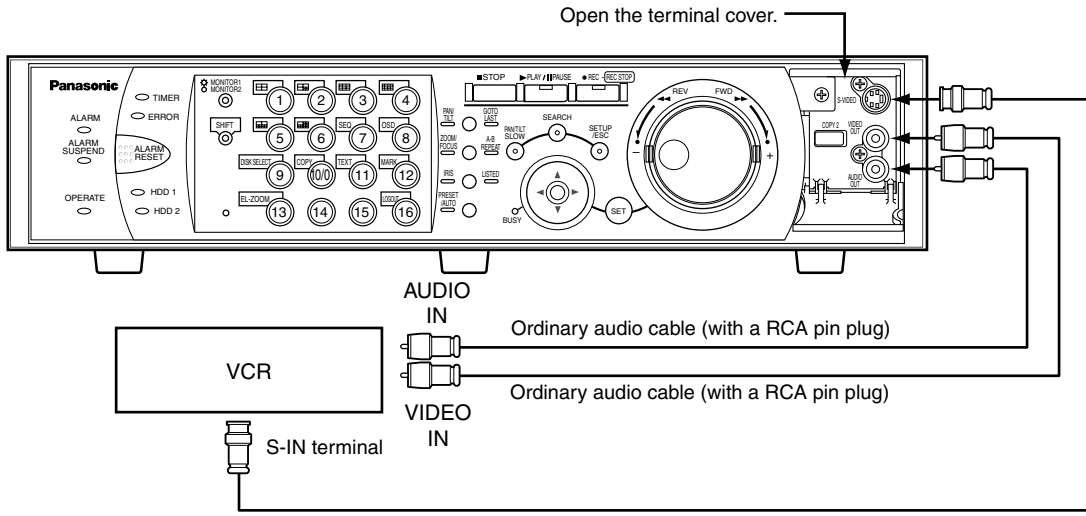
### Important:

- Use an appropriate USB cable compatible with the USB2.0 standard.
- Fix the cables with the cable clamp (provided with this unit) to prevent disconnection or unstable connections that may cause recording failures or an unstable system.



## ■ Connections with the VCR

When it is necessary to copy the recorded images to a video tape using a VCR, connect the VCR to the S-VIDEO connector (or the VIDEO OUT connector) and the AUDIO OUT connector inside the connectors cover on the front panel of this unit as below.



**Note:** The same video signal supplied to the MONITOR1 connector and to the MONITOR2 (VGA) connector will be supplied to the S-VIDEO connector and the VIDEO OUT connector inside the connectors cover.

The same audio signal supplied to the AUDIO OUT connector on the rear panel of this unit will be supplied to the AUDIO OUT connector inside the connectors cover on the front panel.

## ■ Connections with PS-Data systems

This is an example of connection when the unit is used together with the PS-Data devices.

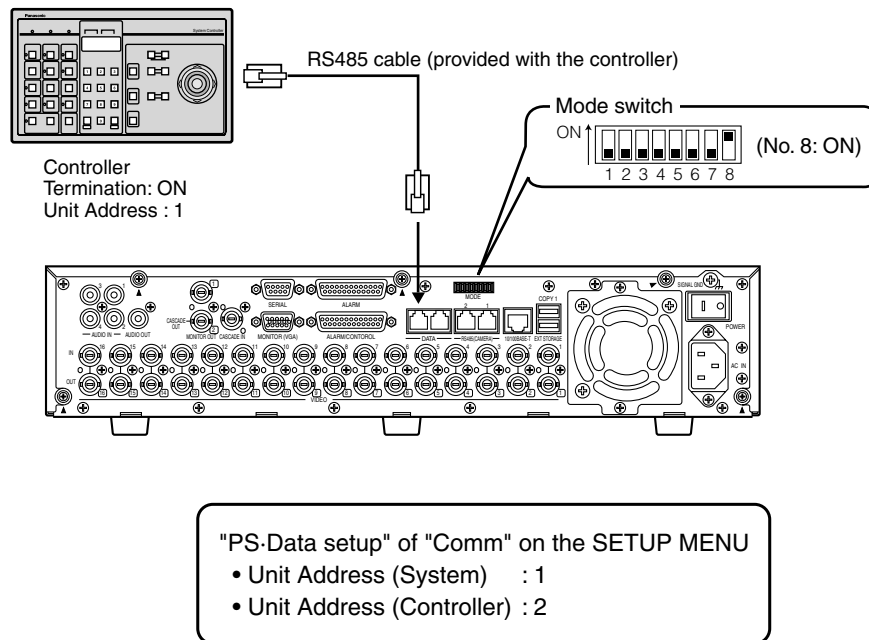
If a connected system controller is PS-Data compatible, it is possible to operate this unit or connected devices using the system controller.

Use the RS485 cable provided with the system controller.

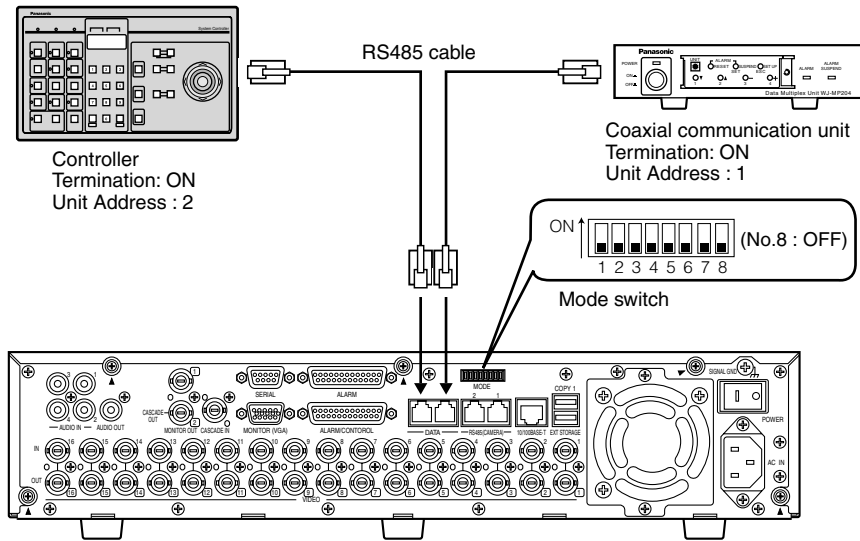
### Important:

- Terminate both devices on both ends of the connection. Refer to the respective operating instructions for the descriptions of how to terminate. Termination of this unit can be set with the mode switch on the rear panel. (See below.)
- When connecting a PS-Data compatible device, it is necessary to set each item of "PS-Data Setup" of "Comm" on the SETUP MENU according to the system configuration.
- The PS-Data is our exclusive protocol. Contact dealer about devices that can be connected.

## ● When this unit is installed between the controller and the system device (when this unit is used as a receiver)

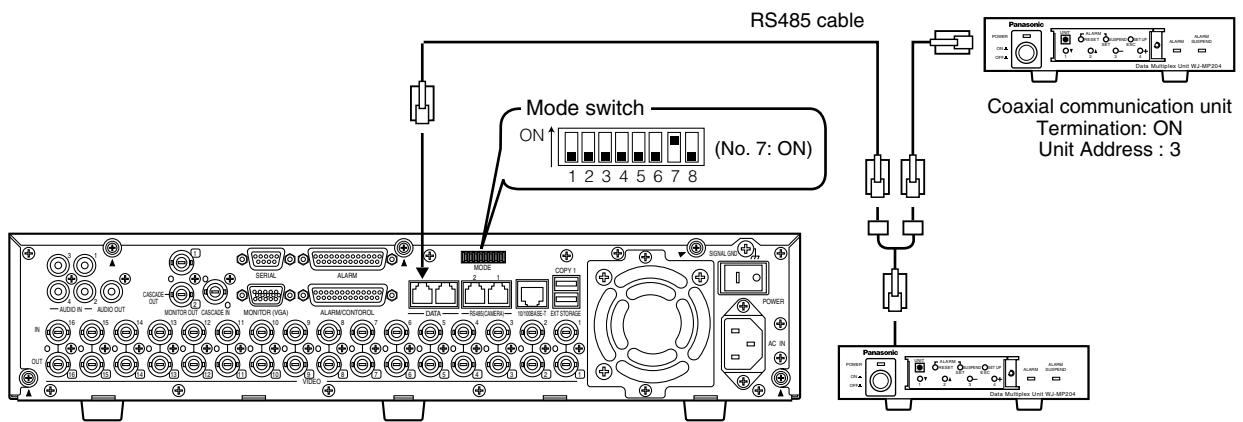


● When this unit is connected with the system device (when this unit is used as a controller)



"PS-Data setup" of "Comm" on the SETUP MENU

- Unit Address (System) : 1
- Unit Address (Controller) : 2



"PS-Data setup" of "Comm" on the SETUP MENU

- Unit Address (System) : 1
- Unit Address (Controller) : 1

## ■ Cascade connection of multiple units

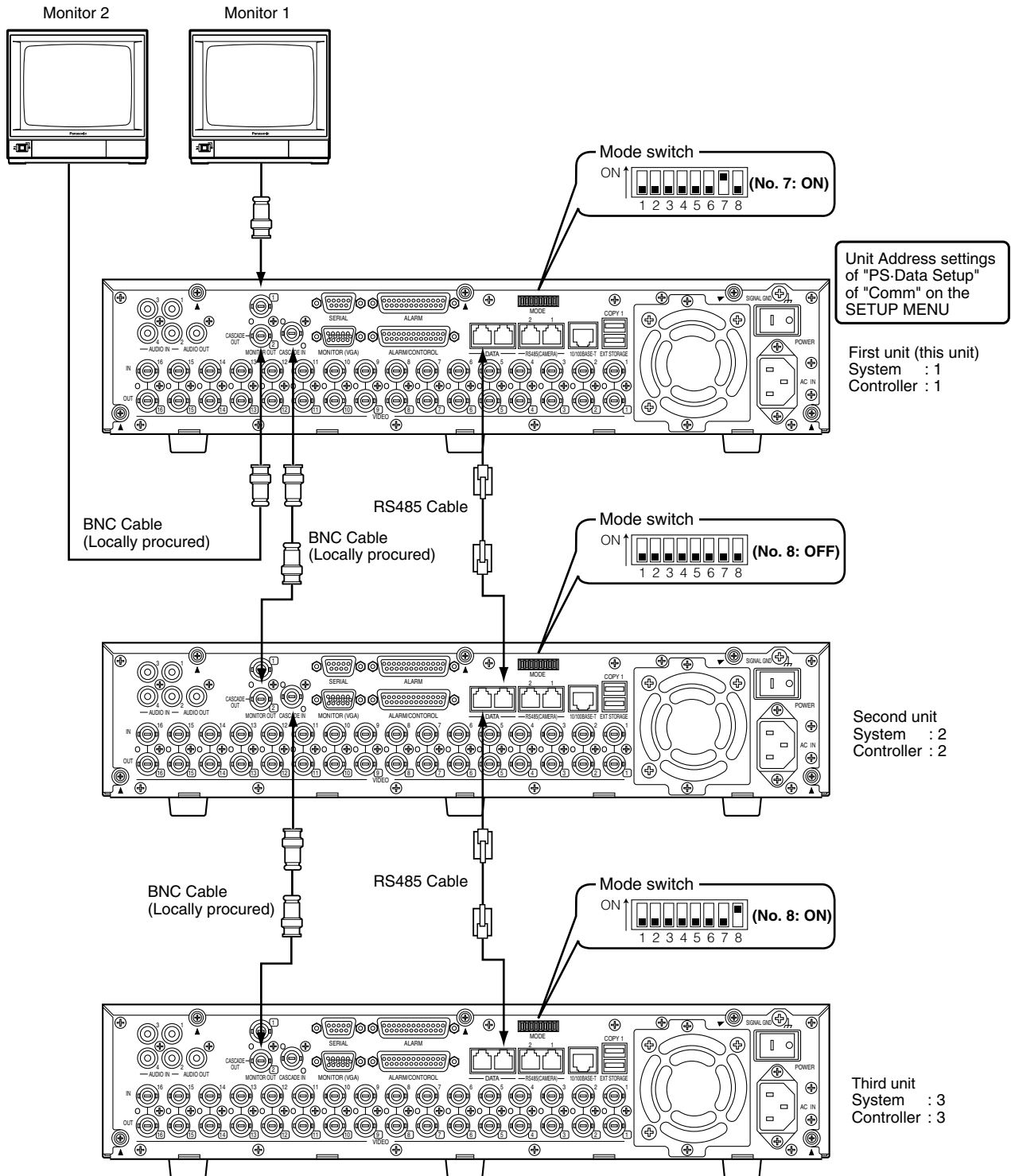
Up to four units can be connected.

For the cascade connection, connect the CASCADE IN connector and the CASCADE OUT connector on the rear panel of each unit as below.

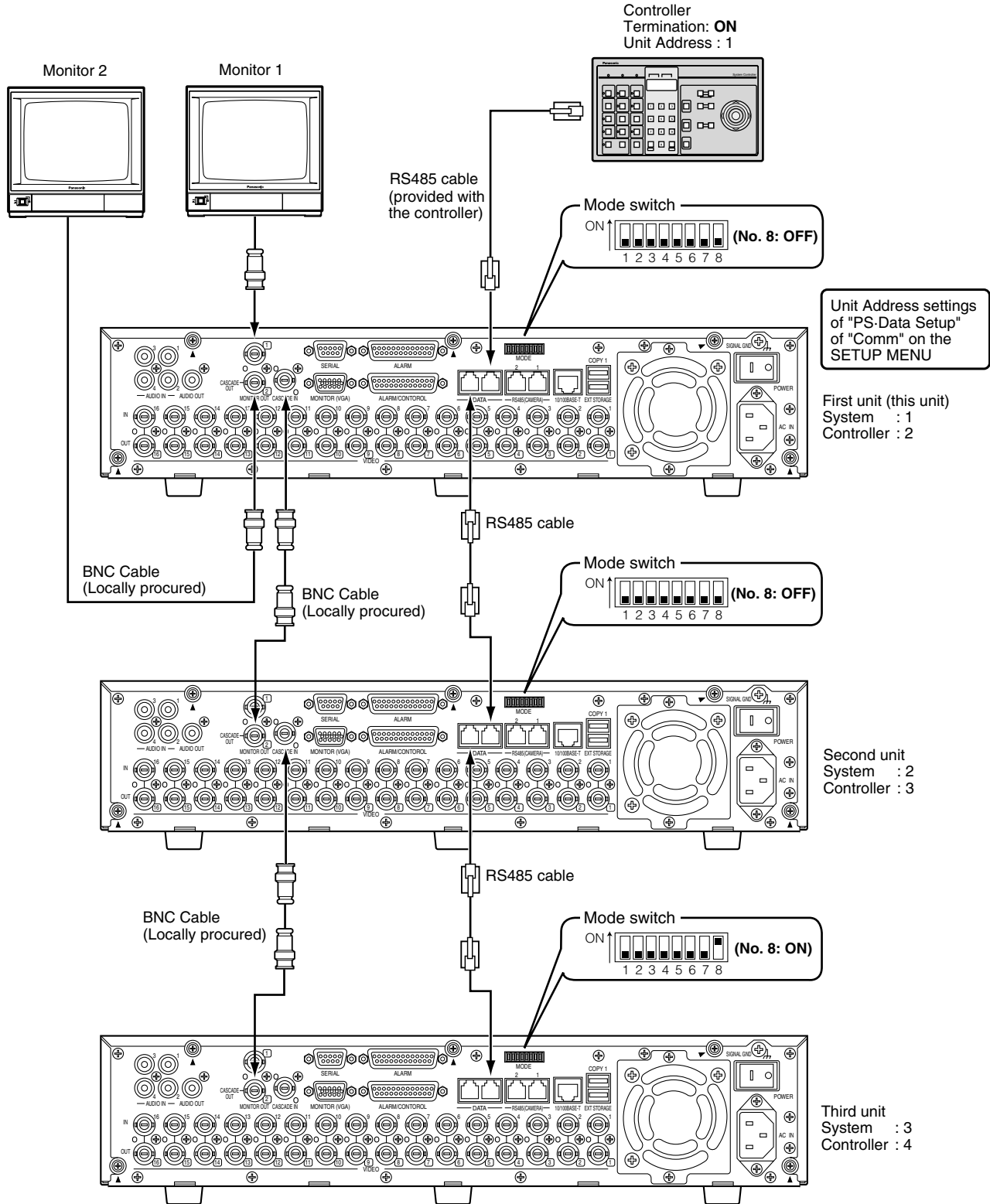
### Important:

When connecting the unit in the cascade connection, set "Cascade" of "PS-Data Setup" in "Comm" on the SETUP MENU to "ON". (Page 112)

## ● When no PS-Data compatible device is connected to the system

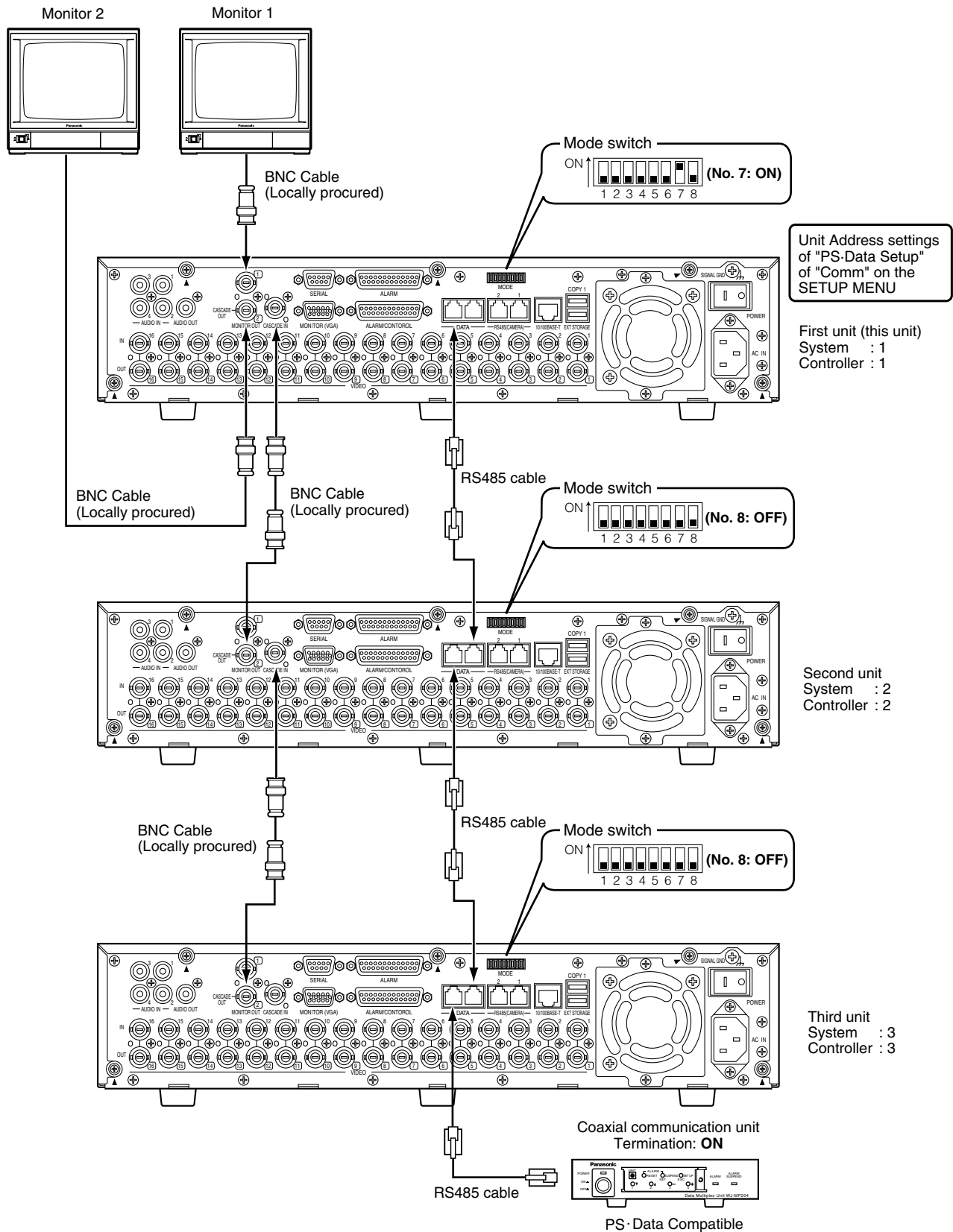


● When the PS-Data compatible device is connected to the first unit (when this unit is used as a receiver)

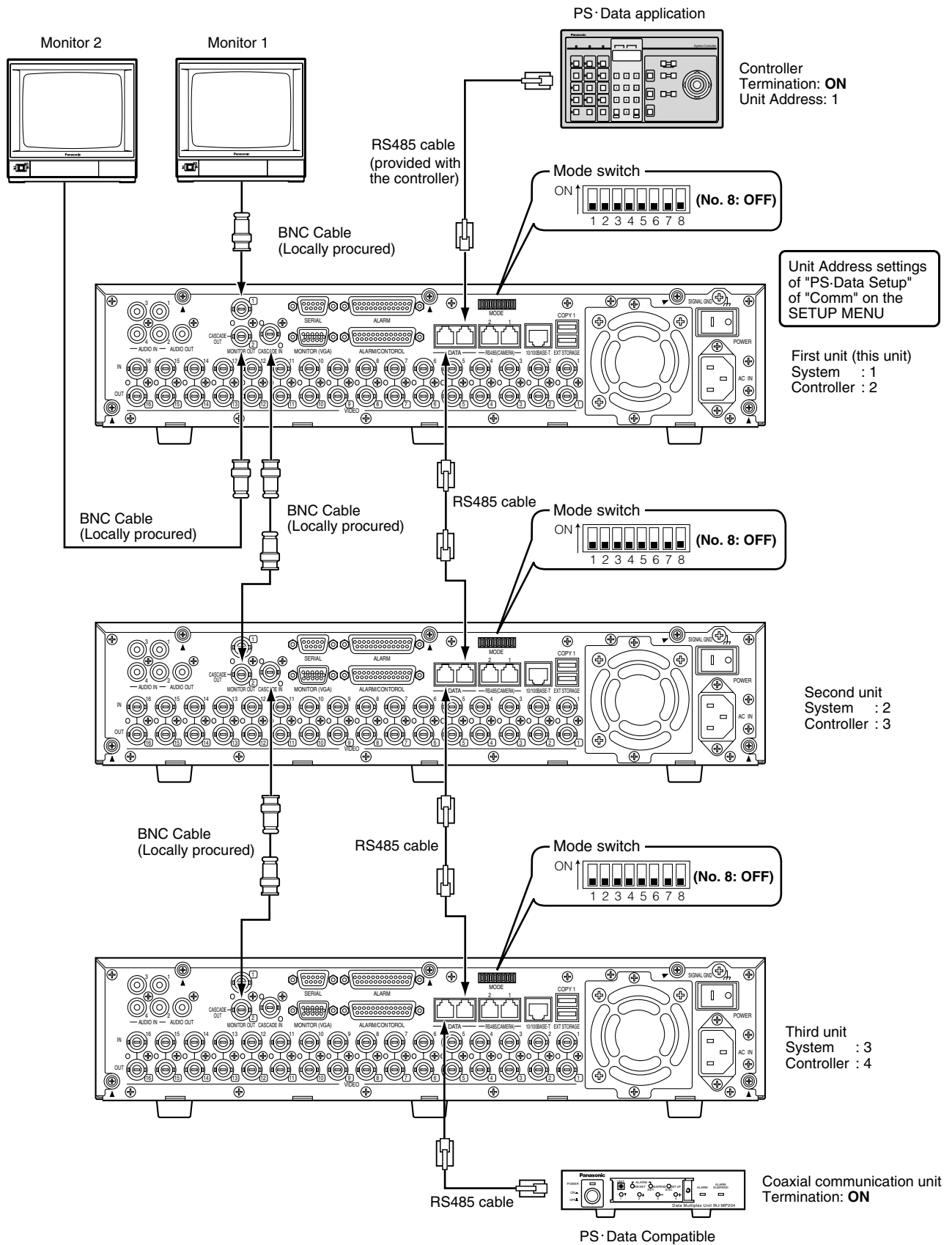




● When the PS-Data compatible device is connected to the third unit (when this unit is used as a receiver)



● When the PS-Data compatible devices are connected to the first and third units (when this unit is used as a receiver)



## ■ Connection with the RS485 camera

This is an example of connection when the unit is used together with the RS485 devices.  
Up to eight cameras can be connected using a single RS485 (CAMERA) port.

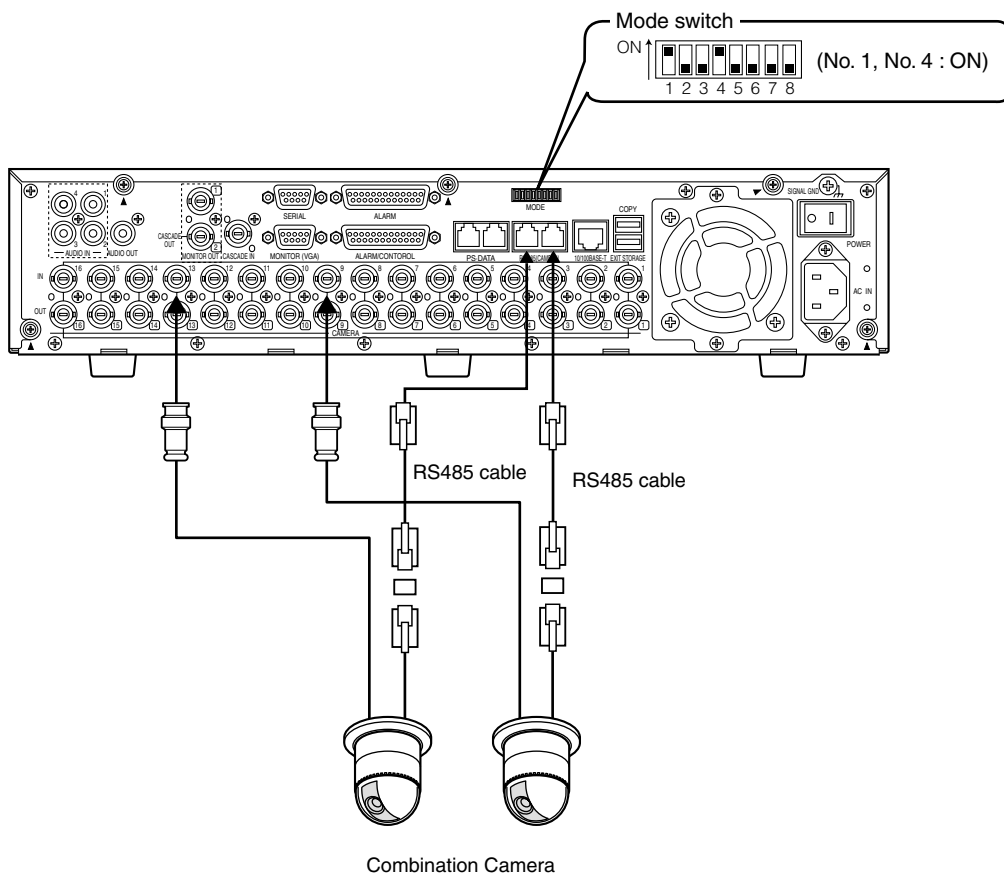
### Important:

- Terminate both devices on both ends of the connection. Refer to the respective operating instructions for the descriptions of how to terminate. Termination of this unit can be set with the mode switch on the rear panel.
- When connecting an RS485 camera, it is necessary to set each item of "RS485 Setup" of "Comm" on the SETUP MENU according to the RS485 settings of the camera. (Refer to page 113.)
- The total length of the RS485 cable from this unit is 1 200 meters at the maximum.

### ● 1:1 connection

Connect a camera to the RS485 (CAMERA) port.

Example: When the RS485 cameras are connected to the CAMERA IN connectors 9 and 13:

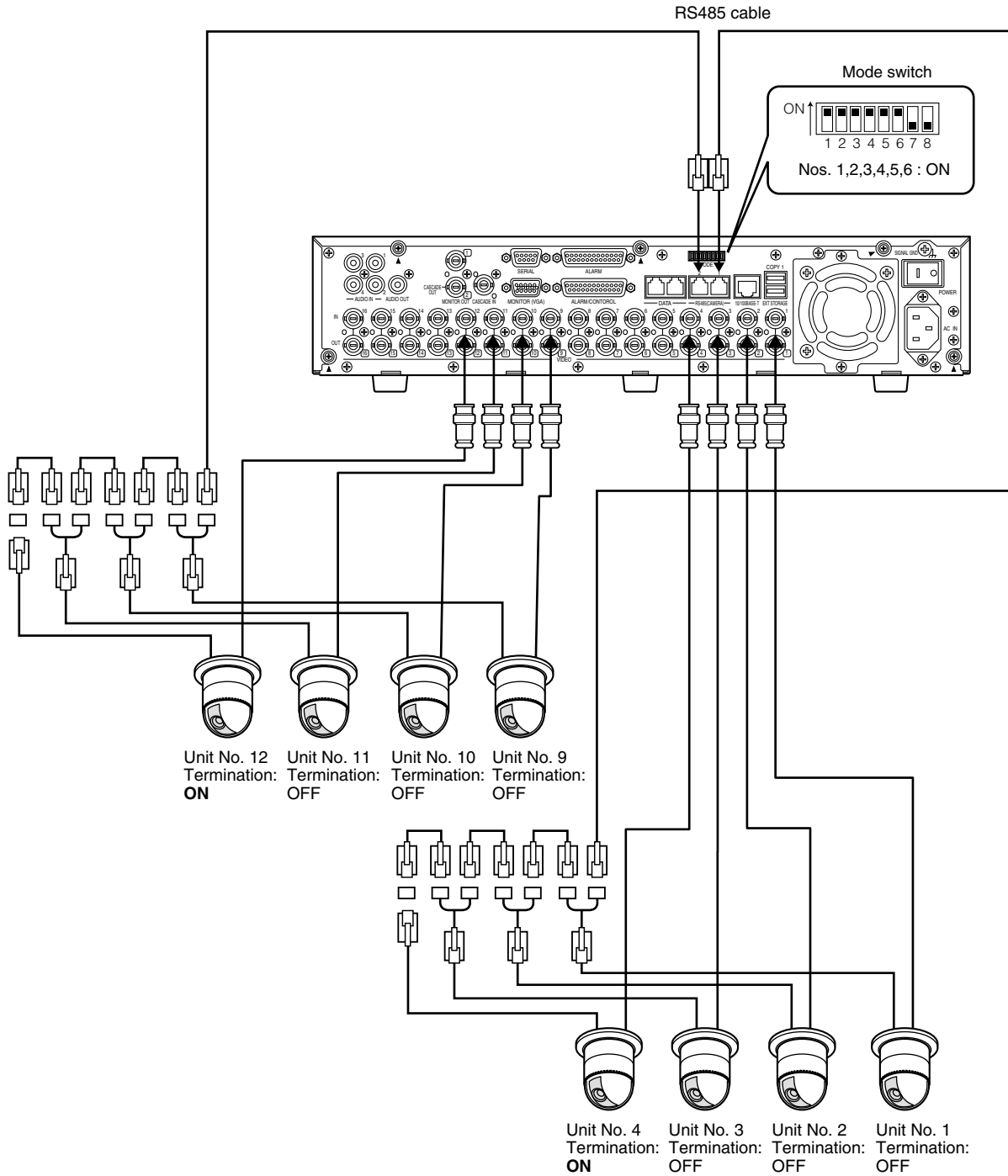


Connect the RS485 camera to	Switches required to be set	4-wire communication	2-wire communication
RS485 (1)	No.2 No.3	OFF OFF	ON ON
RS485 (2)	No.5 No.6	OFF OFF	ON ON

## ● Daisy connection

Multiple cameras can be connected to the RS485 (CAMERA) port.

Example: When cameras 1 - 4 are connected to one of the RS485 (CAMERA) port and cameras 9 - 12 are connected to the other RS485 (CAMERA) port.



Connect the RS485 camera to	Switches required to be set	4-wire communication	2-wire communication
RS485 (1)	No.2	OFF	ON
	No.3	OFF	ON
RS485 (2)	No.5	OFF	ON
	No.6	OFF	ON

## ■ Mode Switch

RS485 interface is used to communicate between this unit and the PS-Data compatible system device . In this case, it is necessary to terminate both devices on both ends of the RS485 connection.

The settings of the mode switch will be different depending on whether this unit is used as a receiver or a controller.

When an RS 485 camera is connected to this unit, it is necessary to terminate both devices on both ends of the connection.

- **When connecting this unit with the system controller and this unit is installed at the end of the PS-Data connection**

PS-Data termination switch 1: ON

- **When connecting a system device and this unit is installed at the end of the PS-Data connection**

PS-Data terminating switch 2: ON

- **When connecting RS485 cameras**

Set the termination switch of the connected RS485 (CAMERA) port to ON.

Connected to the RS485 (CAMERA) port 1: Set the RS485 (1) termination switch to ON.

Connected to the RS485 (CAMERA) port 2: Set the RS485 (2) termination switch to ON.

- **For 2W communication**

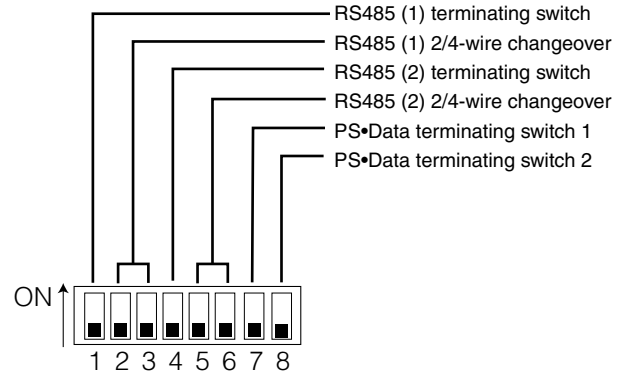
Connected to the RS485 (CAMERA) port 1: Set the switch No.2 and No.3 to ON.

Connected to the RS485 (CAMERA) port 2: Set the switch No.5 and No.6 to ON.

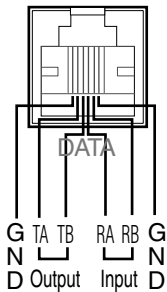
- **For 4W communication**

Connected to the RS485 (CAMERA) port 1: Set the switch No.2 and No.3 to OFF.

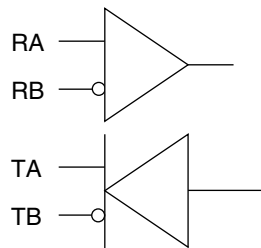
Connected to the RS485 (CAMERA) port 2: Set the switch No.5 and No.6 to OFF.



## ■ RS485 Port



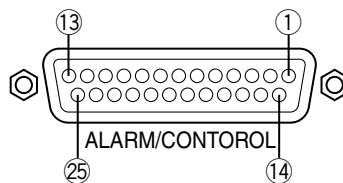
Internal block diagram



## ■ How to Use the Terminals of the ALARM/CONTROL Connector

These terminals are used for emergency recording, auto time adjustment (Auto Adjust Time), taking measures against power outages (Shutdown Time), and when installing a buzzer, a lamp, or similar alarm device. They are also used to synchronize with the sequential display changeover.

The terminal pin array and connections are shown below.  
The connector used should be compatible with the pin configuration.



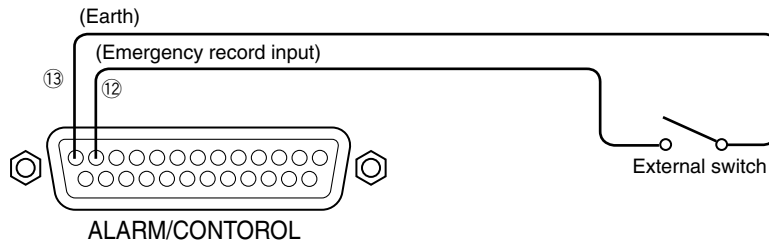
### Pin array

Pin No.	Pin No.	Operation	Remarks
①	Ch 8 alarm output	Alarm signal output at an event occurrence	Open collector output 24 V max., 100 mA
②	Ch 9 alarm output		
③	Ch 10 alarm output		
④	Ch 11 alarm output		
⑤	Ch 12 alarm output		
⑥	Ch 13 alarm output		
⑦	Ch 14 alarm output		
⑧	Ch 15 alarm output		
⑨	Ch 16 alarm output		
⑩	NC		
⑪	Alarm display reset input	Canceling the alarm display	Non-voltage make contact input –100 mA, 5 V pull-up
⑫	Emergency recording input	Starting emergency recording disk space a signal input	
⑬, ⑭	Earth (Grounding)		
⑮	Alarm output for available disk space of device connected to copy port	Generation of signal output for disk space alarming of DVD-RAM, DVD-R, CD-R	Open collector output 24 V max., 100 mA
⑯	HDD error output	Signal output upon detection of HDD error	
⑰	Camera error output	Signal output upon detection of camera error	
⑱	Error output	Signal output upon detection of unit error	
⑲	End of outage processing	Signal output upon completion of outage processing	High (+12 V)
⑳	Time adjustment I/O	Time of this unit is adjusted to the preset time according to the signal input. This signal output is then generated for the setting time of this unit. Time of all other units is adjusted to the setting time of this unit.	30 kΩ 5 V pull-up, –100 mA/make contact
㉑	Sequence changeover I/O	Sequence changeover is effected according to the signal input. Signal output is generated at the time of sequence changeover.	
㉒	Alarm suspension input	The state of alarm suspension is assumed according to the signal input.	
㉓	Outage detection I/O	Start of outage processing according to the signal input.	Non-voltage make contact input –100 mA/5 V pull-up
㉔	External recording mode changeover	Changeover to the external recording mode	
㉕	+5 V output	+5 V output	200 mA max.

## ● Connection for emergency recording

When the external switch is turned ON, emergency recording will be started.

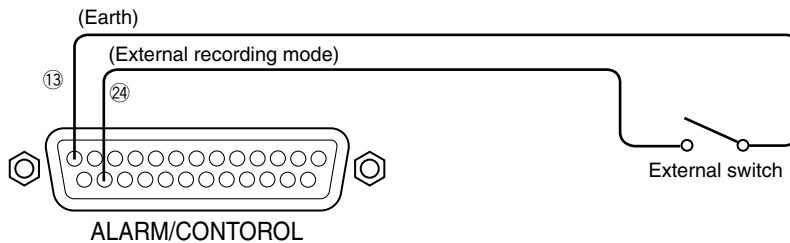
Resolution, recording time, recording rate and quality for emergency recording can differ according to the settings of "Emergency REC" of "Recording" on the SETUP MENU. (Refer to page 96.)



## ● Connection for external recording changeover

When the external switch is turned ON, the recording program changeover is effected for recording.

The recording program can be set for "EXT." with the "Time Table" of "Schedule" on the SETUP MENU. (Refer to page 104.)



## ● Connection to synchronize the sequential display changeover (when multiple units are used)

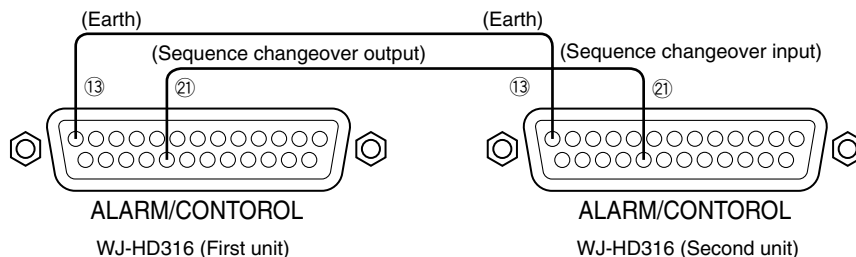
Sequential display changeover is effected with the timing of supplied signals to the sequence changeover input terminal. When multiple units are used, the sequence timing can be synchronized.

Setting for the sequence timing can be set with "Sequence Timing" of "Switcher" on the SETUP MENU. (Refer to page 107.)

For the synchronization of the sequence timing between multiple units, there is a difference in the sequence timing setting as shown below between the synchronized side (Master) and the synchronizing side (Slave).

Synchronized side (Master): Set at "INT" (functioning as an output terminal)

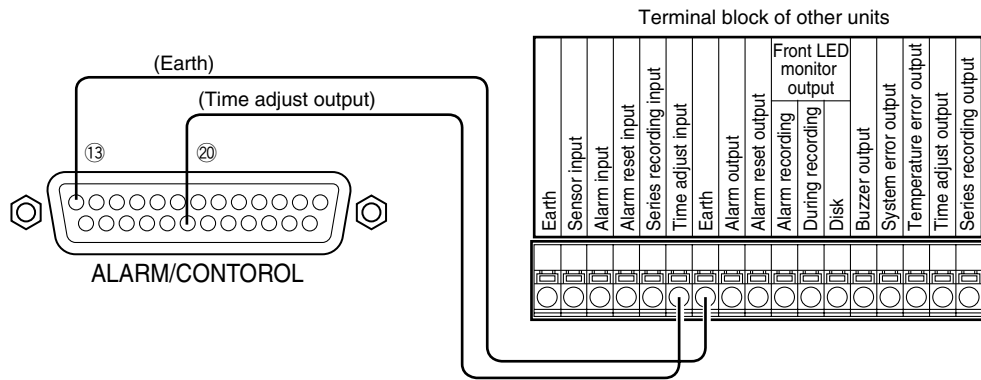
Synchronizing side (Slave): Set at "EXT" (functioning as an input terminal)



## ● Connection for the Auto Adjust Time function

### • When "Auto Adjust Time" of "System" on the SETUP MENU is set to "MASTER"

"Time Adjust Output" becomes available and the clock of this unit can be applied to other units.



### • When "Auto Adjust Time" of "System" on the SETUP MENU is set to "SLAVE"

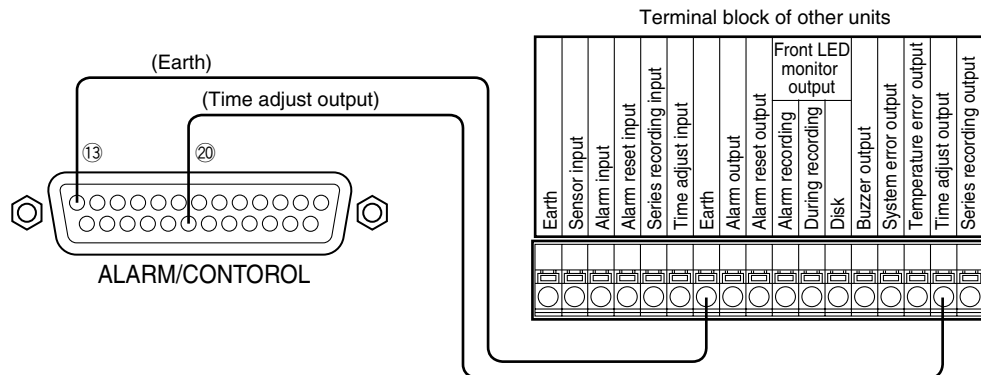
"Time Adjust Input" becomes available. When a signal output from other equipment is supplied to the time adjust I/O terminals between 00 minutes 00 seconds and 14 minutes 59 seconds every hour or between 45 minutes 00 seconds and 59 minutes 59 seconds every hour, the clock will be set to "00 minutes 00 seconds" of the closest hour .

#### Example:

Signal is supplied at 2:50:00 (hour:minute:second)pm → Set at 3:00:00 pmM

Signal input supplied at 3:14:45 pm → Set at 3:00:00 pm

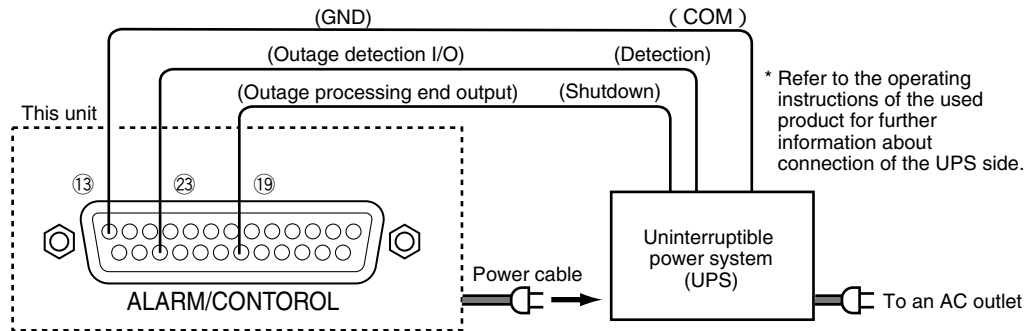
Signal is supplied at 3:20:00 pm → Time will not be adjusted.





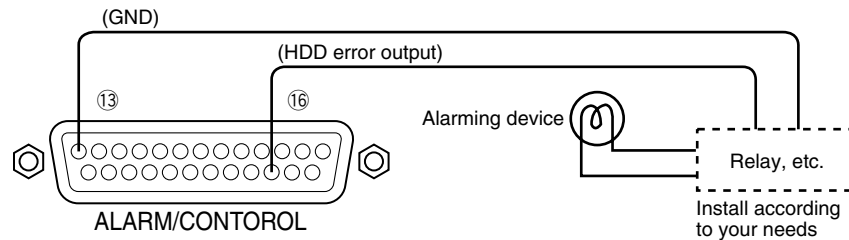
## ● Connection with the Uninterruptible Power System (UPS)

This is an example of connection with the uninterruptible power system (UPS) to be installed to protect from a power outage. When a signal is supplied to the outage detection I/O terminals from the uninterruptible power system (UPS), internal processing will be started to shut off the power supply for this unit. After completing the internal processing, a signal will be supplied from the outage processing end output terminal to the uninterruptible power system (UPS). Then, the power supply to this unit can be suspended.



## ● Connection of the control output

- When an alarm device such as a buzzer or a lamp is connected, the signal output from Pin Nos. 15 - 18 can be used to notify the status by sounding a buzzer or lighting a lamp.
- The following example is of a connection with the HDD error output (pin no. 16).

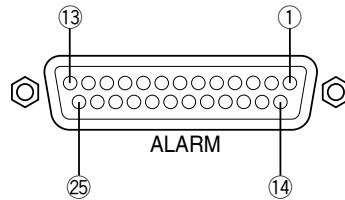


## ■ How to Use the Terminals of the ALARM Connector

These terminals are used to connect the alarm devices, such as sensors, door switches, etc.

The pin configurations of these terminals are as shown below. The connector used should be compatible with the pin configuration.

### Pin Configuration

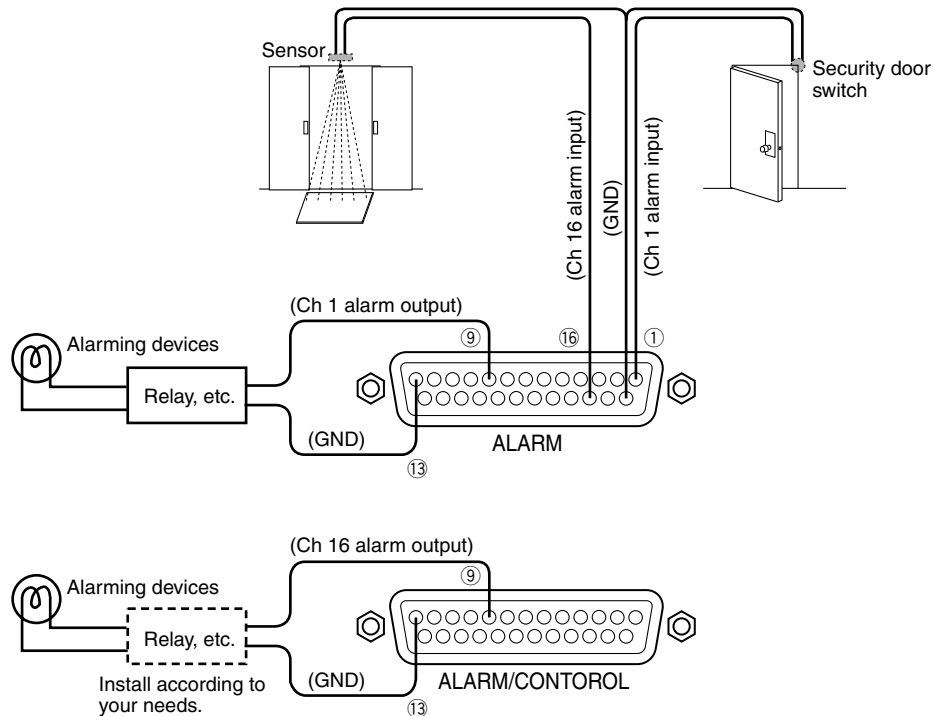


Pin No.	Pin No.	Operation	Remarks
①	Ch 1 alarm input	Event action will be performed according to the settings.	Non-voltage make contact/-100 mA, 5 V pull-up
②	Ch 2 alarm input		
③	Ch 3 alarm input		
④	Ch 4 alarm input		
⑤	Ch 5 alarm input		
⑥	Ch 6 alarm input		
⑦	Ch 7 alarm input		
⑧	Ch 8 alarm input		
⑨	Ch 1 alarm output	Alarm signal will be supplied at an event occurrence	Open collector output/24 V, 100 mA
⑩	Ch 2 alarm output		
⑪	Ch 3 alarm output		
⑫	Ch 4 alarm output		
⑬, ⑭	Earth (Grounding)		
⑮	Ch 9 alarm input	Event action will be performed according to the setting.	Non-voltage make contact input/-100 mA, 5 V pull-up
⑯	Ch 10 alarm input		
⑰	Ch 11 alarm input		
⑱	Ch 12 alarm input		
⑲	Ch 13 alarm input		
⑳	Ch 14 alarm input		
㉑	Ch 15 alarm input		
㉒	Ch 16 alarm input		
㉓	Ch 5 alarm output	Alarm signal will be supplied at an event occurrence	Open collector output/24 V max., 100 mA
㉔	Ch 6 alarm output		
㉕	Ch 7 alarm output		

## ● Alarm connection

When a signal is supplied to the alarm input terminals of CH 1-16, recording and displaying of camera images will be performed according to the settings.

When an alarm device such as a buzzer, a lamp, etc., is installed outside, connect them to the alarm output terminals (pin nos. 9 - 12, pin nos. 23 - 25) or to the alarm output terminals (pin nos. 1 - 9) of the ALARM/CONTROL terminal.



Time and polarities of the ALARM/CONTROL terminal and the ALARM terminal

Terminal	Active time	Note
Alarm input	100 ms or more	N.O.: L active N.C.: H active
Alarm output	The set time on the SETUP MENU	L active
Alarm reset input	100 ms or more	L active
Emergency recording input	100 ms or more	L active
Alarm output for available disk space of device connected to the copy port	While the size of the available disk space is less than the set size	L active
HDD error output	Until the HDD error is cleared	L active
Camera error output	Until the camera error is cleared	L active
Error output	Until the error is cleared	L active
Outage processing end output	100 ms	H active
Time adjust I/O	Input: 100 ms or more Output: 1 s	L active
Sequence changeover output	100 ms or more	L active
Outage detection output	100 ms or more	L active
External recording mode changeover	100 ms or more	L active, judged by level
Alarm suspend output	100 ms or more	L active, judged by level

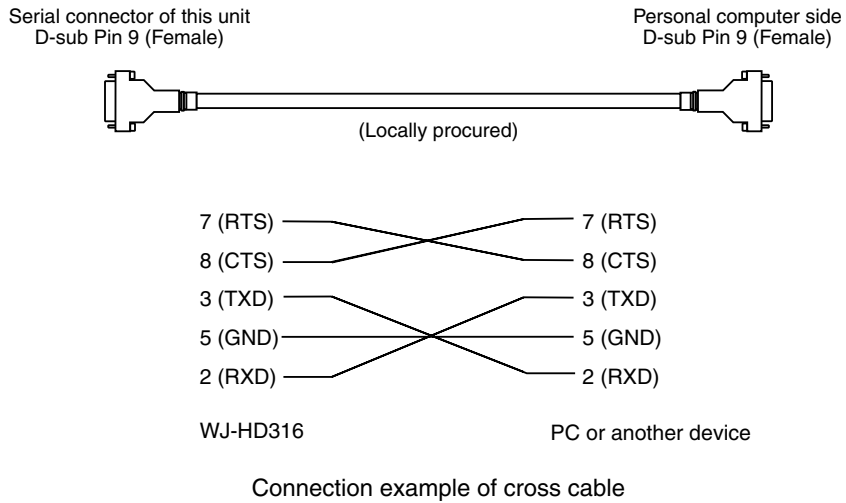
## ■ How to Use the SERIAL Connector

This connector is compliant with the RS232C Standard, and is used to communicate with a connected PC. A connection example and the pin configuration of the SERIAL connector are as shown below.

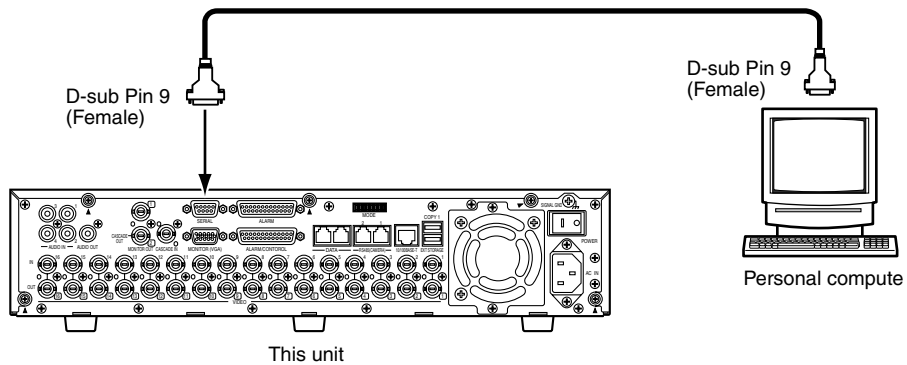
### Important:

- When using the SERIAL connector, it is necessary to perform the settings with "RS232C Setup" of "Comm" on the SETUP MENU for the communication functions. (Page 114)

## ● Pin Configuration



## ● Connection example



# SETUP

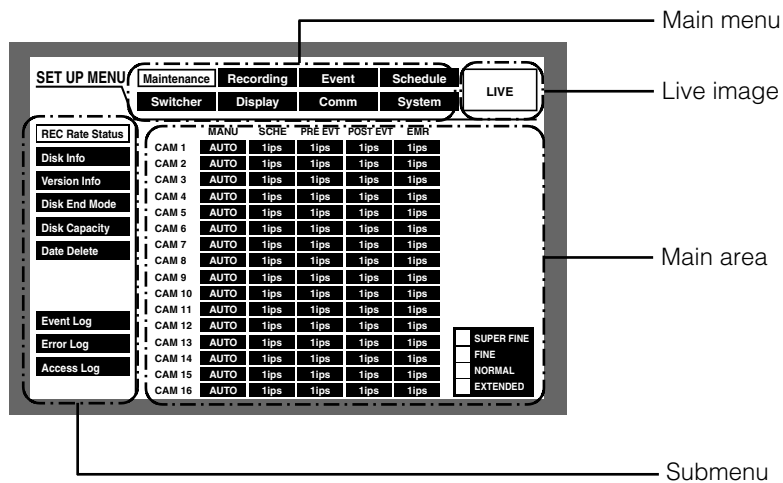
To operate this unit, it is necessary to set each item of the SETUP MENU in advance.  
Perform the settings for each item of the SETUP MENU by displaying the SETUP MENU on monitor 2.  
Settings items are as below.

## ■ Item list of the SETUP MENU

Settings menu	Description	Page
Maintenance		
REC Rate Status	Display the recording rate for each recording mode and image quality for each camera channel in list form.	91
Disk Info	Display hard disk information such as the available disk space on the built-in hard disk and the connected extension unit.	91
Version Info	Display version information of the software and the hardware and the MAC address.	91
Disk End Mode	Set actions to be taken when the available space of the built-in hard disk or of the connected extension unit reaches a specified level.	91
Disk Capacity	Set to display a warning when the available space of the built-in hard disk or of the connected extension unit reaches a specified level.	92
Data Delete	Delete data stored on the hard disk, or format (initialize) the DVD-RAM disk connected to the COPY port.	92
Event Log	Display the event log. Refer to page xx for further information.	92
Error Log	Display the error log such as a HDD error log.	93
Access Log	Display the time, user name and IP addresses when logging in/out to/from this unit.	94
Recording		
REC Setup	Perform the basic settings for recording.	95
Emergency REC	Perform the settings for emergency recording such as recording time and recording rate.	96
Event		
Event Setup	Perform the settings for the alarm output duration and the buzzer sound when an event (motion detection, video loss, command/terminal alarm) occurs.	97
VMD Setup	Perform the settings for the motion detection area, sensitivity and the detection mode for each camera channel.	97
Alarm Setup	Perform the settings for the alarm display duration and alarm suspension duration.	100
Terminal Setup	Specify the alarm terminal polarity.	101
Schedule		
Time Table	Create timetables for each day of the week, and assign the recording action programs and event action programs to the created timetables.	104
REC Prog	Up to 4 recording programs can be created. Perform the settings for the recording actions for each program such as image quality and recording rate for each camera channel.	102
Event Prog	Up to 4 event programs can be created. Perform the settings for each program such as the event action and the auto copy function for each event type.	103
Special Days	Assign timetables independently for special days aside from other days.	105

Settings menu	Description	Page
Switcher		
Monitor1	Perform the settings for the image switching on monitor 1 such as the setting of the sequential display or the screen to be displayed at login on monitor 1.	106
Monitor 2	Perform the settings for the image switching on monitor 2 such as the setting of the sequential display or the screen to be displayed at login on monitor 2.	108
Display		
OSD Setup	Perform the display settings such as the settings for the display position of the camera title and the time.	109
Monitor1	Perform the display settings for monitor 1 such as the camera title display on/off, the alarm display on/off and the time display on/off.	110
Monitor2	Perform the display settings for monitor 2 such as the display mode (task bar style), the camera title display position, and the camera title display on/off.	111
Comm		
Camera Control	Set the communication type to control cameras for each camera channel.	112
PS·Data Setup	Perform the settings for the PS·Data. It is necessary to perform these settings when connecting an external device such as a controller to the DATA port on the rear panel of this unit.	112
RS485 Setup	Perform the settings for the RS485. It is necessary to perform these settings when connecting an RS 485 compatible camera to the RS485 (CAMERA) port on the rear panel of this unit.	113
RS232C Setup	Perform the settings for the SERIAL (RS232C). It is necessary to perform these settings when connecting a PC to the SERIAL connector on the rear panel of this unit.	114
NW Setup 1	Perform the basic network settings. It is necessary to perform these settings when operating this unit via a network such as a LAN. The settings for the user authentication and the host authentication can also be set with these settings.	115
NW Setup 2	Perform the network connection settings such as IP addresses and the gateway address. It is necessary to perform these settings when operating this unit via a network such as a LAN.	115
NTP Setup	Perform the NTP server settings such as the NTP server address and the time zone setting. It is necessary to synchronize the clock with the NTP server.	116
System		
Basic Setup	Perform the settings for the basic operation of this unit.	117
Time & Date	Perform the settings for the time adjustment and display of the time and date.	118
User Regist.	Perform the settings for the user registration and the user authentication such as user name, password and operational level.	119
User Edit	Edit the registered user information.	120
User Delete	Delete registered users.	120
Host Regist.	Register the hosts (PCs access this unit via a network) with their information such as IP address and operational level for the host authentication.	120
Host Edit	Edit the registered hosts.	121
Host Delete	Delete the registered hosts.	121
User Level	Perform the settings to specify operable functions for each level.	121
Save/Load	The set contents can be saved or loaded.	122

## ■ About the SETUP MENU



**Main menu:** These menus are always displayed on the SETUP MENU.

**Live image:** Live images from the camera channel that was selected just before the SETUP MENU was displayed.

**Main area:** The setting items of the selected submenu will be displayed in this area.

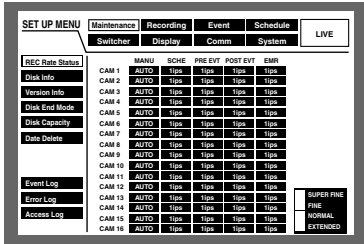
**Submenu:** The submenu of the selected main menu will be displayed on the left side of the SETUP MENU. The submenus differ depending on the selected main menu.

# Basic Operation with the SETUP MENU

- 1 Press the SETUP/ESC button for 2 seconds or more when displaying live images.

## [Screenshot 1]

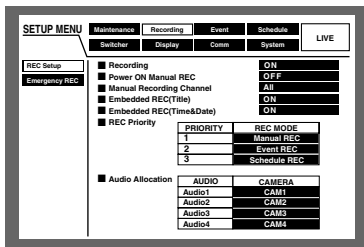
The top page of the SETUP MENU will be displayed.



- 2 Select a main menu using the arrows button and press the SET button.

## [Screenshot 2]

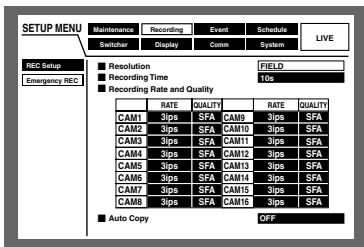
The submenu of the selected main menu will be displayed.



- 3 Select the submenu using the arrows button (▼ ▲) and the press the SET button. When selecting the submenu by the cursor is enabled, press the SETUP/ESC button. The main menu can be selected.

## [Screenshot 3]

The setting items will be displayed in the main area and the cursor will move to a setting item.



- 4 Perform the settings for each item.
  - Item selection:** Move the cursor using the arrows button (▼ ▲ ◀ ▶).

**Change the setting:** Rotate the jog dial.

**Pop-up display of the setting item:** Press the SET button when the setting item has the "SETUP" button next to the item name.

**Turning pages of the settings menu:** When "PREV/ NEXT PAGE" is displayed on the bottom of the settings menu, move the cursor to the "PREV/NEXT PAGE" using the arrows button, and then use the arrows button (◀ ▶) to turn the pages.

**Selecting a submenu again:** Press the SET button. The cursor will be able to select a submenu again.

- 5 After completing the settings, press the SETUP/ESC button for 2 seconds or more. The SETUP MENU will be closed.

→ Live images will be displayed again.

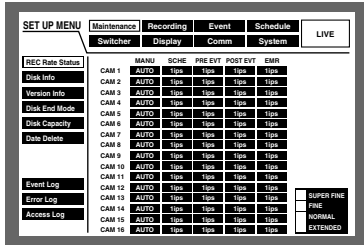
### Important:

If the settings are changed, all login users will be forcefully logged out.



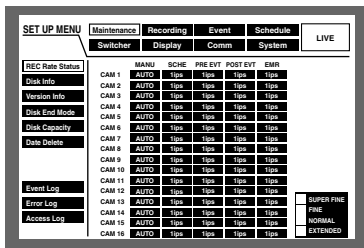
# ■ [Maintenance] Functions for Maintaining

Perform the settings for the hard disk drives. It is possible to check the histories (log) of event occurrence, error occurrence and access.



## ① [REC Rate Status] Check the recording rate and the image quality for each camera channel.

Recording rate for each recording mode for each camera (as shown below) will be displayed in list form.

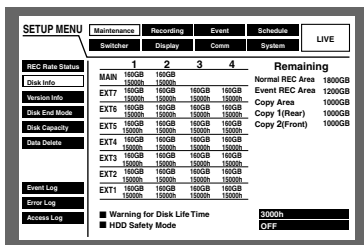


**MANU:** Manual recording  
**SCHE:** Schedule recording  
**PRE EVT:** Pre-event recording  
**POST EVT:** Post-event recording  
**EMR:** Emergency recording

## ② [Disk Info] Check the available hard disk space

The available hard disk space of the following will be displayed: The built-in hard disk (normal recording area, event recording area and copy area), extension unit (EXT1 - 7), DVD-RAM, CD-R and DVD-R disk drive connected to the copy port (COPY1 or COPY2). Refer to page 25 for more details on the built-in hard disk.

It is also possible to perform the settings for the hour-meter (the active time of the HDD) warning and for the HDD safety mode with this menu.



**Note:** The displayed available disk space on this menu will not include the space required for data management. Therefore, the understated available disk space will be displayed.

## • Hour meter warning setting

Select the duration as the maximum active time of the hard disk from the followings. Warning will be displayed when the set time have passed.  
 10 000 h/20 000 h/30 000 h

## • HDD safety mode

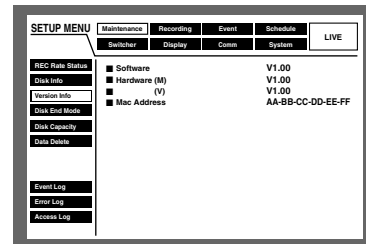
The HDDs will not start up with the default setting when installing this unit in the rack without turning off the power of the unit, to prevent malfunction caused by shock or vibration.

After completing the installation, set the HDD SAFETY MODE to OFF. Otherwise, the unit will be unable to operate when turning the power on after a shutdown caused by an unexpected incident such as a power outage.

Refer to page 64 for further information.

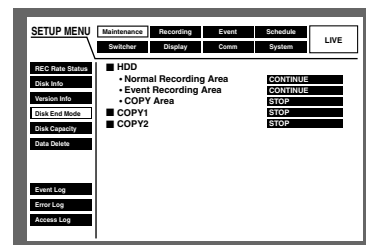
## ③ [Version Info] Check the version information

Version information of the software and the hardware, and the MAC address will be displayed.



## ④ [Disk End Mode] Set actions to be taken when the available hard disk space has run out

Select an action from the followings to be taken when the available space of the built-in hard disk (normal recording area, event recording area, copy area) or the external recording device (DVD-RAM, CD-R or DVD-R disk drive) connected to the copy port (COPY1, COPY2) is running out.



**CONTINUE:** When the available disk space has run out, old data will be overwritten by new data. In this case, the oldest data is the first to be overwritten.

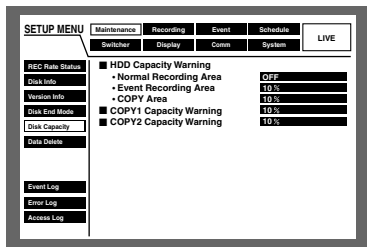
**STOP:** When the available disk space has run out, recording and copying will be canceled.

⑤ **[Disk Capacity] Set actions to be taken when the available disk space is running out**

Select an action from the following to be taken when the available space of the built-in hard disk (normal recording area, event recording area, copy area) or the external recording device (DVD-RAM, CD-R or DVD-R disk drive) connected to the copy port (COPY1, COPY2) reaches a specified level.

The setting range is between 1 % and 10 % (in 1 % intervals).

The warning will not be issued when OFF is selected.

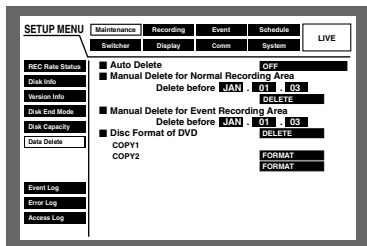


**Important:**

When "CONTINUE" is selected for "Disk End Mode", a warning will not be issued.

⑥ **[Data Delete] Delete image data on the hard disk**

Delete image data on the built-in hard disk. Auto deletion and manual deletion are available to delete image data. It is also possible to initialize (format) a DVD-RAM disk with this menu.



● **Auto Delete**

It is possible to delete recorded images automatically when the set days have passed from the day the image was recorded. Refer to a system administrator for further information.

Available days for the auto delete function are as follows.

The auto delete function will not work when OFF is selected. OFF/1DAY/2DAYS/3DAYS/4DAYS/5DAYS/6DAYS/7DAYS/8DAYS/9DAYS/10DAYS/14DAYS/30DAYS/45DAYS/60DAYS/90DAYS/120DAYS/150DAYS/180DAYS

● **Manual Delete for Normal Recording Area**

By setting the time and date, images in the normal recording area of the hard disk that were recorded up until a day before the set time and date will be deleted.

Enter a 2-digit number for the year when entering the time and date.

● **Manual Delete for Event Recording Area**

By setting the time and date, images in the event recording area of the hard disk that were recorded up until a day before the set time and date will be deleted.

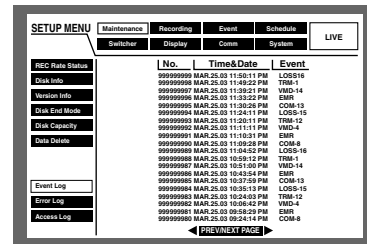
● **Disc Format of DVD**

Initialize (format) a DVD-RAM disk in the DVD-RAM drive connected to the copy port.

⑦ **[Event Log] Check the event log**

Event log (time and date at an event occurrence, details) will be displayed in list form.

Refer to page 45 for further information about each event.



**COM:** Command alarm

**EMR:** Emergency recording

**LOSS:** Video loss

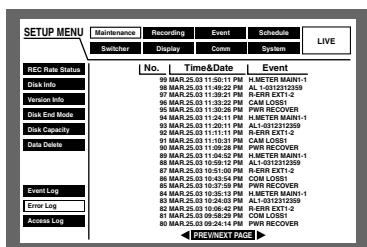
**TRM:** Terminal alarm

**VMD:** Motion detection

**Note:** Up to 750 event logs can be kept. When more than 750 event logs are filed, old event log will be overwritten by new event log. In this case, the oldest log is the first to be overwritten.

## ⑧ [Error Log] Check the error log

Error log will be displayed in list form.



**Note:** Up to 100 error logs can be kept. When more than 100 error logs are filed, old error log will be overwritten by new error log. In this case, the oldest log is the first to be overwritten.

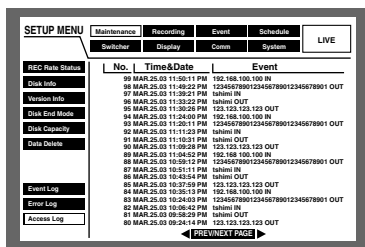
Indication	Description	Cause
AL*-YYMMDDhhmmss	Asterisk (*) indicates the camera channel number YYDDMMhhmmss indicates the played time when the alteration was detected.	Detects alteration
W-ERR X-Y	X indicates the unit/unit number that has the hard disk error Y indicates the disk number in the unit (unit number)	Failed to write data on the HDD
R-ERR X-Y	X indicates the unit/unit number that has the hard disk error Y indicates the disk number in the unit (unit number)	Failed to read data on the HDD
REMOVE X-Y	X indicates the unit/unit number that has the hard disk that has been removed from the subject for recording. Y indicates the disk number in the unit/unit number	Auto removal of the link
#-FULL	# indicates the partition name/external recording device port number	No available disk space
THERMAL -X	X indicates the unit/unit number in which the thermal error occurred	Thermal error
FAN X-Y	X indicates the unit/unit number Y indicates the fan number (1-4) Y will be left out if the malfunctioning fan is in the extension unit	The fan is malfunctioning
#-nn%	# indicates the partition name of the hard disk/external recording device nn indicates the available disk space	Warning that the disk space is running out

Indication	Description	Cause
SMART X-Y	X indicates the unit/unit number that has the hard disk error Y indicates the unit/unit number	HDD SMART error
PWR LOSS		Detects a power outage
H.METER X-Y	X indicates the unit/unit number that has the hard disk error Y indicates the unit/unit number	Hour-meter warning
PROTECT -#	# indicates port number to which the external recording device is connected	Disk has the write protection
NO DISK -#	# indicates port number to which the external recording device is connected	Disk is not inserted
MEDIUM -#	# indicates port number to which the external recording device is connected	Incompatible disk
UNFORMATTED -#	# indicates port number to which the external recording device is connected	Unformatted disk
W-ERR (MEDIUM-#)	# indicates port number to which the external recording device is connected	Failed to write data on the disk (CD-R, DVD-RAM, DVD-R)
PWR RECOVER	# indicates port number to which the external recording device is connected	Recover from a power outage

### ⑨ [Access Log] Check the access log

The time, user name and IP addresses when logging in/out to/from this unit will be displayed in list form.

**Note:** Up to 100 access logs can be kept. When more than 100 access logs are filed, old access logs will be overwritten by new access logs. In this case, the oldest log is the first to be overwritten.



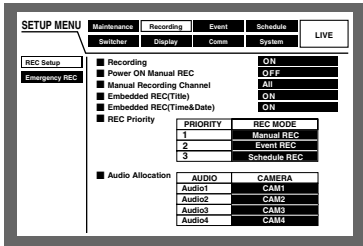
**\*\*IN:** The user name or the IP address displayed before IN indicates the user/host logged in.

**\*\*OUT:** The user name or the IP address displayed before OUT indicates the user/host logged out.

**\*\*:** User name or host name

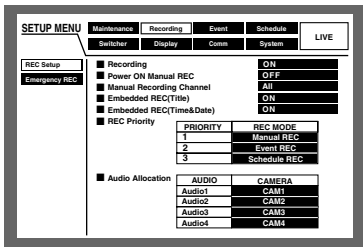
## ■ [Recording]

Perform the settings for the basic recording (REC Setup) and the emergency recording.



### ① [REC Setup] Perform the settings for the basic recording.

Perform the following settings for the basic recording.



- **[Recording]**

Select ON or OFF to record or not record.

**ON:** Recording will be performed.

**OFF:** No recording will be performed.

**Important:**

When OFF is selected for this setting, no recordings will be performed. Select ON for normal use except when it is necessary to stop recording forcefully such as when trouble has occurred with the unit.

- **[Power ON Manual REC]**

Select ON or OFF to determine whether or not to start recording when the power is turned on by the connected external timer (or the switch).

**ON:** Manual recording will start automatically after completing the system check.

**OFF:** Manual recording will not start automatically after completing the system check.

**Important:**

When ON is selected, manual recording will start automatically after completing the system check.

Set to ON except when it is necessary to stop recording forcefully such as when the unit is malfunctioning.

- **[Manual Recording Channel]**

Select a camera channel for manual recording from the followings. Refer to page 19 for manual recording.

**MON2:** Images from the camera channel currently displayed on monitor 2 will be recorded.

**ALL:** Images from all the camera channels will be recorded.

**Important:**

Even though "MON2" is selected, images from all the camera channels will be recorded while neither the sequential display nor live images are displayed on monitor 2.

When "MON2" is selected, images from a camera channel for another manual recording that has started later will be recorded regardless of the operation using the buttons on the front panel or via a network.

- **[Embedded REC (Title)]**

Select ON or OFF to determine whether or not to record a displayed camera title together as a part of the recorded image.

**ON:** Record camera titles together as a part of the recorded image.

**OFF:** Does not record camera titles.

- **[Embedded REC (Time & Date)]**

Select ON or OFF to determine whether or not to record the displayed time and date together.

**ON:** Record the time and date together as a part of the recorded image.

**OFF:** Does not record the time and date.

**Important:**

It is possible to select ON or OFF to determine whether or not to display the camera title or the time and date recorded together with the images, even though OFF is selected. (Refer to page 109, 110.)

When ON is selected, it is impossible to hide the camera title and the time and date. (Refer to page 109, 110.)

- **[REC Priority]**

Assigns priorities to recording modes. Assigns priorities 1 (highest) - 3 (lowest) to each recording mode.

Refer to page 19 for further information about each recording mode.

- **[Audio Allocation]**

Allocates audio from the audio input connectors (1 - 4) on the rear panel of the unit to camera channels.

Allocate audio in accordance with channels of connected cameras. When OFF is selected, audio will not be heard.

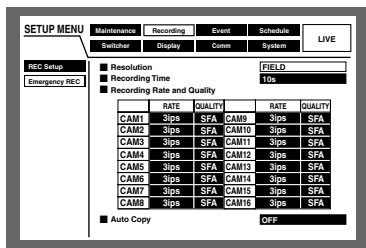
### Important:

- When a live image from the audio assigned camera channel is displayed on a single screen on monitor 2, audio will be heard. When displaying on a multi-screen, audio will not be heard.
- When images from the audio assigned camera channel are displayed on a single screen, recorded audio will be heard. When displaying on a multi-screen, recorded audio will not be heard.
- Audio will be recorded regardless of whether you are displaying on a single screen or a multi-screen.

## ② [Emergency REC] Perform the settings for emergency recording

Perform the settings for emergency recording such as the recording time or recording rate for emergency recording.

Refer to page 21 for further information about emergency recording.



### • [Resolution]

Select a recording resolution from the following.

**FRAME 3D ON:** High resolution (720 x 480), with camera shake compensation

**FRAME 3D OFF:** High resolution (720 x 480)

**FIELD:** Standard resolution (720 x 240)

**SIF:** Low resolution (360 x 240)

### • [Recording Time]

Perform the settings for the recording time and recording action for emergency recording.

The following are available for the recording time.

1 s - 10 s (in 1 second intervals)

20 s/30 s

1 m - 10 m (in 1 minute intervals)

20 m/30 m/40 m/50 m/60 m

**MANUAL:** Recording will continue while the external switch is being held down.

**CONTINUE:** Recording will not stop until the ALARM RESET button on the front panel of the unit is pressed.

### • [Recording Rate and Quality]

Perform the settings for the recording rate and image quality for emergency recording.

The following are available for the recording rate.

OFF/1 ips/2 ips/3 ips/5 ips/6 ips/7.5 ips/10 ips/15 ips/30 ips/60 ips

### Important:

- When OFF is selected for a specified camera channel, images from a camera channel set to OFF will not be recorded.
- When "FRAME 3D ON" or "FRAME 3D OFF" is selected, the total recording rates of CAM 1 - CAM 16 (for the WJ-HD316) must be less than 30 ips.
- When "FIELD" is selected, the total recording rates of CAM 1 - CAM 16 (for the WJ-HD316) must be less than 60 ips.
- When "SIF" is selected, the total recording rates of CAM 1 - CAM 16 (for the WJ-HD316) must be less than 120 ips.
- When "FRAME 3D ON", "FRAME 3D OFF" or "SIF" is selected, it is impossible to select 60 ips.

The following are available for the image quality.

**SFA/SFB:** Top quality (SUPER FINE)

**FQA/FQB:** High quality (FINE)

**NQA/NQB:** Standard quality (NORMAL)

**EXA/EXB:** Low quality (EXTENDED)

\*\*A is suitable for less dynamic images.

\*\*B is suitable for more dynamic images.

### • [Auto Copy]

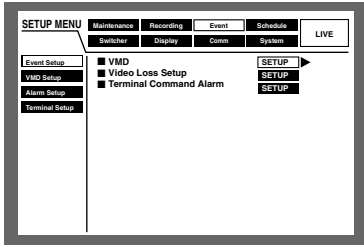
Select ON or OFF to set whether or not to automatically copy images recorded by emergency recording onto the copy area on the built-in hard disk or DVD-RAM disk.

### Important:

When OFF is selected for "Auto Copy" on "Basic setup" of "System", the auto copy function will not work after emergency recording even though ON is selected for this setting. Select "HDD", "COPY 1" or "COPY 2" for "Auto Copy".

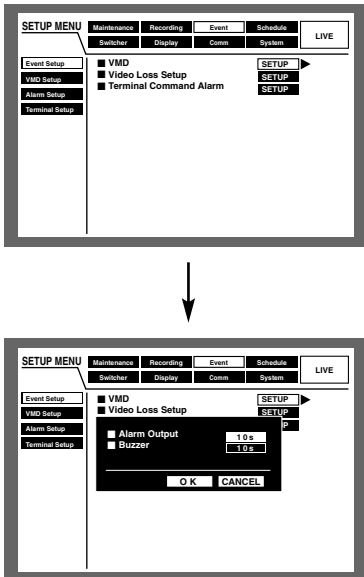
## ■ [Event] Function for Events

Perform the settings for event actions of each event type (motion detection, video loss, command alarm and terminal alarm).



### ① [Event Setup] Settings for the alarm output duration and the buzzer duration

Perform the settings for the alarm output duration and the buzzer sound duration for each event type (motion detection, video loss, command alarm and terminal alarm).



The following are available for the alarm output duration.

When OFF is selected, the alarm output will not be supplied.

(s: second, m: minute)

**OFF:** No alarm output is supplied.

1 s - 30 s (in 1 second intervals)

/40 s/50 s/1 m/2 m/3 m/4 m/5 m

**EXT:** Alarm output will continue until the ALARM RESET button is pressed.

#### Important:

The alarm output duration cannot be set for video loss. Signals will be supplied continuously from the camera error output terminal (pin no. 17) of the ALARM/CONTROL connector on the rear panel during the period when the video signal is lost. (Refer to page 80.)

The following are available for the buzzer sound duration.

When OFF is selected, a buzzer will not sound.

(s: second, m: minute)

**OFF:** The buzzer will not sound.

1 s - 30 s (in 1 second intervals)

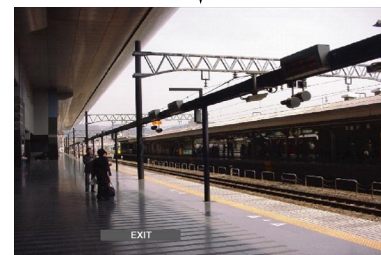
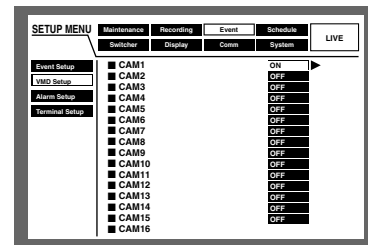
/40 s/50 s/1 m/2 m/3 m/4 m/5 m

**EXT:** The buzzer will continue until the ALARM RESET button is pressed.

### ② [VMD Setup] Perform the settings for the motion detection function

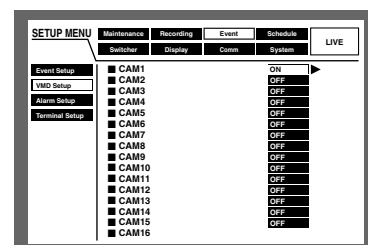
Select ON or OFF to determine whether to enable or disable the motion detection function for each camera channel.

When ON is selected, perform the settings for the auto motion detection area for each camera channel. Up to 4 areas can be set for a camera channel for the detection area. Refer to page 45 for further information about the auto motion detection function.



#### [Screenshot 1]

Start operation from the camera channel selection menu of the "VMD Setup" window.



- 1 Rotate the jog dial to select ON for a desired camera channel for which the motion detection function is to be applied, and press the SET button.

### [Screenshot 2]

The "VMD Setup" window will be displayed.



- 2 Rotate the jog dial to select "SETUP AREA" on the status bar.

**Note:** To set all areas on the monitor as the motion detection area, select "ALL AREAS" and press the SET button.

### [Screenshot 3]

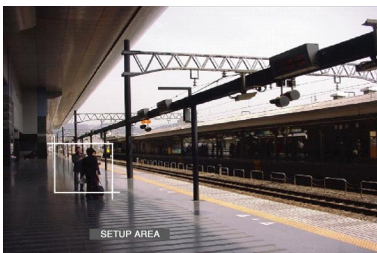
The cross cursor will be displayed on the "VMD Setup" window.



- 3 Move the cross cursor to a desired point to be set as the start point of the motion detection area using the arrows button, and press the SET button.

### [Screenshot 4]

The start point of the motion detection area is assigned.



- 4 Move the cross cursor to a desired point to be set as the end point of the motion detection area using the arrows button, and press the SET button.

### [Screenshot 5]

The motion detection area is set with the start point and the end point as the points at opposite angles of the motion detection area.



- 5 Repeat steps 3 and 4 to set another motion detection area.

Up to 4 areas can be set. The newly created areas will be named automatically as A, B, C and D in the order of creation.

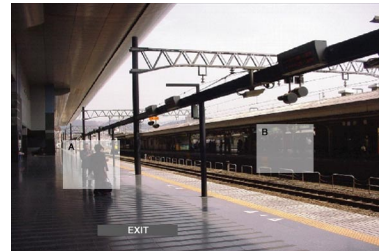
- 6 To complete the settings, rotate the jog dial to select "EXIT" on the status bar, and press the SET button.

→ The "VMD Setup" window will be closed.

## ● Delete the motion detection area

### [Screenshot 1]

Start operation from the "VMD Setup" window.

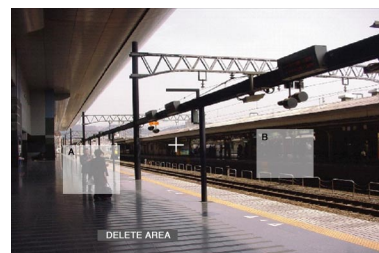


- 1 Rotate the jog dial to select "DELETE AREA" on the status bar.

**Note:** After selecting "DELETE ALL AREAS", pressing the SET button will delete all of the motion detection areas.

### [Screenshot 2]

The cross cursor will be displayed on the "VMD Setup" window.





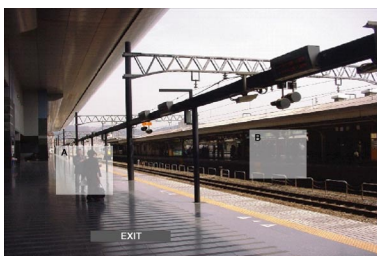
- 2 Move the cross cursor onto an area to be deleted using the arrows button and press the SET button.
- 3 To complete the settings, rotate the jog dial to select "EXIT" on the status bar.  
→ The "VMD Setup" window will be closed.

## ● Set the sensitivity

Set the sensitivity for the created motion detection area. Sensitivity can be set for each area.

### [Screenshot 1]

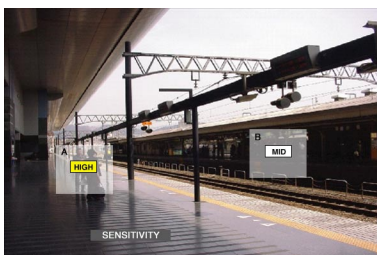
Start operation from the "VMD Setup" window.



- 1 Rotate the jog dial to select "SENSITIVITY" on the status bar.

### [Screenshot 2]

The sensitivity of the selected detection area will be displayed.



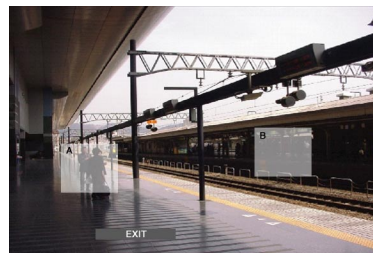
- 2 Move the cross cursor to select an area using the arrows button (◀ ▶).
- 3 Select the sensitivity for the selected area from the following.  
**OFF:** No motion will be detected in this area.  
**LOW:** Low sensitivity  
**MID:** Standard sensitivity  
**HIGH:** High sensitivity
- 4 To complete the settings, rotate the jog dial to select "EXIT" on the status bar, and press the SET button.  
→ The "VMD Setup" window will be closed.

## ● Set the detection mode

Perform the settings of the detection mode (method of detection) in the set detection area. Specifying a method of detection in a detection area is available by setting the detection mode.

### [Screenshot 1]

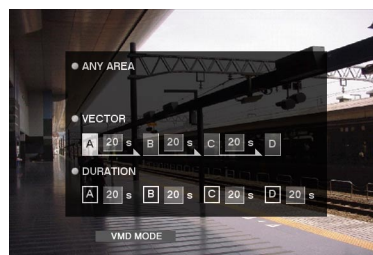
Start operation from the "VMD Setup" window.



- 1 Rotate the jog dial to select "VMD MODE" on the status bar.

### [Screenshot 2]

The detection mode menu will be displayed.



- 2 Set the detection mode.  
Move the cursor to the desired detection mode using the arrows button (◀ ▶).  
Check the radio button next to the desired detection mode using the arrows button (▼ ▲) and pressing the SET button.  
Refer to the following for further information about each of the detection modes.

#### <ANY AREA>

An event action will be performed according to the settings when "motion" is detected in any of the set motion detection areas.

#### <VECTOR>

Move the cursor to an area for the settings of VECTOR using the arrows button (▼) and rotate the jog dial to select an area. Move the cursor to the parameter box of the selected area using the arrows button (▶) to select an interval time for an object moving between each area from the following.

--/5 s/10 s/20 s/30 s/40 s/50 s/1 m(min)

### <DURATION>

Move the cursor to the parameter box of each area using the arrows button (▶) and rotate the jog dial to select a moving duration for an object in each area from the following.

--/5 s/10 s/20 s/30 s/40 s/50 s/1 m

- To complete the settings, rotate the jog dial to select "EXIT" on the status bar, and press the SET button.  
→ The "VMD Setup" window will be closed.

### ● About the Detection mode

Perform the settings of the detection mode (method of detection) in the set detection area. Specifying a method of detection in a detection area is available by setting the detection mode.

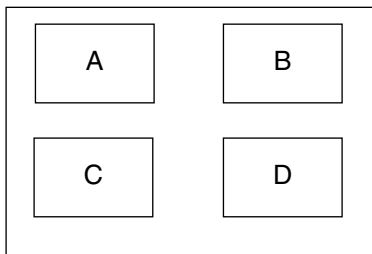
There are three detection modes as follows.

#### Important:

Activating two or more detection modes simultaneously is not possible.

### <ANY AREA (to detect "motion" in the area)>

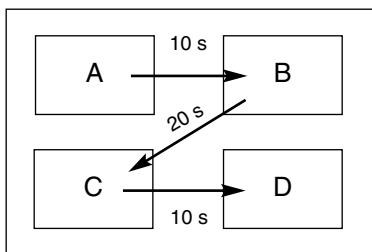
An event action will be performed according to the settings when "motion" is detected in any of the set motion detection areas.



Any motion will be detected anywhere in the A, B, C, D areas.

### <VECTOR (to detect object moving to a certain direction)>

An event action will be performed according to the settings when an object moves within the set time to the other detection area in the set order.



The following is an example.  
Motion is detected in area B within 10 seconds after being detected in area A.

Motion is detected in area C within 20 seconds after being detected in area B.

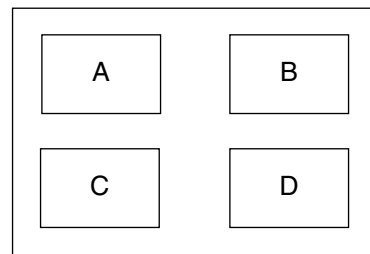
Motion is detected in area D within 10 seconds after being detected in area C.

When all of the above have occurred, an event action will be performed.

### <DURATION (to detect objects that keep moving in the area)>

An event action will be performed according to the settings when an object keeps moving for the set period in the detection area. For example, in case of the following settings; 10 sec. for the areas A and B, 20 sec. for area C and 30 sec. for area D:

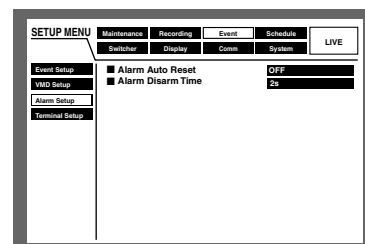
An event action will be performed when an object keeps moving for 10 seconds in area A or B, or for 20 seconds in area C, or for 30 seconds in area D.



### ③ [Alarm Setup] Perform the settings for the alarm auto reset and alarm disarm

Perform the settings for the alarm display duration. The alarm display will automatically disappear when the display duration has passed. (Alarm Auto Reset)

Perform the settings to suspend the set duration when the same type of event (motion detection, video loss, terminal alarm, command alarm) has occurred sequentially so that the event action will not be performed each time. (Alarm Disarm)



## ● [Alarm Auto Reset]

The following are possible for the alarm auto reset.

When OFF is selected, the alarm display will not automatically disappear.

To erase the alarm display, press the ALARM RESET button.

OFF/1 s - 30 s (in 1 second intervals)

40 s/50 s/1 m/2 m/3 m4 m/5 m

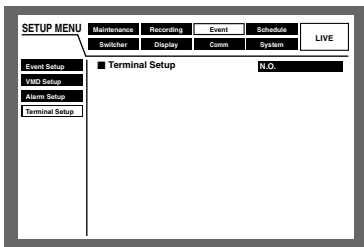
## ● [Alarm Disarm]

The following are possible for the alarm disarm.

2 s - 10 s (in 1 second intervals)

## ④ [Terminal Setup] Perform the settings for the alarm terminal polarity.

Select how to supply the signal to the alarm terminal.



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

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

**Note:** It is possible to set polarities for each of the alarm inputs 1-16 respectively using a PC via a network.

## ■ [Schedule] Settings for the recording/event action schedule

Perform the settings for the recording schedules of recording and event action by designating a day of the week and time.

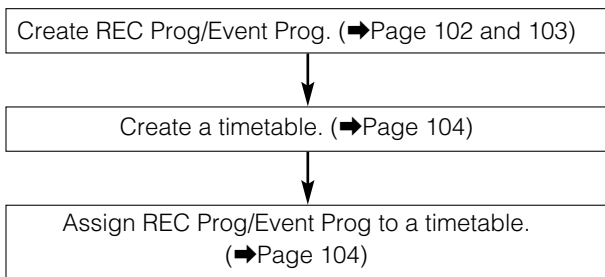
A day can be divided into up to 6 time zones, and recording programs and event action programs can be assigned to each time zone to create a recording schedule.

Up to 4 normal recording programs (REC Prog) and up to 4 event action programs (Event Prog) can be created. Perform the settings for the REC Prog: resolution and recording rate. Perform the settings for the Event Prog: action mode for each event type and auto copy.

It is possible to create special days apart from the normal schedule, and a recording program of another day of the week can be switched to a special day's program automatically.

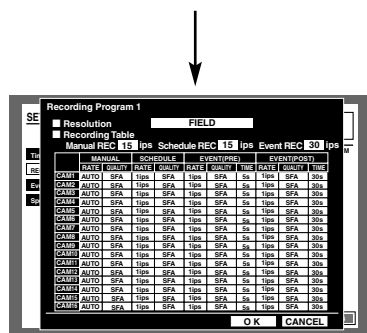
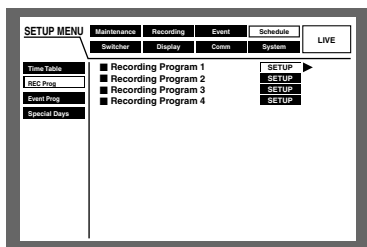
### Flowchart how to create a schedule

Follow the procedures below to create schedules.



### ① [REC Prog] Create a recording program

Perform the settings of resolution, and recording rate for each recording mode, and the recording rate and image quality of each camera channel. Up to 4 recording programs can be created.



### ● [Resolution]

Select a resolution for images to be recorded from the following.

**FRAME 3D ON:** High resolution (720 x 480) with the motion blur compensation

**FRAME 3D OFF:** High resolution (720 x 480)

**FIELD:** Standard resolution (720 x 480)

**SIF:** Low resolution (360 x 240)

**Note:** When "FRAME 3D ON" is selected, it is possible to record a moving object with less blurring.

### ● Recording Rate for Each Recording Mode

Perform the settings of recording rate for each recording mode (manual recording, schedule recording and event recording).

Assign the maximum recording rate according to the resolution for each recording mode.

The following are the maximum recording rate for each resolution.

Resolution	Maximum recording rate
FRAME 3D ON	30 ips
FRAME 3D OFF	30 ips
FIELD	60 ips
SIF	120 ips

The following are available for the recording rate for each resolution.

OFF/2 ips/3 ips/5 ips/6 ips/7.5 ips/10 ips/15 ips/30 ips/60 ips/120 ips

### Important:

- When "FRAME" is selected for "Resolution", "60 ips" and "120 ips" are not available. When "FIELD" is selected, "120 ips" is not available.

- The total recording rates for each recording mode must be less than the maximum recording rate of each resolution.

**Examples:** When "FIELD" is selected and set, the total recording rates for each recording mode must be less than 60 ips.

Manual recording: 15 ips

Schedule recording: 15 ips

Event recording: 30 ips

### ● Recording Rate and Image Quality for Each Camera Channel

Perform the settings for recording rate, image quality and recording duration for each camera channel (only for event pre-recording and event post-recording).

Perform the settings for each recording mode. Assign the recording rate for each camera channel as described in "Recording Rate for Each Recording Mode" above.

The following are for the recording rate. When OFF is selected, images from the selected camera channel will not be recorded.

OFF/0.1 ips/0.2 ips/0.3 ips/0.4 ips/0.5 ips/1 ips/2 ips/3 ips/5 ips/6 ips/7.5 ips/10 ips/15 ips/30 ips/60 ips

**AUTO:** The recording rate will be set automatically. (Not possible for event pre-recording and event post-recording)

**Important:**

The total recording rates of each camera channels in the same recording mode must be less than the recording rate as described in "Recording Rate for Each Recording Mode" above.

**Examples:** When selecting "FIELD" for resolution, "15 ips" for manual recording, "15 ips" for schedule recording, "30 ips" for event recording;

Total recording rates of CAM 1 - 16 (manual recording): less than 15 ips

Total recording rates of CAM 1 - 16 (schedule recording): less than 15 ips

Total recording rates of CAM 1 - 16 (event recording): less than 30 ips

When the total of the recording rates becomes more than the set value, the recording mode table will turn red.

Recording mode table

The total recording rates between recording rates of event pre-recording and recording rates of event post-recording for each camera channel must be less than the recording rate as described in "Recording Rate for Each Recording Mode" above.

The following are available for the image quality.

**SFA/SFB:** Top quality (SUPER FINE)

**FQA/FQB:** High quality (FINE)

**NQA/NQB:** Standard quality (NORMAL)

**EXA/EXB:** Low quality (EXTENDED)

\*\*A is suitable for less dynamic images.

\*\*B is suitable for more dynamic images.

The following are available for the recording duration (only event pre-recording and event post-recording).

1 s - 10 s (in 1 second intervals)

20 s/30 s/1 - 10 m (in 1 minute intervals)

20 - 60 m (in 10 minutes intervals)

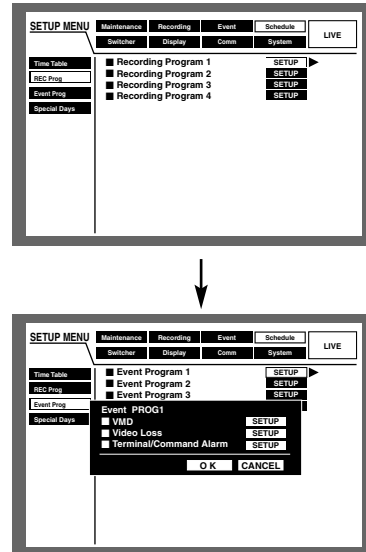
**MANUAL:** The recording duration will be as follows depending on the event type.

- At a motion detection: For 8 seconds
- At a video loss occurrence: During a video loss occurrence
- At a terminal alarm occurrence: During the supply of a signal
- At a command alarm: For 8 seconds

**CONTINUE:** Recording will be performed continuously until the ALARM RESET button is pressed.

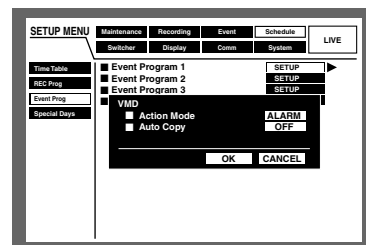
② **[Event Prog] Create event programs for an event occurrence**

Perform the settings of event action for each event type (motion detection, video loss, terminal/command alarm) or of auto copy.



● **VMD**

Perform the settings of event action at a motion detection or the settings of the auto copy function.



Perform the settings for the following action mode. Refer to page xx for further information about each action mode.

**ACT DET (Activity Detection Mode):** Performs only recording, writing an event log and camera movement to a preset position at an event occurrence. Other event actions will not be performed.

**ALARM (Alarm Mode):** Performs every event action according to the settings.

Auto copy is the function to copy recorded images automatically onto the copy area of the hard disk or the DVD-RAM disk.

Select ON or OFF to enable or disable the auto copy function.

**ON:** Enable the auto copy function

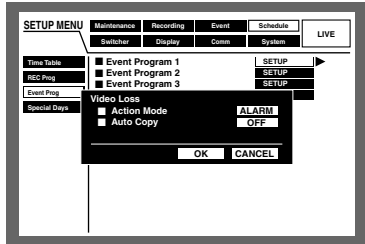
**OFF:** Disable the auto copy function

**Note:** When "OFF" is selected for "Auto Copy" of "Basic Setup" on "System", the auto copy function will not work even though "ON" is selected for this setting. Select "HDD", "COPY 1" or "COPY 2" for "Auto Copy".

### ● Video Loss

Perform the settings of event action at a video loss or the settings of the auto copy function.

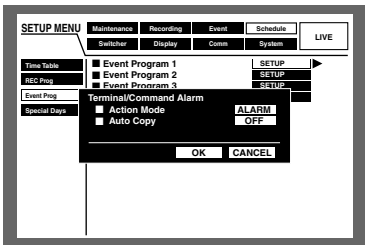
The contents to be set are the same as the settings for "VMD" above.



### ● Terminal/command alarm

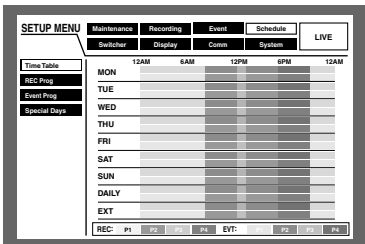
Perform the settings of event action at a terminal/command alarm occurrence or the settings of the auto copy function.

The contents to be set are the same as the settings for "VMD" above.



### ③ [Time Table] Assignment of REC Prog and Event Prog after setting the time zone

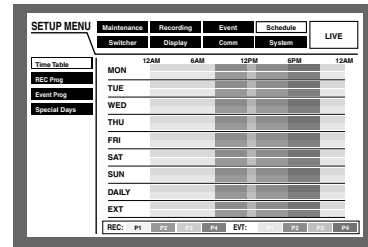
Create recording timetables for each day of the week, and assign REC Prog and Event Prog to each timetable. Up to 6 recording programs can be created.



Do the following to create timetables.

### [Screenshot 1]

Start operation after displaying the timetable window.

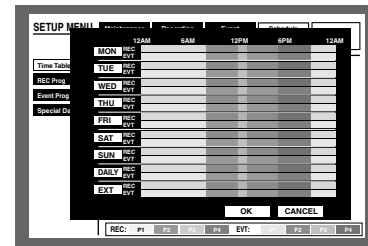


1 Press the SET button.

### [Screenshot 2]

The pop-up setting menu of the timetable for every day of the week will be displayed.

The cursor will be displayed and will move to "MON" (Monday).

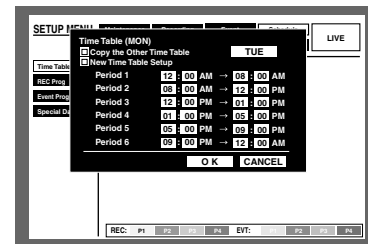


2 Select a day of the week using the arrows button (▼ ▲) and press the SET button.

**Note:** When a signal is supplied from the ALARM/CONTROL connector on the rear panel the external recording mode changeover terminal (pin no. 24) of the unit will work with the set timetable for "EXT."

### [Screenshot 3]

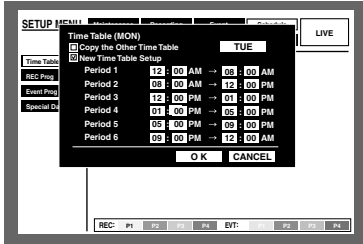
The pop-up settings menu of the timetable for the selected day of the week will be displayed.



3 Select "New Time Table Setup" using the arrows button (▼ ▲) and rotate the jog dial to check the checkbox.

## [Screenshot 4]

The checkbox for "New Time Table Setup" is checked.



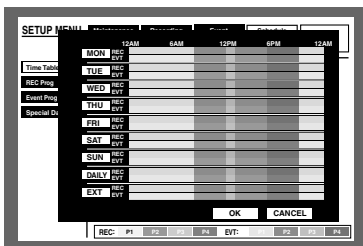
- 4 Move the cursor to the start time input box for "Period 1" using the arrows button.
- 5 Rotate the jog dial to set the start time.  
The end time can be set in the same way.  
Repeat steps 4 and 5 to set for "Period 2" - "Period 6".  
(It is not necessary to set for all of "Period 1" - "Period 6".)
- 6 Select OK using the arrows button and press the SET button.

### Notes:

- Start time and end time can be set in 15 minutes intervals.
- To copy a timetable that is set for a different day of the week, select "Copy the Other Time Table" and select a day of the week by rotating the jog dial in step 3.  
Then, move the cursor to select OK and press the SET button.
- When the SET button is pressed after moving the cursor to CANCEL in step 6, the settings will be canceled and the selected timetable window will be closed.
- Until the SET button is pressed after moving the cursor to CANCEL in step 6, the settings will not be applied to the selected timetable.

## [Screenshot 5]

The settings are applied to the selected timetable and the timetable for all the days of the week will be displayed.



- 7 Move the cursor to the time zone of the day of the week to which the REC Prog is to be assigned using the arrows button.

- 8 Rotate the jog dial to select a desired REC Prog/Event Prog.  
(Rotating the jog dial changes the displayed REC Prog.)  
REC Prog will be displayed with different colors.  
**Orange:** REC Prog 1/Event Prog 1  
**Yellow:** REC Prog 2/Event Prog 2  
**Pale purple:** REC Prog 3/Event Prog 3  
**Indigo blue:** REC Prog 4/Event Prog 4

Repeat steps 7 and 8 to assign REC Prog to other timetables.

- 9 Move the cursor to OK using the arrows button and press the SET button.  
→ The REC Prog/Event Prog will be assigned to the selected time zone and the selected timetable window will be closed.

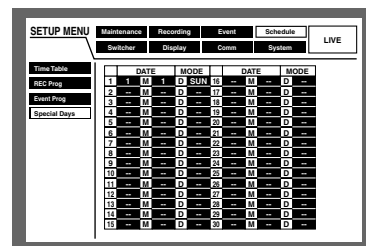
### Notes:

- When the SET button is pressed after moving the cursor to CANCEL in step 9, the settings will be canceled and the selected timetable window will be closed.
- Until the SET button is pressed after moving the cursor to CANCEL in step 9, the programs will not be assigned to the selected timetable.

## ④ [Special Days] Perform the settings for recording programs for special days

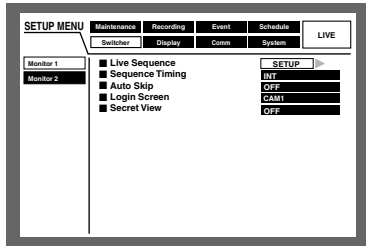
Assign timetables to special days aside from other days of the week. Timetables for special days can be set for up to 30 days.

Perform the settings to specify dates as special days and apply the recording schedule to the special days.



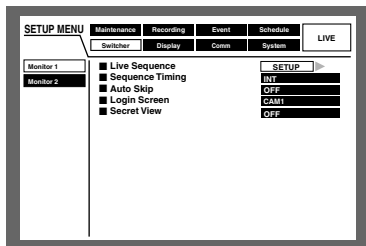
## ■ [Switcher] Settings for the switcher function

Perform the settings for image switching such as the sequential display setting or the waiting screen (while logging out) setting for displaying on monitors 1 and 2.



### ① [Monitor 1] Switcher function of monitor 1

Perform the settings for the switcher function of monitor 1.

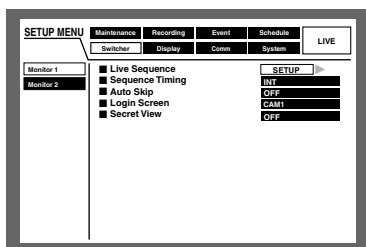


### ● Live Sequence

Perform the settings for the sequential display of live images as follows.

#### [Screenshot 1]

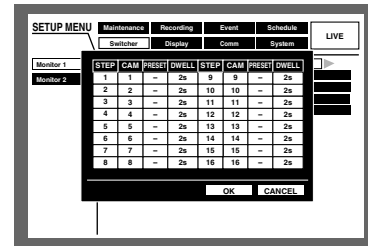
Start operation from the "Monitor1" menu of "Switcher" on the SETUP MENU.



- 1 Move the cursor to "Live Sequence" using the arrows button (▼ ▲) and press the SET button.

#### [Screenshot 2]

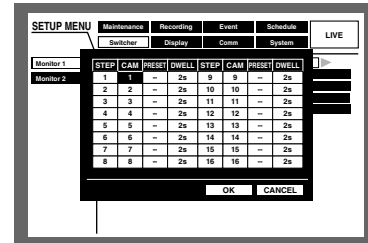
The "Live Sequence" pop-up menu will be displayed.



- 2 Move the cursor to "CAM" of "STEP 1" using the arrows button.

#### [Screenshot 3]

The cursor moves to "CAM".



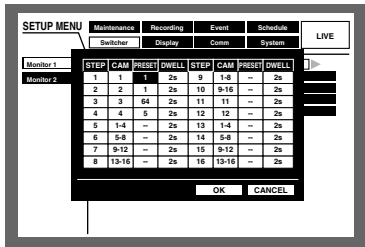
- 3 Select how to display images from camera channels in "STEP 1" from the following by rotating the jog dial.
  - 1, 2, ... , 16: Displays an image from the selected camera channel on a single screen.
  - 1 - 4: Displays images from the camera channels 1 - 4 on a 4-split screen.
  - 5 - 8: Displays images from the camera channels 5 - 8 on a 4-split screen.
  - 9 - 12: Displays images from the camera channels 9 - 12 on a 4-split screen.
  - 13 - 16: Displays images from the camera channels 13 - 16 on a 4-split screen.
  - 1 - 9: Displays images from the camera channels 1 - 9 on a 9-split screen.
  - 10 - 16 (Only for the WJ-HD316): Displays images from the camera channels 10 - 16 on a 9-split screen.
  - : Skips the selected step.

- 4 When displaying image from camera channels "1 - 16" on a single screen is selected in step 3, select the camera position. Move the cursor to "PRESET" in "STEP 1" using the arrows button.



## [Screenshot 4]

The cursor moves to the "PRESET" in "STEP 1".



- 5 Rotate the jog dial to select a preset position number for which image is displayed in "STEP 1" from the following.

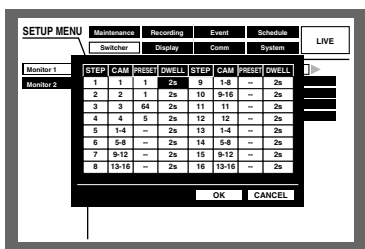
**1 - 64:** Moves to the selected preset number.

**--:** Does not move to the preset position.

- 6 Select "DWELL" in "STEP 1" using the arrows button.

## [Screenshot 5]

The cursor moves to "DWELL" in "STEP 1".



- 7 Rotate the jog dial to select an interval time to go to the next sequential step from 1 - 30 seconds (in 1 second intervals).

The sequence step is skipped when "0 s" is selected.

Repeat steps 2 and 7 to set for other sequence steps.

- 8 Move the cursor to "OK" using the arrows button and press the SET button.

→ The settings for the sequential display are set and the sequence setting menu closes.

### Notes:

- If you move the cursor to "CANCEL" in step 8 and press the SET button, the setting is canceled and the sequence setting menu closes.
- The settings for the sequential display will not be applied until the SET button is pressed after selecting "OK" using the arrows button in step 8.

## ● Sequence Timing

Select an image switching way from the following.

**INT:** Switches images according to the settings for the live sequence.

**EXT:** Switches images by signals from an external device.

**MON 2:** Match with the image switching timing of the live sequence on monitor 2.

## ● Auto Skip

Select ON or OFF to determine whether or not to skip the camera channel without supplying the video input signal because it is not connected, etc.

**ON:** Skips a channel if it is not connected.

**OFF:** Displays a black screen for a channel not connected.

## ● Login Screen

Select a camera image to be displayed during the login procedure from the following.

**CAM1 - 16:** Displays an image from the selected camera channel.

**QUAD1 - 4:** Displays images from the camera channels 1 - 4 on a 4-split screen.

**QUAD5 - 8:** Displays images from the camera channels 5 - 8 on a 4-split screen.

**QUAD9 - 12:** Displays images from the camera channels 9 - 12 on a 4-split screen.

**QUAD13 - 16:** Displays images from the camera channels 13 - 16 on a 4-split screen.

**7 SCREEN:** Displays images from the camera channels 1 - 7 on a 7-split screen.

**9 SCREEN 1 - 9:** Displays images from the camera channels 1 - 9 on a 9-split screen.

**9 SCREEN 10 - 16 (only for the WJ-HD316):** Displays images from the camera channels 10 - 16 on a 9-split screen.

**10 SCREEN:** Displays images from the camera channels 1 - 10 on a 10-split screen.

**13 SCREEN:** Displays images from the camera channels 1 - 13 on a 13-split screen.

**16 SCREEN:** Displays images from the camera channels 1 - 16 on a 16-split screen.

**--:** No camera image will be displayed (black screen)

## ● Secret View

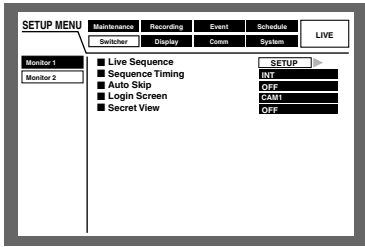
The secret view is a function to display a black screen on monitor 1 when camera images are displayed with a single screen on monitor 2. Select ON or OFF to determine whether to enable or disable the secret view function.

**ON:** Enables the secret view function. (Camera image displayed with a single screen on monitor 2 will be displayed while monitor 1 has a black screen.)

**OFF:** Disables the secret view function.

## ② [Monitor 2] Switcher function of monitor 2

Perform the settings for the switcher function of monitor 2.



### ● Live Sequence

The settings for "Live Sequence" are the same as for "Monitor1". Refer to page 106 for further information.

### ● Sequence Timing

The settings for "Sequence Timing" are the same as for "Monitor1". Refer to page 107 for further information.

- "EXT" is selectable only when an external device that can transmit a sequence signal is connected.
- The sequence changeover I/O on the rear panel will supply signals when "INT" is selected and will receive signals when "EXT" is selected.

### ● Auto Skip

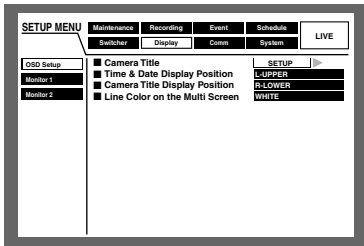
The settings for "Auto Skip" are the same as for "Monitor1". Refer to page 107 for further information.

### ● Login Screen

The settings for "Login Screen" are the same as for "Monitor1". Refer to page 107 for further information.

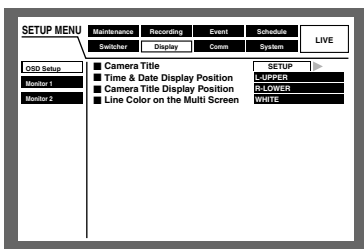
## ■ [Display]

Perform the display settings for monitors 1 and 2 connected to the unit.



### ① OSD Setup

Perform the On Screen Display settings for monitor 1 and monitor 2 such as the settings of camera titles or the settings of the time display position.

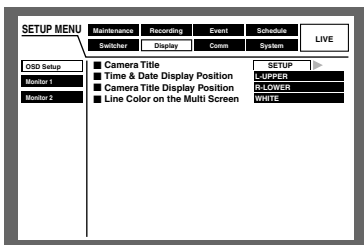


### ● Camera Title

Perform the settings for the camera title. Do the following to set the camera title.

#### [Screenshot 1]

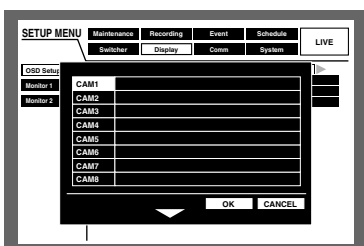
Start operation from the "OSD Setup" menu.



- 1 Move the cursor to "Camera Title" using the arrows button (▼ ▲) and press the SET button.

#### [Screenshot 2]

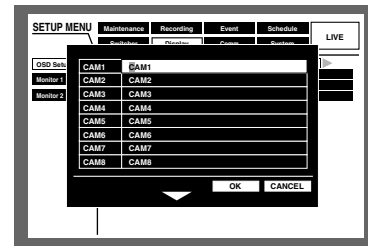
The camera title pop-up window will be displayed.



- 2 Move the cursor to "CAM1" using the arrows button.

#### [Screenshot 3]

The cursor moves to "CAM1".

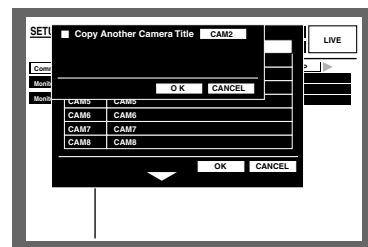


- 3 Select a character to be entered by rotating the jog dial. Up to 16 characters can be entered.

- 4 Move the cursor to the right side of the entered character using the arrows button. Repeat steps 3 and 4 to enter the camera title.

#### Notes:

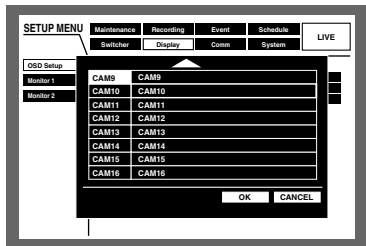
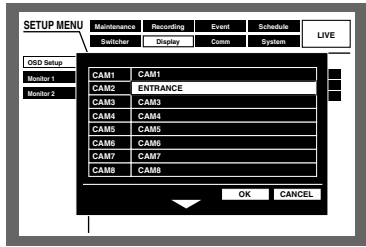
- To correct the entered characters, move the cursor to the character to be corrected and press the STOP button to delete it. Enter a correct character after deleting.
- To copy the camera title that has been set for another camera channel, follow the procedure below.
  1. Move the cursor to "CAM 1" in step 2 on the previous page and press the SET button. The following screen will be displayed.



2. Select the camera channel for which the camera title is to be copied by rotating the jog dial.
3. Move the cursor to "OK" using the arrows button and press the SET button. The camera title will be copied.

## [Screenshot 4]

The camera title is entered.



- 5 Press the arrows button to move the cursor to "OK" and press the SET button.  
→ The camera title is set and the setting screen of the camera title closes.

### Notes:

- If you move the cursor to "CANCEL" in step 5 and press the SET button, the setting is canceled and the setting screen of the camera title closes.
- The settings for the camera title will not be applied until the SET button is pressed after selecting "OK" using the arrows button in step 5.

## ● Time and Date Display Position

Select a time and date display position from the following.

- L-UPPER:** Displays the time at the upper left of the screen.  
**R-UPPER:** Displays the time at the upper right of the screen.  
**L-LOWER:** Displays the time at the lower left of the screen.  
**R-LOWER:** Displays the time at the lower right of the screen.

### Notes:

- When setting the time and date to be recorded together with images, the time display will be recorded in the selected position.
- Refer to page 95 for further information about "Embedded REC (Time & Date)".

## ● Camera Title Display Position

Select a camera title display position from the following.

- L-UPPER:** Displays the camera title at the upper left of the screen.  
**L-LOWER:** Displays the camera title at the lower left of the screen.

**R-UPPER:** Displays the camera title at the upper right of the screen.

**R-LOWER:** Displays the camera title at the lower right of the screen.

**CENTER:** Displays the camera title at the center of the screen.

**Note:** When setting the camera title to be recorded together with images, the time display will be recorded in the selected position.

Refer to page 95 for further information about "Embedded REC (title)".

## ● Line Color on the Multi Screen

Select a line color from the following.

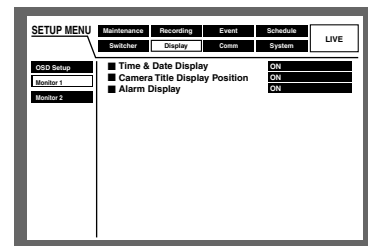
**WHITE:** Displays white lines.

**GRAY:** Displays gray lines.

**BLACK:** Displays black lines.

## ② [Monitor 1] Settings on monitor 1 display

Select ON and OFF whether or not to display the time, camera title and alarm display on the monitor 1.



## ● Time & Date Display

Select ON and OFF whether or not to display the time.

**ON:** Displays time.

**OFF:** Does not function.

## ● Camera Title Display

Select ON and OFF whether or not to display the camera title.

**ON:** Displays the camera title.

**OFF:** Does not function.

## ● Alarm Display

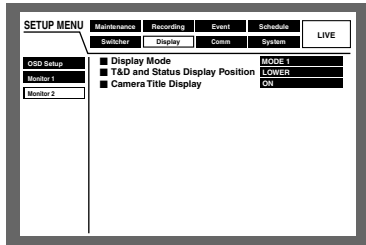
Select ON and OFF whether or not to activate the alarm display at an event occurrence.

**ON:** Displays the alarm display at an event occurrence.

**OFF:** Does not function.

### ③ [Monitor2] Settings on monitor 2 display

Perform the display settings for monitor 2 such as the display mode (task bar style), time display position on/off, camera title display position, etc.



The following explains the settings for monitor 2 and the VGA monitor such as the display mode (task bar style), time display position, camera title display ON/OFF, etc.

#### ● Display Mode

Select a display mode (task bar style) from the following.  
Refer to page 12 for further information about the task bar.

**MODE 1:** Select [MODE 1] for the display mode.

**MODE 2:** Select [MODE 2] for the display mode.

**MODE 3:** Select [MODE 3] for the display mode.

#### ● T & D and Status Display Position

When selecting MODE 1, select the position of the time and date display and the status from the following.

**UPPER:** Displays them in the upper part of the screen.

**LOWER:** Displays them in the lower part of the screen.

#### ● Camera Title Display

Select ON and OFF whether or not to display the camera title.

**ON:** Displays the camera title.

**OFF:** Does not function.

## ■ [Comm] Settings for communication with other devices

It is necessary to adjust the communication speed and use the same communication protocol with external devices such as a controller when connecting those external devices to the DATA port or the SERIAL connector (RS232C).

It is also necessary to perform the settings for the network such as the IP address and the gateway address when operating this unit a PC via a network such as a LAN.

These are the descriptions of how to perform the required settings for communication with external devices.

### ① [Camera Control] Settings for the communication method and the cable compensation for camera control

Select a communication method for each camera channel to control cameras from the following.

CAM	COMP	TYPE	CAM	TYPE
CAM1	S	COAX	CAM9	PSD
CAM2	S	COAX	CAM10	
CAM3	S	COAX	CAM11	
CAM4	S	COAX	CAM12	RS485
CAM5	S	COAX	CAM13	
CAM6	S	COAX	CAM14	
CAM7	S	COAX	CAM15	
CAM8	S	COAX	CAM16	

**COAX:** Controls camera with the coaxial communication (CAM 1 - 8 CH are available for the WJ-HD316, CAM 1 - 6 CH are available for the WJ-HD309)

**PSD:** Controls camera with the PS-Data. (CAM 9 - 16 CH are available for the WJ-HD316, CAM 7 - 9 CH are available for the WJ-HD309)

**RS 485:** Controls camera with the RS 485 communication. (CAM 1 - 16 CH are available for the WJ-HD316, CAM 1 - 9 CH are available for the WJ-HD309)

**OFF:** Does not control camera (CAM 1 - 16 CH are available)

#### Notes:

- Perform settings according to the cameras connected to this unit.
- CAM 9-16 control 4 cameras each (only for the WJ-HD316).
- When using the coaxial communication to control cameras, connect cameras to the VIDEO IN connectors 1 - 8 for the WJ-HD316 (1 - 6 for the WJ-HD309) (coaxial communication compatible). When controlling cameras connected to other VIDEO IN connectors with coaxial communication, use a coaxial communication unit (WJ-MP204). In this case, select "PSD" for the communication method for the camera channels to be controlled through the coaxial communication unit.

- To prevent operation mistakes, set the unused camera channels to off.

It is possible to compensate for the video signal transmission loss from the camera when using the VIDEO IN connector 1 - 8. (cable compensation)

Perform the settings for the cable compensation according to the length of cable used.

**S:** When the length of cable used is shorter than 500 m

**M:** When the length of cable used is longer than 500 m and shorter than 900 m

**L:** When the length of cable used is longer than 900 m and shorter than 1 200 m

#### Notes:

- Use 5C-2V cables for the cable compensation.
- Perform the settings for the cable compensation properly according to the cable length. Otherwise camera pictures may not be displayed/recorded correctly.

### ② [PS.Data Setup] Settings for the PS-Data

Perform the following settings for the PS-Data.

Unit Address(System)	001
Unit Address(Controller)	001
Cascade	OFF
Baud Rate	9600
Data Bit	8
Parity	NONE
Stop Bit	1
Retry Timing	OFF
Alarm Data	1s
Camera Number Setup	SETUP

#### ● Unit Address (System)

A unit address (System) is a unique number assigning to PS-Data devices. The addresses must be unique to identify system devices when connecting multiple devices compatible with PS-Data. Numbers, "001"- "099", are to be assigned as the unit addresses to the system devices.

#### ● Unit Address (Controller)

The unit address (controller) is used to control a PS-Data device connected to this unit. Numbers, "001" - "099" are to be assigned.

#### ● Cascade

Select ON or OFF whether or not to use the cascade connection.

Set this to ON when connecting two or more units or in the cascade connection.

**ON:** Select this when connecting units in the cascade connection.

**OFF:** Does not function.

## ● Baud Rate

Select the communication speed for data transmission with a connected device from the following.  
2 400/4 800/9 600/19 200/38 400 bps

## ● Data Bit

It is impossible to change the value for this setting.  
8 bit

## ● Parity

Select a method to check a transmission error at communication from the following.

**NONE:** No parity check

**EVEN:** Even parity

**ODD:** Odd parity

## ● Stop Bit

Select a stop bit from the following.  
1 bit/2 bit

## ● Retry Timing

Select a retransmission interval for when data reception is not confirmed from the following.  
OFF/100 ms/200 ms/400 ms/1 000 ms

## ● Alarm Data

Select a method to inform the connected controller of an event occurrence from the following.

**OFF:** Does not function.

**0 s:** Informs the controller every time an event is detected.

**1 s/5 s:** Informs the controller when a specified time has passed after detecting an event.

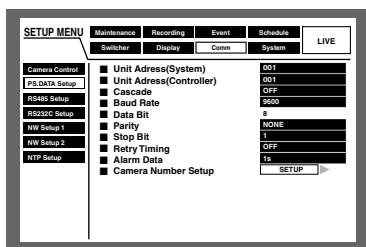
## ● Camera Number Setup

It is possible to assign a number to each camera channel to operate cameras using the controller compatible with PS-Data.

Do the following to assign numbers to the camera channels.

### [Screenshot 1]

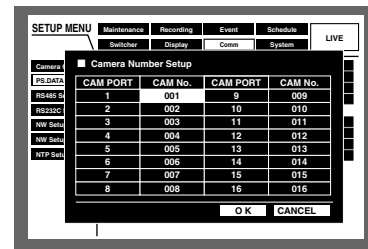
Start operation from the "PS-Data Setup" menu.



- 1 Move the cursor to "Camera Number Setup" using the arrows button (▼ ▲) and press the SET button.

### [Screenshot 2]

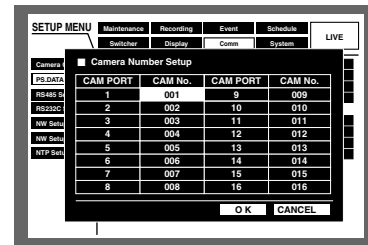
The "Camera Number Setup" pop-up window will be displayed.



- 2 Move the cursor to a desired "CAM No." of "CAM PORT" using the arrows button.

### [Screenshot 3]

The cursor will move to the selected "CAM No." of "CAM PORT".



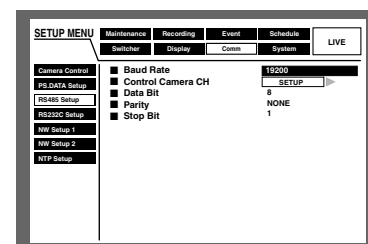
- 3 Select a camera number by rotating the jog dial. Repeat steps 2 and 3 to assign camera numbers to the other CAM PORT.
- 4 Move the cursor to "OK" using the arrows button and press the SET button.  
→ Camera numbers will be assigned and the "Camera Number Setup" menu will be closed.

#### Notes:

- When you move the cursor to "CANCEL" in step 4 and press the SET button, the settings will be canceled and the "Camera Number Setup" menu will be closed.
- The assignment of camera numbers will not be applied until the SET button is pressed after moving the cursor to "OK" in step 4.

### ③ [RS485 Setup] Settings for RS485

Perform the following settings for RS485.



## ● Baud Rate

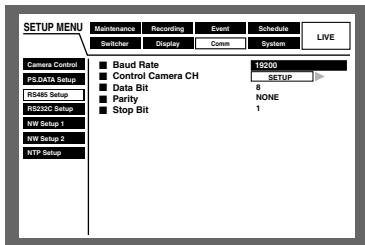
Select the communication speed for data transmission with a connected device from the following.  
4 800/9 600/19 200 bps

## ● Control Camera CH

It is possible to assign camera channels to the RS485 ports 1 and 2 as shown below.

### [Screenshot 1]

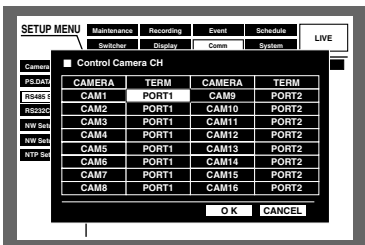
Start operation from the "RS485 Setup" menu.



- 1 Move the cursor to "Control Camera CH" using the arrows button (▼ ▲) and press the SET button.

### [Screenshot 2]

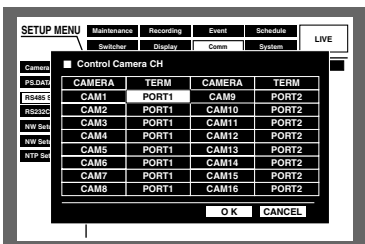
The "Control Camera CH" pop-up window will be displayed.



- 2 Move the cursor to a desired cell in the "TERM" column using the arrows button.

### [Screenshot 3]

The cursor will move to the selected cell in the "TERM" column.



- 3 Select a port by rotating the jog dial.  
**PORT 1:** Control through the RS485 port 1.  
**PORT 2:** Control through the RS485 port 2.  
Repeat steps 2 and 3 to assign other camera channels to be controlled through the RS485 ports.

- 4 Move the cursor to "OK" using the arrows button and press the SET button.  
→ Camera channels will be assigned and the "Control Camera CH" menu will be closed.

### Notes:

- When you move the cursor to "CANCEL" in step 4 and press the SET button, the settings will be canceled and the "Camera Number Setup" menu will be closed.
- The assignment of camera channels will not be applied until the SET button is pressed after moving the cursor to "OK" in the step 4.

## ● Data Bit

The data length for communication will be displayed. It is impossible to change the value for this setting.

## ● Parity

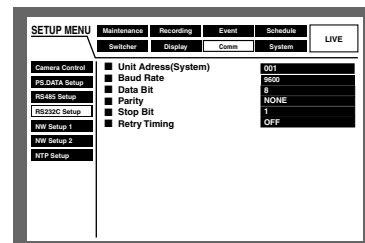
Methods to check a transmission error at communication will be displayed. It is impossible to change the value for this setting.

## ● Stop Bit

Number of stop bit will be displayed. It is impossible to change the value for this setting.

## ④ [RS232C Setup] Settings for RS232C

Perform the following settings for RS232C.



## ● Unit Address(System)

A unit address (System) is a unique number assigned to each system device. The addresses must be unique to identify system devices when connecting multiple system devices. Numbers, "001"- "099", are to be assigned as the unit addresses for the system devices.

## ● Baud Rate

Select the communication speed for data transmission with a connected device from the following.  
9 600/19 200/38 400 bps

## ● Data Bit

Select a data length for communication from the following.  
7/8 bit



## ● Parity

Select a method to check a transmission error at communication from the following.

**NONE:** No parity check

**EVEN:** Even parity

**ODD:** Odd parity

## ● Stop Bit

Select a stop bit from the following.

1/2 bit

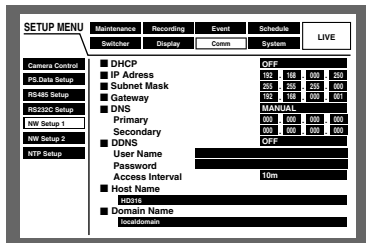
## ● Retry Timing

Select a retransmission interval for when data reception is not confirmed from the following.

OFF/100 ms/200 ms/400 ms/1 000 ms

## ⑤ [NW Setup 1] Basic network settings

Perform the following basic network settings to operate this unit using a PC via a network such as a LAN.



## ● HTTP Port Number

Specify the HTTP port number to be used to transfer images from this unit. It is not necessary to change it for normal use.

## ● User Authentication

Select ON and OFF whether or not to activate user authentication at the time of access from a PC to this unit.

When ON is selected, the user authentication window will be displayed at the time of access from a PC.

The top page will be displayed if the entered user name and password are registered.

**ON:** Activates user authentication.

**OFF:** Does not function.

**Note:** It is recommended to select ON for the user authentication for security.

## ● Host Authentication

Select ON or OFF whether or not to restrict access by IP addresses at the time of access from a PC to this unit.

When ON is selected, only PCs with registered IP address can access this unit

Using the user and host authentication together will enhance the network security.

**ON:** Activates host authentication.

**OFF:** Does not function.

## ● Line Speed

The line speed will be displayed.

It is impossible to change the value for this setting.

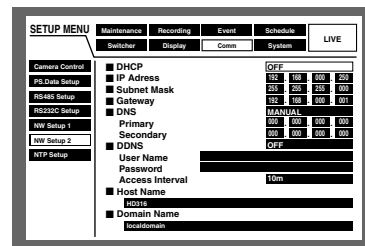
## ● Live Video Quality

Image quality level for a live (FQB: high quality) will be displayed.

It is impossible to change the value for this setting.

## ⑥ [NW Setup 2] Network connection settings

Perform the following network connection settings to operate this unit using a PC via a network such as a LAN.



## ● DHCP

Select ON or OFF whether or not to use the DHCP server.

When obtaining IP addresses, net mask and a gateway address from the DHCP server, set to ON.

If not, set to OFF and enter those addresses manually.

**ON:** Uses the DHCP server.

**OFF:** Does not use the DHCP server.

## ● IP Address

Enter an IP address when OFF is selected for "DHCP".

For this unit, enter 4 units of the decimal number (0-255).

## ● Subnet Mask

Enter a subnet mask according to the network configuration when OFF is selected for "DHCP".

## ● Gateway

Enter the gateway address according to the network configuration when OFF is selected for "DHCP".

## ● DNS

Select "MANUAL" or "AUTO" to enable searching an IP address by its host name using DNS. When "OFF" is selected for "DHCP" (no use of the DHCP server), select "MANUAL" and enter the domain name and the DNS server address. If "ON" is selected for "DHCP" (use of the DHCP server), select "AUTO". When DNS is not used, select "OFF". When "MANUAL" is selected for DNS, enter the DNS server address for "Primary" and "Secondary".

## ● DDNS

Select ON and OFF whether or not to use the DDNS (Dynamic Domain Name Server).

Selecting ON is available only when "MANUAL" or "AUTO" is selected for "DNS".

When "ON" is selected, perform the following.

**User Name:** Enter the user name registered in "DDNS".

**Password:** Enter the password for the user entered in "User Name".

**Access Interval:** Select an interval to update DNS from the following.

10 m/30 m/1 h/6 h/24 h

## ● Host Name

Enter the host address registered in DDNS.

Enter a host name of no more than 255 alphanumeric characters. Hyphens (-) are also available for the host name.

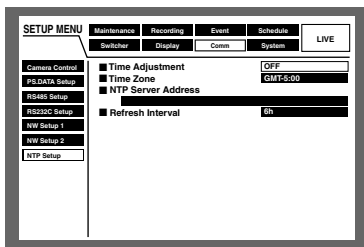
## ● Domain Name

Enter the domain name of this unit.

Enter a domain name of no more than 255 alphanumeric characters. Hyphens (-) are also available for the domain name.

## ⑦ [NTP Setup] Time adjustment of network

Perform the following settings for time adjustment.



## ● Time Adjustment

Select ON and OFF whether or not to adjust the time with reference to the NTP server.

**ON:** Adjusts time with reference to the NTP server.

**OFF:** Does not function.

## ● Time Zone

Set the time zone in accordance with the place of use when using the NTP server for time adjustment.

## ● NTP Server Address

Enter the NTP server address when using the NTP server for time adjustment.

## ● Refresh Interval

Select an interval of time inquiry to be transmitted to the NTP server from the following.

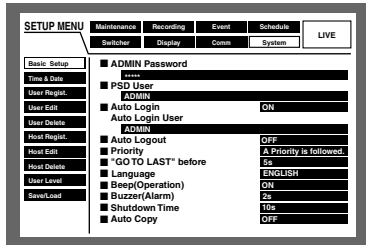
1 h/2 h/6 h/12 h/24 h

## ■ [System] Settings on System

Perform the following system settings required to operate this unit.

### ① [Basic Setup] Basic system settings

Perform the following settings for basic operation.



#### ● ADMIN Password

Set the password for an administrator.

Enter 4-32 alphanumeric characters.

The same method is used to enter, insert and delete characters as for attaching text information to images. Refer to page 55 about available characters.

#### ● PSD User

When a user operates a controller compatible with PS-Data, operation will be restricted by the priority and operational level of the PSD user.

A PSD user should be one of the users registered in this unit.

#### ● Auto Login

Select ON and OFF whether or not to activate the auto login function when turning the power of this unit on.

**ON:** Activates the auto login function.

**OFF:** Does not activate the auto login function. It is necessary to perform the login operation every time this unit is started up.

#### ● Auto Login User

When ON is selected for "Auto Login", the registered auto login user can login automatically to the unit.

An auto login user should be one of the users registered in this unit.

#### ● Auto Logout

Select ON or OFF whether or not to activate the auto logout function.

When ON is selected, auto logout will be carried out after a specified time has passed while displaying live image without operation.

**OFF:** Does not activate the auto logout function.

**1 m/2 m/3 m/4 m/5 m/30 m:** Activates the auto logout function when the selected time has passed after login.

#### Important:

The auto logout function will not be activated when ON is selected for "Auto Login".

Depending on the user level of the auto login user, operable functions may be different.

#### ● Priority

Assign operating priorities when multiple users access this unit simultaneously from the following.

**A priority is followed:** Operation by a user with higher priority will be performed.

**Pre-priority:** Operation by the first accessed user will be performed regardless of priority.

**Post-priority:** Operation by the last accessed user will be performed regardless of priority.

#### ● "GO TO LAST" before

Select time to be skipped to when the "GO TO LAST" button is pressed during playback from the following.

5 s/10 s/30 s/1 m/5 m

#### ● Language

Select a language for the SETUP MENU from the following. JAPANESE/ENGLISH/FRANÇAIS/ESPAÑOL/DEUTSCH/ITALIANO

#### ● Beep (Operation)

Select ON or OFF whether or not to sound the buzzer when operating the buttons.

**ON:** Sounds the buzzer when operating the buttons.

**OFF:** Does not sound the buzzer when operating the buttons.

#### ● Buzzer (Alarm)

Select a buzzer operation when a problem has occurred from the following.

**OFF:** Does not sound buzzer when a problem has occurred.

**1 s - 30 s (in 1 second intervals)/40 s/50 s/1 m/1 m/3 m/4 m/5 m (in 1 minute intervals):** A buzzer will sound for the selected duration after a problem has occurred.

**EXT:** The buzzer will sound continuously until the "ALARM RESET" button on the front panel of the unit is pressed.

#### ● Shutdown Time

Select a waiting time before starting the internal processing against the power outage after an outage detection signal has been supplied to the unit from the following.

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

## ● Auto Copy

ON or OFF whether or not to copy recorded images to the copy area on the hard disk automatically.

**OFF:** Does not copy automatically.

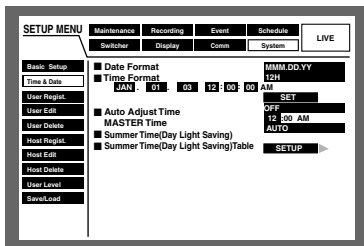
**ON:** Copies recorded images to the copy area on the hard disk of this unit.

### Important:

When OFF is selected, the auto copy function at an event occurrence and emergency recording will not function.

## ② [Time & Date Setup] Setting of the date and time

Perform the following settings of the time and date.



## ● Date Format

Select a display format for the date from the following. (Ex. April 1, 2003)

**YY.MM.DD:** 03.4.1

**MMM.DD.YY:** APR.1.03

**DD.MMM.YY:** 1.APR.03

## ● Time Format

Select a display format for the time from the following. (Ex. 3 o'clock just in the afternoon)

**12h:** 3:00:00 PM

**24h:** 15:00:00

## ● Time Setup

Adjust the current date and time.

Enter year, month, day, hour, minute and second in order, move the cursor to "SET" and press the SET button.

## ● Auto Adjust Time

Select a method for auto time adjustment from the following.

When "MASTER" is selected, a signal will be supplied from the ALARM/CONTROL connector as the MASTER time (see below) at the specified time.

**OFF:** Does not function.

**MASTER:** A signal will be supplied from the ALARM/CONTROL connector on the rear and the clock of other devices will be adjusted with reference to the time of this unit.

**SLAVE:** A signal will be supplied to the ALARM/CONTROL connector on the rear and clock of this unit will be adjusted.

## ● Master Time

Specify the time when supplying a signal from the ALARM/CONTROL connector.

## ● Summer Time (Day Light Saving)

Select the way of switching the summer time from the following.

**OFF:** Does not function.

**ON:** Applies summer time.

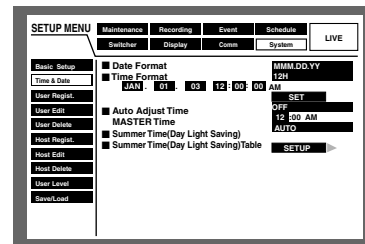
**AUTO:** Applies summer time in accordance with the setting of the summer time (see next page).

## ● Summer Time (Day Light Saving) Table

Do the following to specify the start time & date and the end time & date of summer time.

### [Screenshot 1]

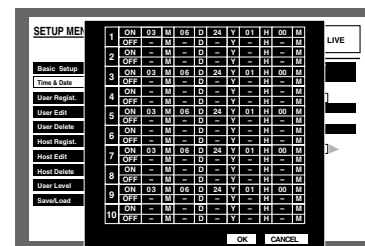
Start operation from the "Time & Date" menu.



- 1 Move the cursor to "Summer Time (Day Light Saving) Table" using the arrows button (▲ ▼) and press the SET button.

### [Screenshot 2]

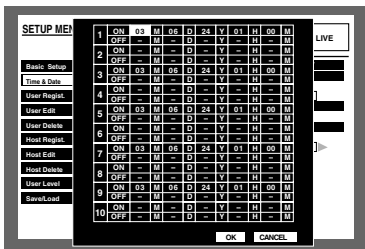
The "Summer Time (Day Light Saving) Table" will be displayed.



- 2 Move the cursor to enter the ON or OFF time (year, month, date) for summer time using the arrows button.

### [Screenshot 3]

The cursor will move to the selected cell for entry of the ON or OFF time for summer time.



- 3 Rotate the jog dial to enter the ON or OFF time (year, month, date) for summer time.
- 4 Move the cursor to "OK" and press the SET button.
  - The ON and OFF time for summer time will be applied and the "Summer Time (Day Light Saving) Table" will be closed.

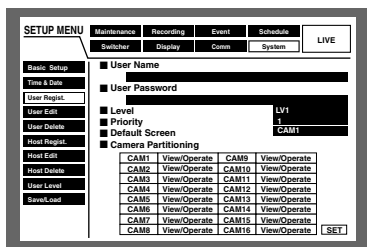
#### Notes:

- When you move the cursor to "CANCEL" in step 4 and press the SET button, the setting will be canceled and the "Summer Time (Day Light Saving) Table" will be closed.
- The settings for summer time will not be applied until the SET button is pressed after moving the cursor to "OK" in the step 4.

### ③ [User Registration] Registration of user who operates this unit

Register user information such as user name and password.

After filling out the user information, move the cursor to "SET" at the lower right of the menu and press the SET button to complete registration.



#### ● User Name

Enter 4-32 alphanumeric characters for a user name. The same method is used to enter, insert and delete characters as for attaching text information to images. Refer to page 55.

#### ● Password

Enter 4-32 alphanumeric characters for password. The same method is used to enter, insert and delete characters as for attaching text information to images. Refer to page 54.

#### ● Level

Select a user level from the following. Setting of operable functions in each level is described in "User Level" (Refer to page 121).  
LV1/LV2/LV3

#### ● Priority

Assign priority (1 (lowest) to 16 (highest)) to users.

#### ● Default Screen

Select a camera image to be displayed during the logon procedure from the following.

**CAM1 - 16:** Displays an image from the selected camera channel.

**QUAD1 - 4:** Displays images from the camera channels 1 - 4 on a 4-split screen.

**QUAD5 - 8:** Displays images from the camera channels 5 - 8 on a 4-split screen.

**QUAD9 - 12:** Displays images from the camera channels 9 - 12 on a 4-split screen.

**QUAD13 - 16:** Displays images from the camera channels 13 - 16 on a 4-split screen.

**7 SCREEN:** Displays images from the camera channels 1 - 7 on a 7-split screen.

**9 SCREEN 1 - 9:** Displays images from the camera channels 1 - 9 on a 9-split screen.

**9 SCREEN 10 - 16 (only for the WJ-HD316):** Displays images from the camera channels 10 - 16 on a 9-split screen.

**10 SCREEN (only for the WJ-HD316):** Displays images from the camera channels 1 - 10 on a 10-split screen.

**13 SCREEN (only for the WJ-HD316):** Displays images from the camera channels 1 - 13 on a 13-split screen.

**16 SCREEN (only for the WJ-HD316):** Displays images from the camera channels 1 - 16 on a 16-split screen.

**SEQ:** Images will be displayed in the sequential display.

#### ● Camera Partitioning

Select a controllable range for each camera channel from the following.

**View/Operate:** Displaying live images and operating camera are possible.

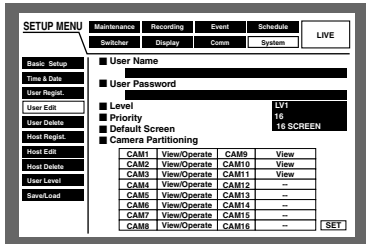
**View:** Displaying live images is possible but cameras cannot be operated.

**--:** Both displaying live images and operating the camera are impossible.

#### ④ [User Edit] Correction of registered user information

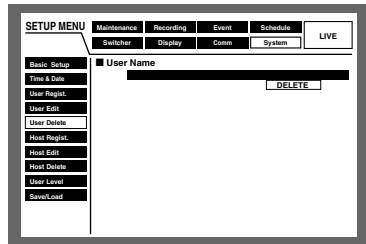
It is possible to edit registered user information. Move the cursor to "User Name" and rotate the jog dial to select the user name.

Registered information will be displayed. Editing can be performed in the same way as registration. (Refer to page 119.) Move the cursor to "EDIT" at the lower right on the menu and press the SET button to complete editing.



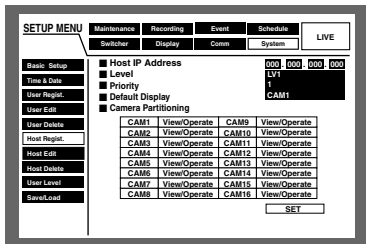
#### ⑤ [User Delete] Deletion of registered user

It is possible to delete a registered user. Move the cursor to "User Name" and rotate the jog dial to select the user name. Move the cursor to "DELETE" and press the SET button. The selected user will be deleted.



#### ⑥ [Host Registration] Registration of PC (host) accessible to this unit

Register host information for the PC that accesses the unit via a network such as a LAN. Move the cursor to "SET" at the lower right on the menu and press the SET button to complete registration.



#### ● Host IP Address

Enter the IP address. Move the cursor to "Host IP Address" and rotate the jog dial to enter the IP address. For this unit, enter 4 units from the decimal numbers (0-255).

#### ● Level

Select a user level from the following. Setting of operable functions for each level is described in "User Level" (Refer to page 121). LV1/LV2/LV3

#### ● Priority

Assign priority (1 (lowest) to 16 (highest) to hosts.

#### ● Default Screen

Select a startup display to be displayed after logon from the following.

**CAM 1-16 (for the WJ-HD316)/CAM 1-9 (for the WJ-HD309):** Displays live images from the selected camera channel on a single screen.

**QUAD 1-4:** Displays live images from the camera channels 1 - 4 on a 4-split screen.

**QUAD 5-8:** Displays live images from the camera channels 5 - 8 on a 4-split screen.

**QUAD 9-12 (for the WJ-HD316)/CAM 9 (for the WJ-HD309):** Displays live images from the camera channels 9 - 12 on a 4-split screen. (When the WJ-HD309 is used, live images from only camera channel 9 will be displayed on the upper left screen of a 4-split screen.)

**QUAD 13-16 (only for the WJ-HD316):** Displays live images from the camera channels 13 - 16 on a 4-split screen.

**7 SCREEN:** Displays images on a 7-split screen.

**9 SCREEN 1-9:** Displays images from the camera channels 1 - 9 on a 9-split screen.

**9 SCREEN 10-16 (only for the WJ-HD316):** Displays images from the camera channels 10 - 16 on a 9-split screen.

**10 SCREEN (only for the WJ-HD316):** Displays images on a 10-split screen.

**13 SCREEN (only for the WJ-HD316):** Displays images on a 13-split screen.

**16 SCREEN (only for the WJ-HD316):** Displays images on a 16-split screen.

**SEQ:** Images will be displayed in the sequential display.

#### ● Camera Partitioning

Select a controllable range for each camera channel from the following.

**View/Operate:** Displaying live images and operating camera are possible.

**View:** Displaying live images is possible but cameras cannot be operated.

**--:** Both displaying live images and operating camera are impossible.

## ⑦ [Host Edit] Correction of registered host information

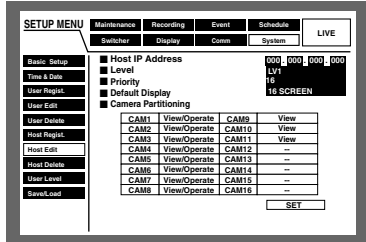
It is possible to edit registered host information.

Move the cursor to "Host IP Address" and rotate the jog dial to select the host IP address.

Registered information will be displayed.

Editing can be performed in the same way as registration. (Refer to page 120.)

Move the cursor to "EDIT" at the lower right on the menu and press the SET button to complete editing.

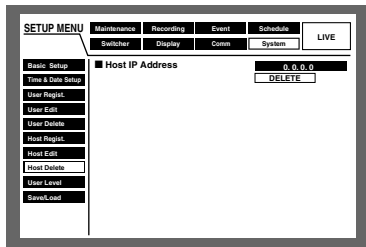


## ⑧ [Host Delete] Deletion of registered host

It is possible to delete a registered host.

Move the cursor to "Host Delete" and rotate the jog dial to select the host. Move the cursor to "DELETE" and press the SET button.

The selected host will be deleted.



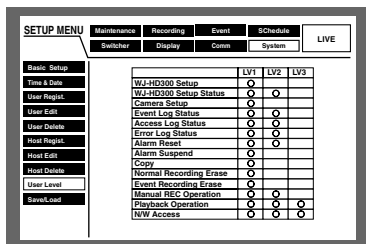
## ⑨ [User Level] Setting of operation level

Set operable functions at each user level (LV 1/LV 2/ LV 3).

Rotate the jog dial to display "b" to enable operation.

Leave it blank to disable operation.

Refer to the table below for each function.



## ● Functions that can be enabled/disabled

The following functions can be enabled/disabled according to the user level.

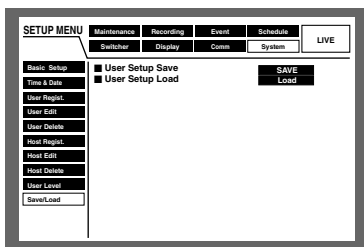
Function	Description
WJ-HD300 Setup	The SETUP MENU is displayed and the settings can be performed.
WJ-HD300 Setup Status	Only the SETUP MENU can be displayed. The settings cannot be performed.
Camera Setup	The setting menu of the camera is displayed and the settings can be performed.
Event Log Status	The SETUP MENU is displayed and you can refer to the event log. (Refer to page 92.)
Error Log Status	The SETUP MENU is displayed and you can refer to the error log. (Refer to page 93.)
Access Log Status	The SETUP MENU is displayed and you can refer to the access log. (Refer to page 94.)
Alarm Reset	An event operation can be canceled. (Refer to page 47.)
Alarm Suspend	An event operation can be suppressed. (Refer to page 47.)
Copy	A recorded image can be manually copied. (Refer to page 48.)
Normal Recording Erase	Image data in the normal recording area of the hard disk can be manually deleted.
Event Recording Erase	Image data in the event recording area of the hard disk can be manually deleted.
Manual REC Operation	Manual recording can be started and stopped.
Playback Operation	A recorded image can be played.
N/W Access	This unit can be logged into from a PC via a network.

## ⑩ [Save/Load] Saving and loading of settings of the SETUP MENU

It is possible to save the settings of the SETUP MENU in this unit.

It is also possible to call up saved settings. (Load)

Move the cursor to "SAVE" or "LOAD" and press the SET button.





# DISPLAY SETUP MENU OF CAMERA

For operating the camera connected to this unit, it is necessary to set the camera function in advance.

Setup of camera function can be performed on the setup menu of the connected camera.

You can operate the camera setup menu by calling up it from this unit. Contents of the camera setting menu and operations vary according to the connected cameras. For further information, refer to the operating instructions of the camera.

The following is the descriptions of how to display the camera setting menu.

- 1 Press the camera selection button for a desired camera channel and the SET button simultaneously.

→The camera setup menu will be displayed.

Use the following buttons on the front panel to perform the settings of the camera setup menu.

To move the cursor	Arrows button (▼ ▲)
To change the selected parameter	Arrows button (◀ ▶)
To determine the selected parameter To display the submenu	SET button
To return to the previous menu	SETUP/ESC button

- 2 Press any one of the PAN/TILT button, the ZOOM/FOCUS button, the IRIS button and the PRESET/AUTO button to complete the camera setting.

**Note:** To display the special menu of the camera setup menu, press the camera selection button 2 after moving the cursor to SPECIAL on the camera setup menu.

To reset the settings of the camera setup menu to the default settings, press the camera selection button 3 after moving the cursor to CAMERA RESET on the special menu.

Depending on models of the connected cameras, operation method and menu items are different. Refer to the operating instructions of the connected camera.

## ■ Notes on hard disk

Camera images are recorded into the built-in hard disk of this unit.

There are two hard disks in this unit. In case one of them malfunctions during recording, it is possible to keep recording with the other hard disk (mirror function).

The internal hard disk of this unit is virtually divided into areas 4 to manage the hard disk.

**Normal recording area:** An area into which images are recorded at times other than an event occurrence such as manual recording.

**Event recording area:** An area into which images are recorded at an event occurrence.

**Copy area:** An area into which copy data is stored.

**Pre-recording area:** An area into which pre-recording images are recorded.

It is possible to check the available disk space for each area on "Disk Info" of "Maintenance" on the SETUP MENU.(Refer to page 91.)

Operations for the hard disk drive such as initialization (formatting) of the hard disk drive in the unit or the extension unit, or mirroring, etc., can be performed in the "HDD DISK MENU". (Refer to page 127.)

**Note:** It is necessary to create either the normal recording area or the event record area. If the normal recording area is not created, manual recording images and schedule recording images are recorded into the event recording area. If the event recording area is not created, event recording images and emergency recording images are recorded into the normal recording area.

## ■ How to replace the built-in hard disk

It is possible to replace the hard disk drive regardless of whether the power of the unit is on/off.

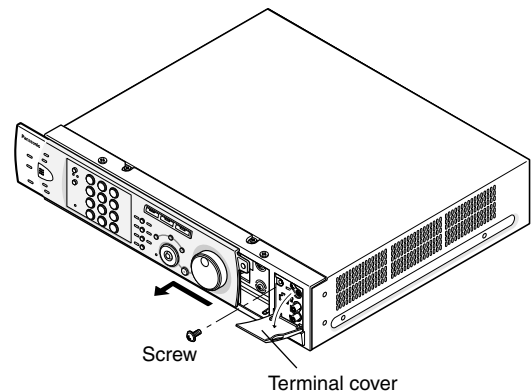
However, the procedures for replacement are different.

Refer to the operating instructions for the extension unit when replacing the hard disk in the extension unit.

### When replacing the hard disk drive after turning off the power of the unit.

- 1 Turn off the power of the unit and detach the power plug from the outlet.
- 2 Do the following to replace the hard disk drive.

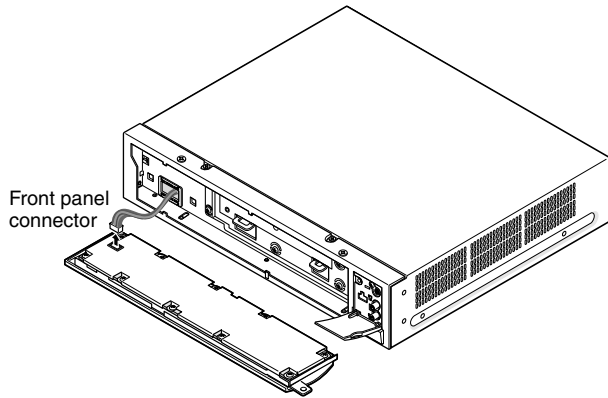
1. Open the connectors cover on the front panel and remove the fixing screws.  
Detach the front panel by sliding it after removing the screws.



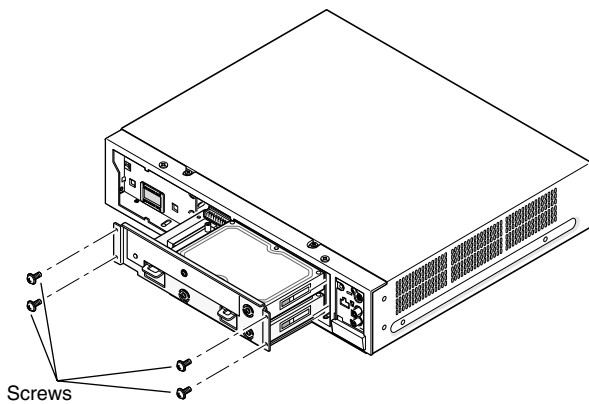
### Important:

- Do not detach the cable connecting the unit and the front panel while the HDD status indicators are still lit or until 30 seconds have passed since the HDD status indicators went off.
- Protect the hard disk drives from static electricity.
- Do not stack them, or keep them upright.
- Do not use an electric screwdriver to fix them. (Tightening torque: Approx. 0.49 N · m (5 kgf · cm))
- Avoid rapid changes in the temperature/humidity to prevent condensation. (Acceptable change: within 15 °C/h (59 °F/h))
- Set all the hard disk drives as master using the jumper pin.

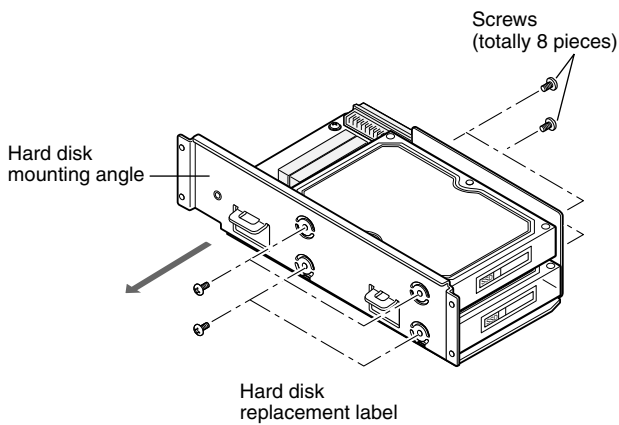
2. Remove the cable from the front panel.



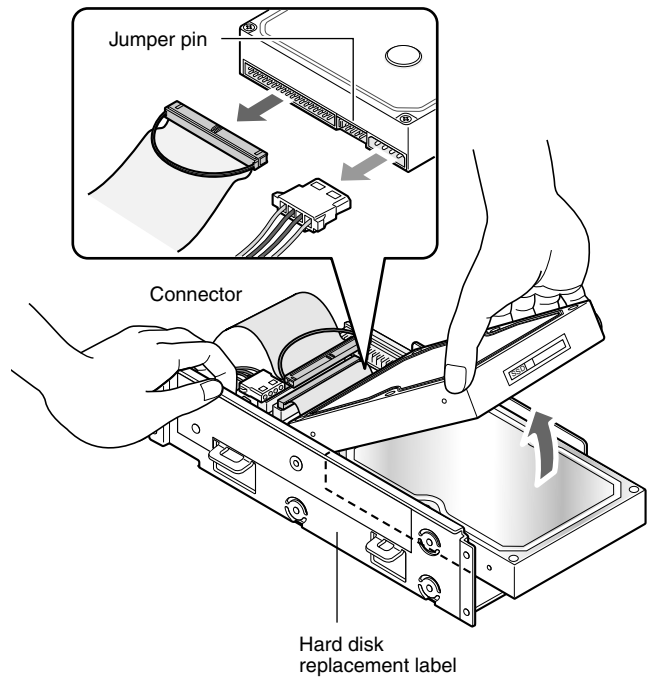
3. Remove the screws fixing the mounting unit, and then pull the mounting bracket toward you.



4. Remove the screws fixing the hard disk drive. First, remove the four screws fixing the upper side of the hard disk drive while holding the bottom side of the hard disk drive to prevent the hard disk from falling. Then, remove the four screws fixing the lower side of the hard disk drive.



5. Remove the connector from the hard disk drive first, and then remove the hard disk drive from the hard disk mounting bracket.



6. Install the new hard disk drive in the reverse order of detaching the hard disk drive.

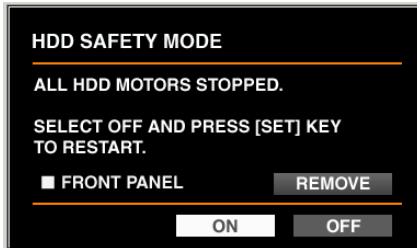
**Important:**

- When installing, confirm that there are no dust around the connectors. Adhesion of dust may cause malfunction.
- Set the hard disk as master using the jumper pin.

**3** After replacing the hard disk drive, insert the power plug into the outlet and turn the power of the unit.  
→ The "HDD DISK MENU" will be displayed automatically after the restart.

## When replacing the hard disk drive without turning off the power of the unit.

- 1 Close the SETUP MENU after selecting "ON" for "HDD Safety Mode" of "Disk Info" on the "Maintenance" menu.  
→ The HDD SAFETY MODE window will be displayed.



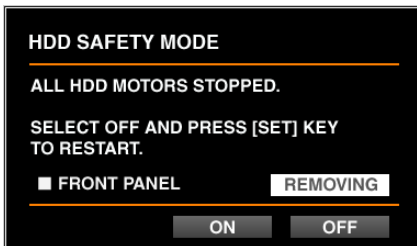
- 2 The procedures are different between the replacement of the hard disks and the installation of the unit (rack mounting/unmounting).

## When replacing the built-in hard disk of the unit

Move the cursor to "REMOVE" using the arrows button and press the SET button.

The "REMOVE" indication will change to "REMOVING".

The power supply to the front panel will be cut and the unit will be unable to operate with the front panel.



Detach the cable from the front panel and start replacing the built-in hard disk.

Start from step 2 on page 124 to replace the built-in hard disk.

### Important:

Detach the cable from the front panel after confirming that "REMOVING" is displayed. Otherwise, it may cause malfunction.

The "REMOVING" indication will return to "REMOVE" by attaching the cable to the front panel. The power will be supplied to the front panel and the unit will be enabled to operate with the front panel.

## ● When replacing the built-in hard disk of the extension unit

With displaying the HDD SAFETY MODE window, start replacing the built-in hard disk of the extension unit.

Refer to the operating instructions of the extension unit for the descriptions of how to replace the hard disk.

- 3 After completing the replacement of the hard disk, move the cursor to "OFF" using the arrows button and press the SET button.  
→ The unit will restart and the HDD DISK MENU will be displayed automatically.
- 4 Perform the settings for the disk according to your needs. Refer to page 129 for further information.

## ■ About the HDD DISK MENU

The operations regarding the hard disk can be performed by displaying the "HDD DISK MENU" on monitor 2. The "HDD DISK MENU" will be displayed when the SET button is pressed while displaying the system check complete window. The "HDD DISK MENU" will also be displayed automatically after replacing or removing the hard disk.

The following operations can be performed on the "HDD DISK MENU".

Setting item	Description	Page
FORMAT	Formats (initializes) the hard disk. It can also change the setting values for the recording area respectively. Mirroring can also be started on this menu.	129
MIRROR ON	Recovers the mirrored hard disk.	134
MIRROR OFF	Cancels mirroring.	134
REMOVE	Removes the hard disk drive from the system logically.	135
RESTART	Restarts this unit.	–
EXIT	Closes the "HDD DISK MENU".	–

## ■ Display of the HDD DISK MENU

Information of the hard disk drive of the unit or the extension unit will be displayed on the "HDD DISK MENU".

The screenshot shows the "HDD DISK MENU" with a "TOP MENU" bar containing options: FORMAT, MIRROR ON, MIRROR OFF, REMOVE, RESTART, and EXIT. Below this is a table with columns numbered 1 to 4. The rows represent different hard disk drives: MAIN, EXT7, EXT6, EXT5, EXT4, EXT3, EXT2, and EXT1. Each row shows the disk's status and capacity. For example, MAIN shows 120GB M and 120GB M. EXT4 shows \*(120GB) and \*(ERROR). EXT1 shows LOST. At the bottom, there is a prompt: "Close the information of recording areas : [SETUP/ESC] OK : [SET]"

	1	2	3	4
MAIN	120GB M	120GB M		
EXT7	120GB	120GB	120GB	120GB
EXT6	120GB	120GB	120GB	120GB
EXT5	120GB	120GB	120GB	120GB
EXT4	*(120GB)	*(ERROR)	120GB	120GB
EXT3	ADD (120GB)	ADD (ERROR)	120GB	120GB
EXT2	120GB	120GB	120GB	120GB
EXT1	LOST	-	-	-

Main unit/extension unit

Information about hard disk located in the main unit and extension unit

**120 GB:** Indicates the hard disk capacity (disk existed when last started up)

**120 GB M:** Indicates the hard disk capacity (mirrored disk existed when last started up)

**ADD (120 GB):** Indicates that this hard disk is newly mounted at this startup, but that it was not mounted last time. Those parenthesized numbers indicate the capacity of the hard disk.

**ADD (ERROR):** Indicates that this hard disk is newly mounted at this startup, but that it was not mounted last time. Then, an error is detected on the hard disk.

**\* (120 GB):** Indicates that a different hard disk from the one that existed at the last startup is mounted. Those parenthesized numbers indicate the capacity of the hard disk.

**\* (ERROR):** Indicates that a different hard disk from the one that existed at the last startup is mounted, and an error has been detected on the hard disk.

**LOST:** Indicates that a position where a hard disk was mounted at the last startup has no hard disk.

**–:** Indicates that a hard disk is not mounted this time nor at the last startup.

**ERROR:** Indicates that the hard disk has failed to be initialized.

### Important:

- It is impossible to operate the unit when there is a hard disk with indications of \* (capacity), \* (ERROR), LOST or ERROR. In this case, remove the relevant hard disk. (Refer to page 135.)

- Hard disks with ADD (capacity) indication are not initialized yet.

First, initialize them. It is impossible to record images on it or to use it as a copy destination without initialization.

**Note:** The displayed available disk space on this menu will not include the space required for data management. Therefore, the understated available disk space will be displayed.

It is possible to display information about the recording area (allocated disk size for normal recording area, event recording area, copy area) by pressing the SETUP/ESC button while displaying the "TOP MENU" of the "HDD DISK MENU".

## ■ RAID 5 Function of the Extension Unit

### Summary of the RAID 5 function (Redundant Arrays for Independent Disks, independent data disks with distributed parity blocks)

RAID level 5 regards 3 or more drives as one drive, and it is possible to read data by attaching error correction data even though one of the drives is broken automatically. (It is impossible to read data if 2 or more drives are broken.)

RAID level 5 requires a minimum of 3 drives to implement.

When using the RAID function, logical disk size of the extension unit will be as below.

Logical disk size = Smallest size of the disk among the disks in the extension unit x (Number of the disks in the extension unit - 1)

#### Important:

- When connecting two extension units or more with this unit, it is impossible to connect the extension unit with the RAID 5 function and the one without the RAID 5 function at the same time.
- When the RAID 5 function is used, it is impossible to use two hard disks in this unit. The recorded pictures in those disks will not be deleted.

### ● Setup/cancel the RAID 5 function

Do the following to set or cancel the RAID 5 function with an extension unit.

Refer to the operating instruction of the extension unit for further information.

- 1 Make sure that the power of this unit and all of the extension units to be connected are OFF.
- 2 To set the RAID 5 function, set the mode switch of the extension unit to "RAID 5".  
To cancel the RAID 5 function, set the mode switch of the extension unit to "SINGLE".
- 3 Make sure that the HDD POWER switch of the extension unit is "ON".
- 4 Turn the power of the extension unit on.
- 5 Turn the power of this unit on.  
→ The "HDD DISK MENU" will be displayed automatically after the system check when the hard disk configuration has been changed such as when an extension unit is newly connected.

#### Important:

- When the RAID 5 function is set or canceled, all data on each hard disk of the extension unit will be deleted.
- When turning the power on, turn the power of the extension unit first, and then turn the power of this unit on. Otherwise, the extension unit may not work correctly.

## ■ Formatting (Initialization) the Hard Disk

It is necessary to initialize the hard disk in the following cases.

- When replacing the hard disk of this unit
- When operating the unit for the first time after connecting the optional extension unit to this unit

### Important

When the hard disk is formatted (initialized), all of the recorded images will be deleted.

## ● Formatting (initialization) all hard disks (unit)

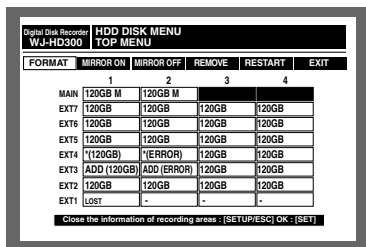
All hard disks including the built-in hard disks and the hard disks in the extension units will be initialized. All units will be initialized when the RAID 5 function is set.

- 1 Turn on the power of any peripheral devices such as extension unit connected to this unit.
- 2 Turn on the power of this unit and press the SET button after completing the system check.

**Note:** When the hard disk is replaced or removed, the "TOP MENU" of the "HDD DISK MENU" will be automatically displayed.

### [Screenshot 1]

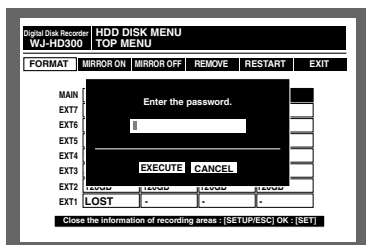
The "TOP MENU" of the "HDD DISK MENU" will be displayed.



- 3 Move the cursor to "FORMAT" using the arrows button (◀ ▶) and press the SET button.

### [Screenshot 2]

The password entry window will be displayed.



- 4 Enter the password for an administrator by rotating the jog dial.

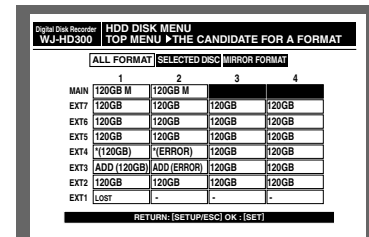
The camera selection buttons ([1] - [10/0] for the WJ-HD316, [1] - [9], [0] for the WJ-HD309) are available to enter numbers for password.

The same method is used to enter, insert and delete characters as for attaching text information to images. Refer to page 54.

- 5 Move the cursor to "EXECUTE" using the arrows button (▼ ▲) and press the SET button.

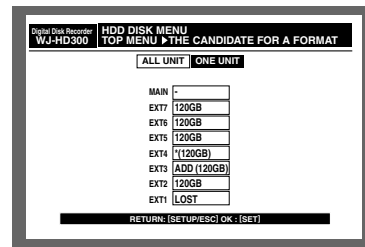
### [Screenshot 3]

The "THE CANDIDATE FOR A FORMAT" menu will be displayed.



- 6 Move the cursor to "ALL UNITS" using the arrows button (◀ ▶) and press the SET button.

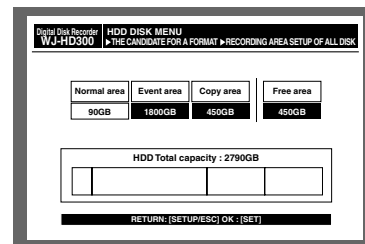
Select "ALL UNITS" when using the RAID 5 function.



<Screen displayed when using the RAID 5 function>

### [Screenshot 4]

The "RECORDING AREA SETUP OF ALL DISKS" will be displayed.



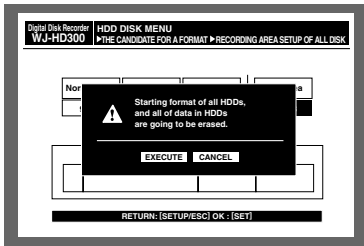
- 7 Select a recording area using the arrows button (◀ ▶) and rotate the jog dial to set the capacity for the selected recording area.

Repeat this operation to set the capacity for the other recording areas.

- Press the SET button after setting.

### [Screenshot 5]

The confirmation dialog window will be displayed.



- Move the cursor to "EXECUTE" using the arrows button (◀ ▶) and press the SET button.  
→ Formatting will start and the format result dialog window will be displayed. The "TOP MENU" of the "HDD DISK MENU" will be displayed automatically after displaying the format result dialog window.

## ● Formatting (initialization) the selected hard disk (unit)

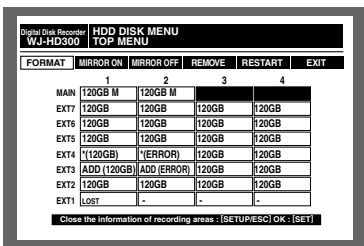
Do the following to format the selected hard disk (the selected unit when using the RAID 5 function).

- Turn on the power of any peripheral devices such as an extension unit connected to this unit.
- Turn on the power of this unit.  
The image saying the system check has been completed will be displayed.  
Press the SET button after the image is displayed.

**Note:** When the hard disk is replaced or removed, the "TOP MENU" of the "HDD DISK MENU" will be displayed automatically.

### [Screenshot 1]

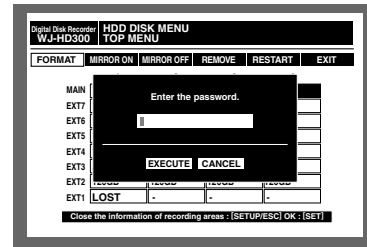
The "TOP MENU" of the "HDD DISK MENU" will be displayed.



- Move the cursor to "FORMAT" using the arrows button (◀ ▶) and press the SET button.

### [Screenshot 2]

The password entry window will be displayed.

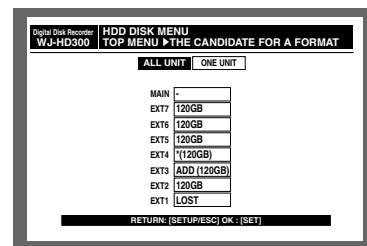
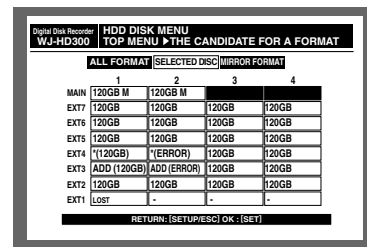


- Rotate the jog dial to enter the password for an administrator.  
The camera selection buttons ([1] - [10/0] for the WJ-HD316, [1] - [9], [0] for the WJ-HD309) are available to enter numbers for password.  
The same method is used to enter, insert and delete characters as for attaching text information to images.  
Refer to page 54.

- Move the cursor to "OK" using the arrows button (▼ ▲) and press the SET button.

### [Screenshot 3]

The "THE CANDIDATE FOR A FORMAT" menu will be displayed.



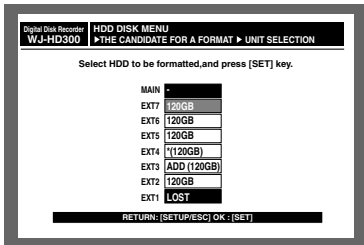
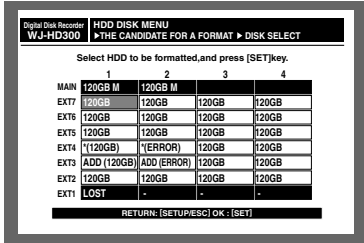
<Screen displayed when using the RAID 5 function>

- Move the cursor to "SELECTED DISK" using the arrows button (◀ ▶) and press the SET button.  
When using the RAID 5 function, select "ONE UNIT" on "THE CANDIDATE FOR A FORMAT" menu.



## [Screenshot 4]

The "DISK SELECT" menu will be displayed.  
When using the RAID 5 function, the "UNIT SELECTION" menu will be displayed.

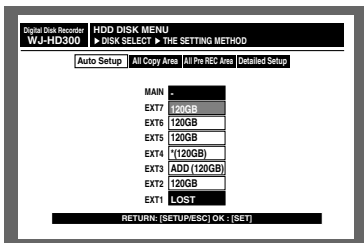
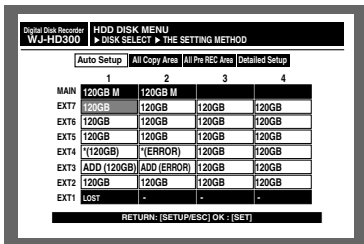


<Screen displayed when using the RAID 5 function>

- 7 Move the cursor to a desired hard disk (unit) to be formatted (initialized) using the arrows button and press the SET button.

## [Screenshot 5]

"THE SETTING METHOD" menu will be displayed.



<Screen displayed when using the RAID 5 function>

- 8 Select a setting method for each recording area from the following using the arrows button (◀ ▶) and press the SET button.

**Auto Setup:** Assigns the same proportion for each recording area as the proportion of the existing hard disks. (→ step 9)

**All Copy Area:** Sets the whole selected hard disk (unit) as the copy area. (→ step 9)

**All Pre REC Area:** Sets the whole selected hard disk (unit) as the pre-recording area. (→ step 10)

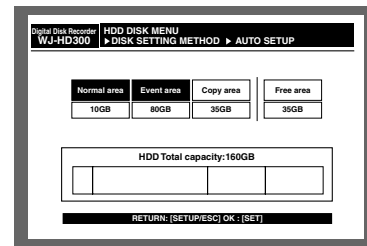
**Detailed Setup:** Sets each recording area individually. (→ step 11)

### Important:

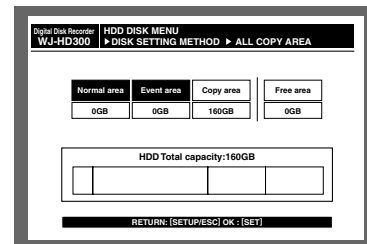
When the built-in hard disk of this unit is selected, "All Pre REC Area" is not available.

## [Screenshot 6]

The confirmation menu of the set recording area will be displayed.



<Screen displayed when selecting "AUTO SETUP">

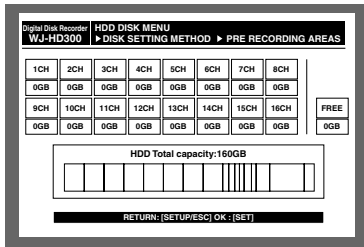


<Screen displayed when selecting "ALL COPY AREA">

- 9 Confirm the capacity of the set recording area and press the SET button.
  - The confirmation dialog window will be displayed. (→ step 13)

## [Screenshot 7]

The "PRE RECORDING AREAS" menu will be displayed.



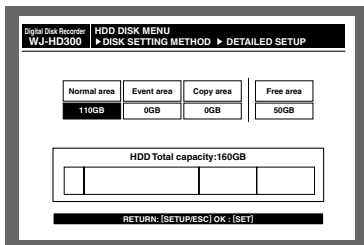
- 10 Select the camera channel for pre-recording using the arrows button and assign the disk space to the selected pre-recording area by rotating the jog dial. Repeat this operation to assign disk space to two or more camera channels. Press the SET button after setting.
  - The confirmation dialog window will be displayed.
  - (→ step 13)

### Important:

It is impossible to select the camera channel to which the pre-recording area on another hard disk (unit) is already assigned.

## [Screenshot 8]

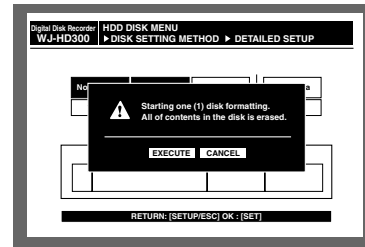
The "DETAILED SETUP" menu will be displayed.



- 11 Select the recording area using the arrows button and assign the disk space to the selected recording area by rotating the jog dial. Repeat this operation to assign disk space to two or more recording areas. Press the SET button after setting.
- 12 Press the SET button after setting.

## [Screenshot 9]

The confirmation dialog window will be displayed.



- 13 Move the cursor to "EXECUTE" using the arrows button (◀ ▶) and press the SET button.
  - Formatting will start and the "TOP MENU" of the "HDD DISK MENU" will be displayed.

## ■ Setting for Mirroring

Mirroring is the function that records camera images onto two hard disks simultaneously. In case one hard disk has a problem, image data will be stored on the other hard disk. The credibility of disk can be enhanced.

It is recommended to activate the mirroring function for the first use of this unit.

When the mirroring function is activated with remaining recorded images in the hard disk, those recorded images in the hard disk will be deleted.

### Important:

- The mirroring function can be configured only by two of the built-in hard disks.
- The size of the two hard disks used for the mirroring function must be the same.
- When using the RAID 5 function, it is impossible to activate the mirroring function.

### ● Start mirroring

Do the following to activate the mirroring function.

#### 1 Turn on the power of this unit.

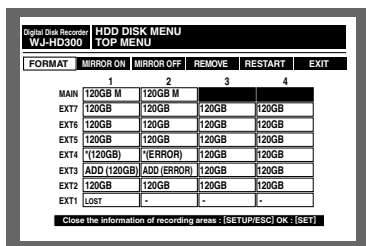
The image saying the system check has been completed will be displayed.

Press the SET button after the image is displayed.

**Note:** When the hard disk is replaced or removed, the "TOP MENU" of the "HDD DISK MENU" will be automatically displayed.

### [Screenshot 1]

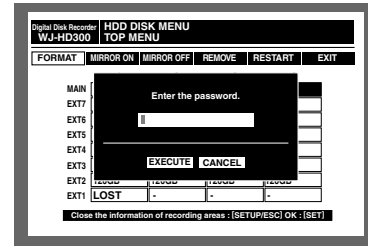
The "TOP MENU" of the "HDD DISK MENU" will be displayed.



- #### 2 Move the cursor to "FORMAT" using the arrows button (◀ ▶) and press the SET button.

### [Screenshot 2]

The password entry window will be displayed.



- #### 3 Enter the password for an administrator by rotating the jog dial.

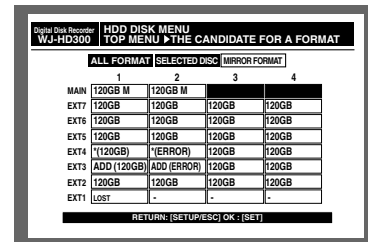
The camera selection buttons ([1] - [10/0] for the WJ-HD316, [1] - [9], [0] for the WJ-HD309) are available to enter numbers for the password.

The same method is used to enter, insert and delete characters as for attaching text information to images. Refer to page 54.

- #### 4 Move the cursor to "EXECUTE" using the arrows button (▼ ▲) and press the SET button.

### [Screenshot 3]

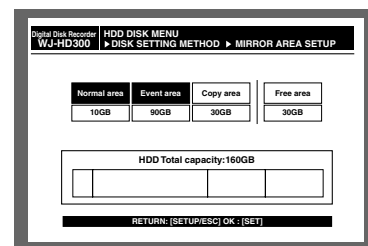
The confirmation dialog window will be displayed.



- #### 5 Move the cursor to "MIRROR FORMAT" using the arrows button (▼ ▲) and press the SET button.

### [Screenshot 4]

The "MIRROR AREA SETUP" menu will be displayed.



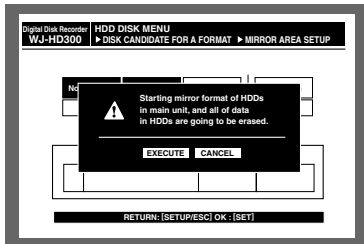
- 6 Select a recording area using the arrows button and assign the disk space to the selected recording area by rotating the jog dial.  
Repeat this operation to assign disk space to two or more recording areas.  
Press the SET button after setting.

- 7 Press the SET button after setting.

### [Screenshot 5]

The confirmation dialog window will be displayed.

- 8 Move the cursor to "EXECUTE" using the arrows button (◀ ▶) and press the SET button.  
→ Mirroring will start and the "TOP MENU" of the "HDD DISK MENU" will be displayed.



## ● Cancel mirroring (MIRROR OFF)

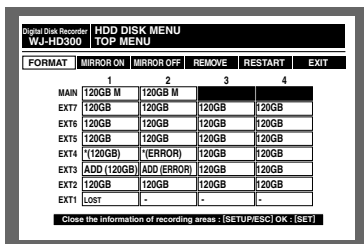
Do the following to cancel the mirroring function.

- 1 Turn on the power of this unit.  
The image saying the system check has been completed will be displayed.  
Press the SET button after the image is displayed.

**Note:** When the hard disk is replaced or removed, the "TOP MENU" of the "HDD DISK MENU" will be automatically displayed.

### [Screenshot 1]

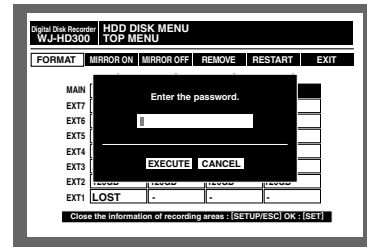
The "TOP MENU" of the "HDD DISK MENU" will be displayed.



- 2 Move the cursor to "MIRROR OFF" using the arrows button (◀ ▶) and press the SET button.

### [Screenshot 2]

The password entry window will be displayed.

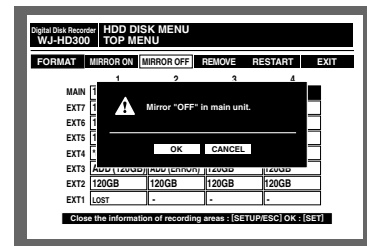


- 3 Enter the password for an administrator by rotating the jog dial.  
The camera selection buttons ([1] - [10/0] for the WJ-HD316, [1] - [9], [0] for the WJ-HD309) are available to enter numbers for password.  
The same method is used to enter, insert and delete characters as for attaching text information to images. Refer to page 54.

- 4 Move the cursor to "EXECUTE" using the arrows button (▼ ▲) and press the SET button.

### [Screenshot 3]

The confirmation dialog window will be displayed.



- 5 Move the cursor to "OK" using the arrows button (◀ ▶) and press the SET button.  
→ Mirroring will be canceled.

**Note:** One of the two hard disks involved in mirroring will be indicated as "\*" (capacity) on the "TOP MENU" of the "HDD DISK MENU" after canceling the mirroring function.

## ● Hard disk recovery (MIRROR ON)

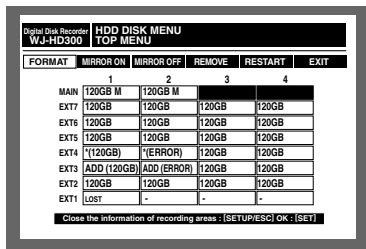
Do the following to recover the hard disk when one of the hard disks involved in mirroring is damaged while mirroring, or when one of the hard disks is replaced.

- 1 Turn on the power of this unit.  
The image saying the system check has been completed will be displayed.  
Press the SET button after the image is displayed.

**Note:** When the hard disk is replaced or removed, the "TOP MENU" of the "HDD DISK MENU" will be automatically displayed.

## [Screenshot 1]

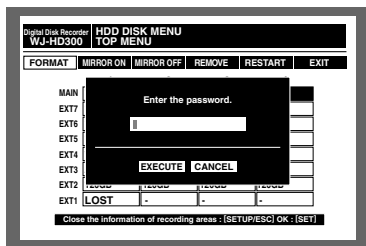
The "TOP MENU" of the "HDD DISK MENU" will be displayed.



- 2 Move the cursor to "MIRROR ON" using the arrows button (◀ ▶) and press the SET button.

## [Screenshot 2]

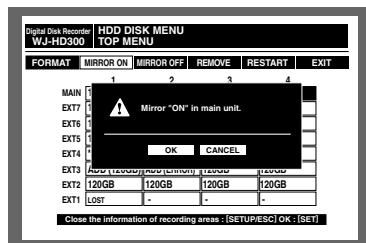
The password entry window will be displayed.



- 3 Enter the password for an administrator by rotating the jog dial.  
The camera selection buttons ([1] - [10/0] for the WJ-HD316, [1] - [9], [0] for the WJ-HD309) are available to enter numbers for password.  
The same method is used to enter, insert and delete characters as for attaching text information to images. Refer to page 55.
- 4 Move the cursor to "EXECUTE" using the arrows button (▼ ▲) and press the SET button.

## [Screenshot 3]

The confirmation dialog window will be displayed.



- 5 Move the cursor to "OK" using the arrows button (◀ ▶) and press the SET button.  
→ Recovery of the hard disk will start when the unit is in operation after the "HDD DISK MENU" is closed.

## ● Remove the Hard Disk Logically and Reconfigure it (REMOVE)

It is possible to remove the hard disk logically (unmount) without uninstalling (detaching) the hard disk physically. It is recommended to remove the hard disk logically when the hard disk of the unit or an extension unit is having trouble (hard disk indicated with "\*", "LOST" or "ERROR") and it is necessary to remove it temporarily but not to stop operation.

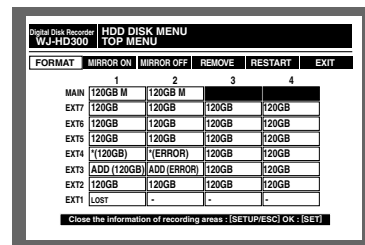
Do the following to remove the hard disk logically.

- 1 Turn on the power of this unit.  
The image saying the system check has been completed will be displayed.  
Press the SET button after the image is displayed.

**Note:** When the hard disk is replaced or removed, the "TOP MENU" of the "HDD DISK MENU" will be automatically displayed.

## [Screenshot 1]

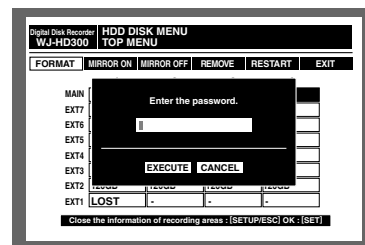
The "TOP MENU" of the "HDD DISK MENU" will be displayed.



- 2 Move the cursor to "REMOVE" using the arrows button (◀ ▶) and press the SET button.

## [Screenshot 2]

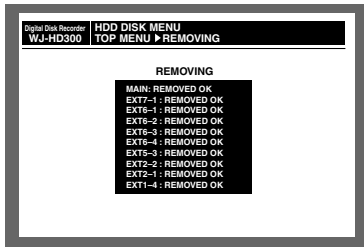
The password entry window will be displayed.



- 3 Enter the password for an administrator by rotating the jog dial.  
The camera selection buttons ([1] - [10/0] for the WJ-HD316, [1] - [9], [0] for the WJ-HD309) are available to enter numbers for password.  
The same method is used to enter, insert and delete characters as for attaching text information to images. Refer to page 55.  
→ The hard disk will be removed logically and the confirmation window will be displayed.

### [Screenshot 3]

The confirmation window will be displayed after logical remove of the hard disk is started.



- 4 The "TOP MENU" of the "HDD DISK MENU" will be displayed when logical remove has been completed.

# SERIAL (RS232C) CONNECTOR COMMAND REFERENCE

## SERIAL (RS232C) Communication Protocol

SERIAL (RS232C) means the EIA standard number of an interface for serial data transfer. With the SERIAL (RS232C) interface, you can control functions of this unit by transferring the specified commands from a personal computer (PC) to this unit.

**Notes:**

- This unit does not support the communication converted between the SERIAL (RS232C) and USB interface.
- When controlling the unit with the SERIAL (RS232C) interface, the following parameters should be identical between the communication devices.

The setting is available in "SETUP MENU" – "Comm" – "SERIAL (RS232C) Setting".

- Baud Rate
- Data Bit
- Parity
- Stop Bit

## Command Format

The following pages detail how to write the commands.

### 1. The following details how to write the commands

Code	[STX] AD [Unit address of this unit] [Transmission Command] : [p] [ETX]
ASCII	(02H) ----- (03H)

**STX:** This shows the data start. STX (ASCII code: 02h) is always prefixed to data. h shows hexadecimal digit.

**Transmission command:** A command shown in the Command List is designated.

**ETX:** This shows the data end. ETX (ASCII code: 03h) is always prefixed to data.

The character code is ASCII.

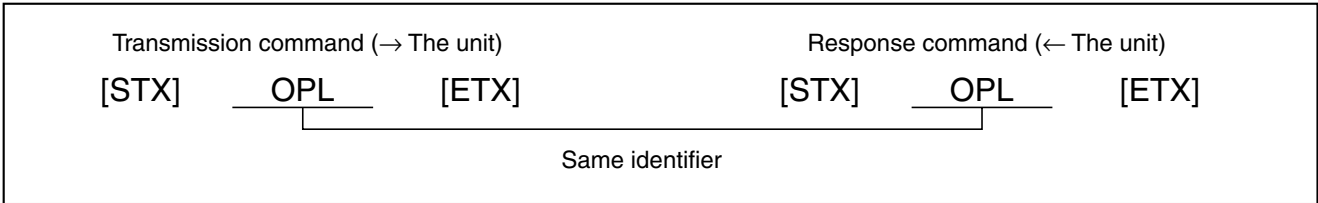
When a command needs parameter, colon (:) is used for dividing the command and parameter. The following is how to write the commands when two or more commands are specified.

Code	[STX] AD [Unit address of this unit] [Transmission Command] : [p1] : [p2] [ETX]
------	---

### 2. Response Command (from the Unit to the PC)

The unit sends back the response command for the transmission command from the PC.

- **When the reception was completed successfully**  
The response command differs between when an ANSWER command (sending back the status or data) is required or when not required.
- **When no ANSWER command is required**  
The unit sends back the same identifier as that in the transmission command, as shown in the figure.







(9) (PC -> This unit) Logout.  
[STX]AD001;OLO [ETX]

When receiving the command above, the user logged in via SERIAL (RS232C) (ADMIN) will logout.

(10) (This unit - > PC) Response against (9).  
[STX]AD001;OLO[ETX]

**Note:** The character code of [STX], [ETX] and [SP] are as follows.

[STX]: 02h  
[ETX]: 03h  
[SP] (space): 20h

### 3. Reception Error

The response command differs between the reception error and parameter error.

- **Communication error (Reception error)**

When the unit cannot properly receive the command due to the communication error, the unit immediately sends back the NACK code to the PC. After clearing the receive buffer, the unit enters the wait state until receiving the following [STX] command.

[NCK]○ = Reception failed (ASCII code: 15H)

----- Reason for the communication error  
1: Parity error (ASCII code: 31H)  
2: Framing error (ASCII code: 33H)  
3: Overrun error (ASCII code: 34H)

- **Parameter error**

When the unit cannot properly process the received command, the unit sends back an error code to the PC. After clearing the receive buffer, the unit enters the wait state until receiving the following [STX] command.

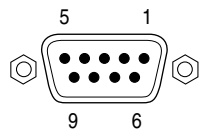
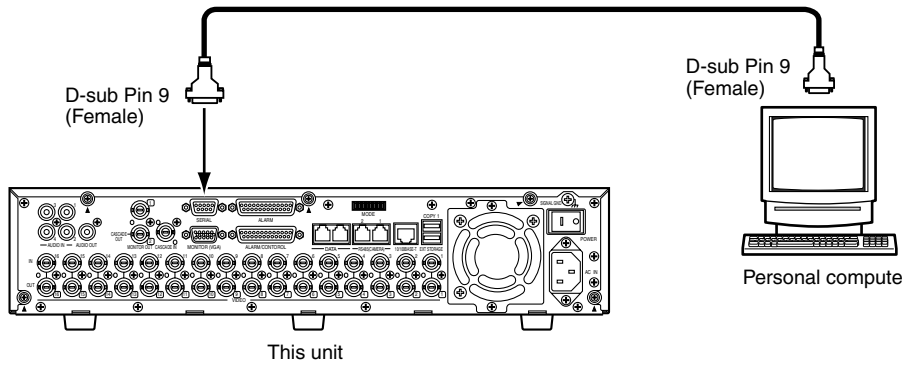
ER○ [ETX] =Error

↑  
----- Reason for the error  
001: Command invalid (There is no associated command.)  
002: Parameter invalid (The number, digit, or range of the command parameters is incorrect.)  
003: Command invalid (The unit does not support the operation mode.)  
E: Command error (ASCII code: 45H)

- If the unit receives another command during the response, the unit will respond to the command after processing the current response.
- If the unit received the [STX] command again before receiving the [ETX] command, the unit will clear the internal buffer. Then, the unit will process the data following to the [STX] command. (The commands received before the second [STX] command will be canceled.)
- The internal buffer will be cleared when it fills up.\*

## 4. PC Connection Example

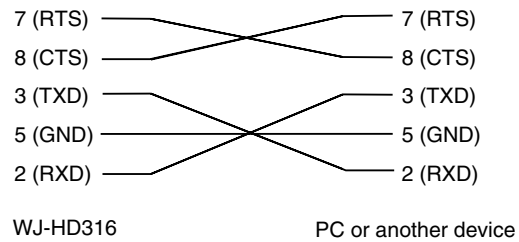
RS-232C crossing cable is used for connection between the unit and PC. (Refer to the following page for cable specification.)



WJ-HD316 Rear View

Pin No.	Signal Name	I/O
1	CD	IN
2	TXD	IN
3	RXD	OUT
4	DTR	OUT
5	SG	-
6	DSR	IN
7	RTS	OUT
8	CTS	IN
9	RI	IN

Cross cable connection example



## ● Command Table

### Basic Operation

Item	Transmission command (ASCII)	Response command (ASCII)	Parameter (ASCII)
Forward a field	OVF	OVF	
Rewind a field	OVR	OVR	
Pause during playback	OPA	OPA	
Play	OPL	OPL	
Manual recording	ORC	ORC	
Manual recording with text	ZMR:nn:ddd...ddd	ZMR:nn	nn=01~99 (Sequence number) ddd...ddd: text (200 bytes or less)
Stop	OSP:n	OSP	n=P: Stops PLAY n=R: Stops REC no parameter stops PLAY and REC
Skip & play forward	OSF:n	OSF	n=0F Normal speed n=1F x2 speed n=2F x5 speed n=3F x10 speed n=4F x20 speed n=5F x50 speed n=6F x100 speed n=0S Normal speed n=1S 1/2 speed
Skip&play reversely	OSR:n	OSR	n=0F Normal speed n=1F x2 speed n=2F x5 speed n=3F x10 speed n=4F x20 speed n=5F x50 speed n=6F x100 speed n=0S Normal speed n=1S 1/2 speed
Record No. Search and playback	ZPR:rrrrrrrrrrrr:mm	ZPR:rrrrrrrrrrrr	rrrrrrrrrrrr Record No.
Time & date search and playback	ZTP:yyyymmddhnnss	ZTP:yyyymmddhnnss	yyyymmddhnnss:Time & date of playback image
Record skip	OSK:dnn	OSK	d=+ Forward - Backward nn=01 Number of skipped records: Fixed
LISTED Playback	ZLT:n	ZLT:n	n=0 OFF n=1 ON
Playback latest image	ZPM	ZPM	
A - B repeat playback	ZRP:n	ZRP:n:yyyymmddhnnss	n=0 A - B repeat playback OFF n=1 Set repeat start point (A point) n=2 Set repeat end point (B point) yyyymmddhnnss: Date and time of A/B point
Display COPY SETUP MENU	ZPD:n	ZPD:n	n=0 COPY SETUP MENU OFF n=1 COPY SETUP MENU ON
Display text	ZDT:n	ZDT:n	n=0 Text display OFF n=1 Text display ON
Multi-screen switching	OTC:m	OTC:m	m=0 4-split screen m=1 7-split screen m=2 9-split screen m=3 10-split screen m=4 13-split screen m=5 16-split screen
Monitor selection	OMS:nnnn	OMS:nnnn	nnnn=0001 Select MON 1 nnnn=0002 Select MON 2
Camera selection	OCS:cccc	OCS:cccc	cccc: Camera CH

Item	Transmission command (ASCII)	Response command (ASCII)	Parameter (ASCII)
Electronic zooming	OZM:m	OZM:n	m=0 Electronic zooming OFF m=1 Electronic zooming ON m=> Switch x2 -> x4 m=< Switch x4 -> x2 m=+ Switch Electronic zooming OFF -> x2 -> x4 -> Electronic zooming OFF -> ... m=- Switch x4 -> x2 -> Electronic zooming OFF -> x4 -> ... n=0 Electronic zooming OFF n=2 x2 n=4 x4 term
Start sequence	OQT:01F	OQT:01F:01	
Stop sequence	OQS:0	OQS	
Disk selection	ZDS:k	ZDS:k	k=0 HDD normal/event recording sector k=1 HDD copy sector k=2 Disk connected to COPY 1 k=3 Disk connected to COPY 2)
Marking	ZMP	ZMP	

### Alarm Control

Item	Transmission command (ASCII)	Response command (ASCII)	Parameter (ASCII)
Alarm input	OAI:b <sub>1</sub> b <sub>2</sub> b <sub>3</sub> a <sub>1</sub> a <sub>2</sub> a <sub>3</sub> a <sub>4</sub>	OAI	b <sub>1</sub> b <sub>2</sub> b <sub>3</sub> : Head alarm CH information (binary) a <sub>1</sub> a <sub>2</sub> a <sub>3</sub> a <sub>4</sub> : Alarm CH information (binary)
Alarm input with text	ZAI:b <sub>1</sub> b <sub>2</sub> b <sub>3</sub> a <sub>1</sub> a <sub>2</sub> a <sub>3</sub> a <sub>4</sub> : nn:ddd...ddd	ZAI:nn	b <sub>1</sub> b <sub>2</sub> b <sub>3</sub> : Head alarm CH information (binary) a <sub>1</sub> a <sub>2</sub> a <sub>3</sub> a <sub>4</sub> : Alarm CH information (binary) nn=01 - 99 (Sequence No) ddd...ddd: text (200 bytes or less)
Alarm reset	OAL;n	OAL	n=0 Alarm all reset n=1 Alarm reset
Alarm suspension	MAD:n	MAD:n	n=0 Alarm suspension OFF n=1 Alarm suspension ON)
Alarm change information (LED indication)	-	ALD:n	n=0 LED OFF n=1 LED ON n=2 LED Blinking
Alarm change information	-	ALM: b <sub>1</sub> b <sub>2</sub> b <sub>3</sub> a <sub>1</sub> a <sub>2</sub> a <sub>3</sub> a <sub>4</sub>	b <sub>1</sub> b <sub>2</sub> b <sub>3</sub> : Head alarm CH information (binary) a <sub>1</sub> a <sub>2</sub> a <sub>3</sub> a <sub>4</sub> : Alarm CH information (binary)

### Setup Control

Item	Transmission command (ASCII)	Response command (ASCII)	Parameter (ASCII)
Display SETUP MENU	MSU:n	MSU:n	n=0 SETUP MENU OFF n=1 SETUP MENU ON
Move cursor	DCR:n1n2	DCR	n1n2=A1 Right n1n2=C1 Upward n1n2=E1 Left n1n2=G1 Downward n1n2=+1 Increment parameter (+) n1n2=-1 Decrement parameter (-) n1n2=PD Move to virtual menu (SET) n1n2=P- Go back to an older page (BACK) n1n2=PU Move to upper layer (ESC)
Date & Time setup	TSU:yyyymmddhhnn	TSU	yyyymmddhhnn: Date and time
Summer time setup	MST:n	MST	n=0 Standard time n=1 Summer time
Recording mode setup	MRM:n	MRM	n=0 Normal recording mode n=2 Continuous (External timer) recording mode

### Login/Logout

Item	Transmission command (ASCII)	Response command (ASCII)	Parameter (ASCII)
Login	OLI:uuu...uuu: ppp...ppp	OLI:n	uuu...uuu: User name (32-byte fixed length) ppp...ppp: Password (32-byte fixed length) n=0 Error in user name/password n=1 Login succeeded n=2 Login failed
Logout	OLO	OLO	

## Data Control

Item	Transmission command (ASCII)	Response command (ASCII)	Parameter (ASCII)
Copy by specifying record	ZCR:rrrrrrrrrrrrrr:m	ZCR	rrrrrrrrrrrrrr: Record No. m=0 Copy to HDD copy sector m=1 Copy to media connected to COPY 1 m=2 Copy to media connected to COPY 2
Copy by specifying date & time	ZCT:y <sub>1</sub> y <sub>1</sub> y <sub>1</sub> y <sub>1</sub> m <sub>1</sub> m <sub>1</sub> d <sub>1</sub> d <sub>1</sub> h <sub>1</sub> h <sub>1</sub> n <sub>1</sub> n <sub>1</sub> :y <sub>2</sub> y <sub>2</sub> y <sub>2</sub> y <sub>2</sub> m <sub>2</sub> m <sub>2</sub> d <sub>2</sub> d <sub>2</sub> h <sub>2</sub> h <sub>2</sub> n <sub>2</sub> n <sub>2</sub> :s:ccc:m	ZCT	y <sub>1</sub> y <sub>1</sub> y <sub>1</sub> y <sub>1</sub> m <sub>1</sub> m <sub>1</sub> d <sub>1</sub> d <sub>1</sub> h <sub>1</sub> h <sub>1</sub> n <sub>1</sub> n <sub>1</sub> : Start date & time of data copy y <sub>2</sub> y <sub>2</sub> y <sub>2</sub> y <sub>2</sub> m <sub>2</sub> m <sub>2</sub> d <sub>2</sub> d <sub>2</sub> h <sub>2</sub> h <sub>2</sub> n <sub>2</sub> n <sub>2</sub> : End date & time of data copy s=0 Format to specify the camera CH. Fixed to 0 ccc: Camera CH No. of target for data copy m=0 Copy to HDD copy sector m=1 Copy to media connected to COPY 1 m=2 Copy to media connected to COPY 2
Data copy completed	-	ZEC:y <sub>1</sub> y <sub>1</sub> y <sub>1</sub> y <sub>1</sub> m <sub>1</sub> m <sub>1</sub> d <sub>1</sub> d <sub>1</sub> h <sub>1</sub> h <sub>1</sub> n <sub>1</sub> n <sub>1</sub> : y <sub>2</sub> y <sub>2</sub> y <sub>2</sub> y <sub>2</sub> m <sub>2</sub> m <sub>2</sub> d <sub>2</sub> d <sub>2</sub> h <sub>2</sub> h <sub>2</sub> n <sub>2</sub> n <sub>2</sub> :s:ccc:m	y <sub>1</sub> y <sub>1</sub> y <sub>1</sub> y <sub>1</sub> m <sub>1</sub> m <sub>1</sub> d <sub>1</sub> d <sub>1</sub> h <sub>1</sub> h <sub>1</sub> n <sub>1</sub> n <sub>1</sub> Start date & time of data copy y <sub>2</sub> y <sub>2</sub> y <sub>2</sub> y <sub>2</sub> m <sub>2</sub> m <sub>2</sub> d <sub>2</sub> d <sub>2</sub> h <sub>2</sub> h <sub>2</sub> n <sub>2</sub> n <sub>2</sub> End date & time of data copy s=0 Format to specify the camera CH. Fixed to 0 ccc: Camera CH No. of target for data copy m=0 Copy to HDD copy sector m=1 Copy to media connected to COPY 1 m=2 Copy to media connected to COPY 2
Cancel data copy	ZDC	ZDC	
Erase log	ZLC:k	ZLC:k	k=1 Event input log k=2 Trouble log k=3 Access log
Log data total number inquiry	ZLQ:k:y <sub>1</sub> y <sub>1</sub> y <sub>1</sub> y <sub>1</sub> m <sub>1</sub> m <sub>1</sub> d <sub>1</sub> d <sub>1</sub> h <sub>1</sub> h <sub>1</sub> n <sub>1</sub> n <sub>1</sub> :y <sub>2</sub> y <sub>2</sub> y <sub>2</sub> y <sub>2</sub> m <sub>2</sub> m <sub>2</sub> d <sub>2</sub> d <sub>2</sub> h <sub>2</sub> h <sub>2</sub> n <sub>2</sub> n <sub>2</sub>	ZLQ:k:y <sub>1</sub> y <sub>1</sub> y <sub>1</sub> y <sub>1</sub> m <sub>1</sub> m <sub>1</sub> d <sub>1</sub> d <sub>1</sub> h <sub>1</sub> h <sub>1</sub> n <sub>1</sub> n <sub>1</sub> y <sub>2</sub> y <sub>2</sub> y <sub>2</sub> y <sub>2</sub> m <sub>2</sub> m <sub>2</sub> d <sub>2</sub> d <sub>2</sub> h <sub>2</sub> h <sub>2</sub> n <sub>2</sub> n <sub>2</sub> :ddddddd	k=0 Record list k=1 Event input log k=2 Trouble log k=3 (Access log) y <sub>1</sub> y <sub>1</sub> y <sub>1</sub> y <sub>1</sub> m <sub>1</sub> m <sub>1</sub> d <sub>1</sub> d <sub>1</sub> h <sub>1</sub> h <sub>1</sub> n <sub>1</sub> n <sub>1</sub> : Start date & time of inquiry range y <sub>2</sub> y <sub>2</sub> y <sub>2</sub> y <sub>2</sub> m <sub>2</sub> m <sub>2</sub> d <sub>2</sub> d <sub>2</sub> h <sub>2</sub> h <sub>2</sub> n <sub>2</sub> n <sub>2</sub> : End date & time of inquiry range ddddddd: Log data total number
Log readout	ZLR:yyyymmdd hhnn:mmmmmmmm	ZLR:k:<Log Data 1>s1:<Log Data 2>s2:....:<Log Data n>sn	k=1 (Event input log) k=2 (Trouble log) k=3 (Access log) yyyymmddhhnn Start date & time of readout logs mmmmmmmm: Total number of acquired logs (00000000 - 00000050) <Log Data n>: Log data sn: 0-9 Cyclic number
Record list acquisition	ZGR:yyyymmddnn :nnnnnnnn	ZGR<Log Data 1>s1:<Log Data 2>s2:....:<Log Data n>sn	yyyymmddhhnn: Start date & time of readout list mmmmmmmm: Total record number in the acquired list (00000001 - 00000050) <Log Data n>: Log data sn: 0-9 Cyclic number
Text acquisition	ZGT:rrrrrrrrrrrrrr	ZGT:rrrrrrrrrrrrrr: <TEXT>	rrrrrrrrrrrrrr: Record No. <TEXT>: text data
Text writing	ZPT:rrrrrrrrrrrrrr: <TEXT>	ZPT:rrrrrrrrrrrrrr	rrrrrrrrrrrrrr: Record No. <TEXT>: text data 200 bytes or less

## Disk End Notification

Item	Transmission command (ASCII)	Response command (ASCII)	Parameter (ASCII)
Disk end auto-notification setting	MDE:n	MDE:n	n=0 (Auto-notification OFF) n=1 (Auto-notification ON)
Disk end auto-notification	HDE:-	HDE:p	p=1 (Normal recording sector) p=2 (Event recording sector) p=3 (Copy sector)

## Search Operation

Item	Transmission command (ASCII)	Response command (ASCII)	Parameter (ASCII)
Display search editing area	ZTL:n	ZTL:n	n=0 (Search editing area OFF) n=1 (Recording event search list ON) n=2 (Recording event search thumbnail ON) n=3 (VMD search list ON) n=4 (VMD Search Thumbnail OFF) n=5 (Marking search list ON) n=6 (Marking search thumbnail ON) n=7 (Search playback display ON)

## Display Operation

Item	Transmission command (ASCII)	Response command (ASCII)	Parameter (ASCII)
Switch display	DIN:n	DIN	n=+

## Inquiry

Item	Transmission command (ASCII)	Response command (ASCII)	Parameter (ASCII)
Additional disk space inquiry	QHR:p	QHR:p:sss	p=1 HDD normal recording sector p=2 HDD event recording sector p=3 HDD copy sector p=4 Disk connected to COPY 1 p=5 Disk connected to COPY 2 sss: Additional disk space (%)
ID request	QID	QID:WJ-HD309 or QID:WJ-HD316	
Interface ID request	QIB	QIB:WJ-HD309 or QIB:WJ-HD316	
Production category request	QIC	QIC:2	
Alarm information request	QLD:0	QLD:n	n=0 (No alarm) n=1 (Alarm end) n=2 (Under alarm operation)
Software version inquiry	QRV	QRV:n.nn	n.nn: Software version
Status inquiry	QSR	QSR:Status 1:Status 2...	Following response commands are sends back for "Status 1:Status 2..." msu:0 Under normal operation msu:1 Under setting oms:0001 Monitor 1 oms:0002 Monitor 2 ocs:cccc cccc: Camera number otc:n Multiscreen segment display pattern n=0: 4 segments n=1: 7segments n=2: 9 segments n=3: 10 segments n=4: 13 segments n=5: 16 segments oqt: 01F Sequence activated ozm: 0 Zoom OFF ozm: 2 x2 zoom ozm: 4 x4 zoom mad: 0 Alarm suspension OFF mad: 1 Alarm suspension ON zcd: Cascade activated zqs: 1 CH recording activated:2 CH recording activated...16 CH recording activated Recording status nn=00 (Recording stop) nn=01 (Manual recording activated) nn=02 (Event recording activated) nn=03 (Schedule recording activated) nn=04 (Emergency recording activated)

Item	Transmission command (ASCII)	Response command (ASCII)	Parameter (ASCII)
			zqm: Monitor status: camera CH: Playback time Monitor status n=0 Live n=1 Live sequence n=2 Playback n=3 Other statuses Camera CH Playback time: yyyyymmddhhnss ztl:n Search editing area ON n=0 Search editing area OFF n=1 Recording event search list ON n=2 Recording event search thumbnail ON n=3 VMD search list ON n=4 VMD search thumbnail ON n=5 Marking search list ON n=6 Marking search thumbnail ON n=7 Search playback display ON zdt:0 Text display OFF zdt:1 Text display ON
Recording mode inquiry	QRM	QRM:n	n=0 Normal recording mode n=2 Continuous (External timer) recording mode
Monitor status inquiry	ZQM	ZQM:m:a <sub>1</sub> a <sub>2</sub> a <sub>3</sub> a <sub>4</sub> :yyyyymmddhhnss	m=0 Live m=1 Live sequence m=2 Playback m=3 Other statuses a <sub>1</sub> a <sub>2</sub> a <sub>3</sub> a <sub>4</sub> : Camera CH information (binary) yyyyymmddhhnss: Playback time
Recording status inquiry	ZQS	ZQS:1 CH recording activated: 2 CH recording activated...16 CH recording activated	Recording status nn=00 (Recording stop) nn=01 (Manual recording activated) nn=02 (Event recording activated) nn=03 (Schedule recording activated) nn=04 (Emergency recording activated)
Record number information	-	ZRN:sss:nn:rrrrrrrrrrrrrrrrrrrr :nnyyyymmddhhnss: ccc:x;yy:t	sss: Unit address nn=Sequence number rrrrrrrrrrrrrrrrrrrrr: Record number yyyyymmddhhnss: Recording event date and time ccc: Camera CH x=0 Manual recording x=1 Schedule recording x=2 VMD recording x=3 Alarm port recording x=4 Command alarm recording x=5 VIDEO LOSS recording x=6 Emergency recording yy: Event-activated CH t=0 Text included t=1 Text not included nn=Sequence number
Camera SYNC status inquiry	QSY:a <sub>1</sub> a <sub>2</sub> a <sub>3</sub> a <sub>4</sub> a <sub>5</sub> :b <sub>1</sub> b <sub>2</sub> b <sub>3</sub> b <sub>4</sub> b <sub>5</sub>	QSY:a <sub>1</sub> a <sub>2</sub> a <sub>3</sub> a <sub>4</sub> a <sub>5</sub> :b <sub>1</sub> b <sub>2</sub> b <sub>3</sub> b <sub>4</sub> b <sub>5</sub> :s <sub>1</sub> s <sub>2</sub> s <sub>3</sub> ...s <sub>m</sub>	a <sub>1</sub> a <sub>2</sub> a <sub>3</sub> a <sub>4</sub> a <sub>5</sub> - b <sub>1</sub> b <sub>2</sub> b <sub>3</sub> b <sub>4</sub> b <sub>5</sub> : Range of camera CH to inquire SYNC status s <sub>1</sub> s <sub>2</sub> s <sub>3</sub> ...s <sub>m</sub> : SYNC status of each camera (s <sub>m</sub> =0: SYNC status not found s <sub>m</sub> =1: SYNC status found)

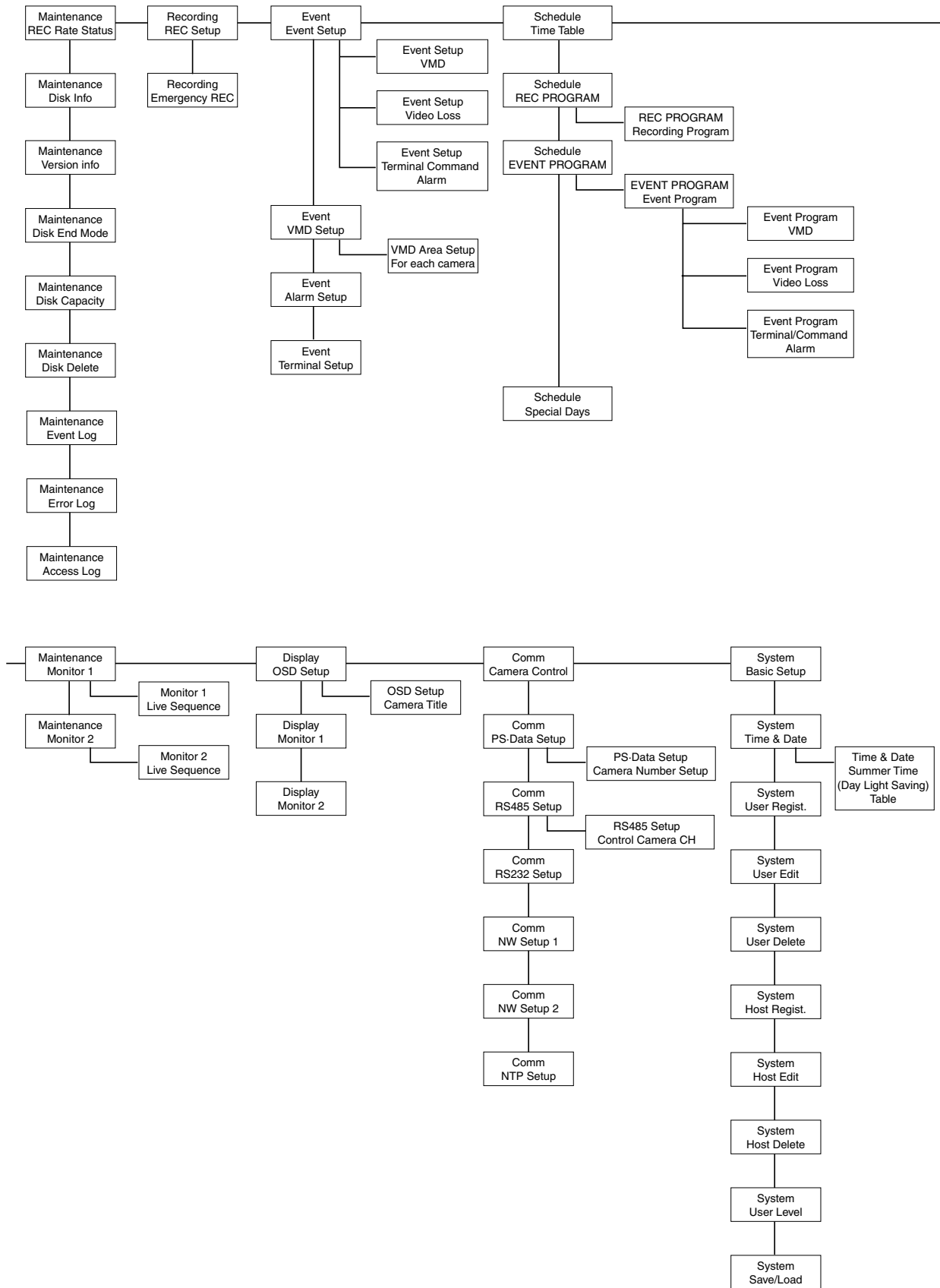
Item	Transmission command (ASCII)	Response command (ASCII)	Parameter (ASCII)
Record information inquiry	ZGP:rrrrrrrrrrrrrr	ZGP:rrrrrrrrrrrrrr: ccc:q:nnn:yyymmdd hhnss:nnss:t:sssss	rrrrrrrrrrrrrr: Record number ccc: Camera CH q: picture quality (0 (Very Fine), 1 (Fine), 2 (Normal), 3 (Extended)) nnn: Recording rate yyymmddhhnss: Recording start date and time nnss: Recording total time t=0 Text included t=1 Text not included sssss: Record size [KB]

**Communication**

Item	Transmission command (ASCII)	Response command (ASCII)	Parameter (ASCII)
Communication check	RCK	RCK	



# FLOWCHART OF THE SETUP MENU



# PARAMETERS AND THE DEFAULT SETTINGS OF THE SETUP MENU

These are the setting parameters and the default settings of the items on the SETUP MENU.  
Refer to these as reference.

Setup Menu	Setup Item	Parameter	Default Setting
<b>Maintenance</b>			
Disk Info	Warning for Disk Life Time	10 000h/20 000h/30 000h	30 000h
	HDD Safety Mode	ON/OFF	OFF
Disk End Mode	Normal Recording Area	CONTINUE/STOP	CONTINUE
	Event Recording Area	CONTINUE/STOP	CONTINUE
	Copy Area	CONTINUE/STOP	STOP
	COPY1	CONTINUE/STOP	STOP
	COPY2	CONTINUE/STOP	STOP
Disk Capacity	Normal Recording Area	OFF/1%/2%/.../10%	10%
	Event Recording Area	OFF/1%/2%/.../10%	10%
	Copy Area	OFF/1%/2%/.../10%	10%
	COPY1	OFF/1%/2%/.../10%	10%
	COPY2	OFF/1%/2%/.../10%	10%
Data Delete	Auto Delete	OFF/1DAY/2DAYS/.../10DAYS/14DAYS/ 30DAYS/45DAYS/60DAYS/90DAYS/ 120DAYS/150DAYS/180DAYS	OFF
<b>Recording</b>			
REC Setup	Recording	ON/OFF	ON
	Power ON Manual REC	ON/OFF	OFF
	Manual Recording Channel	MON2/ALL	ALL
	Color Mode	COLOR FINE/COLOR STD/B/W	COLOR STD
	Embedded REC(Title)	ON/OFF	ON
	Embedded REC(Time & Date)	ON/OFF	ON
	REC Priority	Manual REC/Schedule REC/Event REC	1: Manual REC 2: Event REC 3: Schedule REC
	Audio Allocation	HD316: OFF/CAM1/CAM2.....CAM16 HD309: OFF/CAM1/.....CAM9	AUDIO1 to 4: OFF
Emergency REC	Resolution	FRAME 3D ON/FRAME 3D OFF/FIELD/SIF	FIELD
	Recording Time	1 s/2 s/.../10 s/20 s/30 s/1 m/2 m/.../10 m/ 20 m/30 m/40 m/50 m/60 m/MANUAL/ CONTINUE	10 s
	Recording Rate and Quality	Recording rate: 1 ips/2 ips/3 ips/5 ips/6 ips/ 7.5 ips/10 ips/15 ips/30 ips/60 ips	
		Quality: SFA/SFB/FQA/FQB/NQA/NQB/ EXA/EXB	Recording rate: 3 ips Quality: SFA
		Auto Copy	OFF/ON

Setup Menu	Setup Item	Parameter	Default Setting
<b>Event</b>			
Event Setup	Alarm Output	OFF/1 s/2 s/...../30 s/40 s/50 s/1 m/ 2 m/...../5 m/EXT	VMD: OFF Video Loss: 2 s Terminal Command Alarm: 2 s
	Output Terminal	HD316: TRM1/TRM2/...../TRM16 HD309: TRM1/TRM2/...../TRM9	
	Buzzer	OFF/1 s/2 s/...../30 s/40 s/50 s/1 m/ 2 m/...../5 m/EXT	VMD: OFF Video Loss: 2 s Terminal Command Alarm: 2 s
	Monitor1 Action	HD316: OFF/CAM1/CAM2/...../CAM16 HD309: OFF/CAM1/CAM2/...../CAM9	VMD: OFF Video Loss: Camera channel with a video loss occurrence Terminal Command Alarm: Same number for camera channel number and alarm number
	Monitor2 Action	HD316: OFF/CAM1/CAM2/...../CAM16 HD309: OFF/CAM1/CAM2/...../CAM9	VMD: OFF Video Loss: Camera channel with a video loss occurrence Terminal Command Alarm: Same number for camera channel number and alarm number
VMD Setup	(SETUP AREA)	-	-
	(SETUP ALL AREA)	-	-
	(DELETE AREA)	-	-
	(DELETE ALL AREA)	-	-
	(SENSITIVITY)	-	-
	(VMD MODE)	-	-
	(EXIT)	-	-
Alarm Setup	Alarm Auto Reset	OFF/1 s/2 s/...../30 s/40 s/50 s/1 m/2 m/3 m/ 4 m/5 m	OFF
	Alarm Disarm Time	2 s/3 s/...../10 s	2 s
Terminal Setup	Terminal Setup	N.O./N.C.	N.O.

### Schedule

Time Table	Period	12:00AM to 12:00AM	12:00AM to 12:00AM (Everyday/Time zone1) --:-- to --:-- (Except above)	
	REC PROG	PROG1/PROG2/PROG3/PROG4	PROG1	
	EVENT PROG	PROG1/PROG2/PROG3/PROG4	PROG1	
	FTP SEND BY PERIODIC TIMER	ON/OFF	OFF	
	ERROR REPORT MAIL	ON/OFF	OFF	
	WARNING REPORT MAIL	ON/OFF	OFF	
	NW BANDWIDTH CONTROL	OFF/32kbps/64kbps/128kbps/256kbps/ 512kbps/1024kbps/2Mbps/5Mbps/10Mbps	OFF	
	Resolution	FRAME 3D ON/FRAME 3D OFF/FIELD/FRAME	FIELD	
	REC PROGRAM	RATE	OFF/2 ips/3 ips/5 ips/6 ips/7.5 ips/10 ips/ 15 ips/30 ips/60 ips	Manual REC: 15 ips Schedule REC: 15 ips Event REC: 30 ips
		RATE	OFF/AUTO/0.1 ips/0.2 ips/0.3 ips/0.4 ips/ 0.5 ips/1 ips/2 ips/3 ips/5 ips/6 ips/7.5 ips/ 10 ips/15 ips/30 ips/60 ips	MANUAL: AUTO SCHEDULE: AUTO EVENT (PRE): 1 ips EVENT (POST): 1 ips
QUALITY		SFA/SFB/FQA/FQB/NQA/NQB/EXA/EXB	SFA	
DURATION (TIME for the unit)		1 s/2 s/...../10 s/20 s/30 s/1 m/2 m/...../ 10 m/20 m/...../60 m/MANUAL/CONTINUE	EVENT (PRE): 10 s EVENT (POST): 30 s	

Setup Menu	Setup Item	Parameter	Default Setting
EVENT PROGRAM	Action Mode (The unit)	ALARM/ACT DET	ALARM
	REC CH	ON/OFF	ON
	Auto Copy	ON/OFF	OFF
	Preset Position	--/1/2/...../64	--
	Serial Notice	ON/OFF	OFF
	Mail Notice	ON/OFF	OFF
	FTP Alarm Sending	ON/OFF	OFF
Special Days	DATE	1/1 to 12/31	--
	Mode	MON/TUE/WED/THU/FRI/SAT/SUN	--

### Switcher

Monitor1	Live Sequence	[Operating with the buttons of the unit] 1/2/...../15/16/1-4/5-8/9-12/13-16/1-9/10-16/-- [Operating via a network] CAM1/CAM2/...../CAM16/QUAD1-4/QUAD5-8/ QUAD9-12/QUAD13-16/9SCREEN1-9/ 9SCREEN10-16/-- --/1/2/...../64 1 s/2 s/...../30 s	HD316: STEP1: CAM1, STEP2: CAM2, ..... STEP16: CAM16 HD309: STEP1: CAM1, STEP2: CAM2, ..... STEP9:CAM9  -- 2 s
	Sequence Timing	INT/EXT/MON2	INT
	Auto Skip	ON/OFF	OFF
	Login Screen	CAM1/CAM2/...../CAM16/QUAD1-4/QUAD5-8/ QUAD9-12/QUAD13-16/7SCREEN/9SCREEN1-9/ 9SCREEN10-16/10SCREEN/13SCREEN/ 16SCREEN/SEQ/--	16SCREEN
	Secret View	ON/OFF	OFF
Monitor2	Live Sequence	[Operating with the buttons of the unit] 1/2/...../15/16/1-4/5-8/9-12/13-16/1-9/10-16/-- [Operating via a network] CAM1/CAM2/...../CAM16/QUAD1-4/QUAD5-8/ QUAD9-12/QUAD13-16/9SCREEN1-9/ 9SCREEN10-16/-- --/1/2/...../64 1 s/2 s/...../30 s	HD316: STEP1: CAM1, STEP2: CAM2, .....STEP16:CAM16 HD309: STEP1: CAM1, STEP2: CAM2, ..... STEP9:CAM9  -- 2 s
	Sequence Timing	INT/EXT	INT
	Auto Skip	ON/OFF	OFF
	Login Screen	CAM1/CAM2/...../CAM16/QUAD1-4/QUAD5-8/ CAM1/CAM2/...../CAM16/QUAD1-4/QUAD5-8/ QUAD9-12/QUAD13-16/7SCREEN/9SCREEN1-9/ 9SCREEN10-16/10SCREEN/13SCREEN/ 16SCREEN/SEQ/--	QUAD1-4

### Display

OSD Setup	Time & Date Display Position	L-UPPER/R-UPPER/L-LOWER/R-LOWER	L-UPPER
	Camera Title Display Position	L-UPPER/R-UPPER/L-LOWER/R-LOWER/ CENTER	R-LOWER
	Line Color on the Multi Screen	WHITE/GRAY/BLACK	WHITE
Monitor1	Time & Date Display	ON/OFF	ON
	Camera Title Display	ON/OFF	ON
	Alarm Display	ON/OFF	ON
Monitor2	Display Mode	MODE1/MODE2/MODE3	MODE1
	T&D and Status Display Position	UPPER/LOWER	LOWER
	Camera Title Display	ON/OFF	ON

Setup Menu	Setup Item	Parameter	Default Setting
<b>Com</b>			
Camera Control	COMP	S/M/L	HD316: CAM1 to CAM8: S HD309: CAM1 to CAM6: S
	TYPE	HD316: CAM1 to CAM8: COAX/RS485/OFF, CAM9 to CAM12: RS485/PSD/OFF, CAM13 to CAM16: RS485/PSD/OFF HD309: CAM1 to CAM6: COAX/RS485/OFF, CAM7 to CAM9: RS485/PSD/OFF	HD316: CAM1 to CAM8: COAX, CAM9 to CAM12: RS485, CAM13 to CAM16: RS485 HD309: CAM1 to CAM6: COAX, CAM7 to CAM9: RS485
PS-Data Setup	Unit Address(System)	001 to 099	001
	Unit Address(Controller)	001 to 099	001
	Cascade	ON/OFF	OFF
	Baud Rate	2 400/4 800/9 600/19 200/38 400	9 600
	Data Bit	8	8
	Parity	NONE/EVEN/ODD	NONE
	Stop Bit	1/2	1
	Retry Timing	OFF/100 ms/200 ms/400 ms/1000 ms/	OFF
	Alarm Data	OFF/0 s/1 s/5 s	1 s
	Camera Number Setup	001 to 099	HD316: 1: 001 to 16: 016 HD309: 1: 001 to 9: 009
RS485 Setup	Baud Rate	4 800/9 600/19 200	9 600
	Control Camera CH	PORT1/PORT2	HD316: CAM1 to CAM8: PORT1, CAM9 to CAM16: PORT2 HD309: CAM1 to CAM9: PORT1
	Data Bit	8	8
	Parity	NONE	NONE
	Stop Bit	1	1
RS232C Setup	Unit Address(System)	001 to 099	001
	Baud Rate	9 600/19 200/38 400	9 600
	Data Bit	7/8	8
	Parity	NONE/EVEN/ODD	NONE
	Stop Bit	1/2	1
	Retry Timing	OFF/100 ms/200 ms/400 ms/1000 ms/	OFF
NW Setup1	HTTP Port Number	00000 to 65535	00080
	User Authentication	ON/OFF	OFF
	Host Authentication	ON/OFF	OFF
	Line Speed	AUTO	AUTO
	Live Video Quality	FQB	FQB
	Video Rate	FAST/MIDDLE/SLOW/VERY SLOW	MIDDLE
NW Setup2	DHCP	ON/OFF	OFF
	IP Address	000.000.000.000 to 255.255.255.255	192.168.0.250
	Subnet Mask	000.000.000.000 to 255.255.255.255	255.255.255.000
	Gateway	000.000.000.000 to 255.255.255.255	192.168.000.001
	DNS	ON/OFF	OFF
	Primary	000.000.000.000 to 255.255.255.255	000.000.000.000
	Secondary	000.000.000.000 to 255.255.255.255	000.000.000.000
	DDNS	ON/OFF	OFF
	User Name	-	-
	User Password	-	-
	Access Interval	10 m/30 m/1 h/6 h/24 h	1 h
	Host Name	-	HD316: HD316 HD309: HD309
	Domain Name	-	localdomain

Setup Menu	Setup Item	Parameter	Default Setting
Network SNMP Setup	COMMUNITY	-	public
	CONTACT	-	-
	SYSTEM NAME	-	-
	LOCATION	-	-
NTP Setup	Time Adjustment	ON/OFF	OFF
	Time Zone	GMT-12:00/GMT-11:00/...../GMT-4:00/GMT-3:30/ GMT-3:00/...../GMT-1:00/GMT 0:00/GMT+1:00/ GMT+2:00/...../GMT+9:00/GMT+9:30/ GMT+10:00/...../GMT+13:00	GMT-5:00
	NTP Server Address	-	-
	Refresh Interval	1 h/2 h/6 h/12 h/24 h	6 h
Network FTP Setup	FTP Server Address	-	-
	User Name	-	-
	User Password	-	-
	Mode	SEQUENTIAL/PASSIVE	SEQUENTIAL
	Server Directory	-	-
	File Name	TIME & DATE BASE/SERIAL NUMBER	TIME & DATE BASE
	Interval	-	01 s
	Channel to Send	CAM1 to CAM16	-
	Server Directory	-	-
	File Name	TIME & DATE BASE/SERIAL NUMBER	TIME & DATE BASE
	Duration-Pre	OFF/1 s/2 s/3 s/4 s/5 s/6 s/7 s/8 s/9 s/10 s	OFF
	Duration-Post	OFF/1 s/2 s/3 s/4 s/5 s/6 s/7 s/8 s/9 s/10 s	5 s
Network Mail Setup	Attach Alarm Image	ON/OFF	OFF
	Mail Server Address	-	-
	Send to	-	-
	Address1	-	-
	From Address	-	-
	POP before SMTP	ON/OFF	OFF
	POP Server Address	-	-
	User Name	-	-
User Password	-	-	

## System

Basic Setup	ADMIN Password	-	12345
	PSD User	-	ADMIN
	Auto Login	ON/OFF	ON
	Auto Login User	-	ADMIN
	Auto Logout	ON/OFF	OFF
	Priority	A priority is followed./Pre-priority/Post-priority	A priority is followed.
	"GO TO LAST" before	5 s/10 s/30 s/1 m/5 m	5 s
	Language	JAPANESE/ENGLISH/FRANÇAIS/ESPAÑOL/ DEUTSCH/ITALIANO	ENGLISH
	Beep (Operation)	ON/OFF	ON
	Buzzer (Alarm)	OFF/1 s/...../30 s/40 s/50 s/1 m/...../5 m/EXT	2 s
	Shutdown Time	10 s/20 s/30 s/1 m/2 m/3 m/4 m/5 m	10 s
	Auto Copy	ON/OFF	OFF

Setup Menu	Setup Item	Parameter	Default Setting
Time & Date	Date Format	YY.MM.DD/MMM.DD.YY/DD.MMM.YY	MMM.DD.YY
	Time Format	24 h/12 h	12 h
	Auto Adjust Time	ON/OFF	OFF
	Master Time	0:00/1:00/...../23:00	0:00
	Summer Time(Day Light Saving)	ON/OFF/AUTO	OFF
	Summer Time(Day Light Saving) Table	-	-
	User Regist.	User Name	-
User Edit	Password	-	-
User Delete	Level	1/2/3	1
	Priority	1/2/...../16	1
	Default Screen	CAM1/CAM2/...../CAM16/QUAD1-4/QUAD5-8/ QUAD9-12/QUAD13-16/7SCREEN/9SCREEN1-9/ 9SCREEN10-16/10SCREEN/13SCREEN/ 16SCREEN/SEQ	CAM1
	Camera Partitioning	--/View/View/Operate	View/Operate
Host Regist.	Host IP Address	-	-
Host Edit	Level	1/2/3	1
Host Delete	Priority	1/2/...../16	1
	Default Screen	CAM1/CAM2/...../CAM16/QUAD1-4/QUAD5-8/ QUAD9-12/QUAD13-16/7SCREEN/9SCREEN1-9/ 9SCREEN10-16/10SCREEN/13SCREEN/ 16SCREEN/SEQ	CAM1
	Camera Partitioning	--/View/View/Operate	View/Operate
	User Level	WJ-HD300 Setup	LV1,LV2,LV3
	WJ-HD300 Setup Status	LV1,LV2,LV3	LV1,LV2
	Camera Setup	LV1,LV2,LV3	LV1
	Event Log Status	LV1,LV2,LV3	LV1,LV2
	Access Log Status	LV1,LV2,LV3	LV1,LV2
	Error Log Status	LV1,LV2,LV3	LV1,LV2
	Alarm Reset	LV1,LV2,LV3	LV1,LV2
	Alarm Suspended Time	LV1,LV2,LV3	LV1
	Copy	LV1,LV2,LV3	LV1
	Normal Recording Erase	LV1,LV2,LV3	LV1
	Event Recording Erase	LV1,LV2,LV3	LV1
	Manual REC Operation	LV1,LV2,LV3	LV1,LV2
	Playback Operation	LV1,LV2,LV3	LV1,LV2,LV3
	N/W Access	LV1,LV2,LV3	LV1,LV2,LV3

# TROUBLESHOOTING

Check to see the following before request for repair.

Contact your dealer if a trouble cannot be solved even after checking and trying solution.

Problem	Check item/Remedy	Page
Power is not turned on.	<ul style="list-style-type: none"> <li>• Check if the power plug is surely connected to the AC outlet.</li> </ul>	-
	<ul style="list-style-type: none"> <li>• Check if the power cord is surely inserted into the power socket of the unit.</li> </ul>	-
The HDD SAFETY MODE window is displayed after turning on the power of the unit.	<ul style="list-style-type: none"> <li>• The HDD SAFETY MODE is set to ON. In this case, set the HDD SAFETY MODE to OFF.</li> </ul>	Refer to p. 64.
No camera image is displayed on MON 1, MON 2, and the VGA monitor	<ul style="list-style-type: none"> <li>• Check if the lens covers of the cameras have been removed.</li> </ul>	-
	<ul style="list-style-type: none"> <li>• Check if the power is supplied to cameras and connected devices.</li> </ul>	-
	<ul style="list-style-type: none"> <li>• Check if the cable connections are correct.</li> </ul>	Refer to p. 67.
	<ul style="list-style-type: none"> <li>• Check the brightness and contrast settings of monitors.</li> </ul>	-
	<ul style="list-style-type: none"> <li>• Can the users display camera images on monitors? Check the level settings of users logging in.</li> </ul>	Refer to p. 119 and 121.
The log-in menu does not appear even if you press the button of the unit.	<ul style="list-style-type: none"> <li>• Check if no user has logged in with the system controller.</li> </ul>	-
The camera image is dim.	<ul style="list-style-type: none"> <li>• Check if dust may not be sticking on the camera lens.</li> </ul>	-
Cannot open SETUP MENU.	<ul style="list-style-type: none"> <li>• Check the level settings of users logging in. Can the users display SETUP MENU on monitors?</li> </ul>	Refer to p. 119 and 121.



Problem	Check item/Remedy	Page
Cannot start recording.	<ul style="list-style-type: none"> <li>• Check if the HDD has an available disk space.</li> </ul>	Refer to p. 91.
	<ul style="list-style-type: none"> <li>• Check if the recording operation is set to ON.</li> </ul>	Refer to p. 95.
	<ul style="list-style-type: none"> <li>• Check the schedule settings.</li> </ul>	Refer to p. 102.
	<ul style="list-style-type: none"> <li>• Check the recording priority settings.</li> </ul>	Refer to p. 95.
Cannot record the SETUP MENU of a matrix switcher	<ul style="list-style-type: none"> <li>• When the setting menu is displayed by non-interlace signal, the setting menu may be unable to function normally. Since the setting menu of the matrix switcher is displayed by non-interlace signal, recording or displaying with this unit may be impossible.</li> </ul>	—
Cannot playback images.	<ul style="list-style-type: none"> <li>• Check if images have been recorded in the HDD.</li> </ul>	Refer to p. 28.
	<ul style="list-style-type: none"> <li>• Check the level settings of users logging in. Can the users record images?</li> </ul>	Refer to p. 119 and 121.
	<ul style="list-style-type: none"> <li>• Check the level settings of users logging in. Can the users display camera images on monitors?</li> </ul>	Refer to p. 119 and 121.
Cannot control cameras.	<ul style="list-style-type: none"> <li>• Check the connection of camera you are going to control. Coaxial communication control is available for cameras connected to VIDEO IN 1 to 8 for WJ-HD316 (1 to 6 for the WJ-HD309).</li> </ul>	Refer to p. 67.
	<ul style="list-style-type: none"> <li>• Check if the camera you are going to control is a combination camera.</li> </ul>	Refer to p. 67.
	<ul style="list-style-type: none"> <li>• Check the camera control settings.</li> </ul>	Refer to p. 112.
	<ul style="list-style-type: none"> <li>• Check the level settings of users logging in. Can the users control cameras?</li> </ul>	Refer to p. 119 and 121.
	<ul style="list-style-type: none"> <li>• Check the BUSY indicator. When the indicator is lighting, a higher-priority user is controlling cameras. You cannot control cameras until the indicator goes out.</li> </ul>	Refer to p. 9.

Problem	Check item/Remedy	Page
Alarm operations are not activated.	<ul style="list-style-type: none"> <li>• Check if alarm input signals are properly input to the ALARM or ALARM/CONTROL at the rear panel.</li> </ul>	Refer to p. 80 and 84.
	<ul style="list-style-type: none"> <li>• Check the settings of the ALARM connector.</li> </ul>	Refer to p. 84.
	<ul style="list-style-type: none"> <li>• Check if the operation mode is set to ALARM (alarm mode).</li> </ul>	Refer to p. 97.
"VIDEO LOSS" appears on the monitor.	<ul style="list-style-type: none"> <li>• Check the camera connections.</li> </ul>	Refer to p. 67.
	<ul style="list-style-type: none"> <li>• If the camera connections are proper, refer to the dealer. Cable wires may be snapped or the unit may have trouble.</li> </ul>	-
"THERMAL" appears on the monitor.	<ul style="list-style-type: none"> <li>• Check if the ambient operating temperature is between +5 °C and +45 °C.</li> <li>• When the inside of unit exceeds 45 °C, "THERMAL" may appear even within the ambient temperature mentioned above.</li> <li>• If "THERMAL" frequently appear on monitors, refer to the dealer. The unit may have trouble.</li> </ul>	Refer to p. 6 and 14.
The clock does not keep correct time.	<ul style="list-style-type: none"> <li>• Check if the built-in backup battery has been charged enough. If not so, supply power to the unit for 48 hours or more to recharge the battery.</li> </ul>	Refer to p. 6.
	<ul style="list-style-type: none"> <li>• Check if the built-in backup battery has been worn out. The battery can endure for approx. 5 years. (The endurance may differ depending on conditions.)</li> </ul>	Refer to p. 6.
When you power on the unit, HDD DISK MENU will be displayed.	<ul style="list-style-type: none"> <li>• Check if HDDs were added or removed. If so, the HDD DISK MENU will be displayed automatically.</li> </ul>	Refer to p. 126.
	<ul style="list-style-type: none"> <li>• If the HDD DISK MENU is displayed even though no HDDs were added or removed, Refer to the dealer. The HDD may have trouble.</li> </ul>	-

Problem	Check item/Remedy	Page
<p>The additional disk space of HDD is not displayed.</p>	<ul style="list-style-type: none"> <li>• Check if "Disk End Mode" is set to STOP.</li> </ul>	<p>Refer to p. 91 and 92.</p>
	<ul style="list-style-type: none"> <li>• Check if there is a partition in the HDD.</li> </ul>	<p>–</p>
<p>The available disk space of HDD is not displayed on the right bar.</p>	<ul style="list-style-type: none"> <li>• Check if the termination is set to STOP.</li> </ul>	<p>Refer to p. 91 and 92.</p>
	<ul style="list-style-type: none"> <li>• Check if there is a partition in the HDD.</li> </ul>	<p>–</p>
<p>Cannot establish the connection via the network.</p>	<ul style="list-style-type: none"> <li>• Check the network settings of the unit and PC.</li> </ul>	<p>Refer to the network Setup Instructions (pdf).</p>
	<ul style="list-style-type: none"> <li>• Check the host registration setting. When host authentication is set to ON, you cannot establish the connection from computers other than the PC registered as the host.</li> </ul>	<p>Refer to p. 120.</p>
<p>Response or Image update takes time.</p>	<ul style="list-style-type: none"> <li>• Check if the network is crowded.</li> </ul>	<p>–</p>

**Inspect the power cord, power plug and connectors periodically.**

<p>The power cord insulation is damaged.</p>	<ul style="list-style-type: none"> <li>• The power cord, plug and connectors are worn out. This may result in electric shock or a fire. Unplug the power plug from the AC outlet immediately, and refer to qualified service personnel.</li> </ul>
<p>The power cord, plug and connectors get hot during the use.</p>	
<p>The power cord gets heat when bent or stretched.</p>	

# SPECIFICATION

## General

Power source:	120 V AC, 60 Hz
Power consumption	85 W
Ambient operating temperature	+5 °C to +45 °C
Ambient operating humidity	Less than 90 %
Dimensions	420 mm (W) X 88 mm (H) X 350 mm (D) [16-9/16" (W) X 3-7/16" (H) X 13-3/4" (D)] (excluding rubber feet and projections)
Weight	9.5 kg (21 lbs.)

## Input/Output

Video	Video input connectors	1 V [P-P] / 75 $\Omega$ , with auto termination loop-thru, vertical timing pulse multiplexed, x8 (1 to 8 CH) (BNC) 1 V [P-P] / 75 $\Omega$ , with auto-termination loop-thru, x8 (9 to 16 CH) (BNC)
	Cascade input connector	1 V [P-P] / 75 $\Omega$ (BNC)
	Video output connectors	1 V [P-P] / 75 $\Omega$ , active loop-thru output, x8 (1 to 8 CH) (BNC)* <sup>1</sup> 1 V [P-P] / 75 $\Omega$ , active loop-thru output, x8 (9 to 16 CH) (BNC)
	Monitor output connectors	1 V [P-P] / 75 $\Omega$ , x2 (BNC)
	Monitor output connector (VGA)	RGB output, x1 (15-pin D-sub)
	S-video output connector	Y = 1 V [P-P] / 75 $\Omega$ , C=0.286 V [P-P] / 75 $\Omega$ , x1 (S-video output connector)
	Video output connector (front panel)	1 V [P-P] / 75 $\Omega$ , x1 (RCA pin)
	Audio	Audio input connectors
Audio output connectors		-10 dB, 600 $\Omega$ , unbalanced, x2 (RCA pin)
Others	Expansion connector	High-speed serial interface, 480 Mbps (theoretical value), x1
	Copy connectors	High-speed serial interface, 480 Mbps (theoretical value), x2
	Control connectors	Emergency recording input* <sup>2</sup> , additional space warning output* <sup>3</sup> (for devices connected to copy connectors), HDD trouble output* <sup>3</sup> , camera trouble output* <sup>3</sup> , trouble output* <sup>3</sup> , electricity failure recovery completion output* <sup>4</sup> , time adjust input/output* <sup>5</sup> , sequence switching input/output* <sup>5</sup> , electricity failure detection input* <sup>2</sup> , external recording mode switching* <sup>2</sup> (25-pin D-sub) , +5 V output * <sup>7</sup>
	Alarm port	1 to 8 CH alarm input* <sup>6</sup> , 1 to 16 CH alarm input* <sup>2</sup> , 1 to 16 alarm output* <sup>3</sup> , alarm recovery input* <sup>2</sup> , alarm suspension input* <sup>5</sup> (25-pin D-sub)
	RS-485 ports	RS-485 (full duplex/half duplex* <sup>8</sup> ), x2 (RJ-11)
	DATA ports	RS-485, x2 (RJ-11)
	SERIAL connector	RS-232C, x1 (9-pin D-sub)
	Ethernet port	10 Base-T/100 Base-Tx (RJ-45)

\*1 When power is not supplied, video output signal was not sent from the unit even if video input signal is supplied.

\*2 Non-voltage N.O. Contact, 100 mA, +5 V pull-up

\*3 Open collector output, maximum under conditions of 24 V DC and 100 mA or less

\*4 High (+12 V, 6.3 mA)

\*5 30 K $\Omega$ , 5 V pull-up, -100 mA, N.O. Contact

\*6 5 V pull-up, -100 mA, Non-voltage N.O. Contact input

\*7 200 mA at maximum

\*8 Changeable with the mode switch

# STANDARD ACCESSORIES

CD-ROM* .....	1
Operating Instructions (this manual) .....	1
Warranty .....	1

The following are for installation:

Power Cord .....	1
Rack Mounting Bracket .....	2
Screw for Rack Mounting Bracket .....	4
Cable Clamp .....	1
Screw for Cable Clamp .....	1
Hard Disk Drive Fixing Screw .....	4

\*The following are included on the CD-ROM:

- Viewer software
- Plug-in software
- Network Operating Instructions (pdf)
- Network Setup Operations (pdf)

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# Panasonic®

## Digital Disk Recorders

# Network Setup Instructions

Model Nos. **WJ-HD309**  
**WJ-HD316**



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





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# Preface

---

## Features

It is possible to perform the settings or operate the unit using a PC when this unit is connected to a network.

The following functions are available when using a PC via a network as well as the functions operable on the buttons on the front panel of the unit.

Refer to the Network Operating Instructions (pdf) on the provided CD-ROM for further information about the available functions.

## Downloading/transmitting images

It is possible to download (save) the currently displayed image in the web browser window onto the hard disk of a PC. By establishing an FTP server, it is possible to transmit images to the designated FTP server. When an event occurs, it is possible to transmit images from the camera installed in the place where the alarm occurred.

## Event notification function

When an event occurs, it is possible to send e-mails to designated addresses to notify of the event occurrence. It is also possible to send an e-mail with an image recorded when the event occurred.

## Host authentication

It is possible to restrict devices from operating this unit if their IP addresses are not registered.

## About these operating instructions

These operating instructions contain descriptions how to operate this unit using a PC via a network.

Refer to the provided Operating Instructions (book) for descriptions of how to operate the buttons on the front panel of the unit.

These operating instructions also contain descriptions of how to perform the required settings to operate the unit using a PC via a network and how to connect to other devices.

Refer to the Network Operating Instructions on the provided CD-ROM for descriptions of how to operate this unit from a PC.

Adobe® Reader is required to read these operating instructions (pdf) 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.

---

## System requirements for a PC

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

OS	Microsoft® Windows® 2000 Professional SP4 Microsoft® Windows® XP Professional or Home Edition SP1
Computer	IBM PC/AT Compatible
CPU	Pentium IV 1.4GHz or faster
Memory	256 MB or more
Monitor	1024 x 768 pixels or more, 16-bit HIGH color or better
Network Interface	10/100Mbps Network interface card must be installed
Web Browser	Microsoft® Internet Explorer 5.5SP2, 6.0 SP1 Other web browser are not compatible with this unit.

---

### Important

To operate this unit, the plug-in software is required to be installed. Install the plug-in software from the provided CD-ROM. Refer to “readme.txt” on the provided CD-ROM for the descriptions of how to install it.

---

## Trademarks and registered trademarks

- Adobe, Adobe logos, and Acrobat are registered trademarks of Adobe Systems Incorporated in the U.S. and/ or other countries.
- Microsoft, Windows and Windows XP are registered trademarks of Microsoft Corporation in the U.S. and/ or 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® 2000 Professional Service Pack 4 is described as Windows 2000.

Microsoft® Windows® XP is described as Windows XP.

## About notations

**Important:** Restrictions or cautions to operate respective functions.

**Note:** Tips to operate respective functions.

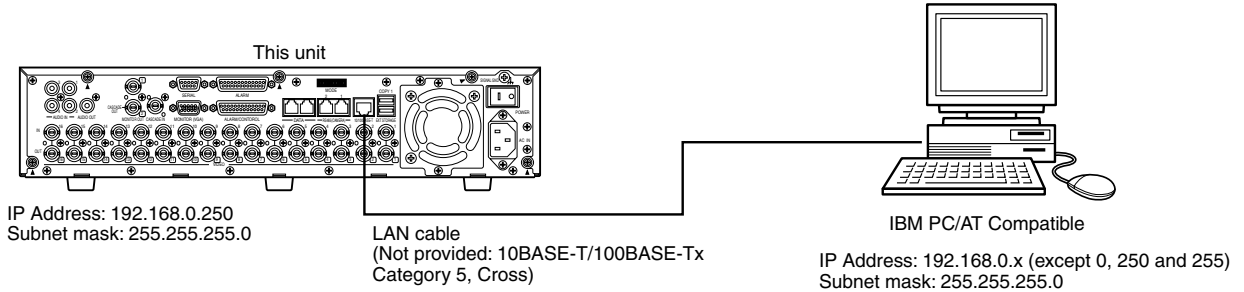
# Preparations

## Connections

When connecting this unit to a PC, the required hardware and cables are different depending on the system configuration. Prepare before starting connection.

### Connecting this unit and a PC directly.

Connecting this unit to a PC directly using a LAN cable.

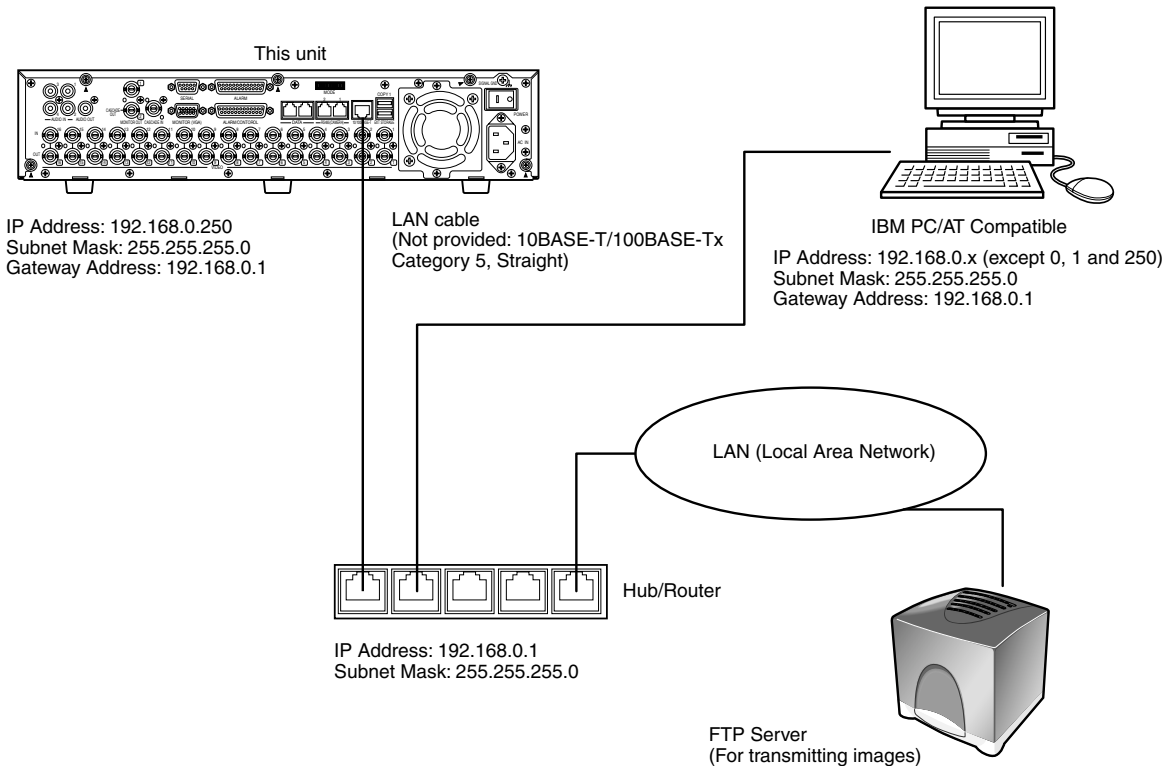


#### Important:

- Use a cross cable when connecting this unit and a PC directly (without using a hub or a router).

### Add this unit to an existing network

Connecting this unit to a PC via a hub or a router. Connecting this unit to a hub using a LAN cable.



## Performing network settings

In case of the following network environment, it is not necessary to perform network settings. It is possible to perform the settings or operate this unit using a web browser after completing the connection.

IP Address: 192.168.0.2 - 192.168.0.249, 192.168.0.251 - 192.168.0.254

Subnet Mask: 255.255.255.0

Gateway Address: 192.168.0.1

When the network settings are different from the settings above, perform the network settings of this unit and the PC.

### Performing network settings of this unit

Use the buttons on the front panel of this unit to conform to the network settings to the network environment of the PC.

Refer to the operating instructions (pdf) on the provided CD-ROM for further information about operations. Refer to the "Network Setup" section of the "Comm" menu.

### Performing network settings of a PC

Change the TCP/IP setting of the PC to conform to the setting of this unit.

It is required to set the IP address of the PC to "192.168.0.XX (a number from 2 to 254 except 250)" to access this unit.

In these operating instructions, settings are performed on Windows XP as examples. Refer to the operating instructions of the respective OS for further information.

#### Screenshot 1

Start just after the PC is started up.



#### Step 1

On the taskbar, click "Start", and then click the "Control Panel".

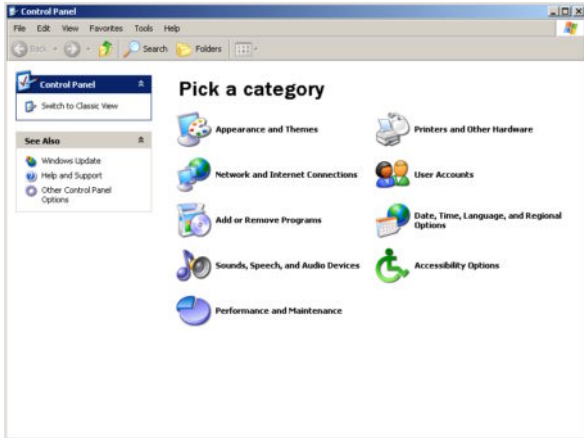
---

#### Important:

- Log in to the PC as an administrator.
-

## Screenshot 2

The control panel will be displayed.

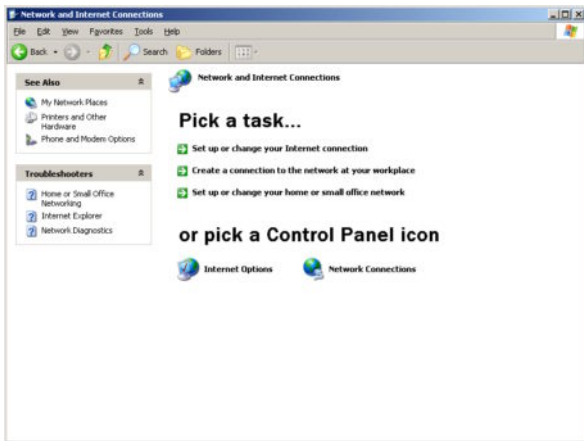


## Step 2

Click the "Network and Internet Connections" icon.

## Screenshot 3

The "Network and Internet Connections" window will be displayed.

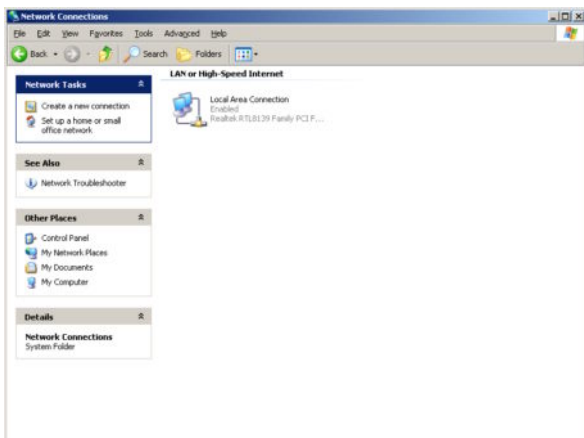


## Step 3

Click "Network Connections".

## Screenshot 4

The "Network Connections" window will be displayed.

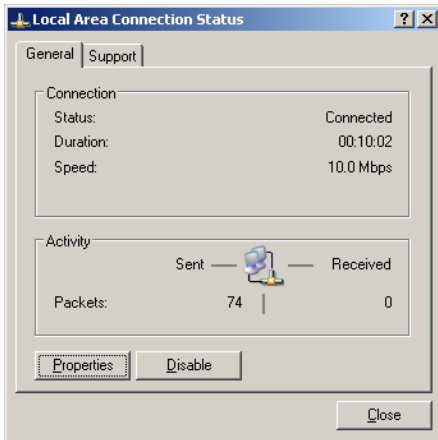


## Step 4

Double click "Local Area Connection".

### Screenshot 5

The "Properties" window of "Local Area Connection" will be displayed.

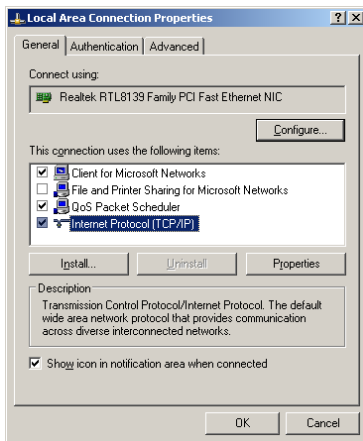


### Step 5

Click "Properties".

### Screenshot 6

The "Properties" window of "Local Area Connection" will be displayed.

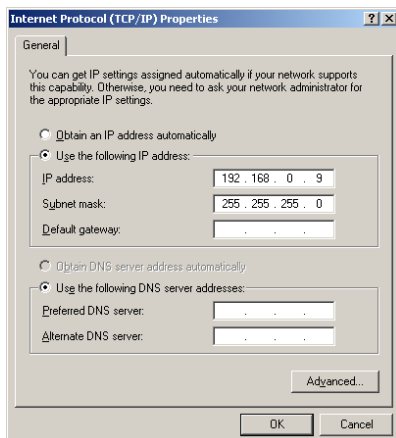


### Step 6

Click "Internet Protocol (TCP/IP)", and then click "Properties".

### Screenshot 7

The "Properties" window of "Internet Protocol (TCP/IP)" will be displayed.



### Step 7

Click "Use the following IP address" and enter the IP address and the subnet mask as follows;

- IP Address: 192.168.0.9
- Subnet Mask: 255.255.255.0

### Step 8

Click the "OK" button and close the window.

# About network security of this unit

## Equipped security functions

### ① Access restrictions by the host authentication and the user authentication

It is possible to restrict users from accessing this unit by setting the host authentication and/or the user authentication to on. (page 69)

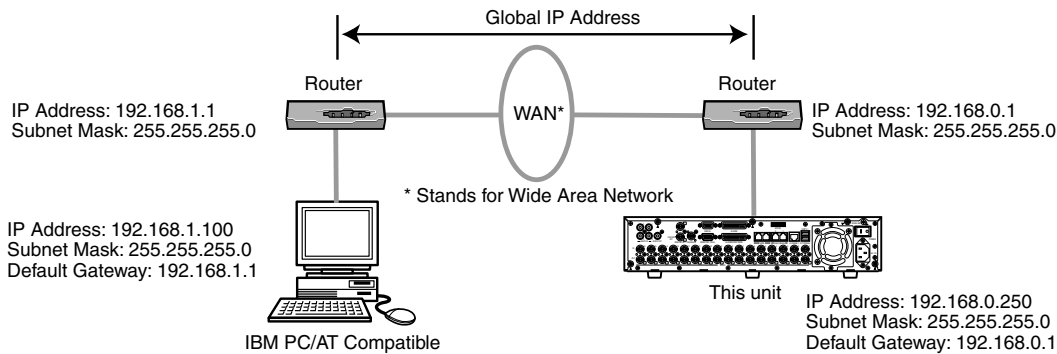
### ② Access restrictions by changing the HTTP port

It is possible to prevent illegal access such as port scanning, etc. by changing the HTTP port number. (page 69)

## For enhanced security

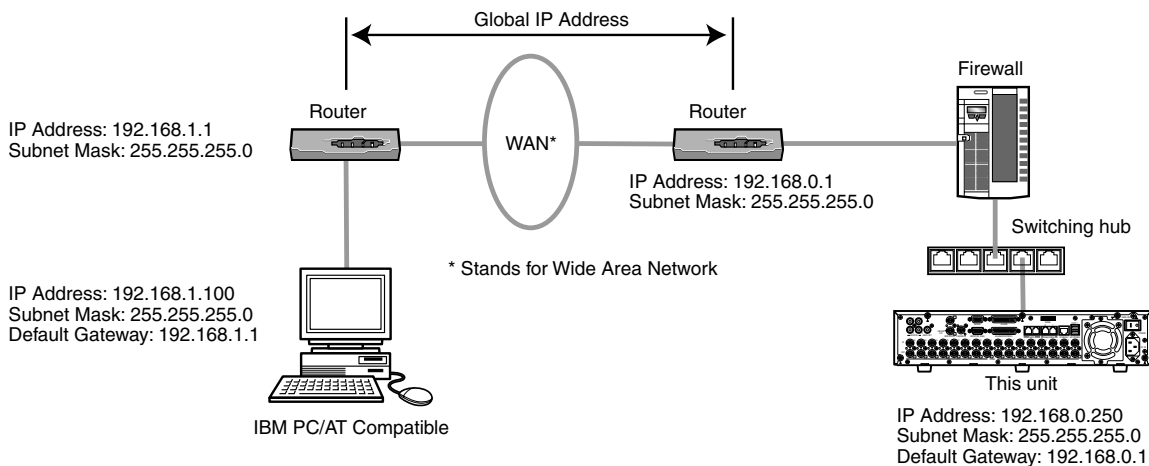
Divide the subnet using a router to enhance the network security by double authentications of IP addresses using this unit and a router.

### [Connection example]



Installing a firewall to use the packet filtering and the protocol filtering functions can better enhance the network security.

### [Connection example]





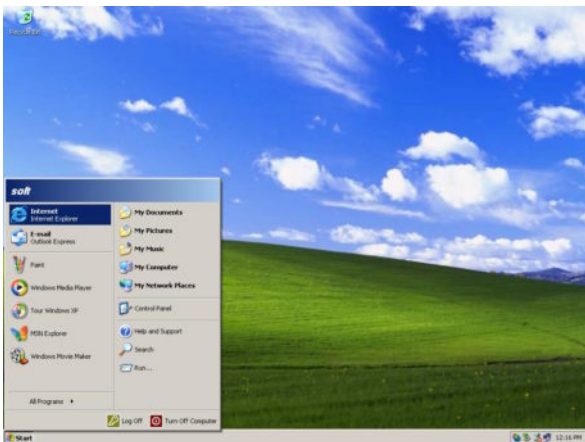
# Display the operation window

## How to display the operation window

Start up the PC and operate this unit using the installed web browser. The operation window will be displayed in the following procedure.

### Screenshot 1

Start just after the PC is started up.



### Step 1

Start up the web browser.

### Screenshot 2

The web browser will start up and the set web site will be displayed.



### Step 2

Enter the IP address set to this unit in the address box, and press the enter key.

### Important:

- Refer to a system administrator for the set IP address of this unit.
- It is impossible to access this unit from a PC without a registered IP address when "ON" is selected for "Host Authentication" on the "System" menu. Refer to a system administrator for further information.
- Do not attach "0" before the numbers when entering IP address.

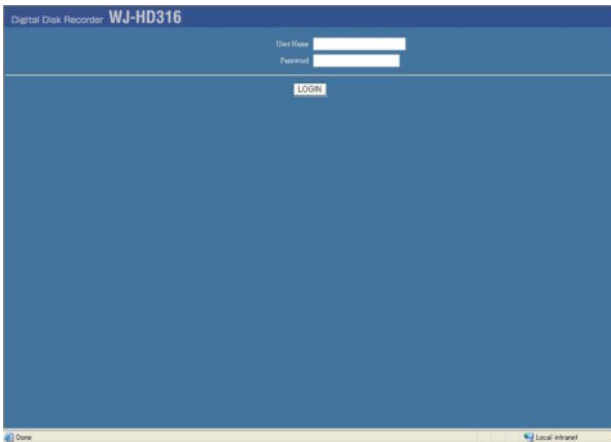
Example

Correct: 192.168.0.50

Wrong: 192.168.0.050

### Screenshot 3

The user authentication window will be displayed. This window will not be displayed when "OFF" is selected for "User Authentication" on the "System" menu.



### Step 3

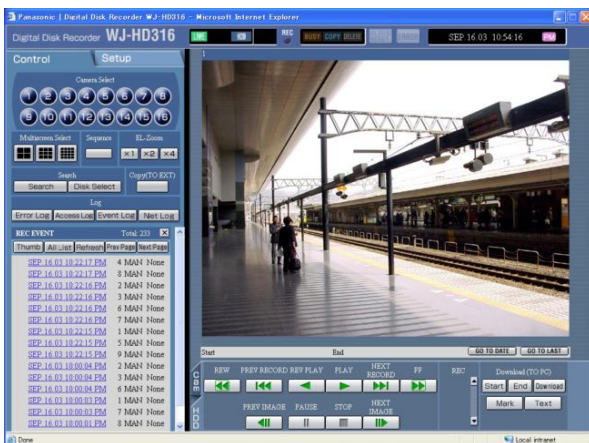
Enter the user name and password registered on this unit.

#### Important:

- Refer to a system administrator for the set user name and password.  
Refer to page 83 for the descriptions of how to register users.
- The default user name and password are as follows.  
User Name: ADMIN  
Password: 12345

### Screenshot 4

The top page will be displayed.

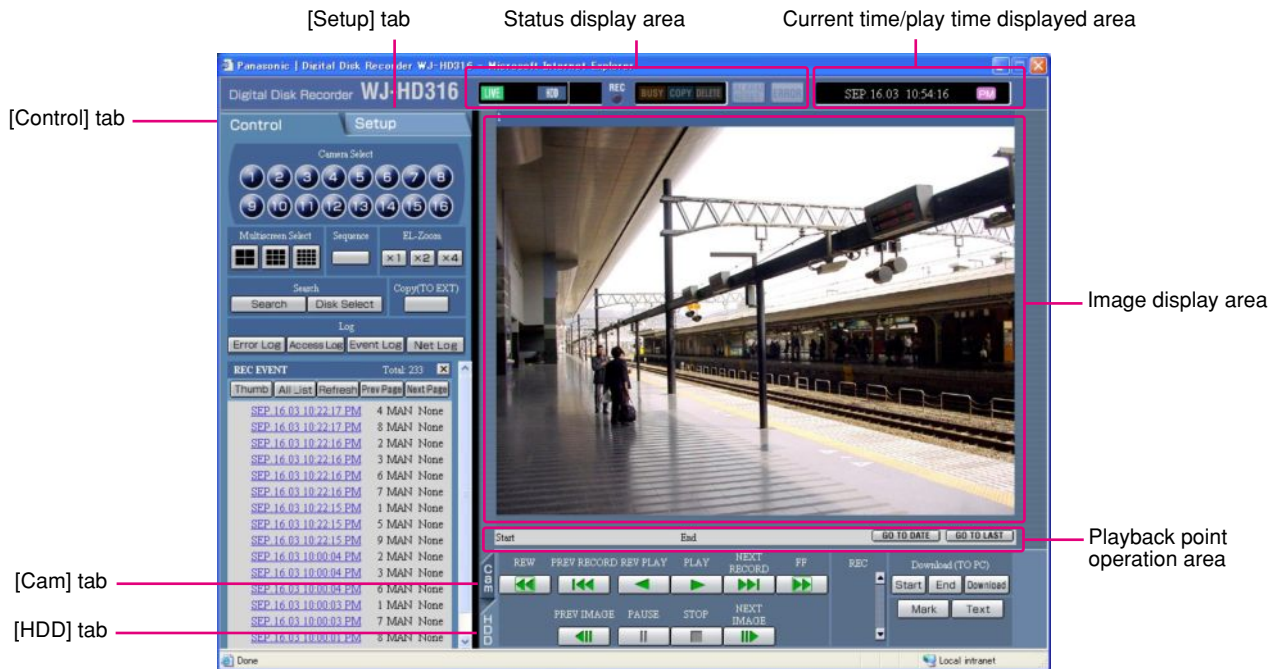


### Step 4

Click the buttons or the tabs for operations.

# About the operation window

## Top page



### [Control] tab (page 14)

The switcher functions such as switching camera channels or displaying sequentially, are operable on this page. Search results or log information will also be displayed on this page.

### [Setup] tab (page 15)

Operations for setup of this unit can be performed on this page.

### Status display area (page 16)

Current status such as playback status or recording status will be displayed.

### Current time/play time displayed area

Current time and play time will be displayed during playback.

### Image display area

Recorded images and live images will be displayed. The setup menu will be displayed while setting up.

### Playback point operation area (page 17)

It is possible to mark playback points or skip to the latest recorded image.

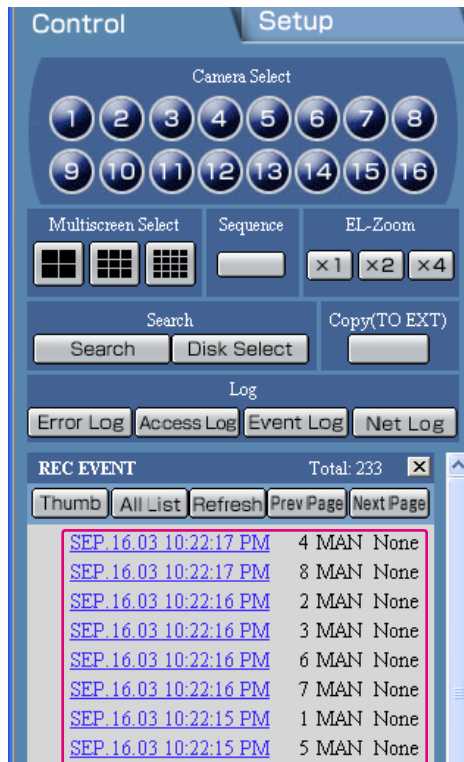
### [HDD] tab (page 17)

Operation for recorded images such as playback or downloading (saving) recorded images can be performed on this page.

### [Cam] tab (page 18)

Controlling cameras by zooming, focusing and auto panning can be performed on this page.

## [Control] tab



Log display area

### [Camera Select] buttons

Images from the selected camera channel will be displayed with a spot display on the image display area by clicking one of these buttons.

### [Multiscreen Select] box

Up to 16 camera images can be displayed simultaneously on a multi-screen.



**4-split screen button:** 4 camera images will be displayed on a 4-split screen in the following order each time this button is clicked;  
for the WJ-HD316: 1 - 4 CH → 5 - 8 CH  
→ 9 - 12 CH → 13 - 16 CH → 1 - 4 CH ...



for the WJ-HD309: 1 - 4 CH → 5 - 8 CH → 9 CH  
→ 1 - 4 CH ...

**9-split screen button:** 9 camera images will be displayed on a 9-split screen in the following order each time this button is clicked;  
For the WJ-HD316: 1 - 9 CH → 10 - 16 CH  
→ 1 - 9 CH...



**16-split screen (only for the WJ-HD316):**  
Images from 1 - 16 channels will be displayed on a 16-split screen.

### [Sequence] button

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.

### [EL-Zoom] box

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

### [Search] box

**[Search] button:** The "Search Select" pop-up window will be displayed.

Use this button to search the recorded images and play them. (Refer to the Network Operating Instructions (pdf).)

Search results will be displayed in list form in the log display area. (Refer to the Network Operating Instructions (pdf).)

**[Disk Select] button:** The "Disk Select" pop-up window will be displayed. Use this button to select a disk to be played/searched. (Refer to the Network Operating Instructions (pdf).)

### [Copy (TO EXT)] button

The copy window will be displayed by clicking this button. Use this when copying recorded images onto the copy area of the hard disk or external recording devices (DVD-RAM disk, DVD-R disk, CD-R disk) manually.

### [Log] box

**[Error Log] button:** The error logs of this unit will be displayed.

Logs will be displayed in list form in the log display area. (page 54 on Network Operating Instructions)

**[Access Log] button:** The time when logged in/out for this unit, the user name, and the IP address will be displayed. Logs will be displayed in list form in the log display area.

**[Event Log] button:** The event logs (event occurrence times and their details) will be displayed. Logs will be displayed in list form in the log display area.

**[Net Log] button:** The network error logs will be displayed. Logs will be displayed in list form in the log display area.

## [Setup] tab



---

### Important:

- When the settings are applied, all users who have logged in to this unit will be forcefully logged out.
- 

#### **Maintenance** [Maintenance] button

The menu for the settings of the hard disk will be displayed. Refer to page 24 for further information about this menu.

#### **Recording** [Recording] button

The menu for the recording settings will be displayed. Perform the basic recording settings and emergency recording with this menu. Refer to page 30 for further information about this menu.

#### **Event** [Event] button

The menu for the settings of actions at event occurrence for each event type (terminal alarm, motion detection alarm, video loss alarm and command alarm) will be displayed.

Refer to page 34 for further information about this menu.

#### **Schedule** [Schedule] button

The menu for the settings of the recording schedule (performs recording/event action by designating time and a day of the week) will be displayed.

Refer to page 41 for further information about this menu.

#### **Switcher** [Switcher] button

The menu for the image switching settings such as the sequential operation on monitors 1 and 2, or for displaying the login window will be displayed. Refer to page 51 for further information about this menu.

#### **Display** [Display] button

The menu for the display settings of the monitors 1 and 2 will be displayed. Refer to page 56 for further information about this menu.

#### **Comm** [Comm] button

The menu for the required settings to communicate with external devices will be displayed. Refer to page 60 for further information about this menu.

#### **System** [System] button

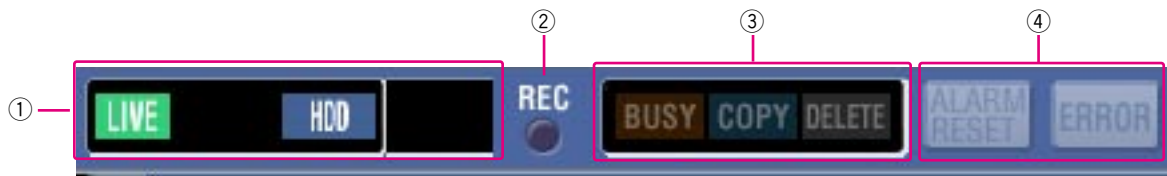
The menu for the required system settings to activate this unit will be displayed. Refer to page 78 for further information about this menu.

#### **Registration** [Registration] button

Applies the settings to this unit. Press this button to complete the setting after editing on the Setup menu.



## Status display area



### ① The status of a live/playback image will be displayed.

**LIVE** [LIVE]:

Indicates that a live image is being displayed.

**SEQ** [SEQ]:

Indicates that a live image is being displayed in the sequential display mode.

**▶** [Playback]:

Indicates that a playback image is being displayed.

**◀** [Reverse playback]:

Indicates that a reverse playback image is being displayed.

**▶▶** [Fast playback]:

Indicates that a fast playback image is being displayed.

**◀◀** [Fast reverse playback]:

Indicates that a fast reverse playback image is being displayed.

**||** [Pause]:

Indicates that a paused image is being displayed.

**HDD** [HDD]:

Indicates that playback of a recorded image stored in the normal recording area or the event recording area of the built-in hard disk of this unit is being displayed.

**COPY1** [COPY1]:

Indicates that playback of a recorded image stored in the external recording device connected to the COPY 1 connector of this unit is being displayed.

**COPY2** [COPY2]:

Indicates that playback of a recorded image stored in the external recording device connected to the COPY 2 connector of this unit is being displayed.

**FILTERING** [FILTERING]:

Indicates that the recording event list/thumbnail is filtered.

Refer to the provided operating instructions for further information about filtering of recording event list.

**Step 1 – Step 7** [STEP1] – [STEP7]:

Indicates the playback speed.

STEP1: Normal playback speed

STEP2: Approx. 4x playback speed

STEP3: Approx. 8x playback speed

STEP4: Approx. 16x playback speed

STEP5: Approx. 32x playback speed

STEP6: Approx. 48x playback speed

STEP7: Approx. 96x playback speed

### ② REC indicator

The status of recording will be displayed.

When lit red:

Indicates that recording is being performed.

When not lit:

Indicates that recording is not being performed.

### ③ Indicates the following statuses:

**BUSY** [BUSY]:

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

**COPY** [COPY]:

Indicates that copying is being performed.

**DELETE** [DELETE]:

Indicates that deletion of a recorded image is being performed.

### ④ Indicates information about events and errors.

**ALARM RESET** [ALARM RESET]:

Indicates an event occurrence.

The alarm display action will be canceled by clicking this button. (Refer to the Network Operating Instructions (pdf).)

**ERROR** [ERROR]:

Indicates an error occurrence.

Refer to the provided operating instructions for further information about error action.

## Playback point operation area



- ① Indicates the start time and the end time of a download. (Refer to the Network Operating Instructions (pdf).)
- ② **[GO TO DATE] [GO TO DATE] button**  
Indicates the time and date of a marked point. Use this button to designate a desired time and date of a recorded image to be played. (Refer to the Network Operating Instructions (pdf).)
- ③ **[GO TO LAST] [GO TO LAST] button**  
Skips to the latest recorded time of a recorded image from the currently displayed camera channel and plays it.

## [HDD] tab



### **[REW] button**

Fast reverse playback will be performed. Playback speed for the 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)

### **[PREV RECORD] button**

Skips to the previous recorded image and plays it.

### **[REV PLAY] button**

Reverse playback of a recorded image will be performed.

### **[PLAY] button**

Playback of a recorded image will be performed.

### **[NEXT RECORD] button**

Skips to the next recorded image and plays it.

### **[FF] button**

Fast playback will be performed. Playback speed for the 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)

### **[PREV IMAGE] button**

The previous frame will be displayed when this button is clicked during pausing.

### **[PAUSE] button**

The playback will be stopped when this button is clicked during playback. The playback will be resumed when this button is clicked during pausing.


### **[STOP] button**


Stops playback and displays a live image.

### **[NEXT IMAGE] button**

The next frame will be displayed when this button is clicked during pausing.

### [REC] box


The recording button and the recording stop button will be displayed when the  button is clicked.

Displaying the recording button and the recording stop button will be unavailable when the  button is clicked.

 **[Recording] button:** Starts manual recording.



 **[Stop recording] button:** Stops manual recording.

### Notes

- It is possible to switch between all channels or the channel currently displayed in the web browser window to be selected for manual recording by performing the settings.
- To display the [Recording] button and the [Stop recording] button, press down the  button until they are displayed.

### [Download (TO PC)] box

Downloads the currently played image to a PC.

Sets the time range of a desired image to be downloaded by clicking the  [Start] button and the  [End]



### [Cam] tab



### [Zoom] box

Zooming can be adjusted by clicking the  [Wide] button or the  [Tele] button.



### [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.


### [Autopan] box

Pans a camera automatically from the start point to the end point registered in advance.

The auto panning function can be performed by clicking the  [ON] button. The auto panning function can be stopped by clicking the  [OFF] button.

[End] button.

The start time and the end time for download will be displayed in the playback position display area.

The dialog window for saving an image to be downloaded onto a designated location will be displayed by clicking the  [Download] button.

### [Viewer] button

The viewer software can be downloaded by clicking this button. (Refer to the Network Operating Instructions (pdf).)

### [Mark] button

Mark by clicking this button during playback. When marked, playback after searching for the marked point is available. (Refer to the Network Operating Instructions (pdf).)

### [Text] button

The attached text information will be displayed when this button is clicked during pausing.



It is possible to edit the displayed text information.

### Control pad



Clicking the buttons around the control pad can move (pan/tilt) a camera in the clicked direction.

Clicking inside the control pad also can adjust the vertical/horizontal position (pan/tilt) of the displayed image. Panning/tilting speed will be faster if a clicked point gets farther from the center point of the control pad.

### [Iris] box

Iris can be adjusted by clicking the  [Close] button or the  [Open] button.

### [Preset] box

Moves a camera to the preset position registered in advance. Click the  [SET] button after selecting a preset number by clicking the  button. Registering preset positions is required to perform the preset function.



# Setup

Performing each setting item on the setup menu should be completed in advance to operate this unit. Each setting item on the setup menu can be performed on the setup page. Setting the following items are available on this page.

## SETUP MENU chart

Setup menu	Description	Page
<b>Maintenance</b>		
REC Rate Status	Recording rate in each recording mode and image quality for each camera channel will be displayed in list form.	24
Disk Information	Hard disk information such as available capacity of the built-in hard disk or an extension unit will be displayed.	25
Version Information	Version information of the software and hardware, and MAC address will be displayed.	26
Disk End Mode	Perform the settings for action when running out of hard disk space.	27
Disk Capacity	If the available hard disk/external recording device capacity reaches a specified level, a warning will be displayed.	28
Data Delete	Data on the hard disk/external recording device will be deleted. The DVD-RAM disk connected to the copy port on the rear panel of this unit will be formatted (initialized).	29
<b>Recording</b>		
Recording Setup	Basic recording setup can be performed with this menu.	30
Emergency REC	Settings for emergency recording such as recording time and recording rate can be performed on this menu.	32
<b>Event</b>		
Event Setup	Settings for event action can be performed with this menu.	34
VMD Setup	The motion detection area, sensitivity and detection mode can be performed for each camera channel.	36
Alarm Setup	Settings for duration of alarm display and alarm mask can be performed with this menu.	39
Terminal Setup	The alarm terminal polarity can be set with this menu.	40
<b>Schedule</b>		
REC PROG	Create recording programs on this menu. Up to 4 programs can be created. Settings for recording actions such as image quality or recording rate for each camera channels can be performed for each program with this menu.	41
EVT PROG	Create event programs. Up to 4 programs can be created. Settings for action mode and camera action can be performed for each event type.	44

<b>Setup menu</b>	<b>Description</b>	<b>Page</b>
<b>Schedule</b>		
Time Table	Make timetables of operation for each day of the week, and assign recording action programs and event action programs to each timetable.	47
Special Days	Assign timetables for special days apart from other days of the week.	50
<b>Switcher</b>		
Monitor 1	Settings for the image switching such as the sequential operation or for displaying the login window on monitor 1 can be performed.	51
Monitor 2	Settings for the image switching such as the sequential operation or for displaying the login window on monitor 2 can be performed.	53
Network	Settings for the image switching of the PC monitor connected to this unit via a network can be performed.	54
<b>Display</b>		
OSD Setup	Settings for displaying the display position of the camera title or time can be performed.	56
Monitor 1	Perform the display settings for the monitor 1 such as time display, camera title display and alarm display.	58
Monitor 2	Perform the display settings for the monitor 2 such as task bar style, time display position and camera title display.	59
<b>Comm</b>		
Camera Control	Communication method to control cameras for each camera channel can be performed.	60
PS.Data Setup	Settings for PS·Data can be performed. Set this item when connecting an external device such as a controller to the DATA port on the rear panel.	62
RS485 Setup	Settings for RS485 can be performed. Set this item when connecting a camera to the RS485 port on the rear panel.	64
RS232C Setup	Settings for SERIAL (RS232C) can be performed. Set this item when connecting a PC to the serial terminal on the rear panel.	66
Network Setup 1	Settings for a network can be performed. Set this item when operating this unit via a network such as LAN. User authentication and host authentication can be set with the network basic settings.	68
Network Setup 2	Settings for a network connection such as settings of the IP address and gateway address can be performed. Set this item when operating this unit via a network such as a LAN.	70

<b>Setup menu</b>	<b>Description</b>	<b>Page</b>
Network SNMP Setup	Settings for SNMP can be performed. Set this item to check the status of the server by connecting to the SNMP server.	72
Network NTP Setup	Set this item when adjustment of time is required to be set with the NTP server such as when setting the NTP server address or time zones.	73
Network FTP Setup	Settings for the FTP server can be performed. Settings for transmitting images from a camera connected to this unit to a designated FTP server periodically can be performed with the Network FTP Setup menu.	74
Network Mail Setup	Set this item to send e-mails to addresses registered in advance at an event occurrence.	76
<b>System</b>		
Basic Setup	Settings for basic operations of this unit can be performed.	78
Time & Date Setup	Settings for the current time and for displaying time & date can be performed.	81
User Registration	Set this item for user registration and user authentication. User name, password and operational level can be set.	83
User Edit/Delete	Correction or deletion of user information can be performed.	85
Host Registration	Set this item for the host authentication by registering PCs (hosts) allowed to access this unit via a network. Operational levels and IP addresses of PCs can be set.	86
Host Edit/Delete	Correction or deletion of host information can be performed.	88
User Level Setup	Functions operable in each user level can be set.	89
Save/Load	Contents of settings for this unit will be saved or loaded.	91

# Basic operation with the [Setup] Tab

## [Screenshot 1]

Start operation after the top menu is displayed.

## [STEP 1]

Click the [Setup] tab.

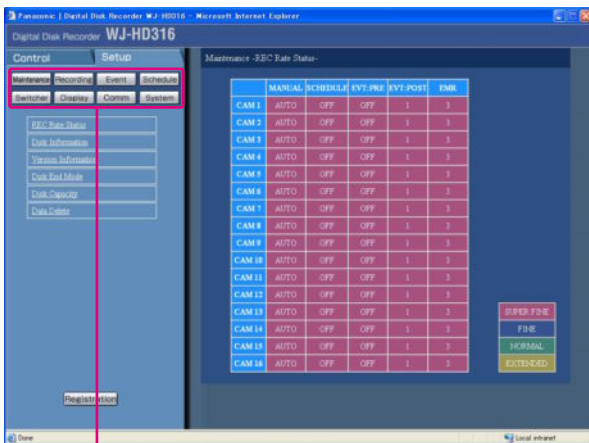


## [Screenshot 2]

The [Setup] tab will be displayed.

## [STEP 2]

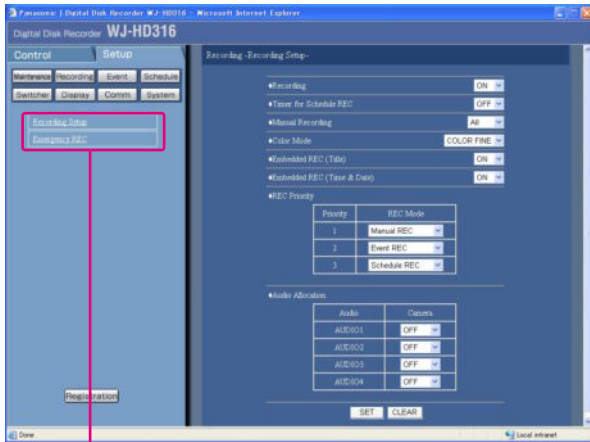
Click a button on the [Setup] tab.



Main menu

### [Screenshot 3]

The submenus respective to the clicked button on the [Setup] tab will be displayed.



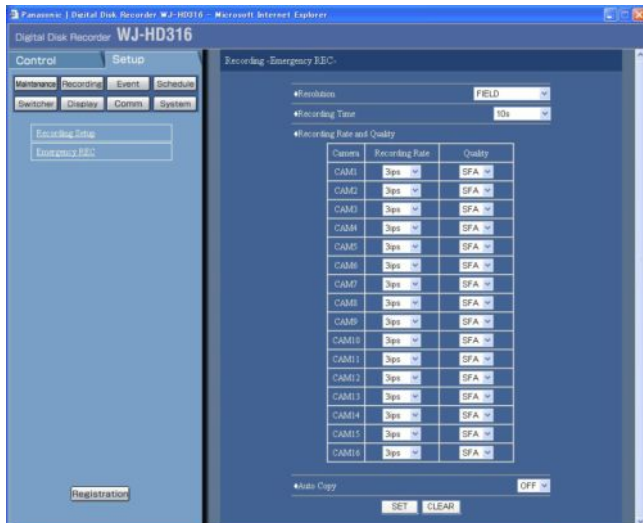
Submenu

### [STEP 3]

Click the desired submenu on the [Setup] tab.

### [Screenshot 4]

The setting page of the selected submenu will be displayed in the image display area.



### [STEP 4]

Perform the settings for each item.

Click the [SET] button after completing the settings.

When the [CLEAR] button is clicked, the content of the setting will be cleared.

### [STEP 5]

To complete the setting menu, click the [Registration] button.

The setting will be applied.

### Important:

- If the settings are changed, all login users will be forcefully logged out.
- The setting will not be applied by clicking the [SET] button in step 4 yet. To apply the setting, click the [Registration] button on the [Setup] tab.

# Settings for maintenance [Maintenance]

Settings for the hard disk can be performed. Checking the recording rate or image quality for each camera channel is available.

## Confirmation of recording rate and image quality for each camera channel [REC Rate Status]

Recording rate in each recording mode for each camera channel will be displayed in list form.

### Screenshot 1

Start operation after the submenu of the maintenance menu is displayed by clicking the [Maintenance] button in the [Setup] tab. (page 15)



### Step 1

Click "Recording rate list".

### Screenshot 2

The "Emergency recording rate list" screen will be displayed.



### Step 2

Recording rate in each recording mode (shown below) for each camera channel will be displayed in list form. Numbers on the table indicate the current recording rate (ips).

- MANU: Manual recording
- SCHE: Scheduled recording
- PRE EVT: Pre-event recording
- POST EVT: Post-event recording
- EMR: Emergency recording
- SUPER FINE: Top quality (SFA/SFB)
- FINE: High quality (FQA/FQB)
- NORMAL: Standard (NQA/NQB)
- EXTENDED: Low quality (EXA/EXB)

## Confirmation of available hard disk space [Disk Information]

Available disk space for the following disks will be displayed: built-in hard disk (normal recording area, event recording area and copy area), extension unit (EXT1 - 7), DVD-RAM disk, CD-R disk or DVD-R disk connected to the copy port on the rear panel (COPY1 and COPY2). Refer to the network operating instructions on the provided CD-ROM for further information about the built-in hard disk of this unit.

Settings for hard disk warning time (hour meter) can be performed with this menu.

### Screenshot 1

Start operation after the submenu of the maintenance menu is displayed by clicking the [Maintenance] button in the [Setup] tab. (page 15)

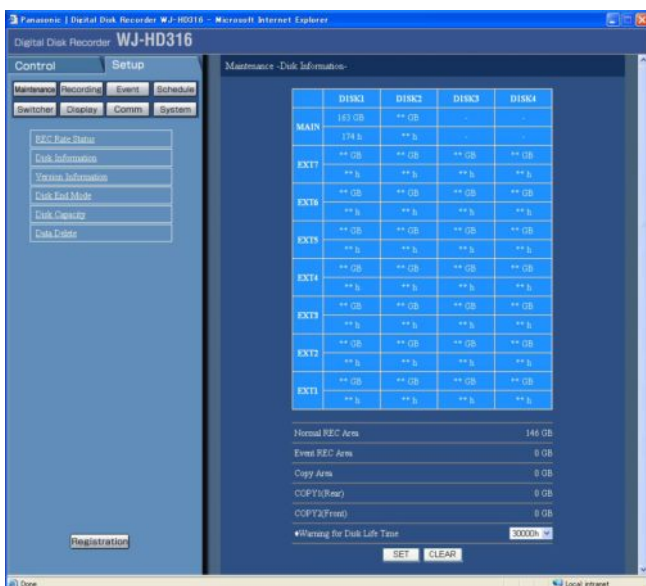


### Step 1

Click "Disk Information".

### Screenshot 2

The "Disk Information" menu will be displayed.



### Step 2

Available disk space for each hard disk will be displayed.

### Note:

- The displayed available disk space on this menu will not include the space required for data management. Therefore, the understated available disk space will be displayed.

The following settings are also available on this menu.

### Warning for Disk Life Time

Select hard disk warning time from the following.  
10000 h/20000 h/30000 h

### Step 3

Click the [SET] button after completing the settings.

## Confirmation of version information [Version Information]

Version information of the software and hardware will be displayed.

### Screenshot 1

Start operation after the submenu of the maintenance menu is displayed by clicking the [Maintenance] button in the [Setup] tab. (page 15)

### Step 1

Click "Version information".

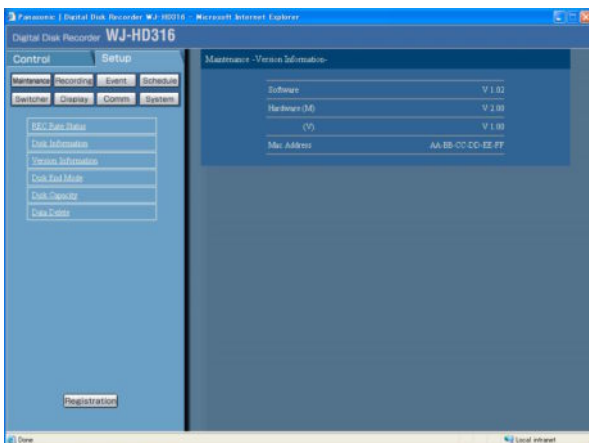


### Screenshot 2

The "Version information" menu will be displayed.

### Step 2

Version information of the software and hardware, and MAC address will be displayed.





## Settings for actions when the available hard disk space is running out [Disk End Mode]

Settings for actions (overwrite/stop recording) when the available disk space of the built-in hard disk (normal recording area, event recording area and copy area), DVD-RAM disk, CD-R disk or DVD-R disk connected to the copy port on the rear panel (COPY 1 and COPY 2) has run out can be performed.

### Screenshot 1

Start operation after the submenu of the maintenance menu is displayed by clicking the [Maintenance] button in the [Setup] tab. (page 15)

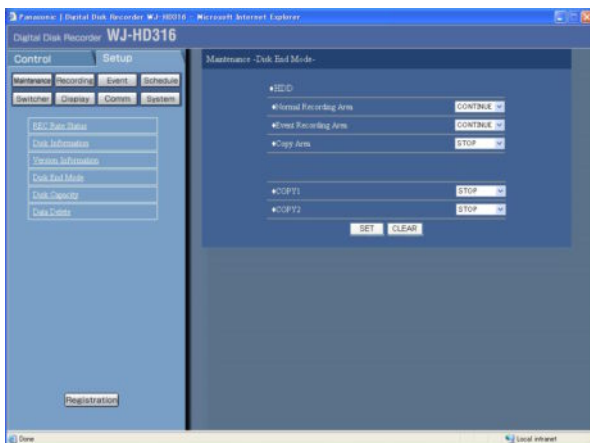


### Step 1

Click "Disk End Mode".

### Screenshot 2

The "Disk End Mode" menu will be displayed.



### Step 2

Perform the settings for the warning action when available disk space of each area or an external recording device has run out by clicking the [√] button.

**CONTINUE:** The oldest data will be overwritten and saved as new data when available space has run out.

**STOP:** Stops recording and copying when available space has run out.

### Step 3

Click the [SET] button after completing the settings.

## Warning settings for available hard disk space [Disk Capacity]

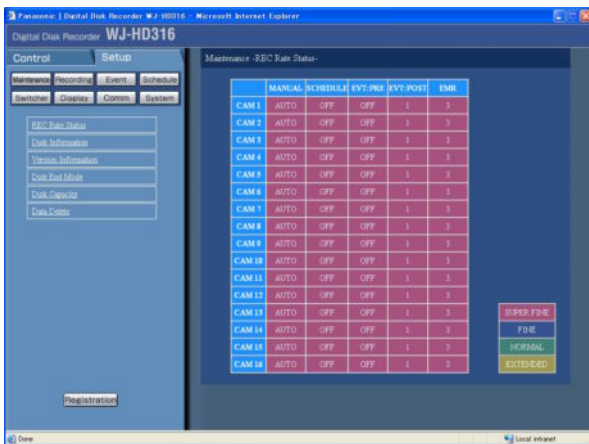
Performing the settings for the warning action should be done when each available space of the built-in hard disk (normal recording area, event recording area, copy area), DVD-RAM disk, CD-R disk or DVD-R disk connected to the copy port on the rear panel (COPY 1 and COPY 2) reaches the set level.

### Important:

When "CONTINUE" is selected, a warning will not be issued.

### Screenshot 1

Start operation after the submenu of the maintenance menu is displayed by clicking the [Maintenance] button in the [Setup] tab. (page 15)

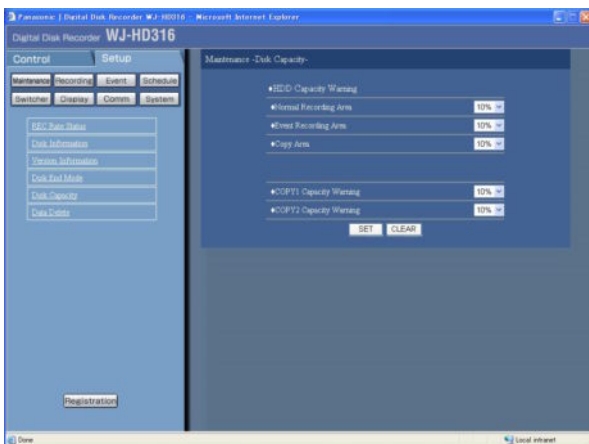


### Step 1

Click "Disk Capacity".

### Screenshot 2

The "Disk Capacity" menu will be displayed.



### Step 2

Perform the settings for the warning action when available disk space of each area or an external recording device has run out by clicking the [✓] button. 1% to 10% can be set for this item in 1% intervals. When OFF is selected, the warning action will not be performed.

### Step 3

Click the [SET] button after completing the settings.

### Note:

- When "CONTINUE" is selected for the recording area on the "Disk End Mode" menu, the warning action will not be performed.

## Deletion of image data on the hard disk [Data Delete]

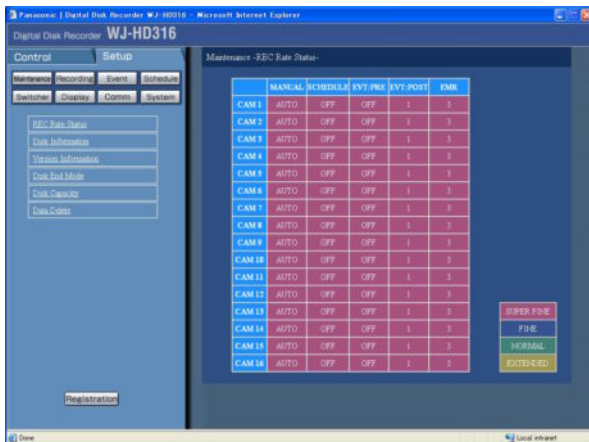
Image data on the built-in hard disk will be deleted.

The two ways to delete data are auto deletion and manual deletion.

Initialization (format) of a DVD-RAM disk can be also performed on this menu.

### Screenshot 1

Start operation after the submenu of the maintenance menu is displayed by clicking the [Maintenance] button in the [Setup] tab. (page 15)



### Step 1

Click "Data Delete".

### Step 2

Delete data in the following ways.

#### ■ HDD Auto Delete

Perform the settings to delete image data automatically when the set days have passed the day the images were recorded.

The following days can be set. When OFF is selected, auto deletion will not be performed.

OFF/1 DAYS/2 DAYS/3 DAYS/4 DAYS/5 DAYS/  
6 DAYS/7 DAYS/8 DAYS/9 DAYS/10 DAYS/  
14 DAYS/30 DAYS/45 DAYS/60 DAYS/90 DAYS/  
120 DAYS/150 DAYS/180 DAYS

#### ■ Manual Delete for Normal Recording Area

By setting the time and date, images in the normal recording area of the hard disk that were recorded up until a day before the set time and date will be deleted. Enter a 4-digit number for the year when entering the time and date.

#### ■ Manual Delete for Event Recording Area

By setting the time and date, images in the event recording area of the hard disk that were recorded up until a day before the set time and date will be deleted. Click the [DELETE] button after setting a date.

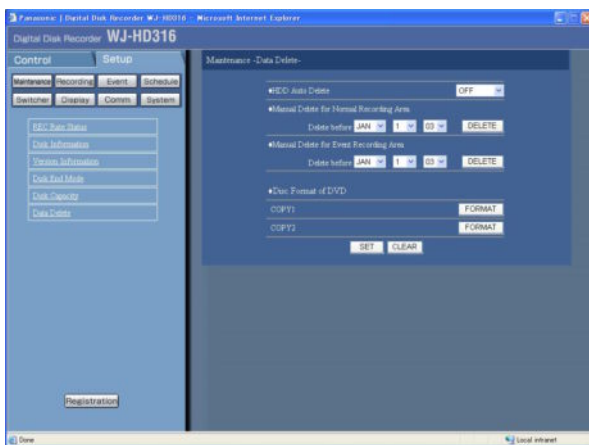
Formatting (initialization) of DVD is also available with this menu.

#### ■ Disk Format of DVD

Initialize a DVD-RAM disk connected to the copy port on the rear panel (COPY 1 and COPY 2) by clicking the [FORMAT] button.

### Screenshot 2

The "Data Delete" menu will be displayed.



# Functions for recording [Recording]

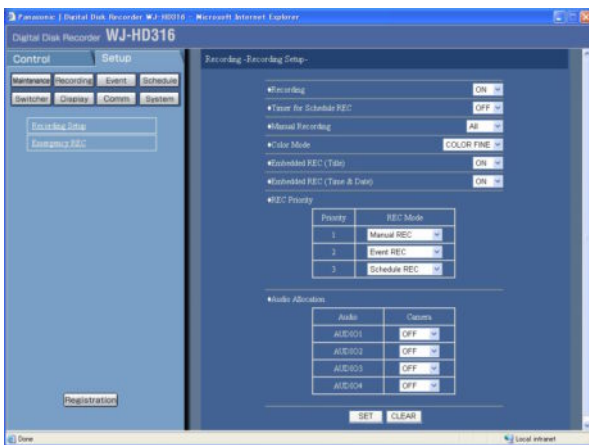
Perform the settings for recording. Perform the basic settings for recording and the settings for emergency recording.

## Basic settings for recording [Recording Setup]

Perform the basic settings for recording.

### Screenshot 1

Start operation after the submenu of the recording menu is displayed by clicking the [Recording] button in the [Setup] tab. (page 15)

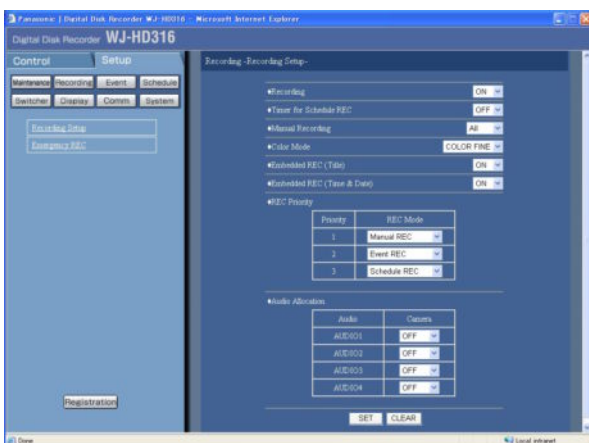


### Step 1

Click "Recording setup".

### Screenshot 2

The "Recording setup" menu will be displayed.



### Step 2

Perform the settings for each item. Refer to page 31 for further information about the settings for each item.

### Step 3

Click the [SET] button after completing the settings.

## Setup Item

### ■ Recording

Select ON or OFF to record or not record.

ON: Recording will be performed.

OFF: No recording will be performed.

---

**Important:**

- When OFF is selected for this setting, no recordings will be performed. Select ON for normal use except when required to stop recording forcefully such as when trouble occurred with the unit.
- 

### ■ Timer for Schedule REC

Select ON or OFF to determine whether or not to start recording when the power is turned on by the connected external timer (or the switch).

ON: Manual recording will start automatically after completing the system check.

OFF: Manual recording will not start automatically after completing the system check.

---

**Important:**

- When ON is selected for this item, manual recording will start automatically at startup.
- 

### ■ Manual Recording

Select a camera channel for manual recording from the following. Refer to the provided operating instructions for further information about manual recording.

MON2: Images from the camera channel currently displayed on monitor 2 will be recorded.

ALL: Images from all the camera channels will be recorded.

---

**Important:**

- The unit records images from all camera channels when displaying images in the sequential display mode or live image even though MON2 is selected.
- 

### ■ Color Mode

Set the color mode for recording.

COLOR FINE: Records images in high resolution color.

COLOR STD: Records images in color.

B/W: Records images in black and white.

### ■ Embedded REC (Title)

Select ON or OFF to determine whether or not to record a displayed camera title together as a part of the recorded image.

ON: Record camera titles together as a part of the recorded image.

OFF: Does not record camera titles.

### ■ Embedded REC (Time & Date)

Select ON or OFF to determine whether or not to record the displayed time and date together.

ON: Record the time and date together as a part of the recorded image.

OFF: Does not record the time and date.

---

**Important:**

It is possible to select ON or OFF to determine whether or not to display the camera title or the time and date recorded together with the images, even though OFF is selected for "Embedded REC (Title)" or "Embedded REC (Time & Date)" respectively. When ON is selected for "Embedded REC (Title)" or "Embedded REC (Time & Date)" respectively, it is impossible to hide the camera title and the time and date.

---

### ■ REC Priority

Assigns priorities to recording modes. Assigns priorities (1 - 3) to each recording mode.

Refer to the provided operating instructions for further information about each recording mode.

### ■ Audio Allocation

Allocates audio from the audio input connectors (1 - 4) on the rear panel of the unit to camera channels.

Allocate audio in accordance with channels of connected cameras. When OFF is selected, audio will not be heard.

---

**Important:**

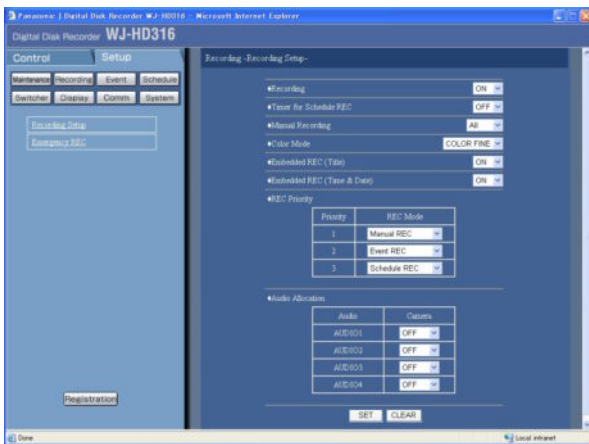
- Audio will not be heard when operating the unit using a PC via a network.
  - Audio will be recorded regardless of whether you are displaying on a single screen or a multi-screen.
-

## Settings for emergency recording [Emergency REC]

Perform the settings for emergency recording such as recording time or recording rate. Refer to the provided operating instructions for further information about emergency recording.

### Screenshot 1

Start operation after the submenu of the recording menu is displayed by clicking the [Recording] button in the [Setup] tab. (page 15)

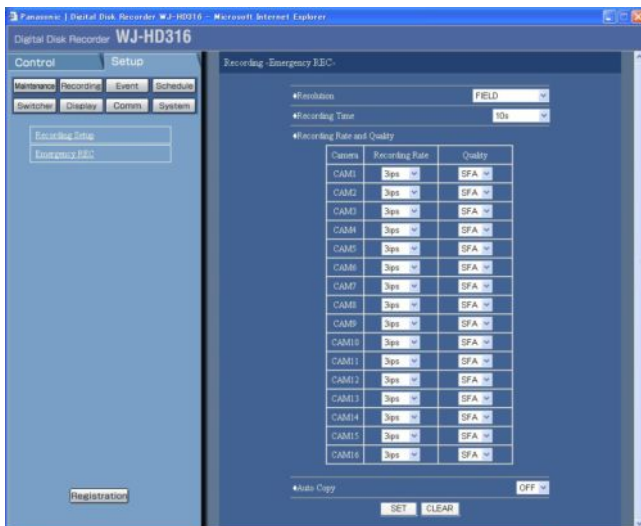


### Step 1

Click "Emergency REC".

### Screenshot 2

The "Emergency REC" menu will be displayed.



### Step 2

Perform the settings for each item. Refer to page 33 for further information about the settings for each item.

### Step 3

Click the [SET] button after completing the settings.

## Setup Item

### ■ Resolution

Select a resolution for emergency recording from the following.

**FRAME 3D ON:** High resolution (720 x 480) with the motion blur compensation

**FRAME 3D OFF:** High resolution (720 x 480)

**FIELD:** Standard resolution (720 x 480)

**SIF:** Low resolution (360 x 240)

### ■ Recording Time

Perform the settings for emergency recording such as recording time and recording actions.

The following are available for recording time.

1 s - 10 s (in 1 second intervals)

20 s/30 s/1 m - 10 m (in 1 minute intervals)

20 m/30 m/40 m/50 m/60 m

**MANUAL:** Recording will continue while the external switch is being held down.

**CONTINUE:** Recording will not stop until the [ALARM RESET] button on the front panel of the unit is pressed.

### ■ Recording Rate and Quality

Perform the settings for emergency recording for each camera channel such as recording rate or image quality.

The following are available for recording rate. When OFF is selected for a specified camera channel, images from a camera channel set to OFF will not be recorded.  
OFF/1 ips/2 ips/3 ips/5 ips/6 ips/7.5 ips/10 ips/15 ips/30 ips/60 ips

---

#### Important:

- The total recording rates of CAM 1 - CAM 10 must be less than 60 ips.
- 

The following are available for image quality.

SFA/SFB: Top quality (SUPER FINE)

FQA/FQB: High quality (FINE)

NQA/NQB: Standard quality (NORMAL)

EXA/EXB: Low quality (EXTENDED)

\*\*A is suitable for less dynamic images.

\*\*B is suitable for more dynamic images.

### ■ Auto Copy

Select ON or OFF to set whether or not to automatically copy images recorded by emergency recording onto the copy area on the built-in hard disk or DVD-RAM disk.

---

#### Important:

- When OFF is selected for "Auto copy" on "Basic setup" of "System", the auto copy function will not work after emergency recording even though ON is selected for this setting. Select "HDD", "COPY 1" or "COPY 2" for the auto copy setup.
-

# Functions for events [Event]

Perform the settings for event actions of each event type (motion detection, video loss, terminal alarm and command alarm). Refer to the provided operating instructions for further information about each event type.

## Basic settings for event actions [Event Setup]

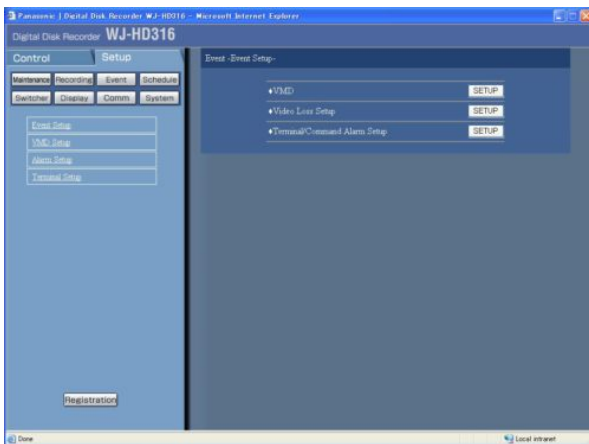
Perform the settings for event actions such as alarm output duration and buzzer duration of each camera channel for each event type (motion detection, video loss, command alarm and terminal alarm).

**Important:**

- Alarm output duration can not be set for video loss. Signals will be supplied continuously from the camera error output terminal (pin no. 17) of the ALARM/CONTROL connector on the rear panel during the period when the video signal is lost.

**Screenshot 1**

Start operation after the submenu of the event menu is displayed by clicking the [Event] button in the [Setup] tab. (page 15)



**Step 1**

Click the respective [SETUP] button for the desired event (VMD, video loss, terminal/command alarm) to be set.

**Screenshot 2**

The window for selection of the event channel/number will be displayed.



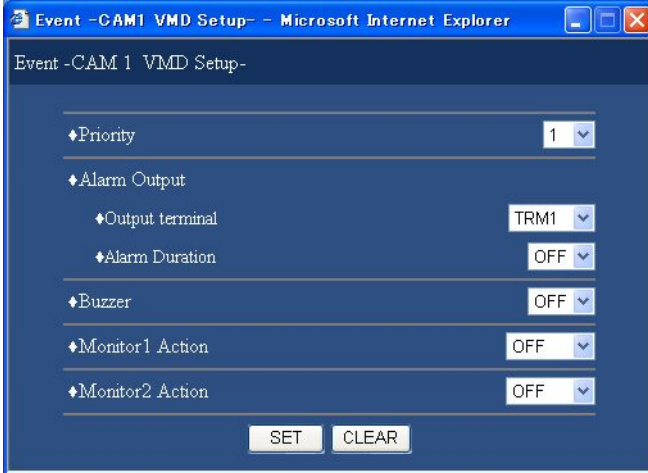
**Step 2**

Click the respective [SETUP] button for the desired channel/number to be set from the event selected at STEP 1.



### Screenshot 3

The window for the settings of the event action for each event type will be displayed.



## Setup Item

### ■ Priority

Assigns priorities to the selected event.

The camera will move to a preset position at an event occurrence if "Follow the priority" is selected for "Priority" of "System" menu or if the priority of the event is set to the same priority level or higher than the priority level of the user who is controlling the camera.

### ■ Alarm Output

Perform the settings for alarm output such as on/off to supply the alarm signal from a selected camera channel, selection of connectors (TRM 1 – TRM 16) from which the alarm signals are supplied, and the alarm output duration.

The following are available for alarm output duration.

**OFF:** No alarm output is supplied.

1 s - 30 s (in 1 second intervals)

/40 s/50 s/1 m/2 m/3 m/4 m/5 m

**EXT:** Alarm output will continue until the [ALARM RESET] button is pressed.

### ■ Buzzer

Select ON or OFF to set whether or not to sound the buzzer at an event occurrence. The following are available for buzzer sound duration.

**OFF:** The buzzer will not sound.

1 s - 30 s (in 1 second intervals)

/40 s/50 s/1 m/2 m/3 m/4 m/5 m

### Step 3

Perform the settings for each item.

Refer to the following for further information about the settings for each item.

### Step 4

Click the [SET] button after completing the settings.

**EXT:** Alarm output will continue until the [ALARM RESET] button in the status display area or on the front panel of the unit is pressed.

### ■ Actions work with an event occurrence on the monitor 1

Select a camera channel whose image is to be displayed on a single screen display channel whose 1 at an event occurrence. When OFF is selected, images displayed on monitor 1 will not be switched at an event occurrence.

### ■ Actions work with an event occurrence on the monitor 2

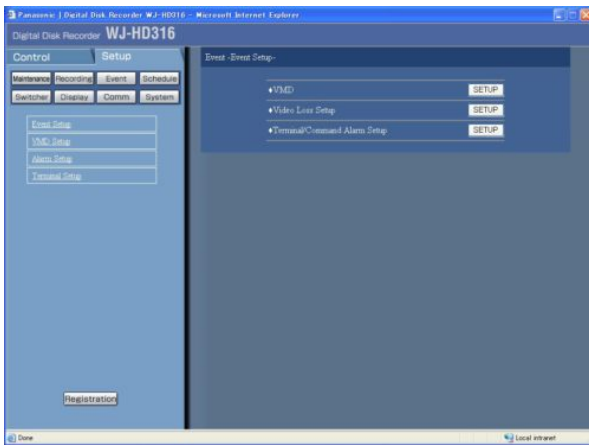
Select a camera channel whose image is to be displayed on a single screen display on monitor 2 at an event occurrence. When OFF is selected, images displayed on monitor 2 will not be switched at an event occurrence.

# Settings for the motion detection function [VMD Setup]

Perform the settings for the auto motion detection area for each camera channel. Up to 4 areas can be set for a camera channel for the detection area. Refer to the provided operating instructions for further information about the auto motion detection function.

## Screenshot 1

Start operation after the submenu of the event menu is displayed by clicking the [Event] button in the [Setup] tab. (page 15)

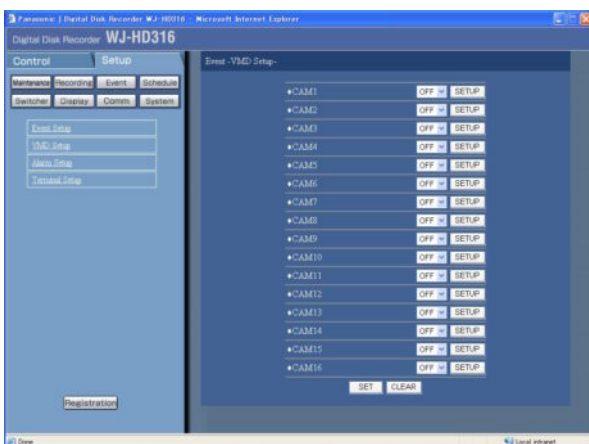


## Step 1

Click "VMD Setup".

## Screenshot 2

The "VMD Setup" menu will be displayed.



## Step 2

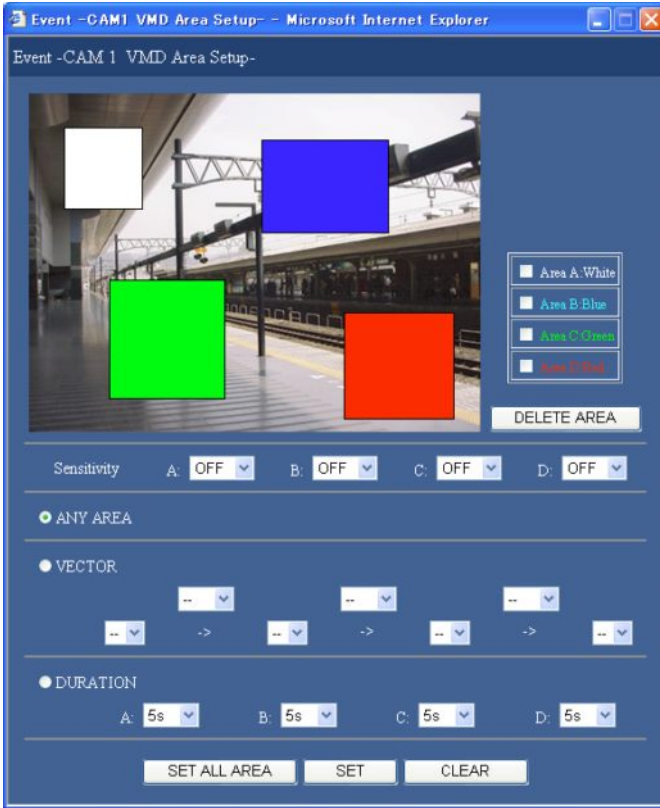
Select ON for the desired camera channels to apply the motion detection function.

## Step 3

Click the respective [SETUP] button for the desired camera channel to be set.

### Screenshot 3

The "VMD Area Setup" menu will be displayed.



### Step 4

Set the motion detection areas by dragging the mouse. Up to 4 areas (A, B, C, D) can be set for the camera channel for detection area.

- A: White
- B: Blue
- C: Green
- D: Red

Click the [SET ALL AREA] button to set all areas on the monitor as the motion detection area.

To delete a detection area, click the [DELETE AREA] button after selecting a detection area by clicking.

### Step 5

Press the [∨] button to select the sensitivity for the selected area from the following.

LOW: Low sensitivity

MID: Standard sensitivity

HIGH: High sensitivity

OFF: No motion will be detected in this area.

### Step 6

Check a check box next to a desired detection mode to select and perform the settings of the selected detection mode.

Refer to page 38 for further information about each recording mode.

#### <ANY AREA>

An event action will be performed according to the settings when "motion" is detected in any of the set motion detection areas.

#### <VECTOR>

Move the cursor to an area for the settings of VECTOR using the arrows button (∨) and rotate the jog dial to select an area. Move the cursor to the parameter box of the selected area using the arrows button (∨) to select an interval time for an object moving between each area from the following.

--/5 s/10 s/20 s/30 s/40 s/50 s/1 m

#### <DURATION>

Move the cursor to the parameter box of each area using the arrows button (∨) and rotate the jog dial to select a moving duration for an object in each area from the following.

0 s/5 s/10 s/20 s/30 s/40 s/50 s/1 m

### Step 7

Click the [SET] button after completing the settings.

## Detection mode

There are three detection modes as follows.

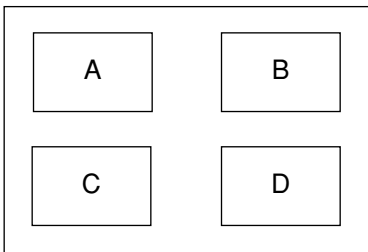
---

### Important:

- Activating two or more detection modes simultaneously is not possible.
- 

### <ANY AREA mode>

An event action will be performed according to the settings when "motion" is detected in any of the set motion detection areas.

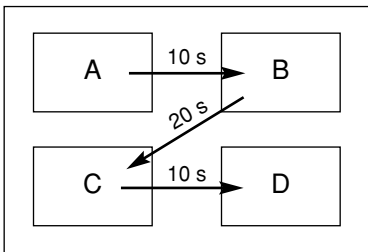


Any motion will be detected anywhere in the A, B, C, D areas.

### <VECTOR mode>

An event action will be performed according to the settings when an object moves within the set time to the other detection area in the set order.

The following is an example.



Motion is detected in area B within 10 seconds after being detected in area A.

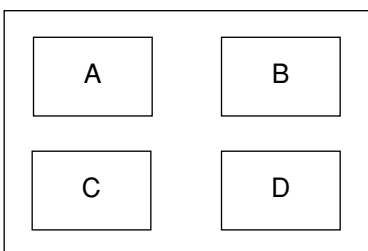
Motion is detected in area C within 20 seconds after being detected in area B.

Motion is detected in area D within 10 seconds after being detected in area C.

When all of the above have occurred, an event action will be performed.

### <DURATION mode>

An event action will be performed according to the settings when an object keeps on moving for the set period in the detection area. For example, in case of the following settings; 10 sec. for the area A and B, 20 sec. for area C and 30 sec. for area D:



## Settings for alarm display and alarm suspension [Alarm Setup]

Perform the settings for the alarm displaying duration. The alarm display will automatically disappear when the displaying duration has passed. (Alarm Auto Reset)

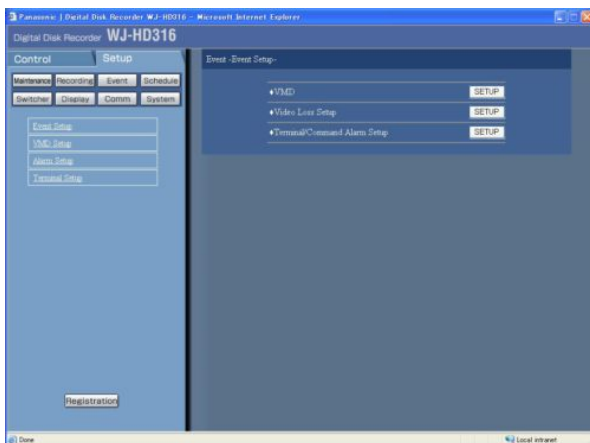
The following will be performed even if OFF is selected for the "Alarm Auto Reset".

- The ALARM indicator will stop blinking and light steadily
- The displayed event information will disappear
- The buzzer will stop beeping

Perform the settings to suspend the set duration when the same type of event (motion detection, video loss, terminal/command alarm) has occurred sequentially so that the event action will not be performed each time. (Alarm suspension)

### Screenshot 1

Start operation after the submenu of the event menu is displayed by clicking the [Event] button in the [Setup] tab. (page 15)

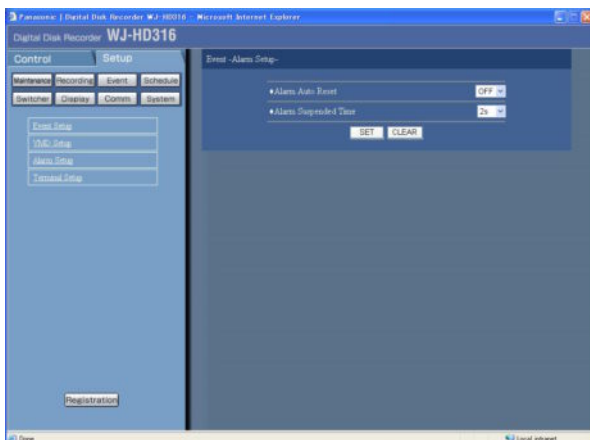


### Step 1

Click "Alarm Setup".

### Screenshot 2

The "Alarm Setup" menu will be displayed.



### Step 2

Select the alarm display duration and the alarm suspension duration by clicking the [✓] button.

### ■ Alarm Auto Reset

The following are possible for the alarm display duration. When OFF is selected, the alarm display will not automatically disappear.

OFF/1 s - 30 s (in 1 second intervals)

40 s/50 s/1 m/2 m/3 m/4 m/5 m

### ■ Alarm Suspended Time

The following are possible for the alarm suspension duration.

2 s - 10 s (in 1 second intervals)

### Step 3

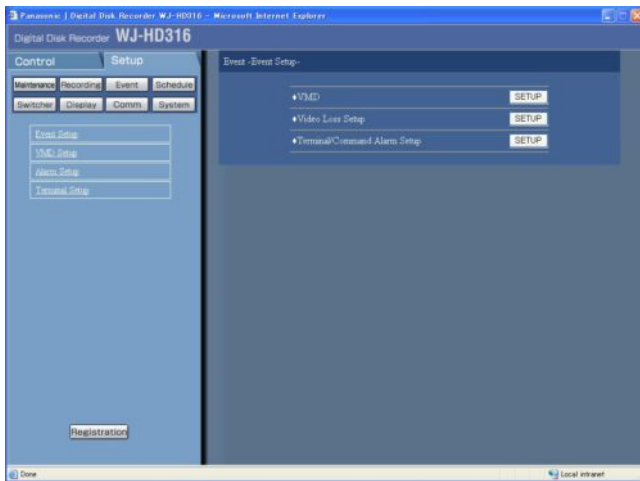
Click the [SET] button after completing the settings.

## Settings for the alarm terminal polarity [Terminal Setup]

Select how to supply the signal to the alarm terminal.

### Screenshot 1

Start operation after the submenu of the event menu is displayed by clicking the [Event] button in the [Setup] tab. (page 15)



### Step 1

Click "Terminal Setup".

### Screenshot 2

The "Terminal Setup" menu will be displayed.



### Step 2

Select polarities for each terminal by clicking the [N] button.

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

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

### Step 3

Click the [SET] button after completing the settings.

## Settings for the recording/event schedule [Schedule]

Perform the settings for the recording schedules of recording and event action by designating a day of the week and time.

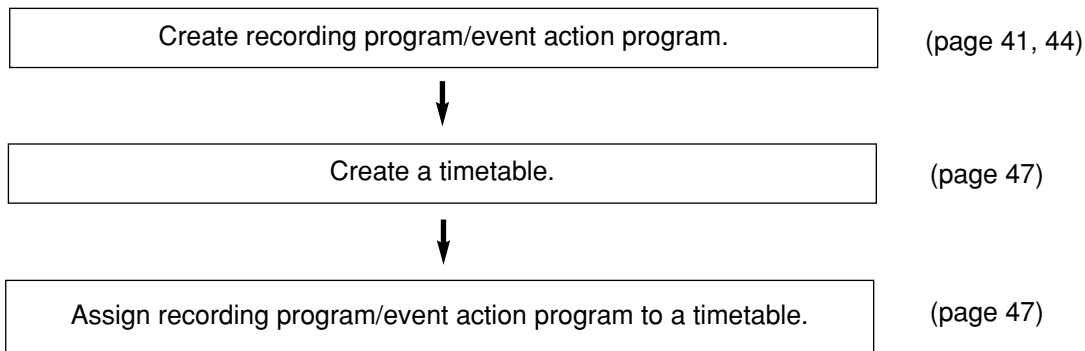
A day can be divided into up to 6 time zones, and recording programs and event action programs can be assigned to each time zone to create a recording schedule.

Up to 4 normal recording programs and up to 4 event action programs can be created. Perform the settings for the recording programs: resolution and recording rate. Perform the settings for the Event program: action mode for each event type and auto copy.

It is possible to create special days apart from the normal schedule, and a recording program of another day of the week can be switched to a special day's program automatically.

### Flowchart how to create a schedule

Follow the procedures below to create schedules.

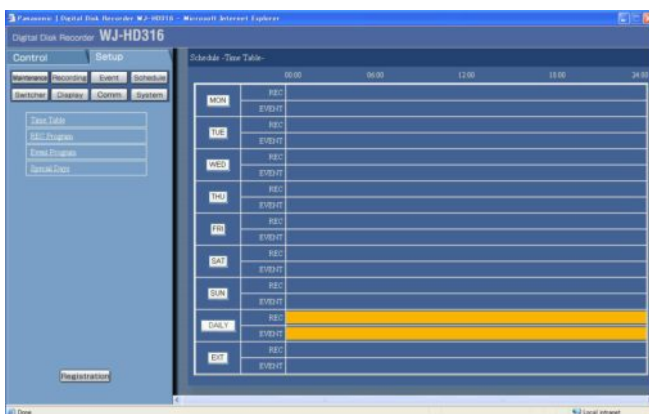


### Creating a recording program [REC Program]

Perform the settings of resolution, and recording rate for each recording mode, and the recording rate and image quality of each camera channel. Up to 4 recording programs can be created.

#### Screenshot 1

Start operation after the submenu of the schedule menu is displayed by clicking the [Schedule] button in the [Setup] tab. (page 15)

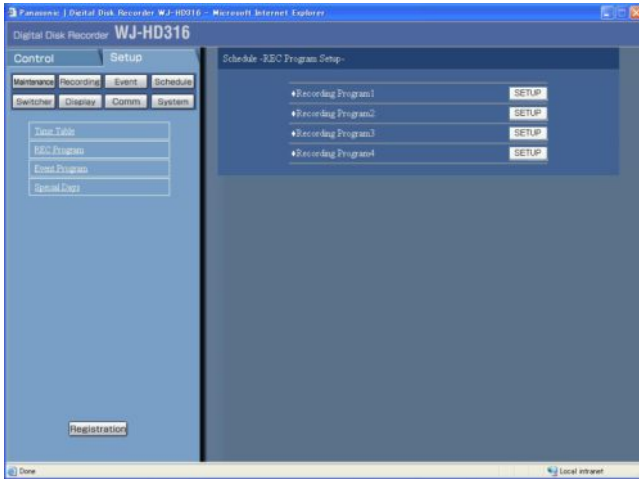


#### Step 1

Click "REC Program".

## Screenshot 2

The "REC Program" menu will be displayed.

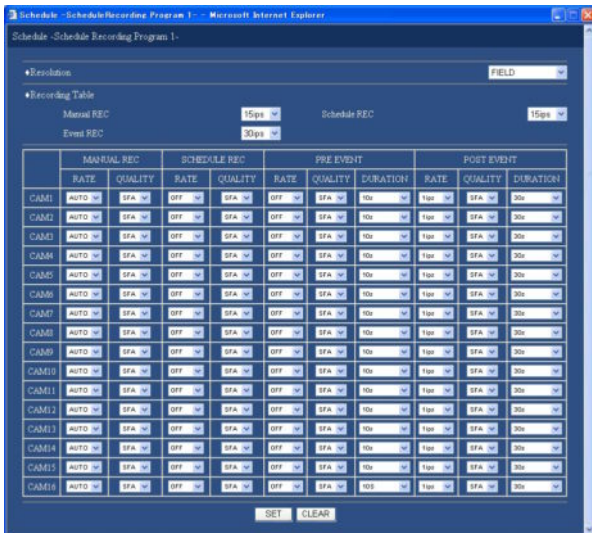


## Step 2

Click the respective [SETUP] button for a desired program to create a recording program.

## Screenshot 3

The "Schedule Recording Program" menu will be displayed.



## Step 3

Perform the settings for each item. Refer to page 43 for further information about the settings for each item.

## Step 4

Click the [SET] button after completing the settings.



## Setup Item

### ■ Resolution

Select a resolution for images to be recorded from the following.

**FRAME 3D ON:** High resolution (720 x 480), with blurring compensation

**FRAME 3D OFF:** Standard resolution (720 x 240)

**FIELD:** Standard resolution (720 x 240)

**SIF:** low resolution (360 x 240)

### ■ Recording Rate for Each Recording Mode

Perform the settings of recording rate for each recording mode (manual recording, schedule recording and event recording).

The following are available for the recording rate.

OFF/2 ips/3 ips/5 ips/6 ips/7.5 ips/10 ips/15 ips/30 ips/60 ips/120 ips

---

#### Important:

- When "FRAME" is selected for "Resolution", "60 ips" and "120 ips" are not available. When "FIELD" is selected, "120 ips" is not available.
  - The total recording rates for each recording mode must be the following.
    - When "FRAME" is selected for "Resolution": 30 ips or less
    - When "FIELD" is selected for "Resolution": 60 ips or less
    - When "SIF" is selected for "Resolution": 120 ips or less
- 

### ■ Recording Rate and Image Quality for Each Camera Channel

Perform the settings for recording rate, image quality and recording duration for each camera channel (only for event pre-recording and event post-recording).

Perform the settings for each recording mode.

The following are the for recording rate. When OFF is selected, images from the selected camera channel will not be recorded.

OFF/0.1 ips/0.2 ips/0.3 ips/0.4 ips/0.5 ips/1 ips/2 ips/3 ips/5 ips/6 ips/7.5 ips/10 ips/15 ips/30 ips

AUTO: Recording rate will be set automatically. (Not possible for event pre-recording and event post-recording)

---

#### Important:

- The total recording rates of all camera channels in the same recording mode must be less than the recording rate of the selected recording mode.
- 

The following are available for image quality.

SFA/SFB: Top quality (SUPER FINE)

FQA/FQB: High quality (FINE)

NQA/NQB: Standard quality (NORMAL)

EXA/EXB: Low quality (EXTENDED)

\*\*A is suitable for less dynamic images.

\*\*B is suitable for more dynamic images.

The following are available for recording duration (only event pre-recording and event post-recording).

1 - 10 s (in 1 second intervals)

20 s/30 s/1 - 10 m (in 1 minute intervals)

20-60 m (in 10 minutes intervals)

**MANUAL:** Recording duration will be as follows depending on the event type.

- At a motion detection: For 8 seconds
- At a video loss occurrence: During a video loss occurrence
- At a terminal alarm occurrence: During the supply of a signal
- At a command alarm: For 8 seconds

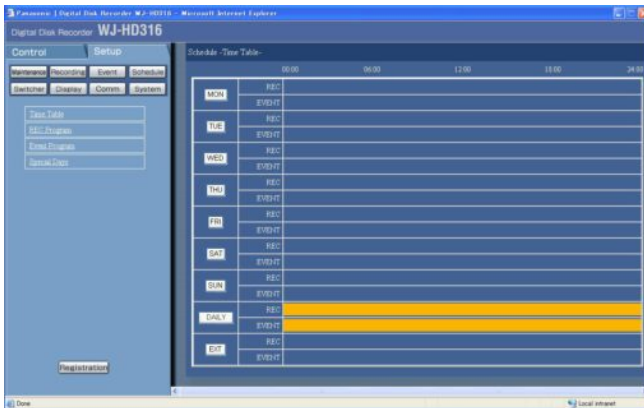
**CONTINUE:** Recording will be performed continuously until the [ALARM RESET] button in the status display area or on the front panel of the unit is pressed.

## Creating recording programs for an event occurrence [Event PROG Setup]

Perform the settings of action mode or alarm mail for each event type (motion detection, video loss, terminal/command alarm).

### Screenshot 1

Start operation after the submenu of the schedule menu is displayed by clicking the [Schedule] button in the [Setup] tab. (page 15)

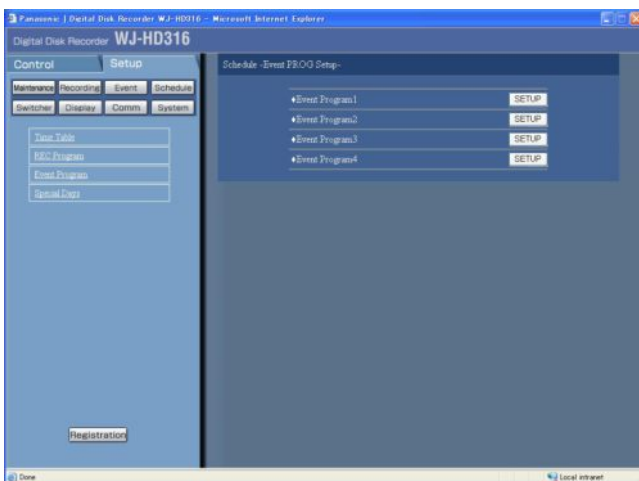


### Step 1

Click "Event Program".

### Screenshot 2

The "Event PROG Setup" menu will be displayed.

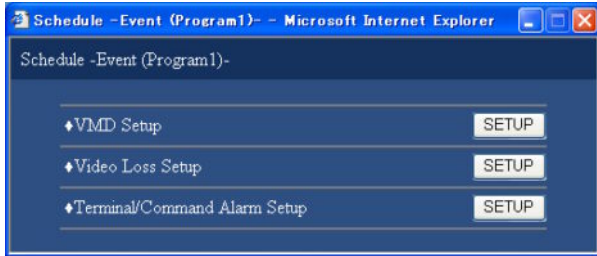


### Step 2

Click the respective [SETUP] button for a desired event program to be set.

### Screenshot 3

The event program menu will be displayed.



### Step 3

Click the respective [SETUP] button for a desired event to be set.

### Screenshot 4

The window for selection of the event channel/number will be displayed.

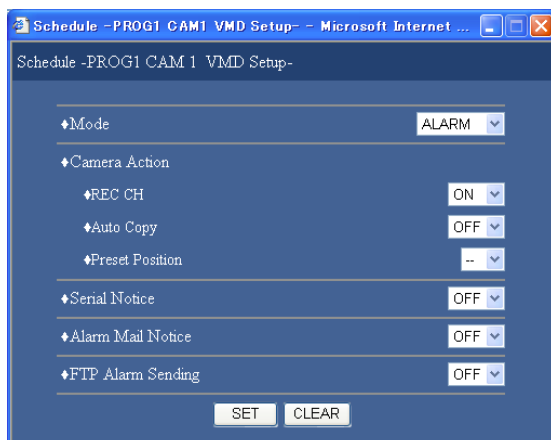


### Step 4

Click the respective [SETUP] button for a desired event channel/number to be set.

### Screenshot 5

The setup menu for the event action will be displayed.



### Step 5

Perform the settings for each item. Refer to page 46 for further information about the settings for each item.

### Step 6

Click the [SET] button after completing the settings.

<VMD Setup menu>

---

## Setup Item

### ■ Action Mode

Perform the settings for the action mode. Refer to the provided operating instructions for further information about each action mode.

**ACT DET (Activity Detection Mode):** Performs only recording, writing an event log and camera movement to a preset position at an event occurrence. Other event actions will not be performed.

**ALARM (Alarm Mode):** Performs every event action according to the settings.

### ■ Camera Action

Performs the settings for camera action for each camera channel at an event occurrence.

**REC:** Select ON or OFF to set whether or not to record images from the selected camera channel.

**Auto Copy:** Auto copy is the function to copy recorded images automatically onto the copy area of the hard disk or the DVD-RAM disk. Select ON or OFF to enable or disable the auto copy function.

**Preset Position:** Determine whether or not to move the selected camera to a preset position registered in advance. Select a preset number registered in advance. When "-" is selected, a camera will not move to a preset position.

---

#### Important:

- When "OFF" is selected for "Auto copy" of "Basic Setup" on "System", the auto copy function will not work even though "ON" is selected for this setting. Select "HDD", "COPY 1" or "COPY 2" for "Auto copy".
- 

### ■ Serial Notice

Select ON or OFF to determine whether to notify an event occurrence using PS-Data (or RS232C) or not.

### ■ Alarm Mail Notice

Select ON or OFF to determine whether to send alarm mail at event occurrence or not.

### ■ FTP Alarm Sending

Select ON or OFF to determine whether or not to send images to the FTP server at an event occurrence.

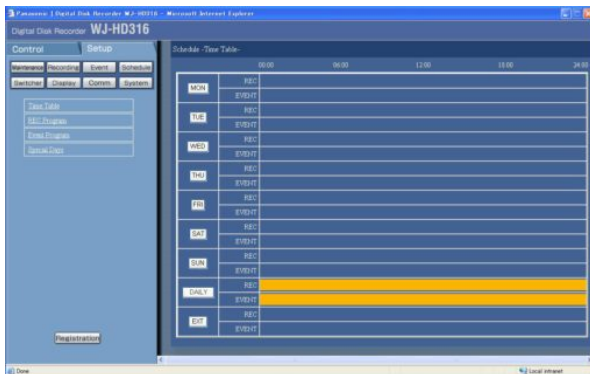
Refer to the provided Operating Instructions or the Network Operating Instructions on the provided CD-ROM for further information about the actions at an event occurrence.

## Assignment of recording program and event program after setting the time zone [Time Table]

Create recording timetables for each day of the week, and assign recording program and event program to each timetable. Up to 6 recording programs can be created.

### Screenshot 1

Start operation after the submenu of the schedule menu is displayed by clicking the [Schedule] button in the [Setup] tab. (page 15)

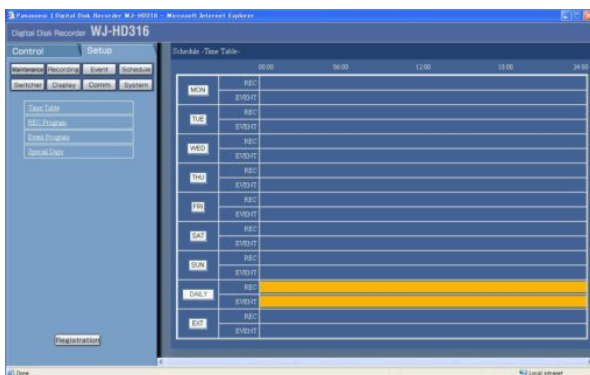


### Step 1

Click [Time Table].

### Screenshot 2

The "Time Table" menu will be displayed.



### Step 2

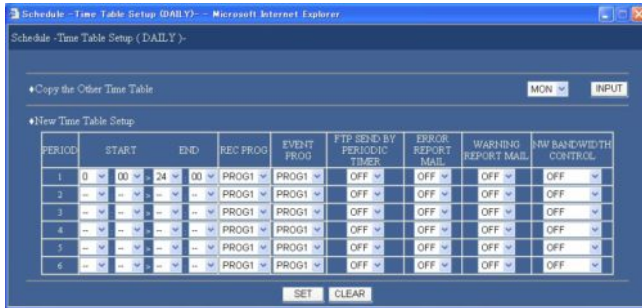
Click the button of the desired day of the week.

### Note:

When a signal is supplied from the ALARM/CONTROL connector (external recording changeover, pin no. 24), the unit will work with the set timetable for "EXT."

### Screenshot 3

The timetable of the selected day of the week will be displayed.



#### Notes:

- To copy a timetable that is set for a different day of the week, click the [INPUT] button of "Copy the Other Time Table" at step 3.
- To set for two or more days of the week, repeat steps 2 to 4.

### Step 3

Perform the settings for each item.  
Perform the settings of the following item for each time zone.

#### [START]

Set the start time of the time zone.

#### [END]

Set the end time of the time zone.

#### [REC PROG]

Select a desired "REC PROG".

#### [EVENT PROG]

Select a desired "EVENT PROG".

#### [FTP SEND BY PERIODIC TIMER]

Perform the settings of "Periodical transmission" on "Network FTP Setup" of the "Comm" menu (page 74) first, and select ON or OFF to determine whether or not to send images to the FTP server periodically.

#### [ERROR REPORT MAIL]

Select ON or OFF to determine whether or not to send an error mail when a trouble occurred. Refer to page 95 for further information about error mail.

#### [WARNING REPORT MAIL]

Select ON or OFF to determine whether or not to send an error mail when the available hard disk space of the copy area or an external recording disk (DVD-RAM disk, DVD-R disk, CD-R disk) is less than the set level, or when the disk has no more available disk space. Refer to page 95 for further information about error mail.

#### [NW BANDWIDTH CONTROL]

Select a rate for transmission to the FTP server from the following.

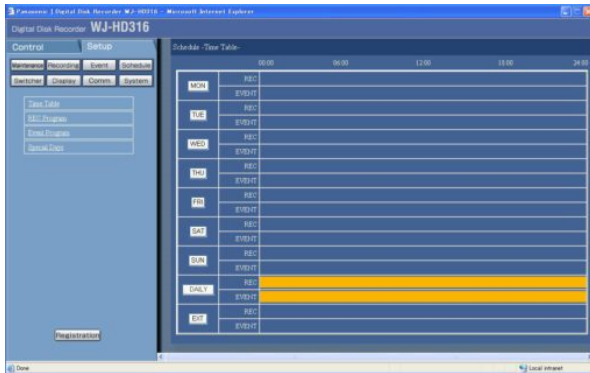
OFF/32 kbps/64 kbps/128 kbps/256 kbps/512 kbps/  
1 024 kbps/2 Mbps/5 Mbps/10 Mbps

### Step 4

Click the [SET] button after completing the settings, and then click the [x] button at the upper right to close the window.

## Screenshot 4

Returns to the Schedule setup menu.



## Step 4

The set timetables and the recording programs or the event programs will be applied.  
Recording programs will be displayed with different colors.

Recording program 1/event program 1: Orange

Recording program 2/event program 2: Yellow

Recording program 3/event program 3: Yellowish green

Recording program 4/event program 4: Light blue

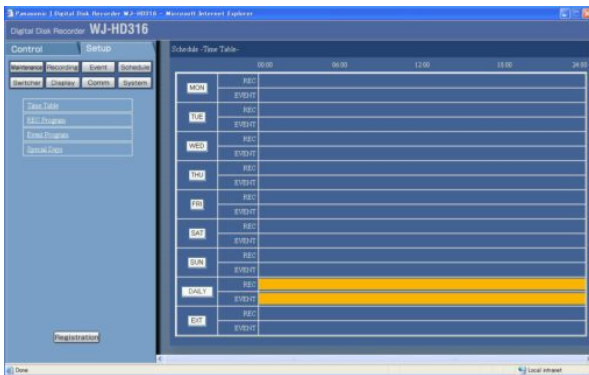
## Perform the settings of recording programs for special days [Special Days]

Assign timetables to special days aside from other days of the week. Timetables for special days can be set for up to 30 days.

Perform the settings to specify dates as special days and apply recording schedule to the specified special days.

### Screenshot 1

Start operation after the submenu of the schedule menu is displayed by clicking the [Schedule] button in the [Setup] tab. (page 15)

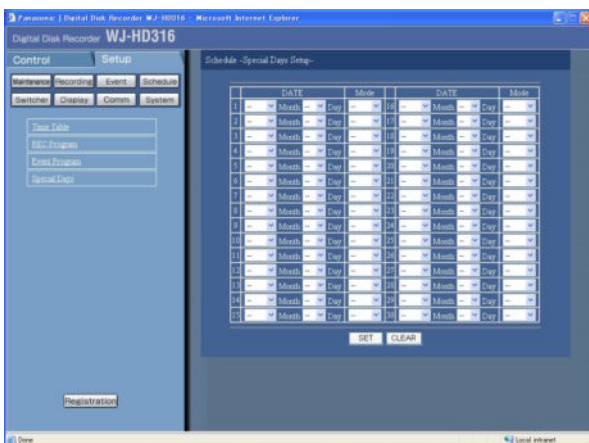


### Step 1

Click "Special Days".

### Screenshot 2

The "Special Days Setup" menu will be displayed.



### Step 2

Select date to be set as special day and the recording program to be assigned to the special day.

### Step 3

Click the [SET] button after completing the settings.



# Settings for switcher function [Switcher]

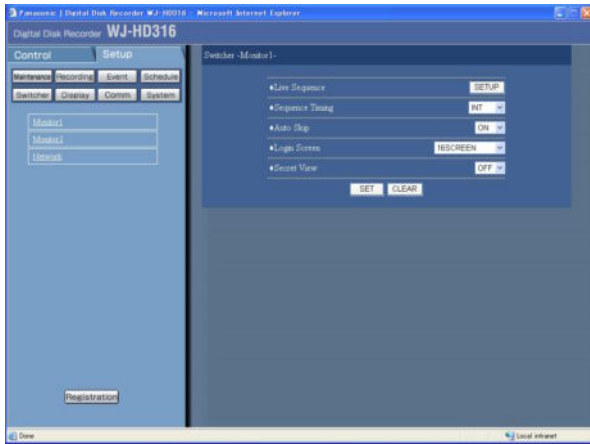
Perform the settings for image switching such as the sequential display setting or the login window display setting to display on monitors 1, 2 or a monitor of a PC connected to the unit via a network.

## Switcher function of monitor 1 [Monitor 1]

Perform the settings for the switcher function of monitor 1.

### Screenshot 1

Start operation after the submenu of the switcher menu is displayed by clicking the [Switcher] button in the [Setup] tab. (page 15)

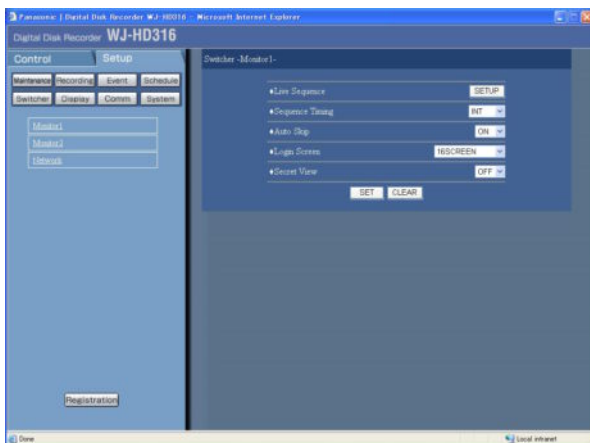


### Step 1

Click "Monitor 1".

### Screenshot 2

The "Monitor 1" menu will be displayed.



### Step 2

Perform the settings for each item.  
Refer to page 52 for further information about the settings for each item.

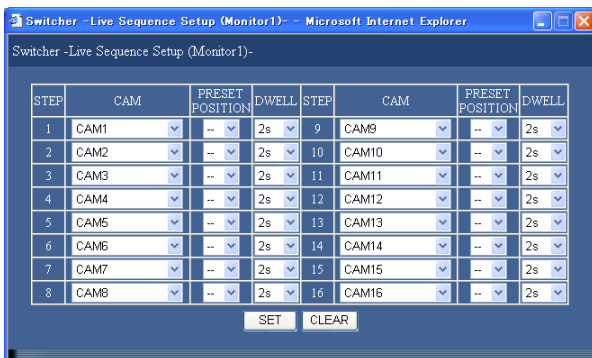
### Step 3

Click the [SET] button after completing the settings.

## Setup Item

### ■ Live Sequence

Perform the settings for the sequential display of live images. The following window will be displayed when the [Setup] button is clicked. Perform the settings for each item. Click the [SET] button after completing the settings.



#### [CAM]

Select a camera image to be displayed at each step.  
 CAM 1 - 16: Displays an image from the selected camera channel on a single screen.  
 QUAD1 - 4: Displays images from the camera channels 1 - 4 on a 4-split screen.  
 QUAD5 - 8: Displays images from the camera channels 5 - 8 on a 4-split screen.  
 QUAD9 - 12 (only for the WJ-HD316): Displays images from the camera channels 9 - 12 on a 4-split screen.  
 QUAD13 - 16 (only for the WJ-HD316): Displays images from the camera channels 13 - 16 on a 4-split screen.  
 9SCREEN1 - 9: Displays images from the camera channels 1 - 9 on a 9-split screen.  
 9SCREEN10 - 16 (only for the WJ-HD316): Displays images from the camera channels 10 - 16 on a 9-split screen.  
 --: Skips the selected step.

#### [PRESET POSITION]

Select a camera position from the following.  
 1 - 64: Moves to the selected preset number position.

#### [DWELL]

Select an interval time to go to the next sequential step from 1 - 30 seconds (in 1 second intervals).

### ■ Sequence Timing

Select an image switching way from the following.  
 INT: Switches images according to the settings for the live sequence.  
 EXT: Switches images by signals from an external device.  
 MON 2: Match with the image switching timing of the live sequence on monitor 2.

### ■ Auto Skip

Select ON or OFF to determine whether or not to skip the camera channel without supplying video input signal because it is not connected, etc..  
 ON: Skips a channel if it is not connected.  
 OFF: Displays a black screen for a channel not connected.

### ■ Login Screen

Select a camera image to be displayed during the login procedure from the following.  
 CAM1 - 16: Displays an image from the selected camera channel.  
 QUAD1 - 4: Displays images from the camera channels 1 - 4 on a 4-split screen.  
 QUAD5 - 8: Displays images from the camera channels 5 - 8 on a 4-split screen.  
 QUAD9 - 12: Displays images from the camera channels 9 - 12 on a 4-split screen.  
 QUAD13 - 16: Displays images from the camera channels 13 - 16 on a 4-split screen.  
 7 SCREEN: Displays images from the camera channels 1 - 7 on a 7-split screen.  
 9 SCREEN 1 - 9: Displays images from the camera channels 1 - 9 on a 9-split screen.  
 9 SCREEN 10 - 16 (only for the WJ-HD316): Displays images from the camera channels 10 - 16 on a 9-split screen.  
 10 SCREEN (only for the WJ-HD316): Displays images from the camera channels 1 - 10 on a 10-split screen.  
 13 SCREEN (only for the WJ-HD316): Displays images from the camera channels 1 - 13 on a 13-split screen.  
 16 SCREEN (only for the WJ-HD316): Displays images from the camera channels 1 - 16 on a 16-split screen.  
 --: No camera image will be displayed (screen in black)

## ■ Secret View

The secret view is a function that skips camera images displayed with a single screen display on monitor 2 when displaying with the sequential display on monitor 1. Select ON or OFF to determine whether to enable or disable the secret view function.

ON: Enables the secret view function. (Camera image displayed with a single screen on monitor 2 on a black screen.)

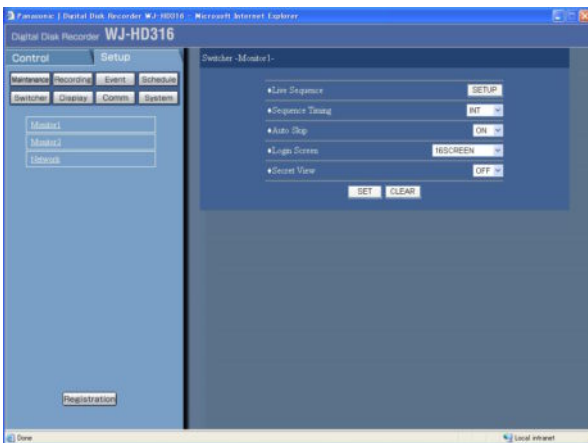
OFF: Disables the secret view function.

## Switcher function of monitor 2 [Monitor 2]

Perform the setting for the switcher function of monitor 2.

### Screenshot 1

Start operation after the submenu of the switcher menu is displayed by clicking the [Switcher] button in the [Setup] tab. (page 15)

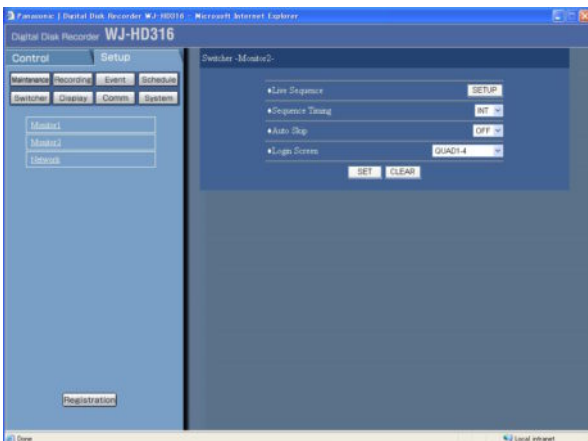


### Step 1

Click "Monitor 2".

### Screenshot 2

The "Monitor 2" menu will be displayed.



### Step 2

Perform the settings for the switcher function. The settings for monitor 2 are the same as the settings for monitor 1.

(However, the setting for the secret view function is not available.)

Refer to page 52 for further information about the settings for each item.

### Step 3

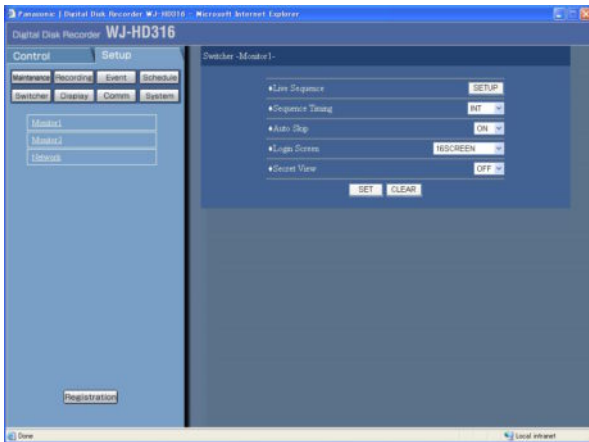
Click the [SET] button after completing the settings.

## Perform the settings to display on a PC monitor with the switcher function [Network]

Perform the settings for the switcher function when displaying images on a monitor of a PC connected to this unit via a network.

### Screenshot 1

Start operation after the submenu of the switcher menu is displayed by clicking the [Switcher] button in the [Setup] tab. (page 15)

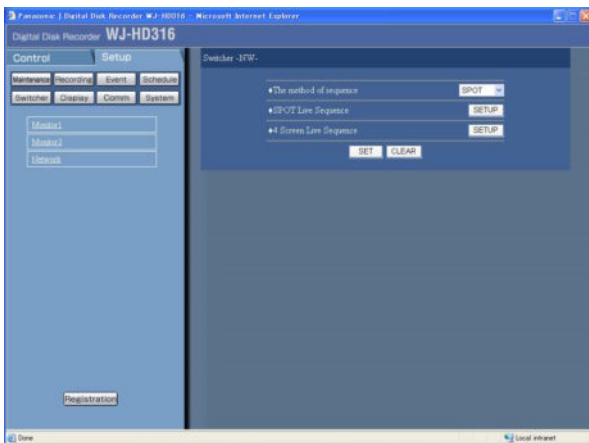


### Step 1

Click "Network".

### Screenshot 2

The "NW" menu will be displayed.



### Step 2

Perform the settings for each item. Refer to page 55 for further information about the settings for each item.

### Step 3

Click the [SET] button after completing the settings.

## Setup Item

### ■ The method of sequence

Perform the settings for the sequential display of live images.

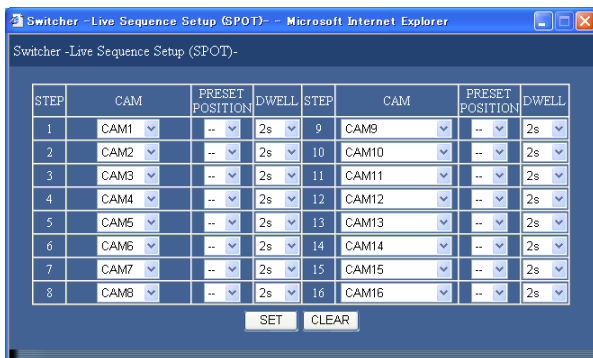
SPOT: Displays images with the sequential display on a single screen.

4 screen: Displays images with the sequential display on a 4-split screen.

### ■ SPOT Live Sequence

Perform the settings for the sequential display when displaying images with the sequential display on a single screen.

The following window will be displayed when the [Setup] button is clicked. Perform the settings for each item. Click the [SET] button after completing the settings.



#### [CAM]

Select a camera image (CAM 1 - 16) to be displayed at each step.

#### [PRESET POSITION]

Select a camera position from the following.

1 - 64: Moves to the selected preset number position.

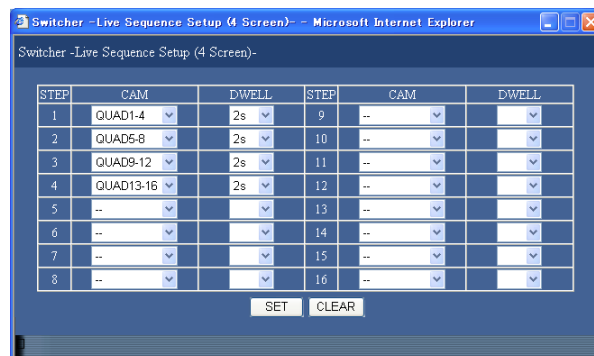
#### [DWELL]

Select an interval time to go to the next sequential step from 1 - 30 seconds (in 1 second intervals).

### ■ 4 Screen Live Sequence

Perform the settings for the sequential display when displaying images with the sequential display on 4-split screen.

The following window will be displayed when the [Setup] button is clicked. Perform the settings of each item. Click the [SET] button after completing the settings.



#### [CAM]

Select a camera image to be displayed at each step from the following.

QUAD1 - 4: Displays images from the camera channels 1 - 4 on a 4-split screen.

QUAD5 - 8: Displays images from the camera channels 5 - 8 on a 4-split screen.

QUAD9 - 12 (only for the WJ-HD316): Displays images from the camera channels 9 - 12 on a 4-split screen.

QUAD13 - 16 (only for the WJ-HD316): Displays images from the camera channels 13 - 16 on a 4-split screen.

--: Skips the selected step.

#### [DWELL]

Select an interval time to go to the next sequential step from 1 - 30 seconds (in 1 second intervals).

# Settings for display [Display]

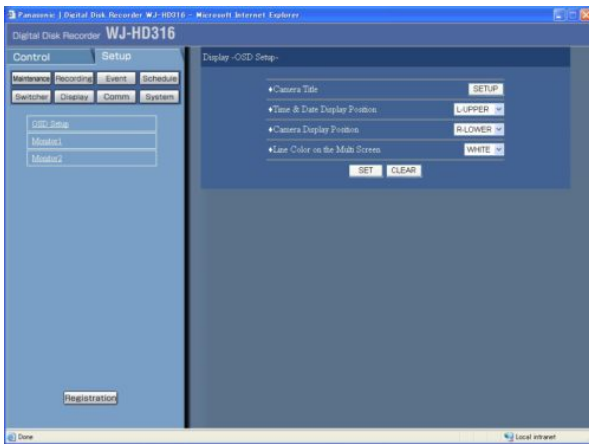
Perform the display settings for monitors 1 and 2 connected to the unit.

## Common setting for monitors [OSD Setup]

Perform the common display settings for monitor 1 and monitor 2 such as the settings of camera titles or the settings of the time display position.

### Screenshot 1

Start operation after the submenu of the display menu is displayed by clicking the [Display] button in the [Setup] tab.(page 15)

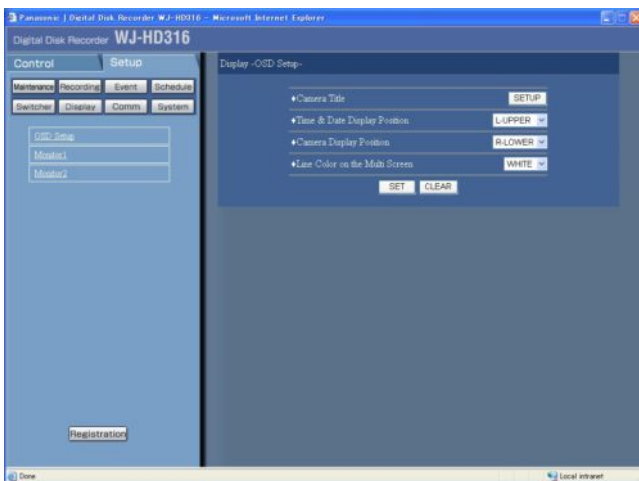


### Step 1

Click "OSD Setup".

### Screenshot 2

The "OSD Setup" menu will be displayed.



### Step 2

Perform the settings for each item. Refer to page 57 for further information about the settings for each item.

### Step 3

Click the [SET] button after completing the settings.

## Setup item

### ■ Camera Title

Perform the settings for the camera title.  
The following window will be displayed when the [SETUP] button is clicked. Perform the settings for each item.

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

#### [Display]

Enter a camera title to be displayed on monitor 2.  
Enter up to 16 alphanumeric characters for a camera title.

#### [Embedded]

Enter a camera title to be embedded together (recorded with images) and to be displayed when "ON" is selected for "Title embed" on "Basic recording setup" of "Recording" menu and also for displaying camera titles on monitor 1 (page 31). Enter up to 16 alphanumeric characters for a camera title.

The following characters can be entered:

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z  
a b c d e f g h i j k l m n o p q r s t u v w x y z 0 1 2 3 4 5  
6 7 8 9 "#()\*+, - ./: ; SP

### ■ Time & Date Display Position

Select a time display position from the following.  
When the settings are performed to record images with the time display together, the time display position will be determined on this setting. Refer to page 31 for further information about embedding the time display.  
L - UPPER: Displays a camera title at the upper left of the screen.  
L - LOWER: Displays a camera title at the lower left of the screen.  
R - UPPER: Displays a camera title at the upper right of the screen.  
R - LOWER: Displays a camera title at the lower right of the screen.

### ■ Camera Display Position

Select a camera title display position from the following.  
When the settings are performed to record images with a camera title together, the camera title position will be determined on this setting. Refer to page 31 for further information about embedding a camera title.  
L - UPPER: Displays a camera title at the upper left of the screen.  
L - LOWER: Displays a camera title at the lower left of the screen.  
R - UPPER: Displays a camera title at the upper right of the screen.  
R - LOWER: Displays a camera title at the lower right of the screen.  
CENTER: Displays a camera title at the center of the screen.

### ■ Line Color on the Multi screen

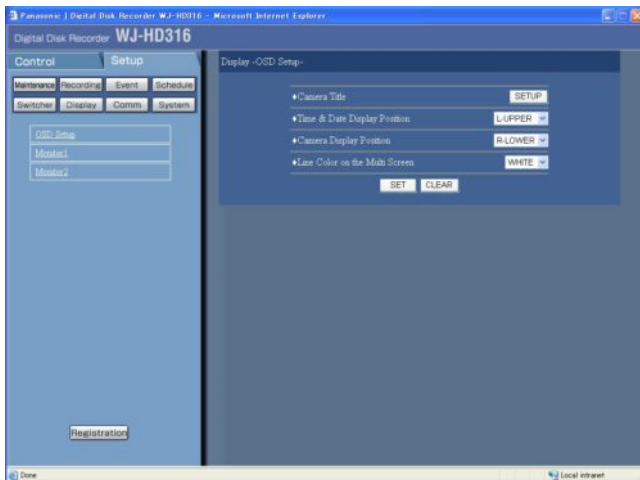
Select a parting line color from the following.  
WHITE: Displays white parting lines.  
GRAY: Displays gray parting lines.  
BLACK: Displays black parting lines.

## Perform the display settings for monitor 1 [Monitor 1]

Select ON or OFF to determine whether to display the time, camera title and alarm display on monitor 1 or not.

### Screenshot 1

Start operation after the submenu of the display menu is displayed by clicking the [Display] button in the [Setup] tab. (page 15)

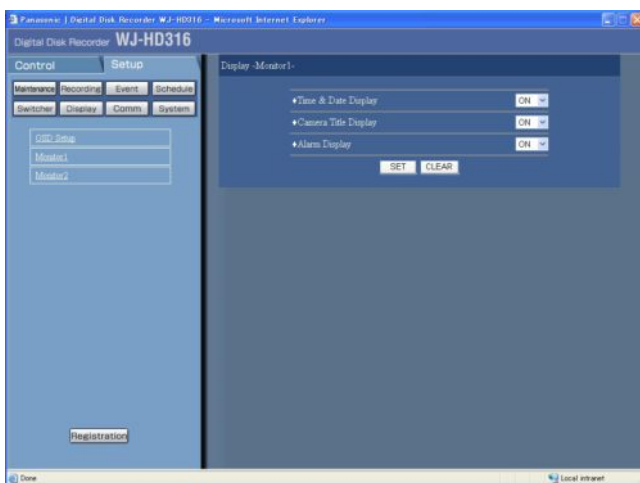


### Step 1

Click "Monitor 1".

### Screenshot 2

The "Monitor 1" menu will be displayed.



### Step 2

Perform the display settings for monitor 1.

#### ■ Time & Date Display

Select ON or OFF to determine whether to enable or disable the time display.

#### ■ Camera Title Display

Select ON or OFF to determine whether or not to display the camera title.

#### ■ Alarm Display

Select ON or OFF to determine whether to enable or disable the alarm display.

### Step 3

Click the [SET] button after completing the settings.

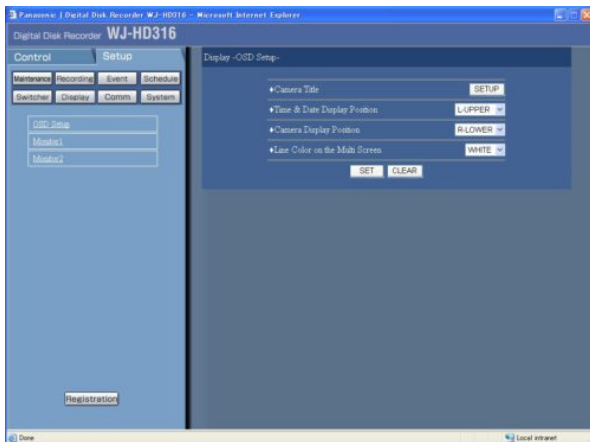


## Perform the display settings for monitor 2 display [Monitor 2]

Perform the display settings for monitor 2 such as the task bar style, the time display position and the camera title display, etc.

### Screenshot 1

Start operation after the submenu of the display menu is displayed by clicking the [Display] button in the [Setup] tab. (page 15)

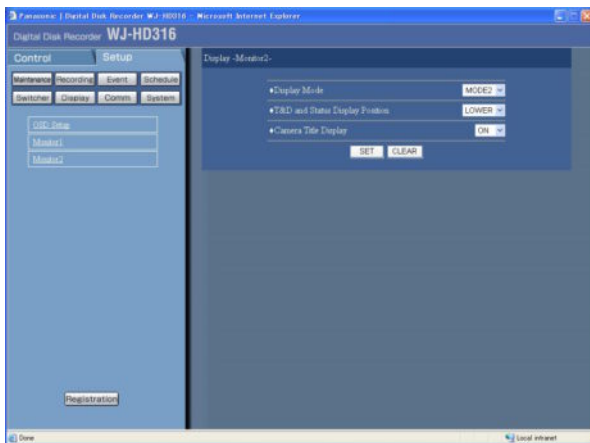


### Step 1

Click "Monitor 2".

### Screenshot 2

The "Monitor 2" menu will be displayed.



### Step 2

Perform the display settings for the monitor 2.

### ■ Display Mode

Select a display mode (task bar style) from the following. Refer to the provided Operating Instructions for further information about the style of screen.

MODE1: Select [MODE1] for the display mode.

MODE2: Select [MODE2] for the display mode.

MODE3: Select [MODE3] for the display mode.

### ■ T & D and Status Display Position

Perform the settings for a display position of the time and status when [MODE1] is selected for the screen style.

UPPER: Displays them in the upper part of the screen.

LOWER: Displays them in the lower part of the screen.

### ■ Camera Title Display

Select ON or OFF to determine whether to enable or disable the camera title display.

### Step 3

Click the [SET] button after completing the settings.

## Settings for communication with other devices [Comm]

It is required to apply the same settings, for example, the communication speed, the communication protocol, etc. to the external devices such as a controller connected to the DATA port or the serial port (RS232C).

It is also required to perform the network settings such as the IP address, the gateway address, etc. when operating this unit using a PC via a network such as a LAN.

Perform the required settings for communicating with external devices.

## Perform the communication settings for camera control [Camera Control]

Perform the communication settings for each camera channel to control cameras.

### Screenshot 1

Start operation after the submenu of the communication menu is displayed by clicking the [Comm] button in the [Setup] tab. (page 15)



### Step 1

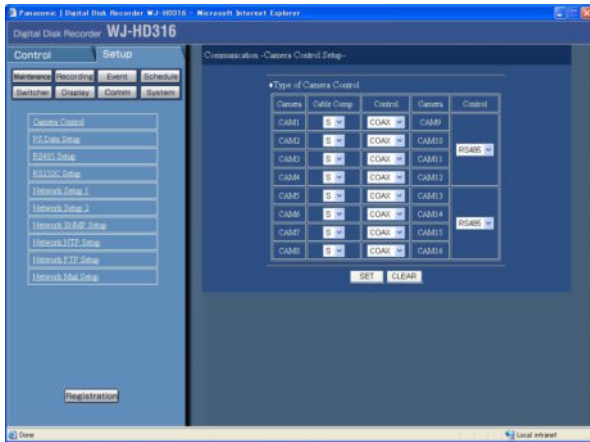
Click "Camera Control".

### Notes:

- Perform the settings in accordance with cameras connected to this unit.
- Perform the settings for each of 4 cameras for CAM 9-16.
- To control cameras with the coaxial cable, connect cameras to the video input connectors 1-8 (compatible with coaxial cable communication). Use a Panasonic data multiplex unit to control cameras connected to other camera channels with coaxial cables. In this case, select "PSD" for the communication method of the camera to be controlled via the data multiplex unit.

## Screenshot 2

The "Camera Control Setup" menu will be displayed.



## Step 2

Click the [✓] button to select a communication method for each camera channel to control cameras from the following.

COAX: Controls cameras with coaxial communication. (CAM 1 - 8 CH are available for the WJ-HD316, CAM 1 - 6 CH are available for the WJ-HD309)

PSD: Controls cameras with PS-Data. (CAM 9 - 16 CH are available for the WJ-HD316, CAM 7 - 9 CH are available for the WJ-HD309)

RS485: Controls cameras with RS 485 communication. (CAM 1 - 16 CH are available for the WJ-HD316, CAM 1 - 9 CH are available for the WJ-HD309)

It is possible to compensate for the video signal transmission loss from the camera when using the VIDEO IN connector 1 - 8. (cable compensation)

Perform the settings for the cable compensation according to the length of cable used.

S: When the length of cable used is shorter than 500 m

M: When the length of cable used is longer than 500 m and shorter than 900 m

L: When the length of cable used is longer than 900 m and shorter than 1 200 m

## Notes:

- Use 5C-2V cables for the cable compensation.
- Perform the settings for the cable compensation properly according to the cable length. Otherwise camera pictures may not be displayed/recorded correctly.

## Step 3

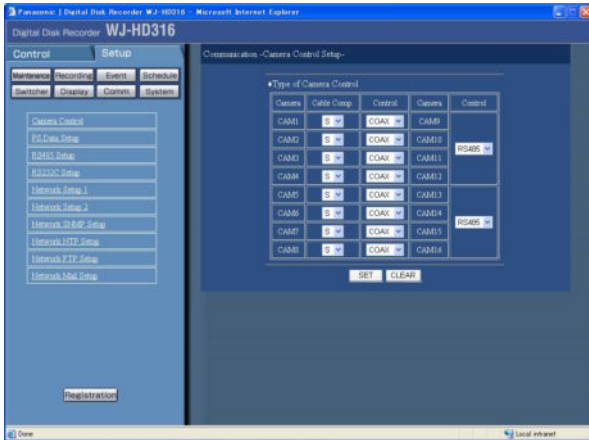
Click the [SET] button after completing the settings.

## Settings for PS·Data [PS·Data Setup]

Perform the settings for PS·Data.

### Screenshot 1

Start operation after the submenu of the communication menu is displayed by clicking the [Comm] button in the [Setup] tab. (page 15)

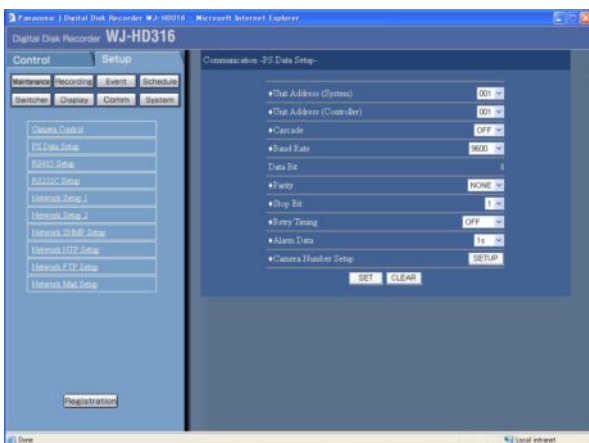


### Step 1

Click "PS·Data Setup".

### Screenshot 2

The "PS·Data Setup" menu will be displayed.



### Step 2

Perform the settings for each item. Refer to page 63 for further information about the settings for each item.

### Step 3

Click the [SET] button after completing the settings.

## Setup item

### ■ Unit Address (System)

A unit address is a unique number to be assigned to each PS·Data device. Each address of the system devices must be unique to identify them when connecting two or more PS·Data compatible devices. Numbers "001" - "099" can be assigned to unit addresses for system devices.

### ■ Unit Address (Controller)

The unit address (controller) is used to control a PS·Data device connected to this unit. Assign a number from "001" - "099" for a unit address.

### ■ Cascade

Select ON or OFF to determine whether or not to cascade the units. Set to ON when using two or more units for the cascade connection.

ON: Cascade the units

OFF: Do not cascade the units

### ■ Baud Rate

Select a communication speed for data transmission with a connected device from the following.

2 400/4 800/9 600/19 200/38 400 bps

### ■ Data Bit

Data length for communication. Changing the setting value is not possible.

8 bit

### ■ Parity

Select a method of error check for a transmission at communication from the following.

NONE: No parity check

EVEN: Even parity

ODD: Odd parity

### ■ Stop Bit

Select a stop bit from the following.

1/2 bit

### ■ Retry Timing

Select an interval for retrying when the data reception is not confirmed from the following. OFF/100 ms/200

ms/400 ms/1000 ms

### ■ Alarm Data

Select a method to notify of an event occurrence to the connected controller from the following.

OFF: Do not notify the controller.

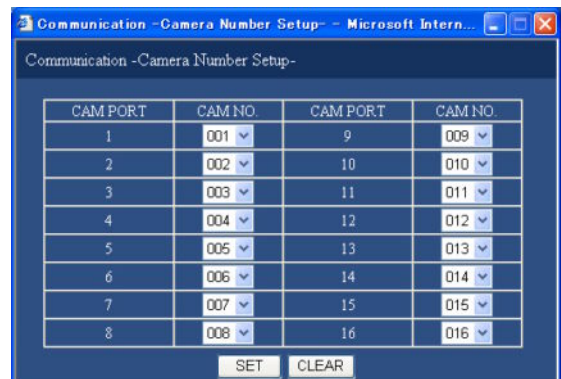
0s: Notify the controller every time an event is detected.

1s/5s: Notify the controller when a specified time has passed after detecting an event.

### ■ Camera Number Setup

Perform the settings for each camera channel to control cameras using the PS·Data compatible controller.

The following window will be displayed when the [SETUP] button is clicked.



Click the [✓] button to assign camera numbers to each camera channel. Click the [SET] button after completing the settings.

## Perform the settings for RS485 [RS485 Setup]

Perform the settings for RS485.

### Screenshot 1

Start operation after the submenu of the communication menu is displayed by clicking the [Comm] button in the [Setup] tab. (page 15)

### Step 1

Click "RS485 Setup".

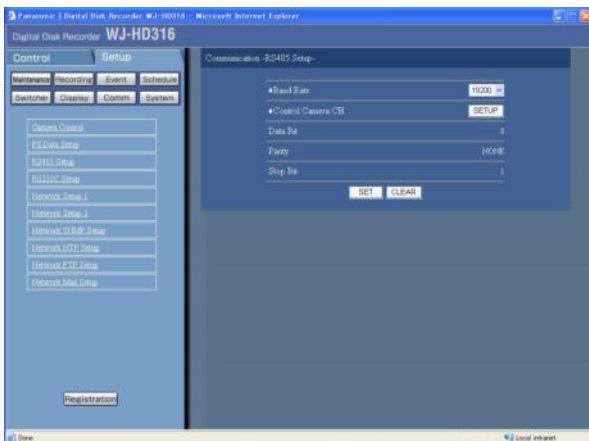


### Screenshot 2

The "RS485 Setup" menu will be displayed.

### Step 2

Perform the settings for each item. Refer to page 65 for further information about the settings for each item.



### Step 3

Click the [SET] button after completing the settings.

## Setup item

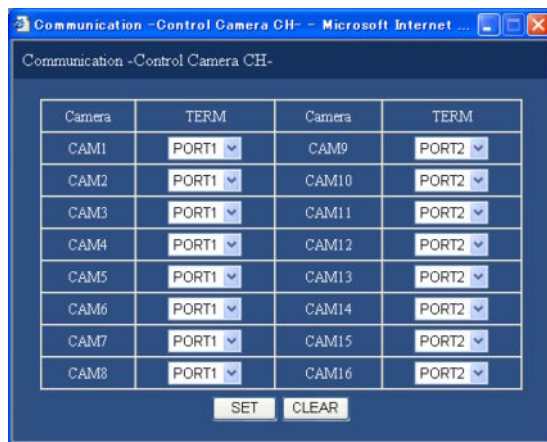
### ■ Baud Rate

Select a communication speed for data transmission with a connected device from the following.

4 800/9 600/19 200 bps

### ■ Control Camera CH

Assign camera channels to the RS485 port 1 and port 2. The following window will be displayed when the [SETUP] button is clicked.



Select a port to be controlled from the following for each camera channel. Click the [SET] button after completing the settings.

PORT1: Controls from the RS485 port 1.

PORT2: Controls from the RS485 port 2.

### ■ Data Bit

The data length for communication will be displayed. Changing the setting value is not possible.

### ■ Parity

Methods of error check for a transmission at communication will be displayed. Changing the setting value is not possible.

### ■ Stop Bit

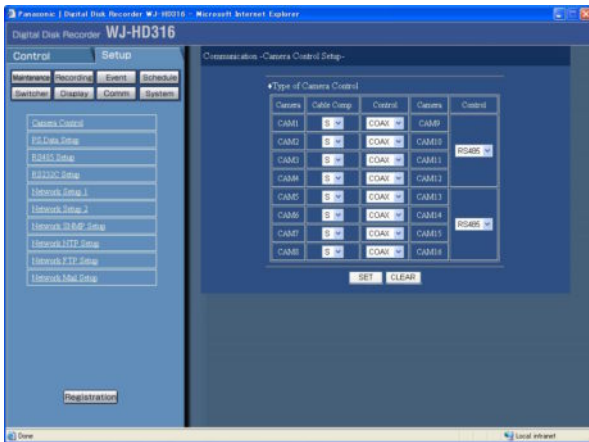
Stop bit types will be displayed. Changing the setting value is not possible.

## Perform the settings for SERIAL (RS232C) [RS232C Setup]

Perform the following settings for RS232C.

### Screenshot 1

Start operation after the submenu of the communication menu is displayed by clicking the [Comm] button in the [Setup] tab. (page 15)

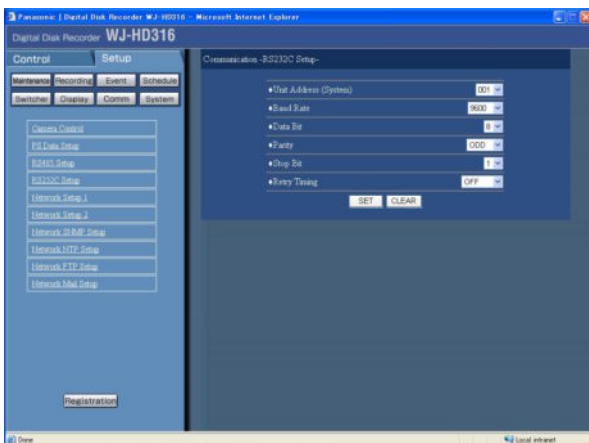


### Step 1

Click "RS232C Setup".

### Screenshot 2

The "RS232C Setup" menu will be displayed.



### Step 2

Perform the settings for each item. Refer to page 67 for further information about the settings for each item.

### Step 3

Click the [SET] button after completing the settings.



---

## Setup item

### ■ Unit Address (System)

A unit address is a unique number to be assigned to each device. Each address of system devices must be unique to identify them when connecting two or more system devices. Numbers "001" - "099" are assigned to unit addresses for system devices for instance.

### ■ Baud Rate

Select a communication speed for data transmission with a connected device from the following.  
9 600/19 200/38 400 bps

### ■ Data Bit

Select a data length for communication from the following.  
7/8 bit

### ■ Parity

Select a method of error check for a transmission at communication from the following.  
NONE: No parity check  
EVEN: Even parity  
ODD: Odd parity

### ■ Stop Bit

Select a stop bit from the following.  
1/2 bit

### ■ Retry Timing

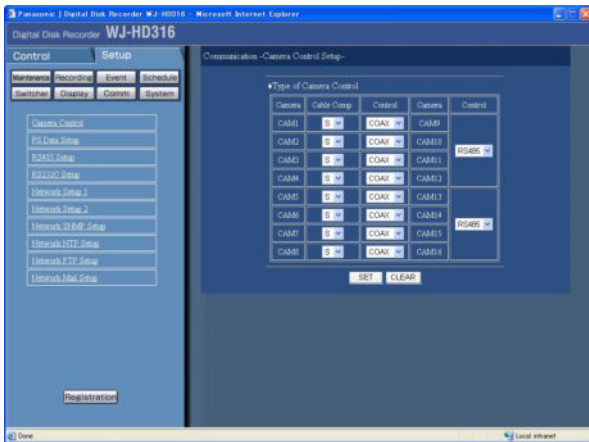
Select an interval for retrying when the data reception is not confirmed from the following.  
OFF/100 ms/200 ms/400 ms/1 000 ms

## Basic network settings [Network Setup 1]

Perform the required basic network settings to operate this unit using a PC via a network such as LAN.

### Screenshot 1

Start operation after the submenu of the communication menu is displayed by clicking the [Comm] button in the [Setup] tab. (page 15)

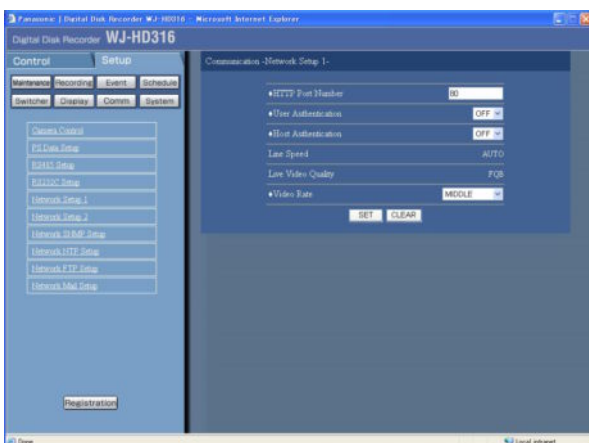


### Step 1

Click "Network Setup 1".

### Screenshot 2

The "Network Setup 1" menu will be displayed.



### Step 2

Perform the settings for each item. Refer to page 69 for further information about the settings for each item.

### Step 3

Click the [SET] button after completing the settings.

---

## Setup item

### ■ HTTP Port Number

Specify the HTTP port number to be used to send images from the unit. A number from 1 – 65535 is available. It is unnecessary to change it for normal use.

### ■ User Authentication

Select ON or OFF to determine whether to enable or disable the user authentication when the unit is accessed from a PC.

When "ON" is selected, the authentication window will be displayed when the unit is accessed from a PC. The top page will be displayed if the entered user name and password are registered and correct.

It is recommended to select ON for the user authentication for security.

### ■ Host Authentication

Select ON or OFF to determine whether to enable or disable the authentication by IP addresses when the unit is accessed from a PC.

When "ON" is selected, only the PC with the registered IP address can access the unit and control it via a network. It is possible to enhance the network security by setting and enabling both the host authentication and the user authentication.

### ■ Line Speed

Transmission speed will be displayed. Changing the setting value is not possible.

### ■ Live Video Quality

Changing the setting value is not possible.

### ■ Video Rate

Select a refresh interval to be displayed in the browser window from the following.

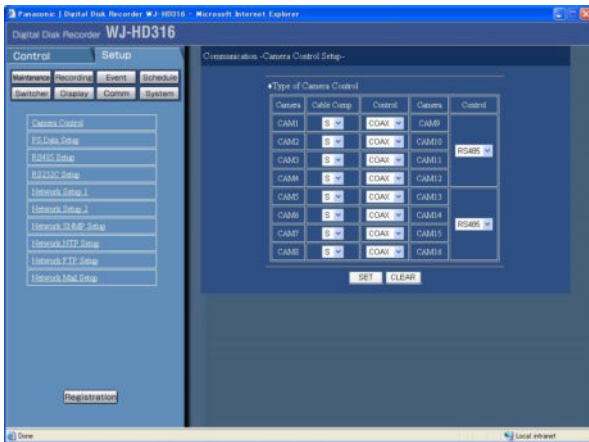
FAST/MIDDLE/SLOW/VERY SLOW

## Perform the settings for network connection [Network Setup 2]

Perform the required network settings to operate the unit using a PC via a network such as LAN.

### Screenshot 1

Start operation after the submenu of the communication menu is displayed by clicking the [Comm] button in the [Setup] tab. (page 15)

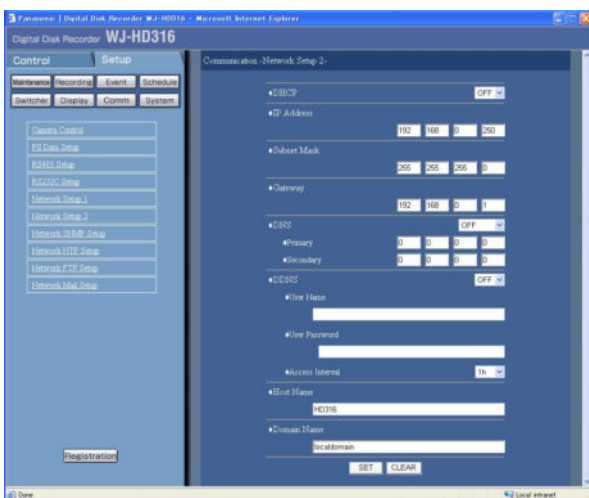


### Step 1

Click "Network Setup 2".

### Screenshot 2

The "Network Setup 2" menu will be displayed.



### Step 2

Perform the settings for each item.

Refer to page 71 for further information about the settings for each item.

### Step 3

Click the [SET] button after completing the settings.

## Setup item

### ■ DHCP

Select ON or OFF to determine whether or not to use the DHCP server.

Select "ON" to obtain an IP address, a subnet mask and a gateway address from the DHCP server. Set to "OFF" when entering the addresses above manually.

### ■ IP Address

When "OFF" is selected for "DHCP", enter an IP address. Enter 4 decimal numbers (0-255) in order.

### ■ Subnet Mask

Enter a subnet mask according to the network environment when "OFF" is selected for "DHCP".

### ■ Gateway

Enter the IP address of the gateway according to the network environment when "OFF" is selected for "DHCP".

### ■ DNS

Select "MANUAL" or "AUTO" to enable IP address searching by the host name using the DNS.

Select "OFF" when not using the DNS.

Selecting "AUTO" is available only when "ON" is selected for "DHCP" (without using the DHCP server).

Selecting "MANUAL" is available regardless of the setting for "DHCP" (with or without using the DHCP server).

When "MANUAL" is selected for the DNS, enter the DNS server addresses in "Preliminary" and "Secondary".

For this unit, enter 4 units of the decimal number (0-255).

### ■ DDNS

Select ON or OFF to determine whether or not to use the DDNS (Dynamic Domain Name Server).

To select ON for the DDNS, it is required to select "MANUAL" or "AUTO" for "DNS".

When "ON" is selected, perform the following settings.

**User Name:** Enter a user name registration in the DDNS. Enter up to 32 alphanumeric characters listed below.

**Password:** Enter a password respective to the entered user name. Enter up to 32 alphanumeric characters listed below.

**Access Interval:** Select an interval to update the DNS from the following:

10 m/30 m/1 h/6 h/24 h

---

#### Note:

The following characters can be entered:

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

---

### ■ Host Name

Enter a host address registered in the DDNS. Enter up to 255 alphanumeric characters. Hyphens (-) and periods (.) are also available for the host name.

### ■ Domain Name

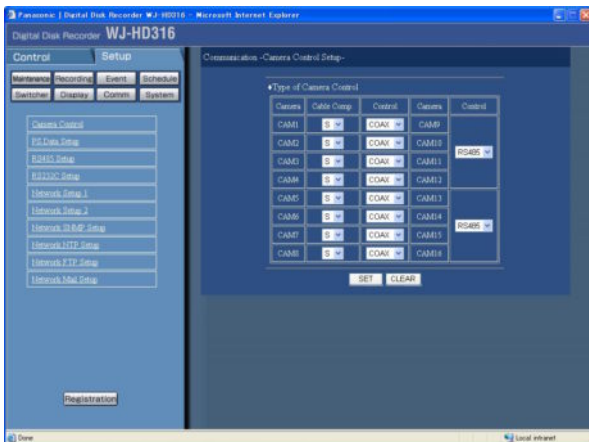
Enter the domain name of this unit. Enter up to 255 alphanumeric characters. Hyphens (-) and periods (.) are also available for the domain name.

## Perform the settings for SNMP network [Network SNMP Setup]

Perform the settings for the SNMP. Perform the settings for the status check of the server, etc. by connecting the SNMP server.

### Screenshot 1

Start operation after the submenu of the communication menu is displayed by clicking the [Comm] button in the [Setup] tab. (page 15)

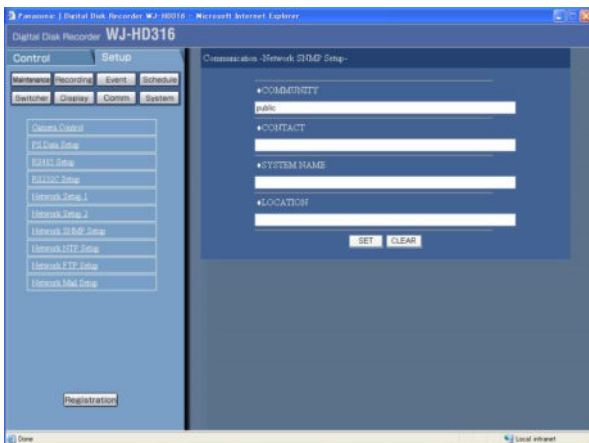


### Step 1

Click "Network SNMP Setup".

### Screenshot 2

The "Network SNMP Setup" menu will be displayed.



### Step 2

Perform the settings for the following item.

#### ■ COMMUNITY

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

#### ■ CONTACT

Enter the mail address of an administrator of this unit. Enter up to 255 alphanumeric characters.

#### ■ SYSTEM NAME

Enter a system name in alphanumeric characters to manage this unit by the SNMP system, for example, No1. Enter up to 255 alphanumeric characters.

#### ■ LOCATION

Enter a location name (location where this unit is installed) in alphanumeric characters, for example, 2F. Enter up to 255 alphanumeric characters.

#### Note:

The following characters can be entered:  
A B C D E F G H I J K L M N O P Q R S T U V W  
X Y Z a b c d e f g h i j k l m n o p q r s t u v w x y z 0  
1 2 3 4 5 6 7 8 9 ! # \$ % & ( ) \* + , - . / : ; < = > ? @ [ \ ] ^ \_ { | } ~

### Step 3

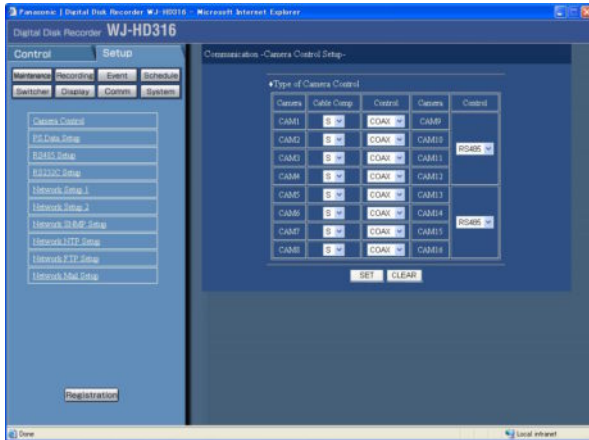
Click the [SET] button after completing the settings.

## Perform the settings for the time adjustment of a network [Network NTP Setup]

Perform the settings for the time and date.

### Screenshot 1

Start operation after the submenu of the communication menu is displayed by clicking the [Comm] button in the [Setup] tab. (page 15)

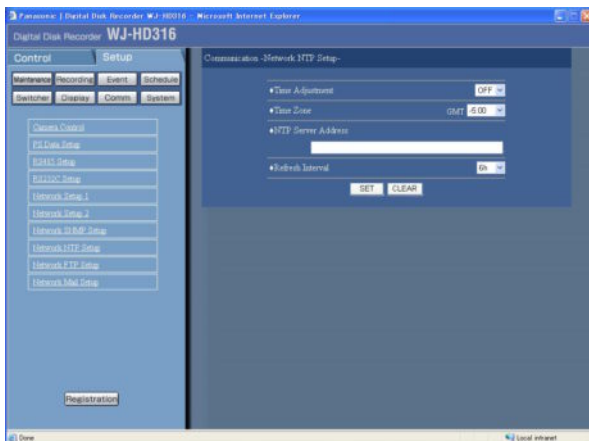


### Step 1

Click "Network NTP Setup".

### Screenshot 2

The "Network NTP Setup" menu will be displayed.



### Step 2

Perform the settings for the following item.

#### ■ Time Adjustment

Select ON or OFF to determine whether or not to adjust the time according to the NTP server.

#### ■ Time Zone

Perform the settings for the time zone in accordance with the place of use when adjusting the time using the NTP server.

#### ■ NTP Server Address

Enter the NTP server address when adjusting the time using the NTP server.

#### ■ Refresh Interval

Select an interval of time inquiry to the NTP server from the following.

1 h/2 h/6 h/12 h/24 h

### Step 3

Click the [SET] button after completing the settings.

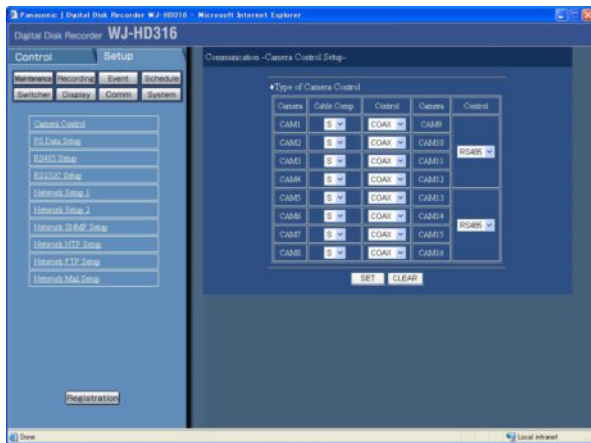
## Perform the settings for the FTP server. [Network FTP Setup]

Perform the settings for the FTP server.

Perform the required settings for [Network FTP setup] to periodically send images from a camera connected to this unit to a designated FTP server.

### Screenshot 1

Start operation after the submenu of the communication menu is displayed by clicking the [Comm] button in the [Setup] tab. (page 15)

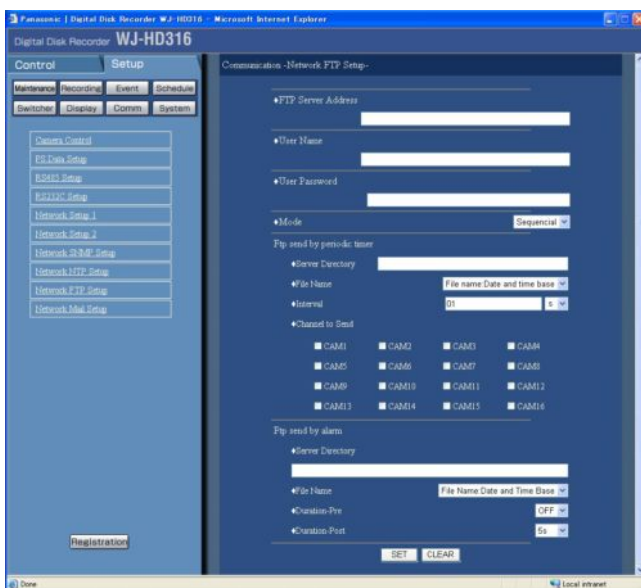


### Step 1

Click "Network FTP Setup".

### Screenshot 2

The "Network FTP Setup" menu will be displayed.



### Step 2

Perform the settings for each item.

Refer to page 75 for further information about the settings for each item.

### Step 3

Click the [SET] button after completing the settings.



## Setup item

### ■ FTP Server Address

Enter an address or name of the FTP server that receives images. To enter an FTP server name, it is necessary to select "MANUAL" or "AUTO" for "DNS".

### ■ User Name

Enter a user name (login name) to access the FTP server.

Enter up to 32 alphanumeric characters.

The available characters are the characters listed below.

### ■ User Password

It is necessary to register a password when sending images to the FTP server. Enter up to 32 alphanumeric characters.

The available characters are the characters listed below.

Entered character for the password will be displayed as "\*".

### ■ Mode

Select an action mode for sending images to the FTP server. Change to "Passive" when sending images is difficult with "Sequential".

Periodical transmission

Perform the following settings when periodically sending recorded images.

### Ftp send by periodic timer

Perform the following settings to periodically send recorded images.

### ■ Server Directory

Enter a directory of the server. Enter up to 32 alphanumeric characters.

The available characters are the characters listed below except (\* : < > ? \ | ~).

### ■ File Name

Perform the settings for the rules about the file name to be sent.

Select whether to "Use the time and date as a file name" or "Use a number as a file name".

### ■ Interval

Enter a transmission interval. Select whether it will be "s" (seconds) or "m" (minutes) for the interval unit.

### ■ Channel to Send

CAM 1-16: Select a camera channel from which images will be sent periodically.

Images from the checked camera channel will be sent to the FTP server.

### Ftp send by alarm

Perform the following settings to send images recorded in the location where an alarm occurred.

### ■ Server Directory

Enter a directory of the server. Enter a case-sensitive directory name. Enter up to 32 alphanumeric characters.

The available characters are the characters listed below except (\* : < > ? \ | ~).

### ■ File Name

Perform the settings for the rules about the file name to be sent.

Select whether to "Use the time and date as a file name" or "Use a number as a file name".

### ■ Duration-Pre

Select the transmission duration for the pre-recorded images from the following.

OFF/1 s - 10 s (in 1 second intervals)

### ■ Duration-Post

Select the transmission duration for the post-recorded images from the following.

OFF/1 s - 10 s (in 1 second intervals)

---

#### Note:

The following characters can be entered:

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

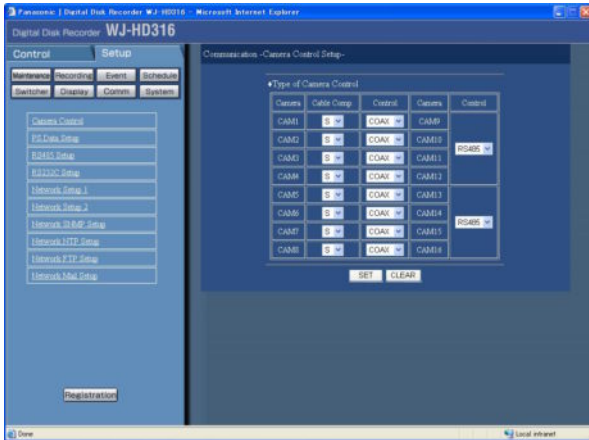
---

## Perform the settings for mail notification. [Network Mail Setup]

Perform the settings to send e-mails to addresses registered in advance at an event occurrence.

### Screenshot 1

Start operation after the submenu of the communication menu is displayed by clicking the [Comm] button in the [Setup] tab. (page 15)

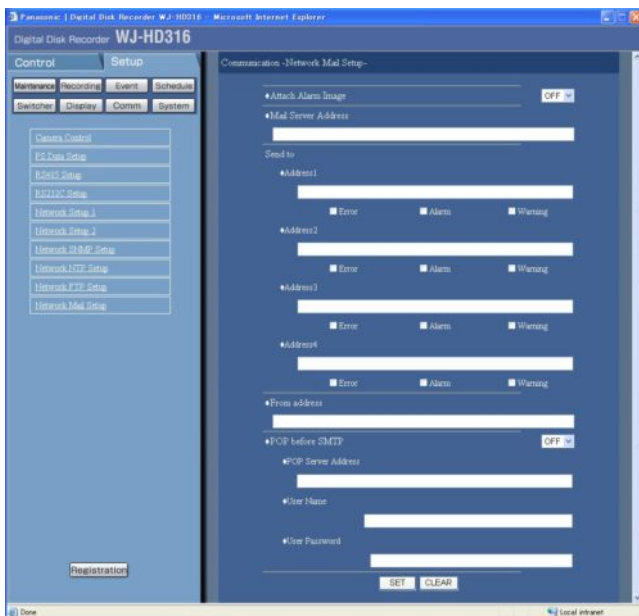


### Step 1

Click "Network Mail Setup".

### Screenshot 2

The "Network Mail Setup" menu will be displayed.



### Step 2

Perform the settings for each item.

Refer to page 77 for further information about the settings for each item.

### Step 3

Click the [SET] button after completing the settings.

## Setup item

### ■ Attach Alarm Image

Select ON or OFF to determine whether or not to attach an image to an e-mail to be sent at an event occurrence.

### ■ Mail Server Address

Enter an IP address or a name of the SMTP server to send e-mails to. To enter an SMTP server name, it is necessary to select "MANUAL" or "AUTO" for "DNS". Enter up to 255 alphanumeric characters (including hyphens (-) and periods (.))

### Send to

Perform the settings for a destination of any alarm mails (refer to the network operation instructions), problem mails (page 94) and error mails (page 95). Enter mail addresses after checking "Destination 1 - 4".

Up to 4 destination can be registered.

Check the desired mail type (problem/alarm/error) to be sent.

### ■ From address

Enter the mail address of a sender. Entered mail addresses will be displayed in the "From" (sender) line.

Enter up to 255 alphanumeric characters.

Entering hyphens (-) and periods (.) is possible.

### ■ POP Server address

Select ON or OFF to determine whether to enable or disable the POP server authentication before sending e-mails using the SMTP server.

When "ON" is selected, perform the following settings.

### ■ User Password

Enter a password to access the POP server.

Enter up to 32 alphanumeric characters including hyphens (-) and periods (.).

The available characters are the characters listed below.

### ■ User Name

Enter a user name (login name) to access the POP server.

Enter up to 32 alphanumeric characters.

The available characters are the characters listed below.

### ■ Password

Register a password to access the POP server. Enter up to 32 alphanumeric characters. An entered character for the password will be displayed as "\*".

---

#### Note:

The following characters can be entered:

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

---

# Perform the settings for the system [System]

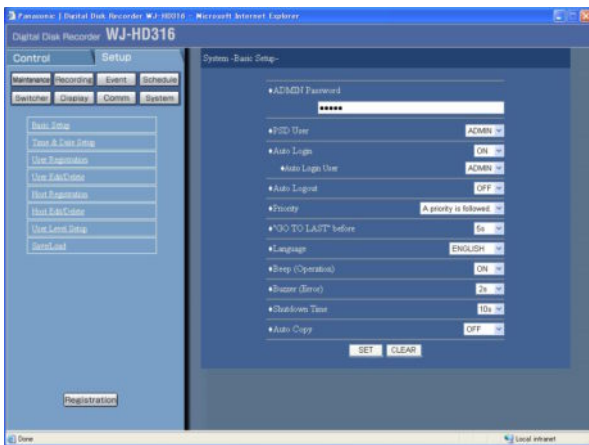
Perform the settings for the system of this unit.

## Perform the basic settings for the system [Basic Setup]

Perform the settings for the basic operations of this unit.

### Screenshot 1

Start operation after the submenu of the communication menu is displayed by clicking the [System] button in the [Setup] tab. (page 15)

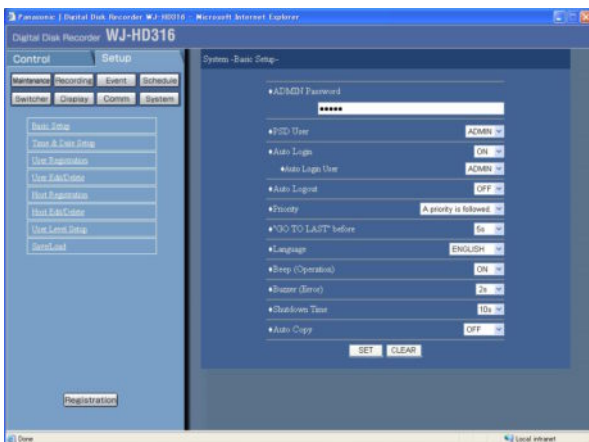


### Step 1

Click "Basic Setup".

### Screenshot 2

The "Basic Setup" menu will be displayed.



### Step 2

Perform the settings for each item. Refer to page 79 for further information about the settings for each item.

### Step 3

Click the [SET] button after completing the settings.

## Setup item

### ■ ADMIN Password

Set a password for an administrator.  
Enter 4 to 32 alphanumeric characters.

### ■ PSD User

Perform the settings for a user when using a PS-Data compatible controller. A PSD user should be one of the registered users for this unit.

### ■ Auto Login

Select ON or OFF to determine whether to activate or deactivate the auto login function when turning on the power of this unit.

**ON:** Activates the auto login function.

**OFF:** Deactivate the auto login function. Authentication will be required each time this unit starts up.

### ■ Auto Login User

When "ON" is selected, it is possible to login this unit with the user level of the auto login user. An auto login user should be one of the users registered for this unit.

### ■ Auto Logout

Perform the settings to log out a user automatically when the set time has passed from the time a user logged in.

**OFF:** Deactivate the auto logout function.

**1/2/3/4/5/30 m:** Activates the auto logout function after the selected time has passed from the time a user logged in.

---

#### Important:

- When ON is selected for the auto login function, the auto logout function will not work.
- 

### ■ Priority

Perform the settings to assign priorities to operate this unit in case two or more users access this unit simultaneously.

**A priority is followed.:** Users with higher priority can operate this unit.

**Pre-priority:** A user who accessed the unit first can operate it regardless of the priorities.

**Post-priority:** A user who accessed the unit last can operate it regardless of the priorities.

### ■ "GO TO LAST" before

Select a time to be skipped to when the [Go To LAST] button is pressed during playback from the following.

5 s/10 s/30 s/1 m/5 m

### ■ Language

Select a language for the SETUP MENU from the following.

JAPANESE/ENGLISH/FRENCH/SPANISH/GERMAN/  
ITALIAN

### ■ Beep (Operation)

Select ON or OFF to determine whether or not to sound the buzzer when the button is pressed.

### ■ Buzzer (Error)

Perform the settings for sounding a buzzer at an error occurrence.

**OFF:** A buzzer will not sound at an error occurrence.

**1 s - 30 s (in 1 second intervals)/40 s/50 s/1 m/3 m/  
4 m/5 m (in 1 minute intervals):**

The buzzer will sound for the selected period after an error occurred.

**EXT:** The buzzer will sound continuously until the [ALARM RESET] button on the front panel of the unit is pressed.

### ■ Shutdown Time

Determine when the safe shutdown starts after a power outage alert signal is supplied to this unit.

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

---

## ■ Auto Copy

Perform the settings to copy recorded images automatically to the copy area of the hard disk or the DVD-RAM disk.

**OFF:** Images will not be copied.

**COPY 1:** Images will be copied to the DVD-RAM disk connected to the copy 1 port.

**COPY 2:** Images will be copied to the DVD-RAM disk connected to the copy 2 port. HDD: Images will be copied to the copy area of the hard disk of this unit.

---

### **Important:**

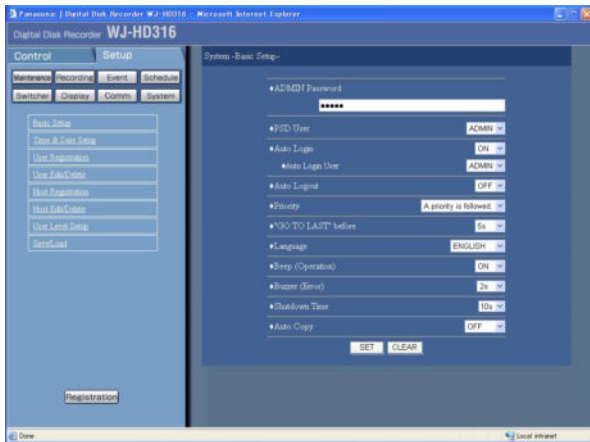
- When "OFF" is selected, the auto copy function will be disabled even for an emergency recording and auto copy at an event occurrence.
  - Auto copy will not function without connecting to a DVD-RAM disk even if "COPY 1" or "COPY 2" is selected.
-

## Perform the settings for the time and date [Time & Date Setup]

Perform the settings for the time and date.

### Screenshot 1

Start operation after the submenu of the communication menu is displayed by clicking the [System] button in the [Setup] tab. (page 15)

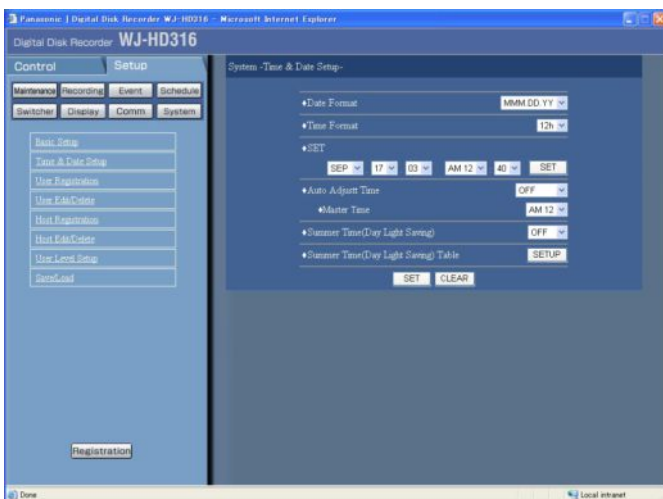


### Step 1

Click "Time & Date Setup".

### Screenshot 2

The "Time & Date Setup" menu will be displayed.



### Step 2

Perform the settings for each item.

Refer to page 82 for further information about the settings for each item.

### Step 3

Click the [SET] button after completing the settings.

## Setup item

### ■ Date Format

Select a date format to be displayed from the following.  
(Example for April 1, 2003)

YY.MM.DD: 03.4.1  
MMM.DD.YY: APR.1.03  
DD.MMM.YY: 1.APR.03

### ■ Time Format

Select a time format to be displayed from the following.  
(Example for 3 o'clock in the afternoon)

12 h: 3:00:00 PM  
24 h: 15:00:00

### ■ SET (Clock settings)

Adjust the current time and date.

Enter numbers in order for year, month, day, hour and minute, and then click the [SET] button.

### ■ Auto Adjust Time

Select a method of auto clock adjustment from the following.

When "MASTER" is selected, signals will be supplied from the ALARM/CONTROL connector to inform the clock of the MASTER unit (see below) at a set time.

**MASTER:** A signal will be supplied from the ALARM/CONTROL connector on the rear panel of the MASTER unit to the other connected devices and the other devices will adjust their clocks with reference to the clock of this unit.

**SLAVE:** Receives a signal from the MASTER unit and adjusts the clock.

### ■ Master Time

Set the clock for a signal to be supplied from the ALARM/CONTROL connector (time adjustment I/O, pin. no. 20) of the ALARM/CONTROL connector on the rear pane of the unit.

### ■ Summer Time (Day Light Saving)

Perform the settings for summer time from the following.

**OFF:** Does not apply summer time.

**ON:** Applies summer time.

**AUTO:** Applies summer time automatically in accordance with the settings for switching to summer time (Refer to the following).

### ■ Summer Time (Day Light Saving) Table

Set the start (ON)/end (OFF) date and time for summer time.

The following window will be displayed when the [SETUP] button is clicked. Click the [SET] button after completing the settings.

Row	State	Month	Day	Year	Hour	Minute
1	ON	--	--	--	--	--
	OFF	--	--	--	--	--
2	ON	--	--	--	--	--
	OFF	--	--	--	--	--
3	ON	--	--	--	--	--
	OFF	--	--	--	--	--
4	ON	--	--	--	--	--
	OFF	--	--	--	--	--
5	ON	--	--	--	--	--
	OFF	--	--	--	--	--
6	ON	--	--	--	--	--
	OFF	--	--	--	--	--
7	ON	--	--	--	--	--
	OFF	--	--	--	--	--
8	ON	--	--	--	--	--
	OFF	--	--	--	--	--
9	ON	--	--	--	--	--
	OFF	--	--	--	--	--
10	ON	--	--	--	--	--
	OFF	--	--	--	--	--

Set the ON/OFF date and time for summer time. Enter the last 2 digits for the year.

Up to 10 times and dates for switching to summer time can be set.

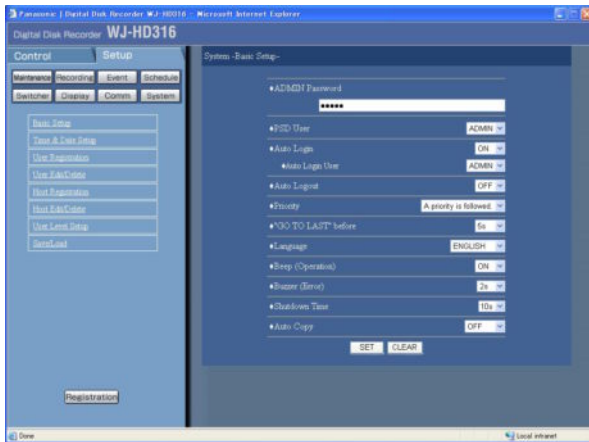


## Registration of a user who operates this unit [User Registration]

Register user information such as a user name and password.

### Screenshot 1

Start operation after the submenu of the communication menu is displayed by clicking the [System] button in the [Setup] tab. (page 15)

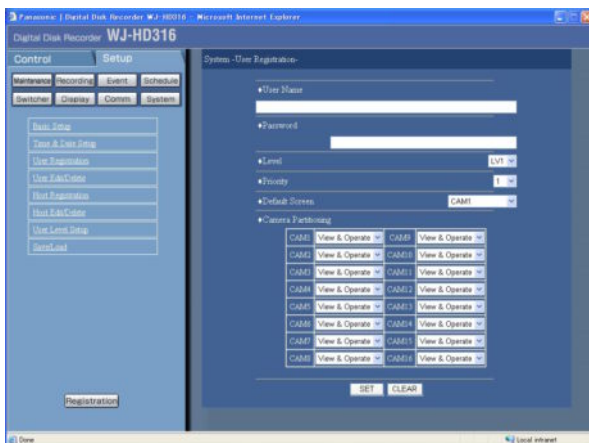


### Step 1

Click "User Registration".

### Screenshot 2

The "User Registration" menu will be displayed.



### Step 2

Perform the settings for each item.

Refer to page 84 for further information about the settings for each item.

### Step 3

Click the [SET] button after completing the settings.

### Note:

- Repeat steps 2 and 3 to register two or more users.

## Setup item

### ■ User Name

Enter a user name. Enter 4 to 32 alphanumeric characters for a user name.

### ■ Password

Enter a password. Enter 4 to 32 alphanumeric characters for a password.

### ■ Level

Select a user level from the following. Operable functions for each level can be set in "User Level setup" menu (page 89).  
LV1/LV2/LV3

### ■ Priority

Assign a priority from 1 (lowest priority) to 16 (highest priority) to every user.

### ■ Default Screen

Select a startup display to be displayed after login from the following.

**CAM 1-16 (for the WJ-HD316)/CAM 1-9 (for the WJ-HD309):** Displays live images from the selected camera channel on a single screen.

**QUAD 1-4:** Displays live images from the camera channels 1 - 4 on a 4-split screen.

**QUAD 5-8:** Displays live images from the camera channels 5 - 8 on a 4-split screen.

**QUAD 9-12 (for the WJ-HD316)/CAM 9 (for the WJ-HD309):** Displays live images from the camera channels 9 - 12 on a 4-split screen. (When WJ-HD309 is used, live images from only camera channel 9 will be displayed on the upper left screen of a 4-split screen.)

**QUAD 13-16 (only for the WJ-HD316):** Displays live images from the camera channels 13 - 16 on a 4-split screen.

**7 SCREEN:** Displays images on a 7-split screen.

**9 SCREEN 1-9:** Displays images from the camera channels 1 - 9 on a 9-split screen.

**9 SCREEN 10-16 (only for the WJ-HD316):** Displays images from the camera channels 10 - 16 on a 9-split screen.

**10 SCREEN (only for the WJ-HD316):** Displays images on a 10-split screen.

**13 SCREEN (only for the WJ-HD316):** Displays images on a 13-split screen.

**16 SCREEN (only for the WJ-HD316):** Displays images on a 16-split screen.

**SEQ:** Images will be displayed in the sequential display.

### ■ Camera Partitioning

Select a controllable range for each camera channel from the following.

**View & Operate:** Both displaying live images and controlling cameras are available.

**View:** Only displaying live images is possible. Controlling cameras is not possible.

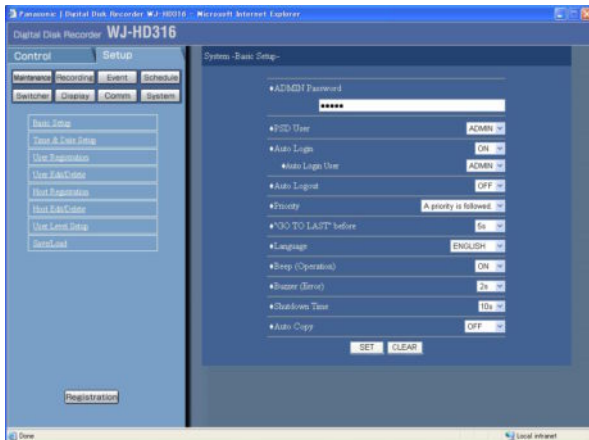
**--:** Neither displaying live images nor controlling cameras are possible.

## Edit/delete registered user information [User Edit/Delete]

Edit or delete a registered user information.

### Screenshot 1

Start operation after the submenu of the communication menu is displayed by clicking the [System] button in the [Setup] tab. (page 15)

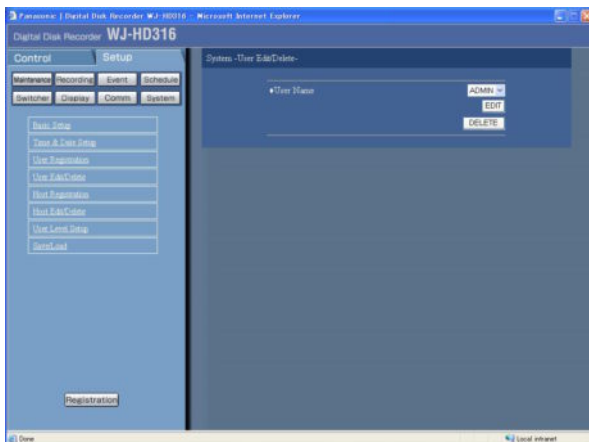


### Step 1

Click "User Edit/Delete".

### Screenshot 2

The "User Edit/Delete" menu will be displayed.



### Step 2

Click the [✓] button to select a desired user information to be edited or deleted.

### Step 3

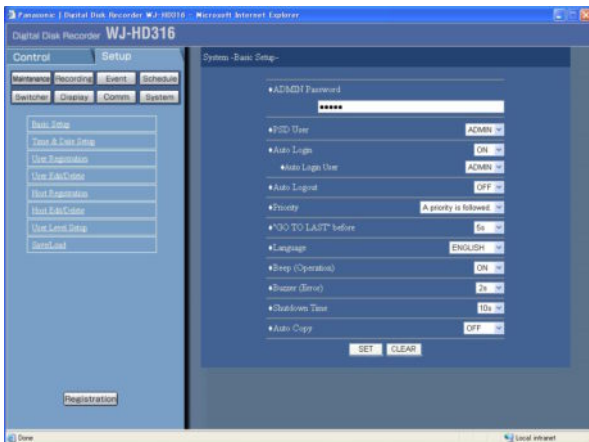
- Click the [EDIT] button to edit the selected user information.  
The "Edit user information" window will be displayed with information of the registered user. Edit user information in the same way as the user registration. (page 83)
- Click the [DELETE] button to delete the selected user.

## Registration of a PC (host) accessible to this unit [Host Registration]

Register information of a PC (host) that accesses this unit via a network such as a LAN.

### Screenshot 1

Start operation after the submenu of the communication menu is displayed by clicking the [System] button in the [Setup] tab. (page 15)

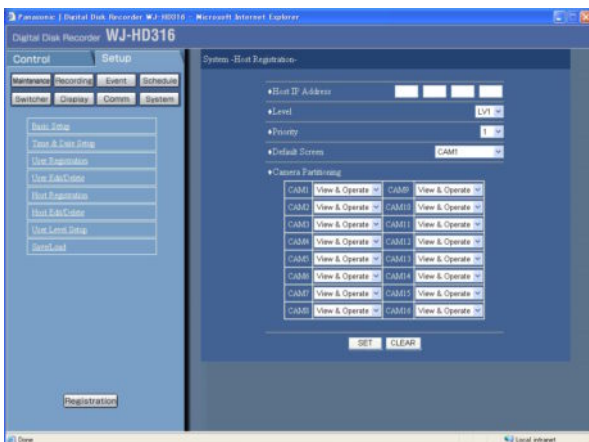


### Step 1

Click "Host Registration".

### Screenshot 2

The "Host Registration" menu will be displayed.



### Step 2

Perform the settings for each item.  
Refer to page 87 for further information about the settings for each item.

### Step 3

Click the [SET] button after completing the settings.

### Note:

- Repeat steps 2 and 3 to register two or more users.

## Setup item

### ■ Host IP Address

Enter an IP address.

### ■ Level

Select a level from the following. Operable functions for each level can be set in "User Level Setup" menu (page 89).

LV1/LV2/LV3

### ■ Priority

Assign a priority from 1 (lowest priority) to 16 (highest priority) to every host.

### ■ Default Screen

Select a startup display to be displayed after login from the following.

**CAM 1-16 (for the WJ-HD316)/CAM 1-9 (for the WJ-HD309):** Displays live images from the selected camera channel on a single screen.

**QUAD 1-4:** Displays live images from the camera channels 1 - 4 on 4-split screen.

**QUAD 5-8:** Displays live images from the camera channels 5 - 8 on 4-split screen.

**QUAD 9-12 (for the WJ-HD316)/CAM 9 (for the WJ-HD309):** Displays live images from the camera channels 9 - 12 on a 4-split screen. (When WJ-HD309 is used, live image from only the camera channel 9 will be displayed on the upper left screen of a 4-split screen.)

**QUAD 13-16 (only for the WJ-HD316):** Displays live images from the camera channels 13 - 16 on a 4-split screen.

**7 SCREEN:** Displays images on a 7-split screen.

**9 SCREEN 1-9:** Displays images from the camera channels 1 - 9 on a 9-split screen.

**9 SCREEN 10-16 (only for the WJ-HD316):** Displays images from the camera channels 10 - 16 on a 9-split screen.

**10 SCREEN (only for the WJ-HD316):** Displays images on a 10-split screen.

**13 SCREEN (only for the WJ-HD316):** Displays images on a 13-split screen.

**16 SCREEN (only for the WJ-HD316):** Displays images on a 16-split screen.

**SEQ:** Images will be displayed in the sequential display.

### ■ Camera Partitioning

Select a controllable range for each camera channel from the following.

**View & Operate:** Both displaying live images and controlling cameras are possible.

**View:** Only displaying live images is possible. Controlling cameras is not possible.

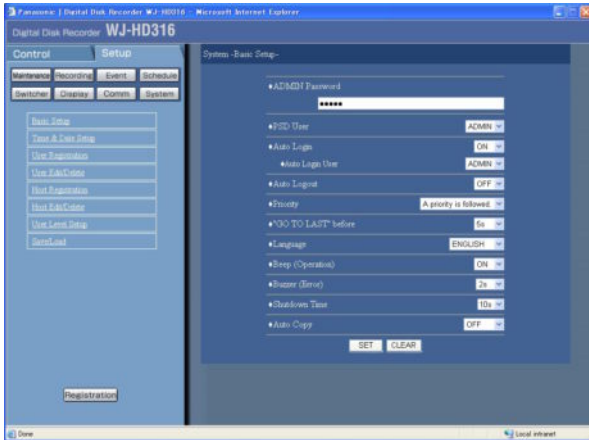
**--:** Neither displaying live images nor controlling cameras are possible.

## Edit/delete a registered host information [Host Edit/Delete]

Edit or delete a registered host information.

### Screenshot 1

Start operation after the submenu of the communication menu is displayed by clicking the [System] button in the [Setup] tab. (page 15)

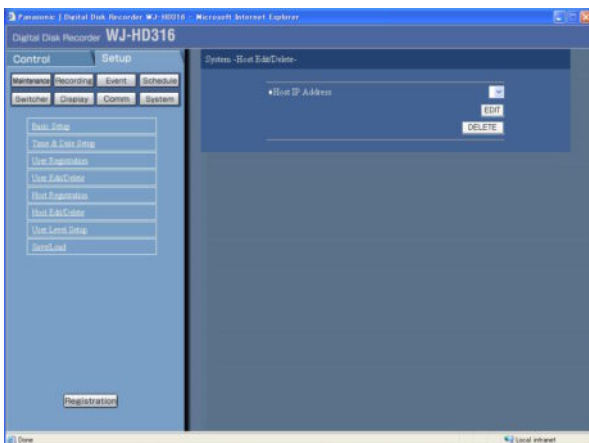


### Step 1

Click "Host Edit/Delete".

### Screenshot 2

The "Host Edit/Delete" menu will be displayed.



### Step 2

Click the [✓] button to select the desired host information to be edited or deleted.

### Step 3

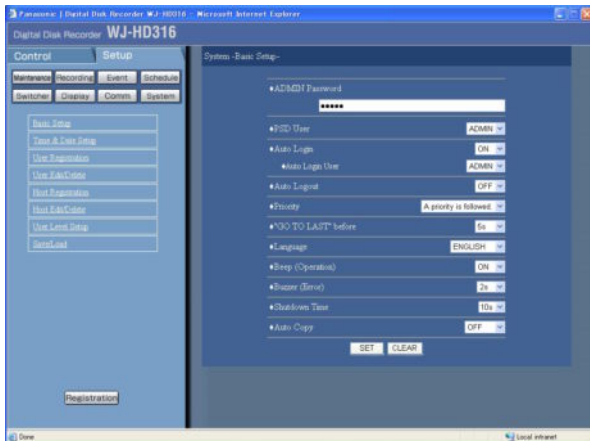
- Click the [EDIT] button to edit the selected host information.  
The "Edit host information" window will be displayed with information of the registered host. Corrections can be performed in the same manner as registration. (page 86)
- Click the [DELETE] button to delete the selected host IP address.

## Setting of operation level [User Level Setup]

Assign a level (LV 1/LV 2/LV 3) to every user to restrict operable functions.

### Screenshot 1

Start operation after the submenu of the communication menu is displayed by clicking the [System] button in the [Setup] tab. (page 15)



### Step 1

Click "User Level Setup".

### Screenshot 2

The "User Level Setup" menu will be displayed.



### Step 2

Check the desired functions to allow to operate. To not allow a user to operate certain functions, do not check the respective function.

Refer to the next page for further information about each function.

### Step 3

Click the [SET] button after completing the settings.

## About functions that can be restricted

The following functions can be made restricted according to the levels.

Function	Description
WJ-HD300 Setup	It is possible to display the SETUP MENU to edit the settings.
WJ-HD300 Setup Status	Only the SETUP MENU can be displayed.Changing the settings is not possible.
Camera Setup	It is possible to display the camera setup menu to edit the settings.
Event Log Status	It is possible to check the event input log (Refer to page 14.)
Access Log Status	It is possible to check the access log (Refer to page 14.)
Trouble Log Status	It is possible to check the trouble log (Refer to page 14.)
Alarm Reset	An event action can be canceled. (Refer to the Network Operating Instructions (pdf).)
Alarm Disarm Time	An event action can be suspended. (Refer to the Network Operating Instructions (pdf).)
Copy	A recorded image can be manually copied. (Refer to the Network Operating Instructions (pdf).)
Normal Recording Erase	Image data in the normal recording area of the hard disk can be manually deleted.
Event Recording Operation	Image data in the event recording area of the hard disk can be manually deleted.
Manual Recording Operation	It is possible to start/stop manual recording.
Playback Operation	A recorded image can be played.
Network Access	Logging into this unit using a PC via a network is possible.

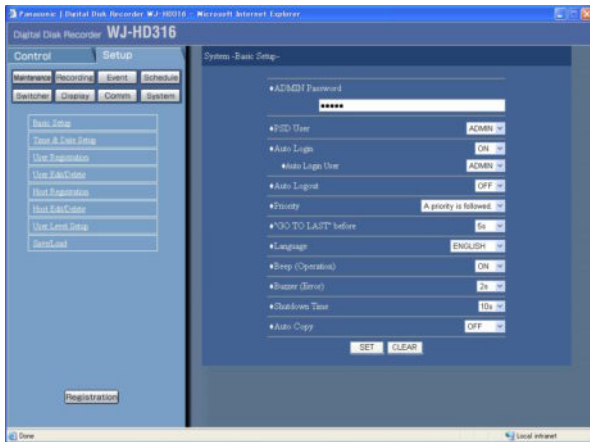


## Saving and loading of settings of SETUP MENU [Save/Load]

Save the settings of the SETUP MENU in this unit.  
Call up saved settings. (Load)

### Screenshot 1

Start operation after the submenu of the communication menu is displayed by clicking the [System] button in the [Setup] tab. (page 15)

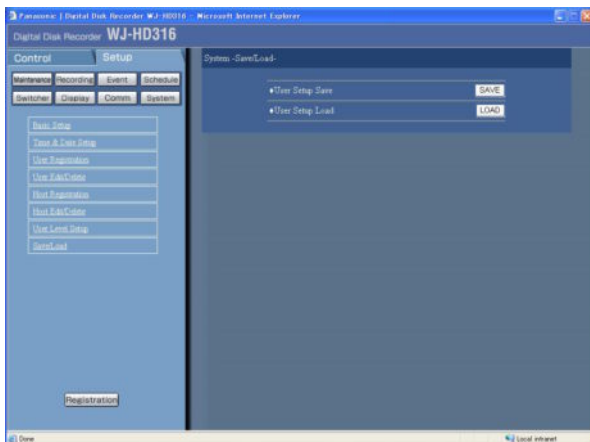


### Step 1

Click "Save/Load".

### Screenshot 2

The "Save/Load" menu will be displayed.



### Step 2

- Save the settings of the SETUP MENU in this unit.
- Click the [LOAD] button to call up the saved settings.

# Notification by e-mail

## Alarm mail notification

The following mail will be sent to notify of an alarm occurrence to a registered address when an alarm occurs.

In HD316 (192.168.0.250), alarm was occurred.  
Time and date: xxxx.xx.xx xx:xx:xx (Example 2002.07.24 12:00:00)  
Cause of the alarm: Displays an event type and a camera channel or an alarm number (Example VMD5CH)  
File name of alarm image: The file name of the image attached to an e-mail:

---

**Note:**

- The alarm mail contains the URL of the first image (ALMxxxxx\_00GO4). When the settings are performed to save two or more images, it is possible to browse other images by editing the "00" part. (For example, to browse the 40th image, enter [http://\(IP address of this unit\)/ALMxxxxx\\_39.GO4](http://(IP address of this unit)/ALMxxxxx_39.GO4) in the address box of the browser.

---

It is possible to edit the contents of the alarm mail that notifies of the event occurrence with the time and date of the event occurrence.

To edit the alarm mail, perform the following.

**Step 1**

Edit the contents using text editing software and save in the text format.

Depending on the item (time and date at an event occurrence, cause of alarm, host address, etc.) to be displayed, characters to be entered will be different. Refer to the following list of characters to be replaced when editing the contents of the mail. Save the edited mail contents as the file name of "almmail.tmp".

**Step 2**

Start up the FTP software and enter the IP address of the unit to connect to the unit.

Enter the user name and password as follows.

User Name: ADMIN

Password: Password entered for ADMIN on the SETUP MENU. (The default password is 12345.)

Refer to a system administrator for further information about the settings of user name and password.

**Step 3**

Transfer the edited file (almmail.tmp) in the text format.

The directory to be sent is as follows.

/user/HD300/USER\_DATA

## List of characters to be replaced

Item to be displayed	Display style of entered characters	Example
Year when the event occurred (4 digits)	#05000000	4 digits display (2002 - 2099)
Month when the event occurred (number)	#05000100	2 digits display (01 – 12)
Month when the event occurred (number)	#05000200	Displays first 3 letters (Jan, Feb ... Dec)
Day when the event occurred	#05000300	2 digits display (01 – 31)
Time when the event occurred	#05000400	24-hour display (15:00:00)
Mail address of the sender	#05000500	
Host name of HD316	#05000600	
IP Address of HD316	#05000700	192.168.0.1
Cause of the alarm	#05000800	Terminal: Terminal VMD: VMD Command: Command
Alarm number	#05000900	4 digits number 2 digits (01 – 32) + CH
File name of the alarm image	#050010000	xx_ALMyymmddhhmmss.GO4 Remain blank when no alarm image exists. xx: Camera channel number yymmdd: Time and date when the event occurred hhmmss: Time (hour, minute, second) when the event occurred

# Problem mail notification

The following mail will be sent to notify of a problem occurrence to a registered address when a problem occurs.

WJ-HD316 (192.168.0.250) STATUS REPORT.  
 DATE: Apr.27.01 10:14:21  
 STATUS: VIDEO-LOSS 1CH  
 LOG URL: http://192.168.0.250/

Display	Description
DATE	The time and date when a problem occurred will be displayed.
STATUS	The description of the problem will be displayed. Thermal trouble: THERMAL ERROR Alteration detection: ALTERED HDD smart warning: DISK WARNING XX XX indicates disk number. MAIN-*: this unit * disk number MAIN-*: expansion unit number * disk number HDD Capacity warning* <sup>1</sup> : <except FULL> HDD CAPACITY REMAINS * * % * * indicates set value (%) - 0 <FULL> HDD IS FULL HDD hour meter warning: HDD HOUR METER WARNING Power outage detection: POWER LOSS Remove auto links: XX IS LOGICALLY REMOVED Video loss: VIDEO-LOSS *CH "*" indicates a camera channel" Other problems: UNDEFINED ERROR
LOG URL	URL of this unit

\* 1 HDD About capacity warning

A problem mail with the <except FULL> content will be sent when the available disk space becomes less than the set value for "Capacity warning" in the "Maintenance" menu. After a problem mail is sent, a problem mail with the <except FULL> content will be sent each time 1% of the available disk space is reduced, and a problem mail with the <FULL> content will be sent when there is no available disk space.

**Note:**

- It is impossible to edit a problem mail.

# About error mail

An error mail with the following contents will be sent to a registered address when the available hard disk space of the copy area or an external recording disk (DVD-RAM disk, DVD-R disk, CD-R disk) is less than the set level, or when the disk has no available disk space.

WJ-HD316 (192.168.0.250) INFORMATION REPORT.

DATE: Apr.27.01 10:14:21  
INFORMATION: HDD-COPY CAPACITY REMAINS 10%  
LOG URL: <http://192.168.0.250/>

Display	Description
DATE	The time and date when an error occurred will be displayed.
STATUS	The description of the capacity warning for the copy area will be displayed. <except FULL> HDD - CAPACITY REMAINS * * % ** : indicates set value (%) - 0 <FULL> HDD - COPY IS FULL When a DVD - RAM, DVD - R or CD - R is used, replace "HDD - COPY" with COPY1/COPY2. (Describe the USB pot number being used)
LOG URL	URL of this unit

## HDD About capacity warning

A problem mail with the <except FULL> content will be sent when the available disk space becomes less than the set value for "Capacity warning" in the "Maintenance" menu. After a problem mail is sent, a problem mail with the <except FULL> content will be sent each time 1% of the available disk space is reduced, and a problem mail with the <FULL> content will be sent when there is no available disk space.

---

### Note:

- It is impossible to edit a problem mail.
-

# Troubleshooting

Before asking for repairs, check the symptoms with the following table.

Refer to the dealer if the respective solutions can not solve the problems or the symptom is not described in the following table.

Symptom	Cause/solution	Reference pages
Can not access from the browser.	<ul style="list-style-type: none"> <li>Is the Ethernet cable connected to the 10/100BASE-T port firmly? Confirm the cable is connected firmly.</li> </ul>	-
	<ul style="list-style-type: none"> <li>Is the connection indicator of the 10/100BASE-T 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 10/100BASE-T port is lit. Refer to a system administrator if it is not lit.</li> </ul>	-
	<ul style="list-style-type: none"> <li>Is the valid IP address set? Refer to a system administrator for further information.</li> </ul>	71
	<ul style="list-style-type: none"> <li>Aren't you accessing the wrong IP address? Check the connection as follows: &gt;ping "IP address of this unit" If there is a reply from this unit, the connection is normal. If not, check the settings of the IP address and the subnet mask.</li> </ul>	-
	<ul style="list-style-type: none"> <li>Isn't the same IP address provided to other devices? Refer to a system administrator for further information.</li> </ul>	71
	<ul style="list-style-type: none"> <li>Aren't there contradictions between the address and the network subnet to be accessed? Or isn't "Use Proxy Server" for the setting of the browser checked? When accessing this unit in the same subnet, entering the address of this unit in the "Don't Use Proxy For These Addresses" box is recommended.</li> </ul>	71

Symptom	Cause/solution	Reference pages
The image is not refreshed.	<ul style="list-style-type: none"> <li>Depending on the traffic of the network, there might be difficulties in displaying images. Press the [F5] button on the keyboard to request images.</li> </ul>	-
Can not close the authentication window displayed when displaying the basic operation window.	<ul style="list-style-type: none"> <li>Are the correct user name and password entered? Confirm the correct user name and password.</li> </ul>	84

**Panasonic Digital Communications & Security Company**

Unit of Matsushita Electric Corporation of America

**Security Systems Group**

[www.panasonic.com/cctv](http://www.panasonic.com/cctv)

**Executive Office:** One Panasonic Way 3E-7, Secaucus, New Jersey 07094

**Zone Office**

**Eastern:** One Panasonic Way, Secaucus, NJ 07094 (201) 348-7303

**Central:** 1707 N.Randal Road, Elgin, IL 60123 (847) 468-5205

**Western:** 6550 Katella Ave., Cypress, CA 90630 (714) 373-7840

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Ontario, L4W 2T3 Canada (905)624-5010

**PANASONIC SALES COMPANY**

**DIVISION OF MATSUSHITA ELECTRIC OF PUERTO RICO INC.**

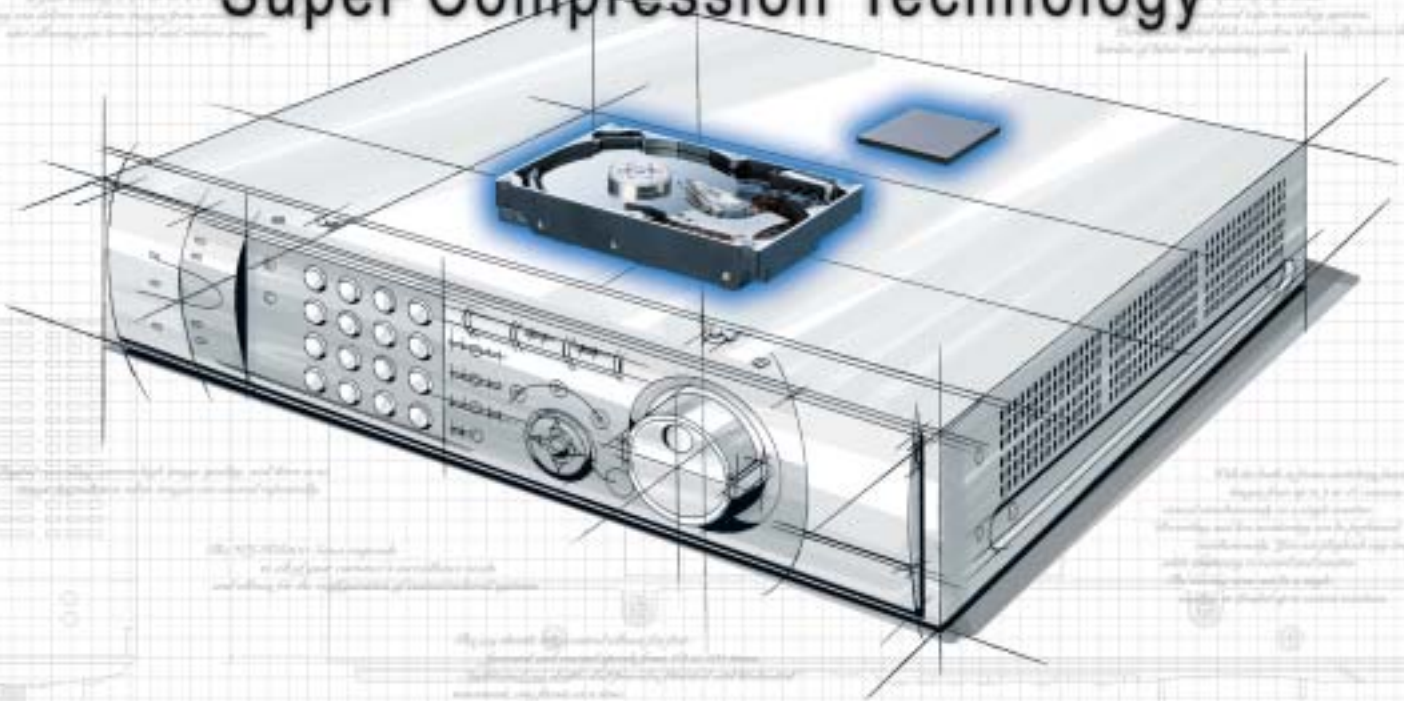
San Gabriel Industrial Park 65th Infantry Ave. KM. 9.5 Carolina,  
P.R. 00985 (809)750-4300



# Panasonic

ideas for life

## Super Compression Technology



DIGITAL DISK RECORDERS

# WJ-HD300

SERIES

# WJ-HD300 SERIES SUPER COMPRESSION TECHNOLOGY



As a cutting edge core technology, the WJ-HD300 Series provides proprietary algorithm for high picture quality and high data compression. The new technology dramatically compresses image data size while retaining high picture quality.

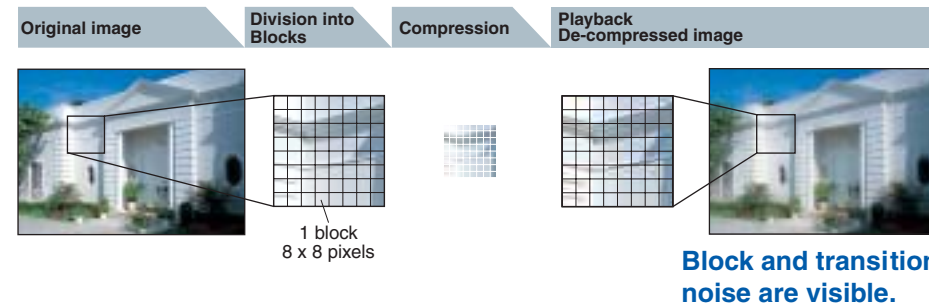
The WJ-HD300 Series enables higher disk saving and extended capability. In addition, the new compression realizes higher ips (image per second) live monitoring/playback and improved downloading speed via a network.

## TECHNOLOGY 1 Intra-field Compression (Full Frame Compression)

New algorithm compresses the entire screen, and reduces artificial distortions and noise compared to conventional compression.

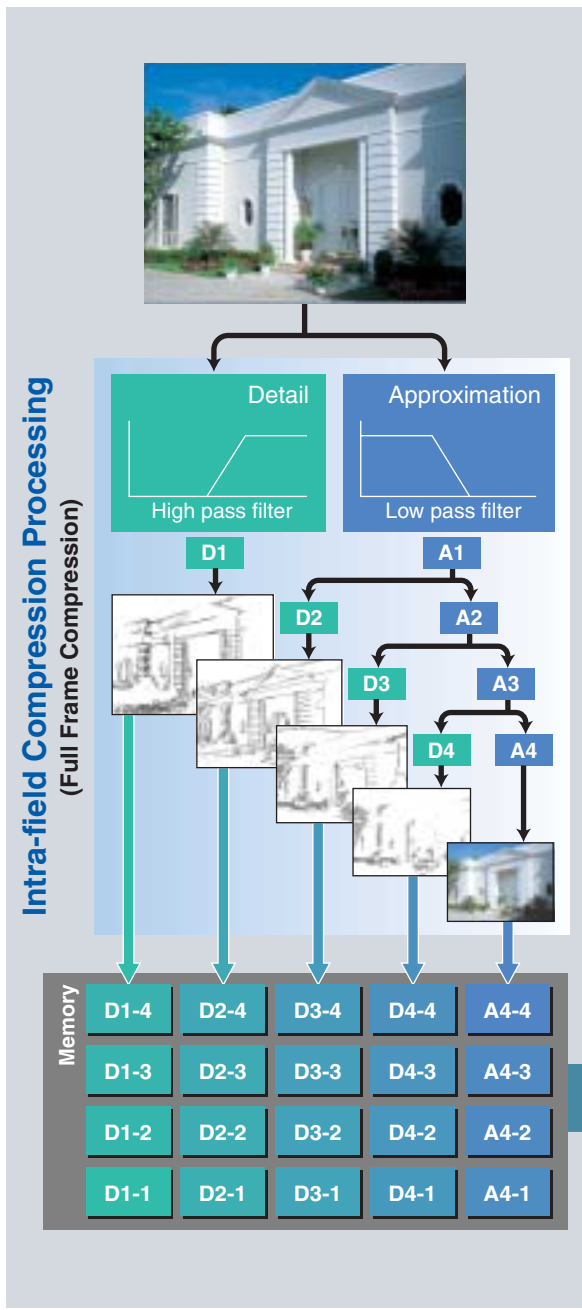
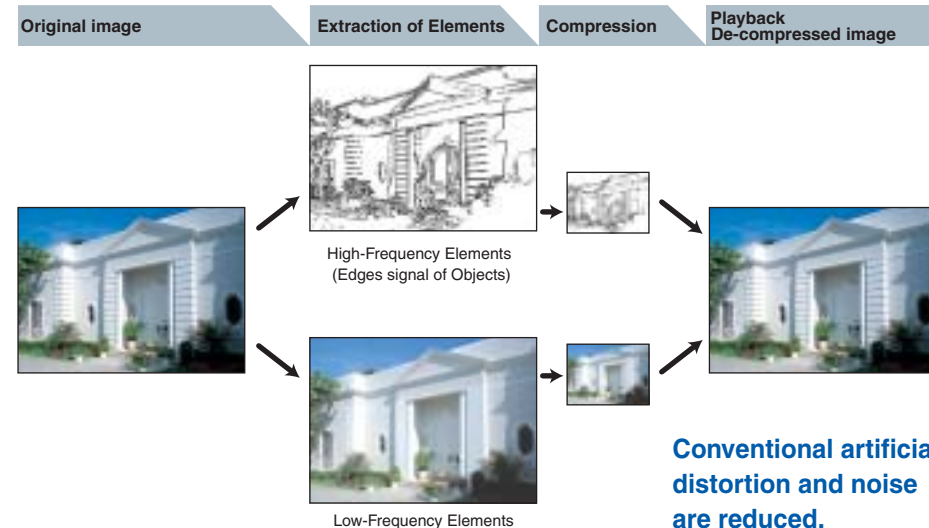
### Conventional Compression

Conventional intra-field type algorithm divides a picture to small blocks for the compression process. Since it would be difficult to maintain continuity of compression between blocks, block pattern distortion is noticeable. In addition, transition noise, which would degrade sharpness of the edge signal, could be observed at high compression.



### WJ-HD300 Series Compression

The entire screen is compressed after being divided into high- and low-frequency elements. The result is significantly reduced artificial distortion and noise that are inherent in conventional systems.

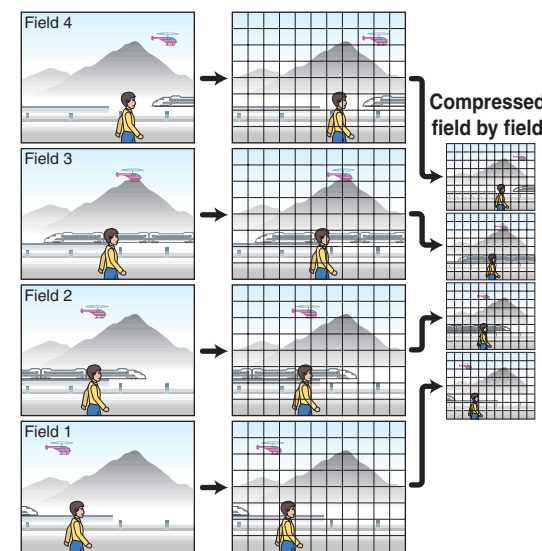


## TECHNOLOGY 2 Inter-field Compression among Four (4) Fields (Conditional Refresh Compression)

High compression by eliminating redundant data between adjacent fields.

### Conventional Compression

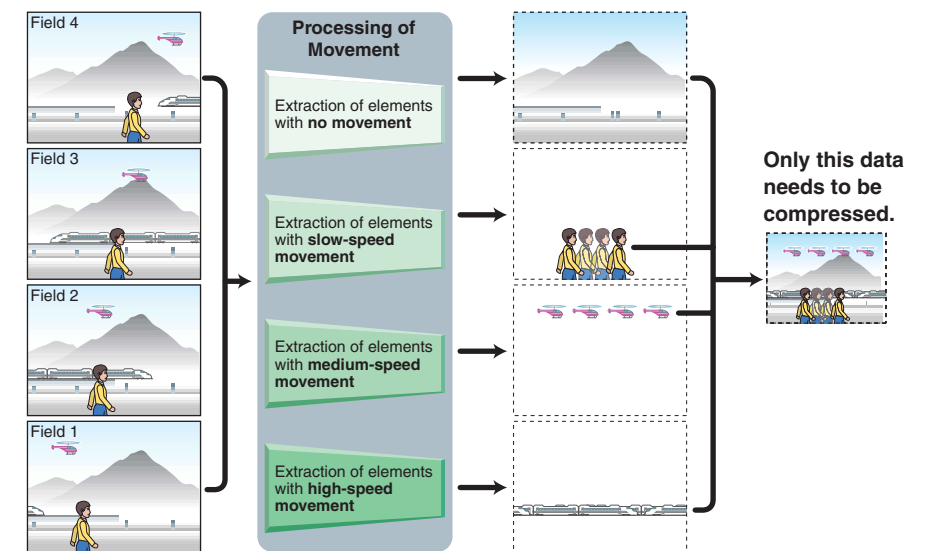
Images from a camera are compressed field by field.



All fields are independently compressed.

### WJ-HD300 Series Compression

Data calculation within four (4) field images (called "Temporal Transforms"), outputs data according to the amount of movement; "No Movement," "Slow Speed Movement," "Medium Speed Movement," and "High Speed Movement." As shown below, redundant data can be reduced through this compression process.



High efficiency is ensured since redundant data is not only within the same field ("Intra-Field"), but also between fields ("Inter-Field").

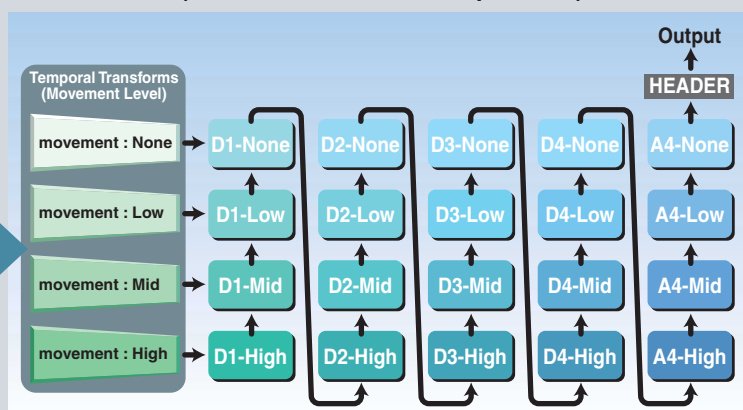
## TECHNOLOGY 3 New Compression Algorithm is Embedded into Proprietary LSI Chip

- Accurate compression processing for sharp edge image areas.
- High speed temporal transforms processing. (Compression processing among four (4) fields)

- Flexible compression settings for independent cameras.
- The proprietary compression chip provides a combination of high picture quality and high compression with 60ips (image per second) real time image processing.

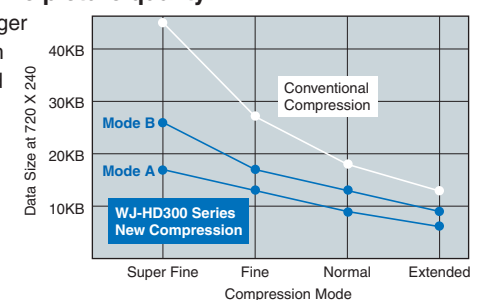


### Compression Processing among Four (4) Fields (Conditional Refresh Compression)



### Half the data, the same picture quality

Further disk saving, longer recording time, and high image quality is realized as shown below.



Compression mode	Algorithm	Features
Mode A	Intra + Inter field	Temporal transforms among 4 fields
Mode B	Intra field only	Field by field compression



# The WJ-HD300 Series offers high quality pictures and disk saving recording utilizing a new compression technology.



## DISK DATA REFERENCE CHART NTSC Color Video Signal, 320GB (160GB unit x 2), 16 Channel Video Inputs, Audio Signal: Off, Auto Mode Manual Recording

Sampling Pixel Size: 720 x 240 **Field Mode (Mode A)**

Global IPS*	Compression Mode	EXTENDED	NORMAL	FINE	SUPER FINE
3		7,500	5,600	3,700	2,800
6		2,500	1,800	1,200	930
7.5		1,800	1,400	930	700
15		1,500	1,100	750	560
30		750	560	370	280
60		250	180	120	90

\*IPS (Image Per Second) (Hours)

Sampling Pixel Size: 360 x 240 **SIF Mode (Mode A)**

Global IPS*	Compression Mode	EXTENDED	NORMAL	FINE	SUPER FINE
3		15,000	11,200	7,500	5,600
6		5,000	3,700	2,500	1,800
7.5		3,700	2,800	1,800	1,400
15		3,000	2,200	1,500	1,100
30		1,500	1,100	750	560
60		500	370	250	180
120		200	150	100	70

\*IPS (Image Per Second) (Hours)  
(above figures are approximate, actual recording time may differ depending on picture imaging)

Sampling Pixel Size: 720 x 240 **Field Mode (Mode B)**

Global IPS*	Compression Mode	EXTENDED	NORMAL	FINE	SUPER FINE
3		5,600	3,700	2,800	1,800
6		1,800	1,200	930	620
7.5		1,400	930	700	460
15		1,100	750	560	370
30		560	370	280	180
60		180	120	90	60

\*IPS (Image Per Second) (Hours)

Sampling Pixel Size: 360 x 240 **SIF Mode (Mode B)**

Global IPS*	Compression Mode	EXTENDED	NORMAL	FINE	SUPER FINE
3		11,200	7,500	5,600	3,700
6		3,700	2,500	1,800	1,200
7.5		2,800	1,800	1,400	930
15		2,200	1,500	1,100	750
30		1,100	750	560	370
60		370	250	180	120
120		150	100	70	50

\*IPS (Image Per Second) (Hours)

## SPECIFICATIONS: WJ-HD316

General		
Power Source	120 V AC, 60 Hz	
Power Consumption	85 W	
Ambient Operating Temperature	+5°C - +45°C (41°F - 113°F)	
Ambient Operating Humidity	Less than 90 %	
Dimensions	420 mm (W) x 88 mm (H) x 350 mm (D) [16-9/16" (W) x 3-7/16" (H) x 13-3/4" (D)] (excluding rubber feet and projections)	
Weight	9.5 kg (21 lbs.)	
Input/Output		
Video	Video Input Connectors	1 V [P-P] / 75 Ω, with auto termination loop-thru, vertical timing pulse multiplexed, x8 (1 to 8 CH) (BNC) 1 V [P-P] / 75 Ω, with auto-termination loop-thru, x8 (9 to 16 CH) (BNC)
	Cascade Input Connector	1 V [P-P] / 75 Ω (BNC)
	Video Output Connectors	1 V [P-P] / 75 Ω, active loop-thru output, x8 (1 to 8 CH) (BNC)*1 1 V [P-P] / 75 Ω, active loop-thru output, x8 (9 to 16 CH) (BNC)
	Monitor Output Connectors	1 V [P-P] / 75 Ω, x2 (BNC)
	Monitor Output Connector (VGA)	RGB output, x1 (15-pin D-sub)
	S-Video Output Connector	Y = 1 V [P-P] / 75 Ω, C-0.286 V [P-P] / 75 Ω, x1 (S-video output connector)
Audio	Video Output Connector (Front Panel)	1 V [P-P] / 75 Ω, x1 (RCA pin)
	Audio Input Connectors	-10 dB, 10 KΩ, x4 (RCA pin)
	Audio Output Connectors	-10 dB, 600 Ω, unbalanced, x2 (RCA pin)

Others	Expansion Connector	High-speed serial interface, 480 Mbps (theoretical value), x1
	Copy Connectors	High-speed serial interface, 480 Mbps (theoretical value), x2
	Control Connectors	Emergency recording input <sup>2</sup> , additional space warning output <sup>3</sup> (for devices connected to copy connectors), HDD trouble output <sup>3</sup> , camera trouble output <sup>3</sup> , trouble output <sup>3</sup> , electricity failure recovery completion output <sup>4</sup> , time adjust input/output <sup>5</sup> , sequence switching input/output <sup>5</sup> , electricity failure detection input <sup>2</sup> , external recording mode switching <sup>2</sup> (25-pin D-sub), +5 V output <sup>7</sup>
	Alarm Port	1 to 8 CH alarm input <sup>6</sup> , 1 to 16 CH alarm input <sup>2</sup> , 1 to 16 alarm output <sup>3</sup> , alarm recovery input <sup>2</sup> , alarm suspension input <sup>5</sup> (25-pin D-sub)
	RS-485 Ports	RS-485 (full duplex/half duplex <sup>8</sup> ), x2 (RJ-11)
	DATA Ports	RS-485, x2 (RJ-11)
	SERIAL Connector	RS-232C, x1 (9-pin D-sub)
	Ethernet Port	10 Base-T/100 Base-TX (RJ-45)

- \*1. When power is not supplied, video output signal was not sent from the unit even if video input signal is supplied.  
 \*2. Non-voltage N.O. Contact, 100 mA, +5 V pull-up  
 \*3. Open collector output, maximum under conditions of 24 V DC and 100 mA or less  
 \*4. High (+12 V, 6.3 mA)  
 \*5. 30 KΩ, 5 V pull-up, -100 mA, N.O. Contact  
 \*6. 5 V pull-up, -100 mA, Non-voltage N.O. Contact input  
 \*7. 240 mA at maximum  
 \*8. Changeable with the mode switch

• All TV pictures are simulated. • Weights and dimensions are approximate. • Specifications are subject to change without notice. • These products may be subject to export control regulations.

# Panasonic

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