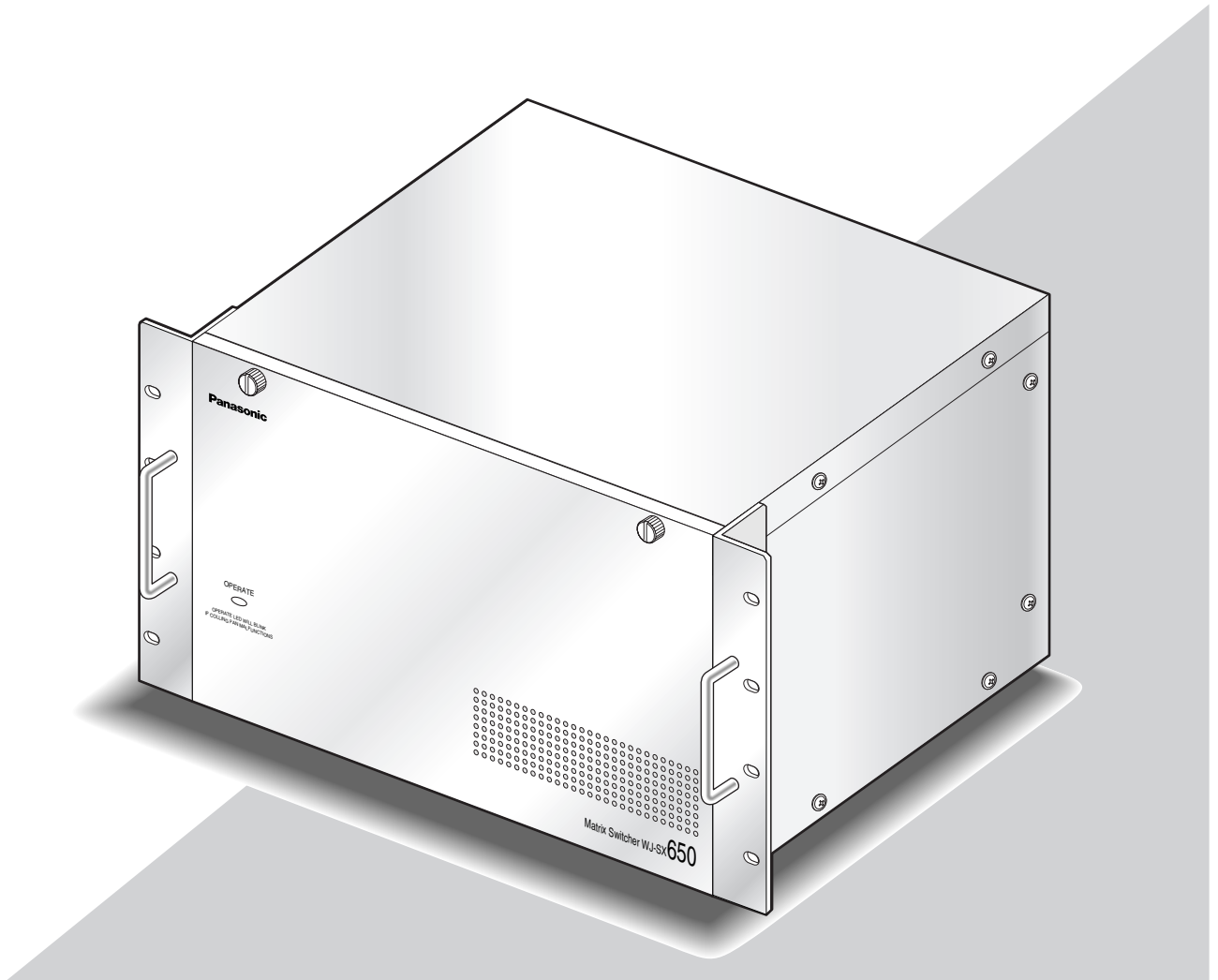


Panasonic[®]

Matrix Switcher

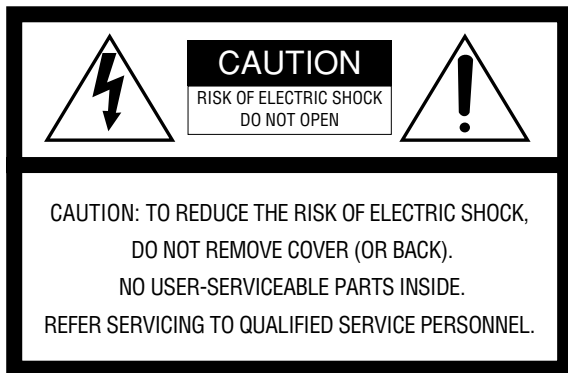
Operating Instructions

Model Nos. **WJ-SX650**



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

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



SA 1965

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.



SA 1966

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 Canada

This Class A digital apparatus complies with Canadian ICES-003.

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 surface 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 No. _____

Serial No. _____

WARNING:

- This apparatus must be earthed.
- Apparatus shall be connected to a mains socket outlet with a protective earthing connection.
- The mains plug or an appliance coupler shall remain readily operable.
- To prevent fire or electric shock hazard, do not expose this apparatus to rain or moisture.
- The apparatus should not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, should be placed on the apparatus.
- All work related to the installation of this product should be made by qualified service personnel or system installers.
- The connections should comply with local electrical code.

Important Safety Instructions

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



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

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Limitation of Liability

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Disclaimer of Warranty

IN NO EVENT SHALL Panasonic Corporation BE LIABLE TO ANY PARTY OR ANY PERSON, EXCEPT FOR CERTAIN WARRANTY PROGRAM OFFERED BY THE LOCAL DEALER OF PANASONIC, 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 DISASSEMBLY, REPAIR OR MODIFICATION OF THE PRODUCT BY THE USER;
- (4) INCONVENIENCE OR ANY LOSS ARISING WHEN IMAGES ARE NOT DISPLAYED, DUE TO ANY REASON OR CAUSE INCLUDING ANY FAILURE OR PROBLEM OF THE PRODUCT;
- (5) ANY PROBLEM, CONSEQUENTIAL INCONVENIENCE, OR LOSS OR DAMAGE, ARISING OUT OF THE SYSTEM COMBINED BY THE DEVICES OF THIRD PARTY;

Trademarks and Registered Trademarks

- Microsoft, Windows and Windows XP are registered trademarks of Microsoft Corporation in the U.S. and/or other countries.
- Intel and Pentium are registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries.
- Other company names and product names appearing in this document are registered trademarks or trademarks of the company concerned.

Precautions

CAUTION: These servicing instructions are for use by qualified service personnel only. To reduce the risk of electric shock do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so.

- **Do not block the ventilation opening or slots on the cover.**

To prevent the apparatus from overheating, place it at least 5 cm {2 inches} away from the wall.

- **Do not drop metallic parts through slots.**

This could permanently damage the apparatus. Turn the power off immediately and contact qualified service personnel for service.

- **Do not attempt to disassemble the apparatus.**

To prevent electric shock, do not remove screws or covers.

There are no user-serviceable parts inside. Contact qualified service personnel for maintenance.

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

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

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

Take immediate action if the apparatus gets wet. Turn the power off and refer servicing to qualified service personnel. Moisture can damage the apparatus and also cause electric shocks.

- **Built-in backup battery**

Before the first use, charge the built-in backup battery (lithium battery) by turning on the power for 48 hours or more. If it is not charged enough, in a case where the power goes down, the 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 as an indication of replacement. (This is just an indication of replacement. We are not providing any guarantee of the built-in battery lifetime. Replacement cost of the built-in battery is not covered by the warranty even if it needs to be done within the warranty period.) 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.

The cooling fan will operate for approximately 30 000 hours. Replacement costs of the cooling fan are not covered by the warranty even if it needs to be done within the warranty period.

- **Cleaning**

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

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

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

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

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

Use the apparatus under conditions where temperatures are between -10°C and $+50^{\circ}\text{C}$ $\{14^{\circ}\text{F}$ to $122^{\circ}\text{F}\}$, and humidity below 90 %.

The apparatus may not work properly after turning on in a cold atmosphere between -10°C and 0°C $\{14^{\circ}\text{F}$ to $32^{\circ}\text{F}\}$. Wait approximately 10 minutes until the inside temperature has risen to 0°C $\{32^{\circ}\text{F}\}$, it can work properly.

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

- **Place the unit horizontally on a level surface. Do not place the unit in an upright position. When stacking multiple units, clear a space of more than 5 cm {2 inches} from both sides, the top, the bottom and the rear of the units.**

- **Pay attention to static electricity**

Make certain to keep boards inside the anti-static sack until it is installed.

Put your hand on a metallic surface, other than the boards to discharge static electricity before installation.

Do not touch components mounted on the boards directly by hand.

Hold only both edges of the boards when installing.

- **Do not use any power cord other than the one supplied.**

- **Only use the apparatus indoors.**

Do not install it in places where the apparatus is exposed to sunlight for long periods of time or near air conditioning equipment. This will cause deformation, discoloration, breakdown or malfunction.

- **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.**

- **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

These operating instructions are classified roughly as follows:

- **Operations (pp. 55 to 86)**

Contains how to operate the system. These descriptions are intended for operators.

Note: Before operation, be sure to read safety instructions on p. 3 IMPORTANT SAFETY INSTRUCTIONS and p. 6 PRECAUTIONS.

- **Preparations (pp. 16 to 54)**

Contains the required preparations including installation, connections, and setup procedures. These descriptions are intended for installers and system administrators.

This document uses the following terms for classification of devices.

The (This) unit: Matrix Switcher WJ-SX650

Video input board: Video Input Board WJ-PB65C32

Video output board: Video Output Board WJ-PB65M16

Recorder: Digital Disk Recorder WJ-HD300/WJ-HD300 A Series, WJ-RT416 Series

Classification of digital disk recorders are as follows.

Term	Model Nos.	Remarks on Model Nos.
WJ-HD300 Series	WJ-HD316, WJ-HD309	Begins with "WJ-HD316".
WJ-HD300A Series	WJ-HD316A, WJ-HD309A	Begins with "WJ-HD316A".
WJ-RT416 Series	WJ-RT416	—

Preface

Matrix Switcher WJ-SX650 Series (or SX650 Series) are designed for a surveillance control system. WJ-SX650 Series (or SX650 Series) is the general term of following models.

Matrix Switcher WJ-SX650 (Video Input Board WJ-PB65C32 x 1 and Video Output Board WJ-PB65M16 x 1 have been installed.)

Card Cage WJ-SX650U (For additional installation of video input boards and video output boards)

Video Input Board WJ-PB65C32

Video Output Board WJ-PB65M16

Expansion Cable Kit WJ-CA65L20K/WJ-CA65L07K

D-sub/BNC Video Cable WJ-CA68

Features

- **Up to 256 cameras, 32 monitors connectable**

- **Remote control of optional external devices**

If you connect System Controller WV-CU950, WV-CU650, WV-CU360C and/or WV-CU360CJ to this product, remote control of cameras, lenses, pan/tilt heads, and recorders (Digital Disk Recorder*) will be available.

* Refer to "Readme.txt" on the supplied CD-ROM for details on model numbers.

If you connect a personal computer (PC) to this product, control and system setup with WJ-SX650 Series Administrator Console will be available.

- **Authentication by user ID's, passwords, and level settings.**

User ID's and passwords are assignable to users to prevent inappropriate operations. In addition, the settings of level, camera access, and recorder access can determine available functions, cameras, and recorders for each user.

- **Images of two or more cameras can be displayed on one monitor.**

Spot mode: A selected camera image is continuously displayed on a selected monitor.

Sequence mode: Images of two or more cameras are sequentially displayed on a desired monitor (or monitors).

- **Timer event and camera event can be scheduled.**

Note: Refer to p. 72 for details on timer event and camera event.

- **Alarm operation and alarm event can be scheduled.**

Notes:

- Refer to p. 69 for details on alarm operation.
- Refer to p. 67 for details on alarm event.

- **With recorder connection, recorder control such as recording and playback are available.**

Camera images can be recorded.

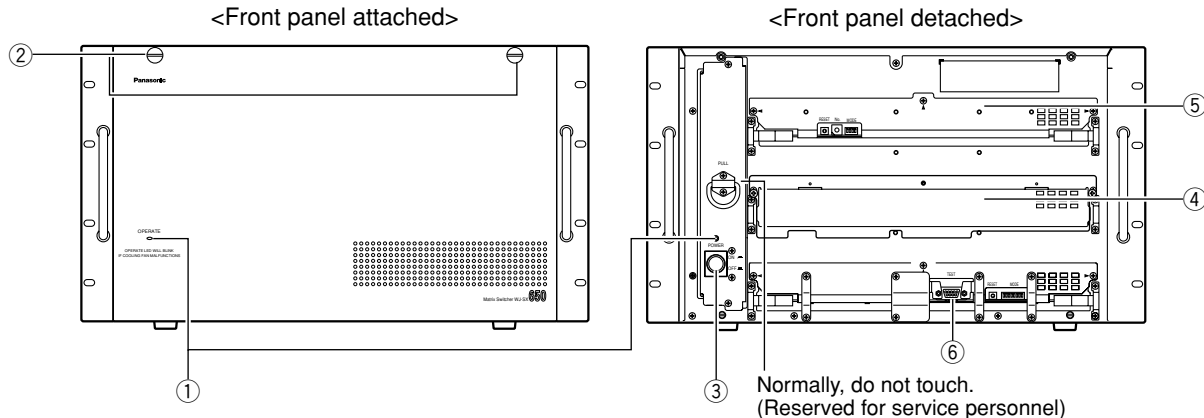
Recorded images can be played back.

Camera images can be displayed in multiscreen segments.

Major Operating Controls and Their Functions

■ WJ-SX650 Matrix Switcher/WJ-SX650U Card Cage

● Front View



This is the illustration of WJ-SX650.

① Operation Indicator (OPERATE)

- This indicator is lighting while power is supplied to the unit.
- This indicator blinks when the cooling fan has a trouble. (Refer to p. 90.)

② Front Panel Fixing Screws

Before you press the power switch or install boards into the expansion slot, these screw are removed to detach the front panel

③ Power Switch

④ Expansion Slot

Optional video input or output main board is installed. (Video Input Board WJ-PB65C32 or Video Output Board WJ-PB65M16)

For WJ-SX650U, optional video input main board is installed. (Video Input Board WJ-PB65C32)

⑤ Video Input Board*

This is a video input main board. This board controls cameras and alarm sensors (door switch, etc.).

Note: Refer to p. 11 WJ-PB65C32 Video Input Board for details.

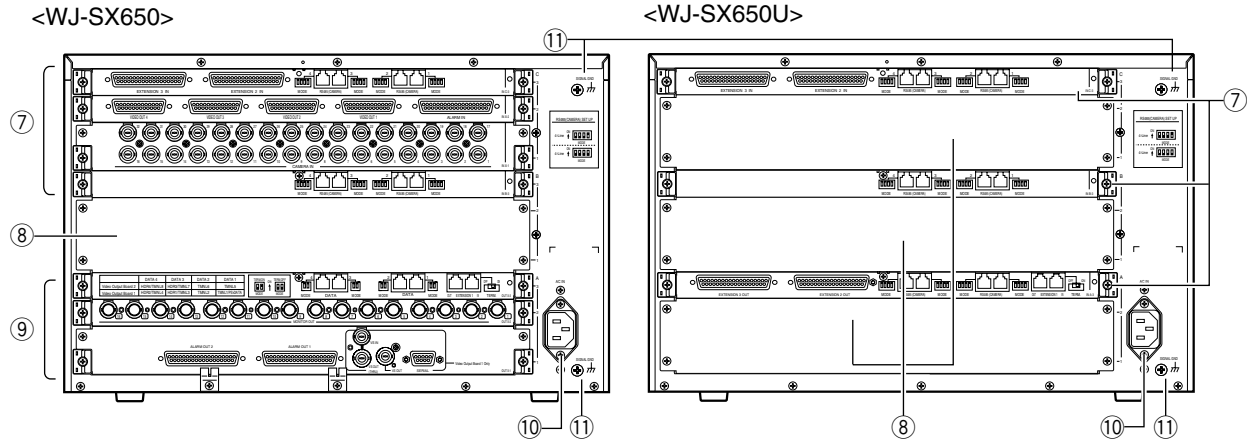
⑥ Video Output Board*

This is a video output main board. This board controls monitors and alarm output signals.

Note: Refer to p. 12 WJ-PB65M16 Video Output Board for details.

* For WJ-SX650U, ⑤ and ⑥ are expansion slots.

● Rear View



⑦ Video Input Board Rear Panels*

These are video input rear boards.

Notes:

- Refer to p. 11 WJ-PB65C32 Video Input Board for details.
- When installing a set of video output board into the expansion slot of WJ-SX650, you will remove the IN B-3 board, and install the OUT X-3 board.

⑧ Expansion Slot

For WJ-SX650, optional video input or output rear boards are installed. (Video Input Board WJ-PB65C32 or Video Output Board WJ-PB65M16)

For WJ-SX650U, optional video input rear boards are installed. (Video Input Board WJ-PB65C32)

⑨ Video Output Board Rear Panels

These are video output rear boards.

Note: Refer to p. 12 WJ-PB65M16 Video Output Board for details.

⑩ AC Inlet Socket (AC IN)

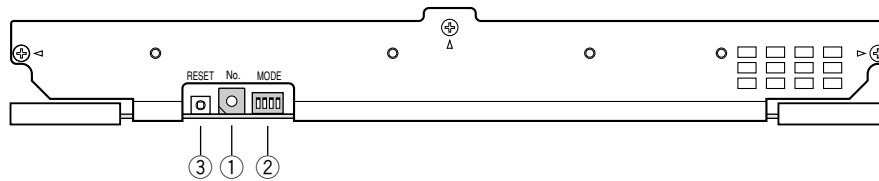
When using the unit, you will plug the power cord (supplied as a standard accessory) into this socket and connect the cord to an AC outlet.

⑪ Signal Ground Terminal (SIGNAL GND)

■ Video Input Board WJ-PB65C32

Video input board is composed of a main board (installed into the front side) and rear boards (x 3)(installed into the rear side).

● Front View



① **Board Number Switch (No.)**

Refer to p. 17 Switch Settings for Video Input Main Board for details.

② **Input Mode Selection Switches (MODE)**

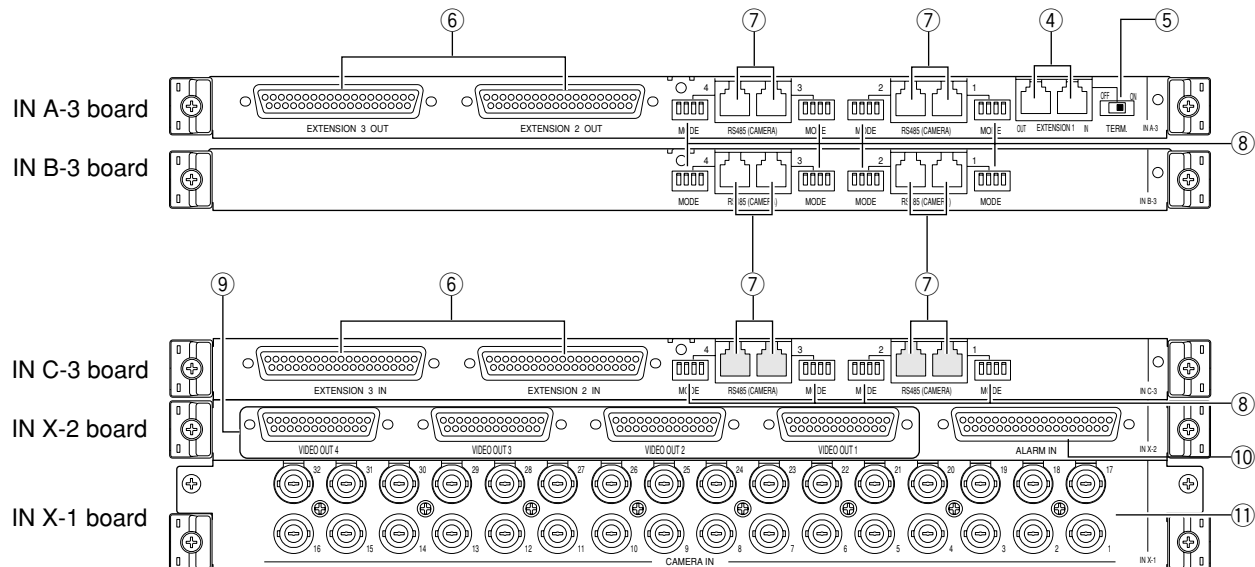
Set all switches to OFF.

③ **Reset Switch (RESET)**

This button is pressed to reset this board.

Note: In normal operation, you need not press the button.

● Rear View



IN A-3/IN B-3/IN C-3 board

Note: These boards are originally installed into WJ-SX650 and WJ-SX650U, and not supplied to optional video input boards. (IN A-3 board is installed into WJ-SX650U only.)

④ **Extension Ports 1 (EXTENSION 1: IN, OUT)**

These ports connect to an optional card cage.

⑤ **Termination Selector (TERM: ON, OFF)**

Turns on or off the line termination of ④.

⑥ **Extension Ports 2, 3 (EXTENSION 2, 3: IN, OUT)**

Each port connects to an optional card cage.

⑦ **RS-485 Camera Ports 1 to 4 (RS485 (CAMERA) 1 to 4)**

These ports connect to RS-485 cameras.

⑧ **RS-485 Camera Mode Switches 1 to 4 (MODE 1 to 4)**

These switches are moved to change the communication modes of ⑦.

IN X-2 board

⑨ **Video Output Ports 1 to 4 (VIDEO OUT 1 to 4)**

These ports loop through video input signals supplied to ⑪.

⑩ **Alarm Input Port (ALARM IN)**

Connects to an alarm sensor (door switch, etc.).

IN X-1 board

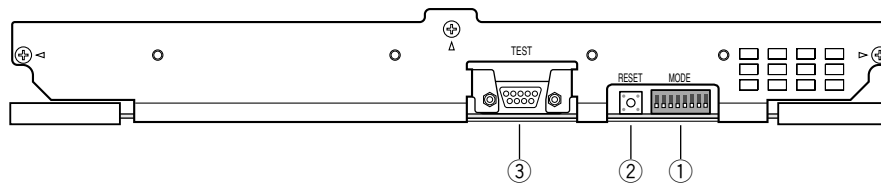
⑪ **Camera Input Connectors 1 to 32 (CAMERA IN 1 to 32)**

These connectors accept video input signals from cameras or recorders.

■ Video Output Board WJ-PB65M16

Video output board is composed of a main board (installed into the front side) and rear boards (x 3)(installed into the rear side).

● Front View



① Output Mode Selection Switches (MODE)

Refer to p. 18 Switch Settings for Video Output Main Board for details.

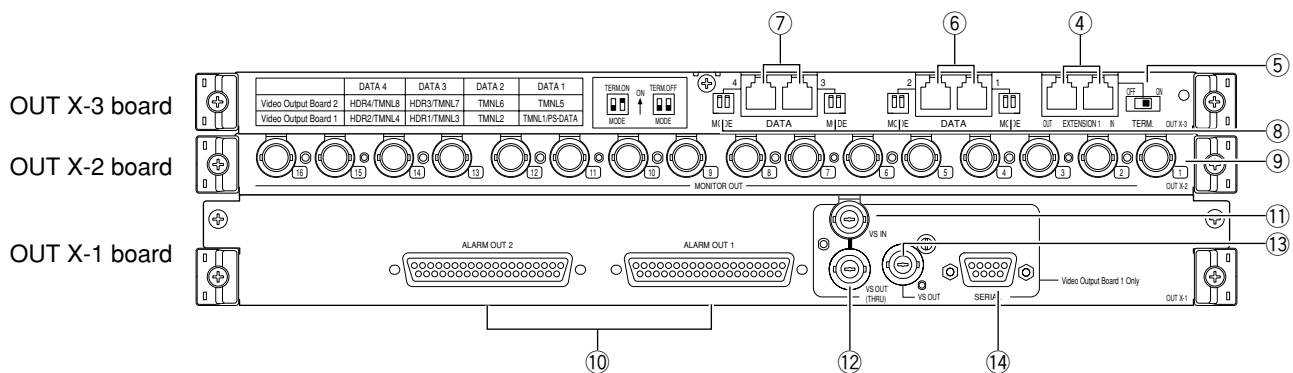
② Reset Switch (RESET)

This button is used only for factory tests. Do not press.

③ Test port (TEST)

This port is used only for factory tests. Do not connect anything.

● Rear View



OUT X-3 board

④ Extension Ports 1 (EXTENSION 1: IN, OUT)

These ports connect to an optional card cage.

⑤ Termination Selector (TERM: ON, OFF)

Turns on or off the line termination of ④.

⑥ Data ports 1, 2 (DATA 1, 2)

Each port connects to system controllers.

⑦ Data ports 3, 4 (DATA 3, 4)

Each port connects to system controllers or recorders.

⑧ Rear Termination MODE Switches 1 to 4 (MODE 1 to 4)

Turns on or off the line termination of ⑥ and ⑦.

OUT X-2 board

⑨ Monitor Output Connectors (MONITOR OUT 1 to 16)

These connectors connect to monitors.

OUT X-1 board

⑩ Alarm Output Ports 1,2 (ALARM OUT 1, 2)

- Supplies alarm output signals.
- Accepts alarm recover input signals.
- Supplies and accepts the time adjust input and output signals.

⑪ VS Input Connector (VS IN)

Accepts a VS input signal from an external device.

⑫ VS Output Loop-thru Connector (VS OUT (THRU))

Loops through VS input signals supplied to ⑪.

⑬ VS Output Connector (VS OUT)

Supplies VS output signals to external devices. While ⑪ is accepting a VS input signal, ⑬ supplies an output signal synchronizing the VS input signal. While ⑪ is not accepting the VS input signal, ⑬ supplies an internal synchronization output signal.

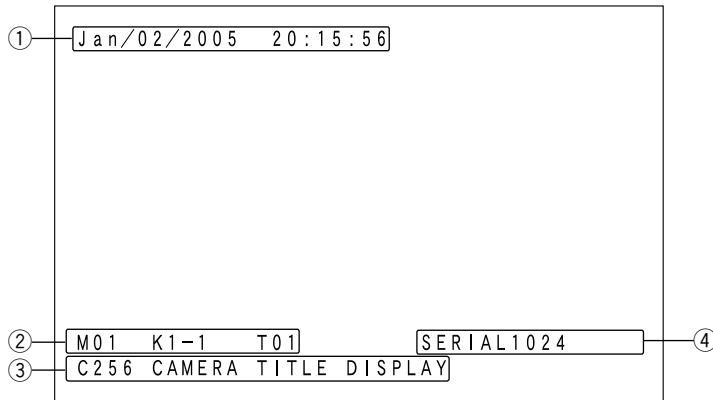
⑭ Serial Port (SERIAL)

Connects to a PC.

Note: When ① is set as Video Output Board 2, ④, ⑪, ⑫, ⑬, and ⑭ are not available.

■ Monitor Display Information

The following are the details on terminal mode operations. For PS·Data operations, refer to p. 86 OPERATION (OTHER THAN TERMINAL MODE) or the operating instructions of system controllers.



① Time and Date Information

Current time and date are displayed.

During daylight saving time (summer time), "*" is displayed beside the time.

Example: Aug/02/2005 *20:15:56

Note: While a recorder is being selected, time and date are not displayed.

② Monitor Status Information

Monitor number

M01 to 32: Monitor number

Note: During monitor lock, monitor number is highlighted.

Controller information

Displays a device that selects and controls the monitor.

K1-1 to 8-4: Terminal mode system controller

(Example: For K8-4, "8" means the DATA port (TMNL) number and "4" means the controller number of system controller.)

PSD: PS·Data mode system controller

PC: PC connected to the SERIAL port

/T001 to 128: Timer event

Sequence number

Displays the active sequence number.

T01 to 32: Tour sequence number

G01 to 32: Group sequence number

Note: During sequence pause, "P" is displayed beside the sequence number.

③ Camera Information

Camera number

C001 to 999: Camera number

R01 to 16: Recorder number

Camera title

Displays the registered camera title.

Camera title setting is performed in "Camera" – "Camera Title" of WJ-SX650 Series Administrator Console.

④ Event Information

TERMINAL001 to 256: Terminal alarm has occurred.

(Example: For TERMINAL001, "001" means the number of alarm input signal accepted by the ALARM IN port of video input board.)

CAMERA001 to 999: Camera alarm has occurred.

(Example: For CAMERA001, "001" means the number of camera supplying an alarm input signal to the unit.)

RECORDER001 to 999: Recorder alarm has occurred.

(Example: For RECORDER001, "001" means the number of camera associated with the recorder supplying an alarm input signal to the unit.)

SERIAL0001 to 1024: Serial alarm has occurred.

(Example: For SERIAL0001, "0001" means the serial command alarm input number.)

VIDEO LOSS001 to 999: Video loss has occurred.

(Example: For VIDEO LOSS001, "001" means the number of camera to which video loss has occurred)

SUSPEND: Alarm is suspended.

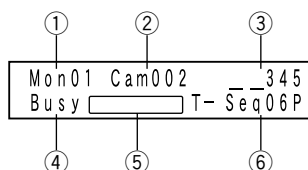
Notes:

- During the alarm acknowledgement (ACK) status (refer to p. 69), event information is highlighted.
- When two or more alarm events have occurred, "*" is displayed beside the event information.
- When an alarm whose display mode setting is OFF occurs, "#" is displayed beside the event information.
- When auto tracking is scheduled for a camera event, "#" is displayed beside the camera number.
- ① to ④ can be displayed or hidden either altogether or separately. Refer to p. 74 Lists of Operations and Functions for details.

■ System Controller Display Information

The following are the details on terminal mode operations. For PS·Data operations, refer to p. 86 OPERATION (OTHER THAN TERMINAL MODE) or the operating instructions of system controllers.

● WV-CU950/650



① Monitor Number

Mon01 to 32: Monitor number

② Camera Number

Cam001 to 999: Camera number

C-P0001 to 9999: Camera position number

③ Event

HDR01 to 16: Recorder number

Pre000 to 256 (Lighting for 3.0 seconds): Preset position

Note: Pre000 is the home position.

T-A0001 to 0256: Terminal alarm

C-A0001 to 0999: Camera alarm

R-A0001 to 0999: Recorder alarm

S-A0001 to 1024: Serial alarm

V-A0001 to 0999: Video loss

④ Busy

Busy + monitor number (Blinking)

A selected monitor is controlled by a higher-priority operator. (Monitor busy)

Note: You cannot control the selected monitor, camera, and recorder.

Busy + camera/recorder number (Blinking)

A selected camera or recorder is controlled by a higher-priority user. (Camera/Recorder busy)

Note: You cannot control the selected camera or recorder.

⑤ Status

Alarm (Blinking): Alarm is occurring.

Alarm (Lighting): Alarm is acknowledged. (Refer to p. 69.)

Memory + preset position number (Blinking for 3.0 seconds): Preset position is registered.

⑥ Sequence Number

T-Seq01 to 32: Tour sequence number

G-Seq01 to 08: Group sequence number

Note: During sequence pause, "P" is displayed beside the sequence number.

G-Seq09 to 32: Group preset number

Note: This sign disappears when the camera is controlled.

Invalid (Blinking for 3.0 seconds): You have entered a wrong value.

Not Avail (Blinking for 3.0 seconds):

- You cannot select a monitor because of lower priority.
- You have tried to activate a group sequence or group preset on a monitor not assigned.

Prohibited (Blinking for 3.0 seconds): You have tried an operation restricted by the operator's setting.

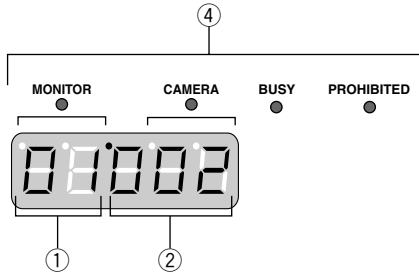
Alarm Buzzer/Button Buzzer Setting

With the setting activated:

- Alarm buzzer can sound when alarms occur.
- Button buzzer can sound when a button is pressed or an error message (Invalid, Prohibited, Level1 Fixed, etc.) is displayed on the LCD.

Refer to the operating instructions of system controller for settings.

● WV-CU360C/CJ



① Monitor number

01 to 32: Monitor number

② Camera/recorder/sequence number

001 to 999: Camera number

H01 to 16: Recorder number

t01 to 32: Tour sequence number

r01 to 08: Group sequence number

Note: During sequence pause, "P" is displayed instead of "t" and "r".

r09 to 32: Group preset number

Note: This sign disappears when the camera is controlled.

③ Event

The following signs appear to indicate events on the LED display.

A0001 to 0256 (Blinking): Terminal alarm

A0001 to 0999 (Blinking): Camera alarm

A0001 to 0999 (Blinking): Recorder alarm

A0001 to 1024 (Blinking): Serial alarm

A0001 to 0999 (Blinking): Video loss

Note: During the alarm acknowledgement (ACK) status (refer to p. 69), these signs change to steady light.

Pt000 to 256 (Lighting for 3.0 seconds): Preset position

Note: Pre000 is the home position.

Pr001 to 256 (Lighting for 3.0 seconds): Preset position is registered.

④ Indicators

When the MONITOR and BUSY indicators are lighting: A selected monitor is controlled by a higher-priority user. (Monitor busy)

Note: You cannot control the selected monitor, camera, and recorder.

When the CAMERA and BUSY indicators are lighting: A selected camera or recorder is controlled by a higher-priority user. (Camera/Recorder busy)

Note: You cannot control the selected camera or recorder.

When the PROHIBITED indicator is lighting:

- You have entered a wrong value.
- You have tried to activate a group sequence or group preset on a monitor not assigned.
- You have tried an operation restricted by the operator's setting.

Installations

CAUTION

These servicing instructions are for use by qualified service personnel only. To reduce the risk of electric shock do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so.

The following is the installation flow of this unit.

- **Checking Board Composition**
- **Switch Settings for Video Input Main Board (Refer to p. 17.)**
- **Switch Settings for Video Output Main Board (Refer to p. 18.)**
- **Mounting Video Input and Output Boards (Refer to p. 19.)**
- **Board Mounting Procedure (Refer to p. 20.)**
- **Installing the Main Unit (Refer to p. 21.)**

■ Checking Board Composition

By mounting additional video input and output boards, up to 256 cameras and 32 monitors can be connected to this unit. You will choose one of the composition types described in the following diagram. Check how many video input boards, video output boards, and card cages are required, according to the number of cameras and monitors.

Note: Refer to p. 19 for the figures describing the composition types.

Total numbers of cameras and recorders	Total number of monitors	Additional sets of video input board	Additional sets of video output board	Additional card cages	Composition type (Refer to p. 19.)
1 to 32	1 to 16	0	0	0	Type 1
	17 to 32	0	1	0	Type 2
33 to 64	1 to 16	1	0	0	Type 3
	17 to 32	1	1	1	Type 4
65 to 96	1 to 16	2	0	1	Type 5
	17 to 32	3	1	1	Type 6
97 to 128	1 to 16	3	0	1	Type 7
	17 to 32	3	1	1	Type 8
129 to 160	1 to 16	4	0	1	Type 9
	17 to 32	4	1	2	Type 10
161 to 192	1 to 16	5	0	2	Type 11
	17 to 32	6	1	2	Type 12
193 to 224	1 to 16	6	0	2	Type 13
	17 to 32	6	1	2	Type 14
225 to 256	1 to 16	7	0	2	Type 15
	17 to 32	7	1	3	Type 16

Notes:

- When using 9 or more recorders, 2 sets of additional video output board are required even if you use 16 or less monitors.
- External monitors directly connected to recorders can be excluded from the total number of monitor in the diagram.
- When connecting monitors directly to recorders, the total numbers of these recorders can be excluded from "Total number of cameras and recorders" in the diagram.
- Use the following models for system expansion.
Video input board: WJ-PB65C32

Video output board: WJ-PB65M16

Card Cage: WJ-SX650U

- To connect Card Cage WJ-SX650U, Expansion Cable Kit WJ-CA65L07K (Option) or WJ-CA65L20K (Option) is required.
- To record camera images by using a recorder, D-sub/BNC Video Cable WJ-CA68 (Option) is required.
- The maximum set numbers of additional boards are as follows.

Video input board: Max. 7 sets

Video output board: Max. 1 sets

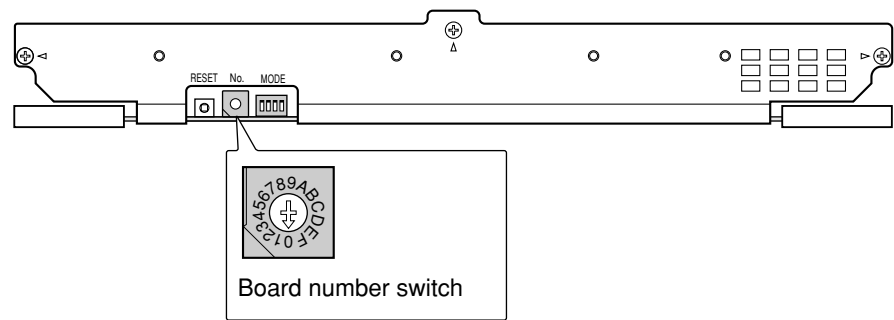
Board sets exceeding these total numbers cannot be mounted even some expansion slots are unused.

Important:

- The software versions of Video Output Board 1 and 2 must be the same.
If the software version of each board is different, upgrade the lower version to the higher one. (Refer to p. 42 or p. 55 for how to check the software version.)
- Refer to the dealer for the version-up procedure. (Surely follow the instructions and notes.)

■ Switch Settings for Video Input Main Board

With the switch settings of main boards, board numbers are given to all video input boards. To give the board number to each board, rotate the Unit No. switch on the main board.



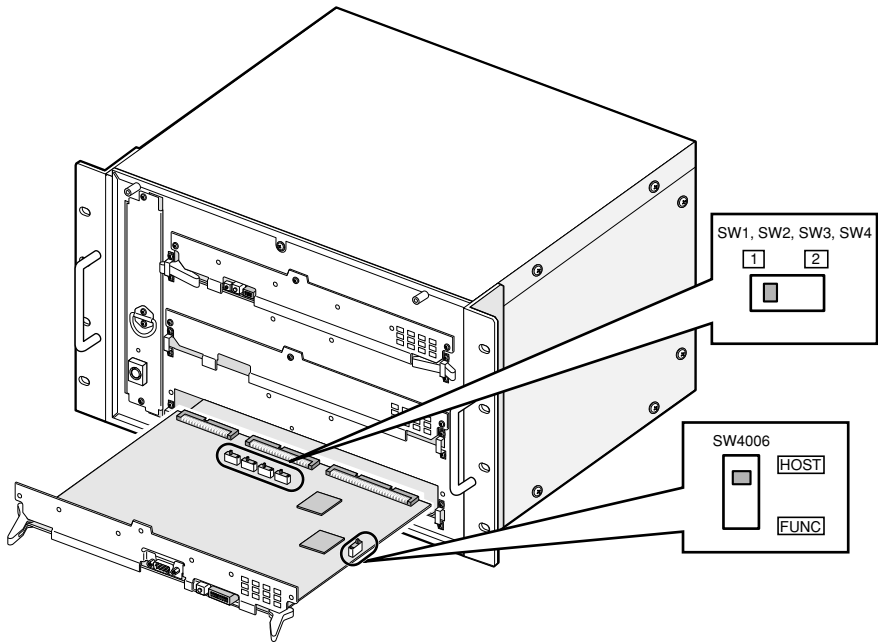
Notes:

- The board number setting must be different from each other.
- "8", "9", and "A" to "F" are reserved settings. They cannot be set for board numbers.

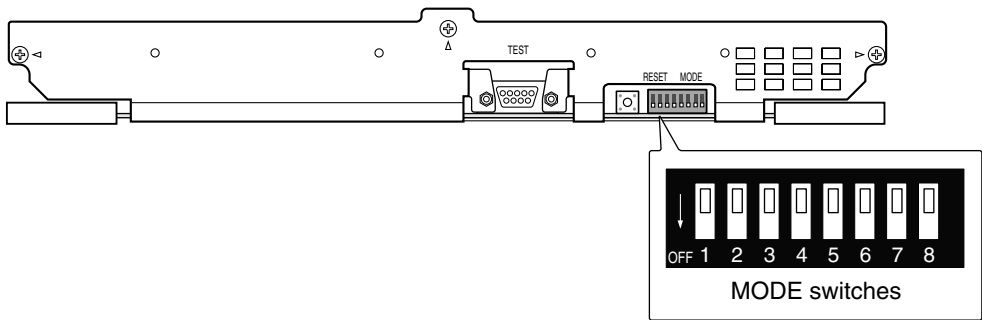
Board number	Switch setting
1	0
2	1
3	2
4	3
5	4
6	5
7	6
8	7

Switch Settings for Video Output Main Board

When mounting an additional video input board, up to 32 monitors can be connected to the unit.



Front view of video output main board



To identify Video Output Board 1 from Video Output Board 2, set the MODE switches (SW4004) and sliding switches (SW1, SW2, SW3, SW4, and SW4006) as follows.

	Video Output Board 1 (Monitor 1 to 16)	Video Output Board 2 (Monitor 17 to 32)
SW1, SW2, SW3, SW4	1	2
SW4006	HOST	FUNC
MODE switches (SW4004)		

Note: If the unit has only one Video Output Board, be sure to apply switch settings of Video Output Board 1. When the switch settings are incorrect, the unit may not work properly.

■ Mounting Video Input and Output Boards

To use additional video input or output boards, mount these boards into the expansion slots of the unit after checking the board composition and performing switch settings (refer to pp. 16 to 18). The following is the figures describing recommended board composition.

Notes:

- Refer to p. 20 for how to mount these boards.
- Video Output Board 1 and 2 must be mounted into the same unit.
- Refer to p. 26 for how to connect card cages.

Type 1

Video Input Board 1	
Not used	
Video Output Board 1	

Type 2

Video Input Board 1	
Video Output Board 2	
Video Output Board 1	

Type 3

Video Input Board 2	
Video Input Board 1	
Video Output Board 1	

Type 4

Not used	
Not used	
Video Input Board 2	
Video Input Board 1	
Video Output Board 2	
Video Output Board 1	

Type 5

Not used	
Not used	
Video Input Board 3	
Video Input Board 2	
Video Input Board 1	
Video Output Board 1	

Type 6

Not used	
Video Input Board 3	
Video Input Board 2	
Video Input Board 1	
Video Output Board 2	
Video Output Board 1	

Type 7

Not used	
Video Input Board 4	
Video Input Board 3	
Video Input Board 2	
Video Input Board 1	
Video Output Board 1	

Type 8

Video Input Board 4	
Video Input Board 3	
Video Input Board 2	
Video Input Board 1	
Video Output Board 2	
Video Output Board 1	

Type 9

Video Input Board 5	
Video Input Board 4	
Video Input Board 3	
Video Input Board 2	
Video Input Board 1	
Video Output Board 1	

Type 10

Not used	
Not used	
Video Input Board 5	
Video Input Board 4	
Video Input Board 3	
Video Input Board 2	
Video Input Board 1	
Video Output Board 2	
Video Output Board 1	

Type 11

Not used	
Not used	
Video Input Board 6	
Video Input Board 5	
Video Input Board 4	
Video Input Board 3	
Video Input Board 2	
Video Input Board 1	
Video Output Board 1	

Type 12

Not used	
Video Input Board 6	
Video Input Board 5	
Video Input Board 4	
Video Input Board 3	
Video Input Board 2	
Video Input Board 1	
Video Output Board 2	
Video Output Board 1	

Type 13

Not used	
Video Input Board 7	
Video Input Board 6	
Video Input Board 5	
Video Input Board 4	
Video Input Board 3	
Video Input Board 2	
Video Input Board 1	
Video Output Board 1	

Type 14

Video Input Board 7	
Video Input Board 6	
Video Input Board 5	
Video Input Board 4	
Video Input Board 3	
Video Input Board 2	
Video Input Board 1	
Video Output Board 2	
Video Output Board 1	

Type 15

Video Input Board 8	
Video Input Board 7	
Video Input Board 6	
Video Input Board 5	
Video Input Board 4	
Video Input Board 3	
Video Input Board 2	
Video Input Board 1	
Video Output Board 1	

Type 16

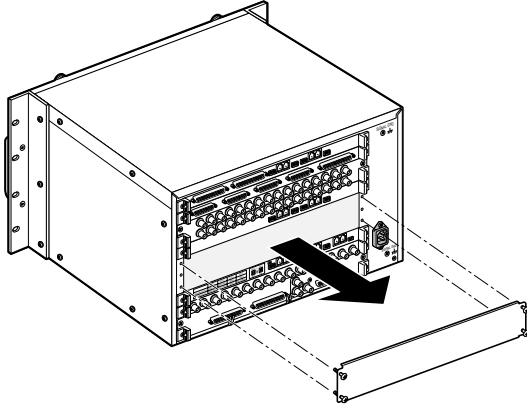
Not used	
Not used	
Video Input Board 8	
Video Input Board 7	
Video Input Board 6	
Video Input Board 5	
Video Input Board 4	
Video Input Board 3	
Video Input Board 2	
Video Input Board 1	
Video Output Board 2	
Video Output Board 1	

■ Board Mounting Procedure

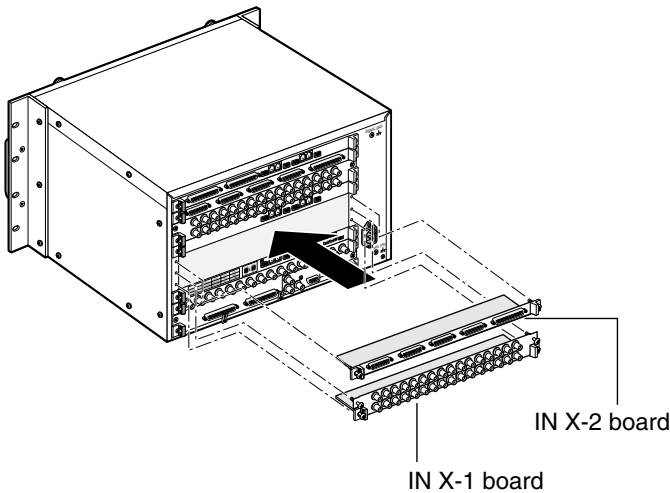
The following example is the procedure to mount a network board into the expansion slot of the unit.

Note: Before the procedure, power off the unit.

1. Remove the expansion slot panel from the rear side.



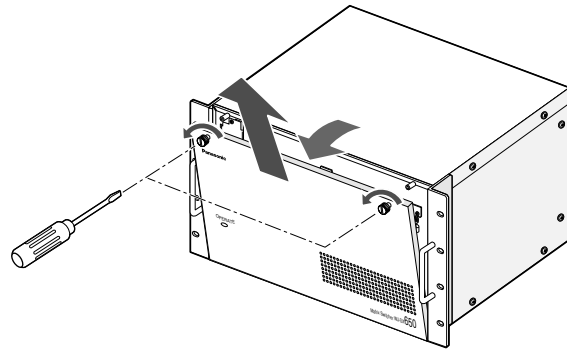
2. Mount the rear boards into the expansion slot, and fix these boards with screws supplied to the rear boards.



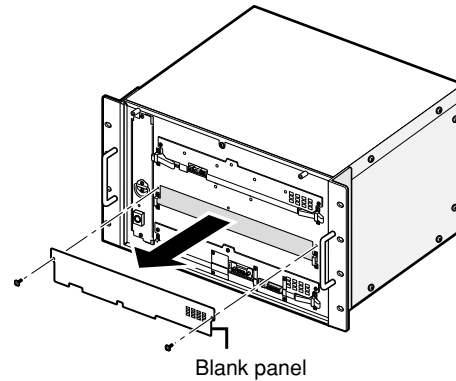
Notes:

- The board name (IN X-1, OUT X-1, etc.) is marked at the lower right corner of each board mounting angle. When mounting the rear boards, match the board names with the markings at board mounting angles.
- To mount a set of video output board into the expansion slot, dismount the IN B-3 board, and then mount the OUT X-3.

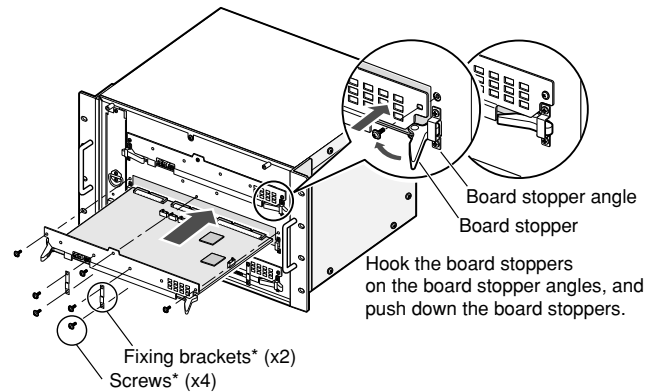
3. Remove the front panel by loosening the screws.



4. Remove the blank panel from the front side.



5. Mount the main board by hooking the board stoppers on the board stopper angles at the front side, by pushing down the board stoppers, and by fixing the screws.



- Mount the main board into the slot.
- Fix the board with the screws (x3).
- Attach the fixing brackets (x2) with the screws (x4).*

* Required when mounting a video output board
(Not required when mounting a video input board)

Notes:

- Remove 3 screws surely at the arrow marking when dismounting.
- When mounting, match the main board surely with the rear board.
- When mounting, insert the main board surely into slits.
- Do not hit the boards against the chassis of the unit.

■ Installing the Main Unit

Places to avoid

- Places exposed to direct sunlight or near a source of heat such as a radiator
- Very dirty and dusty places
- Places subject to strong vibrations
- Near magnetic field sources such as a television or speakers
- Near high-voltage cables such as a power cable
- Near noise sources such as fluorescent lamps
- Places where condensation forms easily
- Humid places
- Places where drastic temperature changes occur
- Places which are not level
- Steamy and oily places such as kitchens

Rack Mounting

When mounting this unit, use the following racks.

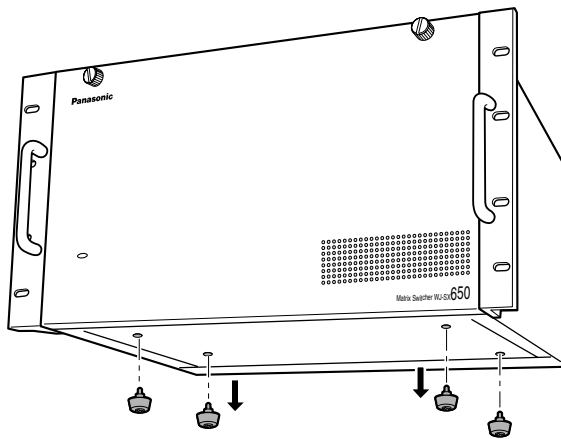
Standard Rack: WU-RS71 (29 units can be mounted.)

Long Rack: WU-RL76 (41 units can be mounted.)

EIA equivalents (Products of other manufacturers): EIA 19 inch rack, 450 mm {17-7/10"} or more depth

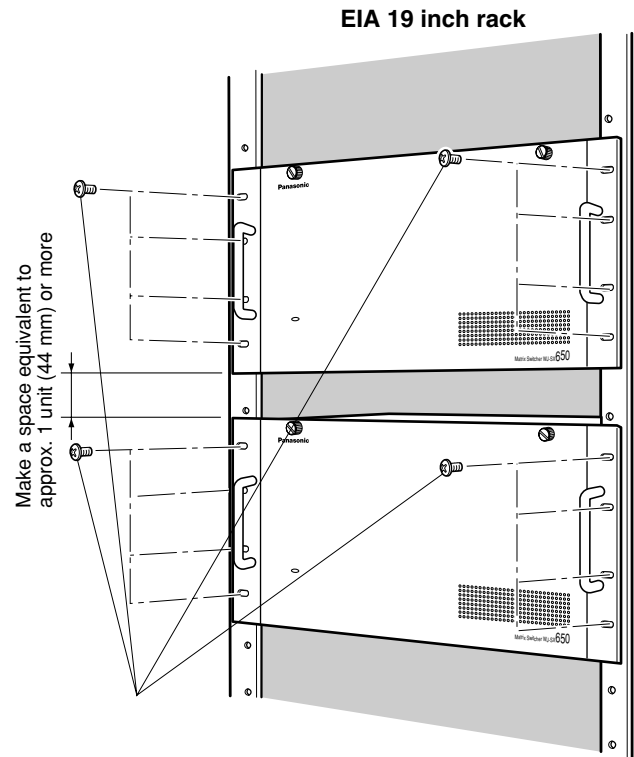
Note: When mounting this unit into a rack of another manufacturer, Rack Mounting Screw (W2-MSS/5008) (Option) or M5 x 12 screws (8 pcs.) are required.

1. Power off the unit.
2. Remove the rubber feet (4 pcs.) on the bottom of the unit by loosening the screws.



Remove the rubber feet.

3. Mount the unit into the rack by fixing the rack mounting screws (locally procured: 8 pcs). (Refer to the following illustration.)



Important:

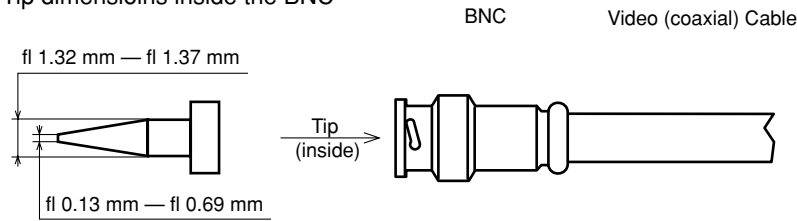
- If the rack is subject to vibration, secure the rear of the unit to the rack by using additional mounting brackets (locally procured).
- To avoid loosening, secure the mounting screws surely.
- When operating the units, keep the temperature inside the rack surely below 45 °C {113 °F}.
- Mount the unit into the rack with a space equivalent to approx. 1 unit (44 mm) or more to separate from other devices.
- Mounting ventilation fan(s) in the rack is recommended especially when the rack is covered with front lids.
- To prevent the unit from overheating, do not block the ventilation openings or slots in the cover

Connections

Important:

Use only the recommended BNC connectors listed below.

RECOMMENDED
Tip dimensions inside the BNC



Standards

For U.S.A.	MIL-C39012C or MIL-C39012/16F
For Europe	BS CECC 22120:1981
For Japan	JIS C5412

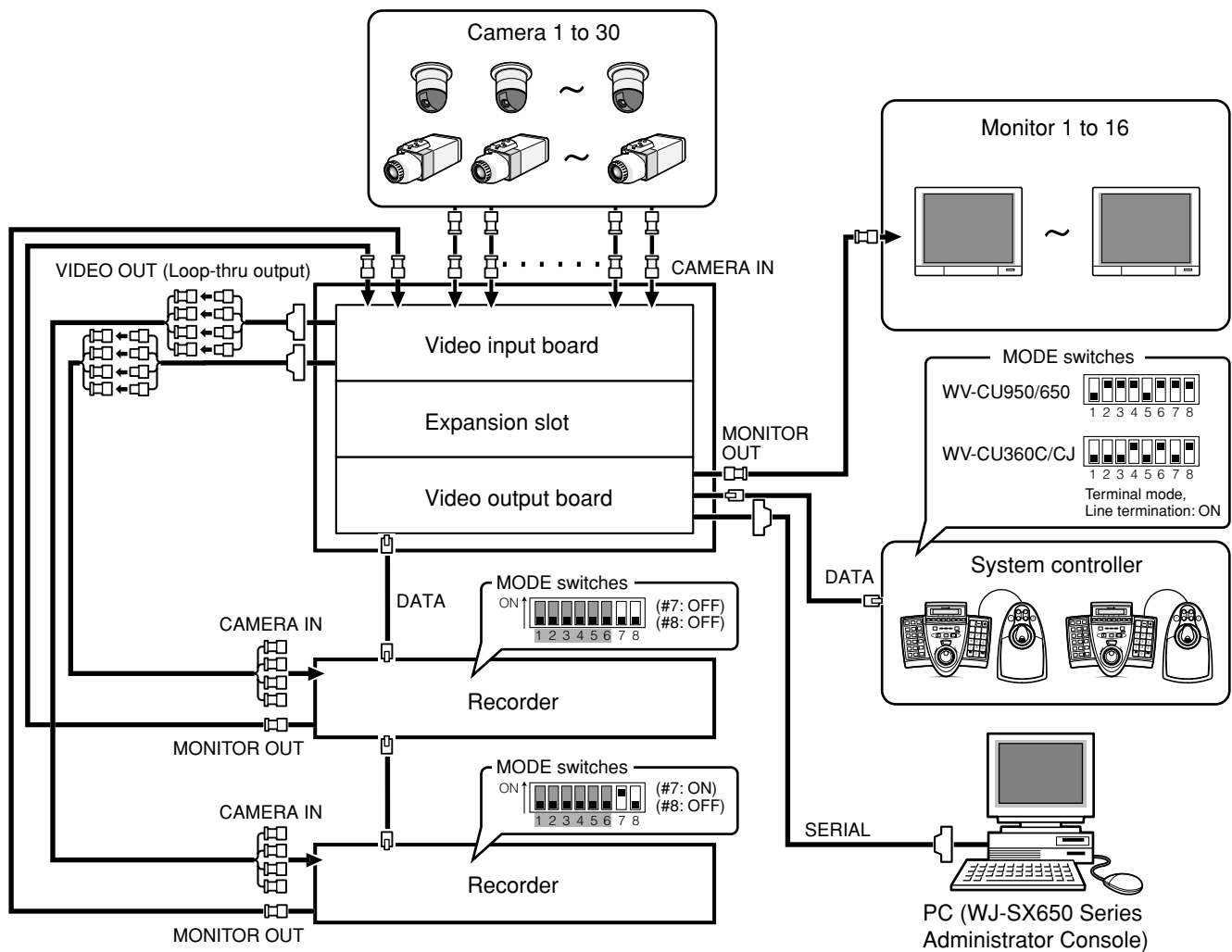
Suffixes attached to the standards may be updated.

Other BNC connectors may cause video signal interruption, and damage the BNC receptacles on the rear panel of the unit.

■ Basic System Connections

The following is a connection example to use one unit.

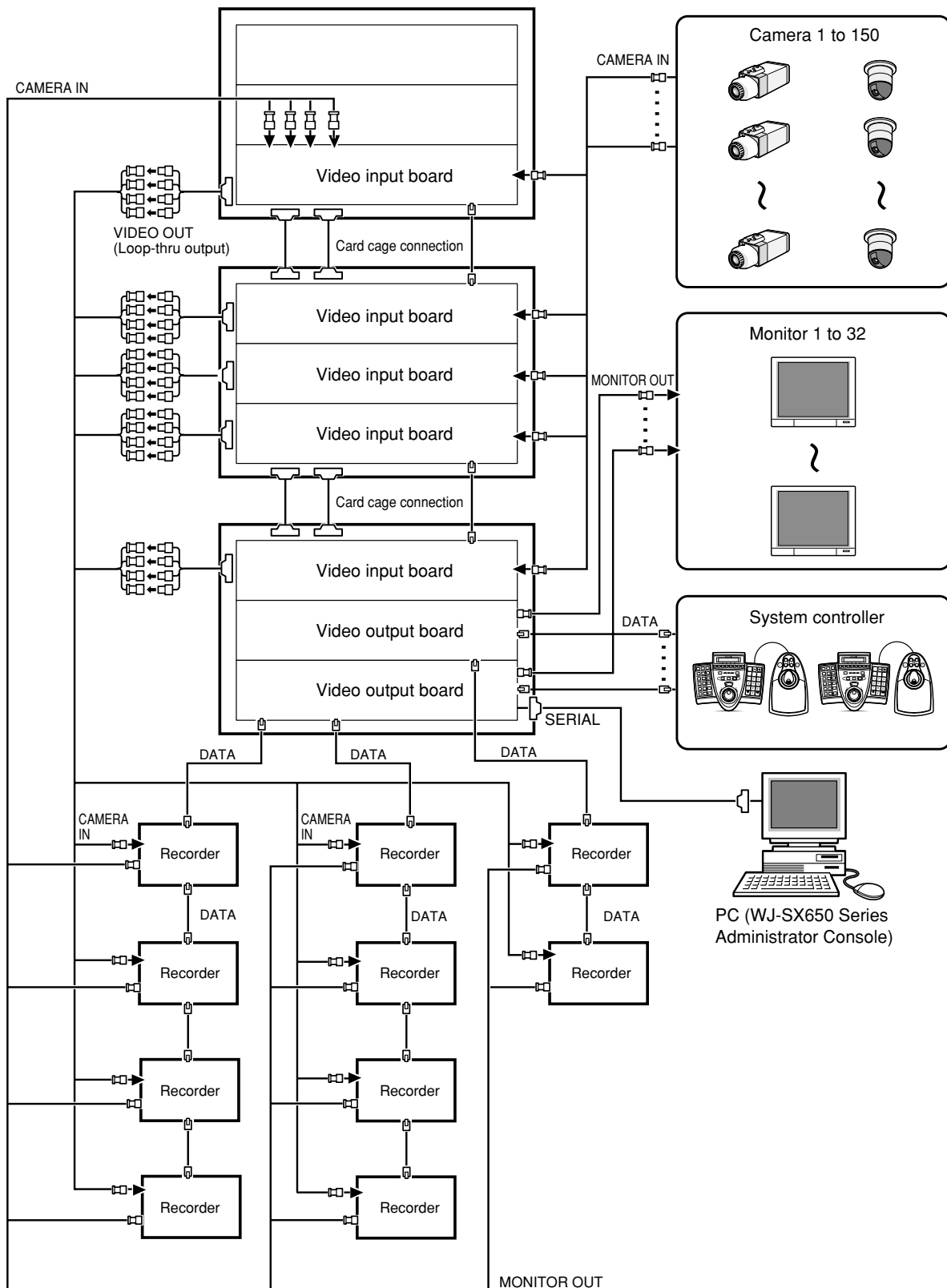
This unit x 1, camera x 30, monitor x 16, and recorder x 2



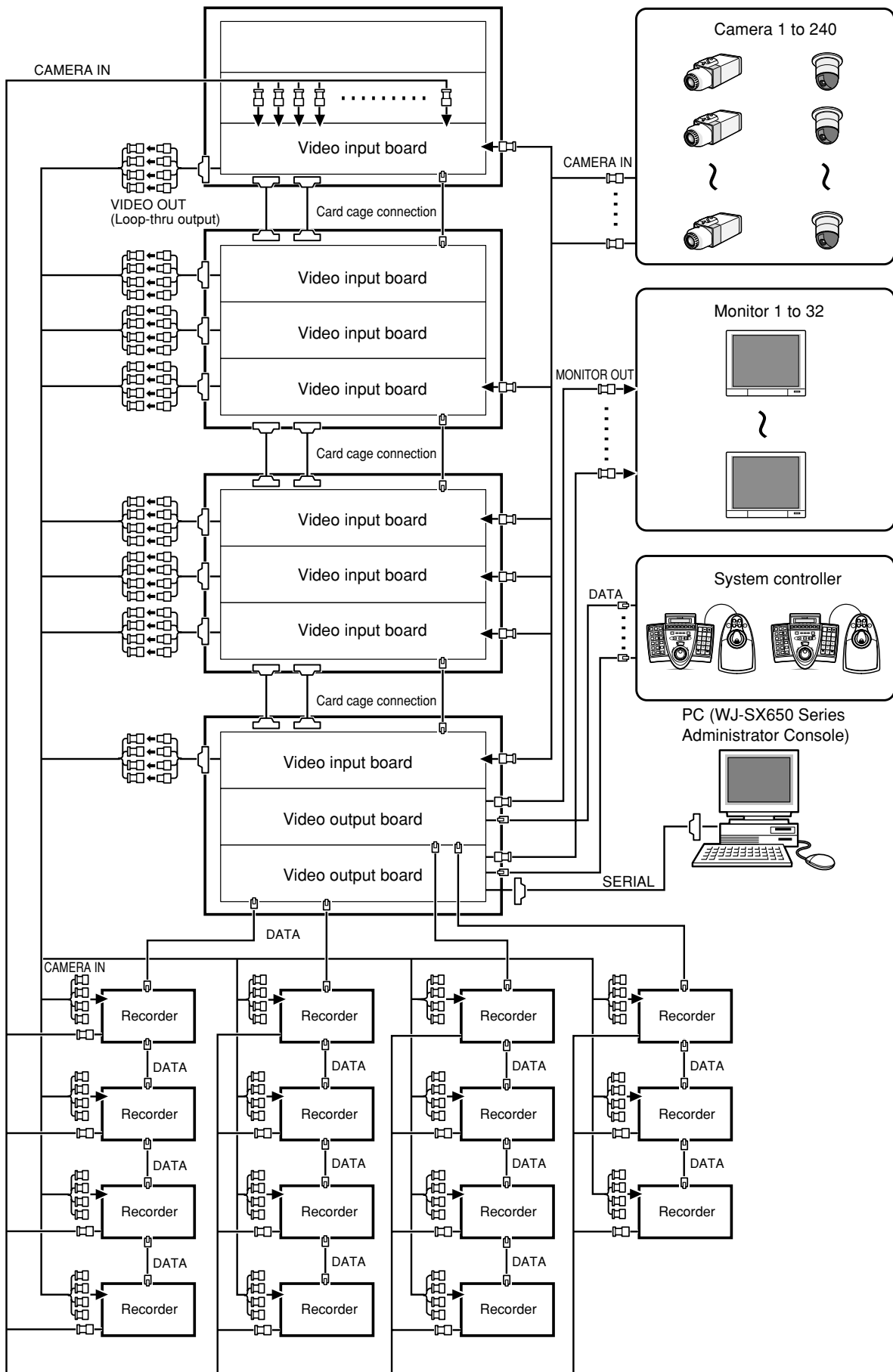
■ Expanded System Connections

The following is a connection example to use two or more units.

This unit x 3, camera x 150, monitor x 32, and recorder x 10



This unit x 4, camera x 240, monitor x 32, and recorder x 15

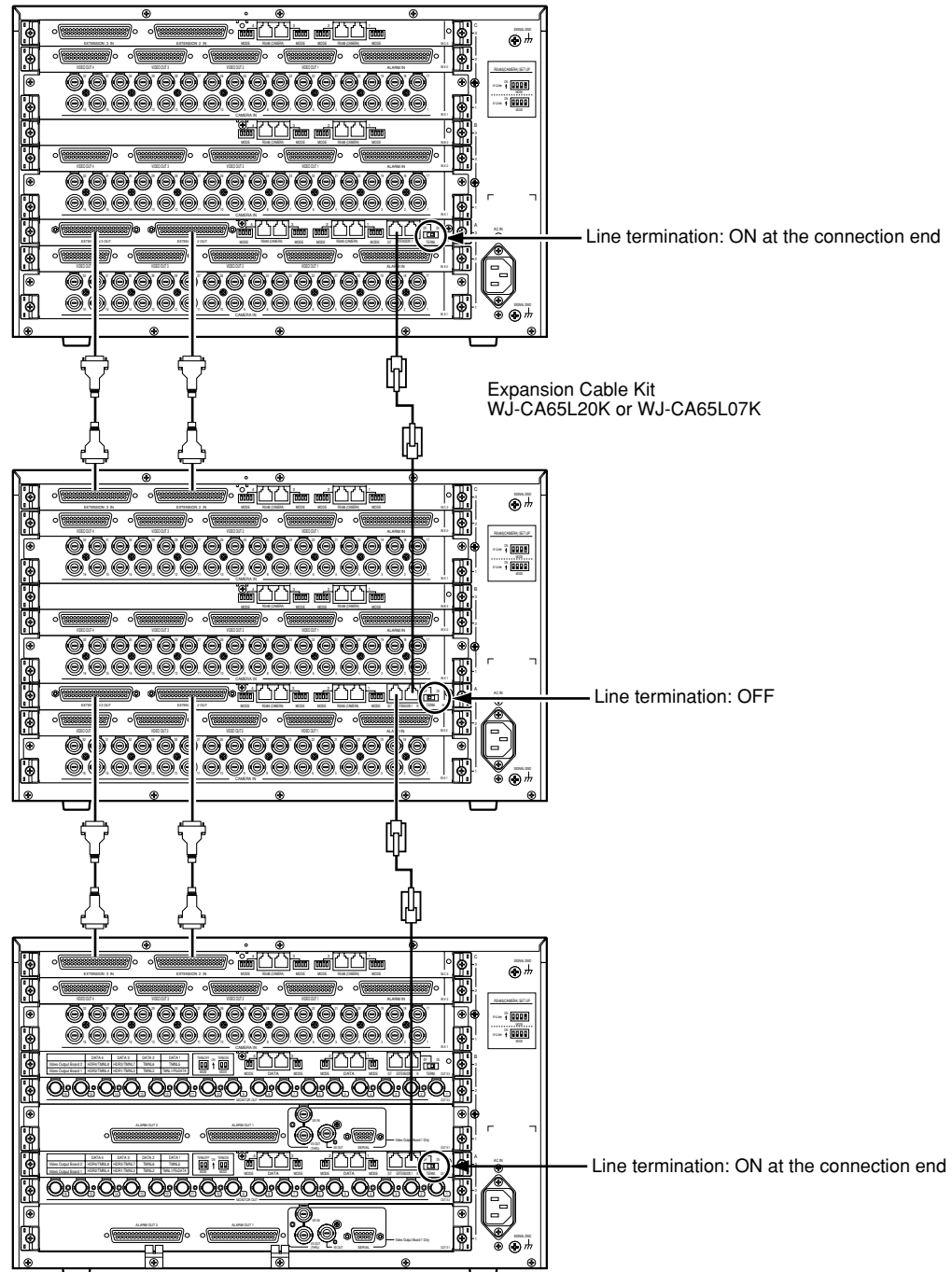


■ Card Cage Connections

Card Cage WJ-SX650U is used for mounting additional Video Input Board WJ-PB65C32. Up to 3 video input boards can be mounted into a card cage.

The following is a connection example to use additional card cages.

- Maximum unit connections: Matrix Switcher WJ-SX650 x 1, Card Cage WJ-SX650U x 3.
- Video Output Board 1 and 2 must be mounted into the same unit.
- Unit that has video output boards must be at the connection end.
- When connecting the EXTENSION 1 to 3 ports of each unit, use Expansion Cable Kit WJ-CA65L20K (Option) or WJ-CA65L07K (Option).
- Connect nothing to the EXTENSION 1 port of the Video Output Board 2.

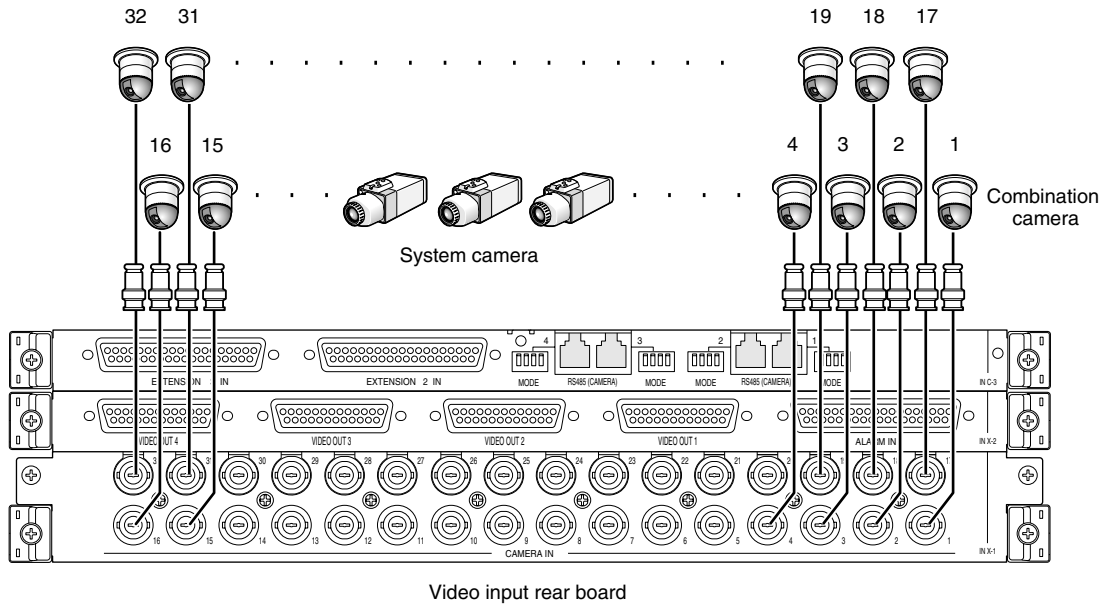


■ Camera Connections

The following is a connection example to use system cameras and combination cameras.

Notes:

- Make sure that the cable length is less than 900 m {3 000 ft} between the camera site and the unit when using RG-59/U, BELDEN 9259 or equivalent cables.
- To display recorded images on monitors connected to this unit, connect the MONITOR OUT connectors of recorders to the CAMERA IN connectors of the unit.
- When connecting cameras to the unit, reserve more unused connectors than the recorder total number. (Refer to p. 30 Recorder Connections for details.)



■ RS-485 Camera Connections

There are two options to connect RS-485 cameras to this unit.

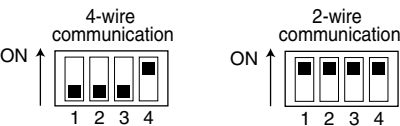
- 1:1 connection: One camera is connected to one RS-485 (CAMERA) port.
- Daisy chain connection: Up to 8 cameras can be connected to one RS-485 (CAMERA) port.

Notes:

- Set the line termination to ON for cameras at the connection ends. Line termination setting is performed with the MODE 1 to 4 switches (refer to p. 28) at video input rear boards.
- Perform the RS-485 camera setting in RS485 CAMERA of SETUP MENU (refer to p. 54) or "System" – "VD2/DATA/Cable Comp." – "RS485 Camera" of WJ-SX650 Series Administrator Console.
- 1 200 m {3 937 ft} is the total length limit of RS-485 cables.
- Recommended for RS-485 communication is AWG#22 or thicker one. The cable should be shielded, two-wire, twisted pair, and with low impedance.
- Conform the 2-wire or 4-wire communication setting of this unit to that of RS-485 cameras.

The following is the details on MODE 1 to 4 switch settings.

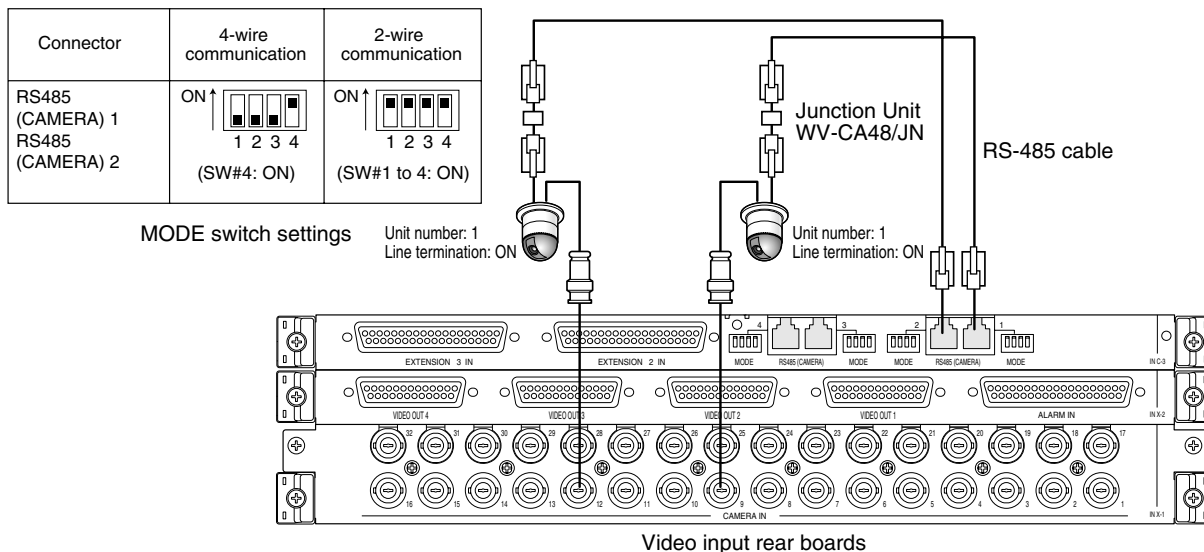
	1	2	3	4
ON	2-wire communication			Line termination: ON
OFF	4-wire communication			Line termination: OFF



● 1:1 Connection

One camera is connected to one RS-485 (CAMERA) port.

Example: RS-485 cameras are connected to the CAMERA IN 9 and 12 connectors.

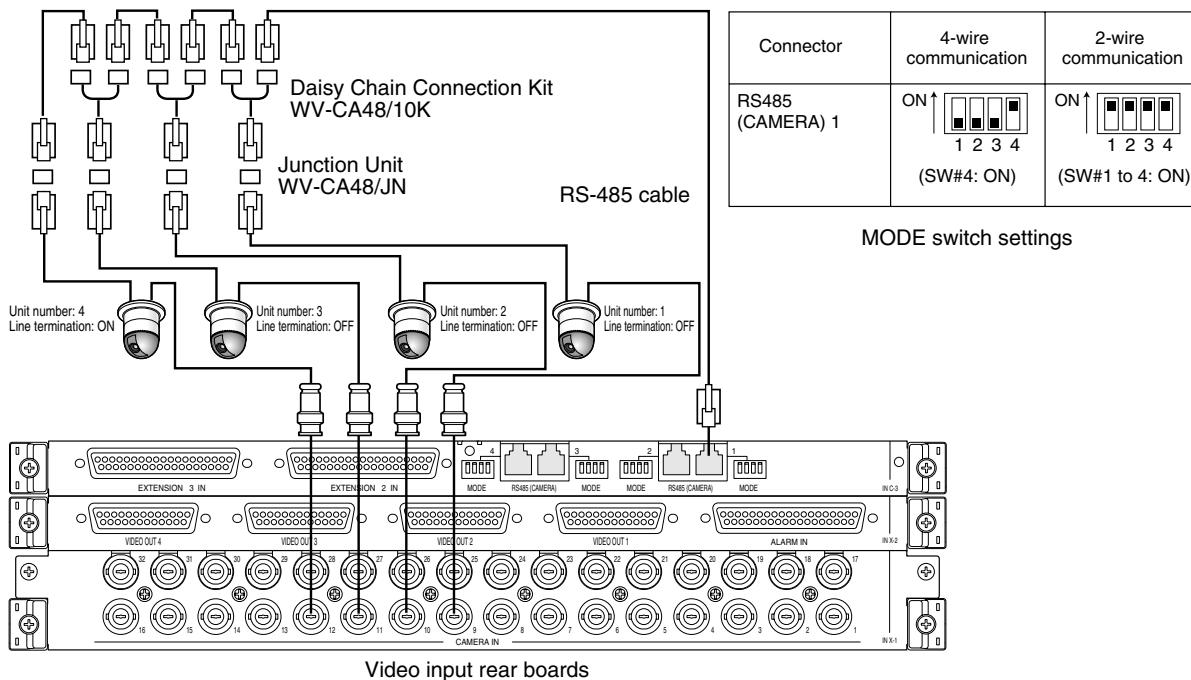


Note: Do not use unit numbers other than 1 to 8 for individual cameras. (Refer to the operating instructions of camera for setting.)

● Daisy Chain Connection

Two or more cameras can be connected to one RS-485 (CAMERA) port. Up to 8 cameras are available.

Example: RS-485 cameras are connected to the CAMERA IN 9 to 12 connectors

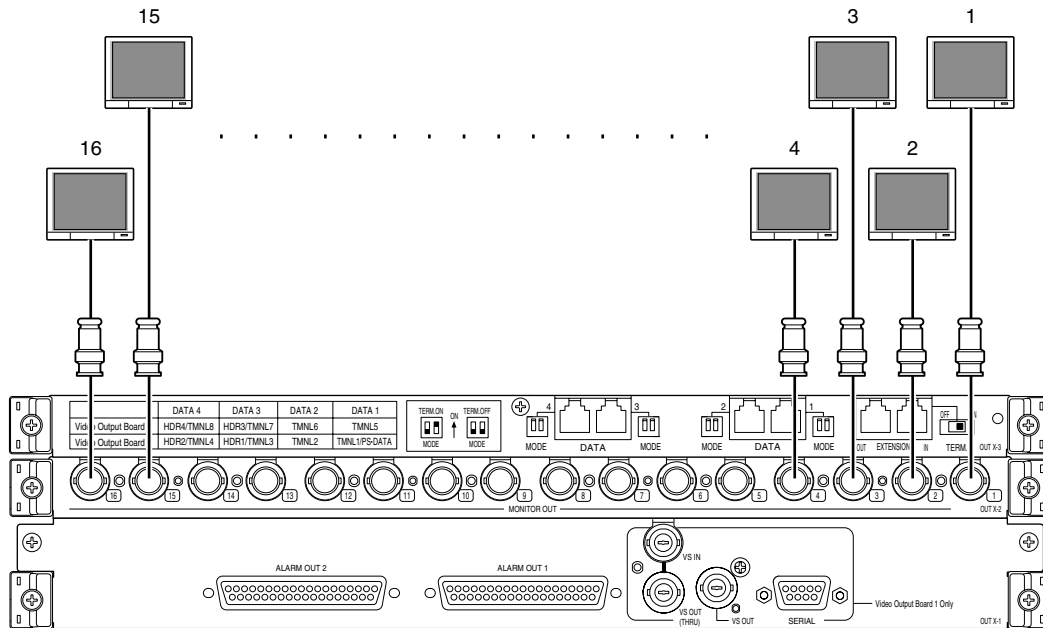


Notes:

- Among cameras connected to an RS485 (CAMERA) port in the daisy chain (4-wire communication), only one camera can activate camera alarms.
- Do not use unit numbers other than 1 to 8 for individual cameras. (Refer to the operating instructions of camera for setting.)
- Do not set the same unit numbers for more than one camera in an RS-485 chain.

■ Monitor Connections

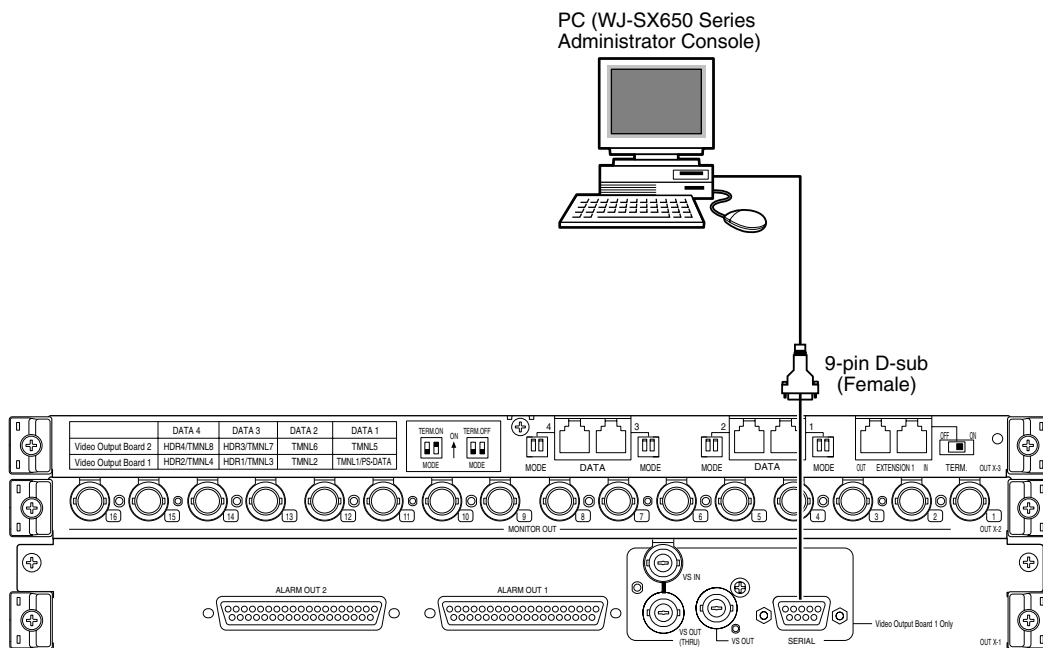
- The MONITOR OUT 1 to 16 connectors of Video Output Board 1 are assigned to Monitor 1 to 16.
- The MONITOR OUT 1 to 16 connectors of Video Output Board 2 are assigned to Monitor 17 to 32.



Video output rear boards

■ PC Connection

Refer to Serial (RS-232C) Connector Command Reference (PDF file on the supplied CD-ROM) for details on the connection and communication settings.



Video output rear boards

■ Recorder Connection

The following is a connection example to use recorders.

* Refer to "Readme.txt" on the supplied CD-ROM for details on model numbers.

● Connection to Video Output Connectors of Recorders

To display recorder images on monitors connected to this unit

When the video output connectors of recorders are connected to CAMERA IN connectors of this unit, recorder images can be displayed on Monitor 1 to 32.

The following is the connection procedure.

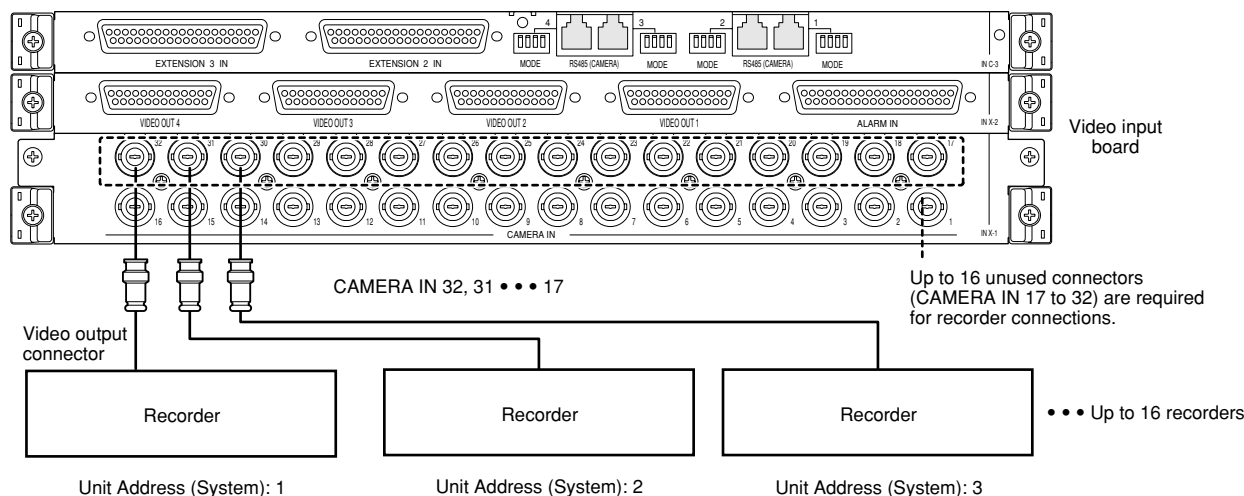
1. Assign Unit Address (System) to the recorders. (Refer to p. 35 ①.)
Available unit addresses are 1 to 16. The unit address setting must be different from each other.
2. Decide the video input board to supply video input signals from recorder.
Choose a video input board that has more unused connectors (CAMERA IN 17 to 32) than the recorder total number.

Note: Only one video input board can be connected to the video output connector of recorders.

3. Connect the video output connectors (the monitor output 2 connector) of recorders and the CAMERA IN 17 to 32 connectors of the unit.

Recorder number (Unit Address (System))	CAMERA IN connector of video input board	Recorder number (Unit Address (System))	CAMERA IN connector of video input board
1	32	9	24
2	31	10	23
3	30	11	22
4	29	12	21
5	28	13	20
6	27	14	19
7	26	15	18
8	25	16	17

Note: To supply video input signals from recorders to video input boards, perform the settings surely in RECORDER of SETUP MENU (refer to p. 51) or "System" – "Recorder" of WJ-SX650 Series Administrator Console.



To display recorder images on external monitors directly connected to recorders

When using all the CAMERA IN connectors of video input boards for camera connections, external monitors can be connected directly to recorders.

Note: Recorder settings are performed in RECORDER of SETUP MENU (refer to p. 51) or "System" – "Recorder" of WJ-SX650 Series Administrator Console.

● Loop-thru Connection between Camera Input Connectors of Recorders and VIDEO OUT Ports of this Unit

VIDEO OUT 1 to 4 ports are connected to the camera input connectors of recorders. For connection, use D-sub/BNC Video Cable WJ-CA68 (Option).

The following is the association of camera input connectors with video output ports.

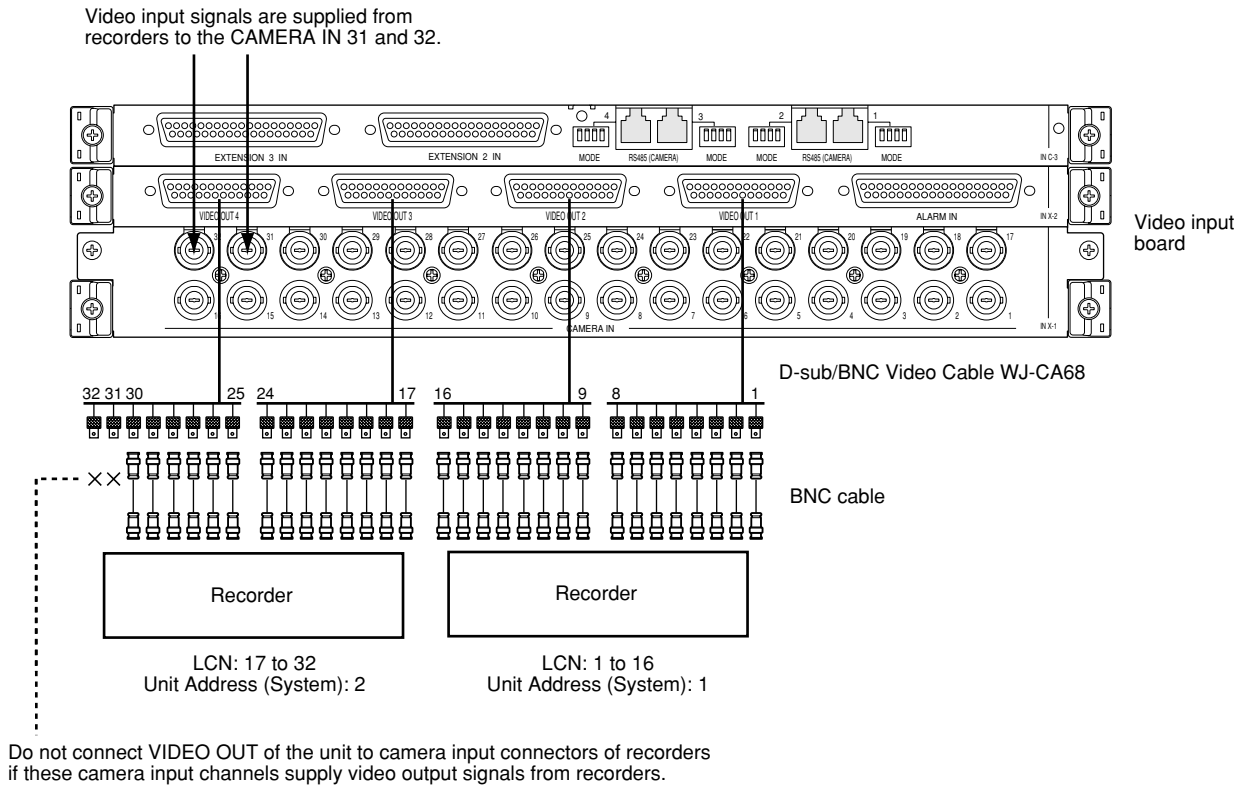
Camera input connectors (CAMERA IN 1 to 32) of this unit	Video output ports (VIDEO OUT 1 to 4) of this unit
1 to 8	VIDEO OUT 1
9 to 16	VIDEO OUT 2
17 to 24	VIDEO OUT 3
25 to 32	VIDEO OUT 4

The following is the association of LCN's and recorder numbers for the loop-thru connections.

LCN	Recorder number (Unit Address (System))	LCN	Recorder number (Unit Address (System))
1 to 16	1	129 to 144	9
17 to 32	2	145 to 160	10
33 to 48	3	161 to 176	11
49 to 64	4	177 to 192	12
65 to 80	5	193 to 208	13
81 to 96	6	209 to 224	14
97 to 112	7	225 to 240	15
113 to 128	8	241 to 256	16

Notes:

- When changing connections, perform the LCN settings of camera input channels supplying video input signals to recorders. The LCN settings are performed in "System" – "Recorder" – "LCN setting".
- Camera input signals are looped through the unit. Monitor display information (camera title, etc.) are not recorded.



Note: Do not connect the VIDEO OUT ports of the unit to the camera input connectors of recorders if these camera input channels supply video output signals from recorders.

● Connection between Recorders and Video Input Boards

By connecting recorders to the DATA ports of this unit, recorder control becomes available from system controllers.

Recorder number (Unit Address (System))	DATA port for recorder connection
1 to 4	DATA 3 port of Video Output Board 1 (Factory default: HDR1)
5 to 8	DATA 4 port of Video Output Board 1 (Factory default: HDR2)
9 to 12	DATA 3 port of Video Output Board 2 (Factory default: HDR3)
13 to 16	DATA 4 port of Video Output Board 2 (Factory default: HDR4)

Note: You can change data port settings according to the connected devices. Setting changes are performed in "System" – "DATA Port" of WJ-SX650 Series Administrator Console or DATA PORT (refer to p. 53) of SETUP MENU.

● Connection Example with WJ-HD300 Series, WJ-HD300A Series, or WJ-HD350 Series

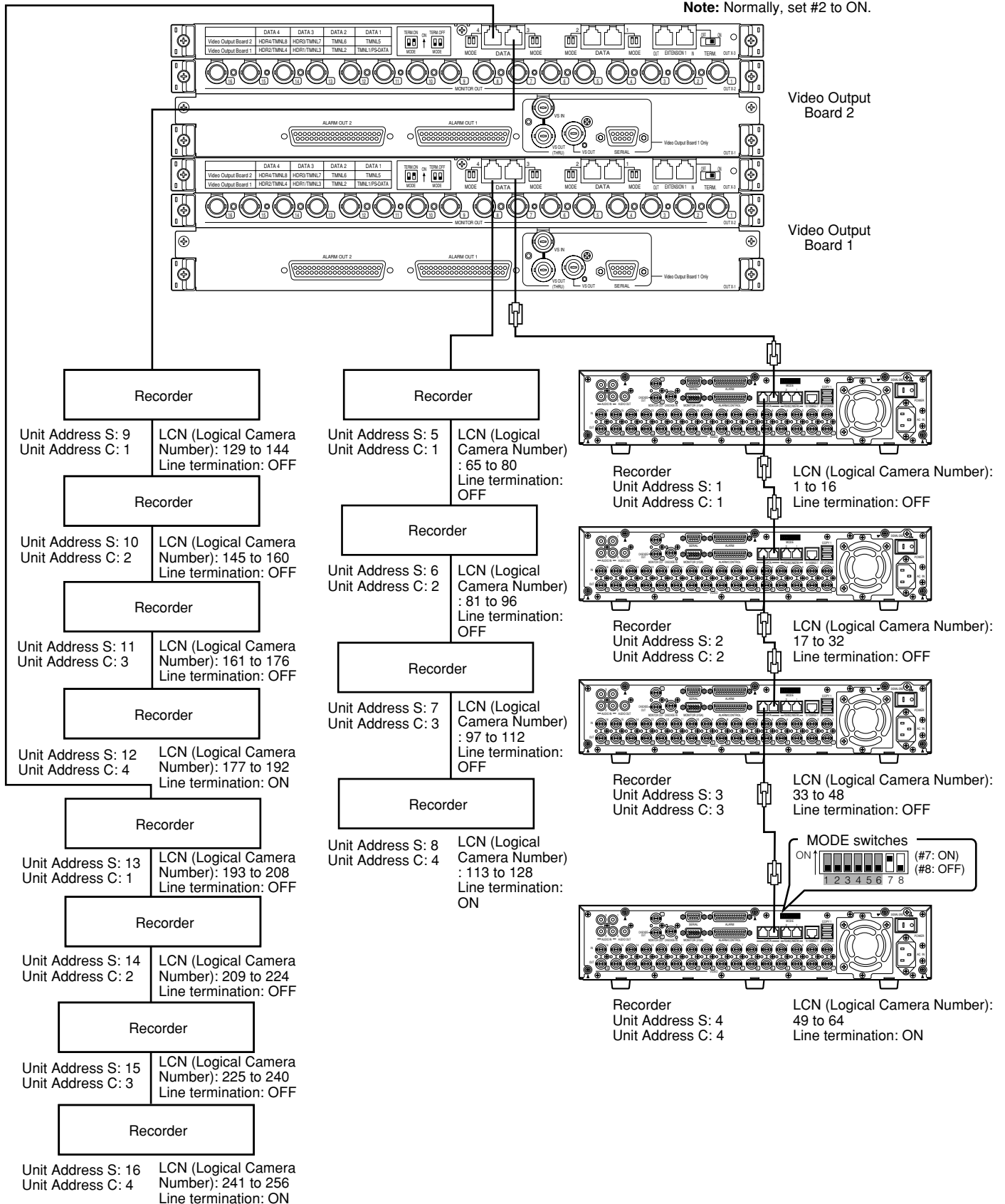
* The following are abbreviations.

- Unit Address S: Unit Address (System):
- Unit Address C: Unit Address (Controller)

MODE switch settings

Line termination: ON	ON↑ 1 2 (#2: ON)
Line termination: OFF	ON↑ 1 2 (#2: OFF)

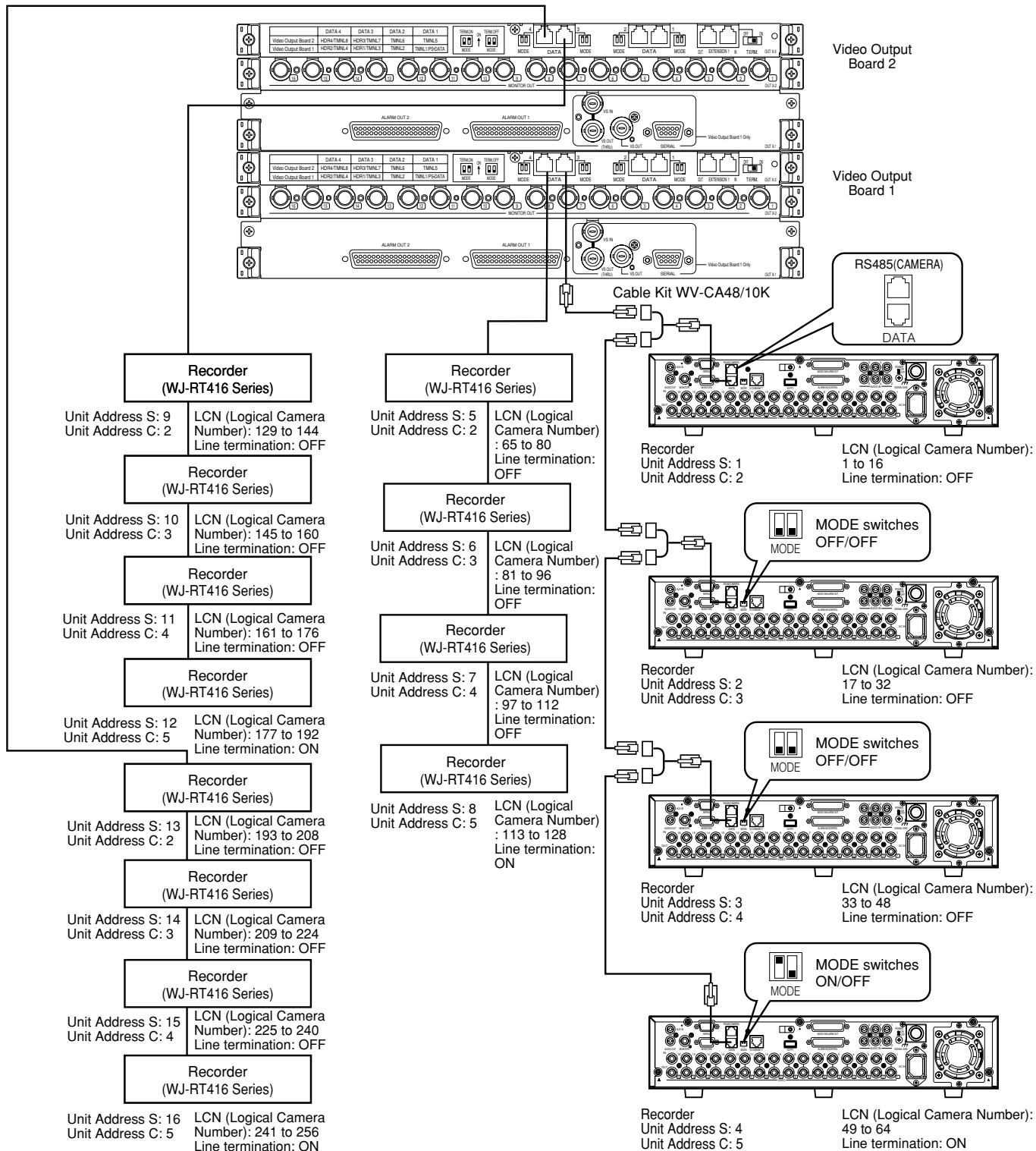
Note: Normally, set #2 to ON.



● Connection Example with WJ-RT416 Series

Important: When using WJ-RT416 Series, "Unit Address C: 1" is unavailable.

- * The following are abbreviations.
- Unit Address S: Unit Address (System):
 - Unit Address C: Unit Address (Controller)



■ Recorder Settings

Be sure to perform the settings for connected recorders in SETUP MENU of recorders.

You can set ② to ⑤ after connections. However, you must set ① separately for each recorder before connections. The settings are performed in SETUP MENU (Advanced) of each recorder.

① Unit Address (System)

Set the Unit Address (System) for each recorder in "Comm" – "PS.Data Setup"*¹. 001 to 016 are available. (Up to 16 recorders can be connected.) The unit address setting must be different from each other.

② Unit Address (Controller)

Set the Unit Address (Controller) for each recorder in "Comm" – "PS.Data Setup"*¹. 001 to 004 are available. (Up to 4 recorders can be connected to a DATA port.) The unit address setting must be different from each other among recorders connected to the same DATA port. When using WJ-RT416 Series, set the number from 002 to 005 for Unit Address (Controller) of [Communication Setup] - [PS.Data Setup].

③ Camera Number Setup

Perform the Camera Number setting for each recorder in "Comm" – "PS.Data Setup"*¹. The camera number settings must be identical as the LCN settings of this unit.

Example: To supply video input signal from Camera 999 to the CAMERA IN 16 connector of Recorder 16 (Unit Address (System): 16), select CAM NO. 999 for CAM PORT 16.

④ Camera Control

Select PSD for CAM1 to CAM16 in "Comm" – "Camera Control"*².

⑤ Event REC

To activate alarm recording, perform the event recording settings surely. Refer to the operating instructions of recorders for details. When using WJ-HD300 Series, WJ-HD300A Series, or WJ-HD350 Series, maintain the factory default for the following settings.

- PSD User setting in "System" – "Basic Setup": ADMIN
- Operation Mode setting of each Event Program – VMD, VIDEO LOSS, and Terminal/Command Alarm in "Schedule" – "Event Program": ALARM
(When setting QUICK for REC Type, Operation Mode setting of Event REC in "SETUP MENU (Quick)" – "REC & Event": ALARM)
- Settings in "Comm" – "PS.Data Setup" of SETUP MENU, except for ① to ③. When using WJ-RT416 Series, select "AL-M" for the alarm duration of "Term" or "VMD" of [Event Setup] – [Alarm Rec. Setup].

*1 WJ-RT416 Series: [Communication Setup] - [PS.Data Setup]

*2 WJ-RT416 Series: [Camera Control Setup]

■ System Controller Connection

The following is a connection example to use system controllers.

There are two options to connect system controllers to this unit.

- Terminal mode: Normally, this operation mode is applied. (When connecting System Controller WV-CU360C/CJ, use Ver. 8.10 or later.)
- PS-Data mode: When other system units are connected to this unit, and they are controlled by the same system controller, this operation mode is applied. This mode has operation restrictions. Refer to p. 86 OPERATION (OTHER THAN TERMINAL MODE).

● Terminal Mode Connection

To apply the terminal mode, connect the system controllers as follows.

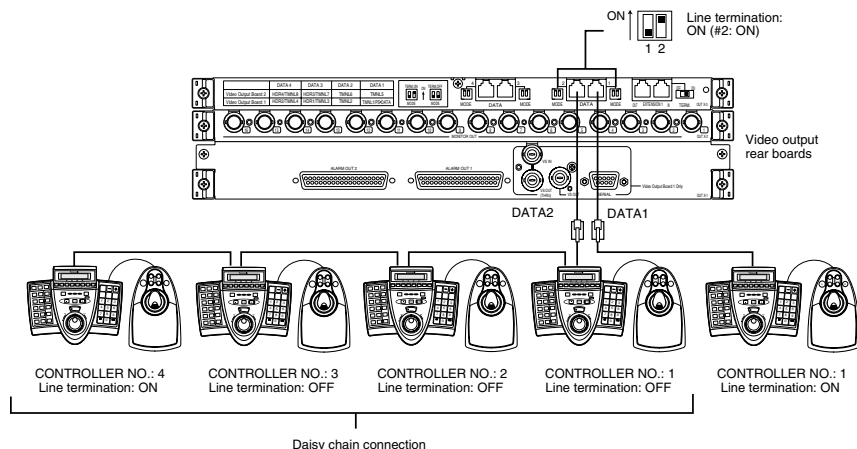
1. Connect the system controllers to the DATA 1 to 4 ports of the unit.

Notes:

- In the factory default, the DATA 3 and 4 ports are set to HDR1 to 4 for recorder connection. To connect system controllers, perform the DATA port settings in DATA PORT of SETUP MENU (refer to p. 53) or "System" – "DATA Port" of WJ-SX650 Series Administrator Console.
- Both of recorders and system controllers cannot be connected to the same DATA port.
- 1 200 m {3 937 ft} is the total length limit of cables (between this unit and the system controller at the chain end).
- By connecting up to 4 system controllers to one DATA port in the daisy chain, up to 16 system controllers are available in the system. (Up to 16 system controllers can log into the system at a time.)
- Daisy chain connection is available with System Controller WV-CU950/650 (Ver. 2.00 or later).

2. Set the system controllers to the terminal mode. (Refer to the operating instructions of system controllers.)
3. Set the CONTROLLER NO. switches of system controllers to 1. (In the daisy chain connection, set 1 to 4 for each controller. The switch setting must be different from each other. However, when connecting system controllers to different DATA ports, you can use overlapped controller numbers.)

Note: Refer to the operating instructions of system controller for details on the CONTROLLER NO. switch setting.



● PS-Data Mode Connection

To apply the PS-Data mode, connect the system controllers as follows.

1. Connect the system controllers to the DATA 1 port of Video Output Board 1.

Notes:

- In the factory default, the DATA 1 port is set for the terminal mode connection. To apply the PS-Data mode connection, perform the DATA port settings in DATA PORT of SETUP MENU (refer to p. 53) or "System" – "DATA Port" of WJ-SX650 Series Administrator Console.
- Both of terminal mode and PS-Data system controllers cannot be connected to the same DATA port.
- DATA 1 port of Video Output Board 2 cannot be set for the PS-Data connection.
- 1 200 m {3 937 ft} is the total length limit of cables (between this unit and the system controller at the chain end).
- Up to 4 system controllers can be connected in the daisy chain. For system controllers in the daisy chain connection, operator registration is not available. (The same operator setting is applied for all the system controllers in the PS-Data daisy chain.)

2. If using only one system controller, set the MODE Switch #2 of DATA port connected to the system controller to ON. If using two or more system controllers in daisy chain connections, set the MODE Switch #2 of DATA port of the chain-end unit to ON.

3. Set the system controllers to the PS-Data mode. (Refer to the operating instructions of system controllers.)

4. Set the line termination of system controllers with the MODE switches. (Refer to the operating instructions of system controllers.) In the daisy chain connection, set the line termination of chain end system controller to ON. (Switch #5: ON)

5. In the daisy chain connection, set the CONTROLLER NO. switches of system controllers to 1 to 4. The switch setting must be different from each other. (Refer to the operating instructions of system controller for details on the CONTROLLER NO. switch setting.)

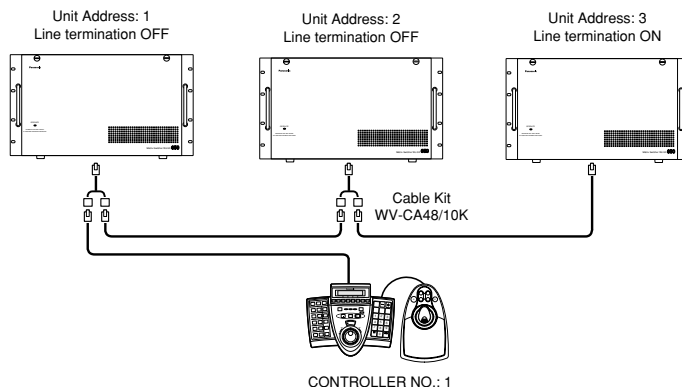
Note: When using system controllers in the PS-Data mode, camera numbers that can be selected differ depending on system controller models.

Example:

WV-CU950/650: 1 to 999

WV-CU360C/CJ: 1 to 199

Select the system controller models that are applicable for your system composition. When using 200 or more cameras in the PS-Data mode, apply WV-CU950/650.

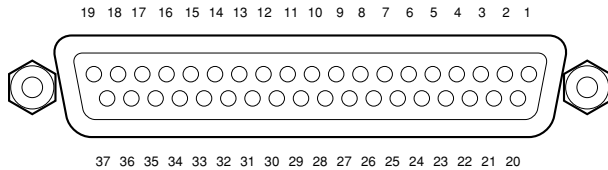


■ Alarm Sensor Connections

Alarm input signals can be supplied by alarm sensors connected to the ALARM IN port at the video input board. The following are the ALARM IN port details.

Notes:

- Perform the setting of each signal polarity in TERMINAL ALARM of SETUP MENU (refer to p. 51) or "Alarm" – "Alarm Mode" – "Terminal Setup" of WJ-SX650 Series Administrator Console.
- Perform the setting of each alarm event in "Alarm" – "Alarm Event" of WJ-SX650 Series Administrator Console.

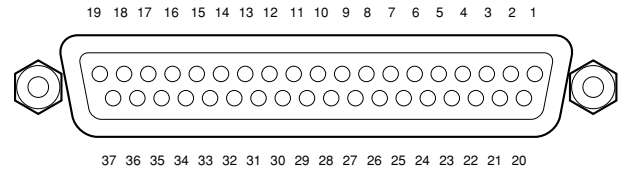


Pin No.	Designation
1	GND
2	Alarm Input 1
3	Alarm Input 2
4	Alarm Input 3
5	Alarm Input 4
6	Alarm Input 5
7	Alarm Input 6
8	Alarm Input 7
9	Alarm Input 8
10	Alarm Input 9
11	Alarm Input 10
12	Alarm Input 11
13	Alarm Input 12
14	Alarm Input 13
15	Alarm Input 14
16	Alarm Input 15
17	Alarm Input 16
18	GND
19	GND
20	GND
21	Alarm Input 17
22	Alarm Input 18
23	Alarm Input 19
24	Alarm Input 20
25	Alarm Input 21
26	Alarm Input 22
27	Alarm Input 23
28	Alarm Input 24
29	Alarm Input 25
30	Alarm Input 26
31	Alarm Input 27
32	Alarm Input 28
33	Alarm Input 29
34	Alarm Input 30
35	Alarm Input 31
36	Alarm Input 32
37	GND

Alarm Input: 100 or more ms, non-voltage make contact input

■ External Device Connections

With external device connections, alarm output, alarm recover input, time adjust input, and time adjust output signals are supplied and accepted from the ALARM OUT 1 and 2 ports at the video output board. The following are the ALARM OUT port details.



Pin No.	ALARM OUT 1	ALARM OUT 2
1	GND	GND
2	Alarm Output 1	Alarm Output 17
3	Alarm Recover Input 1	Alarm Recover Input 9
4	Alarm Output 2	Alarm Output 18
5	Alarm Recover Input 2	Alarm Recover Input 10
6	Alarm Output 3	Alarm Output 19
7	Alarm Recover Input 3	Alarm Recover Input 11
8	Alarm Output 4	Alarm Output 20
9	Alarm Recover Input 4	Alarm Recover Input 12
10	GND	GND
11	Alarm Output 5	Alarm Output 21
12	Alarm Recover Input 5	Alarm Recover Input 13
13	Alarm Output 6	Alarm Output 22
14	Alarm Recover Input 6	Alarm Reset Input 14
15	Alarm Output 7	Alarm Output 23
16	Alarm Recover Input 7	Alarm Recover Input 15
17	Alarm Output 8	Alarm Output 24
18	Alarm Recover Input 8	Alarm Recover Input 16
19	GND	GND
20	Alarm Output 9	Alarm Output 25
21	NC	NC
22	Alarm Output 10	Alarm Output 26
23	GND	GND
24	Alarm Output 11	Alarm Output 27
25	NC	NC
26	Alarm Output 12	Alarm Output 28
27	GND	GND
28	GND	GND
29	Alarm Output 13	Alarm Output 29
30	NC	NC
31	Alarm Output 14	Alarm Output 30
32	GND	GND
33	Alarm Output 15	Alarm Output 31
34	NC	NC
35	Alarm Output 16	Alarm Output 32
36	Time Adjust Output	GND
37	Time Adjust Input	GND

Terminal	Duration	Remarks
Alarm Output 1 to 32	Until reset	Open Collector output, 24 V, 100 mA maximum
Alarm Recover Input 1 to 16	100 or more ms	Non-voltage make contact output
Time Adjust Output	1 second	<ul style="list-style-type: none"> Open Collector output, 24 V, 100 mA maximum Signal is output every hour on the hour.
Time Adjust Input	100 or more ms	<ul style="list-style-type: none"> Non-voltage make contact input Signal input is accepted by up to ± 30 seconds every hour on the hour. Time is adjusted on the hour.

Note: "Alarm Recover Input 1 to 16" can be used as "Alarm Monitor Reset". (Refer to p. 69.)

■ System Status Check

During connection procedures, system status can be checked on 4 monitors.

The following examples are procedures to display the system status on Monitor 1 to 4.

● WV-CU950/650

- Select one of Monitor 1 to 4. (Refer to p. 58 Monitor Selection.)
- Press the MENU button repeatedly until "System Status" appears on the LCD.

System Status	004
On Off	

- Press the F1 button. SYSTEM STATUS will be displayed on Monitor 1 to 4.

Note: SYSTEM STATUS is displayed on a set of 4 monitors (Monitor 5 to 8, Monitor 9 to 12...Monitor 29 to 32).

● WV-CU360C/CJ

- Select one of Monitor 1 to 4. (Refer to p. 58 Monitor Selection.)
- Press the OSD and SYS S buttons at a time. SYSTEM STATUS will be displayed on Monitor 1 to 4.

Note: SYSTEM STATUS is displayed on a set of 4 monitors (Monitor 5 to 8, Monitor 9 to 12...Monitor 29 to 32).

Display example of SYSTEM STATUS

<Monitor 1>

LCN, MODE, KB and OPE parameters are highlighted for monitors during the alarm mode status.

SYSTEM STATUS					
MON	LCN	MODE	KB	OPE	PRI
01	001				
02	002		K1-1	123	01
03	200				03
04	030			/T001	99
05	100	G08	PC	999	14
06		SETUP	K1-4	5	00
07		HISTORY	K3-2	10	02
08	R16			505	03
LCN: LOGICAL CAMERA NUMBER					

LCN and MODE parameters are highlighted for monitors during the alarm ACK status.

<Monitor 4>

SYSTEM STATUS					
MON	LCN	MODE	KB	OPE	PRI
25					
26	075		PSD	48	02
27	105	T32		/T128	60
28	002	T01	K6-3	3	05
29	301	G32		12345	10
30	401	G32		12345	10
31	501	G32	K8-4	12345	10
32	999				
LCN: LOGICAL CAMERA NUMBER					

MON: Monitor number

LCN: Camera number or recorder number

MODE: Display mode of the monitor

- SETUP: System Setup
- HISTORY: Alarm History Display

KB: System controller or PC

OPE: User ID of the operator or timer event No.

PRI: Operator priority

- When SETUP MENU is displayed, "0" appears on this area.
- During monitor lock, this area is highlighted.

Notes:

- Even while SYSTEM STATUS is being displayed on monitors, normal operations and alarm control are available. However, you cannot check the camera or recorded images because black screen is displayed. It is recommended to use these monitors only to check SYSTEM STATUS.
- Up to 100 records of SYSTEM STATUS are saved in the system. These records can be transmitted between PC and this unit. (Periodical transmission is also available.) For transmission, perform the serial command settings in "Communication" – "Serial Command" of WJ-SX650 Series Administrator Console.
- To transmit SYSTEM STATUS records from the PC, refer to Serial (RS-232C) Connector Command Reference (PDF file on the supplied CD-ROM).

Setup Procedure

Before operation, setup of this unit is required. Setup is performed from WJ-SX650 Series Administrator Console installed on a PC. (Some settings are available from SETUP MENU of this unit.) The following is an example of setup procedure.

Notes:

- Setup may differ depending on system composition. (Settings of Step 1 and 4 in the following procedure must be performed.)
- For Step 2, 3, 5 and 6 in the following setup procedure, the factory default can be maintained.

Example: camera x 150, recorder x 10, monitor x 32, and system controller x 2 (Terminal mode)

1. Perform the recorder settings.

Recorder Out: Matrix Input

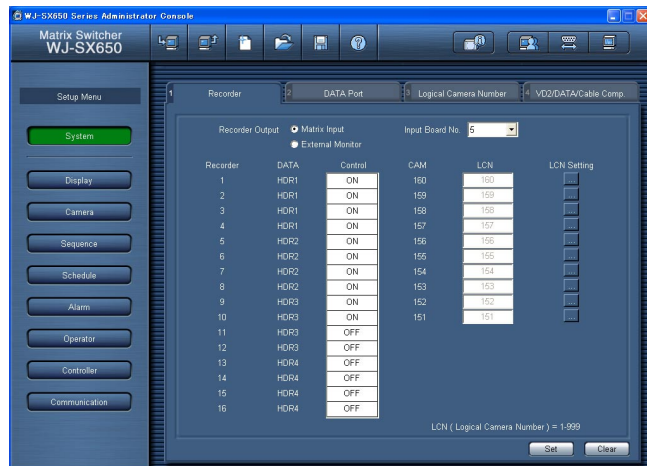
Input Board No.: 5 (When video input signals are supplied from recorders to CAM 160 to 151)

Recorder 1 to 10: ON

Recorder 11 to 16: OFF

Note: Check if recorders are properly connected to the DATA port and CAM (CAMERA IN connectors) currently displayed.

<To perform settings in WJ-SX650 Series Administrator Console>
"System" – "Recorder"



<To perform settings in SETUP MENU>
RECORDER (Refer to p. 51.)

2. Perform the DATA port settings. (In this example, maintain the factory default.)

DATA 1, 2, 5 and 6 ports: TMNL

DATA 3, 4, 7 and 8 ports: HDR

Note: Change these parameters when using PS-Data system controllers, etc.

<To perform settings in WJ-SX650 Series Administrator Console>
"System" – "DATA Port"

<To perform settings in SETUP MENU>
DATA PORT (Refer to p. 53.)

3. Perform the LCN (Logical Camera Number) settings.
CAM001 to 160: If you change LCN settings, select desired parameters.
CAM161 to 256: Delete the LCN parameters.

Notes:

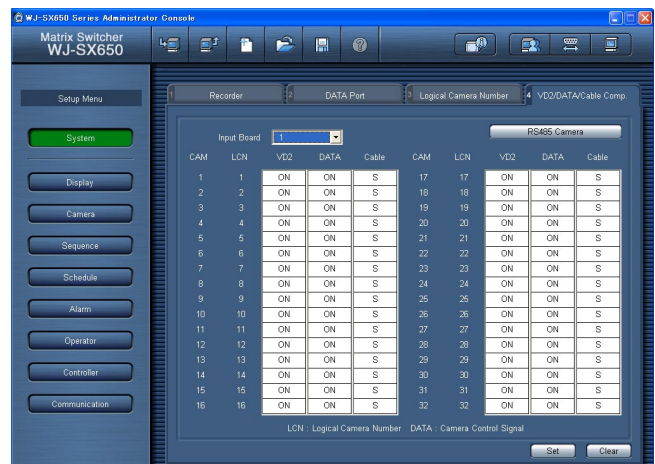
- Set LCN parameters for CAM151 to 160 surely, even though these channels accept video input signals from recorders. Without LCN settings, recorder selection is unavailable.
- By deleting the LCN parameters of unused camera input channels, operators can select only existing camera numbers.

<To perform settings in WJ-SX650 Series Administrator Console>
"System" – "Logical Camera Number"

<To perform settings in SETUP MENU>
Not available

4. Perform the camera settings.
CAM001 to 150: Select desired parameters for these cameras. (To use cameras of other manufacturers, set VD2 and DATA to OFF.) For Cable (cable compensation), select the parameter suited to the cable length.
CAM151 to 160: Set VD2 and DATA to OFF. (Video input signals are supplied from recorders to these channels.)

<To perform settings in WJ-SX650 Series Administrator Console>
"System" – "VD2/DATA/Cable Comp."



<To perform settings in SETUP MENU>

VD2/DATA/CABLE COMPENSATION (Refer to p. 54.)

5. Perform the RS-485 camera settings.

CAM001 to 150: If you use RS-485 cameras, select desired parameters for the RS-485 (CAMERA) ports and camera unit numbers.

<To perform settings in WJ-SX650 Series Administrator Console>

"System" – "VD2/DATA/Cable Comp." – "RS485 Camera"

<To perform settings in SETUP MENU>

RS485 CAMERA (Refer to p. 54.)

6. Perform the settings of cameras supplying video input signal to recorders.

<Recorder 1 to 10>

Recorder – LCN Setting (CAM 1 to 16): Set the LCN's of camera input connectors used for the loop-thru connections between the recorders and the unit. (In this example, maintain the factory default.)

Note: Change these parameters when you have changed the LCN settings in Step 3 or loop-thru connections. (Refer to p. 31.)

<To perform settings in WJ-SX650 Series Administrator Console>

"System" – "Recorder" – "LCN Setting"

<To perform settings in SETUP MENU>

Not available

7. Perform the camera title settings.

CAM001 to 160: Enter desired camera titles.

<To perform settings in WJ-SX650 Series Administrator Console>

"Camera" – "Camera Title"

<To perform settings in SETUP MENU>

Not available

8. Set the current time and date.

<To perform settings in WJ-SX650 Series Administrator Console>

"Display" – "Display"

<To perform settings in SETUP MENU>

TIME&DATE (Refer to p. 50.)

WJ-SX650 Series Administrator Console

This chapter explains about WJ-SX650 Series Administrator Console. Before controlling WJ-SX650 Series Administrator Console, installation on the PC is required.

■ System Requirements of a PC

To install WJ-SX650 Series Administrator Console, the PC should meet the following requirements.

OS:

One of the following operating systems:

Microsoft® Windows® 2000 Professional SP4

Microsoft® Windows® XP Professional SP2

Microsoft® Windows® XP Home Edition SP2

Note: To work WJ-SX650 Series Administrator Console on the PC, Microsoft® .NET Framework 1.1 needs to be installed.

If you try to install WJ-SX650 Series Administrator Console on a PC without Microsoft® .NET Framework 1.1, it will be installed along with the console.

OS language:

English, French

PC:

IBM PC/AT Compatible

CPU:

Intel® Pentium® III, 500 MHz or faster

Memory:

128 MB or more

CD-ROM drive:

Required for installation of WJ-SX650 Series Administrator Console

Hard drive space:

50 MB or more for installation of WJ-SX650 Series Administrator Console

Note: If Microsoft® .NET Framework 1.1 has not been installed on the PC, 160 MB or more is required.

Monitor:

1 024 x 768 pixels or more, HIGH color 16 bit or more

Serial Interface:

9-pin D-sub connector

■ Installation and Uninstallation

● Installation

1. Insert the supplied CD-ROM into the CD-ROM drive on the PC.
2. Double-click "Setup.exe" in the "Admin" folder of CD-ROM.
The installation wizard will be displayed on the PC screen.
3. Click "OK", and follow the directions.

Note: In the factory default installation, C:\Program Files\Panasonic\WJ-SX650 is created, and files will be copied to the directory.

● Uninstallation

1. Select "Control Panel" – "Add/Remove Programs".
"Add/Remove Programs" window will be displayed on the PC screen.
2. Select "WJ-SX650 Series Administrator Console".
3. Click "Remove" or "Change/Remove", and follow the directions.

Note: If WJ-SX650 Series Administrator Console has already been installed on a PC, installation is impossible. Install the application again after uninstallation.

■ Starting Up

1. Select "Start" – "All Programs" – "Panasonic" – "WJ-SX650 Series" – "WJ-SX650 Series Administrator Console x.xx". (x.xx is the version number.) Then, run the program.

WJ-SX650 Series Administrator Console will start up, and the login window will be displayed on the PC screen.

Note: When you select "WJ-SX650 Series Administrator Console x.xx" (x.xx is the version number.) while holding down the Ctrl key on the PC keyboard, the language selection window will appear. (Keep holding down the Ctrl key until the window appears.) After you select a language and clicking the OK button, the login window will be displayed in the selected language.

2. Enter the user name and password. The factory default is as follows.

User Name: admin

Password: sx650

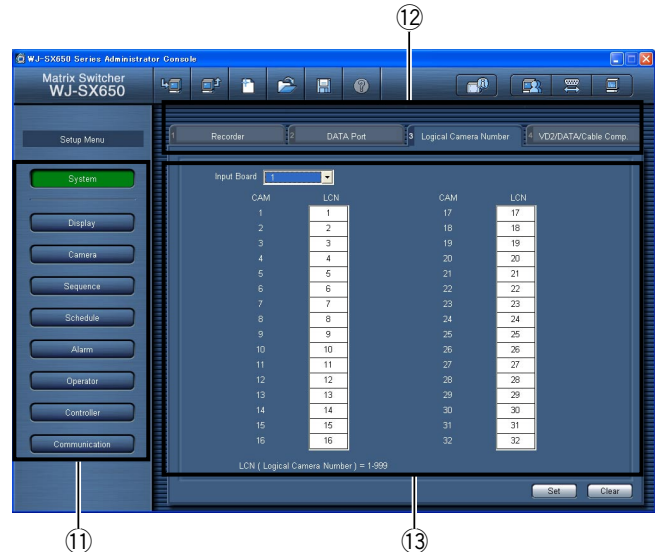
3. Click "OK". "WJ-SX650 Series Administrator Console" window is displayed.



4. To download setting data from the unit, click on the icon pointed in the illustration. "Download" window will be displayed.
 5. Click on "Start Download". The setting data will be downloaded from the unit to the PC.
- Note:** Refer to p. 29 PC Connection for how to connect the unit and PC.
6. When download is complete, a message window is displayed. Then, click "OK". "System" – "Recorder" is displayed.

Note: If you upload the setting data from the PC to the unit while SETUP MENU is open on a monitor, SETUP MENU will be closed forcibly. Settings performed in SETUP MENU will be canceled and replaced by those uploaded from the PC.

■ Window Details



● Tool Bar

- ① : Downloads the current setup data of the unit to the PC.
- ② : Uploads the setup data (configured in WJ-SX650 Series Administrator Console) from the PC to the unit.
- ③ : Creates the initial settings.
- ④ : Opens the file in which the setup data was saved.
- ⑤ : Saves the setup data as a file.
- ⑥ : Opens the settings guidance window.
- ⑦ : Displays the existence of video input board and software version of video output board.
- ⑧ : Displays the user settings page.
- ⑨ : Displays the settings page of SERIAL port.
- ⑩ : Displays the version of WJ-SX650 Series Administrator Console.
- ⑪ These buttons are clicked when setting categories are selected.
- ⑫ Selects a tab screen.
Setting menu and tab screen names are shown as follows.
"Setting menu" – "Tab screen"
- ⑬ Setting details are displayed when ⑪ and ⑫ are clicked.
- ⑭ : Determines the settings.
- ⑮ : Clears the settings.

Notes:

- Do not edit the setup data files by using text editors, etc. You may become unable to open the setup data files.
- To perform ①, ②, and ⑦, this unit needs to be connected to the PC with an RS-232C cable.

■ Tooltip Details



When you point the cursor on a button or pull-down menu, a tooltip appears. Tool tips that have additional explanations include reference numbers such as "*1". Refer to the following diagram for these additional explanations.

Reference No.	Explanation
1	1 to 8: Port No.
2	4800 bps, 9600 bps, 19200 bps, 38400 bps: Transmission speed
3	Character entry limit: 20 characters Available characters: Alphanumeric characters and symbols
4	1,2: Level
5	1 to 8: Video input board No.
6	Available parameters: Blank, 1 to 999
7	ON: Use OFF: Not use Note: ON is not available for recorders when camera input channels are set for RS-485 cameras. To activate recorder connections, set "--" for the setting items of "RS485" and "Unit number" in "System" – "VD2/DATA/Cable Comp." – "RS485 Camera".
8	Available parameters: Blank, 1 to 999 Note: Select the camera numbers that has been set in "System" – "Logical Camera Number".
9	[DATA1] TMNL1, PSD: Port type [DATA1] TMNL2: Port type [DATA3] TMNL3, HDR1: Port type [DATA4] TMNL4, HDR 2: Port type [DATA5] TMNL 5: Port type [DATA6] TMNL 6: Port type [DATA7] TMNL7, HDR3: Port type [DATA8] TMNL8, HDR4: Port type
10	4800 bps, 9600 bps, 19200 bps: Transmission speed To change the transmission speed, conform the settings of this unit to that of connected devices.
11	[Input Board 1] 1 to 4: Port number [Input Board 2] 5 to 8: Port number [Input Board 3] 9 to 12: Port number [Input Board 4] 13 to 16: Port number [Input Board 5] 17 to 20: Port number [Input Board 6] 21 to 24: Port number [Input Board 7] 25 to 28: Port number [Input Board 8] 29 to 32: Port number Note: Port numbers cannot be set for camera input channels accepting video input signals from recorders. To activate RS-485 camera connections, set "OFF" for Control of these recorders in "System" – "Recorder".
12	1 to 8: Camera unit number Note: Camera unit number cannot be set for camera input channels accepting video input signals from recorders. To activate RS-485 camera connections, set "OFF" for Control of these recorders in "System" – "Recorder".
13	ON: Overlap OFF: Not overlap
14	S: Less than 400 m {1 300 ft} M: 400 m {1 300 ft} to 700 m {2 300 ft} L: 700 m {2 300 ft} to 900 m {3 000 ft} Note: Refer to p. 27 for details on the cable length.

Reference No.	Explanation
15	2005 to 2099: Year
16	1 to 12: Month
17	1 to 31: Day
18	[24-h time format] 0 to 23: Time [12-h time format] 1 to 12: Time
19	00 to 59: Minute
20	AM, PM: Morning, Afternoon
21	DD/MM/YYYY, MM/DD/YYYY, YYYY/MM/DDDD, DD/Mmm/YYYY, Mmm/DD/YYYY: Date Format
22	Japanese, English, French*, Spanish*, German*, Italian*, and Russian*: Language * In the actual display, these parameters are displayed in their own languages.
23	[24-h] 0:00 to 23:00: Start Time [12-h] 1:00 AM to 12:00 PM: Start Time
24	Date
25	Way to press keys A to Z: Click each key while holding down the SHIFT key. a to z: Click each key. 0 to 9: Click each key.
26	1 to 32: Page
27	Available parameters: 1 to 9999
28	Available parameters: 1 to 999 Note: You can select logical camera numbers that have been set in "System" – "Logical Camera Number".
29	Available parameters: Blank, 1 to 256
30	1 to 32: Tour sequence No.
31	Available parameters: 1 to 9999 Note: You can select camera position numbers that have set in "Camera" – "Camera Position".
32	Available parameters: Blank, 1 to 256
33	ON: Activate, OFF: Not activate, --: Not control
34	1 to 30 sec: Dwell
35	1 to 32: Group Sequence No.
36	1 to 32: Monitor No.
37	1 to 99: Priority (Timer Event is 2 to 99.)
38	1 to 30 sec: Dwell Time
39	OFF: Auto reset is OFF. 1 to 10 sec, 20 sec, 30 sec, 1 min, 3 min, 5 min: Alarms are reset after this period.
40	N.O.: Normally Open contact N.C.: Normally Close contact
41	1 to 256: Terminal Alarm 1 to 999: Camera Alarm, Recorder Alarm, Video Loss Note: You can select camera numbers that have set in "System" – "Logical Camera Number". 1 to 1024: Serial Alarm
42	When Display Mode is set to SPOT, up to 8 events can be added.
43	1 to 64: Alarm schedule No. Note: You can select only registered schedules. OFF: Always Active
44	SPOT: Displays a spot camera image T-SEQ1 to 32: Activates Tour Sequence 1 to 32. G-SEQ1 to 32: Activates Group Sequence/Preset 1 to 32. Note: You can select available events only.
45	1 to 999: Recording Source (LCN) When an alarm event occurs, a command alarm specifying the LCN of "Recording Source" is transmitted to the recorder. Note: Recording follows the settings of command alarm and event recording. Refer to the operating instructions of recorders.

Reference No.	Explanation
46	1 to 1024: Alarm Output number Alarm output signal is supplied from the ALARM OUT 1/2 port or the SERIAL port. (65 to 1024 are supplied from the SERIAL port only as a serial command.) Note: To activate serial command transmission, set Alarm Output to ON in "Communication" – "Serial Command".
47	Spot: Only the spot images can be activated for the alarm event. Tour Sequence: Only tour sequences can be activated for the alarm event. Group Sequence: Only group sequences can be activated for the alarm event. Note: You cannot change the Display Mode if an alarm event has been associated with the monitor. To change the setting, you need to delete the alarm event setting or change the monitor setting for the alarm event.
48	Available digits: 5 or less Available numerics: 0 to 9 Notes: <ul style="list-style-type: none"> • Begin the entry with a numeric other than "0". • 99999 is not available.
49	Available digits: 5 or less Available numerics: 0 to 9 Note: Begin the entry with a numeric other than "0".
50	1 to 5: Level
51	View & Operate: An operator can display the selected camera image on the selected monitor. The operator can also control the camera. View: An operator can display the selected camera image on the selected monitor, but cannot control the camera. --: The operator can neither display the selected camera image on the selected monitor nor control the camera.
52	User ID: Select a registered User ID.
53	1, 3, 5, 10, 30, or 60 min: If no operations are performed during this period in the login status, the operator logs out of the system automatically.
54	1 to 2: Video output board No.
55	Available parameters: 1 to 4096
56	OFF: Alarm occurrence is not notified. 0 sec: Every time alarm occurrence is detected, system controllers are notified. 1 sec, 3 sec, 5 sec: 1 second, 3 second, or 5 seconds after the alarm occurrence, system controllers are notified.
57	OFF: Alarm notification is not retried. 100 ms, 200 ms, 400 ms, 1 sec: Period until alarm notification is retried
58	0 to 16: Total recorder number Note: When camera input channels to supply video input signals from recorders are set to "RS485" in "System" – "RS485 Camera", the RS-485 settings are automatically canceled.
60	ON, OFF, AUTO, _: B/W setting
61	PATROL1(S) to PATROL4(S) , _: Scene [PATROL(S)] setting
62	ON: Perform OFF: Not perform Note: Depending on the specifications of recorders, recording may be stopped for several seconds at the timing of auto time adjustment.
63	ON: Perform OFF: Not to perform Note: To perform auto time adjustment, check the specifications of connected device before the setting.
64	OFF: Not notify 1, 5, 10, 30 or 60 sec Select the interval to notify the system status. (Recommended: 5 or more sec)

Note: When using WJ-RT416 Series, time is not adjusted even when 62 and 63 are set to "ON".

Factory Default Settings

In the factory default, each setting item has been set as follows. Items attached with "*" can also be set in SETUP MENU.

■ Factory Default Settings of WJ-SX650 Series Administrator Console

● System

"Recorder"

Recorder Output: External Monitor

Recorder	Control	LCN	LCN Setting
1	ON*	257	1 to 16
2	ON*	258	17 to 32
•	•	•	•
•	•	•	•
16	ON*	272	241 to 256

"DATA Port"

DATA	Type	Communication Status
1	TMNL1*	9 600 bps
2	TMNL2*	9 600 bps
3	HDR1*	9 600 bps
4	HDR2*	9 600 bps
5	TMNL5*	9 600 bps
6	TMNL6*	9 600 bps
7	HDR3*	9 600 bps
8	HDR4*	9 600 bps

"Logical Camera Number"

CAM	LCN
1	1
•	•
•	•
256	256

"VD2/DATA/Cable Comp."

CAM	VD2	DATA	Cable
1 to 256	ON*	ON*	S*

"RS485 Camera"

No setting

RS485	Communication Status
1 to 32	19 200 bps

● Display

"Display"

Date Format: Mmm/DD/YYYY

Time Format: 12-h

Language: English*

"DST/Summer Time"

DST/Summer Time: ON*

Start Time: 02:00 AM

DST/Summer Time Table: The first Sunday in April to the last Sunday in October

● Camera

"Camera Title"

CAM	Camera Title
1	1
•	•
•	•
256	256

Custom Chars: A to Z, a to f

"Camera Position"

CAM-P	LCN
1 to 64	LCN 1 (Preset 1 to 64)
65 to 128	LCN 2 (Preset 1 to 64)
129 to 192	LCN 3 (Preset 1 to 64)
193 to 256	LCN 4 (Preset 1 to 64)

● Sequence

"Tour Sequence"

Tour Sequence 1: Images of LCN 1 to 32 are sequentially switched for two seconds.

Tour Sequence 2: Images of LCN 33 to 64 are sequentially switched for two seconds.

Tour Sequence 3: Images of LCN 65 to 96 are sequentially switched for two seconds.

Tour Sequence 4: Images of LCN 97 to 128 are sequentially switched for two seconds.

Tour Sequence 5: Images of LCN 129 to 160 are sequentially switched for two seconds.

Tour Sequence 6: Images of LCN 161 to 192 are sequentially switched for two seconds.

Tour Sequence 7: Images of LCN 193 to 224 are sequentially switched for two seconds.

Tour Sequence 8: Images of LCN 225 to 256 are sequentially switched for two seconds.

Tour Sequence 9 to 32: No settings

"Group Sequence"

Group Sequence 1: 4 cameras among LCN 1 to 64 are sequentially switched for 2 seconds on Monitor 1 to 4.

Group Sequence 2: 4 cameras among LCN 65 to 128 are sequentially switched for 2 seconds on Monitor 5 to 8.

Group Sequence 3: 8 cameras among LCN 129 to 256 are sequentially switched for 2 seconds on Monitor 9 to 16.

Group Sequence 4 to 8: No settings

Group Sequence 9: Spot image of LCN 1 to 16 are displayed on Monitor 1 to 16.

Group Sequence 10 to 32: No settings

● Schedule

"Timer Event"

No settings

"Camera Event"

No settings

● Alarm

"Alarm Mode"

Alarm Mode: Sequence* (Dwell Time: 2 sec*)

Auto Reset: 30 sec*

Terminal Alarm: ON (All alarms are N.O.)*

Camera Alarm: OFF*

Recorder Alarm: OFF*

Serial Alarm: ON*

Video Loss: OFF*

"Alarm Event"

Terminal Alarm 1 to 256: SPOT, LCN 1 to 256, Monitor 1

Camera Alarm 1 to 256: No settings

Recorder Alarm 1 to 256: No settings

Serial Alarm 1 to 1024: No settings

Video Loss 1 to 256: Monitor 2 (No events)

"Monitor Display Mode"

Monitor	Display Mode
1 to 16	Spot
17 to 24	Tour Sequence
25 to 32	Group Sequence

"Alarm Schedule"

No settings

● Operator

"Operator"

Note: Refer to p. 56 Operator Registration.

PS-Data: User ID: 650

HDR Operation Using the Web Browser: Priority: 1

"Level Table"

Item	Level 1	Level 2	Level 3	Level 4	Level 5
System Setup	Enabled (Checked)	Disabled (Not checked)	Disabled	Disabled	Disabled
OSD Control	Enabled	Enabled	Disabled	Disabled	Disabled
Alarm History Display	Enabled	Enabled	Disabled	Disabled	Disabled
System Status Display	Enabled	Disabled	Disabled	Disabled	Disabled
Alarm Suspension	Enabled	Disabled	Disabled	Disabled	Disabled
Alarms All Reset	Enabled	Enabled	Disabled	Disabled	Disabled
Alarm ACK, Alarm Individual/ Monitor Reset	Enabled	Enabled	Enabled	Disabled	Disabled
Start Tour Sequence	Enabled	Enabled	Enabled	Enabled	Disabled
Start Group Sequence	Enabled	Enabled	Enabled	Enabled	Disabled
Monitor Lock	Enabled	Enabled	Disabled	Disabled	Disabled
Camera Setup	Enabled	Disabled	Disabled	Disabled	Disabled
Preset Position Registration	Enabled	Enabled	Disabled	Disabled	Disabled
All Cameras Control	Enabled	Enabled	Disabled	Disabled	Disabled
Camera Control	Enabled	Enabled	Enabled	Disabled	Disabled
Camera Selection	Enabled	Enabled	Enabled	Enabled	Enabled
Recorder Setup	Enabled	Disabled	Disabled	Disabled	Disabled
Recorder Control	Enabled	Enabled	Enabled	Disabled	Disabled

● Controller

"Monitor Access"

DATA	Monitor
1 to 8	All the ports are enabled. (Checked)

"Auto Login/Logout"

Auto Login: All the ports are enabled. (Checked) (User ID: 650)

Auto Logout: All the ports are unabled. (Not Checked)

"Key Assignment" (Available for WV-CU950/650)

DATA 1 to 8	Function
A	Iris Reset
B	Auto Focus
TOP	Auto Focus

● Communication

"Serial Command"

Alarm Notification: OFF

System Status Notification: OFF

Alarm Output: OFF

"PS.Data"

Unit Address: 1

<Communication Status>

Alarm Data: 1 sec

Retry Timing: OFF

<Auto Time Adjustment>

Recorder (HDR port): OFF

Whole PS.Data System (PSD port): OFF

Adjustment time: 02:00 PM

■ Factory Default Settings of SETUP MENU

"SYSTEM" Menu

Communication speed of SERIAL port: 38 400 bps

Setup Menu (OSD)

This chapter explains about SETUP MENU (On-screen Display setup menu) of this unit.

■ Basic Operations

To control SETUP MENU, display SETUP MENU on a monitor.

● WV-CU950/650

1. Select a desired monitor. (Refer to p. 58 Monitor Selection.)
2. Press the MENU button repeatedly until "System Setup" appears on the LCD.



3. Press the F1 button. SETUP MENU will be displayed on the selected monitor.

● WV-CU360C/CJ

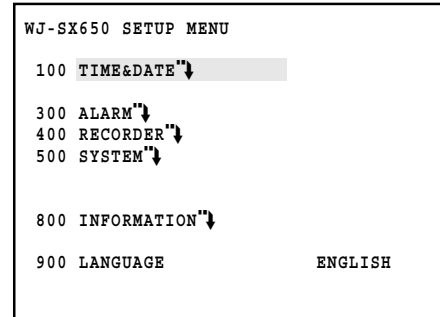
1. Select a desired monitor. (Refer to p. 58 Monitor Selection.)
2. Press the SETUP button while holding down the SHIFT button.



SETUP MENU will be displayed on the selected monitor.

● Top Menu

When SETUP MENU is opened, the top menu is displayed on the monitor.



Moves the cursor: Move the joystick. The cursor is highlighted when you point.

Moves to the next/previous page (When the displayed menu has two or more pages): Move the cursor to the top or bottom. The next or previous page will be displayed on the monitor.

Note: When using WV-CU950/650, you can perform this operation by rotating the shuttle ring or moving the zoom wheel controller.

Changes the selected parameter: Rotate the JogDial, or press the + or – button.

Enters the numeric parameters: Press the numeric buttons. To clear the numeric entry, press the CLEAR button.

Moves to the lower menu: Move the cursor to a setting item which has an arrow mark, and then press the CAM (SET) button.

Moves to the upper menu: Press the MON (ESC) button.

Exits the SETUP MENU: When using WV-CU950/650, press the F2 button. When using WV-CU360C/CJ, press the SETUP button while holding down the SHIFT button.

Notes:

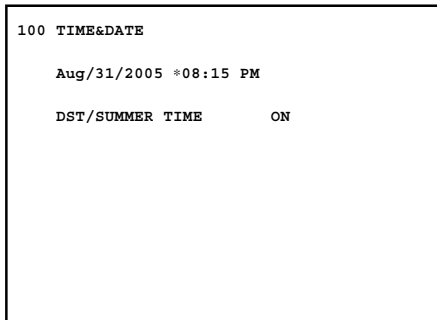
- Sequence is stopped on monitors displaying SETUP MENU.
- Alarms are not activated on monitors displaying SETUP MENU.

■ TIME & DATE

You will set the current time and date.

When you select TIME & DATE on the top menu, the following menu is displayed.

Note: Display format setting is performed in "Display" – "Display" of WJ-SX650 Series Administrator Console.



• Year

2005 to 2099

• Month

1 to 12 (When Date Format is set to DD/MM/YYYY, MM/DD/YYYY, YYYY/MM/DDDD in WJ-SX650 Series Administrator Console)

Jan, Feb, Mar, Apr, May, Jun, Jul, Aug, Sep, Oct, Nov, Dec (When Date Format is set to DD/Mmm/YYYY or Mmm/DD/YYYY in WJ-SX650 Series Administrator Console)

• Day

1 to 31

• Time

0 to 23(When Time Format is set to 24-h in WJ-SX650 Series Administrator Console)

1 to 12(When Time Format is set to 12-h in WJ-SX650 Series Administrator Console)

AM /PM (When Time Format is set to 12-h in WJ-SX650 Series Administrator Console)

• Minute

0 to 59

• DST/SUMMER TIME

ON/OFF

The factory default is as follows.

Jan/01/2005 12:00AM, DST/SUMMER TIME ON

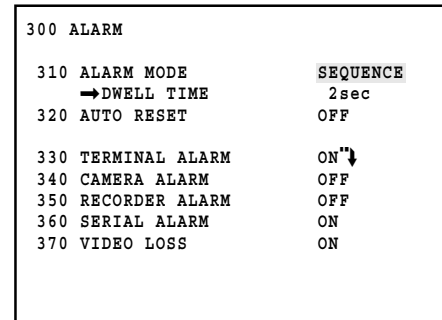
Notes:

- When DST/SUMMER TIME is set to ON, the daylight saving time (summer time) is activated during the specified period. ("*" is displayed beside the time.) The period setting is performed in "Display" – "DST/Summer Time" of WJ-SX650 Series Administrator Console.
- This setting is not available for WJ-RT416 Series.

■ ALARM

You will perform the settings of alarms (terminal alarms, camera alarms, recorder alarms, serial alarms, and video loss).

When you select ALARM on the top menu, the following menu is displayed.



● ALARM Menu

• ALARM MODE

Select the display pattern to display spot alarm pictures on the associated monitors. (The factory default is SEQUENCE.)

SEQUENCE: Alarm pictures are sequentially displayed on the associated monitor. Select desired DWELL TIME from 1 to 30 sec. (The factory default is 2 sec.)

LATEST: The latest alarm picture is displayed on the monitor.

EARLIEST: The earliest alarm picture is displayed on the monitor.

• AUTO RESET

Select the period until an alarm is automatically reset. If you select OFF, you will reset the alarm manually. (The factory default is 30 sec.)

OFF/1, 2... to 10 sec/20 sec/30 sec/1 min/3 min/5 min

• TERMINAL ALARM

Select ON or OFF to accept or not accept terminal alarm input signals. (The factory default is ON.)

ON: Accepts terminal alarm input signals.

OFF: Not accepts terminal alarm input signals.

Note: If you select ON, you can move to the TERMINAL ALARM menu (refer to p. 51), and you can set the details on terminal alarm input signal.

• CAMERA ALARM

Select ON or OFF to accept or not accept camera alarm input signals. (The factory default is OFF.)

ON: Accepts camera alarm input signals.

OFF: Not accepts camera alarm input signals.

• RECORDER ALARM

Select ON or OFF to accept or not accept recorder alarm input signals. (The factory default is OFF.)

ON: Accepts recorder alarm input signals.

OFF: Not accepts recorder alarm input signals.

• SERIAL ALARM

Select ON or OFF to accept or not accept serial alarm input signals. (The factory default is ON.)

ON: Accepts serial alarm input signals.

OFF: Not accepts serial alarm input signals.

• VIDEO LOSS

Select ON or OFF to accept or not accept video loss input signals. (The factory default is OFF.)

ON: Accepts video loss input signals.

OFF: Not accepts video loss input signals.

● TERMINAL ALARM Menu

330 TERMINAL ALARM			
INPUT BOARD=8			
ALM	ALM	ALM	ALM
225 N.O.	233 N.C.	241 N.O.	249 N.C.
226 N.O.	234 N.C.	242 N.O.	250 N.C.
227 N.O.	235 N.C.	243 N.O.	251 N.C.
228 N.O.	236 N.C.	244 N.O.	252 N.C.
229 N.O.	237 N.C.	245 N.O.	253 N.C.
230 N.O.	238 N.C.	246 N.O.	254 N.C.
231 N.O.	239 N.C.	247 N.O.	255 N.C.
232 N.O.	240 N.C.	248 N.O.	256 N.C.
ALM=ALARM IN		N.O.:NORMALLY OPEN	
		N.C.:NORMALLY CLOSE	

• INPUT BOARD

Select a video input board from 1 to 8. (The factory default is 1.)

• ALM

Select the alarm contact type for each terminal alarm input signal. (The factory default is N.O.)

N.O.: Normally Open contact

N.C.: Normally Close contact

■ RECORDER

You will check the settings of DATA ports to connect recorders and CAMERA IN connectors to supply video input signals from recorders. When you select RECORDER on the top menu, the following menu is displayed.

Note: Before the settings, check the system composition and refer to p. 30 Recorder Connection.

400 RECORDER			
RECORDER OUTPUT → INPUT BOARD8			
RECORDER	DATA	CAM	
01	HDR1	256	ON
02	HDR1	255	ON
03	HDR1	254	ON
04	HDR1	253	ON
05	HDR2	252	ON
06	HDR2	251	ON
07	HDR2	250	ON
08	HDR2	249	ON
DATA=DATA (TMNL/PSD/HDR)			
CAM=CAMERA IN			

400 RECORDER			
RECORDER OUTPUT → INPUT BOARD8			
RECORDER	DATA	CAM	
09	HDR3	248	ON
10	HDR3	247	ON
11	HDR3	246	ON
12	HDR3	245	ON
13	HDR4	244	ON
14	HDR4	243	ON
15	HDR4		OFF
16	HDR4		OFF
DATA=DATA (TMNL/PSD/HDR)			
CAM=CAMERA IN			

• RECORDER OUTPUT

Select the video input board or external monitor to supply video input signals from recorders. Refer to p. 30 for connections. (The factory default is EXTERNAL MONITOR.)

INPUT BOARD1 to 8: Recorder images are displayed on monitors connected to the unit.

EXTERNAL MONITOR: Recorder images are displayed on external monitors directly connected to recorders.

• RECORDER

Select the desired recorder. 1 to 16 are Unit Address (System) numbers set for recorders. (The factory default is ON.)

ON: The recorder is used.

OFF: The recorder is not used.

• DATA

DATA ports used for the recorder connections are displayed. DATA port setting is performed in the DATA PORT menu. (Refer to p. 53.)

• CAM

Camera input channel numbers to supply video input signals from recorders are displayed. (When RECORDER OUTPUT is set to EXTERNAL MONITOR, "- -" is displayed.)

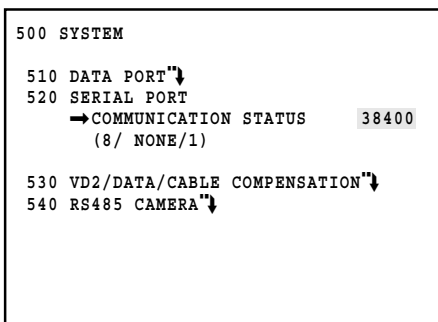
RECORDER No.	CAMERA IN No.	CAM (Camera input channel No.: Video Input board 1 to 8)							
		INPUT BOARD 1	INPUT BOARD 2	INPUT BOARD 3	INPUT BOARD 4	INPUT BOARD 5	INPUT BOARD 6	INPUT BOARD 7	INPUT BOARD 8
1	32	32	64	96	128	160	192	224	256
2	31	31	63	95	127	159	191	223	255
3	30	30	62	94	126	158	190	222	254
4	29	29	61	93	125	157	189	221	253
5	28	28	60	92	124	156	188	220	252
6	27	27	59	91	123	155	187	219	251
7	26	26	58	90	122	154	186	218	250
8	25	25	57	89	121	153	185	217	249
9	24	24	56	88	120	152	184	216	248
10	23	23	55	87	119	151	183	215	247
11	22	22	54	86	118	150	182	214	246
12	21	21	53	85	117	149	181	213	245
13	20	20	52	84	116	148	180	212	244
14	19	19	51	83	115	147	179	211	243
15	18	18	50	82	114	146	178	210	242
16	17	17	49	81	113	145	177	209	241

Notes:

- ON is not available for recorders when camera input channels are set for RS-485 cameras. To activate recorder connections, delete the RS-485 camera settings. (Refer to p. 54.)
- For camera input channels to supply video input signal from recorders, set VD2 and DATA to OFF. The VD2 and DATA settings are performed in VD2/DATA/CABLE COMPENSATION. (Refer to p. 54.)
- Set LCN parameters surely for these camera input channels, even though these channels accept video input signals from recorders. Without LCN settings, recorder selection is unavailable. The channel settings are performed in "System" – "Recorder" of WJ-SX650 Series Administrator Console.
- Be sure to connect the recorders to the specified DATA ports in the daisy chain. (Refer to p. 32 for connections.)
- Be sure to supply the video input signals from recorders to the specified camera input channels. (Refer to p. 30 for connections.)

■ SYSTEM

You will perform the system settings required to transmit data between the unit and connected devices. When you select SYSTEM on the top menu, the following menu is displayed.



● SYSTEM Menu

• DATA PORT

DATA PORT menu will be displayed. You will select the DATA port types according to the connected devices.

• SERIAL PORT

Select the communication speed of SERIAL port. (The factory default is 38 400 bps.)

4 800 bps/9 600 bps/19 200 bps/38 400 bps

Other parameters (COMMUNICATION STATUS) are as follows. (Setting change is not available.)

Data bit: 8 (bits)

Parity check: NONE

Stop bit: 1 (bit)

• VD2/DATA/CABLE COMPENSATION

VD2/DATA/CABLE COMPENSATION menu is displayed. You will perform the settings for VD2, camera control signal (DATA), and cable compensation.

• RS485 CAMERA

RS485 CAMERA menu is displayed. You will set the RS-485 port numbers and unit numbers for the RS-485 cameras.

● DATA PORT Menu

510 DATA PORT			
	DATA	TYPE	COMM.
OUTPUT BOARD1	1	PSD	9600
	2	TMNL2	9600
	3	HDR1	9600
	4	HDR2	9600
OUTPUT BOARD2	5	TMNL5	9600
	6	TMNL6	9600
	7	HDR3	19200
	8	HDR4	19200
COMMUNICATION STATUS			8/ NONE/1
DATA=DATA (TMNL/PCD/HDR)			

• TYPE

Select the DATA port types according to the connected devices.

TMNL1 to 8: Select this when using the DATA port for system controller in the terminal mode.

PSD: Select this when using the DATA port for system controller in the PS-Data mode.

HDR1 to 4: Select this when connecting a recorder to the DATA port.

The available port settings are as follows.

DATA1: TMNL1 /PSD (The factory default is TMNL1.)

DATA2: TMNL2 (The factory default is TMNL2.)

DATA3: TMNL3/HDR1 (The factory default is HDR1.)

DATA4: TMNL4/HDR2 (The factory default is HDR2.)

DATA5: TMNL5 (The factory default is TMNL5.)

DATA6: TMNL6 (The factory default is TMNL6.)

DATA7: TMNL7/ HDR3 (The factory default is HDR3.)

DATA8: TMNL8/ HDR4 (The factory default is HDR4.)

• COMM.

Select the communication speed. (The factory default is 9 600 bps.)

4 800 bps/9 600 bps/19 200 bps

Parameters of COMMUNICATION STATUS are as follows. (Setting change is not available.)

Data bit: 8 (bits)

Parity check: NONE

Stop bit: 1 (bit)

Note: When changing the communication speed, conform the communication speed settings to that of the connected devices.

● VD2/DATA/CABLE COMPENSATION Menu

530 VD2/DATA/CABLE COMPENSATION 1 of 2							
INPUT BOARD=8							
CAM	VD2	DATA	CABLE	CAM	VD2	DATA	CABLE
225	ON	OFF	S	233	ON	OFF	S
226	ON	OFF	M	234	ON	OFF	S
227	ON	OFF	L	235	ON	OFF	S
228	ON	OFF	S	236	ON	OFF	S
229	ON	OFF	M	237	ON	ON	S
230	ON	OFF	L	238	ON	ON	S
231	ON	OFF	S	239	ON	ON	S
232	ON	OFF	S	240	ON	ON	S
CAM=CAMERA IN							
DATA:CAMERA CONTROL SIGNAL							

530 VD2/DATA/CABLE COMPENSATION 2 of 2							
INPUT BOARD=8							
CAM	VD2	DATA	CABLE	CAM	VD2	DATA	CABLE
241	ON	OFF	S	249	OFF	OFF	S
242	ON	OFF	M	250	OFF	OFF	S
243	OFF	OFF	L	251	OFF	OFF	S
244	OFF	OFF	S	252	OFF	OFF	S
245	OFF	OFF	M	253	OFF	OFF	S
246	OFF	OFF	L	254	OFF	OFF	S
247	OFF	OFF	S	255	OFF	OFF	S
248	OFF	OFF	S	256	OFF	OFF	S
CAM=CAMERA IN							
DATA:CAMERA CONTROL SIGNAL							

• INPUT BOARD

Select a video input board from 1 to 8. (The factory default is 1.)

• VD2

Select ON or OFF. (The factory default is ON.)

ON: Sends the VD2 timing pulse with the camera output signal.

OFF: Not sends the VD2 timing pulse with the camera output signal.

• DATA

Select ON or OFF. (The factory default is ON.)

ON: Sends the control data with the camera output signal via the coaxial cable.

OFF: Not sends the control data with the camera output signal via the coaxial cable.

• CABLE

Perform the settings to compensate for the video signal transmission loss from the camera (cable compensation) according to the cable lengths. (The factory default is S.)

S: Less than 400 m {1 300 ft}

M: 400 m {1 300 ft} to 700 m {2 300 ft}

L: 700 m {2 300 ft} to 900 m {3 000 ft}

Note: When supplying video input signals from recorders or using cameras of other manufacturers, set VD2 and DATA to OFF.

● RS485 CAMERA Menu

540 RS485 CAMERA					1 of 2	
INPUT BOARD=8						
CAM	RS485	UNIT	CAM	RS485	UNIT	
225	29	1	233	30	1	
226	29	2	234	30	2	
227	29	3	235	30	3	
228	29	4	236	30	4	
229	29	5	237			
230	29	6	238			
231	29	7	239			
232	29	8	240			
COMMUNICATION STATUS 19200/8/ NONE/1						
CAM=CAMERA IN RS485=RS485 (CAMERA)						

540	RS485	CAMERA			2 of 2
	INPUT	BOARD=8			
CAM	RS485	UNIT	CAM	RS485	UNIT
241	31	1	249		
242	32	1	250		
243			251		
244			252		
245			253		
246			254		
247			255		
248			256		
COMMUNICATION STATUS 19200/8/ NONE/1					
CAM=CAMERA IN RS485=RS485 (CAMERA)					

• INPUT BOARD

Select a video input board from 1 to 8. (The factory default is 1.)

• RS485

Select the RS-485 (CAMERA) port connecting RS-485 cameras. (The factory default is no settings.)

CAM001 to 032: 1 to 4 (INPUT BOARD=1)

CAM033 to 064: 5 to 8 (INPUT BOARD=2)

CAM065 to 096: 9 to 12 (INPUT BOARD=3)

CAM097 to 128: 13 to 16 (INPUT BOARD=4)

CAM129 to 160: 17 to 20 (INPUT BOARD=5)

CAM161 to 192: 21 to 24 (INPUT BOARD=6)

CAM193 to 224: 25 to 28 (INPUT BOARD=7)

CAM225 to 256: 29 to 32 (INPUT BOARD=8)

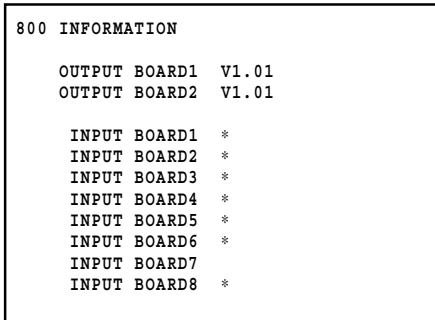
• UNIT

Select the unit numbers for the connected RS-485 cameras. 1 to 8 is available.

Note: RS485 is not available for camera input channels accepting video input signals from recorders. To activate RS-485 camera connections, change the settings in the RECORDER menu. (Refer to p. 51.)

■ INFORMATION

You can check whether the connected video input or output boards are working properly. When you select INFORMATION on the top menu, the following menu is displayed.



• OUTPUT BOARD

You can check the version of video output boards currently used.

• INPUT BOARD

"*" are displayed beside the boards currently used.

■ LANGUAGE

You can set the desired language display for SETUP MENU.

On the top menu, move the cursor to LANGUAGE and select the desired language. (Refer to p. 49 for the top menu display.)

LANGUAGE: JAPANESE*, ENGLISH, FRENCH*, SPANISH*, GERMAN*, ITALIAN*, RUSSIAN*.
(The factory default is ENGLISH.)

* In the actual display, these parameters are displayed in their own languages.

Login and Logout

■ Operator Registration

Before logging into the system, operator registration is required. Operator registration is performed in "Operator" – "Operator" of WJ-SX650 Series Administrator Console. The factory default of operator information is as follows.

Operator No.	User ID	Password	Level	Priority	Camera Access	Recorder Access
1	650	650	1	1	View & Operate (All cameras)	View & Operate (All recorders)
2	1	12345	1	1	View & Operate (All cameras)	View & Operate (All recorders)
3	100	100	2	5	View & Operate (All cameras)	View & Operate (All recorders)
4	101	101	3	10	View & Operate (All cameras)	View & Operate (All recorders)
5	102	102	4	30	View & Operate (All cameras)	View & Operate (All recorders)
6	103	103	5	50	View & Operate (All cameras)	View & Operate (All recorders)

- **Operator No.:** Number given for operator registration. Up to 59 operators can be registered.

- **User ID:** ID number of operator controlling this unit. 1 to 99998 are available.
Note: Begin the entry with a numeric other than "0".

- **Password:** For login, a password is checked as well as a User ID. Up to 5 digits are available.
Note: To protect system controllers from misuse, be sure to change the factory default passwords.

- **Level:** An operator's restrict level. 1 to 5 are available. 1 is the highest, and 5 is the lowest.
Note: Desired functions can be assigned to each level in "Operator" – "Level Table" of WJ-SX650 Series Administrator Console.

- **Priority:** Operator priority given to control a monitor, camera, or recorder selected by another operator. 1 to 99 are available. 1 is the highest, and 99 is the lowest.

- **Camera Access:** View and control can be enabled or disabled for each camera.

VIEW & OPERATE: An operator can display the selected camera image on the selected monitor. The operator can also control the camera.

VIEW: An operator can display the selected camera image on the selected monitor, but cannot control the camera.

- -: The operator can neither display the selected camera image on the selected monitor nor control the camera.

- **Recorder Access:** View and control can be enabled or disabled for each recorder.

VIEW & OPERATE: An operator can display the selected recorder image on the selected monitor. The operator can also control the recorder.

VIEW: An operator can display the selected recorder image on the selected monitor, but cannot control the recorder.

- -: The operator can neither display the selected recorder image on the selected monitor nor control the recorder.

- **Monitor Access:** Control can be enabled or disabled for each monitor.

Notes:

- Monitor Access is set for each DATA port. Operators logging into the system from the same DATA port have the common setting.
- Monitor Access setting is not applied for operators logging into the system from the PC connected to the SERIAL port.
- Monitor Access setting is performed in "Controller" – "Monitor Access" of WJ-SX650 Series Administrator Console.

■ Power-on/off

1. To power on the unit, press the power switch behind the front panel.
2. Power on system controllers and recorders. (Refer to the operating instructions of each system device for how to power on.)
3. When finishing operations, power off each device in the same procedure as power on.

■ Operation Start (Login)

By logging into the system as a registered operator, you can control system devices with the authority of that operator.

1. Turn on the power. (Refer to Power-on/off.)
2. Wait until the login standby display appears.

<WV-CU950/650>

Terminal Mode
No User

<WV-CU360C/360CJ>

88888

Note: If the password is wrong or no operation has been performed for 5 seconds or more, the LCD (or LED display) will return to the login standby display.

3. Enter the user ID by pressing numeric buttons, and press the CAM (SET) button.
4. Enter the password by pressing numeric buttons, and press the CAM (SET) button.

<WV-CU950/650>

Mon -- Cam --

<WV-CU360C/360CJ>

88888

The system controller will enter the login status, and the LCD (or LED display) will become the default status.

■ Operation End (Logout)

You need to log out of the system:

- When finishing operations and powering off
- When changing an operator

● WV-CU950/650

During the login status, press the LOGOUT button while holding down the SHIFT button.

The LCD returns to the login standby display.

● WV-CU360C/CJ

During the login status, press the LOG OUT button while holding down the SHIFT button.

The LED display returns to the login standby display.

■ Operation Start/End (Auto Login/Logout)

- To activate auto login or auto logout, the setting is required in advance.
- The auto login and auto logout settings is performed in "Controller" – "Auto Login/Logout" of WJ-SX650 Series Administrator Console.
- Auto login and auto logout are set for each DATA port. Operators logging into the system from the same DATA port have the common setting.
- When both auto login and auto logout are set for a DATA port, system controllers connected to the port perform login and logout automatically. Then, the system controller returns to the status before monitor selection.

Monitor Control

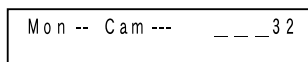
The following is the procedure examples for monitor operation. Refer to p. 74 Lists of Operations and Functions for other monitor control procedures not described here.

■ Monitor Selection

In the following procedure, you can display camera images or perform setup procedures on a desired monitor.

1. Enter the desired monitor number by pressing the numeric buttons. The entered number will appear on the LCD (or LED display).

<WV-CU950/650>

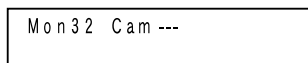


<WV-CU360C/360CJ>



2. Press the MON (ESC) button. The specified monitor will be selected, and the system will become ready for monitor control.

<WV-CU950/650>



<WV-CU360C/360CJ>



3. Control the selected monitor.

Note: Even after you log out of the system or select another monitor, the camera image or sequence is continuously displayed on the selected monitor.

■ Monitor Lock

When you log out of the system or select another monitor, this function can prevent operators with lower priority from gaining control of the selected monitor and camera(s).

● WV-CU950/650

1. Press the MON LOCK button. The selected monitor will be locked.
2. To release the monitor lock, press the MON LOCK button again.

● WV-CU360C/CJ

1. Press the MON LOCK button while holding down the

SHIFT button.

The selected monitor will be locked.

2. To release the monitor lock, press the MON LOCK button again while holding down the SHIFT button.

● Note

Monitor lock is released when you select the monitor again, or an operator with higher priority selects the monitor.

Camera Control

The following is the procedure examples for camera operation. Refer to p. 74 Lists of Operations and Functions for other camera control procedures not described here.

■ Camera Selection

In the following procedure, you can display the image of desired camera on the selected monitor.

1. Enter the desired camera number by pressing the numeric buttons. The entered number will appear on the LCD (or LED display).

<WV-CU950/650>

Mon 32 Cam--- _ _ 999

<WV-CU360C/360CJ>

88888

2. Press the CAM (SET) button. The specified camera will be selected, and the system will become ready for camera control.

<WV-CU950/650>

Mon 32 Cam 999

<WV-CU360C/360CJ>

88888

3. Control the selected camera.

■ Camera Selection Recall

Every time you select a camera or camera position, a system controller memorizes up to 10 steps of camera selection. You can recall these steps in order or reverse order. In the following procedure, you can track back camera images or camera positions formerly displayed.

● WV-CU950/650

Press the – button while holding down the HISTORY button. The camera image formerly selected will be displayed on the selected monitor.

(Example: Camera 128 → 3)

Notes:

- To return to the camera images more recently selected, press the + button while holding down the HISTORY button. The camera image more recently selected will be displayed on the selected monitor.
(Example: Camera 3 → 128)

- When you select another camera or camera position, the memorized steps are updated.
- When you select another monitor, the memorized steps will be cleared.

● WV-CU360C/CJ

This operation is not available.

■ Preset Position Control

By entering preset position numbers, you can move cameras to preset positions. Refer to p. 74 Lists of Operations and Functions for how to register preset positions.

1. Enter the desired preset position number by pressing the numeric buttons. The entered number will appear on the LCD (or LED display).

<WV-CU950/650>

Mon 32 Cam 999 _ 64

<WV-CU360C/360CJ>

88864

2. Press the PRESET*¹ (or CALL PRESET*²) button. The camera will move to the specified preset position.

*¹ WV-CU950/650

*² WV-CU360C/CJ

<WV-CU950/650>

Mon 32 Cam 999 Pre 64

<WV-CU360C/360CJ>

88864

Notes:

- If you press no numeric buttons in Step 2, the camera will move to the home position.
- By activating a group preset, two or more cameras can be moved to preset positions at a time. (Refer to p. 65.)

■ All Cameras Control

All cameras connected to the unit can be controlled at a time.

- All home positions: All cameras will be moved to the home positions.
- All auxiliaries OFF: AUX 1 and 2 outputs of cameras will become OFF.

Note: This operation is not available for cameras restricted by the operator's setting.

● WV-CU950/650

1. Press the MENU button repeatedly until "All CAM Control" appears on the LCD.

All CAM Control 010
Home AUX-Off

2. Press the F1 or F3 button.

Available buttons and functions

F1: All home positions

F3: All Auxiliaries OFF

● WV-CU360C/CJ

This operation is not available.

Recorder Control

The following is the procedure examples for recorder control. Refer to p. 74 Lists of Operations and Functions for other recorder control procedures not described here. The following procedures are available when a camera is selected.

Note: Depending on statuses, recorder control may not be performed properly. In this case, check the recorder status, and retry the control.

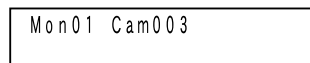
■ Playback

In the following example, you will play back the recorded image of Camera 3.

1. Check that Camera 3 has been selected.

WV-CU950/650

WV-CU360C/360CJ



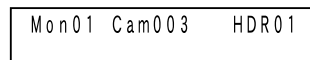
2. Press the PLAY/PAUSE*¹ (or PLAY*²) button. The recorder connected to Camera 3 will be activated, and recorded image of Camera 3 will be played back.

*¹ WV-CU950/650

*² WV-CU360C/CJ

WV-CU950/650

WV-CU360C/360CJ



■ Manual Recording

● WV-CU950/650

Press the REC button.

The recorder will be activated, and recording will be started.

● WV-CU360C/CJ

1. Select a recorder. (Refer to p. 62 Recorder Selection.)
2. Press the ZOOM WIDE and TELE buttons.
The recorder will be selected, and recording will be started.

● Note

Recording follows the manual recording setting of recorder.

■ Multiscreen Display

● WV-CU950/650

Press the MULTI SCREEN button.

The recorder will be selected, and images will be displayed in multiscreen segments on the selected monitor.

● WV-CU360C/CJ

Press the MULTI SCREEN SEL button while holding down the SHIFT button.

The recorder will be selected, and images will be displayed in multiscreen segments on the selected monitor.

● Note

You cannot specify multiscreen segment patterns.

■ Search Playback

Press the SEARCH*¹ (or INDEX*²) button.

The recorder will be selected, and a search list (time-and-date entry form, recording event search list*³, VMD search list*³, marking search list*³, or list search window*⁴) will be displayed on the selected monitor.

*¹ WV-CU950/650

*² WV-CU360C/CJ

*³ Not available for WJ-RT416 Series

*⁴ Available only for WJ-RT416 Series

Notes:

- Depending on selected recorder disks, the search list display may differ.
- In a search list, you can select a recorded image to play back. Refer to the operating instructions of recorder for operating procedures.

■ Playing the Latest Recorded Image

Notes:

- This operation is not available for WJ-RT416 Series.
- When you use WJ-HD300 Series, start playback before pressing the GO TO LAST button.

● WV-CU950/650

Press the GO TO LAST button.

The recorder will be selected, and the latest recorded image of selected camera will be played back.

● WV-CU360C/CJ

This operation is not available.

■ Recorder Control End

Note: Before this operation, stop playback or search playback surely.

To finish recorder control, select a camera.

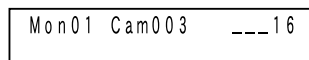
The monitor display will become the status before recorder control.

■ Recorder Selection

Before recorder control procedures not described in this chapter, you need to select a recorder in advance. In the following example, you will open SETUP MENU of Recorder 16.

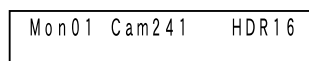
● WV-CU950/650

1. Enter the desired recorder number by pressing the numeric buttons. The entered number will appear on the LCD.



Mon01 Cam003 ---16

2. Press the RECORDER button. The recorder will be selected.



Mon01 Cam241 HDR16

3. Press the MENU button repeatedly until "System Setup" appears on the LCD.



System Setup 101
On Off

4. Press the F1 button. SETUP MENU of recorder will be displayed on the selected monitor.

Note: To close the SETUP MENU, press the F2 button.

● WV-CU360C/CJ

1. Enter the desired recorder number by pressing the numeric buttons. The entered number will appear on the LED display.



16

2. Press the RECORDER button. The recorder will be selected.



16

3. Press the SETUP button while holding down the SHIFT button. SETUP MENU of recorder will be displayed on the selected monitor.

Note: To close the SETUP MENU, press the SETUP button while holding down the SHIFT button.

● Note

If a selected recorder directly connects an external monitor, black screen will be displayed on the monitor with the message "RECORDER CONTROL". Refer to p. 30 for connection.

Running Sequence

■ Descriptions of Sequence

Sequence is the function to switch camera images automatically.

There are two sequences:

- Tour sequence
- Group sequence

● Tour Sequence

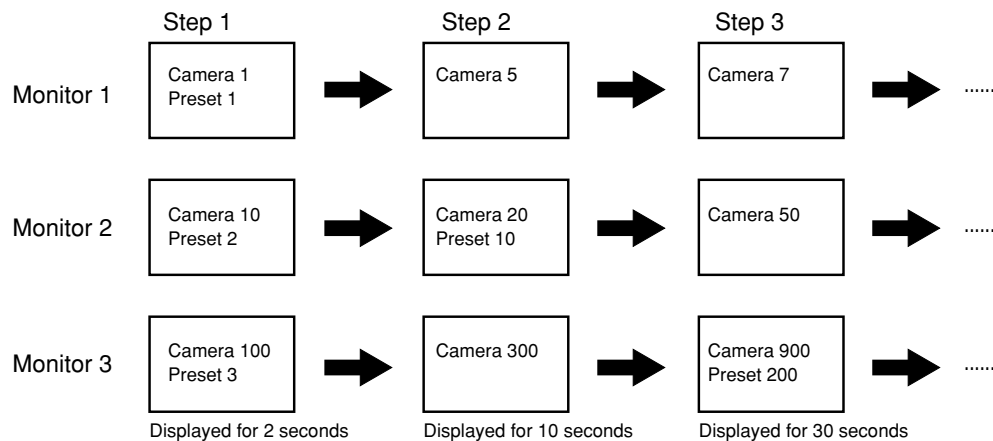
Camera images are displayed on a selected monitor, and they are sequentially switched according to the setting.

- Up to 32 tour sequences can be registered.
- Up to 64 steps can be set for a tour sequence.

● Group Sequence

Camera images are displayed on two or more monitors, and they are sequentially switched according to the setting.

- Up to 8 group sequences can be registered.
- Up to 32 steps can be set for a group sequence.



● Group Preset

Spot camera images are simultaneously displayed on two or more assigned monitors. Up to 24 (Group Sequence 9 to 32) group presets can be registered.

● Sequence Setting

Sequence setting is performed in "Sequence" of WJ-SX650 Series Administrator Console. The following settings are available for each sequence step.

Setting item	Parameter	Remarks
LCN (Logical Camera Number)	1 to 999	Camera position numbers are also available for parameters. (CAM-P)
Preset	1 to 256	
AUX1/2	ON, OFF, - -	-
Dwell	1 to 30 sec	Dwell time to display each camera image (Group preset has no sequence steps, and Dwell setting is not available.)

Note: Preset and AUX1/2 will not be activated for cameras selected by operators with higher priority or restricted by the camera access setting

■ Tour Sequence

● WV-CU950/650

1. Enter the desired sequence number by pressing the numeric buttons. The entered number will appear on the LCD.

Mon01 Cam256 _ _ _ 32

2. Press the TOUR SEQ button. The tour sequence will be activated.

Mon01 Cam001
T-Seq32

● WV-CU360C/CJ

1. Enter the desired sequence number by pressing the numeric buttons. The entered number will appear on the LED display.

000000

2. Press the TOUR SEQ button. The tour sequence will be activated.

000000

■ Group Sequence/Preset

● WV-CU950/650

1. Select a monitor assigned for desired group sequence/preset. (Refer to p. 58 Monitor Selection.)
2. Enter the desired sequence number by pressing the numeric buttons. The entered number will appear on the LCD.

Mon01 Cam256 _ _ _ _ 8

3. Press the GROUP SEQ button while holding down the SHIFT button. The group sequence will be activated.

Mon01 Cam002
G - Seq08

● WV-CU360C/CJ

1. Select a monitor assigned for desired group sequence/preset. (Refer to p. 58 Monitor Selection.)
2. Enter the desired sequence number by pressing the numeric buttons. The entered number will appear on the LED display.

000000

3. Press the GROUP SEQ button. The group sequence will be activated.

000000

● Notes:

- If you have specified Group Sequence 9 to 32 in Step 2, group preset will be activated. The system status will be the same as that after camera selection.
- Group sequence/preset will not be activated for monitors selected by operators with higher priority or restricted by the monitor access setting
- When one of the monitors assigned for the active group sequence is controlled by a higher-priority operator, you cannot control the monitors. (Monitor busy)

■ Sequence Pause

You can pause an active tour or group sequence. When a group sequence is paused on a monitor, all sequences will be simultaneously paused on other monitors.

1. Press the SEQ PAUSE*¹ (or PAUSE*²) button.
Sequence will be paused.
2. Press the SEQ PAUSE*¹ (or PAUSE*²) button again to restart the sequence.

*¹ WV-CU950/650

*² WV-CU360C/CJ

Available operations during sequence pause

- **Sequence step forward/backward**

You can move the sequence one frame to the next or previous step by pressing the + or – button.

- **Camera control**

You can control the camera whose image is being displayed on the monitor.

■ Sequence Stop

When a tour or group sequence is stopped, the camera at the stopped step will be selected. When a group sequence is stopped on a monitor, all sequences will be simultaneously stopped on other monitors.

● WV-CU950/650

Press the SEQ STOP button while holding down the SHIFT button.

Sequence will be stopped.

● WV-CU360C/CJ

Press the STOP button.

Sequence will be stopped.

● Note

Sequence will also be stopped when you select a camera during the sequence is activated. Then, the image of selected camera will be displayed on the monitor.

Alarm Descriptions

■ Alarm Occurrence

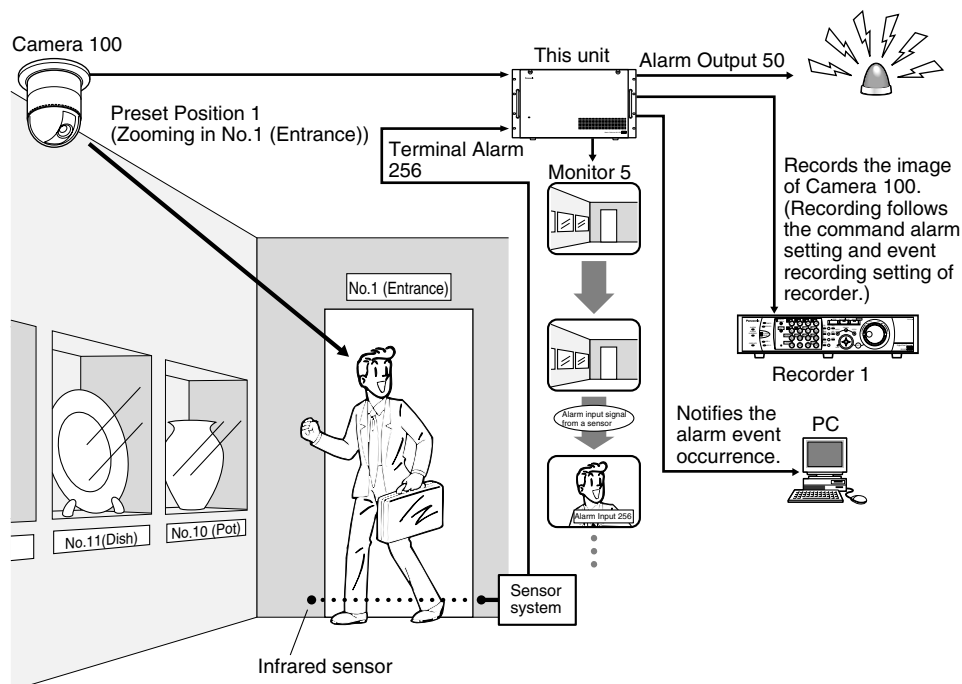
When this unit accept an alarm input signal (terminal alarm, camera alarm, recorder alarm, serial alarm, or video loss), an alarm event (tour sequence, etc.) is activated automatically. Each alarm input signal is associated with an alarm event setting. (The setting activates the alarm input signal and alarm event.) Up to 1 024 alarm event settings are available. The alarm event setting is performed in "Alarm" – "Alarm Event" of WJ-SX650 Series Administrator Console.

By performing the settings of "Alarm Event", the following events will be activated when this unit accepts an alarm input signal.

- Alarm event information will be displayed on the associated monitors (Refer to p. 13 Monitor Display Information.)
- Depending on the setting of "Display Mode", camera images will be displayed, or sequences will be activated on the associated monitors. In this document, these actions are mentioned as the alarm mode, and pictures displayed during the alarm mode is mentioned as alarm pictures.
- Depending on the setting of "Recording Source (LCN)", event recording will be activated. (Recording will follow the command alarm setting and event recording setting of recorder. Refer to the operating instructions of recorder for details.)
- Depending on the setting of "Alarm Output", alarm output signal will be supplied from the video output board, and external alarm devices (buzzer, etc.) can be activated.

Notes:

- To activate alarm output signals from the ALARM OUT 1/2 port, perform settings of No.1 to 64. No.65 and greater are assigned for serial commands.
- To activate alarm output signals as a serial command, serial command settings are required. The settings are performed in "Communication" – "Serial Command" of WJ-SX650 Series Administrator Console.
- ALARM indicators of all system controllers blink.
- Up to 10 000 alarm records are saved chronologically. The latest 1 000 alarm records can be displayed as the alarm history on the monitor. (Refer to p. 70 Alarm History Display.) The Alarm History can be downloaded from the PC to the unit.
- Alarm information is notified to the PC in serial commands. The serial command setting is performed in "Communication" – "Serial Command" of WJ-SX650 Series Administrator Console.



Terminal alarm setting

No.	Display Mode	Spot		Monitor	Recording Source (LCN)	Alarm Output
		LCN	Preset			
256	SPOT	100	1	5	100	50

■ Alarm Modes

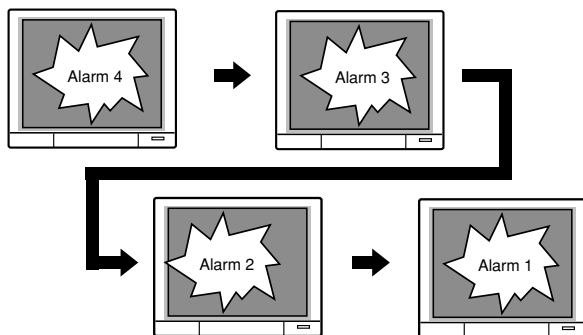
The following alarm modes ("Display Mode" settings) are available. (Alarm mode follows the setting of "Display Mode".)

● Spot

The image of associated camera will be displayed on the monitor. Preset position or auxiliary control will be activated. The following alarm modes (=patterns to display alarm pictures on a monitor) are available. (Regardless of alarm modes, alarms occur to all the associated cameras.) The alarm mode setting is performed in "Alarm" – "Alarm Mode" of WJ-SX650 Series Administrator Console or the ALARM menu of SETUP MENU. The following illustration is the example in which alarms occur in the order of Alarm 1 _ Alarm 2 _ Alarm 3 _ Alarm 4.

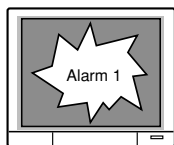
• Sequence mode

Alarm pictures are displayed sequentially (from the newest alarm picture) on the associated monitor.



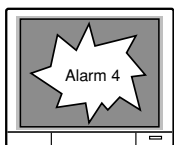
• Earliest mode

The earliest alarm picture is displayed on the associated monitor.



• Latest mode

The latest alarm picture is displayed on the associated monitor.



● Tour Sequence

Tour sequence is activated on the associated monitor.

● Group Sequence/Preset

Group sequence is activated on the associated monitors.

● OFF

Only the alarm information is displayed on the associated monitor. Alarm does not occur to monitors and cameras.

Notes:

- When a tour sequence, group sequence, or group preset is activated as an alarm event, the earlier alarm event on the monitor will be reset.
- When 33 or more alarms (spot mode) occur to a monitor, older alarms will be reset chronologically.
- After occurrence, the same alarm will be suspended for 5 seconds.
- By the alarm schedule setting, alarm events can be deactivated in the specified periods. The alarm schedule setting is performed in "Alarm" – "Alarm Event" of WJ-SX650 Series Administrator Console.

■ Video Loss

To display the video loss information on associated monitors and save the video loss history without making alarms occur to monitors and cameras, set "Display Mode" to OFF.

Note: If Alarm A ("Display Mode" is OFF) occurs while Alarm B's ("Display Mode" is Spot, Tour Sequence or Group Sequence) are being activated, the Alarm A information will be displayed on the monitor after all Alarm B's have been reset.

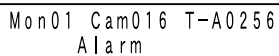
Alarm Control

■ Alarm Acknowledgement (ACK)

By acknowledging an alarm occurrence on an associated monitor, you can control alarm pictures.

● WV-CU950/650

While a monitor in the alarm mode status is selected, press the ACK button. (During the alarm mode status, "Alarm" sign is blinking on the LCD.)



The alarm event will be acknowledged. ("Alarm" sign will change to steady light.)

● WV-CU360C/CJ

While a monitor in the alarm mode status is selected, press the ACK button. (During the alarm mode status, the alarm number is blinking on the LED display.)



The alarm will be acknowledged. (The alarm number will change to steady light.)

In the ACK status, the following operations are available.

■ Camera Control

You can control panning/tilting of cameras, or move cameras to preset positions, etc.

■ Alarm Picture Change

When two or more alarms are occurring, you can change alarm pictures displayed on the monitor in order or reverse order.

● WV-CU950/650

To change alarm pictures on the monitor, press the + or - button. The alarm pictures will be displayed in order or reverse order.

● WV-CU360C/CJ

To change alarm pictures on the monitor, press the NEXT or PREV button. The alarm pictures will be displayed in order or reverse order.

■ Alarm Individual Reset

You can reset each acknowledged alarm separately, and return to the status before alarm occurrence. While two or more alarms are occurring, the system will remain in the alarm mode even after an alarm reset.

To reset an acknowledged alarm, press the ACK button. The alarm will be reset.

Notes:

- An alarm whose Display Mode setting is OFF will not be the ACK status. The alarm will be reset by every pressing the ACK button.
- If AUTO RESET has been set to ON, alarms will be reset automatically after the specified time. AUTO RESET setting is performed in "Alarm" – "Alarm Mode" of WJ-SX650 Series Administrator Console or the ALARM menu of SETUP MENU. Refer to p. 50 ALARM of SETUP MENU.

■ Alarm Monitor Reset

You can reset all the alarms occurred to the selected monitor.

While the selected monitor is in the alarm mode status, press the ALM RESET*¹ (or RESET*²) button. All the alarms occurred to the monitor will be reset, and the monitor display will return to the status before the alarm occurrence.

*¹ WV-CU950/650

*² WV-CU360C/CJ

Note: Alarm monitor reset is also available by supplying Alarm Recover Input signals to the unit. (Refer to p. 37.)

■ Alarm All Reset

You can reset all the alarms occurred to the system.

Press the ALM ALL RESET*¹ (or ALL RESET*²) button while holding down the SHIFT button. All the alarms occurred to the system will be reset.

*1 WV-CU950/650

*2 WV-CU360C/CJ

Notes:

- Alarm all reset will also be conducted when setting changes are performed in SETUP MENU or WJ-SX650 Series Administrator Console.
- To reset the alarms occurred to recorders, perform alarm all reset. Alarm all reset is available even while no alarms are occurring.

■ Return to Alarm Mode Status

You can recover from the ACK status to the alarm mode status.

● WV-CU950/650

Press the ACK button while holding down the SHIFT button. The alarm mode will be recovered.

● WV-CU360C/CJ

This operation is not available.

■ Alarm Suspension

You can suspend the system from accepting alarm input signals when you do not want to be disturbed. (Alarm will also be suspended for recorders.)

1. Press the ALM SUSPEND*¹ (or SUSPEND*²) button while holding down the SHIFT button.
The alarm will be suspended.
2. To cancel the alarm suspension mode, press the ALM SUSPEND*¹ (or SUSPEND*²) button while holding down the SHIFT button again.

*1 WV-CU950/650

*2 WV-CU360C/CJ

■ Alarm History Display

The latest 1 000 alarm records (date, time and details) can be displayed as the alarm history on an active monitor.

Note: Alarm History Display is not available on monitors in the alarm mode or during recorder selection.

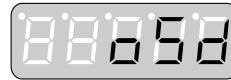
● WV-CU950/650

Press the ALM RECALL button. The Alarm History Display will appear on the selected monitor.

Alarm Recall

● WV-CU360C/CJ

Press the OSD and ALM H buttons at a time. The Alarm History Display will appear on the selected monitor.



● Details on Alarm History Display

ALARM HISTORY						1 of 100	
M	D	Y	H	M	S	ALARM	ACTION REC
Aug	31	06	11	59	00	ALL	12345 K4-8
Aug	31	06	11	58	00	C-999	M32 C100 001
Aug	31	06	11	57	00	V-001	M03 T32 256
Aug	31	06	11	56	00	POWER	
Apr	15	05	09	15	25	POWER	
Apr	15	05	09	15	25	R-003	
Apr	15	05	09	13	54	S-0002	M10*G32 ---
Apr	15	05	09	12	32	T-001	M20 --- 999
Jan	02	05	03	05	10	S	56789 PC
Jan	01	05	03	04	08	S	101 PSD
T-TERMINAL C-CAMERA						R-RECORDER	
S-SERIAL V-VIDEO LOSS						SUSPEND	

"*" beside the time indicates daylight saving time (summer time).

The following items are display details.

• ALARM (Highlighted for reset alarms)

T-001 to 256: Terminal alarm

(Example: For T-001, "001" means the number of alarm input signal accepted by the ALARM IN port of video input board.)

C-001 to 999: Camera alarm

(Example: For C-001, "001" means the number of camera supplying an alarm input signal to the unit.)

R-001 to 999: Recorder alarm

(Example: For R-001, "001" means the number of camera associated with the recorder supplying an alarm input signal to the unit.)

S-0001 to 1024: Serial alarm

(Example: For S-0001, "0001" means the serial command alarm input number.)

V-001 to 999: Video loss

(Example: For V-001, "001" means the number of camera to which video loss has occurred)

ALL: Alarm all reset

S: Alarm suspension ON/OFF

• ACTION

POWER: The unit is powered on. (Highlighted: Power off)

M01 to 32: Alarm occurred to Monitor 1 to 32. (For group sequence and group preset, the smallest monitor number is displayed with "*".)

C001 to C999: Camera 001 to Camera 999 was activated for spot mode.

T01 to 32: Tour Sequence 1 to 32 was activated.

G01 to 32: Group sequence (or Group preset) 1 to 32 was activated.

Notes:

- User ID and Controller information is displayed for an alarm reset or suspended by an operator. (They are not displayed for auto reset.)
- User ID and controller No. will be highlighted to indicate alarm reset or alarm suspension OFF.

• REC

"Recording Source (LCN)" associated with the alarm event is displayed.

Refer to p. 74 Lists of Operations and Functions for operations while the Alarm History Display is displayed on the monitor.

Timer Descriptions

■ Timer Event

With the timer event setting, timer events (tour sequence, etc.) can automatically be activated on the desired time and date. Up to 128 timer events can be scheduled to activate weekly or on specified dates. Priority setting is also available for each timer event. The timer event setting is performed in "Schedule" – "Timer Event" of WJ-SX650 Series Administrator Console.

The following timer events are available.

• Spot

The image of associated camera will be displayed on the monitor. Preset position or auxiliary control will be activated.

• Tour sequence

Tour sequence is activated on the associated monitor.

• Group sequence/preset

Group sequence or group preset is activated on the associated monitor.

Time and date settings

Time and date will be specified to schedule timer events. The following are setting items.

Note: Depending on the display format setting, time and date may be displayed in a different format.

Setting item	Parameter	Remarks
Always Active/ Active Period Designation	Always Active	Timer event is always activated.
	Active Period Designation (Select the desired dates for "From" and "To".)	Period to activate the timer event
From	Select the desired time.	Timer event is activated on the specified time.
To	Select the desired time. ("From" and "To" can be on different days within 24 hours.)	Priority setting of this timer event is maintained until the specified time.
Schedule Mode	Daily	Timer event is activated every day.
	Weekly (Sun to Sat)	Timer event is activated every week.

Example of timer event setting

- To activate Tour Sequence 2 on Monitor 1 on January 1, 19:00 to 20:00
Schedule Mode: Daily
Active Period Designation: From Jan/01 to Jan/01
From: 19:00
To: 20:00
Action: Tour Sequence 2
Monitor: 1
- To activate Group Sequence 3 on August 10 to 15, 19:00 to 8:00 of the next day
Schedule Mode: Daily
Active Period Designation: From Aug/10 to Aug/15
From: 19:00
To: 8:00
Action: Group Sequence 3
Monitor: – (Monitors assigned for Group Sequence 3)

Notes:

- Timer event will not be activated when monitors are selected by operators with higher priority than the timer event, displaying SETUP MENU, or being in the alarm mode.
- Preset position and auxiliary control will not be activated for cameras selected by operators with higher priority or associated with active alarm events.
- Spot camera image or sequence display will be continued even after the active period ends.

■ Camera Event

With the camera event setting, camera events (auto tracking, etc.) can automatically be activated on the desired time and date. Up to 128 timer events can be scheduled to activate daily or weekly. The camera event setting is performed in "Schedule" – "Camera Event" of WJ-SX650 Series Administrator Console.

The following camera events are available. (Refer to the operating instructions of cameras for details.)

● Auto Track

• ALARM IN (Camera) – Use

Select this setting to activate auto tracking for the ALARM IN 1 to 4 terminals of camera. When the specified terminal accepts an alarm input signal during the specified time, auto tracking is started at Preset Position 1 to 4. (The camera becomes the auto tracking standby mode.)

• ALARM IN (Camera) – Not Use

Select this setting to activate auto tracking at the specified preset position. (Starting preset position) Auto tracking is performed during the specified time. (The camera becomes the auto tracking standby mode.)

Note: Auto tracking ends when an operator controls the camera. ("#" remains to be displayed until the end time of camera event.)

To start auto track again while "ALARM IN (Camera) – Not Use" is being selected, perform the setting in the setup menu of camera. (Refer to the operating instructions of camera for setting.)

● BW and Scene [PATROL(S)]

• BW

ON: The camera is changed to the black and white mode.

OFF: The camera is changed to the color mode.

AUTO: The camera is changed to the black and white mode if the picture is dark, or the color mode if the picture is bright enough.

_ : This function is deactivated.

• Scene [PATROL(S)]

The camera is changed to the picture quality setting for the patrol function (PATROL1(S) to PATROL4(S) and "-").

Notes:

- Each picture quality setting (PATROL1(S) to PATROL4(S)) is memorized when the PATROL 1 to 4 setting is started. (Refer to p. 79.)
- When "_" is selected, this function is deactivated.

● Cleaning

Camera cleaning is performed.

Time and date will be specified to schedule camera events. The following are setting items.

Note: Depending on the display format setting, time and date may be displayed in a different format.

Setting item	Parameter	Remarks
Schedule Mode	Daily	Camera event is activated every day.
	Weekly (Sun to Sat)	Camera event is activated every week.
Time to Activate	Select the desired time.	Camera event is activated on the specified time. (For auto tracking, specifying the end time is required.)
Camera to be Used	Select desired camera numbers. (001 to 999) Multiple selections are available.	Camera to perform the camera event

Notes:

- Auto tracking and Scene [PATROL(S)] are available only for Color CCTV Camera, WV-CS954, WV-CW964, and WV-CW974. (As of July, 2007)
- When a camera is performing an alarm or timer event, or being controlled by an operator, auto tracking (ALARM IN (Camera) – Not Use) and camera cleaning are not activated.

Terminal Mode Operation

This chapter includes operation list, function list, and function menu flow of the terminal mode. Operators can be given restrict levels for each operation and function according to the user level settings.

■ Lists of Operations and Functions

- [①] means the ① button.
- "① + ②" means pressing the ① and ② buttons at a time.
- "① → ②" means performing ① before ②.
- Refer to p. 85 Menu Flow (WV-CU950/650) for how to recall menu functions.
- "▼▲◀▶" means the directions to move the joystick.

Operation list of WV-CU950/650 and WV-CU360C/CJ

Basic operation	WV-CU950/650	WV-CU360C/CJ	Note
Moves the cursor.	Joystick ▼▲◀▶	Joystick ▼▲◀▶	
<ul style="list-style-type: none"> • Determines the selected parameter. • Moves to the lower menu. 	[CAM (SET)] or top button	[CAM (SET)]	
<ul style="list-style-type: none"> • Cancels the selection. • Returns to the upper menu. • Closes the search list. 	[MON (ESC)]	[MON (ESC)]	
Returns the LCD to the default status.	[MON (ESC)] or [EXIT]	Not available (No LCD on this system controller)	WV-CU950/650: Exit SETUP MENU before this operation. (Pressing the EXIT button can close SETUP MENU along with this operation.)
Moves to the next page.	<ul style="list-style-type: none"> • Shuttle ring clockwise • Zoom wheel controller to the right 	Not available	WV-CU950/650: You can also move to the next page by moving the cursor to the edge.
Moves to the previous page.	<ul style="list-style-type: none"> • Shuttle ring counterclockwise • Zoom wheel controller to the left 	Not available	WV-CU950/650: You can also move to the previous page by moving the cursor to the edge.
Changes the selected parameter.	<ul style="list-style-type: none"> • [+] or [-] • JogDial clockwise or counterclockwise 	[NEXT] or [PREV]	
Enters numeric parameters.	Numeric buttons	Numeric buttons	
Deletes the parameter.	[CLEAR]	[CLEAR]	

Note: Details may differ depending on the function to activate. Along with this list, refer to the operating instructions of system controller.

Function list of WV-CU950/650 and WV-CU360C/CJ

Function	WV-CU950/650	WV-CU360C/CJ	Note
Login ① Enters the user ID. ② Enters the password.	Enter the number. (Numeric buttons) → [CAM (SET)] Enter the number. (Numeric buttons) → [CAM (SET)]	Enter the number. (Numeric buttons) → [CAM (SET)] Enter the number. (Numeric buttons) → [CAM (SET)]	
Logout	[SHIFT] + [LOGOUT]	[SHIFT] + [LOG OUT]	
Monitor Selection	Enter the number. (Numeric buttons) → [MON (ESC)]	Enter the number. (Numeric buttons) → [MON (ESC)]	
Monitor Lock	[MON LOCK]	[SHIFT] + [MON LOCK]	
Camera Selection • Selects the next camera. • Selects the previous camera.	Enter the number. (Numeric buttons) → [CAM (SET)] [+] [-]	Enter the number. (Numeric buttons) → [CAM (SET)] [NEXT] [PREV]	
Selects a camera position.	Enter the number. (Numeric buttons) → [CAM POSI]	Not available	
Camera selection recall • Displays the camera image more recently selected. • Displays the camera image formerly selected.	[+] and [HISTORY] [-] and [HISTORY]	Not available Not available	
Recorder Selection	Enter the number. (Numeric buttons) → [RECORDER]	Enter the number. (Numeric buttons) → [RECORDER]	
Tour sequence	Enter the number. (Numeric buttons) → [TOUR SEQ]	Enter the number. (Numeric buttons) → [TOUR SEQ]	
Group sequence	Enter the number. (Numeric buttons) → [SHIFT] + [GROUP SEQ]	Enter the number. (Numeric buttons) → [GROUP SEQ]	WV-CU950/650, WV-CU360C/CJ: Before this operation, select a monitor assigned to the group sequence.
Sequence pause <During pause> • Moves the sequence one frame to the next step. • Moves the sequence one frame to the previous step. • Starts the sequence again.	[SEQ PAUSE] [+] [-] [SEQ PAUSE]	[PAUSE] [NEXT] [PREV] [PAUSE]	
Sequence stop	[SHIFT] + [SEQ STOP]	[STOP]	
Group preset	Enter the number. (Numeric buttons) → [SHIFT] + [GROUP SEQ]	Enter the number. (Numeric buttons) → [GROUP SEQ]	WV-CU950/650, WV-CU360C/CJ: Before this operation, select a monitor assigned to the group sequence.

Function	WV-CU950/650	WV-CU360C/CJ	Note
<p>System Setup</p> <ul style="list-style-type: none"> • Opens SETUP MENU. • Closes SETUP MENU. 	<p>Open "System Setup" main menu. →</p> <p>[F1]</p> <p>[F2]</p>	<p>[SHIFT] + [SETUP]</p> <p>[SHIFT] + [SETUP]</p>	<p>WV-CU950/650, WV-CU360C/CJ: Refer to p. 74 Operation list of WV-CU950/650 and WV-CU360C/CJ for setup menu operations.</p> <p>Note: When you open SETUP MENU on the monitor activating a sequence, the sequence will be stopped.)</p>
<p>On-screen display (OSD) ON/OFF</p> <ul style="list-style-type: none"> • All the information 	<p>Open "OSD On/Off" main menu. →</p> <p>[SHIFT] + [F1]</p>	<p>[OSD] +</p> <p>[ALL]</p>	<p>WV-CU950/650, WV-CU360C/CJ: Every pressing the button(s) can display all the information → hide all the information → display the current information.</p> <p>WV-CU950/650: Pressing the OSD button can also display or hide all the OSD information.</p>
<ul style="list-style-type: none"> • Time and date information 	[F1]	[T&D]	
<ul style="list-style-type: none"> • Camera information 	[F2]	[CAM ID]	
<ul style="list-style-type: none"> • Event information 	[F3]	[EVENT]	
<ul style="list-style-type: none"> • Monitor information 	[F4]	[MON STATUS]	
<p>On-screen display (OSD) position control</p> <ul style="list-style-type: none"> • All the information • Time and date information • Camera information • Event information • Monitor information 	<p>Open "OSD Position" main menu. →</p> <p>[SHIFT] + [F1] + Joystick ▼▲◀▶</p> <p>[F1] + Joystick ▼▲◀▶</p> <p>[F2] + Joystick ▼▲◀▶</p> <p>[F3] + Joystick ▼▲◀▶</p> <p>[F4] + Joystick ▼▲◀▶</p>	<p>[SHIFT] + [OSD] +</p> <p>[ALL] + Joystick ▼▲◀▶</p> <p>[T&D] + Joystick ▼▲◀▶</p> <p>[CAM ID] + Joystick ▼▲◀▶</p> <p>[EVENT] + Joystick ▼▲◀▶</p> <p>[MON STATUS] + Joystick ▼▲◀▶</p>	

Function	WV-CU950/650	WV-CU360C/CJ	Note
System Status Display <ul style="list-style-type: none"> • Opens System Status Display. • Closes System Status Display. 	Open "System Status" main menu. → [F1] [F2]	[OSD] + [SYS S] [OSD] + [SYS S]	
Alarm History Display <While displayed> <ul style="list-style-type: none"> • Goes to the next or previous page. • Skips to 10 pages forward. • Skips to 10 pages back. 	[ALM RECALL] • [+] or [-] • Joystick ▼▲◀▶ • Shuttle ring clockwise • Zoom wheel controller to the right • Shuttle ring counterclockwise • Zoom wheel controller to the left	[OSD] + [ALM H] • [NEXT] or [PREV] • Joystick ▼▲◀▶ Not available Not available	WV-CU950/650, WV-CU360C/CJ: Every pressing the buttons can display or hide Alarm History Display. Note: Alarm History Display is not available on monitors in the alarm mode or during recorder selection.
Alarm Acknowledgement (ACK) <During alarm ACK> <ul style="list-style-type: none"> • Displays the next alarm picture. • Displays the previous alarm picture. • Return to Alarm Mode 	[ACK] [+] [-] [SHIFT] + [ACK]	[ACK] [NEXT] [PREV] Not available	
Alarm reset • Alarm Individual Reset • Alarm Monitor Reset • Alarm All Reset	[ACK] (During alarm ACK) [ALM RESET] [SHIFT] + [ALM ALL RESET]	[ACK] (During alarm ACK) [RESET] [SHIFT] + [ALL RESET]	WV-CU950/650, WV-CU360C/CJ: An alarm whose Display Mode setting is OFF will not be the ACK status. The alarm will be reset by every pressing the ACK button.
Alarm Suspension	[SHIFT] + [ALM SUSPEND]	[SHIFT] + [SUSPEND]	Every pressing these buttons will activate or cancel alarm suspension.

Camera control

Function	WV-CU950/650	WV-CU360C/CJ	Note
Preset Position Registration	Enter the number. (Numeric buttons) → [SHIFT] + [PGM PRESET]	Enter the number. (Numeric buttons) → [SHIFT] + [PROGRAM PRESET]	
Calls the preset position.	Enter the number. (Numeric buttons) → [PRESET]	Enter the number. (Numeric buttons) → [CALL PRESET]	WV-CU950/650, WV-CU360C/CJ: Without numeric entry, the camera will move to the home position.
Camera Setup • Opens the camera setup menu • Closes the camera setup menu <In the camera setup menu> • Opens the special menu. / Resets the camera setting. • Resets all the camera settings.	Open "Camera Setup" menu. → [F1] [F2] [F3] [F4]	 [SHIFT] + [CAM SETUP] [SHIFT] + [CAM SETUP] [RESET] [SHIFT] + [ALL RESET]	WV-CU950/650, WV-CU360C/CJ: • Refer to p. 73 Operation list of WV-CU950/650 and WV-CU360C/CJ for setup menu operations. • Moves the cursor: Joystick ▼▲◀▶ • To perform the setting of panning/tilting in the setup menu, control the camera while holding down the SHIFT button.
Pan/Tilt control	Joystick ▼▲◀▶	Joystick ▼▲◀▶	WV-CU950/650, WV-CU360C/CJ: The camera will pan and tilt according to the direction of joystick movement.
Iris control • Opens the lens iris. • Closes the lens iris. • Resets the lens iris to the default status.	[IRIS OPEN] [IRIS CLOSE] [A]	[IRIS OPEN] [IRIS CLOSE] [IRIS OPEN] + [IRIS CLOSE]	WV-CU950/650, WV-CU360C/CJ: Lens iris will keep opening up while this button is held down. WV-CU950/650, WV-CU360C/CJ: Lens iris will keep closing down while this button is held down. WV-CU950/650: You can assign another function to this button. The setting is performed in "Controller" – "Key Assignment" of WJ-SX650 Series Administrator Console.

Function	WV-CU950/650	WV-CU360C/CJ	Note
Focus control <ul style="list-style-type: none"> Brings the lens focus farther from the object. Brings the lens focus nearer from the object. Adjusts the lens focus automatically. 	[FOCUS FAR] [FOCUS NEAR] [B] or top button	[FOCUS FAR] [FOCUS NEAR] [FOCUS FAR] + [FOCUS NEAR]	WV-CU950/650, WV-CU360C/CJ: Lens focus will keep going farther from the object while this button is held down. WV-CU950/650, WV-CU360C/CJ: Lens focus will keep going nearer from the object while this button is held down. WV-CU950/650: You can assign another function to these buttons . The setting is performed in "Controller" – "Key Assignment" of WJ-SX650 Series Administrator Console.
Zoom control <ul style="list-style-type: none"> Widen the scene. Zooms the image. 	Zoom wheel controller to the left Zoom wheel controller to the right	[ZOOM WIDE] [ZOOM TELE]	WV-CU950/650: Lens zooming level will keep going down while zoom wheel controller is being moved to the left. WV-CU360C/CJ: Lens zooming level will keep going down while this button is held down. WV-CU950/650: Lens zooming level will keep going up while zoom wheel controller is being moved to the right. WV-CU360C/CJ: Lens zooming level will keep going up while this button is held down.
Patrol <ul style="list-style-type: none"> Starts the patrol setting. Ends the patrol setting. Activates the patrol play. 	Open "Patrol Learn" menu. → [F1] [F2] Refer to p. 80 Auto mode.	[SHIFT] + [CAM FUNC] three times (PATROL setting menu appears on the LED display.) → [2] [3] [1]	WV-CU950/650: For cameras for which two or more patrol settings are available, PATROL 1 is activated. To perform other patrol settings, open the camera setup menu or perform the camera function. (Refer to the operating instructions of camera for details.)

Function	WV-CU950/650	WV-CU360C/CJ	Note
Auto pan <ul style="list-style-type: none"> • Activates the auto pan. • Reverses the auto pan range. • Sets the start point of auto pan. • Sets the end point of auto pan. 	Open "Auto Pan Setup" menu. → [F1] [F2] [F3] [F4]	[SHIFT] + [CAM FUNC] four times (AUTO MODE setting menu appears on the LED display.)→ [1] Not available Not available Not available	WV-CU360C/CJ: Pressing [AUTO PAN] is also available.
Auto mode <ul style="list-style-type: none"> • Sequence • Sort • Auto pan • Patrol 	Open "Auto Mode" main menu. → [F1] [F2] [F3] [F4]	[SHIFT] + [CAM FUNC] four times (AUTO MODE setting menu appears on the LED display.)→ [3] [2] [1] Refer to p. 79 Patrol.	
BW Mode Switching <ul style="list-style-type: none"> • Changes to the BW mode. • Changes to the color mode. • AUTO 1 • AUTO 2 	Open "BW Mode" main menu. → [F1] [F2] [F3] [F4]	[SHIFT] + [CAM FUNC] two times (BW setting menu appears on the LED display.)→ [1] [2] Not available Not available	WV-CU950/650: If the camera has only one AUTO mode, press this button.
AUX 1/2 <Latch mode> <ul style="list-style-type: none"> • AUX 1 (or 2) ON • AUX 1 (or 2) OFF <Momentary mode> AUX 1 (or 2) ON	 [AUX1 (or 2) ON] [SHIFT] + [AUX1 (or 2) OFF] [AUX1 (or 2) ON] (Keep pressing.)	 [SHIFT] + [AUX1 (or 2) ON] [SHIFT] + [AUX1 (or 2) OFF] [SHIFT] + [AUX1 (or 2) ON] (Keep pressing.)	WV-CU950/650, WV-CU360C/CJ: <ul style="list-style-type: none"> • Mode setting is determined by the DIP switch settings of auxiliary device (receiver, etc.). (Cameras support only the latch mode.) • To activate events (sequence, etc.), set the camera or auxiliary device to the latch mode. WV-CU950/650, WV-CU360C/CJ: When you release the button(s), auxiliary control becomes OFF.
Wiper ON	[WIPER] (Keep pressing.)	[SHIFT] + [WIPER] (Keep pressing.)	WV-CU950/650, WV-CU360C/CJ: When you release the button(s), wiper control becomes OFF

Function	WV-CU950/650	WV-CU360C/CJ	Note
Defroster • ON • OFF	[DEF ON] [SHIFT] + [DEF OFF]	[SHIFT] + [DEF ON] [SHIFT] + [DEF OFF]	
All Cameras Control • All home positions • All auxiliaries OFF	Open "All CAM Control" main menu. → [F1] [F3]	Not available Not available	WV-CU950/650: This operation is not available for cameras restricted by the operator's setting.
Activates a camera function	Enter the number. (Numeric buttons) → [CAM FUNC]	[SHIFT] + [CAM FUNC] ("F" and underlines appear on the LED display of system controller.) → Enter the number. (Numeric buttons) → [CAM (SET)]	WV-CU950/650, WV-CU360C/CJ: Refer to the operating instructions of cameras for camera function numbers.

Recorder control

Function	WV-CU950/650	WV-CU360C/CJ	Note
Recorder Setup • Opens the recorder setup menu. • Closes the recorder setup menu.	Open "System Setup" menu. → [F1] [F2]	 [SHIFT] + [SETUP] [SHIFT] + [SETUP]	WV-CU950/650, WV-CU360C/CJ: • Refer to p. 74 Operation list of WV-CU950/650 and WV-CU360C/CJ for setup menu operations.
Disk selection (1) (Not available for WJ-RT416 Series) • HDD normal/event recording area • HDD copy area • Disk connected to COPY 1 • Disk connected to COPY 2	Open "HD300 DiskSelect" menu. → [F1] [F2] [F3] [F4]	Not available – – – –	WV-CU950/650: Search list is automatically displayed by performing this operation. WV-CU950/650: You cannot select COPY 1 for WJ-HD300 Series. WV-CU950/650: You cannot select COPY 2 for WJ-HD300 Series.
Disk selection (2) (Not available for WJ-RT416 Series) • HDD normal/event recording area • HDD copy area • Disk connected to COPY 1 • Disk connected to COPY 2	Open "Search Mode" menu. → [SHIFT] + [F1] [SHIFT] + [F2] [SHIFT] + [F3] [SHIFT] + [F4]	Not available – – – –	WV-CU950/650: Search list is automatically displayed by performing this operation. WV-CU360C/CJ: You cannot select COPY 1 for WJ-HD300 Series. WV-CU360C/CJ: You cannot select COPY 2 for WJ-HD300 Series.

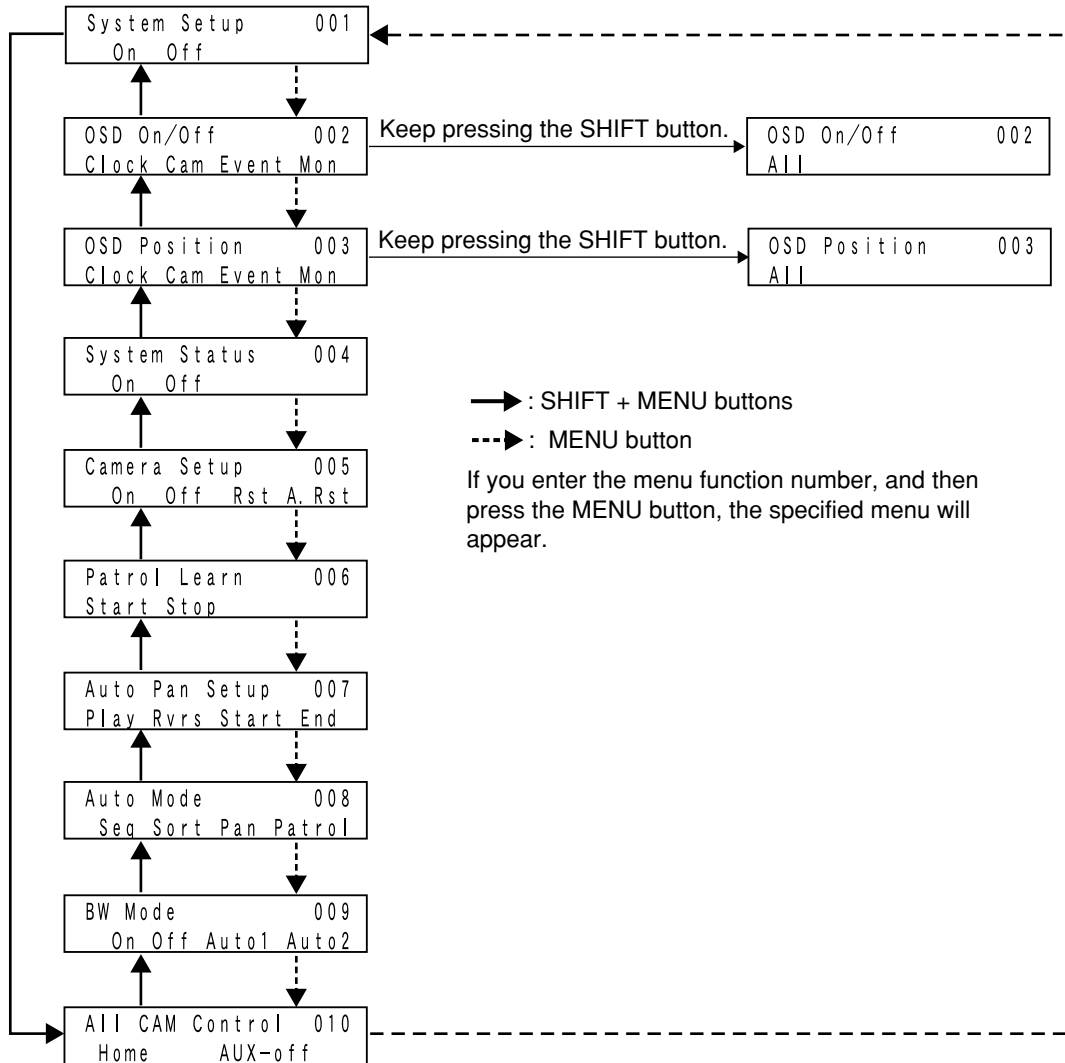
Function	WV-CU950/650	WV-CU360C/CJ	Note
Recorder On-screen display (OSD) ON/OFF	[OSD]	Not available	WV-CU950/650: Every pressing the button can display or hide all the information.
Multiscreen display • 4 segments • 7 segments • 9 segments • 10 segments • 13 segments • 16 segments	[0] → [MULTI SCREEN] [1] → [MULTI SCREEN] [2] → [MULTI SCREEN] [3] → [MULTI SCREEN] [4] → [MULTI SCREEN] [5] → [MULTI SCREEN]	[0] → [SHIFT] + [MULTI SCREEN SEL] [1] → [SHIFT] + [MULTI SCREEN SEL] [2] → [SHIFT] + [MULTI SCREEN SEL] [3] → [SHIFT] + [MULTI SCREEN SEL] [4] → [SHIFT] + [MULTI SCREEN SEL] [5] → [SHIFT] + [MULTI SCREEN SEL]	WV-CU950/650, WV-CU360C/CJ: • Without numeric entry, (Without specifying the segment pattern,) every pressing [[MULTI SCREEN] (or [SHIFT] + [MULTI SCREEN SEL])] can change multi-screen segment patterns. • When a camera is selected, the multiscreen segment of the recorder connected to the camera is displayed. (You cannot specify the segment pattern.) • When using WJ-RT416 Series, the segment pattern cannot be specified. To change the segment pattern, press the [MULTI SCREEN] button of recorder.
Electronic zoom (Not available for WJ-RT416 Series) <While electronic zoom is activated> Moves the zoomed area.	[EL-ZOOM] Joystick ▼▲◀▶	[SHIFT] + [EL-ZOOM] Joystick ▼▲◀▶	WV-CU950/650, WV-CU360C/CJ: Every pressing this button (or these buttons) can change the zooming rate. 2x → 4x → 1x → 2x...
Sequential display ON	[TOUR SEQ]	[SHIFT] + [SEQUENCE]	WV-CU950/650, WV-CU360C/CJ: Activates a sequence associated with the recorder. Note: To stop the sequence, perform sequence stop. Refer to p. 75.
Start manual recording <During recording> Stop manual recording	[REC] [REC STOP] (Press for 2 seconds or more.)	[ZOOM WIDE] + [ZOOM TELE] [SHIFT] + [STOP]	WV-CU950/650: When a camera is selected, manual recording is started for the recorder connected to the camera.
Displays the search list.	[SEARCH] → Open "Search Mode" menu.	[INDEX]	WV-CU950/650, WV-CU360C/CJ: • Every pressing this button can change search list display. • Refer to p. 74 Operation list of WV-CU950/650 and WV-CU360C/CJ for how to operate the search list display.

Function	WV-CU950/650	WV-CU360C/CJ	Note
<p><During search list display></p> <ul style="list-style-type: none"> List/Thumbnail Switching (Not available for WJ-RT416 Series) <p>• Text information display ON (Not available for WJ-RT416 Series)</p> <p>• Displays the DATA COPY window.</p>	<p>[F1]</p> <p>[F3]</p> <p>[F4]</p>	<p>[F1]</p> <p>Not Available</p> <p>Not Available</p>	<p>WV-CU950/650, WV-CU360C/CJ:</p> <p>Every pressing this button can change the search list between the list window and thumbnail window.</p> <p>WV-CU950/650:</p> <p>Refer to p. 74 Operation list of WV-CU950/650 and WV-CU360C/CJ for how to operate the DATA COPY window.</p>
<p>Playback</p> <p><During playback></p> <ul style="list-style-type: none"> Pause playback <p>• Fast-forward</p> <p>• Fast-reverse</p> <p>• Skips to the next frame.</p> <p>• Skips to the previous frame.</p> <p>• Skips to the next record.</p> <p>• Skips to the previous record.</p> <p>• Play the latest recorded image. (Not available for WJ-RT416 Series)</p> <p>• Stops playback.</p> <p>• Marking (Not available for WJ-RT416 Series)</p>	<p>[PLAY/PAUSE]</p> <p>[PLAY/PAUSE]</p> <p>Shuttle ring clockwise</p> <p>Shuttle ring counterclockwise</p> <p>JogDial clockwise (During pause)</p> <p>JogDial counterclockwise (During pause)</p> <p>JogDial clockwise (During playback)</p> <p>JogDial counterclockwise (During playback)</p> <p>[GO TO LAST]</p> <p>[STOP]</p> <p>[MARK]</p>	<p>[PLAY]</p> <p>[PAUSE]</p> <ul style="list-style-type: none"> [FF] Joystick ► [REW] Joystick ◀ <p>Joystick ► (During pause)</p> <p>Joystick ◀ (During pause)</p> <p>Joystick ▼ (During playback)</p> <p>Joystick ▲ (During playback)</p> <p>Not available</p> <p>[STOP]</p> <p>Not available</p>	<p>WV-CU950/650, WV-CU360C/CJ:</p> <p>When a camera is selected, the recorded image of camera is played back.</p> <p>WV-CU950/650, WV-CU360C/CJ:</p> <p>During playback, the recorded images of cameras are interchangeably displayed by:</p> <ul style="list-style-type: none"> Camera selection Selects the next/previous camera. <p>When using WJ-RT416 Series, the live images of the recorder is displayed.</p> <p>WV-CU950/650:</p> <ul style="list-style-type: none"> When a camera is selected, the latest recorded image of camera is played back. For WJ-HD300 Series, this operation is available only during playback.

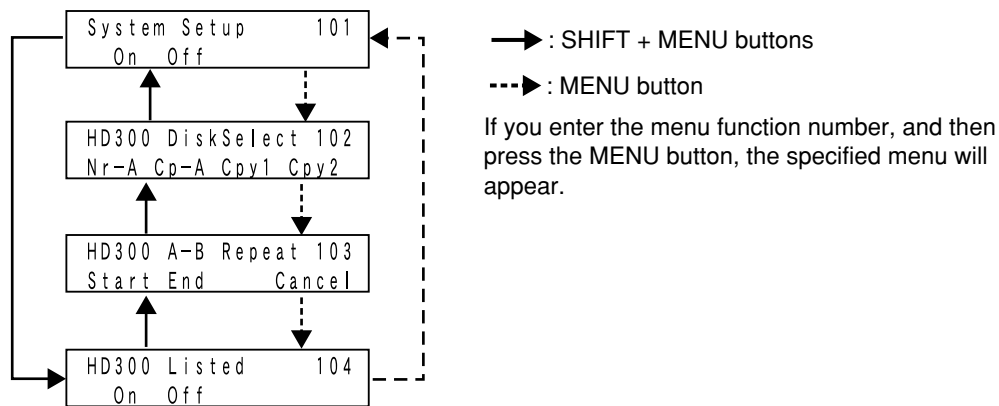
Function	WV-CU950/650	WV-CU360C/CJ	Note
<p>A – B repeat playback (Not available for WJ-RT416 Series)</p> <ul style="list-style-type: none"> • Sets the start point (A) for the A - B repeat playback. • Sets the end point (B) for the A - B repeat playback. • Cancels the A – B repeat playback setting. 	<p>Open "HD300 A - B Repeat" menu. →</p> <p>[F1]</p> <p>[F2]</p> <p>[F4]</p>	<p>Not available</p> <p>–</p> <p>–</p> <p>–</p>	<p>Playback is started when you mark the end point.</p>
<p>Filtering (Not available for WJ-RT416 Series)</p> <ul style="list-style-type: none"> • ON • OFF 	<p>Open "HD300 Listed" menu. →</p> <p>[F1]</p> <p>[F2]</p>	<p>Not available</p> <p>–</p> <p>–</p>	
<p>Monitor 1 control (Not available for WJ-RT416 Series)</p> <ul style="list-style-type: none"> • Camera selection • Selects the next camera. • Selects the previous camera. • Recorder On-screen display (OSD) ON/OFF • Multiscreen display • Sequential display ON • Electronic zoom 	<p>[RECORDER] +</p> <p>Refer to p. 75 Camera selection.</p> <p>Refer to p. 75 Selects the next camera.</p> <p>Refer to p. 75 Selects the previous camera.</p> <p>Refer to p. 82 Recorder On-screen display (OSD) ON/OFF.</p> <p>Refer to p. 82 Multiscreen display.</p> <p>Refer to p. 82 Sequential display ON.</p> <p>Refer to p. 82 Electronic zoom.</p>	<p>Not available</p> <p>–</p> <p>–</p> <p>–</p> <p>–</p> <p>–</p> <p>–</p> <p>–</p>	<p>WV-CU950/650:</p> <ul style="list-style-type: none"> • Hold down this button until the operation end. • These operations are not available if the recorder image cannot be interchangeably displayed on Monitor 1 (Example: While the SETUP MENU of recorder is displayed)

■ Menu Flow (WV-CU950/650)

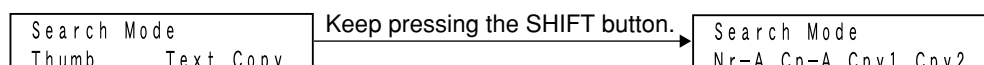
If you press the MENU button without selecting a recorder



If you select a recorder, and then press the MENU button



If you select a recorder, and then press the SEARCH button



Operation (Other than Terminal Mode)

This chapter includes notifications on operations from system controllers in the PS-Data mode, a web browser accessing the recorder, or a PC.

■ PS-Data Mode Operations

Note: When using a system controller in the PS-Data mode, check the software version.

The available software versions are as follows.

WV-CU950/650: Ver. 2.00 or later

WV-CU360C/CJ: Ver. 8.10 or later

The following is the restrictions of PS-Data mode operations. Refer to the operating instructions of system controller for details.

• Login

Log into the system by entering the user ID and password registered in the system controller. After login, you can control the unit as a PS-Data operator. PS-Data operator setting is performed in "Operator" – "Operator" of WJ-SX650 Series Administrator Console.

• Logout

Auto logout is not available. Log out from the system manually.

• Camera selection

When using WV-CU360C/CJ, you cannot select Camera 200 or greater.

• Camera position

When using WV-CU950/650, camera positions registered in the system controller are activated. (Up to 999 camera positions are available.) This function is not available with WV-CU360C/CJ.

• Camera selection recall

Camera selection steps are memorized in the system controller. (Even when you select another monitor, the memorized steps are not cleared.) This function is not available with WV-CU360C/CJ.

• Preset

When using WV-CU360C/CJ, you cannot select Preset Position 065 or greater.

• Recorder selection

You cannot select a recorder by entering the recorder number. To select the recorder, enter the logical camera number associated with the camera input channel connected to the recorder.

• Recorder control

When using WV-CU360C/CJ, refer to the operating instructions of recorder.

• Alarm

Alarm ACK, Alarm Individual Reset, and Alarm Monitor Reset are not available. (Alarm All Reset is available.) When controlling Alarm History Display from WV-CU360C/CJ, you cannot skip to 10 pages forward or backward. (Refer to p. 77.)

• Error message display

When you fail in operations, error messages (Not Avail and Prohibited) will not be displayed on the LCD (or LED display).

• Camera control level restriction

Camera Setup and Preset Position Registration is not restricted separately by the user level setting. To restrict them, set Camera Control to "Disabled". User level setting is performed in "Operator" – "Level Table" of WJ-SX650 Series Administrator Console.

• Other functions

You cannot control the following functions by pressing the associated buttons on system controllers. Control them by entering the system function numbers. (When using WV-CU950/650, you can specify the system functions marked with "*" either by pressing the numeric buttons or recalling the menu functions on the LCD.)

1. Enter the system function number by pressing the numeric buttons.
2. Press the SYS FUNC*¹ (or FUNCTION*²) button while holding down the SHIFT button.

*¹ WV-CU950/650

*² WV-CU360C/CJ

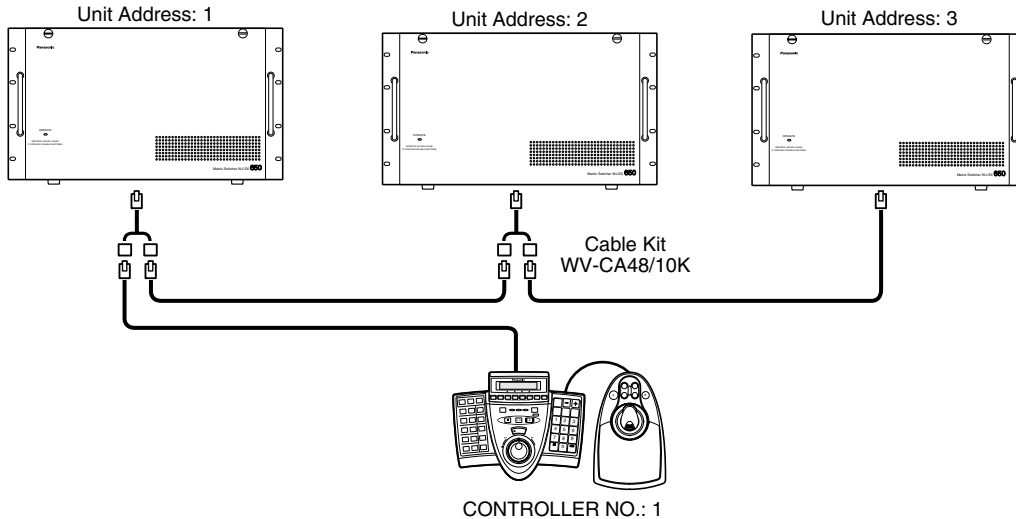
System function	System function number
Monitor lock ON/OFF*	101
System status display ON/OFF	102
Time and date information ON/OFF*	104
Camera information ON/OFF*	105
Event information ON/OFF*	106
Monitor status ON/OFF*	107
All home positions	120
All auxiliaries OFF	121

■ Connections of Matrix Switchers (WJ-SX650 Series) and a PS-Data System Controller

By connecting a PS-Data system controller (WV-CU950/650, CONTROLLER NO.: 1) to the DATA ports of the units with Cable Kit WV-CA48/10K, you can control these units from the system controller. (Refer to p. 36 for details on connections.)

Notes:

- Connect Cable Kit WV-CA48/10K to the DATA 1 port.
- Set the DATA 1 port of each unit to PSD. Setting changes are performed in "System" – "DATA Port" of WJ-SX650 Series Administrator Console or DATA PORT (refer to p. 53) of SETUP MENU.



Connections and Operations

- When controlling two or more units from a PS-Data system controller, you need to select a unit before operation. To select a unit, enter a unit address by pressing the numeric buttons. Then, press the RECORDER/UNIT button while holding down the SHIFT button.
- The unit address setting of each unit must be different from each other. The unit address settings are performed in "Communication" – "PS.Data" of WJ-SX650 Series Administrator Console.
- When an alarm occurs to a unit, other units will accept the alarm as a serial alarm input.
- User level settings for alarm suspension must be the same within all the units.
- The LCN settings must be different among all the units. (Up to LCN 999 are available.) The LCN settings are performed in "System" – "Logical Camera Number" of WJ-SX650 Series Administrator Console.
- When activating AUTO RESET, set the parameter to 3 sec or longer. (Refer to p.50.)

■ Controlling from a Web Browser Accessing a Recorder

If a recorder is connected to the unit, you can control cameras using a web browser of a PC accessing the recorder. You can set priority for web browser control. Priority setting is performed in "Operator" – "Operator" of WJ-SX650 Series Administrator Console.

Notes:

- Refer to the operating instructions of recorder for details on browser control.
- When using WJ-RT416 Series, use the monitoring software.
Refer to the operating instructions of the monitoring software for further information about operations.
- Regardless of priority setting, during the recorder control from a system controller, camera control is not available from a web browser accessing recorders connected to the same DATA port in the daisy chain.

■ Controlling from a PC

You can perform the operations and functions of system controllers by logging into the system and sending RS-232C commands from a PC connected to the unit. Refer to Serial (RS-232C) Connector Command Reference (PDF file on the supplied CD-ROM) for available commands.

Glossary

This document uses the following terms.

Monitor number: Numbers (MON 1 to 32) given to the MONITOR OUT connectors of Video Output Board 1 and 2 for monitor selection

Logical Camera number (LCN): Numbers set for the CAMERA IN connectors (CAM 1 to 256) of Video Input Board 1 to 8 for camera selection. As the factory default, LCN 1 to 256 are given to the CAM 1 to 256 in numerical order.

Note: LCN setting changes are performed in "System" – "Logical Camera Number" of WJ-SX650 Series Administrator Console.

Recorder number: Unit Address (System) numbers (Recorder 1 to 16) set for recorders in SETUP MENU of recorders for recorder selection. In this document, "Unit Address (System) 001" is mentioned as "Recorder 1".

Level: Refer to p. 56.

Priority: Refer to p. 56.

Camera Access: Refer to p. 56.

Recorder Access: Refer to p. 56.

Login: Refer to p. 57.

Logout: Refer to p. 57.

Auto login: Function to log into the system automatically as a registered operator. Refer to p. 57.

Auto logout: Function to log out of the system automatically after no operations have been performed during the specified period. Refer to p. 57.

Camera Title: Titles for camera identification, which are displayed on associated monitors, can be set up. Up to 20 characters are available for the camera title. Camera title setting will be performed in "Camera" – "Camera Title" of WJ-SX650 Series Administrator Console.

Monitor lock: Refer to p. 58.

Preset (Preset position): Camera's function to register camera monitoring positions (preset positions) associated with position numbers. By entering the preset position numbers, operators can move cameras to the preset positions. (Refer to p. 59.) Registered preset positions can be applied for event settings such as sequence.

Home position: Default preset position. If the home position is registered, you can move the camera to the home position without specifying the preset position number.

Auxiliary (AUX) control: You can control auxiliary devices (buzzer, etc.) connected to cameras or receivers. (Refer to p. 80.) Auxiliary control can be applied for event settings such as sequence.

Auto tracking: Camera's function to detect motion of the image and track the moving object automatically. Refer to p. 72 and the operating instructions of cameras supporting this function.

Patrol: Camera's function to learn and reproduce camera operations and picture quality. (Refer to pp. 72 and 79.)

Cleaning (Camera Cleaning): Function to clean the slip ring to eliminate picture quality deterioration and noise. (Available for Panasonic cameras released in 1999 or later)

Camera position: You can associate camera numbers with preset position numbers to register as camera positions (CAM-P).

Camera selection recall: Refer to p. 59.

All cameras control: You can deactivate all auxiliary devices at a time, or move all cameras to the home positions. Refer to p. 60.

Spot: A selected camera image is continuously displayed on a selected monitor.

Tour sequence: Refer to p. 63.

Group sequence: Refer to p. 63.

Group preset: Refer to p. 63.

Alarm signal: General term for terminal alarm, camera alarm, recorder alarm, serial alarm, and video loss.

Terminal alarm: Alarm input signals which are supplied from alarm sensors (door switch, etc.) to the alarm input (ALARM IN) ports of the unit.

Camera alarm: Alarm input signals which are supplied from cameras to the unit by alarm sensors or cameras' motion detectors, etc.

Recorder alarm: Alarm input signals which are supplied from recorders to the unit by video loss or VMD, etc.

Serial alarm: Alarm input signals which are supplied as serial commands from a PC to the SERIAL port of the unit. Alarm commands which are input from the DATA ports set to PSD are also serial alarms. (Refer to p. 87.)

Video loss: Alarm input signals which are supplied to the unit when the loss of video input signals are detected due to coaxial cable disconnections or camera troubles.

Alarm event: Refer to p. 67.

Alarm schedule: Function to schedule the period when no alarm events occur even with alarm input signals

Monitor display mode: Display mode which can be activated for alarm events during alarm occurrence. There are three types of alarm modes: spot, tour sequence, and group sequence. These modes can be set separately for each monitor.

Alarm suspension: Operation to suspend alarm occurrence to the unit.

Alarm History Display: Refer to p. 70.

System Status Display: Refer to p. 38.

Timer event: Refer to p. 72.

Camera event: Refer to p. 72.

VD2: Timing pulse to display the images of Panasonic cameras on the monitor. If VD2 is set to ON, image switching unconformity can be prevented. (Depending on monitors, the unconformity may not be solved completely.)

Cable compensation: If coaxial cables connected between the cameras and the unit are longer than the suitable length, video input signals may be attenuated.

Cable compensation is the function to compensate the attenuation.

Export: Function to save the settings of tour sequence or group sequence in export files (csv format). This function is available when using WJ-SX650 Series Administrator Console. Export is performed separately for each sequence program.

Import: Function to read export files (csv format) into WJ-SX650 Series Administrator Console.

Troubleshooting

Check the following before requesting repair.

If a trouble cannot be corrected even after checking and trying remedy, contact your dealer.

■ Matrix Switcher WJ-SX650 Series

Problem	Check item and remedy	Reference
Power is not turned on.	▶ • Check if the power plug is properly connected to the AC outlet.	—
	▶ • Check if the power cord is properly inserted into the AC inlet socket of this unit.	—
OPERATE indicator is blinking.	▶ • The cooling fan has a trouble or is deteriorating. That may cause troubles of the unit. Consult the dealer for replacement.	6
Cannot control a system controller.	▶ • Check the connections between the system controller and the unit.	35
	▶ • Check the specifications of modular cable. When using a modular cable not supplied to the system controller, apply the 6-conductor type.	96
	▶ • Check if the operation mode and controller numbers are properly set.	35
	▶ • Check the DATA port setting (TMNL or PSD).	53
Cannot control a monitor.	▶ • Check the connection between the monitor and the unit.	29
	▶ • Check the level settings or monitor access setting.	56
	▶ • Check the LCD (or LED) display or indicators of system controller. When "Busy (or BUSY)" is blinking (or lighting), monitor control is not available.	14, 15

Problem	Check item and remedy	Reference
Black bars can be seen on a monitor.	<ul style="list-style-type: none"> When the unit is powered on or a camera is connected, black bars may be seen on the monitor for several seconds with images not supporting VD2 (images from recorder or cameras of other manufacturers). To eliminate the black bars, set VD2 to OFF. 	54
Cannot control a camera or receiver.	<ul style="list-style-type: none"> Check the connection between the camera and the unit. If a receiver is being used, check if the power is supplied to the camera. 	27
	<ul style="list-style-type: none"> Check if the selected camera input channel is not set to accept video input signals from recorder. 	51
	<ul style="list-style-type: none"> Check the level settings or camera access setting. 	56
	<ul style="list-style-type: none"> Check the LCD (or LED) display or indicators of system controller. When "Busy (or the BUSY indicator)" is blinking (or lighting), camera control is not available. 	14, 15
	Coaxial communication: <ul style="list-style-type: none"> Check if the DATA setting of the camera input channel is ON in VD2/DATA/CABLE COMPENSATION of SETUP MENU. Check if the camera input channel is not set for RS-485 communication in RS485 CAMERA of SETUP MENU. 	54
	RS-485 communication: <ul style="list-style-type: none"> Check if the RS-485 port and unit numbers of camera input channel is set properly in RS485 CAMERA of SETUP MENU. 	54
Cannot select a recorder.	<ul style="list-style-type: none"> Check if the LCN is set for the camera input channel accepting video input signals from the recorder. Check the setting in "System" – "Recorder" of WJ-SX650 Series Administrator Console. 	52
Cannot control a recorder.	<ul style="list-style-type: none"> Check the connection and settings between the recorder and the unit. 	30
	<ul style="list-style-type: none"> Check the DATA port setting (HDR). 	53
	<ul style="list-style-type: none"> Check the level settings or recorder access setting. 	56

Problem	Check item and remedy	Reference
Cannot control a recorder.	▶ • Check the LCD (or LED) display or indicators of system controller. When "Busy (or the BUSY indicator)" is blinking (or lighting), recorder control is not available.	14, 15
	▶ • Depending on the recorder status, response may be delayed. Check the status and retry the control.	—
	▶ • Did you edit the TEXT INFORMATION window using the buttons on the front panel of recorder? In this case, the selected system controller becomes unavailable. Close the TEXT INFORMATION window using the buttons on the front panel of recorder.	—
	▶ • Check if Monitor 2 is selected with the MONITOR1/MONITOR2 button of recorder. (Refer to the operating instructions of recorder for details.) As the unit is connected to the MONITOR OUT 2 connector of recorder, do not select Monitor 1 with the MONITOR1/MONITOR2 button of recorder. When you have selected Monitor 1, perform an operation that is available for Monitor 2 only (playback, etc.). Monitor 2 will be selected automatically.	—
"RECORDER ERROR" is displayed on the monitor, and recorder control is unavailable.	▶ • Check the connection and settings between the recorder and the unit.	30
	▶ • Check if the recorders version is correct. WJ-HD300 Series: Ver. 1.61 or later WJ-HD300A Series: Ver. 3.10 or later	30
During sequence, black screen and "NOT ASSIGNED" are displayed on the monitor.	▶ • Check if the sequence setting contains LCN's or camera positions not registered. (When the setting contains camera positions not registered, only black screen is displayed.)	63
Auxiliary control does not become OFF even after the sequence, timer event, or alarm event ends.	▶ • If the sequence, timer event, or alarm event has turned on the auxiliary control, the auxiliary control does not become OFF automatically. Turn off the auxiliary control manually, or set an event that turns off the auxiliary control.	60
Timer event or camera event is not activated.	▶ • If the timer event or camera event is set to be activated at the start time of the summer time (daylight saving time), the event will not be activated.	72, 73
	▶ • If the setting data is uploaded after the start time, the event will not be activated.	72, 73
	▶ • Timer event will not be activated when monitors are selected by operators with higher priority than the timer event, displaying SETUP MENU, or being in the alarm mode.	72

Problem		Check item and remedy	Reference
Auto tracking ended before the end time of camera event setting.	▶	<ul style="list-style-type: none"> • Check if another camera event is not set for the camera. 	72
Alarm event does not occur.	▶	<ul style="list-style-type: none"> • Check if the alarm input signal setting is ON in ALARM of SETUP MENU. 	50
	▶	<ul style="list-style-type: none"> • Check if the alarm event has been set. 	67
	▶	<ul style="list-style-type: none"> • Check the active period setting of alarm schedule. 	68
	▶	<ul style="list-style-type: none"> • Check if the alarm is not suspended and SETUP MENU is not open on the associated monitor. 	49, 70
The image of camera associated with the alarm event was not recorded.	▶	<ul style="list-style-type: none"> • Check the connection and settings between the recorder and the unit. 	30
	▶	<ul style="list-style-type: none"> • Recording follows the recorder settings. Check the command alarm setting and event recording setting of recorder. 	—
The status before the alarm occurrence is not recovered, even though the alarm event is reset.	▶	<ul style="list-style-type: none"> • If an operator has activated a group sequence before the alarm occurrence, and another operator reset the alarm or performed operations on the monitor associated with the group sequence, the status before the alarm occurrence is not recovered. 	69
Alarm modes of connected devices are not reset even after the unit is powered off.	▶	<ul style="list-style-type: none"> • When you power off the unit, the alarm mode activated for the unit is reset, but the alarm modes for the connected devices are not reset. Power on the unit again, and perform the Alarm All Reset operation. 	69
Cannot open SETUP MENU of the unit.	▶	<ul style="list-style-type: none"> • You cannot open SETUP MENU when another operator is opening it. 	—
	▶	<ul style="list-style-type: none"> • SETUP MENU cannot be displayed on a monitor associated with an active alarm. 	—

■ WJ-SX650 Series Administrator Console

Problem		Check item and remedy	Reference
"!" mark is displayed in the LCN entry field.	▶	<ul style="list-style-type: none"> Check if the camera number not registered is set for the camera position, tour sequence, group sequence, timer event, alarm event, recorder, or camera input channel. Register the camera number in "System" – "Logical Camera Number". 	–
"!" mark is displayed in the CAM-P (camera position) entry field.	▶	<ul style="list-style-type: none"> Check if the camera position number not registered is set for the tour sequence, group sequence, timer event, or alarm event. Register the camera position number in "Camera" – "Camera Position". 	–
Cannot set Control to ON in "System" – "Recorder".	▶	<ul style="list-style-type: none"> Check if the camera input channel connected to the recorder is set RS485 in "System" – "RS485 Camera". Set "--" for the channel. 	–
Cannot set the RS-485 port number of camera input channel.	▶	<ul style="list-style-type: none"> Check if Control is set to ON for the recorder connected to the camera input channel in "System" – "Recorder". Set OFF for the recorder. 	–
An error message appears when changing the monitor setting in "Sequence" – "Group Sequence", and clicking "Set".	▶	<ul style="list-style-type: none"> Check if the group sequence is associated with an alarm event. You cannot change the monitor settings of group sequences associated with alarm events. Delete alarm event settings with which the group sequence is associated. 	67
"!" mark (in a circle) is displayed in the list of "Schedule" – "Timer Event".	▶	<p>Check if the camera number or camera position number not registered is set for the event.</p> <ul style="list-style-type: none"> Register the camera number in "System" – "Logical Camera Number". Register the camera position number in "Camera" – "Camera Position". 	–
"!" mark (in a triangle) is displayed in the list of "Schedule" – "Timer Event".	▶	<ul style="list-style-type: none"> Start time of event is set for the period during which an event with higher priority has been set. Change the settings of start time and priority of the event. 	–
Monitor Display Mode parameter in "Monitor Display Mode" of "Alarm" – "Alarm Event" is displayed in gray, and you cannot change the parameter.	▶	<ul style="list-style-type: none"> Check if the monitor is associated with an alarm event. You cannot change the monitor display modes of monitors associated with alarm events. Delete alarm event settings for which the monitor is assigned. 	67
Cannot click a checkbox to activate Auto Login and Auto Logout in "Controller" – "Auto Login/Auto Logout".	▶	<ul style="list-style-type: none"> Check if the DATA port is set to PSD or HDR in "System" – "DATA Port". You cannot set auto login and auto logout for DATA ports set to PSD or HDR. Set the DATA port to TMNL. 	–

■ Power Cord, Connectors, and Power Plug

Check the power cord, connectors, and power plug regularly.

Problem	Check item and remedy	Reference
The power cord insulation is damaged.	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.	—
The power cord, plug and connectors get hot during use.		
The power cord gets hot when bent or stretched.		

Specifications

■ Matrix Switcher WJ-SX650 Series

Power Source:	120 V AC, 60 Hz
Power Consumption:	60 W
Ambient Operating Temperature:	-10 °C to +50 °C {14 °F to 122 °F}*1
Ambient Operating Humidity:	Less than 90 %
Video Input Board:	x 1
Camera Input (CAMERA IN 1 to 32):	1 V [P-P]/75 Ω (BNC x 32), composite video signal 0.5 V [P-P]/75 Ω data signal and 2.5 V [P-P]/75 Ω vertical timing pulse multiplexed
Video Output (VIDEO OUT 1 to 4):	1 V [P-P]/75 Ω (25-pin D-sub connector x 4)*2, active loop-thru output
Alarm Input (ALARM IN):	N.O. (Normally Open contact) or N.C. (Normally Close contact) selectable x 32 (37-pin D-sub connector)
RS-485 (Camera) Port:	6-conductor modular jack x 4 (2-wire or 4-wire communication, with termination switches (MODE 1 to 4))
Extension Port (EXTENSION IN 2, 3):	37-pin D-sub connector x 2
Video Output Board:	x 1
Monitor Output (MONITOR OUT 1 to 16):	1 V [P-P]/75 Ω (BNC x 16)
Data Port (DATA 1 to 4)	
DATA 1:	Terminal Mode (TMNL) (PS-Data Mode (PS-DATA) selectable)*3)
DATA 2:	Terminal Mode (TMNL)
DATA 3, 4:	Terminal Mode (TMNL)/Digital disk recorder (HDR) selectable 6-conductor modular jack x 4 (With termination switches (MODE 1 to 4))
Alarm Output (ALARM OUT 1, 2)	
Alarm Output:	Open collector output x 32, Max. 24 V DC, 100 mA
Alarm Recover Output:	Non-voltage make contact input x 16
Time Adjust Input*3:	Non-voltage make contact input x 1
Time Adjust Output*3:	Open collector output x 1, Max. 24 V DC, 100 mA
Extension Port (EXTENSION 1 IN, OUT)*3:	6-conductor modular jack x 2 (With a termination switch (TERM: ON, OFF))
VS Input*3:	1 V [P-P]/75 Ω (VS IN)
VS Output*3:	(VS OUT (THRU)): VS loop-thru output (VS OUT): 1 V [P-P]/75 Ω (VS)
Serial Port*3:	9-pin D-sub connector x 2
Expansion slot:	x 1
RS-485 (Camera) Port*4:	6-conductor modular jack x 4 (2-wire or 4-wire communication, with termination switches (MODE 1 to 4))
Functions:	Monitor control (Camera selection, tour sequence, group sequence, group pre-set, OSD display) Camera/Receiver control (Coaxial/RS-485 communication) Recorder control Alarm control (Alarm event, Alarm ACK, Alarm reset, Alarm suspension, Alarm History Display) Timer event, Camera event
Dimensions:	420 mm (W) X 265 mm (H) X 372 mm (D) {16-9/16" (W) X 10-2/5" (H) X 14-3/5" (D)} (excluding rubber feet and projections)
Weight:	19.0 kg {42 lbs.}

*1 In the constant operation

*2 When this unit is powered off, this signal will not be output even with the acceptance of video input signal.

*3 Not available when the MODE switches are set as Video Output Board 2

*4 Available only when Video Input Board WJ-PB65C32 is mounted

■ Card Cage WJ-SX650U

Power Source:	120 V AC, 60 Hz
Power Consumption:	60 W
Ambient Operating Temperature:	-10 °C to +50 °C {14 °F to 122 °F}*5
Ambient Operating Humidity:	Less than 90 %
Expansion slot:	x 3
RS-485 (Camera) Port*6:	6-conductor modular jack x 12 (2-wire or 4-wire communication, with termination switches (MODE 1 to 4))
Extension Port (EXTENSION 1 IN, OUT):	6-conductor modular jack x 2 (With a termination switch (TERM: ON, OFF))
Extension Port (EXTENSION IN 2, 3):	37-pin D-sub connector x 2
Extension Port (EXTENSION OUT 2, 3):	37-pin D-sub connector x 2
Dimensions:	420 mm (W) X 265 mm (H) X 372 mm (D) {16-9/16" (W) X 10-2/5" (H) X 14-3/5" (D)} (excluding rubber feet and projections)
Weight:	18.0 kg {40 lbs.}

■ Video Input Board WJ-PB65C32

Camera Input (CAMERA IN 1 to 32):	1 V [P-P]/75 Ω (BNC x 32), composite video signal 0.5 V [P-P]/75 Ω data signal and 2.5 V [P-P]/75 Ω vertical timing pulse multiplexed
Video Output (VIDEO OUT 1 to 4):	1 V [P-P]/75 Ω (25-pin D-sub connector x 4)*7, active loop-thru output
Alarm Input (ALARM IN):	N.O. (Normally Open contact) or N.C. (Normally Close contact) selectable x 32 (37-pin D-sub connector)
Dimensions	
Main Board:	338 mm (W) X 47 mm (H) X 236 mm (D) {13-3/10" (W) X 1-9/10" (H) X 9-3/10" (D)}
IN X-2 Board:	355 mm (W) X 21 mm (H) X 117 mm (D) {14" (W) X 4/5" (H) X 4-3/5" (D)}
IN X-1 Board:	355 mm (W) X 38 mm (H) X 134 mm (D) {14" (W) X 1-1/2" (H) X 5-3/10" (D)}

■ Video Output Board WJ-PB65M16

Monitor Output (MONITOR OUT 1 to 16):	1 V [P-P]/75 Ω (BNC x 16)
Data Port (DATA 1 to 4)	
DATA 1:	Terminal Mode (TMNL) (PS·Data Mode (PS·DATA) selectable*8)
DATA 2:	Terminal Mode (TMNL)
DATA 3, 4:	Terminal Mode (TMNL)/Digital disk recorder (HDR) selectable
Alarm Output (ALARM OUT 1, 2)	6-conductor modular jack x 4 (With termination switches (MODE 1 to 4))
Alarm Output:	Open collector output x 32, Max. 24 V DC, 100 mA
Alarm Recover Output:	Non-voltage make contact input x 16
Time Adjust Input*8:	Non-voltage make contact input x 1
Time Adjust Output*8:	Open collector output x 1, Max. 24 V DC, 100 mA
Extension Port (EXTENSION 1 IN, OUT)*8:	6-conductor modular jack x 2 (With a termination switch (TERM: ON, OFF))
VS Input*8:	1 V [P-P]/75 Ω (VS IN)
VS Output*8:	(VS OUT (THRU)): VS loop-thru output (VS OUT): 1 V [P-P]/75 Ω (VS)
Serial Port*8:	9-pin D-sub connector x 2
Dimensions	
Main Board:	338 mm (W) x 47 mm (H) x 236 mm (D) {13-3/10" (W) X 1-9/10" (H) X 9-3/10" (D)}
OUT X-1 Board:	355 mm (W) X 38 mm (H) X 134 mm (D) {14" (W) X 1-1/2" (H) X 5-3/10" (D)}
OUT X-2 Board, OUT X-3 Board:	355 mm (W) X 21 mm (H) X 117 mm (D) {14" (W) X 4/5" (H) X 4-3/5" (D)}

*5 In the constant operation
*6 4 ports available with each Video Input Board WJ-PB65C32
*7 When this unit is powered off, this signal will not be output even with the acceptance of video input signal.
*8 Not available when the MODE switches are set as Video Output Board 2

■ **Expansion Cable Kit WJ-CA65L20K/WJ-CA65L07K**

Video cable:	37-pin D-sub x 2 (WJ-CA65L20K: 2 m {6-3/5'}, WJ-CA65L07K: 0.7 m {2-3/10'})
Communication cable:	6-conductor modular x 1 2 m {6-3/5'}

■ **D-sub/BNC Video Cable WJ-CA68**

25-pin D-sub – BNC x 8 conversion
50 cm {19-7/10"}

Standard Accessories

Operating Instructions (English version)	1 pc.
CD-ROM*	1 pc.
* The following files are included on the CD-ROM.	
• WJ-SX650 Series Administrator Console (Application)	
• Operating Instructions (PDF file: French version)	
• Serial (RS-232C) Connector Command Reference (PDF file)	
Warranty Card	1 pc.
The following part is used during installation procedures.	
Power Cord	1 pc.

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