

# Panasonic

## Data Multiplex Unit Operating Instructions

Model No. **WJ-MP204C**

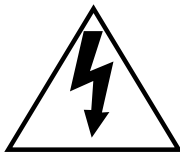
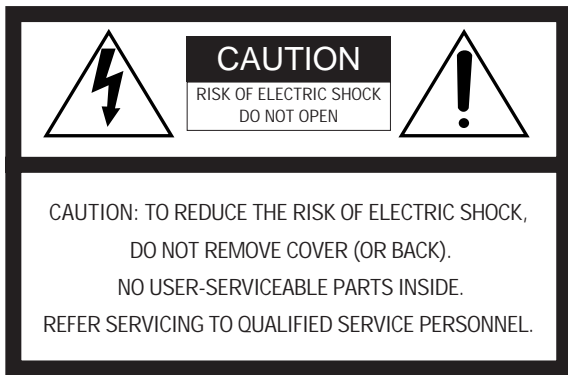


Before attempting to connect or operate this product,  
please read these instructions carefully and save this manual for future use.

# ENGLISH VERSION

**Caution:**

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



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.

For U.S.A.

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

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

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

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

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

Model No. \_\_\_\_\_

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

**WARNING:**

To reduce the risk of fire or electric shock, do not expose this appliance to rain or moisture.

# IMPORTANT SAFETY INSTRUCTIONS

- 1) Read these instructions.
- 2) Keep these instructions.
- 3) Heed all warnings.
- 4) Follow all instructions.
- 5) Do not use this apparatus near water.
- 6) Clean only with dry cloth.
- 7) Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- 8) Do not use near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- 9) Do not 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 points where they exit from the apparatus.
- 11) Only use attachments/accessories specified by the manufacturer.
- 12) Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-overs.



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

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# PREFACE

The Data Multiplex Unit WJ-MP204C is designed for installation in a surveillance system, offering system flexibility particularly when camera control functions are required.

The unit multiplexes video signals with control data and VD2 sync into a coaxial cable. This makes installations between the unit and cameras easy.

The monitor and system controller can be located distant from the camera site thanks to the use of a coaxial cable and an RS-485 cable.

The unit includes two protocols, Panasonic Security Data (PS·Data) and the Camera Communication one, selectable with DIP switches.

# FEATURES

## Front Panel Operations

- Camera channel selection from 1 to 4
- Alarm reset/suspension
- WJ-MP204C setup menus

## In/Out Features

- Four camera inputs with multiplexed control and VD2
- Four camera outputs looped through
- Spot (monitor) in/out
- VS/VD (sync) in/out
- RS-485 for use of the Camera Communication Protocol
- RS-485 for use of the PS·Data protocol
- Alarm in/out and remote in/out, switchable

## Displayed Image on the monitor screen

- Camera channel selected
- Alarm channel activated
- Setup menus

## Camera control with WV-CU360C

- Pan/tilt head and housing control
- Motorized lens control (focus, zoom, iris, etc.)
- Camera setup menus

## Alarm Function

- Inputs: Video Motion Detection by the camera/Alarm input to the terminal.
- Output: Signal is supplied to respective alarm terminal.
- Preset: The camera moves to the preset position when an alarm operates.
- Display: The activated channel picture and the channel number are displayed.

# PRECAUTIONS

- **Refer all work related to the installation of this product to qualified service personnel or system installers.**
- **Do not block the ventilation opening or slots on the cover.**

To prevent the appliance temperature from rising, place the appliance at least 5 cm (2 inches) away from the wall.
- **Do not drop metallic parts through slots.**

This could permanently damage the appliance. Turn the power off immediately and refer servicing to qualified service personnel.
- **Do not attempt to disassemble the appliance.**

To prevent electric shock, do not remove screws or covers.  
There are no user-serviceable parts inside. Refer maintenance to qualified service personnel.
- **Handle the appliance with care.**

Do not strike or shake, as this may damage the appliance.
- **Do not expose the appliance to water or moisture, nor try to operate it in wet areas.**

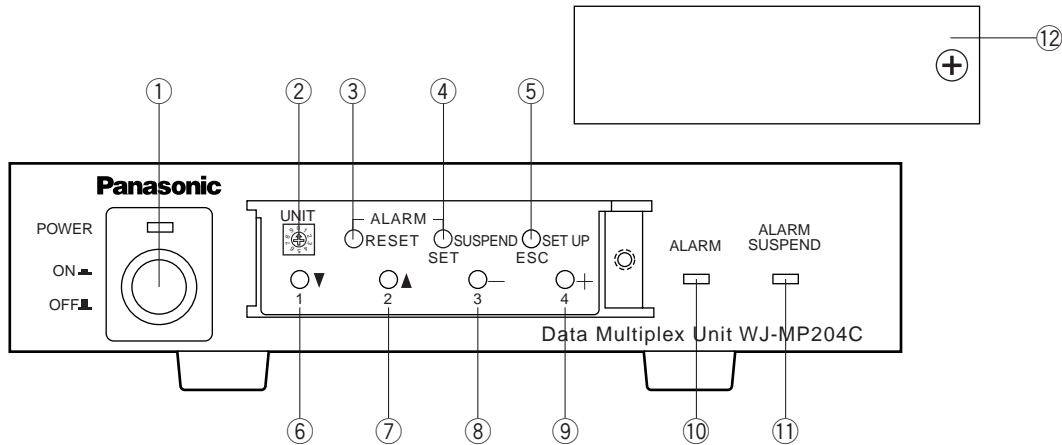
Do take immediate action if the appliance becomes wet. Turn the power off and refer servicing to qualified service personnel. Moisture can damage the appliance and also cause electric shock.
- **Do not use strong or abrasive detergents when cleaning the appliance body.**

Use a dry cloth to clean the appliance when it is dirty. When the dirt is hard to remove, use a mild detergent and wipe gently.
- **Do not operate the appliance beyond its specified temperature, humidity or power source ratings.**

Do not use the appliance in an extreme environment where high temperature or high humidity exists. Use the appliance at temperatures within  $-10^{\circ}\text{C}$  -  $+50^{\circ}\text{C}$  ( $14^{\circ}\text{F}$  -  $122^{\circ}\text{F}$ ) and a humidity below 90 %. The input power source for this appliance is 120 V AC 60 Hz.

# MAJOR OPERATING CONTROLS AND THEIR FUNCTIONS

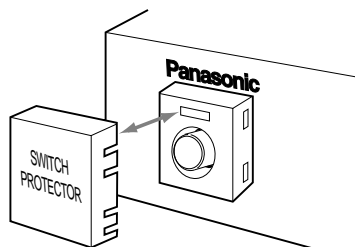
## ■ Front View



### ① Power switch and power Indicator (POWER ON OFF)

To turn on or off the power of the unit, press the switch. The indicator is lit while the power is supplied.

**Note:** Use the switch protector (supplied) to avoid accidental power-off of the unit.



### ② Unit number switch (UNIT 0-8)

This switch specifies the WJ-MP204C unit number in a PS·Data protocol system, or camera unit numbers in the Camera Communication Protocol system. Refer to page 15 for more information.

### ③ Alarm reset button (ALARM)

This button resets the activated alarm. When this button is pressed, the alarm indicator turns off, alarm display "ALARM \*\*\*" on the monitor disappears, alarm status output signal turns inactive on the rear, and an alarm reset pulse is supplied on the rear.

**Note:** "\*\*\*" is a camera number.

### ④ Alarm suspend/set button (SUSPEND/SET)

In normal operation, pressing this button suspends the activated alarm mode until it is pressed next. In the setup operation, pressing this button confirms the presently selected parameter or opens a submenu.

### ⑤ Setup/escape button (SETUP/ESC)

Holding down this button opens or closes the setup menu.

In the setup operation, pressing this button returns to an upper layer setup menu.

### ⑥ Down/1 button (▼)

Selects camera #1 in normal operation. Moves the cursor downward in the setup operation.

### ⑦ Up/2 button (▲)

Selects camera #2 in normal operation. Moves the cursor upward in the setup operation.

### ⑧ -/3 button (-)

Selects camera #3 in normal operation. Decrements the parameter in the setup operation.

### ⑨ +/4 button (+)

Selects camera #4 in normal operation. Increments the parameter in the setup operation.

### ⑩ Alarm indicator (ALARM)

This indicator blinks when an alarm is activated, changes to steady light when the preset time elapses, and turns off when the alarm is reset.

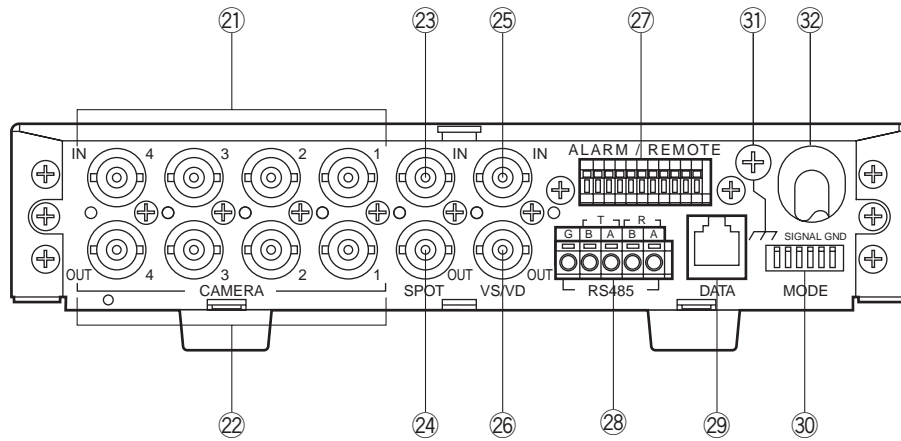
### ⑪ Alarm suspension indicator (ALARM SUSPEND)

This is lit while the alarm is suspended.

### ⑫ Front cover

Put the cover and fix it with the screw on the front panel when these buttons are not required.

## ■ Rear View



### ②① Camera Input Connector 1-4 (CAMERA IN 1 2 3 4)

These connectors accept the composite video signal supplied by the cameras while passing through the control data and VD2 sync signal.

### ②② Camera Output Connector 1-4 (CAMERA OUT 1 2 3 4)

These connectors supply the looped through composite video of the camera image. Any one of these connectors can accept VD2 sync from a connected device such as a Video Multiplexer that accepts composite video while sending VD2. Refer to page 23 for details.

### ②③ Spot Input Connector (SPOT IN)

Accepts a spot output signal supplied from another Data Multiplex Unit when connecting more than one unit in a daisy fashion.

### ②④ Spot Output Connector (SPOT OUT)

Supplies the composite video signal of the selected camera, alarm activated camera or WJ-MP204C setup menus to display them on the monitor. This BNC is usually connected with a monitor. In a multi-unit connection this is connected with SPOT IN of the next unit unless the unit is at the tail end.

### ②⑤ VS/VD Input Connector (VS/VD IN)

Accepts C. Sync, VBS or VD sync input. The unit will follow the sync input while supplying sync through the VS/VD OUT connector to other devices. Cameras will follow VD2 sync supplied through the CAMERA IN connectors. You need to set up VS/VD INPUT in the SYSTEM menu window when connecting. Refer to page 23 for details.

**Note:** Sync source should comply with the EIA RS-170 standard. Do not input signals having a high jitter content such as VCR playback signals.

### ②⑥ VS/VD Output Connector (VS/VD OUT)

Supplies a sync signal depending on the input to the VS/VD IN connector and setting of the MODE DIP switch #1. Refer to page 15 and 23 for details.

### ②⑦ Alarm/Remote Terminal (ALARM/REMOTE)

Pins #6-9 are used in one out of four ways most suitable to your system requirements: alarm input, alarm output, remote input, and remote output. Input/output is specified by the position of an internal connector while alarm/remote is specified in the SYSTEM setup menu. Refer to page 16 and 26 for more details.

### ②⑧ RS-485 Terminal (RS-485)

These terminals are exclusively used for devices compatible with "Camera Communication Protocol" such as the WJ-SX350 Matrix Switcher and WJ-FS616C Video Multiplexer. Through R (receive) and T (transmit) terminals, the unit exchanges communication data for camera control and other commands in 2-line half duplex or 4-line full duplex mode.

### ②⑨ Data Port (DATA)

This port is exclusively used to communicate with devices compatible with "PS-Data protocol" such as the WJ-FS316/416 Video Multiplexer, Digital Disk Recorder and System Controller WV-CU360C. Using this port is incompatible with using RS-485 terminal above.

### ③⑩ DIP Switch (MODE)

Data communication mode and sync setting are specified with this switch. Refer to page 15 for more information.

### ③① Signal grounding terminal (SIGNAL GND)

### ③② Power cord



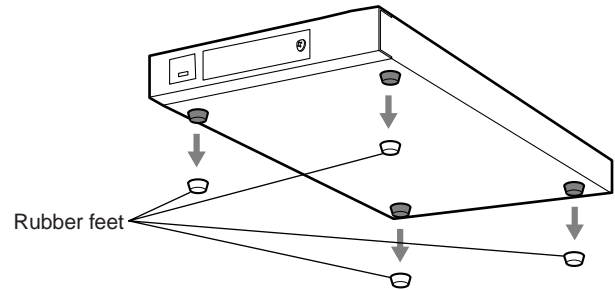
# INSTALLATION

## Warning!

Only qualified service personnel or system installers should make all rack mountings, connections or internal settings. If adjustments are required, please refer to the Service Manual available for this product.

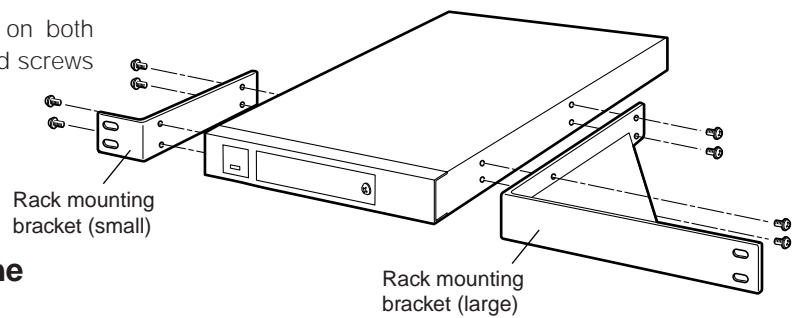
## ■ Mounting in the Rack

Remove the four rubber feet by removing the four screws from the bottom of the WJ-MP204C.



## ● Mounting One WJ-MP204C with the WV-Q204/1

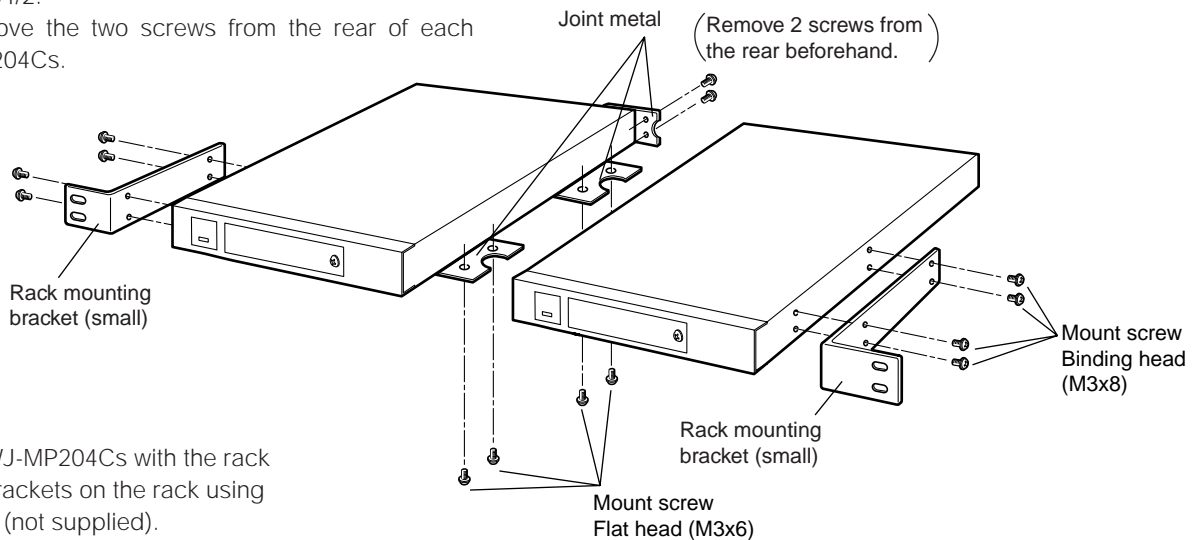
1. Fix the mounting brackets (large and small) on both sides of the WJ-MP204C with the eight supplied screws (M3x8) to the WV-Q204/1.



## ● Mounting two WJ-MP204Cs with the WV-Q204/2

1. Place the joint metals on the WJ-MP204Cs as shown below and fix them with the supplied screws (M3x6) to the WV-Q204/2.

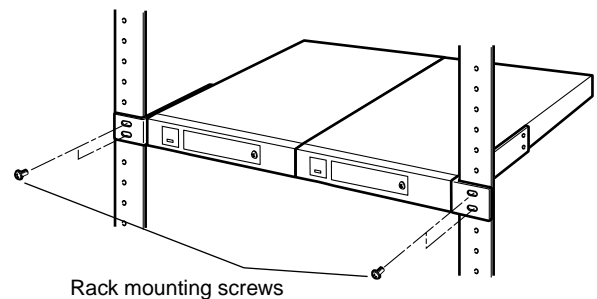
**Note:** Remove the two screws from the rear of each WJ-MP204Cs.



2. Install the WJ-MP204Cs with the rack mounting brackets on the rack using four screws (not supplied).

## Cautions:

- Do not block the ventilation opening or slots in the cover to prevent the appliance from overheating. Always keep the temperature in the rack within +45°C (113°F).
- Secure the rear of the appliance to the rack by using additional mounting brackets (procured locally), if the rack is subject to vibration.
- Do not use tapping screws for installing the WJ-MP204C on the rack with the rack mounting brackets.

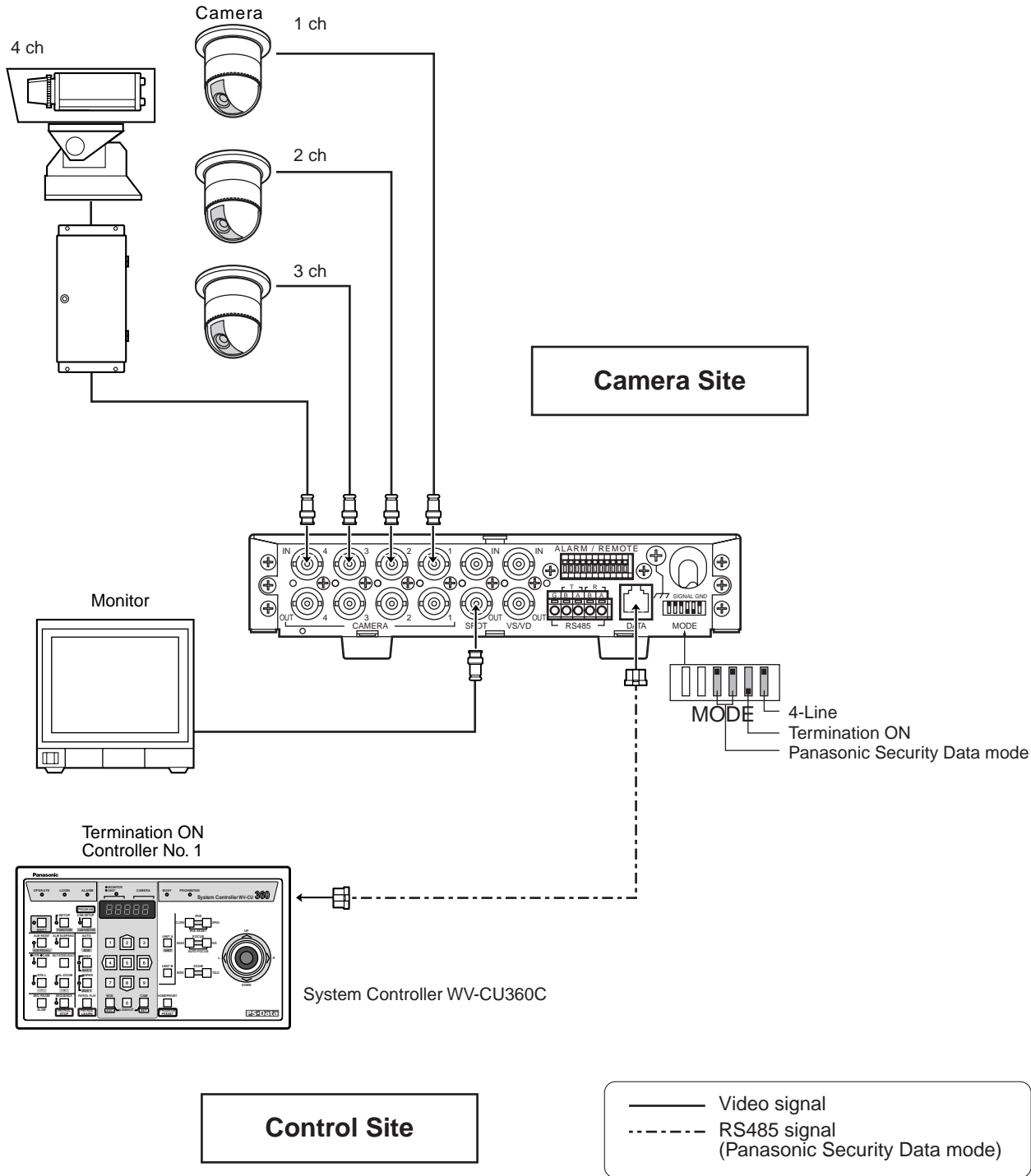


# CONNECTION & SETTING

Shown below are some system connection examples using Data Multiplex unit with peripheral devices in PS·Data (Panasonic Security Data) or the Camera Communication Protocols. Note that all system devices in a system should use the same protocol.

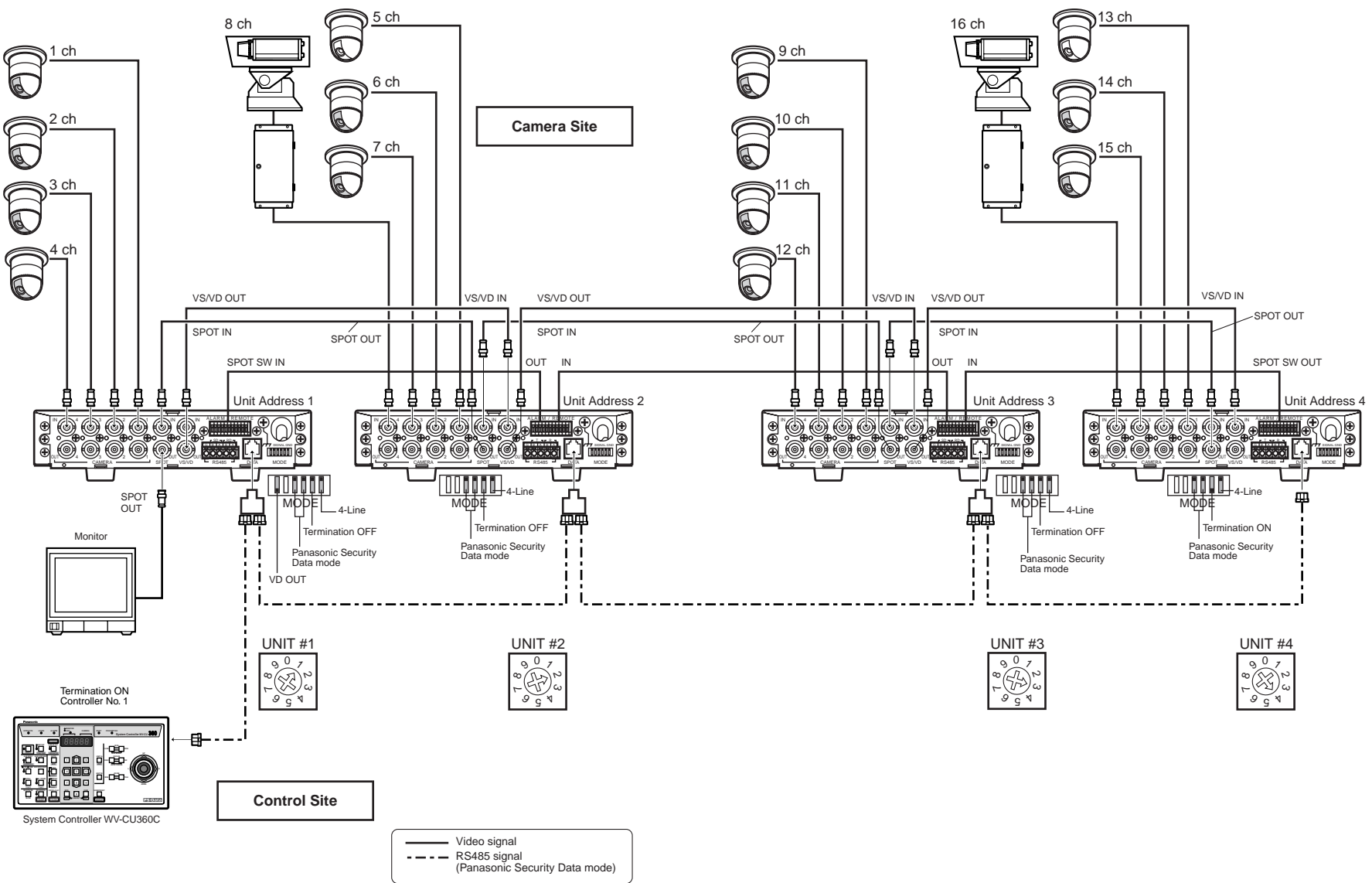
## ● Basic Connection (PS·Data)

Up to four cameras are connected with the unit at a camera site while a System Controller operates camera selection, pan/tilt and lens control at a control site.



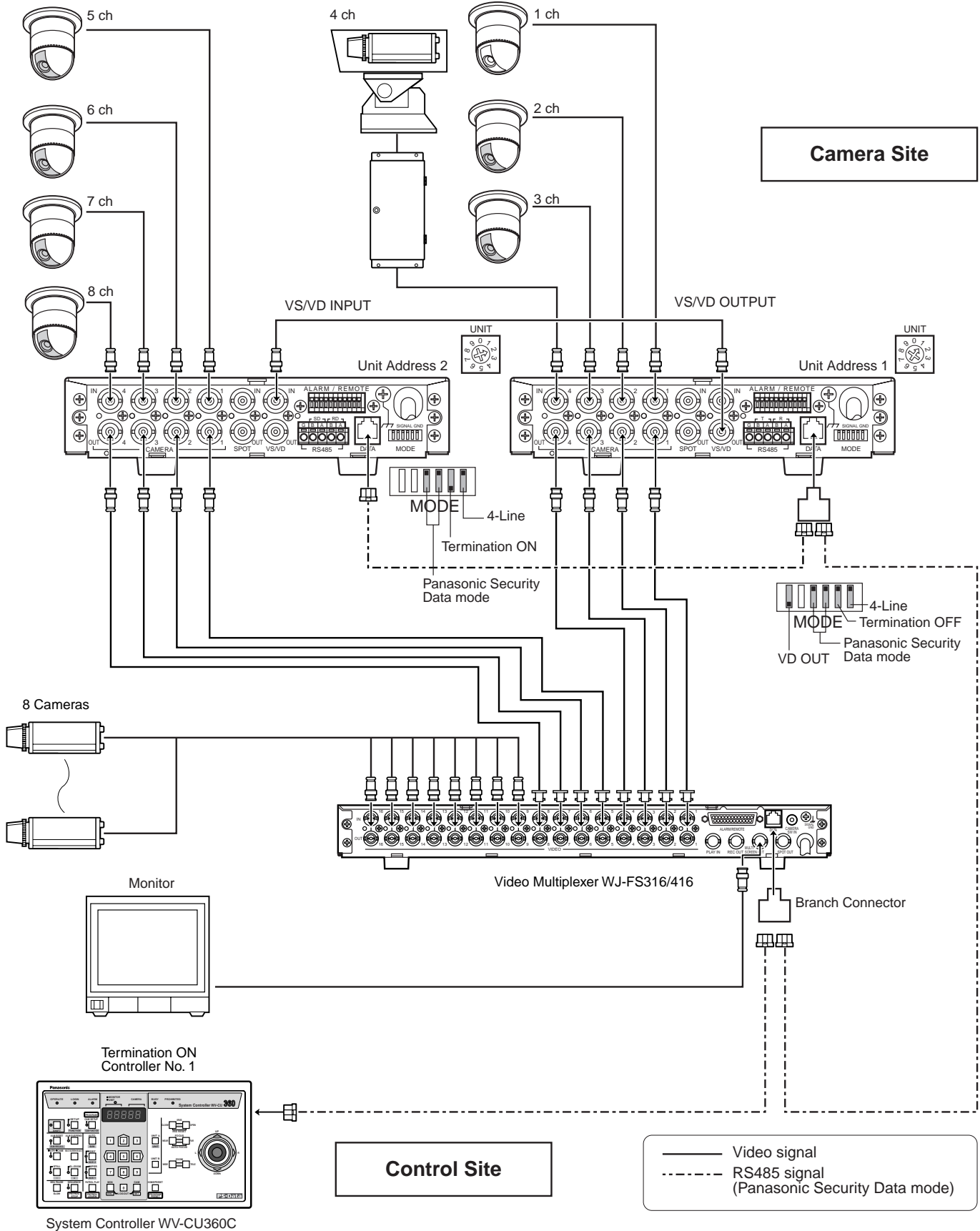
## ● Multi-unit Connection (PS-Data)

A maximum of four units can be connected in a daisy fashion, from SPOT OUT to SPOT IN and so on, and finally from SPOT OUT to the monitor.



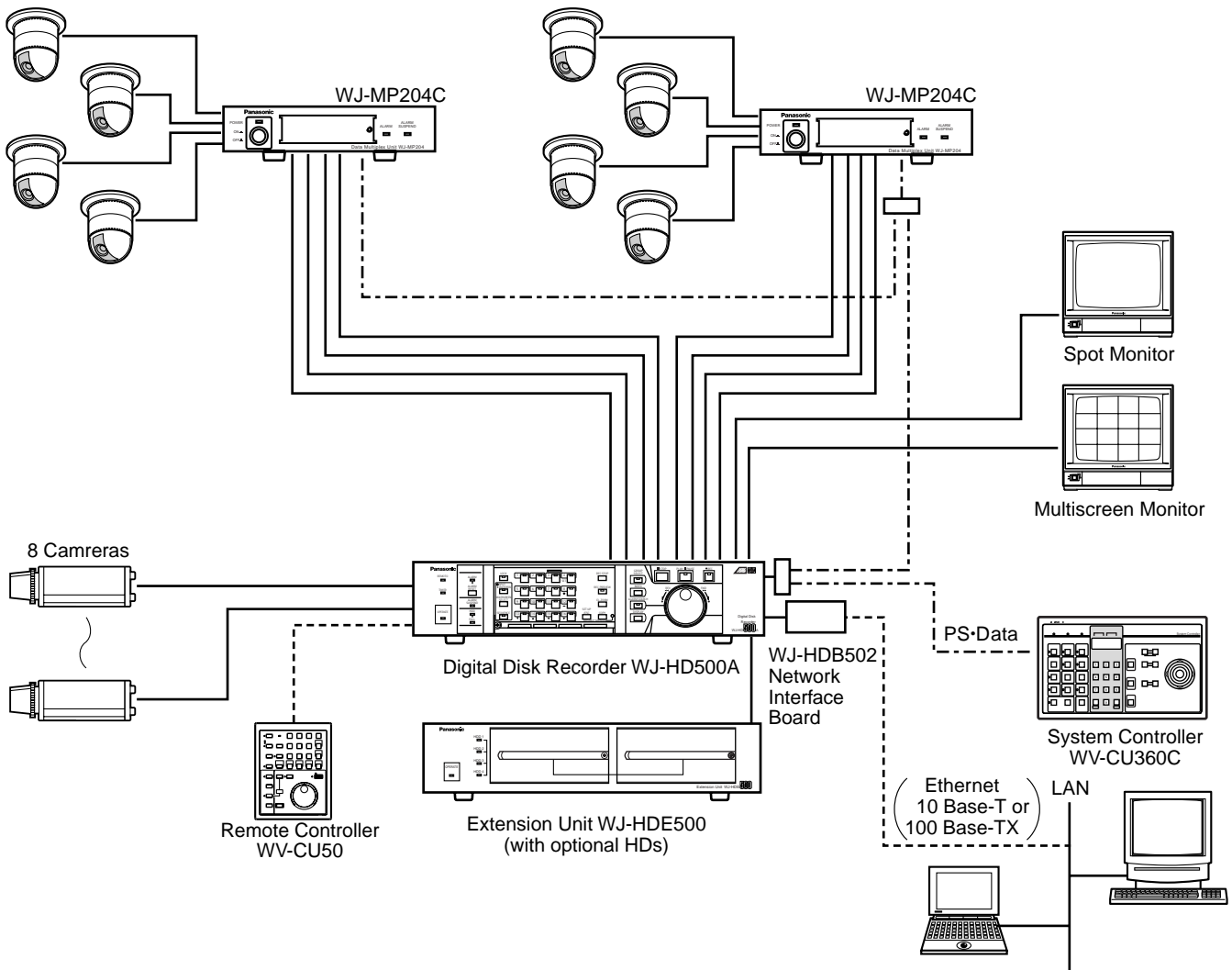
## ● Video Multiplexer Connection (PS-Data)

To connect with ordinary cameras that do not have camera control functions, a Video Multiplexer is installed with the WJ-MP204C units at the camera site.



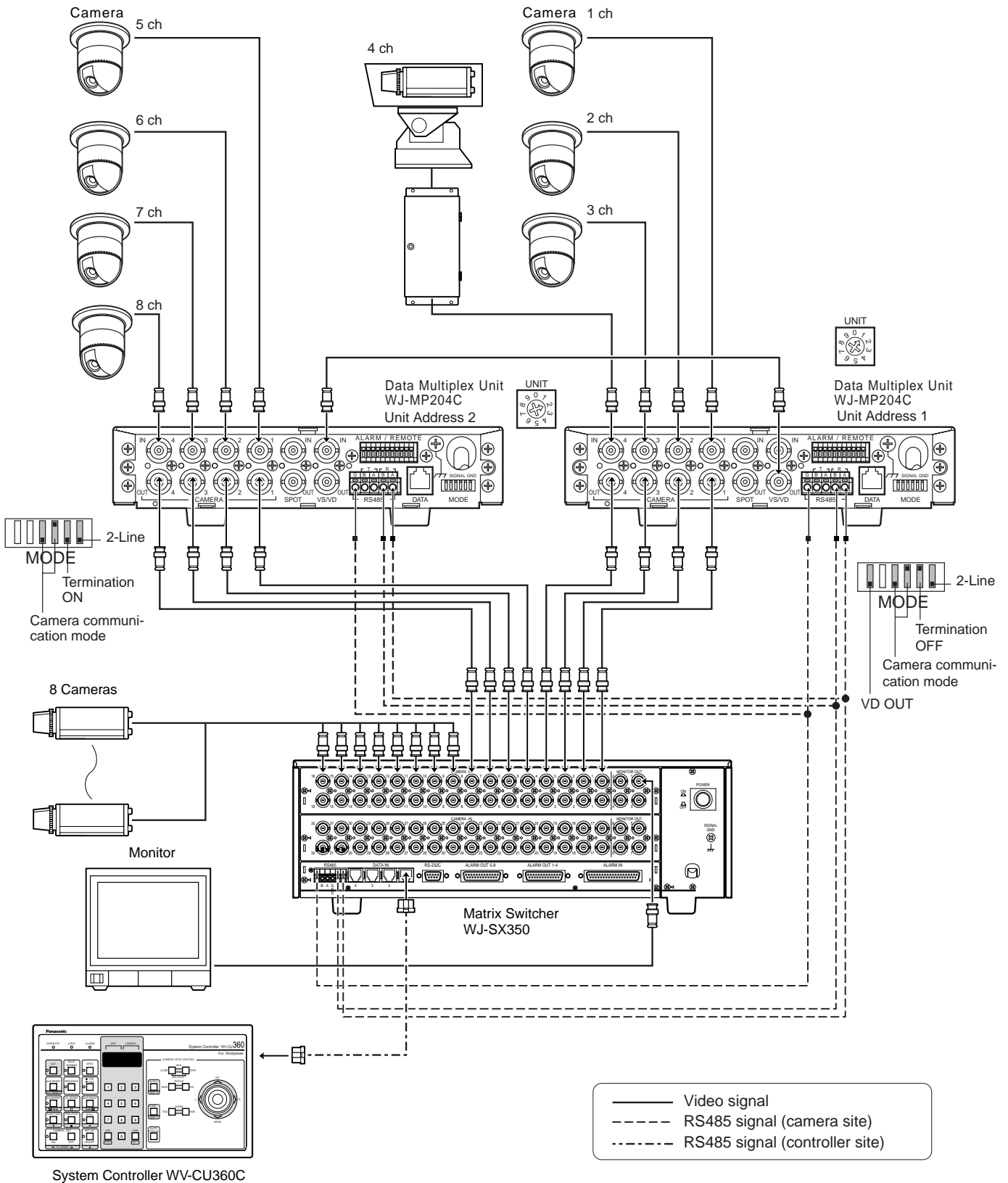
## ● Digital Disk Recorder Connection (PS-Data)

To connect with ordinary cameras that do not have camera control functions, a Digital Disk Recorder is installed with the WJ-MP204C units at the camera site. When an optional Network Interface Board is installed in the recorder, monitoring via the Internet is available. For more information, refer to the manual included with the recorder.



## ● Matrix Switcher Connection (Camera Communication)

The WJ-SX350 and WV-CU360C are typically combined with the WJ-MP204C when using the Camera Communication Protocol. Ordinary cameras are connected directly with the Matrix Switcher, different from cameras having control functions.



### Notes:

- Unstable camera response may occur in a daisy-chain connection.
- For setting up the WV-CU360C and other units, refer to the manual included with the units.

## ● DIP Switch Setting

A 6-bit DIP switch mounted on the rear panel specifies communication mode and sync setup. The default position is marked with an asterisk \* in the table below.

Bit 1 specifies the setup for synchronization. Refer to page 23 VS/VD IN and OUT for details.

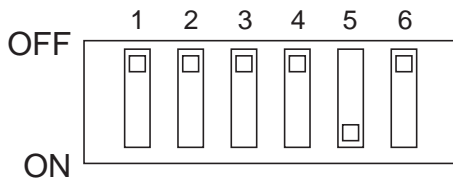
Bit 2 is reserved.

Bit 3 specifies the communication protocol used in the system.

Bit 4 is reserved.

Bit 5 specifies the termination in the communication chain.

Bit 6 specifies RS-485 communication mode conducted via DATA port or RS-485 terminal. Set it to 4-line when PS·Data is used.



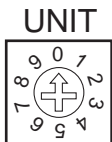
	Function	SW position	
		OFF	ON
Bit 1	Sync setup	THROUGH*	VS/VD
Bit 2	Reserved	Fixed to OFF*	Not used
Bit 3	Protocol	PS·Data*	Camera Communication
Bit 4	Reserved	Fixed to OFF*	Not used
Bit 5	Line termination	Off	On*
Bit 6	RS-485 mode	4-line full duplex*	2-line half duplex

## ● Unit Number Setting

A rotary switch is placed on the front panel. It specifies the WJ-MP204C unit number in a PS·Data protocol system, or camera unit numbers in a Camera Communication Protocol system.

### ● Setting the unit number

- 1 Turn off the power switch of the unit.
- 2 Use a screw driver to rotate the UNIT switch so that the arrow comes to the number you wish.
- 3 Turn on the power switch.



### Notes:

- The unit number can be specified in the setup menu when the UNIT switch is set to "0."
- Position #9 is not allowed to be set, because it is reserved.
- Specify a unique number for each unit when connecting more than one unit in a data communication chain.

● **PS•Data**

Address Assignment

	UNIT Switch Position									
	0	1	2	3	4	5	6	7	8	9
Unit address given to WJ-MP204C	Set the number in Setup menu	1	2	3	4	5	6	7	8	Do not use, reserved

● **Camera Communication Protocol**

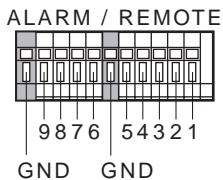
As shown in the table, the UNIT switch determines the camera unit numbers.

Address Assignment

		UNIT Switch Position									
		0	1	2	3	4	5	6	7	8	9
Connector CAMERA IN/OUT	1	Set the number in Setup menu	1	5	9	13	17	21	25	29	Do not use, reserved
	2		2	6	10	14	18	22	26	30	
	3		3	7	11	15	19	23	27	31	
	4		4	8	12	16	20	24	28	32	

● **Alarm/Remote Terminal Setting**

The rear of the unit is provided with an 11-pin terminal, ALARM/REMOTE.



Pins from #1 to #5 perform as follows.

Pin #1 supplies an active output for the duration specified by the ALARM OUTPUT in the setup.

The output type is a low-active open collector with a capacity of 16 V DC, 100 mA maximum.

Pin #2 accepts an alarm reset pulse (input) that makes the unit reset the alarm mode.

A no-voltage make-contact is accepted.

Pin #3 supplies an alarm reset pulse (output) when the unit resets the alarm mode.

The output type is 0 V (active)/5 V for the default setting, or a low-active open collector with controllable capacity of 16 V DC, 100 mA maximum after changing an internal switch (SW 704).

Pin #4 accepts a spot switching pulse (input) from other units in a multi-unit connection.

A no-voltage make-contact is accepted.

Pin #5 supplies a spot switching pulse (output) to other units when the unit selects a new camera channel in a multi-unit connection.

The output type is a low-active open collector with a capacity of 16 V DC, 100 mA maximum.

Pins #6 to #9 are used in many ways depending on the menu settings and the internal connector settings. If internal adjustments are required, please refer to the Service Manual available for this unit.



● **Alarm input**

Available when TERMINAL is set to ALARM and TERM. ALARM is set to ON in the setup, and the internal connector remains in the default position (CN703, ALM IN):

- Pin #6 accepts CH 1 alarm input from the connected sensor.
- Pin #7 accepts CH 2 alarm input from the connected sensor.
- Pin #8 accepts CH 3 alarm input from the connected sensor.
- Pin #9 accepts CH 4 alarm input from the connected sensor.

● **Alarm output**

Available when TERMINAL is set to ALARM and TERM. ALARM is set to ON in the setup, and the internal connector is changed to CN702 (ALM OUT):

- Pin #6 supplies CH 1 alarm output when the connected camera detects video motion (VMD) in the image.
- Pin #7 supplies CH 2 alarm output as above.
- Pin #8 supplies CH 3 alarm output as above.
- Pin #9 supplies CH 4 alarm output as above.

● **Spot switching input**

Available when TERMINAL is set to REMOTE in the setup, and the internal connector remains in the default position (CN703, ALM IN):

- Pin #6 accepts the switching signal that changes the spot output image to CH 1.
- Pin #7 accepts the signal to switch image to CH 2.
- Pin #8 accepts the signal to switch image to CH 3.
- Pin #9 accepts the signal to switch image to CH 4.

● **Spot switching output**

Available when TERMINAL is set to REMOTE in the setup, and the internal connector is changed to CN702 (ALM OUT):

- Pin #6 supplies a tally output while CH 1 is selected.
- Pin #7 supplies a tally output while CH 2 is selected.
- Pin #8 supplies a tally output while CH 3 is selected.
- Pin #9 supplies a tally output while CH 4 is selected.

● **Internal Setting**

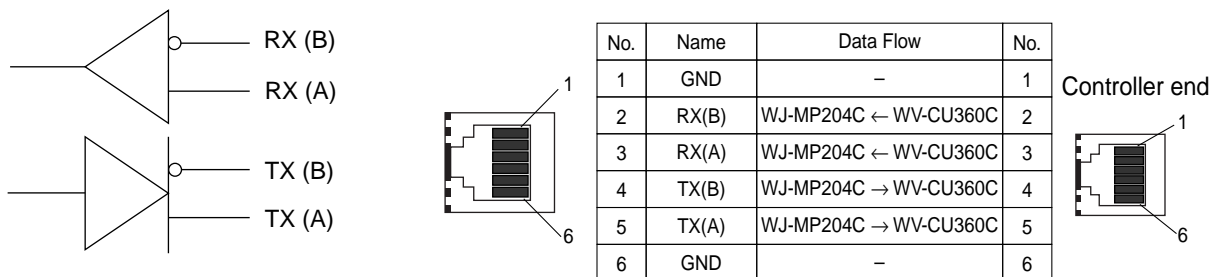
The following functions can be set with internal connectors and switches when you need to change default settings marked with \*. Refer to the Service Manual for internal settings.

- ALARM/REMOTE terminal definition (In\*/Out) ..... CN702, CN703
- Alarm reset signal input (0V-5V\*/O.C) ..... SW704
- Setup menu to CAM OUT (ON\*/OFF) ..... SW702

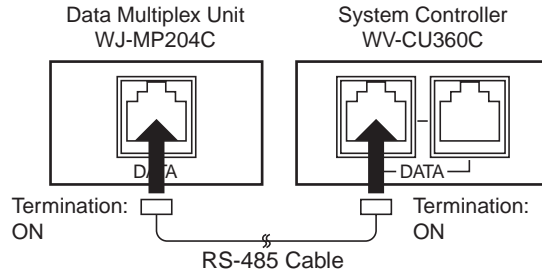
● **RS-485 DATA Port Connection (PS·Data)**

Data ports are connected with RS-485 cables among devices using PS·Data protocol as follows.

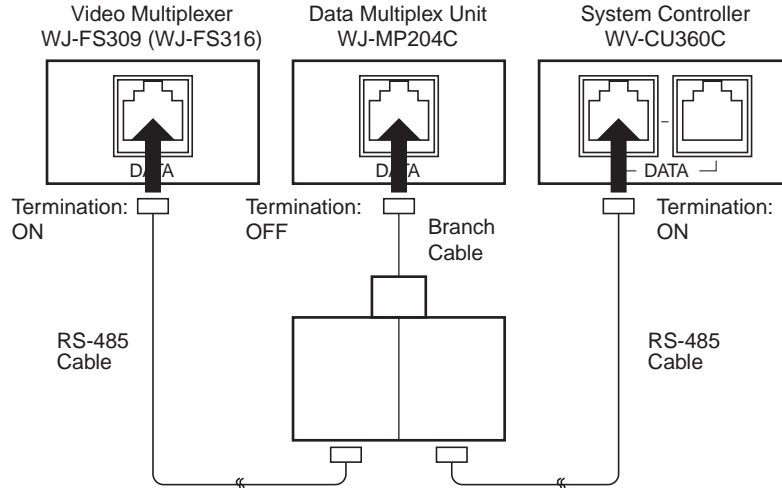
• **Internal Diagram**



• **Basic Connection**



• **Daisy Connection**



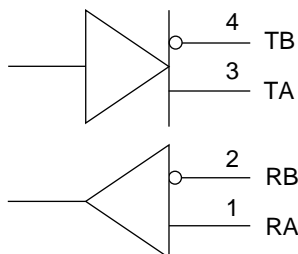
● **RS-485 Terminal Connection (Camera Communication)**

These terminals are connected with system devices using the Camera Communication Protocol in 4-line full duplex or 2-line half duplex mode specified with the DIP switch setting.

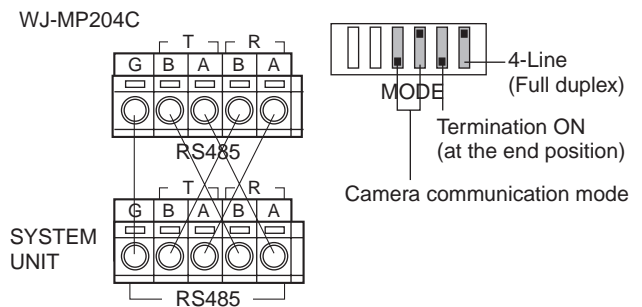
**Notes:**

- Use a data grade, shielded and twisted cable suited to RS-485. The maximum allowable cable length is 4 000 ft (1 200m).
- Termination should be made at both ends of the data line, while being open at intermediate devices.

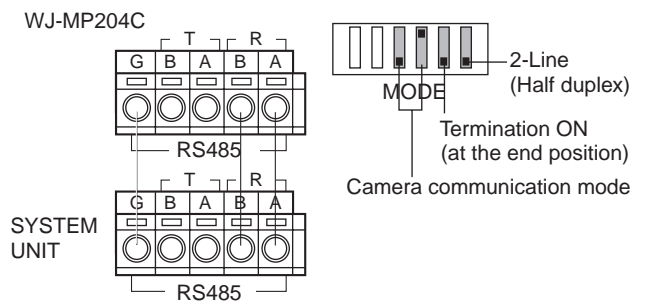
• **Internal Diagram**



• **4-line Full Duplex**



• **2-line Half Duplex**

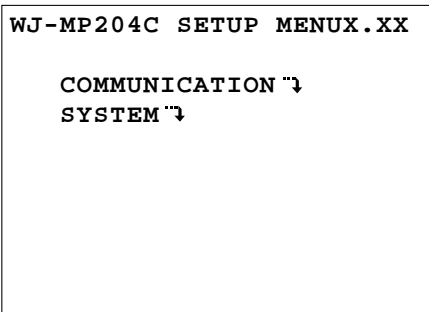
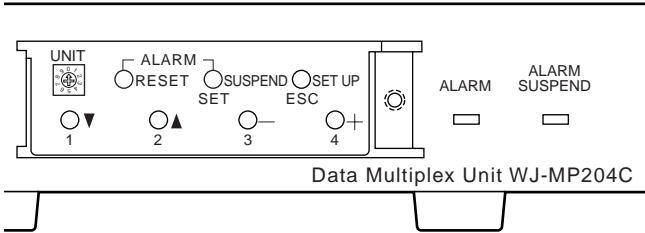


# SETUP PROCEDURES

## ■ Prior to setup

### ● Confirmation

1. Connections and switch settings are complete.
2. Switch on the power of the connected system devices including the monitor that displays the menus.
3. Turn on the power of the WJ-MP204C.
4. When setting at the camera site, remove the front cover from the unit to make access possible to the buttons on the front panel.
5. When setting with use of a WV-CU360C System Controller, confirm that the OPERATE indicator is lit on the Controller, meaning that the unit is ready for operation.



On the window, you can select and enter the parameter using buttons. A sub menu will open when a line having a [return "↵"] mark at its end is selected.

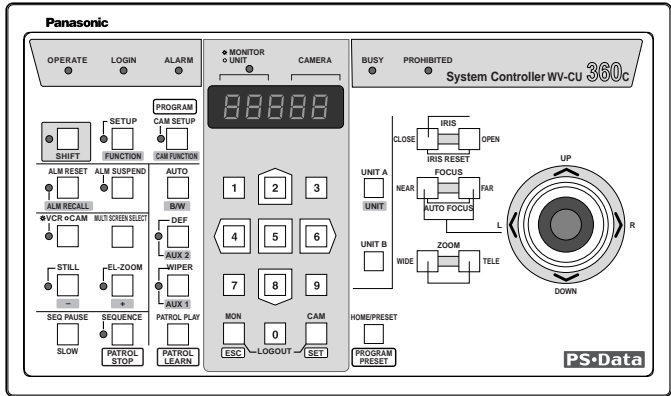
### ● Buttons used in the setup

The following buttons are used in the setup. Operations on the following pages are explained on the assumption that the front panel buttons on the WJ-MP204C are used. Check below which WJ-MP204C front panel buttons are equivalent to the buttons on the WV-CU360C.

#### • Data Multiplex Unit WJ-MP204C

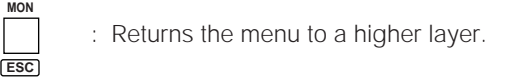
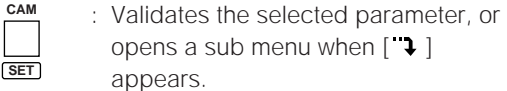
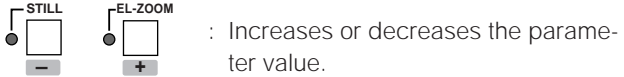
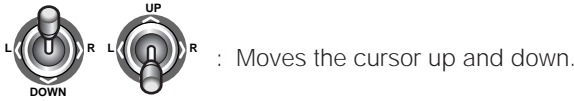
- [▼] button: Moves the cursor downward.
- [▲]: Moves the cursor upward.
- [-]: Decreases the parameter value.
- [+]: Increases the parameter value.
- [SET]: Validates the selected parameter, or opens a sub menu when ["↵"] appears.
- [ESC]: Returns the menu to a higher layer.

#### • System Controller WV-CU360C



### ● To open or close the setup menu

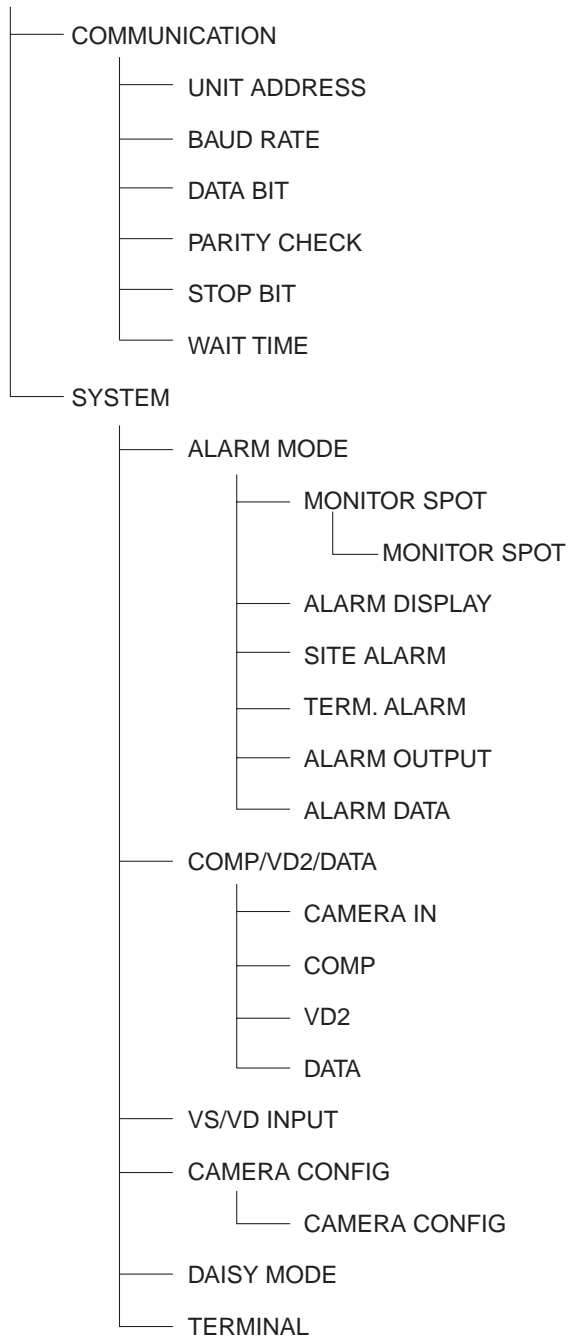
1. Hold down the SETUP/ESC button on the front panel for 2 seconds. Image display will change to the menu window on the monitor, or vice versa.
2. When using a WV-CU360C, hold down the SETUP button on the controller for 2 seconds. The setup menu will open or close.



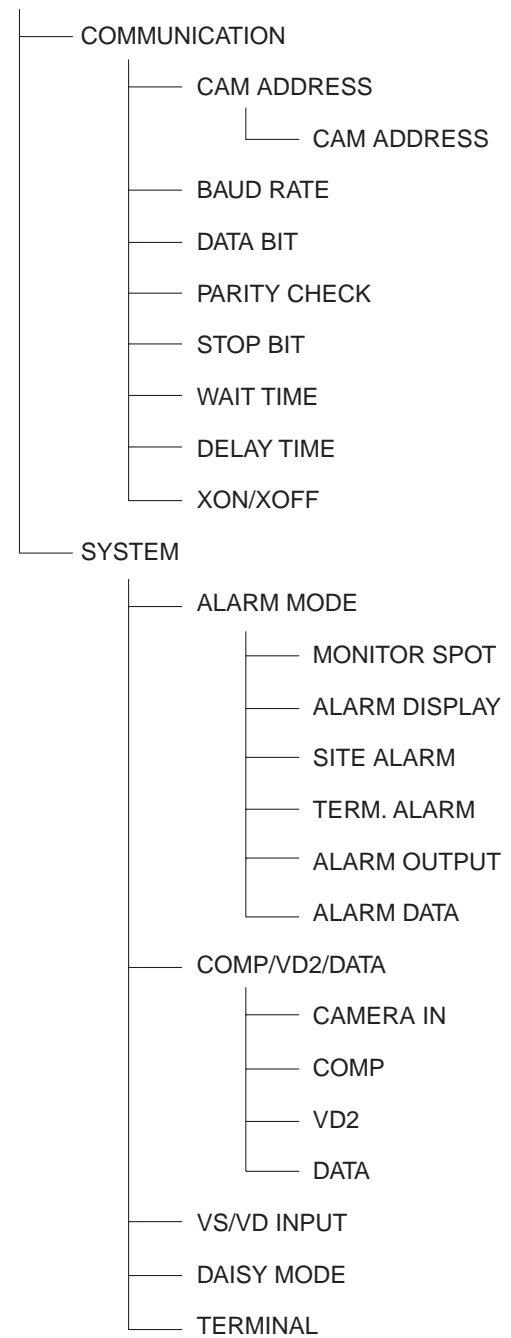
## ● Setup menus

There are two setup menu groups depending on the communication protocol used in the system, menus for PS-Data and for the Camera Communication Protocol. MODE DIP switch # 3 on the rear of the unit is set to the position of the used protocol, and it specifies what menu group is displayed on the monitor. Menu trees are shown below for two protocols.

### ● Setup menus for PS-Data



### ● Setup menus for Camera Communication Protocol

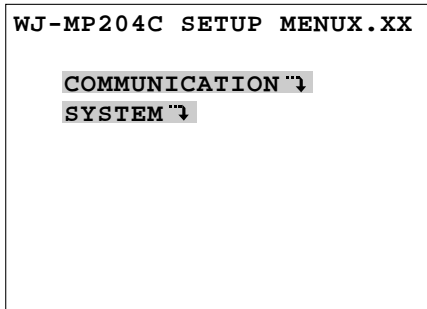


## ■ Setup Menus for PS•Data

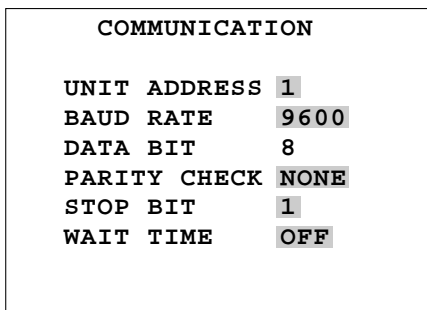
### ● Communication setup (PS•Data)

Communication parameters for a PS•Data protocol system are set in this menu.

1. Hold down the SETUP button for 2 seconds to open the setup menu.



2. Move the cursor to COMMUNICATION "↓, then press SET. The communication setup appears.



#### ● UNIT ADDRESS

1. Move the cursor to UNIT ADDRESS, then specify a number with the [-] or [+] button. The default setting is 1.

**Available numbers:** 1-99

**Note:** This setting takes effect only when the UNIT switch is set to 0 on the front panel.

#### BAUD RATE

1. Move the cursor to BAUD RATE, then specify a rate with the [-] or [+] button. The default setting is 9 600.

**Available rates (bit per second):** 19 200, 9 600, 4 800, 2 400

#### DATA BIT

1. Move the cursor to DATA BIT, then specify a bit length with the [-] or [+] button. The default setting is 8.

**Available bit length:** 7, 8

#### PARITY

1. Move the cursor to PARITY CHECK, then specify a check mode with the [-] or [+] button. The default setting is NONE.

**Available check modes:** NONE, EVEN, ODD

#### STOP BIT

1. Move the cursor to STOP BIT, then specify a bit length with the [-] or [+] button. The default setting is 1.

**Available bit length:** 1, 2

#### WAIT TIME

The unit will retransmit data when there is no response during the specified wait time.

1. Move the cursor to WAIT TIME, then specify a time with the [-] or [+] button. The default setting is OFF for not resending.

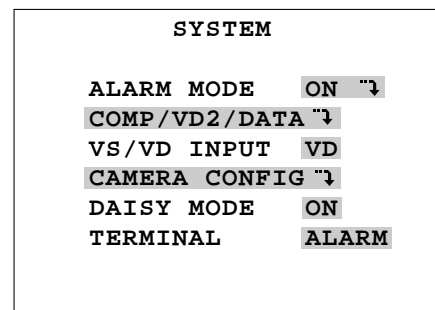
**Available wait times (ms):** OFF, 100, 200, 400, 1 000

2. Press ESC to return to the WJ-MP204C SETUP MENU.

### ● System setup (PS•Data)

Parameters related to alarm, sync, and remote functions are set in this menu for a PS•Data protocol system.

The SYSTEM menu is displayed when you select it in the WJ-MP204C SETUP MENU.




## ● Alarm mode setup



1. Move the cursor to ALARM MODE to select ON or OFF with the [-] or [+] button, then press SET. The default setting is ON.

**ON**  : Opens a submenu shown below.


**OFF**: Alarm mode is disabled.

The ALARM MODE sub menu appears.

ALARM MODE		
MONITOR SPOT	ON	
ALARM DISPLAY	ON	
SITE ALARM	ON	
TERM. ALARM	ON	
ALARM OUTPUT	10S	
ALARM DATA	1S	

- 1-1. Move the cursor to MONITOR SPOT to select ON  or OFF with the [-] or [+] button, then press SET. The default setting is ON .

This setting specifies whether to change the monitor image when an alarm operates.



**ON**  : Image display on the monitor changes to that of the alarm activated channel.


**OFF**: Image display will not change even when an alarm operates.

The MONITOR SPOT sub menu appears.

MONITOR SPOT		
ALARM	CAM NO.	PRE
1	1CH	-
2	2CH	-
3	3CH	-
4	4CH	-

- 1-2. In this setup, the relation is established between four alarm channels and four camera channels, along with the preset positions to which the camera moves when the alarm operates.

1-2-1. Move the cursor to a channel of CAM. NO with the [] or [] button.


1-2-2. Select a CAM. NO with the [-] or [+] button, then press the []. The cursor moves to PRE. The default setting is that the same numbers are assigned to both alarm channel and camera channel.

**1CH**: Camera input 1 will be displayed when the respective alarm operates.

**2CH**: Camera input 2 will be displayed.

**3CH**: Camera input 3 will be displayed.

**4CH**: Camera input 4 will be displayed.

1-2-3. Select a PRE (preset position number) with the [-] or [+] button, then press the [].

1-2-4. Repeat above steps for other alarm channels.

1-2-5. Press the ESC to return to the ALARM MODE menu.

2. Move the cursor to ALARM DISPLAY. Select ON or OFF with the [-] or [+] button. The default setting is ON.

Alarm display "ALARM \*\*\*" on the monitor is enabled or disabled while an alarm is in operation. "\*\*\*" is the alarm channel number.

**ON**: Enabled.

**OFF**: Disabled.

3. Move the cursor to SITE ALARM. Select ON or OFF with the [-] or [+] button. The default setting is ON.

A site alarm (motion detection) generated by a camera is accepted or ignored.

**ON**: Enabled.

**OFF**: Disabled.

4. Move the cursor to TERM. ALARM (terminal alarm). Select ON or OFF with the [-] or [+] button. The default setting is ON.

An alarm input to the rear terminal is accepted or ignored.

**ON**: Enabled.

**OFF**: Disabled.

5. Move the cursor to ALARM OUTPUT. Select an output duration with the [-] or [+] button. The default setting is 10S (seconds).

The output status is supplied to the terminals on the rear. The output is reset along with the activated alarm according to this setup.

**EXT**: The output is reset when a reset input is supplied to the rear panel or the alarm reset button is pressed on the front panel.

**1S-5MIN**: The output is reset when the preset duration elapses.

**OFF**: No output.

6. Move the cursor to ALARM DATA. Select an output time with the [-] or [+] button. The default setting is 1S (second).

The unit notifies the connected System Controller (must be set to Unit #1) of the alarm activation once every period preset by this setup.

**OFF**: No notification.

**0S**: Notification is made immediately.

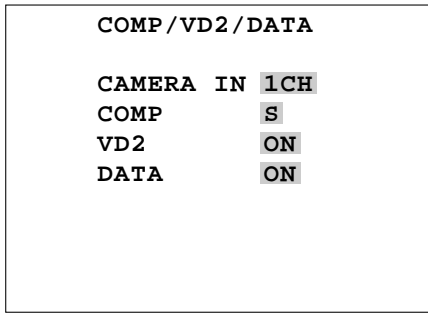
**1S**: Notification is made once every 1 second.

**5S**: Notification is made once every 5 second.

7. Press the ESC to go back to the SYSTEM menu.

### ● Cable compensation/VD2 sync/data setup

The COMP/VD2/DATA menu is displayed when you select it in the SYSTEM menu.



In this menu, each camera is set up for cable compensation, VD2 sync and data communication ON/OFF.

1. Move the cursor to CAMERA IN. Select a camera input channel with the [-] or [+] button. The default setting is 1CH.

The camera channel to be set up is selected and the image of the channel is displayed in the background of the setup menu.

**Available channels:** 1CH, 2CH, 3CH, 4CH

2. Move the cursor to COMP. Select a parameter with the [-] or [+] button. The default setting is S. The longer a coaxial cable is extended, the more the video signals attenuate. This setting is to compensate signal attenuation in 3 degrees. Select the best parameter that optimizes the displayed image on the monitor while observing it.

**S:** Short distance of less than 1 300 ft (400 m)

**M:** Medium distance between 1 300 ft (400 m) and 2 300 ft (700 m)

**L:** Long distance of less than 3 000 ft (900 m)

**Note:** Distance is based on the assumption that RG-59U, BELDEN 9259 or equivalent cable is used.

3. Move the cursor to VD2. Select a parameter with the [-] or [+] button. The default setting is ON.

The VD2 sync signal is multiplexed onto the coaxial cable and sent to the camera for synchronization. Refer to the table.

**ON:** VD2 synchronizes with the input to the VS/VD connector when supplied, or with the internal sync when VS/VD has no input.

**THRU:** VD2 is supplied when a camera out connector accepts external VD2 from the connected device. No VD2 is supplied when no camera out connector accepts external VD2.

**OFF:** No VD2 is supplied to the camera.

4. Move the cursor to DATA. Select ON or OFF with the [-] or [+] button. The default setting is ON.

Data communication with the selected camera channel is enabled or disabled.

**ON:** Enabled.

**OFF:** Disabled.

5. Press the ESC to return to the SYSTEM menu.

### ● VS/VD input setup

This setting specifies the input to the VS/VD INPUT terminal on the rear of the unit.

1. Move the cursor to VS/VD INPUT. Select VS or VD with the [-] or [+] button. The default setting is VD.

**VD:** Set this when a "vertical drive" is input (4 V[p-p]).

**VS:** Set this when "video and sync" are input (1 V[p-p]).

VS/VD IN signal	Input setup required	VS/VD OUT signal	
		MODE #1 to VD	MODE #1 to THRU
C.Sync	VS	VD: sync to input	C.Sync: looped through
VBS	VS	VD: sync to input	VBS: looped through
VD	VD	VD: sync to input	VD: looped through
No input	VD	VD: internal	No output

Beside VS/VD OUT signal, the unit supplies VD2 sync to the cameras as follows.

VS/VD Input	External VD2 to CAM OUT	VD2 supplied to cameras		
		VD2 set to ON	VD2 set to THRU	VD2 set to OFF
Yes	Yes	Sync to VS/VD	Sync to Ext VD2	Not supplied
Yes	No	Sync to VS/VD	Not supplied	Not supplied
No	Yes	Sync to internal	Sync to Ext VD2	Not supplied
No	No	Sync to internal	Not supplied	Not supplied

## ● Camera Configuration

The CAMERA CONFIG menu is displayed when you select it in the SYSTEM menu.

CAMERA CONFIG	
CAMERA IN	CAM NO.
1CH	1CH
2CH	2CH
3CH	3CH
4CH	4CH

When more than one unit are used, each camera input is given a camera number in this menu.

1. Move the cursor to CAM NO. Select a number with the [-] or [+] button. The default setting is that both CAMERA IN and CAM NO. are given the same number.

**Available numbers:** 1-128 and - (not connected)

2. Repeat the above step until all CAMERA IN are assigned numbers.
3. Press ESC to return to the SYSTEM menu.

SYSTEM	
ALARM MODE	ON ↵
COMP/VD2/DATA	↵
VS/VD INPUT	VD
CAMERA CONFIG	↵
DAISY MODE	ON
TERMINAL	ALARM

## ● Daisy Mode

This setup lets the unit know whether the data communication line is connected in a daisy fashion.

1. Move the cursor to DAISY. Select ON or OFF with the [-] or [+] button. The default setting is ON.

**ON:** Set this when daisy connection is used.

**OFF:** Set this for other than daisy chain.

## ● Terminal Mode

This setup specifies the function of ALARM/REMOTE terminal on the rear of the unit. Input/output is specified with internal connection. Refer to page 16 for details.

1. Move the cursor to TERMINAL. Select ALARM or REMOTE with the [-] or [+] button, then press SET. The default setting is ALARM.

**ALARM:** Terminals are used as alarm inputs or outputs.

**REMOTE:** Terminals are used as remote inputs or outputs.

## ■ Setup Menus for Camera Communication Protocol

### ● Communication setup (Camera Communication)

Communication parameters for a Camera Communication Protocol system are set in this menu.

1. Hold down the SET button for 2 seconds to open the setup menu.

WJ-MP204C SETUP MENUXX	
COMMUNICATION	↵
SYSTEM	↵

2. Move the cursor to COMMUNICATION ↵, then press SET. The communication setup appears.

COMMUNICATION	
CAM ADDRESS	↵
BAUD RATE	19200
DATA BIT	8
PARITY CHECK	NONE
STOP BIT	1
WAIT TIME	OFF
DELAY TIME	OFF
XON/XOFF	NOT USE



### ● CAM ADDRESS

Camera addresses are assigned to each of the unit's camera input.

1. Move the cursor to CAM ADDRESS **↵**, then press SET. The CAM ADDRESS window appears.

CAM ADDRESS	
CAMERA IN	ADDRESS
1CH	1
2CH	2
3CH	3
4CH	4

2. Specify a number with the [-] or [+] button. The default setting is 1.

**Available numbers:** 1-99, - (no assignment)

**Note:** This setting takes effect only when the UNIT switch is set to 0 on the front panel.

3. Repeat the above step until all camera inputs are given addresses.
4. Press ESC to return to the communication setup.

### ● BAUD RATE

1. Move the cursor to BAUD RATE, then specify a rate with the [-] or [+] button. The default setting is 19 200.

**Available rates (bit per second):** 19 200, 9 600, 4 800, 2 400

### ● DATA BIT

1. Move the cursor to DATA BIT, then specify a bit length with the [-] or [+] button. The default setting is 8.

**Available bit length:** 7, 8

### ● PARITY

1. Move the cursor to PARITY, then specify a check mode with the [-] or [+] button. The default setting is NONE.

**Available check modes:** NONE, EVEN, ODD

### ● STOP BIT

1. Move the cursor to STOP BIT, then specify a bit length with the [-] or [+] button. The default setting is 1.

**Available bit length:** 1, 2

### ● WAIT TIME

The unit will retransmit data when there is no response during the specified wait time.

1. Move the cursor to WAIT TIME, then specify a time with the [-] or [+] button. The default setting is OFF.

**Available wait times (ms):** OFF, 100, 200, 400, 1 000

### ● DELAY TIME

This setting specifies a delay time that the unit suspends to return the response to the received command.

1. Move the cursor to DELAY TIME, then specify a time with the [-] or [+] button. The default setting is OFF.

**Available delay times (ms):** OFF, 10, 20, 40, 100

### ● X-ON/X-OFF

1. Move the cursor to XON/XOFF, then specify a mode with [-] or [+] button. The default setting is NOT USE.

**USE:** Data flow control is enabled during communication.

**NOT USE:** Disabled.

2. Press ESC to return to the WJ-MP204C SETUP MENU.

## ● System setup (Camera Communication Protocol)

Parameters related to alarm, sync and remote functions are set in this menu for a Camera Communication Protocol system.

The SYSTEM menu is displayed when you select it in the WJ-MP204C SETUP MENU.

SYSTEM	
ALARM MODE	ON <b>↵</b>
COMP/VD2/DATA	<b>↵</b>
VS/VD INPUT	VD
DAISY MODE	ON
TERMINAL	ALARM

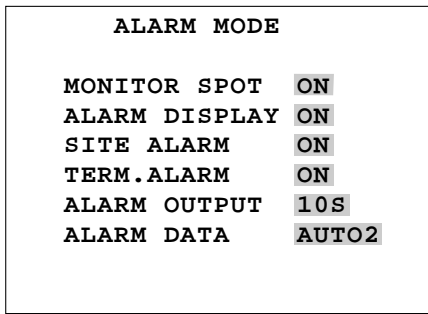
### ● Alarm mode setup

In the SYSTEM menu, move the cursor to ALARM MODE. Select ON **↵** or OFF with the [-] or [+] button, then press SET. The default setting is ON **↵**.

**ON **↵**:** Opens a submenu shown below.

**OFF:** Alarm mode is disabled.

The ALARM MODE sub menu appears.



1. Move the cursor to MONITOR SPOT to select ON or OFF with the [-] or [+] button. The default setting is ON. This setting specifies whether to change the monitoring image when an alarm operates.

**ON:** The image displayed on the monitor screen changes to that of the alarm activated channel.

**OFF:** The image displayed will not change even when an alarm operates.

2. Move the cursor to ALARM DISPLAY. Select ON or OFF with the [-] or [+] button. The default setting is ON. Alarm display "ALARM \*\*\*" on the monitor is enabled or disabled while an alarm is in operation. "\*\*\*" is the alarm channel number.

**ON:** Enabled.

**OFF:** Disabled.

3. Move the cursor to SITE ALARM. Select ON or OFF with the [-] or [+] button. The default setting is ON. A site alarm (motion detection) generated by a camera is accepted or ignored.

**ON:** Enabled.

**OFF:** Disabled.

4. Move the cursor to TERM. ALARM (terminal alarm). Select ON or OFF with the [-] or [+] button. The default setting is ON. An alarm input to the rear terminal is accepted or ignored.

**ON:** Enabled.

**OFF:** Disabled.

5. Move the cursor to ALARM OUTPUT. Select an output duration with the [-] or [+] button. The default setting is 10S (seconds).

The output status is supplied to the terminals on the rear. The output is reset along with the activated alarm according to this setup.

**EXT:** The output is reset when a reset input is supplied to the rear panel or the alarm reset button is pressed on the front panel.

**1S-5MIN:** The output is reset when the preset duration elapses.

**OFF:** No output.

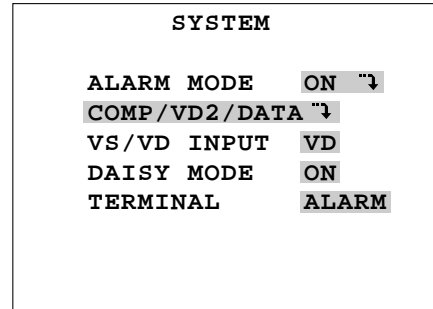
6. Move the cursor to ALARM DATA. Select an output time with the [-] or [+] button. The default setting is AUTO2. The unit notifies the connected System Controller (must be set to Unit #1) of the alarm activation once every period preset by this setup.

**POLLING:** The unit issues a notification only when the controller inquires.

**AUTO 1:** Notification is made immediately.

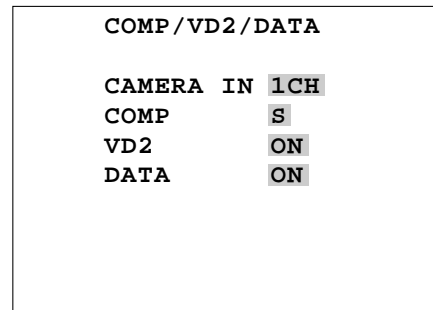
**AUTO 2:** Notification is made once every 5 seconds.

7. Press ESC to return to the SYSTEM menu.



### ● Cable compensation/VD2 sync/data setup

The COMP/VD2/DATA menu is displayed when you select it in the SYSTEM menu.



In this menu, each camera is set up for cable compensation, VD2 sync and data communication ON/OFF.

1. Move the cursor to CAMERA IN. Select a camera input channel with the [-] or [+] button. The default setting is 1CH.

The camera channel to be set up is selected and the image of the channel is displayed in the background of the setup menu.

**Available channels:** 1CH, 2CH, 3CH, 4CH

2. Move the cursor to COMP. Select a parameter with the [-] or [+] button. The default setting is S.

The longer a coaxial cable is extended, the more the video signals attenuate. This setting is to compensate signal attenuation in 3 degrees. Select the best parameter that optimizes the displayed image on the monitor while observing it.

**S:** Short distance of less than 1 300 ft (400 m)

**M:** Medium distance between 1 300 ft (400 m) and 2 300 ft (700 m)

**L:** Long distance of less than 3 000 ft (900 m)

**Note:** Distance is based on the assumption that RG-59U, BELDEN 9259 or equivalent cable is used.

3. Move the cursor to VD2. Select a parameter with the [-] or [+] button. The default setting is ON.

The VD2 sync signal is multiplexed onto the coaxial cable and sent to the camera for synchronization. Refer to the table on page 23 for detailed in-out conditions.

**ON:** VD2 synchronizes with the input to the VS/VD connector when supplied, or with the internal sync when VS/VD has no input.

**THRU:** VD2 is supplied when a camera out connector accepts external VD2 from the connected device. No VD2 is supplied when no camera out connector accepts external VD2.

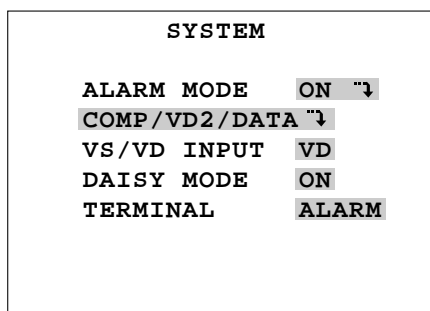
**OFF:** No VD2 is supplied to the camera.

4. Move the cursor to DATA. Select ON or OFF with the [-] or [+] button. The default setting is ON.

Data communication with the selected camera channel is enabled or disabled.

**ON:** Enabled.

**OFF:** Disabled.



5. Press ESC to return to the SYSTEM menu.

### ● VS/VD input setup

This setting specifies the input to the VS/VD INPUT terminal on the rear of the unit.

1. Move the cursor to VS/VD INPUT. Select VS or VD with the [-] or [+] button. The default setting is VD.

**VD:** Set this when a "vertical drive" is input (4 V[p-p]).

**VS:** Set this when "video and sync" are input (1 V[p-p]).

### ● Daisy Mode

This setup lets the unit know whether the data communication line is connected in a daisy fashion.

1. Move the cursor to DAISY. Select ON or OFF with the [-] or [+] button. The default setting is ON.

**ON:** Set this when daisy connection is used.

**OFF:** Set this for other than daisy chain.

### ● Terminal Mode

This setup specifies the function of ALARM/REMOTE terminal on the rear of the unit. Input/output is specified with internal connection. Refer to page 16 for details.

1. Move the cursor to TERMINAL. Select ALARM or REMOTE with the [-] or [+] button. The default setting is ALARM.

**ALARM:** Terminals are used as alarm input or output.

**REMOTE:** Terminals are used as remote input or output.

# OPERATION

Camera selection and alarm operations are made on the front panel of the unit or WV-CU360C System Controller.

## ■ Camera Selection

### ● Front Panel Operation

- You need to remove the front cover loosening the screw with a screw driver before starting operation.
- Press a camera number button.

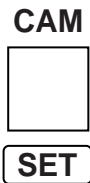


The selected camera picture is displayed on the monitor connected to the SPOT OUT terminal on the rear of the unit.



### ● WV-CU360C Operation

- Enter a camera number with numeric buttons, then press the CAM/SET button.



The selected camera picture is displayed on the monitor connected to the SPOT OUT terminal on the rear of the unit.

## ■ Alarm Operation

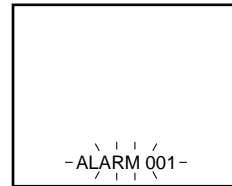
### ● Alarm Input

An alarm arises in the following cases.

- **Terminal alarm**  
A sensor input is supplied to the unit telling that a change has been detected.
- **Site alarm**  
A camera detects motion change in video (VMD, Video Motion Detection).

### ● Processing

- The spot image changes to that of the alarm activated camera when ALARM MODE is set to ON in the setup.
- The camera moves to the preset position.
- "ALARM \*\*\*" blinks overlaid on the spot image when ALARM DISPLAY is set to ON.



- The alarm indicator blinks.

### ● Alarm Output

The alarm activation is informed to the connected peripherals via the DATA terminal or ALARM/REMOTE terminal when the terminal is set to the alarm output mode. Output duration is specified with the ALARM OUTPUT setup.

- Digital Disk Recorder enters a specific recording mode.
- Video Multiplexer changes pick-up frame rate and frame order.
- System Controller makes the alarm indicator blink on the controller.

## ● Alarm Reset

Alarms are reset according to the reset mode (EXT, auto (1S-5M) or OFF) selected in the ALARM OUTPUT setup.

- **Manual resetting**

Pressing the RESET button on the unit resets the activated alarm.

Pressing the ALARM RESET button on the controller resets the activated alarm.

- **External resetting**

Input to the ALARM/REMOTE terminal resets the activated alarm when the terminal is set to the alarm input mode.

- **Auto resetting**

Elapsing of the preset time resets the activated alarm, except for the unit's alarm indicator which remains on steady light.

## ● Alarm Suspension

This function is used in the setup operation or whenever you do not wish to accept alarm inputs.

Press the ALARM SUSPEND button on the front panel, or ALM SUSPEND on the controller. Alarm inputs will be ignored while the indicator is lit.

Press the button again to release the alarm suspension. Alarm inputs will be accepted after the indicator turns off.

Function	WJ-MP204C	WV-CU360C
Camera Selection		Enter a camera number with numeric buttons. 
Alarm Reset		
Alarm Suspend		
Alarm Suspend Reset		

# SPECIFICATIONS

Power Source	: 120 V AC 60 Hz
Power Consumption	: 7 W
Camera Input	: 1 V[p-p]/75 $\Omega$ x 4
Spot Input	: 1 V[p-p]/75 $\Omega$ x 1
VS/VD Input	: VS (1 V[p-p]/75 $\Omega$ ), or VD (4 V[p-p]/75 $\Omega$ ) x1
Camera Output	: 1 V[p-p]/75 $\Omega$ (Looped through) x4
Spot Output	: 1 V[p-p]/75 $\Omega$ x1 (Changeable Output from camera input or Spot input)
VS/VD Output	: VS/VD IN (Looped through), or internal VD (4 V[p-p]/75 $\Omega$ ) x 1
Data Communication Standard	: Based on RS-485 (4-Line/2-Line*1) Modular Jack x 1, or 5-pin terminal x 1*2
Alarm Input	: 4 (Alarm Output/Remote Input/Remote Output selectable)*3
Alarm Output	: 1 (O.C. [16 V, 100 mA])
Alarm Recover Input	: 1 (No Voltage Contact)
Alarm Reset Output	: 1 (0/5 V $\leftrightarrow$ O.C. [16 V, 100 mA])*4
Spot Switching Input	: 1 (No Voltage Contact)
Spot Switching Output	: 1 (O.C. [16 V, 100 mA])
Unit address	: 1 - 8 (Set with UNIT switch) 9-99 (Set in Setup menu)
Operating for System	: Selection Camera Alarm (Data/Display/Reset/Suspend) Setup Camera, Lens, Housing, PAN/TILT, External device control
Ambient Operating Temperature	: -10°C - +50°C (14°F - 122°F )
Ambient Operating Humidity	: Less than 90 %
Dimensions	: 210 (W) x 44 (H) x 350 (D) mm [8-9/16" (W) x 1-3/4" (H) x 13 3/4" (D)]
Weight	: 2.6 kg (5.72 lbs.)

\*1 Selectable using the mode switch

\*2 Valid in communication mode

\*3 Selectable using the setup menu and internal connector

\*4 Selectable using an internal switch

Dimensions and weight are approximate.  
Specifications are subject to change without notice.

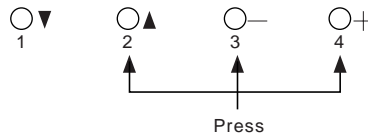
# STANDARD ACCESSORIES

Switch Protector ..... 1 pc.

# ALL RESET

The Data Multiplex Unit WJ-MP204C can be reset to the default settings as follows:

1. Press the power switch to set it to the OFF position.
2. Press the power switch down to the ON position while pressing the camera selection buttons 2, 3, and 4.
3. Continue to press the camera selection button approximately 3 seconds after pressing the power switch down to the ON position.
4. When all indicators light up, resetting is completed.



**Panasonic Security and Digital Imaging Company**  
**A Division of Matsushita Electric Corporation of America**

**Executive Office:** One Panasonic Way 3E-7, Secaucus, New Jersey 07094

**Regional Offices:**

Northeast: One Panasonic Way, Secaucus, NJ 07094 (201) 348-7303

Southern: 1225 Northbrook Parkway, Suite 1-160, Suwanee, GA 30024 (770) 338-6838

Midwest: 1707 North Randall Road, Elgin, IL 60123 (847) 468-5211

Western: 6550 Katella Ave., Cypress, CA 90630 (714) 373-7840

**Panasonic Canada Inc.**

5770 Ambler Drive, Mississauga,  
Ontario, L4W 2T3 Canada (905)624-5010

**Panasonic Sales Company**

**Division of Matsushita Electric of Puerto Rico Inc.**

Ave. 65 de Infanteria. Km. 9.5  
San Gabriel Industrial Park, Carolina,  
Puerto Rico 00985 (809)750-4300