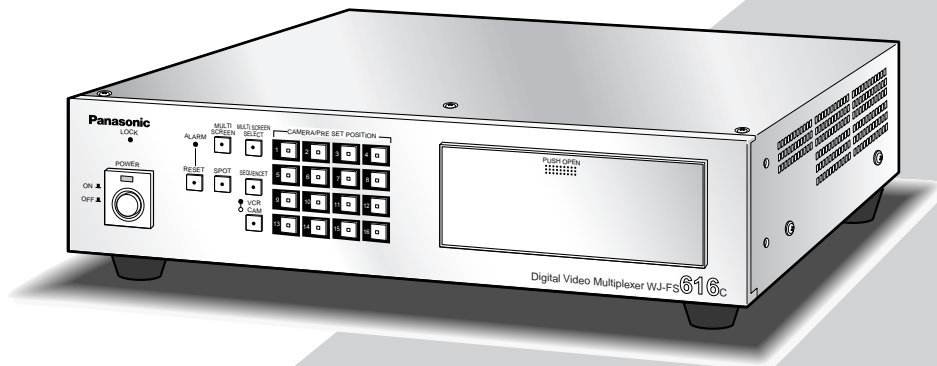


Panasonic

Video Multiplexer Operating Instructions

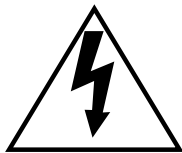
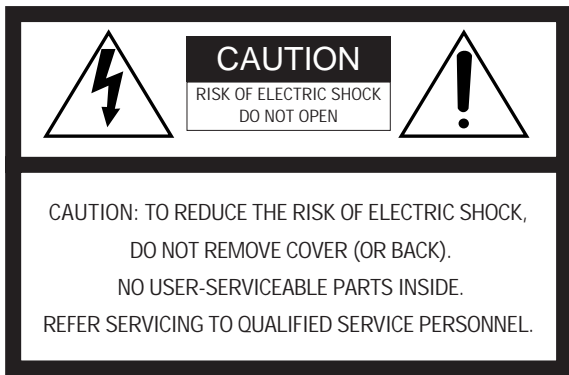
Model No. **WJ-FS616C**



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

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. WJ-FS616C

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.

CONTENTS

IMPORTANT SAFETY INSTRUCTIONS	3	■ Sequence Timing (Multiscreen Monitor)	40
PREFACE	5	■ Sequence Timing (Spot Monitor)	40
FEATURES	5	■ Lock Mode	41
PRECAUTIONS	6	■ Cable Compensation/VD2/Data	41
MAJOR OPERATING CONTROLS AND THEIR FUNCTIONS	7	■ Alarm Terminal Setup	41
■ Front View	7	■ Playback Mode	42
■ Rear View	10	■ Data Mode	42
INSTALLATION	12	■ RS-232C Mode	42
■ Installing the WV-PB6164 Data Multiplex Boards	12	■ Communication Port Setup	42
■ Tally Output Setting	13	■ VCR Input Select	43
■ DIP Switch Setting	14	■ Daisy Mode	43
■ Mounting into the Rack	15	■ Unit Address	43
CONNECTIONS	16	■ Password	44
■ Connection with the Camera Sites	17	OTHER SETUP MENUS	45
■ Connections for RS-485 type camera	18	■ Camera Download	45
■ Connection with the Monitors	19	■ Camera Upload	45
■ Connection with the PC	19	■ All Reset	46
■ Connection with Alarm Sensors	20	OPERATING PROCEDURES	47
■ Connection with External Remote Control Switches ..	20	CONTROLLING THE VIDEO INPUT AND MONITORS	48
■ Connection with the Time Lapse VCR	21	Controlling the Spot Monitor	48
MONITORS AND DISPLAYS	22	■ Selecting the Spot Monitor	48
■ Spot and Multiscreen Monitor	22	■ Single Spot (Live)	48
SETUP PROCEDURES	23	■ Single Sequence (Live)	48
SETUP MENU	24	Controlling the Multiscreen Monitor	49
■ Displaying the SETUP MENU	24	■ Selecting the Multiscreen Monitor	49
■ Programming Setup Menu	25	■ Controlling the Camera Images	49
ALARM SETUP	26	■ Controlling the Playback Images	51
■ Alarm Recall	26	■ Displaying the Camera and Playback Images	54
■ Alarm Schedule	26	CAMERA CONTROL FUNCTION	56
■ Camera Site Alarm	27	■ Camera Selection	56
■ Video Loss Alarm	27	■ Controlling Camera Site Accessories	56
■ Camera Switching Pulse Loss Alarm	27	ALARM CONTROL FUNCTION	59
■ Alarm Display on the Monitors	27	■ Alarm Input	59
■ Alarm Output Duration	27	■ Alarm Operation	59
■ Alarm Buzzer Duration	27	■ Alarm Reset	61
■ Alarm Mode on the Multiscreen Monitor	28	■ Example of Using Multiscreen 2 Monitor	61
■ Alarm Mode on the Spot Monitor	28	■ Alarm Suspension	62
■ Dynamic Recording	28	OTHER FUNCTION	63
■ Alarm Recording Mode	28	■ Recording on the Time Lapse VCR	63
MULTISCREEN OUTPUT SETUP	29	■ Camera Switching Pulse Loss Display	63
■ Camera Title Display	29	OPERATING PROCEDURES (with WV-CU550C)	65
■ Clock Display	29	SYSTEM CONTROLLER WV-CU550C	66
■ Still Display	29	■ Major Operating Controls and Their Functions	66
■ Border Display	29	■ Installations	68
■ Camera Display Position Setting	30	SETUP MENU OPERATIONS (WITH WV-CU550C)	70
■ Sequence Mode	30	FUNCTION OPERATIONS (WITH WV-CU550C)	71
■ Secret View	30	Controlling the Video Input and Monitors	71
SPOT OUTPUT SETUP	31	Camera Control Function	71
■ Camera Title Display	31	■ Camera Selection	72
■ Clock Display	31	■ Controlling Camera Site Accessories	72
RECORD OR MULTISCREEN 2 OUTPUT SETUP	32	Alarm Control Function	74
■ Record Output Setup	32	■ Alarm Suspension	74
■ Multiscreen 2 Output Setup	34	SYSTEM EXPANSION	75
SYSTEM SETUP	36	■ Connections	76
■ Clock Setup	36	■ Operating Procedure	76
■ Clock Display Position	36	■ Other Applications	76
■ Camera Title Setup	37	APPENDIX	78
■ Camera Title Display Position	37	STANDARD ACCESSORIES	82
■ Sequence Setup	37	SPECIFICATIONS	82

PREFACE

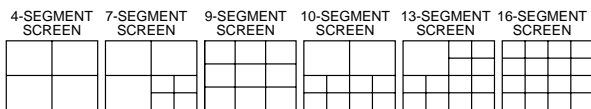
The WJ-FS616C Video Multiplexer is designed to multiplex the field signals from video cameras and record the camera images on a time lapse VCR.

Up to 16 cameras can be connected to the unit for monitoring images in multiscreen, sequence, freeze or electronic zoom mode on a video monitor screen.

The WJ-FS616C Video Multiplexer allows you to control camera functions such as lens focussing, zooming, and iris, positioning of the pan/tilt head, etc. This makes the system highly flexible and sophisticated, and allows expansion to up to 64 cameras.

FEATURES

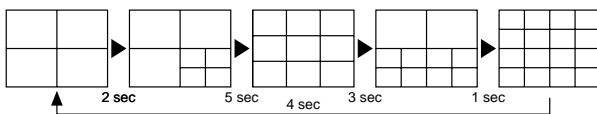
- The images of any connected camera can be displayed on full screen or on a 4, 7, 9, 10, 13 and 16 multiscreen as shown below.



(7, 10 and 13 multiscreens are not available for playback images.)

In addition, one playback image can be displayed with camera images in 4, 7, 10 and 13 multiscreens.

- The pattern of a spot sequence consisting of up to 32 steps can be programmed by presetting the channel order and individual dwell time. The pattern of a 4, 7, 9, 10, 13, or 16 multiscreen sequence consisting of up to 5 steps can be programmed as shown below.



- Electronic zoom and freeze image functions are available. The zoom area can be selected with the direction buttons.
- Up to 16 camera images multiplexed by the field rate are available at the REC OUT connector for recording on the time lapse VCR. Alarm priority recording is supported.
- Camera functions such as pan/tilt, lens zoom, focus and iris, and camera setup can be controlled via a coaxial cable or RS-485 interface.
- The WJ-FS616C has a versatile alarm mode to optimize its multiscreen output, spot output, and record output.
- REC, PLAY, REW, FF, etc. can be controlled from the front panel of the video multiplexer, via the RS-232C interface or the wired remote control terminal of the Panasonic Time Lapse VCR.
- The WJ-FS616C can be controlled from a PC or the WV-CU550C and WV-CU360C System Controller via RS-232C or RS-485 interface.

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 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 appliance. Turn the power off immediately and contact qualified service personnel for service.
- **Do not attempt to disassemble the appliance.**

To prevent electric shock, do not remove screws or covers.
There are no user-serviceable parts inside. Contact qualified service personnel for maintenance.
- **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.**

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.**

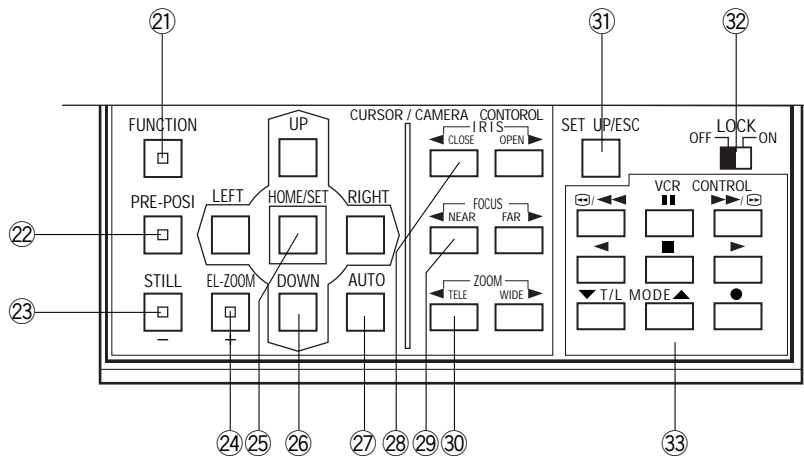
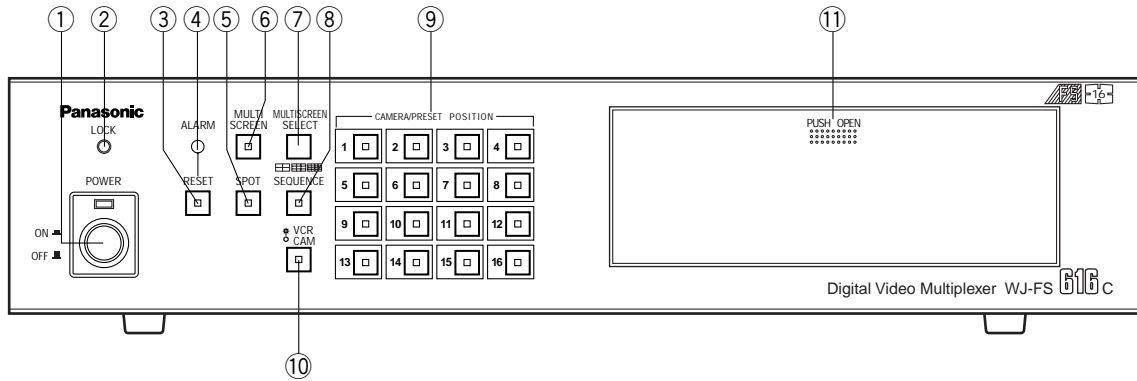
Use a dry cloth to clean the appliance when it is dirty. When the dirt is hard to remove, use a mild detergent and wipe gently.
- **Do not operate the appliance beyond its specified temperature, humidity or power source ratings.**

Use the appliance at temperatures within -10°C - $+50^{\circ}\text{C}$ (14°F - 122°F) and humidity below 90 %.
The input power source for this appliance is 120 V AC 60 Hz.
- **Fully charge up the backup battery.**

Keep the appliance turned on for at least 48 hours to recharge the backup battery. This procedure is necessary when using the appliance for the first time or after it has been unplugged for a long time from the AC outlet. Insufficient charging of the battery may cause erasure of settings if the AC power supply should fail. The battery, if fully charged, will back up the settings for 72 hours in an ordinary environment.
- **We recommend that you note down your settings and retain them. Power or battery failure may erase settings you entered.**

MAJOR OPERATING CONTROLS AND THEIR FUNCTIONS

■ Front View



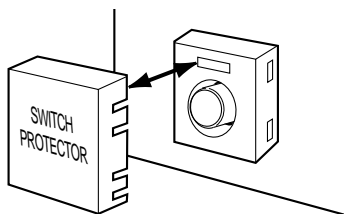
① Power Switch (POWER ON/OFF)

This switch turns the power of the video multiplexer on or off. The indicator lights while the power is turned on.

Caution: The indicator blinks to indicate raising temperature in the video multiplexer.

Turn the power off and refer servicing to qualified service personnel.

Note: To prevent accidental interruption of power supply to the video multiplexer, cover the power switch with the supplied switch protector as shown in the figure.



② Lock Indicator (LOCK)

This indicator (Yellow) lights to indicate that the LOCK switch is in ON position.

While this indicator is on, control from the video multiplexer is disabled.

③ Alarm Reset Button (RESET)

This button is used to cancel an activated alarm.

Press this button, while the alarm function is activated, to reset the alarm and return the system to the condition before the alarm function was activated.

The indicator (Orange) in the button lights to indicate that the alarm suspension mode is selected.

④ Alarm Indicator (ALARM)

This indicator (Red) blinks to indicate an alarm condition exists.

It changes to steady light when the alarm is reset automatically.

To turn the indicator off, press the ALARM RESET button.

⑤ **Spot Monitor Button (SPOT)**

This button is used to operate the spot monitor connected to the SPOT OUT connector on the rear of the video multiplexer.

The indicator (Green) in the button lights to indicate that the spot monitor is selected, and enables control of the monitor.

⑥ **Multiscreen Monitor Button (MULTISCREEN)**

This button is used to operate the multiscreen monitor connected to the MULTISCREEN OUT connector on the rear of the video multiplexer.

The indicator (Green) in the button lights to indicate that the multiscreen monitor is selected, and enables control of the monitor.

Note: When the monitor is connected to the REC OUT connector for using as Multiscreen 2 Output, this button alternately selects multiscreen output or multiscreen 2 output.

The indicator blinks to indicate that the multiscreen 2 output is selected.

⑦ **Multiscreen Selection Button (MULTISCREEN SELECT)**

This button is used to select the multiscreen pattern to be displayed on the multiscreen monitor while monitoring the camera images or VCR playback images. Pressing this button will toggle the screen pattern as follows:

Camera Images:

4→7→9→10→13→16→4 screen segments

VCR Playback Images:

4→9→16→4 screen segments

⑧ **Sequence Button (SEQUENCE)**

This button is used to activate the sequence mode. In this mode, a series of camera images is displayed in succession on the monitor screen for the specified duration.

The indicator (Green) in the button lights to indicate that this mode is selected.

⑨ **Camera Number Buttons (CAMERA)**

Preset Position Number Buttons (PRESET POSITION)

CAMERA:

These buttons select the camera images corresponding to the button.

The indicator (Green) in the button lights to indicate the camera number currently selected.

PRESET POSITION:

These buttons are used in combination with the PRE POSI button to assign a preset position number to the selected camera.

⑩ **VCR/Camera Selection Button (VCR/CAM)**

This button is used to select the camera image or VCR playback image to be displayed on the multiscreen monitor screen.

The indicator (Green) in the button lights to indicate that the VCR mode is selected.

Note: The above operation is not valid unless multiscreen output is selected by pressing the MULTISCREEN button.

⑪ **Control Panel**

Press "PUSH OPEN" panel to open the control panel.

⑫ **Function Button (FUNCTION)**

This button is used to display the camera images with a VCR playback image on the multiscreen monitor.

While displaying the setup menu on the monitor, pressing this button will select the next page of the setup menu.

⑬ **Preset Position Button (PRE-POSI)**

This button is used to assign a preset position to a specified camera.

⑭ **Still Button (STILL)**

Decrement Button (-)

This button is used to freeze the image currently displayed on the multiscreen monitor.

The indicator (Green) in the button lights to indicate that the freeze mode is selected.

While displaying the setup menu on the monitor, pressing this button will select the parameter reversely in the setup menu.

⑮ **Electronic Zoom Button (EL-ZOOM)**

Increment Button (+)

This button is used to zoom the image currently displayed on the multiscreen monitor.

The indicator (Green) in the button lights to indicate that the zoom mode is selected.

While displaying the setup menu on the monitor, pressing this button will select the parameter forwardly in the setup menu.

⑯ **Home/Set Button (HOME/SET)**

This button is used to return to the home position of the camera.

While displaying the setup menu on the monitor, pressing this button will execute the currently highlighted selection and to enter a submenu in the setup menu if the item has its own setting menu.

②⑥ Direction Buttons (UP/DOWN/LEFT/RIGHT)

These buttons are used to manually operate the Pan/Tilt Head, move the cursor position in the setup menu of the video multiplexer, or to select an area for Electric Zooming.

- UP:** Upward
- DOWN:** Downward
- LEFT:** Left
- RIGHT:** Right

②⑦ Auto Button (AUTO)

This button is used to activate the auto panning function if the camera is equipped with the specific feature.

②⑧ Iris Buttons (IRIS, CLOSE/OPEN)

Close or open the lens iris of cameras equipped with the specified lens.
When these buttons are pressed at the same time, the lens iris is reset to the factory default settings.

②⑨ Focus Buttons (FOCUS, NEAR/FAR)

Adjusts the lens focus of cameras equipped with the specified lens.
When these buttons are pressed at the same time, the lens focus is automatically set if the camera is equipped with the specific feature.

③⑩ Zoom Buttons (ZOOM, TELE/WIDE)

Adjusts the lens zoom of cameras equipped with the specified lens.

③① Setup/Escape Button (SET UP/ESC)







This button is used in the video multiplexer's setup operation. Pressing this button for two seconds or more will open or close the video multiplexer's setup menu on the monitor screen.
While the setup menu is displayed on the monitor screen, press this button to execute the currently selected setting and return to the previous setup menu.

③② Lock Switch (LOCK OFF/ON)

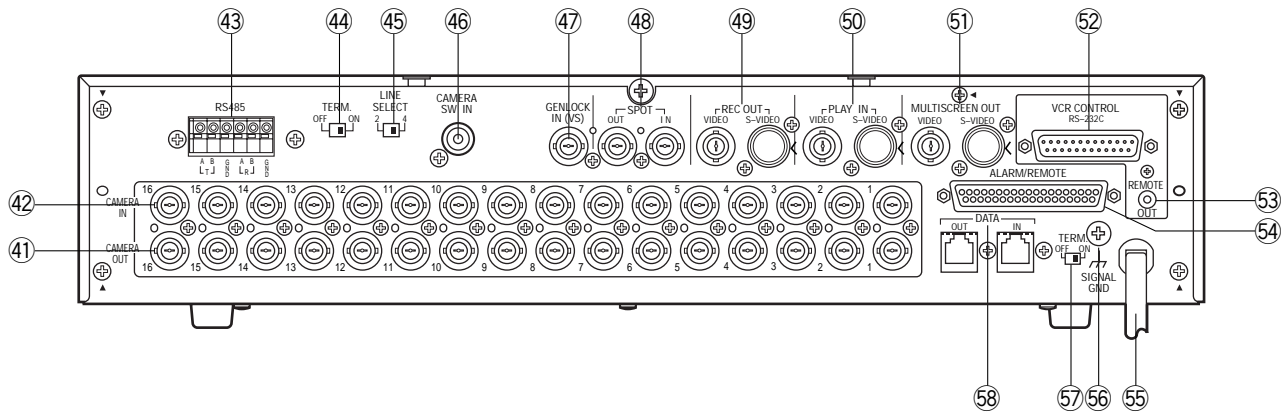
This switch can be used to lock out operation of the video multiplexer panel controls.
While this switch is in ON position, control from the video multiplexer is disabled.

③③ VCR Control Buttons

These buttons are used for remote control of the VCR that is connected to the video multiplexer.
The buttons function as shown below.

-  : Rewind
-  : Pause
-  : Fast Forward
-  : Reverse Play
-  : Stop
-  : Play
-  : Decreases recording duration
-  : Increases recording duration
-  : Record

■ Rear View



41 Camera Output Connectors (CAMERA OUT)

The video signal connected to the CAMERA IN connector is looped through to this connector with an automatic 75 Ω termination.

The camera control signal multiplexed on the video signal is not available at this connector. When the power switch of the video multiplexer is turned off, no signal is present at this connector.

42 Camera Input Connectors (CAMERA IN)

These connectors accept either a color or B/W composite video signal from the cameras. In addition, the VD2 signal for synchronizing the vertical timing of the cameras, and data to control camera site devices are multiplexed through these connectors.

43 RS485 Terminal (RS485)

This terminal is used to exchange control data with the camera site.

44 Line Termination Switch (TERM., OFF/ON)

This switch is used to enable termination of the RS485 terminal.

45 Line Selection Switch (LINE SELECT, 2/4)

This switch lets you select either Full Duplex (4 lines) or Half Duplex (2 lines) for the communication lines.

46 Camera Switching Input Connector (CAMERA SW IN)

The camera switching pulse from the time lapse VCR is supplied to this connector.

The camera switching interval (Sequential Dwell Time) can be synchronized with the time lapse mode set in the associated time lapse VCR.

47 Gen-Lock Input Connector (GENLOCK IN (VS))

The Gen-Lock signal can be supplied to this connector for synchronizing the system.

48 Spot Input/Output Connectors (SPOT, OUT/IN)

IN: This connector accepts the video output signal from the external system.

The supplied video can be displayed on the spot monitor screen with the specified conditions.

OUT: This connector supplies the video output signal for the spot monitor.

49 Record Output Connectors (REC OUT, VIDEO/S-VIDEO)

The recording signal for the time lapse VCR is provided via these connectors.

These connectors can also be used as multiscreen 2 output with the specified conditions.

50 Playback Input Connectors (PLAY IN, VIDEO/S-VIDEO)

The playback signal from the time lapse VCR is supplied to these connectors.

51 Multiscreen Output Connectors (MULTISCREEN OUT, VIDEO/S-VIDEO)

The video output signal for the multiscreen monitor is provided via these connectors

52 RS-232C Port (VCR CONTROL, RS-232C)

The VCR control signal for the time lapse VCR is provided via this connector.

Connecting a PC to this connector will allow you to remote control the video multiplexer.

53 Remote Output Connector (VCR CONTROL, REMOTE OUT)

The VCR control signal for the time lapse VCR is provided via this connector.

You can select in the setup menu whether to have the VCR control signal supplied from this connector or the RS-232C Port.

54 Alarm/Remote Port (ALARM/REMOTE)

This connector accepts the alarm signals from the associated alarm contacts and the control signals from the external system.

55 Power Cord

⑤⑥ **Signal Ground Terminal (SIGNAL GND)**

⑤⑦ **Data Termination Switch
(TERM., OFF/ON)**

This switch is used to enable termination of the video multiplexer's data port.

⑤⑧ **Data Port (DATA, OUT/IN)**

These ports are used to exchange control data with the specified system controller or a PC in a system.

INSTALLATION

The installations described below should be made by the qualified service personnel or system installers.

■ Installing the WV-PB6164 Data Multiplex Boards

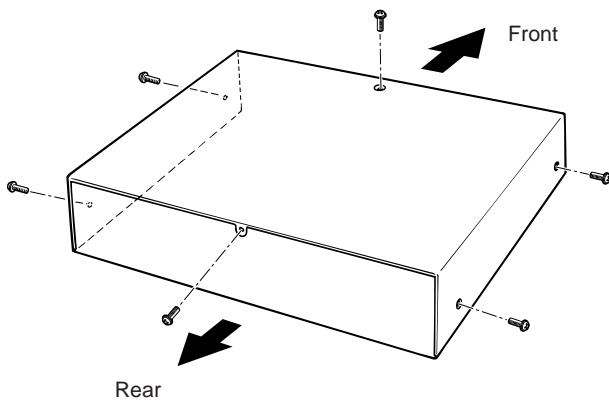
When controlling the camera with the multiplexed control data by connecting a coaxial cable, the WV-PB6164 Data Multiplex Board must be installed in the video multiplexer.

Four data multiplex boards are included with the WJ-FS616C for cameras 1 to 4.

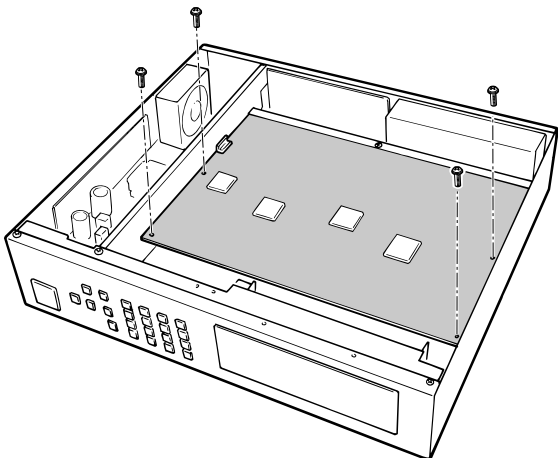
Please note that additional multiplex boards are available for purchase as model WV-PB6164 Data Multiplex Boards, which includes four control boards.

Caution: Before installing boards, be sure to turn off the power switch of the video multiplexer.

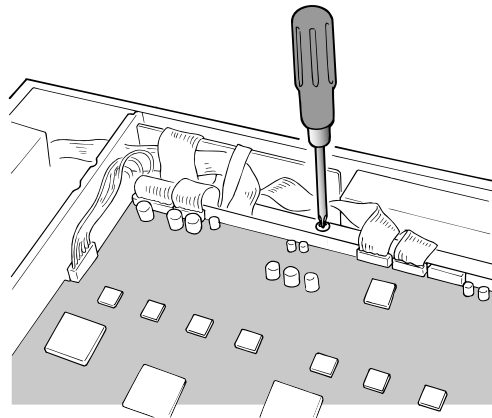
1. Remove the six screws on the top cover of the video multiplexer as shown in the figure.



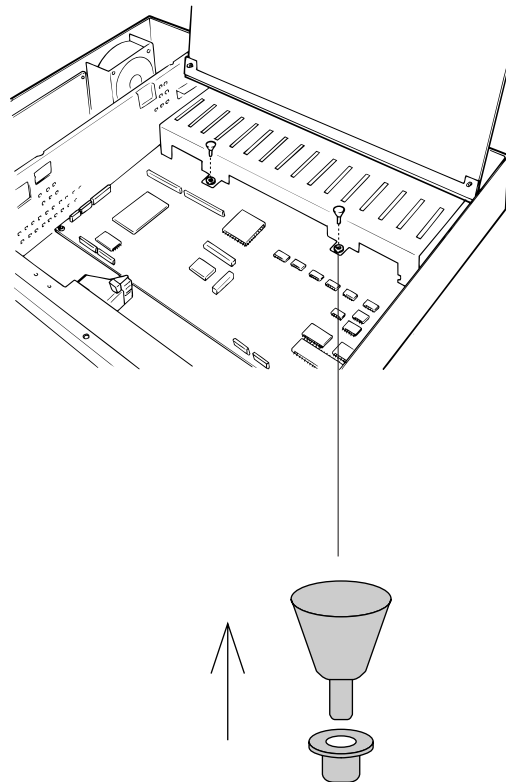
2. Remove the top cover.
3. Remove the four screws on the board as shown in the figure.



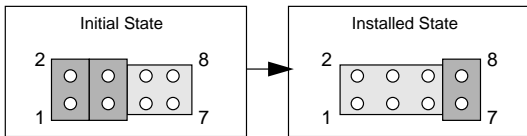
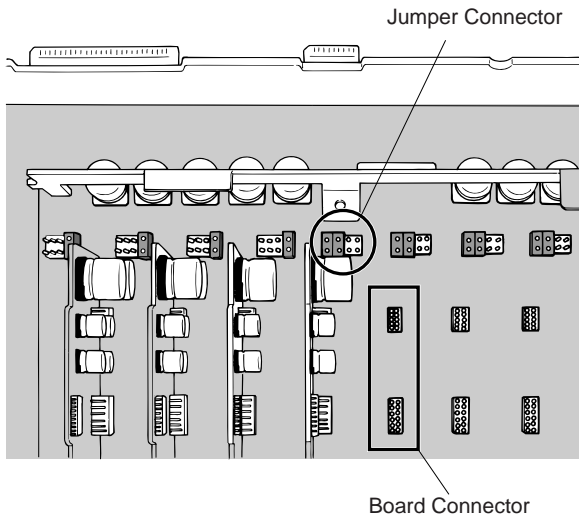
4. Remove the one screw shown below. Then turn over the printed circuit board with the front side up.



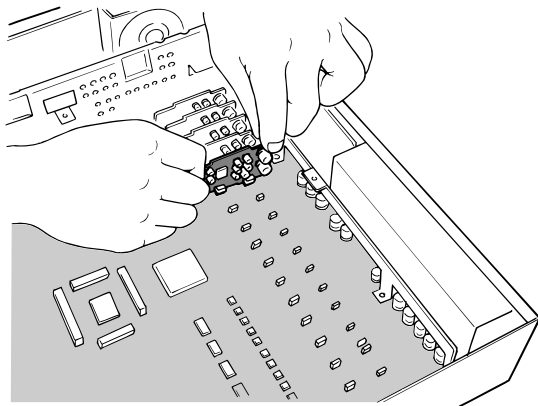
5. Pull the two knobs out from the bracket shown in the figure. Then remove the bracket.



- Set the jumper connector, that is located at the top left of the board, to the position shown below where the board is installed.



- Insert the board in the board connector. Confirm that the position is correct and it is placed firmly.



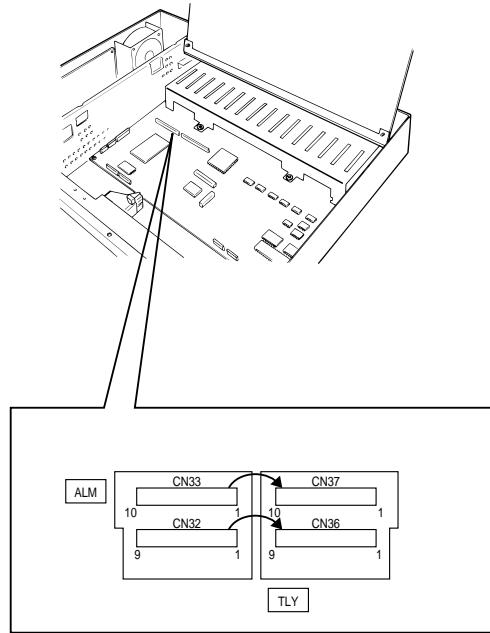
- After installing the boards, secure them by tightening the screws and knobs shown above.

Note: Some settings for the VD2 signal and control data will be necessary from the setup menu of the video multiplexer. Refer to Cable Compensation/VD2/Data Setup on page 41 for details.

Tally Output Setting

Allows you to use the Alarm Input terminal on the ALARM/REMOTE port as Tally Output terminal by changing two internal connections. It is enabled use that mingles alarm input and tally output.

- Disassemble the video multiplexer as described for installing the Data Multiplex Boards on page 12.



- Move the two connectors from the ALM side to the TLY side as shown above. The relation between the connector numbers and channel numbers is shown in the table below.

	Alarm Input	Tally Output
CH9 - CH16	CN33	CN37
CH1 - CH8	CN32	CN36

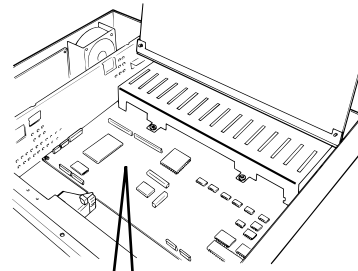
■ DIP Switch Setting

● Alarm Output Setting

The following settings let you set the polarities of alarm output, alarm reset output, and alarm & SW output on the ALARM/REMOTE port.

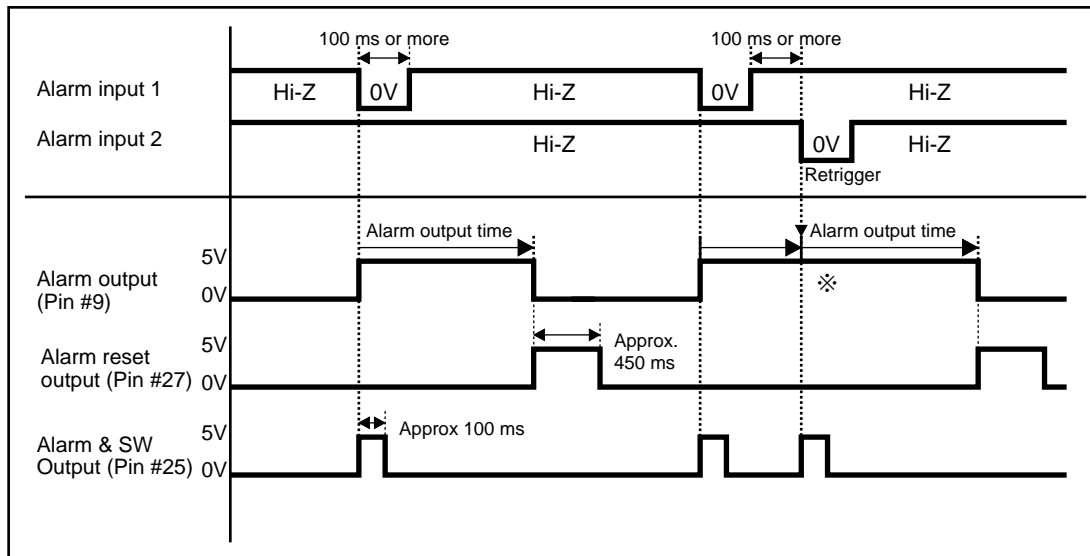
1. Disassemble the video multiplexer as described for installing the Data Multiplex Boards on page 12.
2. Set switches (SW3/SW4/SW5) on the board to the required position either Open Collector (O.C) or Pulse (0/5V) for alarm control signals.

Open Collector (O.C): 16V DC 100 mA max.
Pulse (0/5V): +5V DC approx. 500 ms



The positions in the figure are the factory default setting.

- Timing Table of the signals (0/5 V settings)



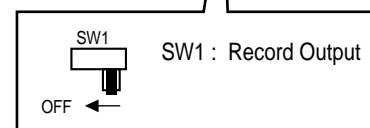
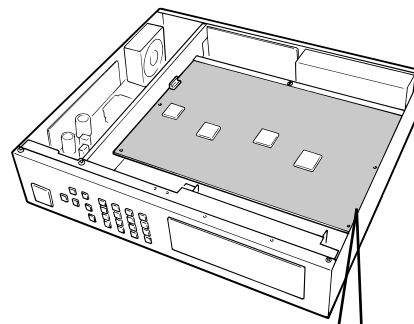
- ※ If another alarm is received before the existing alarm is reset, the alarm output lasts as long as the duration set for the succeeding alarm.
- The O.C position of SW3, SW4, and SW5 corresponds to their 0/5 V position as shown in the table.

SW	Terminal condition	OFF	ON
	O.C position	Hi-Z	0 V
	0/5 V position	0 V	5 V

● Dummy Black Image Setting

According to the factory default setting, the Dummy Black Image signal is supplied to the REC OUT connector as needed to overwrite any image displayed by error. If this function is not required, set the switch SW 1 to the position shown below.

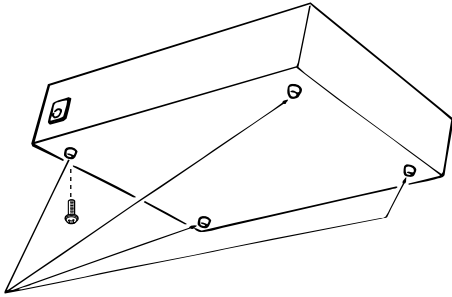
1. Disassemble the video multiplexer as described for installing the Data Multiplex Boards on page 12.
2. Set switch (SW1) on the board to the position shown in the figure.



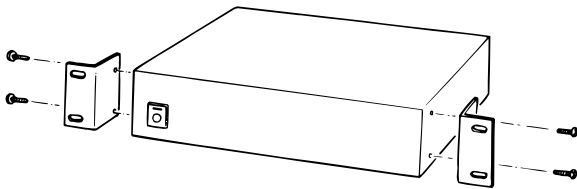
■ Mounting into the Rack

The video multiplexer can be mounted into the rack as described below.

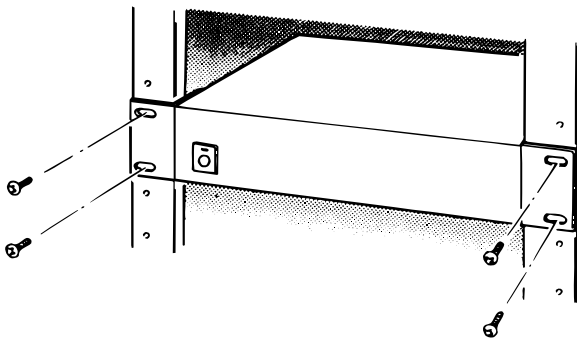
1. Remove the four rubber feet by removing the four screws on the bottom of the video multiplexer.



2. Place the rack mounting brackets on both sides of the video multiplexer and tighten with the four supplied screws (M4 X10).



3. Install the video multiplexer with the rack mounting brackets in the rack securing it with four screws (procured locally).

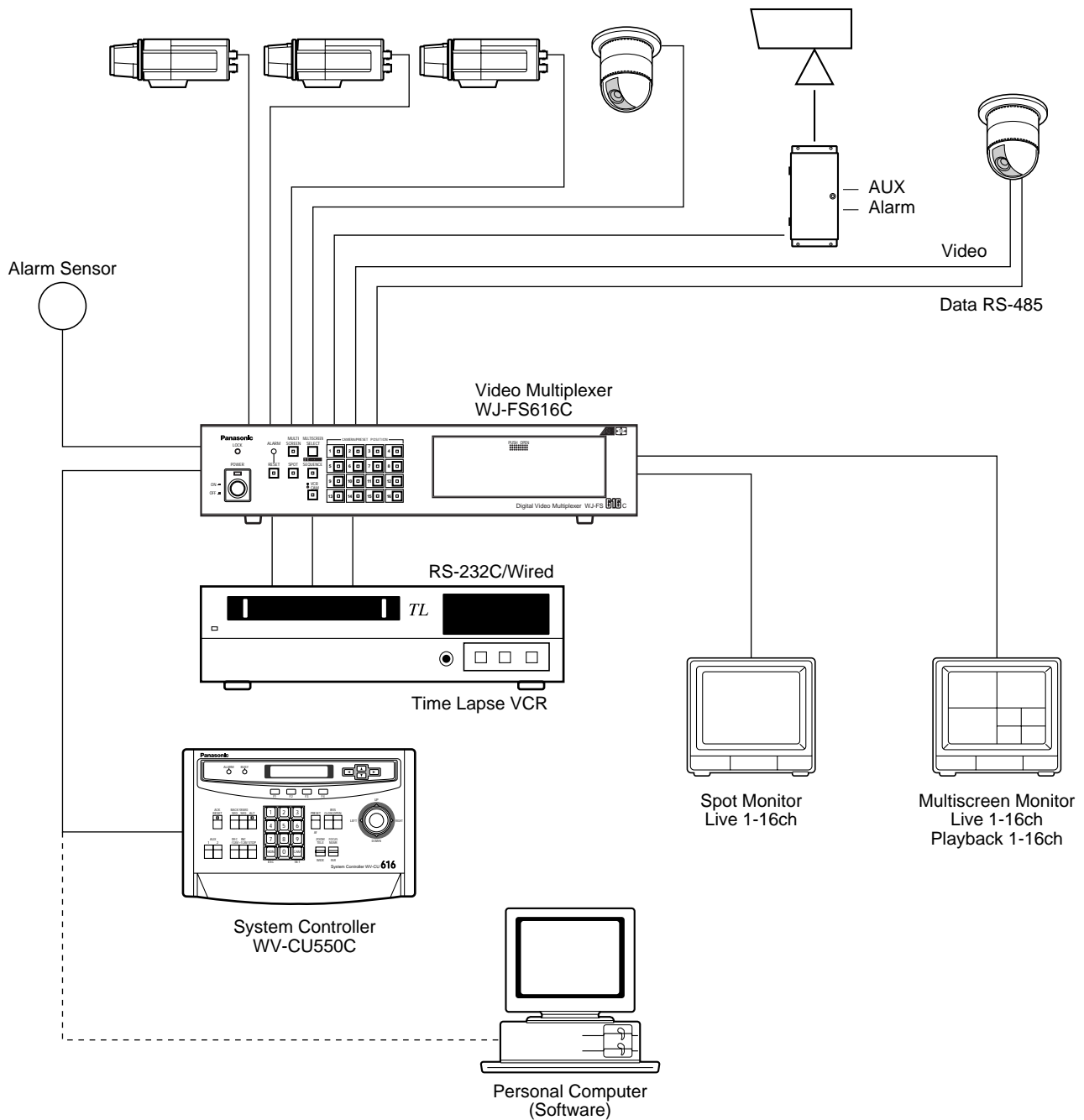


Cautions:

- The cooling fan inside the video multiplexer is subject to wear and needs to be replaced periodically.
- Do not block the ventilation opening or slots on the cover to prevent the appliance from overheating. Always keep the temperature in the rack within 45°C (113°F).
- If the rack is subject to vibration, secure the rear of the appliance to the rack by using additional mounting brackets (procured locally).

CONNECTIONS

Shown below is an example of a basic system connection.



Basic System Connection

■ Connection with the Camera Sites

Connect cameras (or camera site equipment) data multiplexed type to the CAMERA IN connectors 1 through 4 on the rear of the video multiplexer.

Note: Make sure that the cable length between the camera site and the WJ-FS616C video multiplexer is less than 900 m (3 000 ft) when using RG-59/U, BELDEN 9259 or equivalent cables.

Connect none multiplexed type cameras to the CAMERA IN connectors 5 through 16.

Note: If you need to change input channels from the none multiplexed type to multiplexed, install the WV-PB6164 Data Multiplex Boards for the corresponding channels inside the video multiplexer. For installations, see page 12.

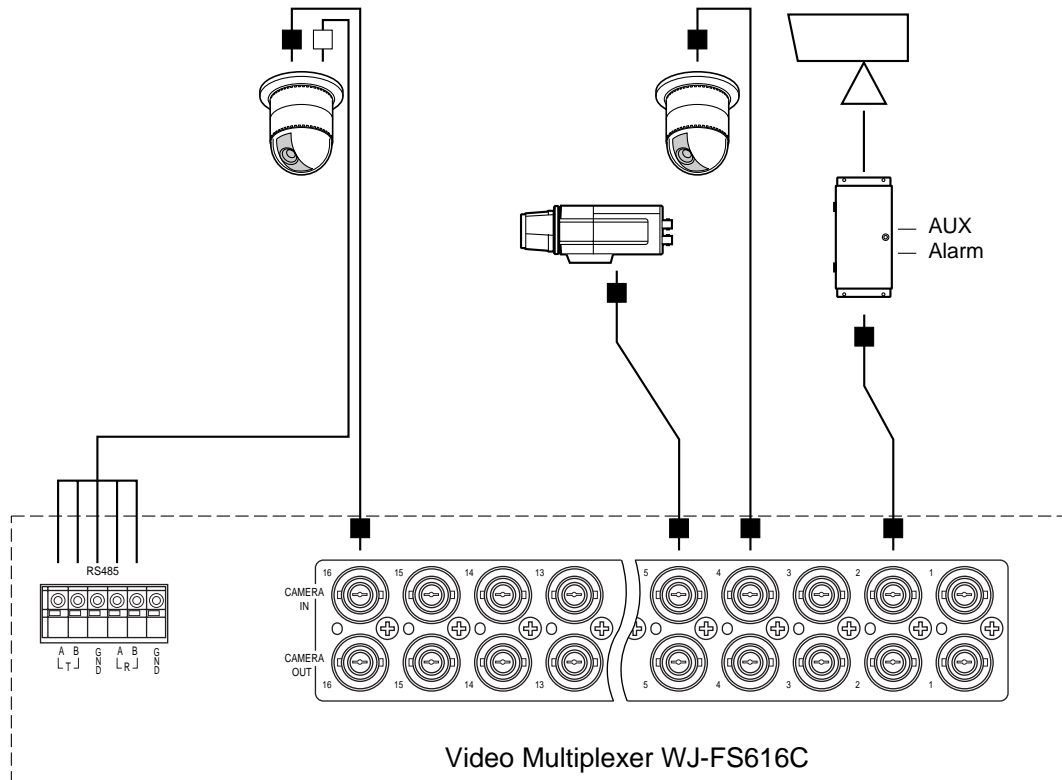
For cameras equipped with RS-485 communication facility, connect the RS-485 cable as follows.

Note: If you use cables assembled from locally procured materials, it is important that only high quality, data grade cable, suitable for RS-485 communication (shielded 2-wire twisted pair cable) is used, BELDEN 9406 or equivalent.

Low grade cable will result in unstable operation of the system.

Check the settings of the camera addresses when using cameras capable of RS-485 communication. Operations from the multiplexer will not work if the camera addresses are set improperly.

- Do not use addresses other than 1 through 16 for individual cameras ("17" is not allowed.)
- Do not set the same address for more than one camera in an RS-485 chain.



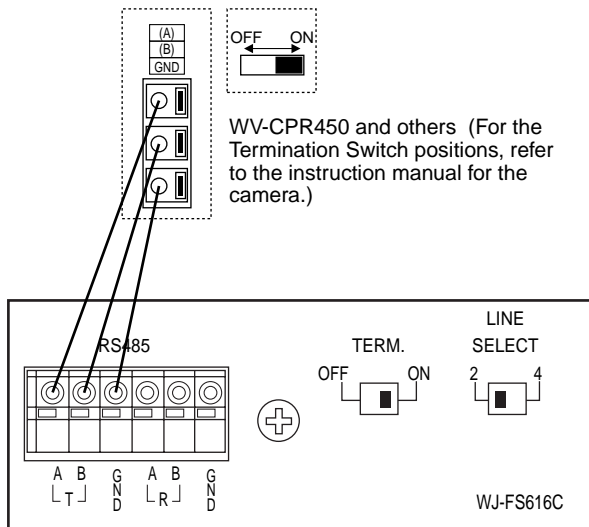
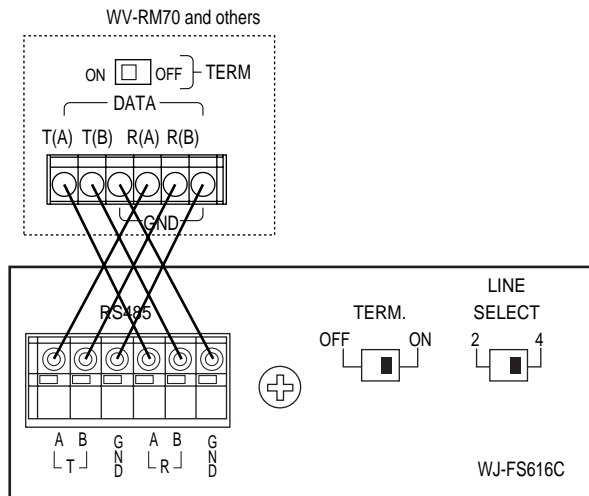
■ Connections for RS-485 type camera

There are two options to connect the camera with the multiplexer, depending on the distance between them. For data multiplexed type cameras, a maximum distance of 900 meters (3 000 ft) is the limit for using coaxial cable such as RG-59/U, BELDEN 9259 or equivalent. If more distance is required, use cameras and multiplexer with RS-485 communication feature. This will lower signal loss and extend the distance as video signal and data are transmitted separately.

Note that you need to set up the communication port as described on page 42 when using the RS-485 feature.

Note: Recommended for RS-485 communication is shielded, two-wire, twisted pair, low impedance cable, AWG#22 or thicker.

- (1) Connect with a RS-485 camera in "Home Run" wiring as shown below, then set the LINE SELECT switch to "2" or "4".



- (2) Connect cameras in a Daisy Chain
 1. Draw up a plan for connection between the cameras and the input channels of the video multiplexer, and the assignment of unit addresses to cameras.

Cautions:

Check the settings of the camera addresses when using cameras capable of RS-485 communication. Operations from the multiplexer will not work if the camera addresses are set improperly.

- Do not use addresses other than 1 through 16 for individual cameras ("17" is not allowed).
- Do not set a single address for more than one camera in an RS-485 chain.

2. Set the LINE SELECT switch of the multiplexer to "2". Also set the switch of the connected equipment if required.

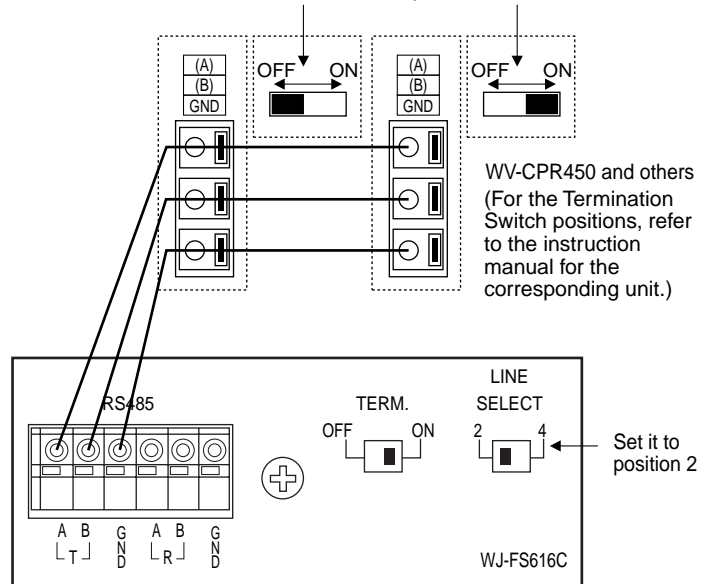
3. Connect one end of the cable as shown to the RS-485 terminal of the multiplexer, and the other end to the first camera in the chain. Repeat this procedure for all cameras to the end of the chain.

4. Set the termination switches of the multiplexer and cameras at both ends of the chain to ON position. Termination switches of cameras not at the chain ends must be in OFF position.

Cautions:

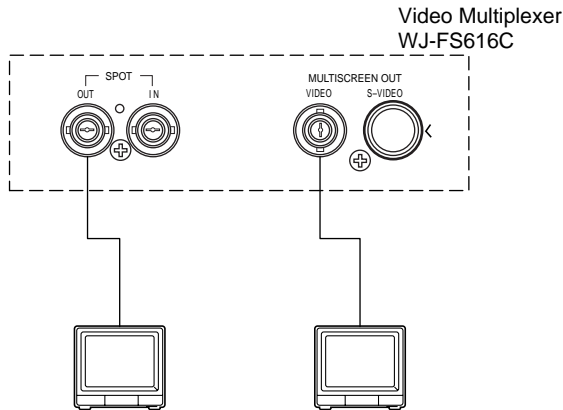
- Termination is the key to data transmission and reception in the chain. Only the switches at the chain ends must be set to ON, while the other switches are set to OFF.
- Response may slow gradually the higher the equipment number in the chain.

The switch on a daisy-chain-connected unit not at the extremities must be in the OFF position. The switch on the end unit should be in the ON position.



■ Connection with the Monitors

Connect the Monitors to the SPOT OUT connector and MULTISCREEN OUT connector on the rear of the video multiplexer with the coaxial cable.



DATA port

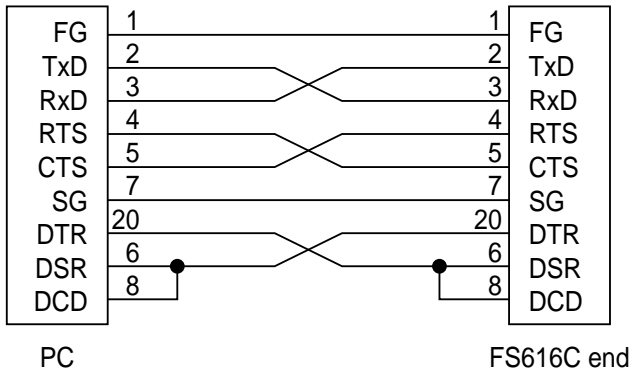
- In page 2 of 2 of the SYSTEM SETUP menu, set the DATA MODE to PC and press the [SET UP/ESC] button to activate the DATA port on the rear panel. Then you need to select the parameters of the DATA in the COM PORT SETUP menu detailed on page 42.
- Use a 6-core modular cable to connect the multiplexer with the PC.

Caution: Data disruption may occur if you use both DATA port and RS-232C port at a time. Use only one port to communicate with the PC.

■ Connection with the PC

There are two options to communicate with the PC, the first is using RS-232C port and the second is via DATA port.

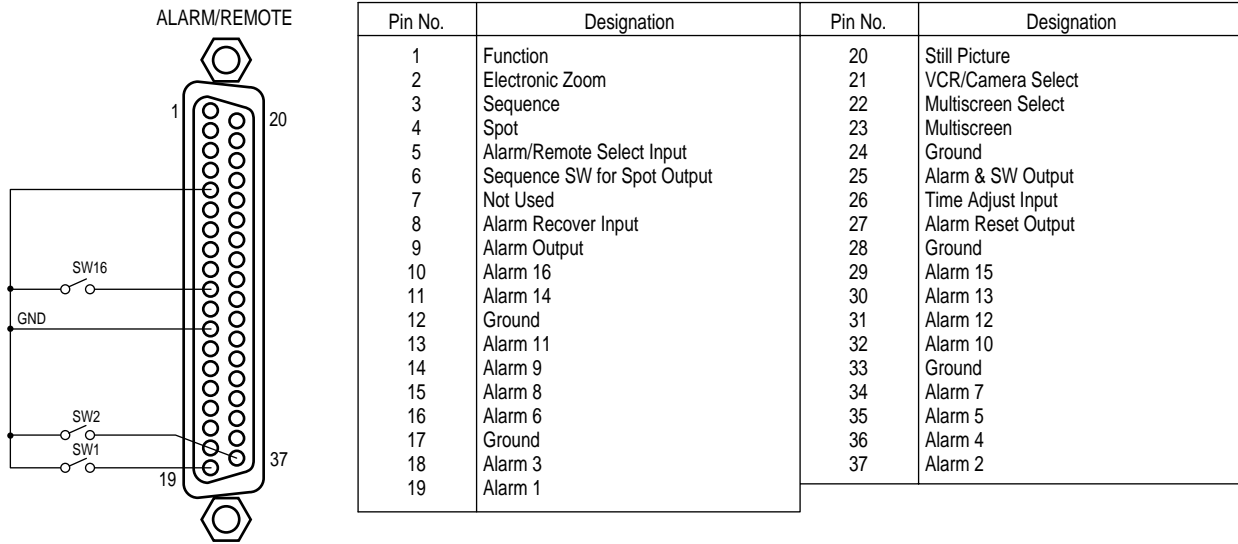
RS-232C



- In page 2 of 2 of the SYSTEM SETUP menu, set the RS-232C MODE to PC and press the [SET UP/ESC] button to activate the RS-232C port on the rear panel. Then you need to select the parameters of the RS-232C in the COM PORT SETUP menu detailed on page 42.
- Use a cross type RS-232C cable to connect the multiplexer with the PC.

■ Connection with Alarm Sensors

Connect the sensor switches to the ALARM/REMOTE port on the rear of the video multiplexer as shown in the example below.

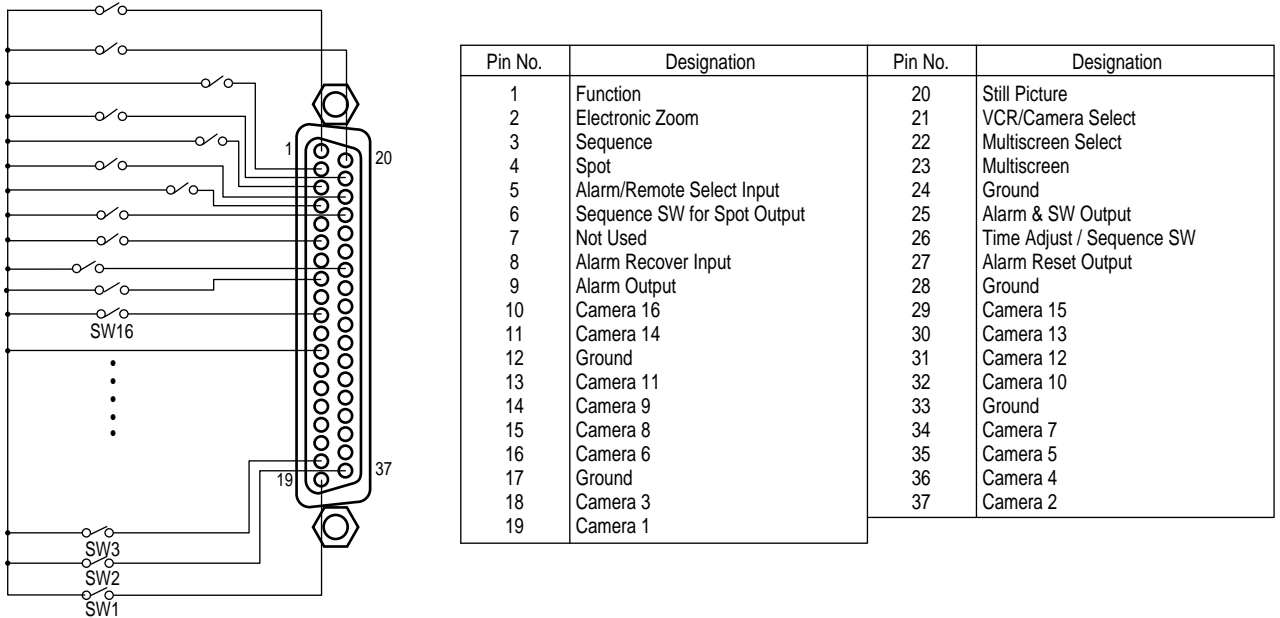


Notes:

- Alarm inputs simultaneously or at very short intervals will be ignored. Allow for an interval of at least 100 ms from one alarm input to the next.
- Connect Pin#5, Alarm/Remote Select Input to Pin#12, GND.

■ Connection with External Remote Control Switches

Connect the switches (dry contact or open collector input) to the ALARM/REMOTE port on the rear of the video multiplexer as shown in the example below.



Notes:

- Pin#6, Sequence SW for Spot Output and the Pin#8, Alarm Recover Input can also accept DC voltages of 5 V (high level) and 0 V (low level) besides the switch contact signals.
The multiplexer recognizes falling edge (high to low transition) as an input.
- Pin#5, Alarm/Remote Select Input must be open.

MONITORS AND DISPLAYS

■ Spot and Multiscreen Monitor

The WJ-FS616C video multiplexer can be connected to two monitors.

The monitor displays the video signal according to the connection made, as shown below.

Spot Monitor: The monitor that is connected to the SPOT OUT connector on the rear of the video multiplexer.

It only displays the camera input in single spot or single sequence.

Displaying the VCR playback is disabled.

Multiscreen Monitor: The monitor that is connected to the MULTISCREEN OUT connector on the rear of the video multiplexer.

It can display the camera input in multiscreen mode (4, 7, 9, 10, 13, 16 screen segments).

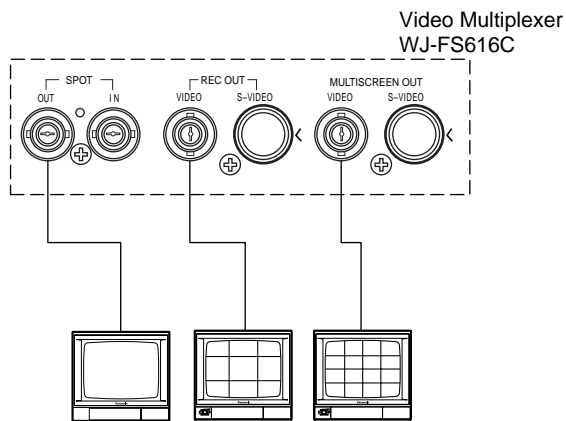
It also displays the VCR playback images.

In addition, the video multiplexer can be connected to the other additional monitor, if the system is required. Connect the monitor (substituted for VCR) to the REC OUT connector on the rear of the video multiplexer.

Multiscreen 2 Monitor: It has functions as same as the multiscreen monitor.

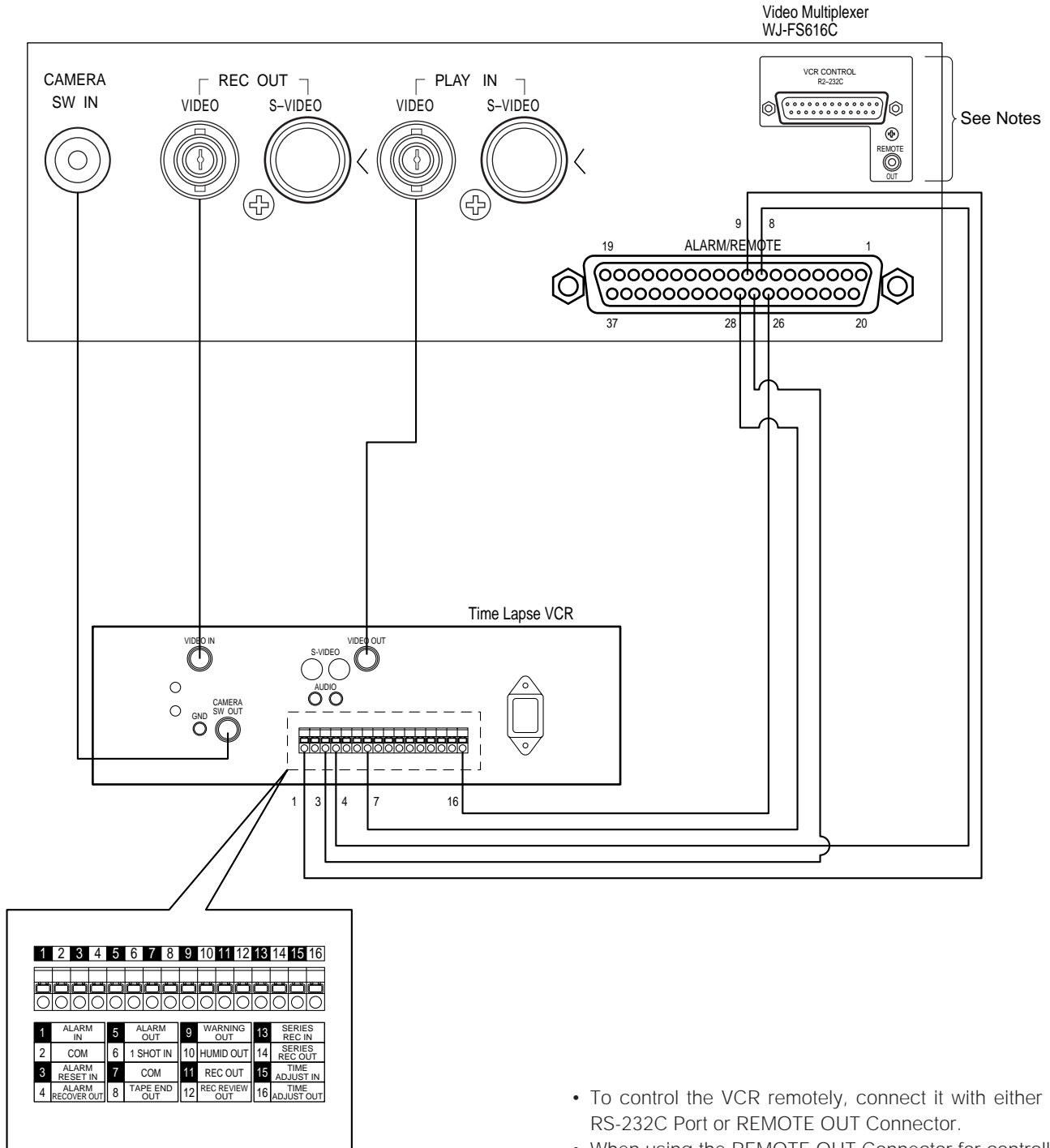
Pressing the MULTISCREEN button alternately selects multiscreen output or multiscreen 2 output.

The indicator blinks to indicate that the multiscreen 2 output is selected.



■ Connection with the Time Lapse VCR

Connect the time lapse VCR as shown in the example below.



Notes:

- Before controlling the VCR through the REMOTE OUT connector:
 1. Power up the video multiplexer and the VCR simultaneously.
 2. Connect the video signal cable between the multiplexer and the VCR.
- The REMOTE OUT performs similarly to the AG-A11 Remote Controller for Time Lapse VCRs.

- To control the VCR remotely, connect it with either the RS-232C Port or REMOTE OUT Connector.
 - When using the REMOTE OUT Connector for controlling the VCR remotely, reverse play and recording duration operations are disabled due to system designation.
 - The VCRs shown below can be controlled remotely.
 - <REMOTE OUT>
 - AG-RT600A, AG-TL500
 - AG-6124
 - <RS-232C>
 - AG-6740*
 - AG-TL500
- (*Optional interface adapter is required)

SETUP PROCEDURES

SETUP MENU

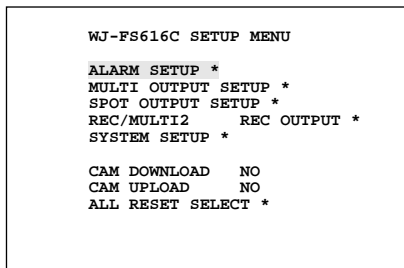
The setup menu provides a way for controlling functions that are not available by a direct operation.

■ Displaying the SETUP MENU

To display the setup menu follow the procedure below.

1. Confirm that the camera and peripherals are connected correctly and securely and all components are turned on.
2. Press the [SET UP/ESC] button for 2 seconds or more. The WJ-FS616C SETUP MENU appears on the screen of the spot and multiscreen monitors as shown in the figure.

SET UP/ESC



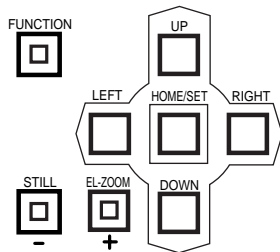
3. Press the [SET UP/ESC] button to execute the currently highlighted setting and return to the previous menu in the SETUP MENU.
4. To finalize the setting and return to normal viewing, press the [SET UP/ESC] button for 2 seconds or more while the SETUP MENU is displayed.

Note: If alarm is activated during the setup operation, the SETUP MENU disappears and the display returns to the normal images. Any settings previously made take effect, even if the [SET UP/ESC] button was not pressed.

The following buttons are valid in the SETUP MENU:

- UP (▲):** Moves the cursor upward.
- DOWN (▼):** Moves the cursor downward.
- LEFT (◀):** Moves the cursor to the left, or selects the mode or parameter forwardly.
- RIGHT (▶):** Moves the cursor to the right, or selects the mode or parameter reversely.
- HOME/SET:** Executes the selections and displays a submenu for an item with the (*) mark.
- STILL (□):** Selects the mode or parameter.
- EL-ZOOM (⊕):** Selects the mode or parameter.
- FUNCTION:** Selects the next page.

This manual uses the above () symbols hereafter for following description.



■ Programming Setup Menu

As shown below, the SETUP MENU has nine main submenus: Alarm Setup, Multiscreen Output Setup, Spot Output Setup, Record Output Setup, Multiscreen 2 Output Setup, System Setup, Camera Download, Camera Upload and All Reset.

Six of these submenus; Alarm Setup, Multiscreen Output Setup, Spot Output Setup, Record Output Setup, Multiscreen 2 Output Setup and System Setup are further divided into additional submenus.

The (*) mark indicates that the item has a submenu for more detailed setups.

SETUP MENU

ALARM SETUP	<ul style="list-style-type: none"> Alarm Recall Page 26 Alarm Schedule Camera Site Alarm Camera Switching Signal Loss Alarm Video Loss Alarm Alarm Display on the Monitors Alarm Output Duration Alarm Buzzer Duration Alarm Mode on Multiscreen Monitor Alarm Mode on Spot Monitor Dynamic Recording Alarm Recording Mode
MULTISCREEN OUTPUT SETUP	<ul style="list-style-type: none"> Camera Title Display Page 29 Clock Display Still Display Border Display Camera Display Position Sequence Mode Secret View
SPOT OUTPUT SETUP	<ul style="list-style-type: none"> Camera Title Display Page 31 Clock Display
RECORD OUTPUT SETUP	<ul style="list-style-type: none"> Camera Title Display Page 32 Clock Display Dynamic Recording Recording Mode
MULTISCREEN 2 OUTPUT SETUP	<ul style="list-style-type: none"> Camera Display Position Page 34 Sequence Mode
SYSTEM SETUP	<ul style="list-style-type: none"> Clock Setup Page 36 Clock Display Position Camera Title Setup Camera Title Display Position Sequence Setup Sequence Timing (Multiscreen) Sequence Timing (Spot) Lock Mode Cable Compensation/VD2/Data Alarm Terminal Setup Playback Mode Data Mode RS-232C Mode Communication Port Setup VCR Input Select Daisy Mode Unit Address Password
Camera Download Page 45
Camera Upload Page 45
All Reset Page 46

ALARM SETUP

The procedure described below let you set the modes when an alarm is received.

Move the cursor to ALARM SETUP in the SETUP MENU by pressing the ▼ or ▲ button and then press the [HOME/SET] button.

The ALARM SETUP menu as shown in the figure appears on the monitor screen.

ALARM SETUP	
ALM RECALL *	
ALM SCHEDULE	OFF
CAM SITE ALM	OFF
VIDEO LOSS ALM	ON
SW-LOSS ALM	OFF
ALM DISPLAY	ON
ALM OUTPUT DUR	2SEC
ALM BUZZER DUR	2SEC
ALM MODE-MLT	ALM-IND
DWELL TIME	2SEC
ALM MODE-SPT	ALM-SPOT
DYNAMIC REC	OFF
ALM REC MODE	MODE0 REAL

Alarm Recall

There are 100 alarm records stored in chronological order in 10 pages of table.

The tables also indicate the alarm mode.

1. Move the cursor to ALM RECALL by pressing the ▼ or ▲ button and then press the [HOME/SET] button.

The ALARM RECALL table appears on the monitor screen.

ALARM RECALL					1 OF 10
NO.	DATE	TIME	CAM	ALM-MODE	
10.	JAN 1. 97	12:00:00	16CH	TRM 12	
9.	DEC 12. 96	4:00:00	10CH	SITE	
8.	DEC 12. 96	3:00:00	8CH	SITE	
7.	DEC 12. 96	2:00:00	7CH	SITE	
6.	DEC 12. 96	1:00:00	6CH	TRM 1	
5.	DEC 11. 96	15:00:00	5CH	TRM 5	
4.	DEC 11. 96	14:00:00	4CH	TRM 14	
3.	DEC 11. 96	13:00:00	3CH	TRM 7	
2.	DEC 11. 96	12:00:00	2CH	CH-LOSS	
1.	DEC 11. 96	12:00:00	1CH	CH-LOSS	
DISPLAY					(↑)NEXT (↓)PRE

The table lists the activated alarm modes (ALM-MODE) as follows:

TRM **: Interface Alarm

CH-LOSS: Video Input Signal Loss Alarm

SITE: Camera Site Alarm

PC *: PC Command Alarm

2. Press the ▲ button to select the next page of the table.
3. Press the ▼ button to back up to the previous page of the table.

4. To clear all alarm records, press the ◀ or ▶ button to select CLEAR where the cursor is positioned, then press the [HOME/SET] button.

5. Press the [SET UP/ESC] button to return to the previous ALARM SETUP menu.

Alarm Schedule

This item lets you enable or disable the system alarm function.

1. Move the cursor to the ALM SCHEDULE parameter by pressing the ▼ or ▲ button.
2. Select ON or OFF by pressing the ◀ or ▶ button.

ON: Enables system alarm function.

OFF: Disables system alarm function.

The factory default setting is OFF.

3. To set the timer, press the [HOME/SET] button while the cursor is positioned on ON.

The cursor moves to the timer editing area.

ALARM SETUP	
ALM RECALL *	
ALM SCHEDULE	ON 0:00- 0:00
CAM SITE ALM	OFF
VIDEO LOSS ALM	ON
SW-LOSS ALM	OFF
ALM DISPLAY	ON
ALM OUTPUT DUR	2SEC
ALM BUZZER DUR	2SEC
ALM MODE-MLT	ALM-IND
DWELL TIME	2SEC
ALM MODE-SPT	ALM-SPOT
DYNAMIC REC	OFF
ALM REC MODE	MODE0 REAL

4. Press the ▼ or ▲ button to move the cursor to the desired position, then adjust the time when the alarm is to be activated by pressing the ◀ or ▶ button.

Notes:

- If the same time is set for start and stop time, the alarm is always enabled.
- You can set the timer to extend into the next day, for example, 22:00 - 6:00.

5. Press the [SET UP/ESC] button to move the cursor to ON position.

■ Camera Site Alarm

This item lets you enable or disable the camera site alarm function.

1. Move the cursor to the CAM SITE ALM parameter by pressing the ▼ or ▲ button.
2. Select ON or OFF by pressing the ◀ or ▶ button.

ON: Enables camera site alarm function.
OFF: Disables camera site alarm function.

The factory default setting is OFF.

Note: To use this function, the WV-PB6164 Data Multiplex Boards must be installed in the video multiplexer.

■ Video Loss Alarm

This item lets you enable or disable the alarm function when the camera video signal is lost.

1. Move the cursor to the VIDEO LOSS ALM parameter.
2. Select either ON or OFF.

ON: Enables alarm function when video loss is detected.
OFF: Disables alarm function when video loss is detected.

The factory default setting is ON.

■ Camera Switching Pulse Loss Alarm

This item lets you enable or disable alarm display (SW LOSS) on the monitor screen when the camera switching pulse is lost.

1. Move the cursor to the SW-LOSS ALM parameter.
2. Select either ON or OFF.

ON: Enables alarm display on the monitor screen.
OFF: Disables alarm display on the monitor screen.

The factory default setting is OFF.

■ Alarm Display on the Monitors

This item lets you enable or disable alarm display on the spot and multiscreen monitors.

1. Move the cursor to the ALM DISPLAY parameter.
2. Select either ON or OFF.

ON: Enables alarm display on the Monitors.
OFF: Disables alarm display on the Monitors.

The factory default setting is ON.

■ Alarm Output Duration

This item lets you select the output duration of the alarm signal from the ALARM/REMOTE port. The alarm is automatically reset after the programmed duration has passed.

1. Move the cursor to the ALM OUTPUT DUR parameter.
2. Select the desired duration.

1SEC - 5MIN: Selects an alarm duration between 1 second and 5 minutes.
EXT: Alarm output continues until the ALARM RESET button is pressed or the external alarm recover signal is received from the ALARM/REMOTE port.

The factory default setting is 2 SEC.

■ Alarm Buzzer Duration

This item lets you select the ringing duration of the built-in alarm buzzer when an alarm is activated.

1. Move the cursor to the ALM BUZZER DUR parameter.
2. Select the desired duration.

OFF: Disables alarm buzzer, regardless of an incoming alarm.
1SEC - 5 MIN: Selects buzzer duration between 1 second and 5 minutes.
EXT: Alarm buzzer continues to beep until the ALARM RESET button is pressed or the external alarm recover signal is received from the ALARM/REMOTE port.

The factory default setting is 2 SEC.

■ Alarm Mode on the Multiscreen Monitor

This item lets you select the mode for displaying an alarm on the multiscreen monitor.

1. Move the cursor to the ALM MODE-MLT parameter.
2. Select the desired mode.

ALM-LINK: Switches screen to the camera image of the corresponding channel with an alarm title superimposed.

ALM-IND: Retains the camera image currently selected.

An alarm title appears overlapped on the camera image.

If no camera is currently selected the alarm title does not appear.

The factory default setting is ALM-IND.

3. When ALM-LINK is selected for the parameter, then the cursor can be moved to the DWELL TIME parameter.

● Dwell Time for Alarm Sequence

If more than one alarm is activated when ALM-LINK is selected, the respective camera images are displayed in quad mode on the multiscreen monitor.

From the fifth alarm on, the images are displayed sequentially in quad mode.

This item lets you set the dwell time for the alarm sequence.

1. Move the cursor to the DWELL TIME parameter.
2. Select the desired dwell time.

1SEC - 30SEC: Selects a dwell time between 1 second and 30 seconds.

The factory default setting is 2 SEC.

■ Alarm Mode on the Spot Monitor

This item lets you select the mode for displaying an alarm on the spot monitor.

1. Move the cursor to the ALM MODE-SPT parameter.
2. Select the desired mode.

ALM-SPOT: The camera image that has activated the alarm is displayed in single spot mode.

If multiple alarms are activated, the monitor displays the camera image that has activated the alarm most recent.

ALM-IGNORE: Ignores alarms activation and retains the camera image currently selected.

The factory default setting is ALM-SPOT.

■ Dynamic Recording

In this mode, the camera image of the channel on which the alarm was activated is recorded preferentially over other video inputs.

This item lets you enable or disable dynamic recording mode for recording on videotape.

1. Move the cursor to the DYNAMIC REC parameter.
2. Select either ON or OFF.

ON: Enables dynamic recording.

OFF: Disables dynamic recording.

The factory default setting is OFF

■ Alarm Recording Mode

This item lets you select the mode for recording an alarm. Refer to Recording Mode Setup on page 33 for further details.

1. Move the cursor to the ALM REC MODE parameter.
2. Select the desired recording mode.

MODE 0: Normal Recording

MODE 1-8: Time lapse mode without camera switching pulse.

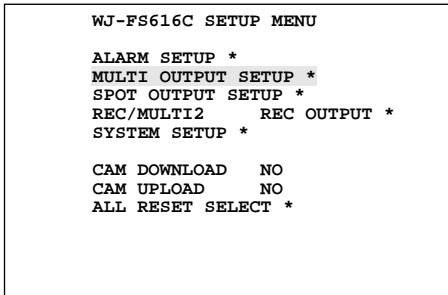
MODE 9: Time lapse mode with camera switching pulse.

The factory default setting is MODE 0.

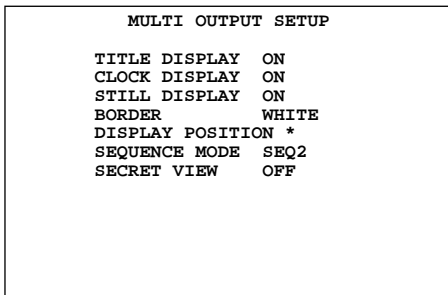
3. After completed the setting, press the [SET UP/ESC] button to return to the previous WJ-FS616C SETUP

MULTISCREEN OUTPUT SETUP

The procedure described below let you determine the display mode of the multiscreen monitor.



Move the cursor to MULTI OUTPUT SETUP in the SETUP MENU, and then press the [HOME/SET] button. The MULTI OUTPUT SETUP menu appears on the monitor screen as shown in the figure.



■ Camera Title Display

This item lets you enable or disable display of the camera title on the multiscreen monitor.

1. Move the cursor to the TITLE DISPLAY parameter.
2. Select either ON or OFF.

ON: Enables display of the camera title on the monitor screen.

OFF: Disables display of the camera title on the monitor screen.

The factory default setting is ON.

■ Clock Display

This item lets you enable or disable the clock display on the multiscreen monitor.

1. Move the cursor to the CLOCK DISPLAY parameter.
2. Select either ON or OFF.

ON: Enables clock display on the monitor screen.

OFF: Disables clock display on the monitor screen.

The factory default setting is ON.

■ Still Display

This item lets you enable or disable display of the subtitle "STILL" on the multiscreen monitor when the image is in the freeze mode.

1. Move the cursor to the STILL DISPLAY parameter.
2. Select either ON or OFF.

ON: Enables display of the subtitle "STILL" on the monitor screen.

OFF: Disables display of the subtitle "STILL" on the monitor screen.

The factory default setting is ON.

■ Border Display

This item lets you enable or disable the display of borders that divide the screen of the multiscreen monitor, or selects a border color.

1. Move the cursor to the BORDER parameter.
2. Select the desired mode or color.

WHITE: White Border

GRAY: Gray Border

BLACK: Black Border

OFF: No Border


The factory default setting is WHITE.

■ Camera Display Position Setting

This item lets you assign the position where the camera image will be displayed on the multiscreen monitor.

1. Move the cursor to DISPLAY POSITION, and then press the [HOME/SET] button.

The table shown in the figure appears on the monitor screen.

	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16

2. Move the cursor to the desired channel number by pressing the ▼ or ▲ button.
3. Select the numbers of the cameras to be displayed by pressing the ◀ or ▶ button.
The images of the selected cameras are displayed one after another on the monitor screen.

Note: The number can be assigned directly by pressing the Camera Number (1 – 16) buttons.

4. Press the [SET UP/ESC] button to return to the previous MULTI OUTPUT SETUP menu.

Note: This operation only affects the camera display positions.
It has no effect on the camera channel, recording order or sequence order.

■ Sequence Mode

This item lets you select the sequence pattern for display on the multiscreen monitor.

Refer to Sequence Setup on page 37 for further details.

1. Move the cursor to the SEQUENCE MODE parameter.
2. Select the desired sequence mode.

SEQ1: Spot Sequence

SEQ2: Multi Sequence

SEQ3: Multi Sequence

The factory default setting is SEQ2.

■ Secret View

When the camera image is displayed in the spot mode on the spot monitor, the multiscreen monitor is enabled to skip the step in sequence or display a blackout in multiscreen for that selected channel image.

This function is called Secret View and the item lets you enable or disable this function on the multiscreen monitor.

1. Move the cursor to the SECRET VIEW parameter.
2. Select either ON or OFF.

OFF: Disables the secret view function.

ON: Enables the secret view function.

The factory default setting is OFF.

3. After finishing the setting, press the [SET UP/ESC] button to return to the previous SETUP MENU.

SPOT OUTPUT SETUP

The procedure described below let you determine the display mode of the spot monitor.

```
WJ-FS616C SETUP MENU

ALARM SETUP *
MULTI OUTPUT SETUP *
SPOT OUTPUT SETUP *
REC/MULTI2 REC OUTPUT *
SYSTEM SETUP *

CAM DOWNLOAD NO
CAM UPLOAD NO
ALL RESET SELECT *
```

Move the cursor to SPOT OUTPUT SETUP in the SETUP MENU, and then press the [HOME/SET] button. The SPOT OUTPUT SETUP menu appears on the monitor screen as shown in the figure.

```
SPOT OUTPUT SETUP

TITLE DISPLAY ON
CLOCK DISPLAY ON
```

■ Camera Title Display

This item lets you enable or disable display of the camera title on the spot monitor.

1. Move the cursor to the TITLE DISPLAY parameter.
2. Select either ON or OFF.

ON: Enables display of the camera title on the monitor screen.

OFF: Disables display of the camera title on the monitor screen.

The factory default setting is ON.

■ Clock Display

This item lets you enable or disable the clock display on the spot monitor.

1. Move the cursor to the CLOCK DISPLAY parameter.
2. Select either ON or OFF.

ON: Enables clock display on the monitor screen.

OFF: Disables clock display on the monitor screen.

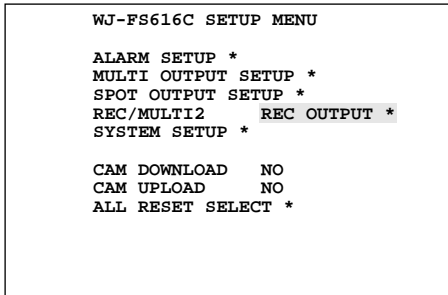
The factory default setting is ON.

3. After finishing the setting, press the [SET UP/ESC] button to return to the previous SETUP MENU.

RECORD OR MULTISCREEN 2 OUTPUT SETUP

The procedure described below let you determine the mode for the REC OUT connector on the rear of the video multiplexer.

As described before, this output can be used for recording images on the time lapse VCR or monitoring images as multiscreen 2 monitor.



1. Move the cursor to the REC/MULTI2 parameter in the SETUP MENU by pressing the ▼ or ▲ button.
2. Select either REC OUTPUT or MULTI2 OUTPUT by pressing the ◀ or ▶ button.

REC OUTPUT: Enables recording images on the time lapse VCR.

MULTI2 OUTPUT: Enables monitoring images on the connected multiscreen 2 monitor.

The factory default setting is REC OUTPUT.

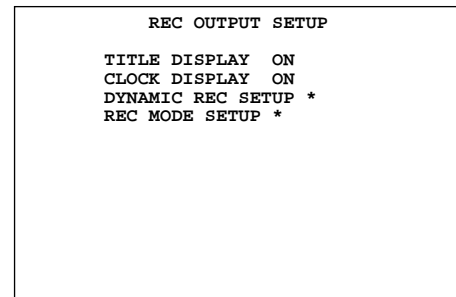
3. Press the [HOME/SET] button to execute the selection and then the selected submenu will appear on the monitor screen.

Record Output Setup

Select REC OUTPUT in the menu and then press the [HOME/SET] button.

The REC OUTPUT SETUP menu as shown in the figure appears on the monitor screen.

These items let you determine the mode for recording on the time lapse VCR.



Camera Title Display

This item lets you enable or disable recording of the camera title on the VCR.

1. Move the cursor to the TITLE DISPLAY parameter.
2. Select either ON or OFF.

ON: Enables recording of the camera title on the VCR.

OFF: Disables recording of the camera title on the VCR.

The factory default setting is ON.

Clock Display

This item lets you enable or disable recording of the clock display on the VCR.

1. Move the cursor to the CLOCK DISPLAY parameter.
2. Select either ON or OFF.

ON: Enables recording of clock display on the VCR.

OFF: Disables recording of clock display on the VCR.

The factory default setting is ON.

● Dynamic Recording

This item lets you select the cameras for dynamic recording mode in non-alarm condition.

If five or more cameras are connected to the video multiplexer, the channels selected for dynamic recording are recorded with priority.

1. Move the cursor to DYNAMIC REC SETUP by pressing the ▼ or ▲ button and then press the [HOME/SET] button.

The DYNAMIC REC SETUP menu as shown in the figure appears on the monitor screen.

DYNAMIC REC SETUP			
CAM	PRIORITY	CAM	PRIORITY
1CH	OFF	9CH	OFF
2CH	OFF	10CH	OFF
3CH	OFF	11CH	OFF
4CH	OFF	12CH	OFF
5CH	OFF	13CH	OFF
6CH	OFF	14CH	OFF
7CH	OFF	15CH	OFF
8CH	OFF	16CH	OFF

2. Move the cursor to the PRIORITY column to be recorded with dynamic recording for the camera number by pressing the ▼, ▲, ◀, or ▶ buttons.

3. Select either ON or OFF by pressing the or button.

OFF: Disables recording images with priority.

ON: Enables recording images preferentially over other input images.

The factory default settings are OFF.

4. Repeat steps 2 and 3 above to set other cameras.

Note: It is recommended to select up to 2 cameras.

5. When satisfied with all of the above steps, press the [SET UP/ESC] button to execute the selection and return to the previous REC OUTPUT SETUP menu.

Note: Recording is not enabled in dynamic recording mode when EXT4 is selected for MODE 9 in the REC MODE SETUP menu.

● Recording Mode Setup

This item lets you select a recording mode on the time lapse VCR.

1. Move the cursor to REC MODE SETUP by pressing the ▼ or ▲ button and then press the [HOME/SET] button. The REC MODE SETUP menu as shown in the figure appears on the monitor screen.

REC MODE SETUP			
MODE 0			0123456789 ABCDEFGHIJK
MODE0	1	REAL	LMNOPQRSTU
MODE1	---	----	WXYZ
MODE2	---	----	abcdefghijkl
MODE3	---	----	lmnopqrstuv
MODE4	---	----	wxyz
MODE5	---	----	' " = ? ! # & () *
MODE6	---	----	+ , - . / : ; ' E
MODE7	---	----	
MODE8	---	----	
MODE9	EXT1	-EXT	

Current REC MODE

REC MODE Title

REC MODE Parameter

2. Move the cursor to the MODE parameter in the menu by pressing the ▼ or ▲ button.

3. Select a mode number by pressing the or button.

MODE 0: Normal recording mode

MODE 1 - 8: Time Lapse Mode (VCR without camera switching pulse)

MODE 9: Time Lapse Mode (VCR with camera switching pulse)

The factory default setting is "0".

Note: To select MODE 1 - 8, you must first complete the settings described below.

Recording Mode Setting Details

You can assign the camera switching timing to any one of MODE1 to MODE8 when using the VCR without camera switching pulse.

1. Move the cursor to the desired MODE number to be assigned by pressing the ▼ or ▲ button.

2. Press the [HOME/SET] button to move the cursor to the right in the switching timing column.

Note: The cursor does not move to this column when MODE 0 is selected in this table. The value is fixed to 1 in this column.

3. Select the desired switching timing indicated as the field interval (4 to 999) by pressing the ◀ or ▶ button.

Notes:

- Numbers can also be input directly with the Camera Number buttons (1 - 10).
- Refer to the operating instructions of the VCR for switching timing.

When MODE9 is selected in this table, select EXT1 or EXT4 by pressing the ◀ or ▶ button.

EXT1: Enables spot image recording on the VCR.

EXT4: Enables quad images recording on the VCR.

4. Press the [HOME/SET] button to move the cursor to the right in the recording mode title column.
The square cursor appears in the character table.

5. To select a character, move the cursor on the desired character in the table by pressing the ▼, ▲, ◀, or ▶ buttons.

6. Press the [HOME/SET] button to pick up the character and place it in the title column.

7. Repeat steps 5 and 6 above to edit the title.

8. If a wrong character is selected, press the ◻ or ⊕ button to move the cursor in the title column.

Note: Press the + button to move the cursor to the right, or press the - button to move the cursor to the left. Then press the [HOME/SET] button to overwrite the character with the character selected from the table.

9. Press the [SET UP/ESC] button. The cursor moves to MODE number.

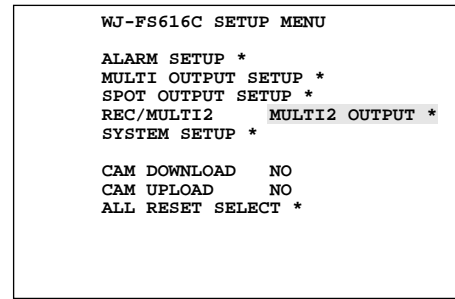
10. Repeat steps 1 to 9 above to assign the other MODE numbers.

11. After completing the setting, press the [SET UP/ESC] button to return to the REC OUTPUT SETUP menu.

12. After finishing the setting, press the [SET UP/ESC] button to return to the previous SETUP MENU.

■ Multiscreen 2 Output Setup

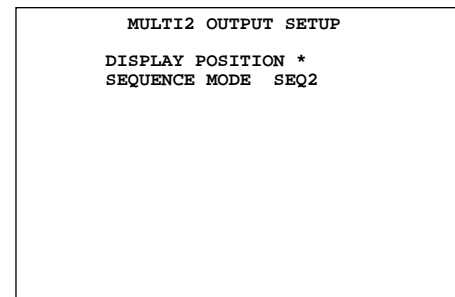
These items let you select the display mode when connecting the Record Output (REC OUT) to the monitor for multiscreen 2 monitor.



1. Move the cursor to the REC/MULTI2 parameter in the SETUP MENU.

2. Select MULTI2 OUTPUT and then press the [HOME/SET] button.

The MULTI2 OUTPUT SETUP menu as shown in the figure appears on the monitor screen.



● Camera Display Position

This item lets you select the position where the camera images will be displayed on the multiscreen 2 monitor.

1. Move the cursor to DISPLAY POSITION, then press the [HOME/SET] button.

The table shown in the figure appears on the monitor.

	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16

2. Move the cursor to the desired channel number by pressing the ▼ or ▲ button.
3. Select the numbers of the cameras to be displayed by pressing the ◀ or ▶ button.
The images of the selected cameras are displayed one after another on the monitor screen.

Note: Numbers can also be input directly with the Camera Number buttons (1 - 10).

4. After completing the setting, press the [SET UP/ESC] button to return to the previous MULTI 2 OUTPUT SETUP menu.

Note: This operation only affects the camera display positions.
It has no effect on the camera channel, recording order or sequence order.

● Sequence Mode

This item lets you select the sequence pattern for display on the multiscreen 2 monitor.

Refer to Sequence Setup on page 37 for more details.

1. Move the cursor to the SEQUENCE MODE parameter.
2. Select the desired sequence mode.

SEQ1: Spot Sequence

SEQ2: Multi Sequence

SEQ3: Multi Sequence

The factory default setting is SEQ2.

3. After finishing the setting, press the [SET UP/ESC] button to return to the previous SETUP MENU.

SYSTEM SETUP

The procedure described below let you determine the system designation and display the system status.

```
WJ-F8616C SETUP MENU

ALARM SETUP *
MULTI OUTPUT SETUP *
SPOT OUTPUT SETUP *
REC/MULTI2      REC OUTPUT *
SYSTEM SETUP *

CAM DOWNLOAD   NO
CAM UPLOAD     NO
ALL RESET SELECT *
```

1. Move the cursor to SYSTEM SETUP in the SETUP MENU and then press the [HOME/SET] button. The SYSTEM SETUP menu as shown in the figure appears on the monitor screen.

```
SYSTEM SETUP      1 OF 2

CLOCK SETUP      JAN 1.97  0:00
CLOCK POSITION *
TITLE SETUP *
TITLE POSITION *
SEQUENCE SETUP SEQ1 *
SEQ TIMING-MLT INT(TIME-ADJ)
SEQ TIMING-SPT INT
LOCK MODE        ALL
```

```
SYSTEM SETUP      2 OF 2

CABLE COMP/VD2/DATA SETUP *
ALM TERMINAL SETUP *
PLAYBACK MODE    FIELD
DATA MODE        CU
RS-232C MODE     VCR
COM PORT SETUP *
VCR IN SELECT    VIDEO
DAISY MODE       OFF
UNIT ADDR.SET    1
PASSWORD         OFF
```

2. Press the [FUNCTION] button to display the next page of the menu. Press this button again to return to the previous page of the menu.

■ Clock Setup

This item lets you set the current time and date.

1. Move the cursor to CLOCK SETUP in the SYSTEM SETUP menu and then press the [HOME/SET] button. The cursor moves to the right editing area.
2. Select the month by pressing the ◀ or ▶ button.
3. Move the cursor to the right by pressing the ▼ or ▲ button, then select the date by pressing the ◀ or ▶ button.
4. Select the last 2 digits for the year and time (military time) as similarly by pressing the ▼ or ▲ button and the ◀ or ▶ button.
5. After completing the setting, press the [SET UP/ESC] button to move the cursor to CLOCK SETUP. The selected time and date are updated when the [SET UP/ESC] button is pressed.

■ Clock Display Position

This item lets you select the position where the clock will be displayed on the monitor screen.

1. Move the cursor to CLOCK POSITION in the SYSTEM SETUP menu and then press the [HOME/SET] button. The position setting menu shown in the figure appears on the monitor screen.

```
DEC11.96 12:00:00

CAMTITLE
```

2. Move the clock position by pressing the ▼, ▲, ◀ or ▶ button.

Note: In the multiscreen display with the multiscreen output or record output, the clock display is shifted one line from the preset position if the camera title and the clock are preset to the same position.

3. Press the [SET UP/ESC] button to execute the selection and return to the previous SYSTEM SETUP menu.

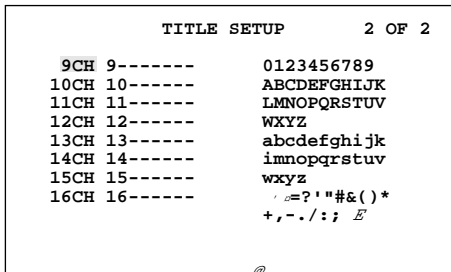
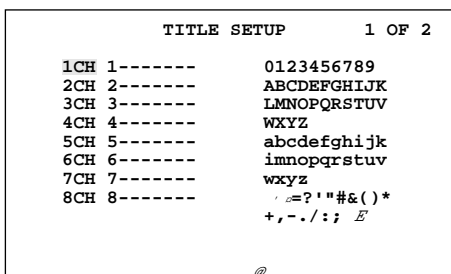
■ Camera Title Setup

This item lets you edit the camera title to be displayed on the monitor screen.

Up to 8 alphanumeric characters can be displayed on the monitor.

1. Move the cursor to TITLE SETUP in the SYSTEM SETUP menu by pressing the ▼ or ▲ button, then press the [HOME/SET] button.

The TITLE SETUP menu shown in the figure appears on the monitor screen.



2. Move the cursor to the channel you want to edit by pressing the ▼ or ▲ button, then press the [HOME/SET] button.

The cursor moves to the right editing column, and the square cursor appears on the character table.

3. To select a character, move the cursor on the desired character in the table by pressing the ▼, ▲, ◀ or ▶ button.

4. Then press the [HOME/SET] button to pick up the character, and place it in the editing column.

5. Repeat steps 3 and 4 above until the title for a certain camera is completed.

6. If a wrong character is selected, press the □ or ⊕ button to move the cursor in the editing column.

Note: Press the ⊕ button to move the cursor to the right, or press the □ button to move the cursor to the left.

Then press the [HOME/SET] button to overwrite the character with the character selected in the table.

7. Press the [SET UP/ESC] button to move the cursor to the channel number column.

8. Press the [FUNCTION] button to display the next page, then press this button again to return to the previous page.

9. Repeat steps 2 to 7 above to edit the titles for the rest of the cameras.

10. After completing the setting, press the [SET UP/ESC] button to return to the previous SYSTEM SETUP menu.

■ Camera Title Display Position

This item lets you select the camera title position to be displayed on the monitor screen.

Refer to the Clock Display Position Setting on page 36 for more details.

1. Move the cursor to TITLE POSITION in the SYSTEM SETUP menu, then press the [HOME/SET] button.

The position setting menu appears on the monitor screen.

2. Move the title by pressing the ▼, ▲, ◀ or ▶ button.

Note: In the Multiscreen display with the multiscreen output or record output, the clock display is shifted one line from the preset position if the camera title and the clock are preset to the same position.

3. Press the [SET UP/ESC] button to execute the selection and return to the previous SYSTEM SETUP menu.

■ Sequence Setup

This item lets you program the sequence pattern for spot or multi sequence.

You can either program a spot sequence (SEQ1) or two multi sequences (SEQ2, SEQ3).

● Spot Sequence (SEQ1)

This item lets you program or edit a spot sequence.

Up to 32 steps can be assigned in the table shown in the figure.

You can also enable the auto skip function to skip any steps where no video signal is present.

The duration of each step is determined by the dwell time setting.

The factory default setting is sequential display of 16 camera images.

1. Move the cursor to the SEQUENCE SETUP parameter in the SYSTEM SETUP menu.

- Select SEQ1 and then press the [HOME/SET] button. The SEQ1 SETUP menu shown in the figure appears on the monitor screen.

SEQ1 (SPOT-SEQUENCE) SETUP 1 OF 2							
AUTO SKIP OFF				DWELL TIME 2SEC			
STEP	CAM	PRE	TIME	STEP	CAM	PRE	TIME
1	1CH	-	2SEC	9	9CH	-	2SEC
2	2CH	-	2SEC	10	10CH	-	2SEC
3	3CH	-	2SEC	11	11CH	-	2SEC
4	4CH	-	2SEC	12	12CH	-	2SEC
5	5CH	-	2SEC	13	13CH	-	2SEC
6	6CH	-	2SEC	14	14CH	-	2SEC
7	7CH	-	2SEC	15	15CH	-	2SEC
8	8CH	-	2SEC	16	16CH	-	2SEC

Auto Skip

- Move the cursor to the AUTO SKIP parameter.
- Select either ON or OFF.

ON: Enables the auto skip function.
OFF: Disables the auto skip function.

The factory default setting is OFF.

Note: The auto skip function is not available when playing back videotape images.

Image Assignment

- Move the cursor to the CAM column you want to edit for the step number by pressing the ▼, ▲, ◀ or ▶ button.
- Select the desired camera or playback channel in the CAM column by pressing the ⊖ or ⊕ button.

1 - 16: Camera Channel
P1 - P16: Playback Channel
 -: Not Assigned

Notes:

- Pressing the Camera Number button assigns the camera channel directly.
- Any playback steps programmed in a sequence are excluded from display on the spot monitor and multi-screen 2 monitor due to the way the system is designed.

- Repeat steps 1 and 2 above to assign other steps.

Preset Position

- Move the cursor to the PRE column you want to edit for the step number by pressing the ▼, ▲, ◀ or ▶ button.

- Select the desired preset position number for the camera in the PRE column by pressing the ⊖ or ⊕ button.

Note: A preset position assigned to a step that has been assigned to a playback channel is invalid.

- Repeat steps 1 and 2 above to assign other steps.

Dwell Time

• Uniform Dwell Time

- Move the cursor to the DWELL TIME parameter by pressing the ▼ or ▲ button.
- Select the desired dwell time by pressing the ◀ or ▶ button.
Dwell Time can be selected between 0SEC and 30SEC.

Note: If 0SEC is selected for the dwell time, the spot sequence is not activated.

• Individual Dwell Time

- Move the cursor to the TIME column you want to edit for the step number by pressing the ▼, ▲, ◀ or ▶ button.
- Select the desired dwell by pressing the ⊖ or ⊕ button.
Steps for which a different dwell time has been selected are marked “-” in the DWELL TIME parameter. Previous settings made in the DWELL TIME parameter become invalid.

Programming Steps 17 to 32

- Press the [FUNCTION] button to display the next page of the table.
The table shown in the figure appears on the monitor screen.

SEQ1 (SPOT-SEQUENCE) SETUP 2 OF 2							
STEP	CAM	PRE	TIME	STEP	CAM	PRE	TIME
17	⊖	-	2SEC	25	-	-	2SEC
18	-	-	2SEC	26	-	-	2SEC
19	-	-	2SEC	27	-	-	2SEC
20	-	-	2SEC	28	-	-	2SEC
21	-	-	2SEC	29	-	-	2SEC
22	-	-	2SEC	30	-	-	2SEC
23	-	-	2SEC	31	-	-	2SEC
24	-	-	2SEC	32	-	-	2SEC

- Program the sequence pattern for steps 17 to 32 as described previously.
- Press the [FUNCTION] button to display the previous page of the table.

- After finishing the settings, press the [SET UP/ESC] button to execute the settings and return to the previous SYSTEM SETUP menu.

● Multi Sequence (SEQ2, SEQ3)

This item lets you program or edit a Multi Sequence.

Up to 5 steps can be assigned in the table shown below.

You can also enable the auto skip function to skip any steps where no video signal is present.

The duration of each step is determined by the dwell time setting.

According to the factory default setting, SEQ2 is displayed on four screen segments (quad) and SEQ3 on nine segments.

- Move the cursor to the SEQUENCE SETUP parameter in the SYSTEM SETUP menu.

- Select SEQ2 or SEQ3 and then press the [HOME/SET] button.

The corresponding SETUP table shown in the figure appears on the monitor screen.

SEQ2 (MULTI-SEQUENCE) SETUP 1 OF 5					
AUTO SKIP OFF					
STEP 1 CAM					
DWELL TIME 3SEC					
AREA	CAM	PRE	AREA	CAM	PRE
1	1CH	-	9	-	-
2	2CH	-	10	-	-
3	3CH	-	11	-	-
4	4CH	-	12	-	-
5	-	-	13	-	-
6	-	-	14	-	-
7	-	-	15	-	-
8	-	-	16	-	-

SEQ3 (MULTI-SEQUENCE) SETUP 1 OF 5					
AUTO SKIP OFF					
STEP 1 CAM					
DWELL TIME 5SEC					
AREA	CAM	PRE	AREA	CAM	PRE
1	1CH	-	9	-	-
2	2CH	-	10	-	-
3	3CH	-	11	-	-
4	4CH	-	12	-	-
5	5CH	-	13	-	-
6	6CH	-	14	-	-
7	7CH	-	15	-	-
8	8CH	-	16	-	-

Auto Skip

- Move the cursor to the AUTO SKIP parameter by pressing the ▼ or ▲ button.
- Select either ON or OFF by pressing the ◀ or ▶ button.

ON: Enables the auto skip function.

OFF: Disables the auto skip function.

The factory default setting is OFF.

Note: The auto skip function is not available when playing back videotape images.

Camera/Playback

This item lets you select the camera or playback image to be displayed at each step.

- Move the cursor to the STEP parameter by pressing the ▼ or ▲ button.
- Select either CAM or PLAY by pressing the ◀ or ▶ button.

CAN: Enables display of camera image.

PLAY: Enables display of playback image.

The factory default setting is CAM.

Dwell Time

- Move the cursor to the DWELL TIME parameter by pressing the ▼ or ▲ button.
- Select the desired dwell time by pressing the ◀ or ▶ button.
Dwell Time can be selected between 0SEC and 30SEC.

Note: If 0SEC is selected for the dwell time, the step will not be displayed on the multiscreen monitor.

Image Assignment

- Move the cursor to the CAM column you want to edit for the area number by pressing the ▼, ▲, ◀ or ▶ button.
- Select the desired camera or playback channel in the CAM column by pressing the or button.

1 - 16: Camera Channel

P1 - P16: Playback Channel

-: Not Assigned

- Repeat steps 1 and 2 above to assign other area numbers.

Note:

The multiscreen pattern of each step is determined automatically as follows:

- For example, if several camera channels are assigned to area numbers, the screen segmentation that will accommodate the highest area number will be selected.
- Areas not assigned a camera channel, or assigned a channel to which no camera is connected, are displayed in blackout.
- Pressing the Camera Number button assigns the camera channel directly.

Preset Position

1. Move the cursor to the PRE column you want to edit for the area number by pressing the ▼, ▲, ◀ or ▶ button.
2. Select the desired preset position number for the camera in the PRE column by pressing the □ or ⊕ button.
3. Repeat steps 1 and 2 above to assign other area numbers.

Notes:

- When the STEP parameter in this table is on PLAY, it is not possible to select a preset position in the PRE column.
- It is possible to assign the same camera channel to multiple area numbers within a step. In this case, make sure to assign the same preset positions in the table.

Programming Steps 2 to 5

1. Press the [FUNCTION] button to display the next page of the table.
2. Program the sequence pattern for steps 2 to 5 according to the procedure described above.
3. After finishing the settings, press the [SET UP/ESC] button to execute the settings and returns to the previous SYSTEM SETUP menu.

■ Sequence Timing (Multiscreen Monitor)

This item lets you select between internal and external control for advancing the sequence on the multiscreen monitor. It also lets you select functions of devices connected to pin 26 of the ALARM/REMOTE port.

One of these functions is input of the time adjustment signal from a VCR, the other enables external sequence advance for multiscreen monitor.

1. Move the cursor to the SEQ TIMING-MLT parameter in the SYSTEM SETUP menu.
2. Select INT (TIME-ADJ) or EXT.

INT: Advances a sequence by the dwell time that was programmed in the SEQUENCE SETUP menu. It enables input of the time adjustment signal from a Time Lapse VCR.

EXT: Enables external sequence advance.

The factory default setting is INT (TIME-ADJ).

Notes:

- If EXT is selected, time adjustment input from a Time Lapse VCR is disabled.
- If EXT is selected, connect the external sequence switch to pin 26 of the ALARM/REMOTE port.
- The multiplexer accepts the time adjustment signal for 6 minutes, that is, 3 minutes before and 3 minutes after the exact time (For example, from 9:57:00 through 10:03:00. Time is adjusted to 10:00:00).

■ Sequence Timing (Spot Monitor)

This item lets you select between internal and external control for advancing the sequence on the spot monitor.

1. Move the cursor to the SEQ TIMING-SPT parameter in the SYSTEM SETUP menu.
2. Select either INT or EXT.

INT: Advances a sequence by the dwell time that was programmed in the SEQUENCE SETUP menu.

EXT: Advances a sequence by the input from pin 6 of the ALARM/REMOTE port.

The factory default setting is INT.

■ Lock Mode

This item lets you determine which buttons will be locked while the LOCK switch is in ON position.

1. Move the cursor to the LOCK MODE parameter in the SYSTEM SETUP menu.
2. Select either ALL or VCR.

VCR: Locks the VCR Control Buttons.

ALL: Locks all the buttons.

The factory default setting is ALL.

Note: The LOCK indicator only lights when the LOCK switch is in ON position and LOCK MODE is set to ALL.

■ Cable Compensation/VD2/Data

This item lets you select the optimum setting for the cable-loss compensator and whether to supply the VD2 (sync) signal or control data to the camera.

Note: These settings will work only for the input channels that have the multiplex feature with the Data Multiplex Board WV-BP6164 installed. The boards are installed for input channels 1 through 4 at the factory. You can install boards for other channels. For installations, see page 12.

1. Press the [FUNCTION] button while the SYSTEMSETUP menu (1 of 2) is displayed on the monitor screen. The next page of the menu appears on the screen.
2. Move the cursor to CABLE COMP/VD2/DATA SETUP in the SYSTEM MENU, then press the [HOME/SET] button. The CABLE COMP/VD2/DATA SETUP table shown in the figure appears on the monitor screen.

CABLE COMP/VD2/DATA SETUP 1 OF 2			
CAM	CABLE	VD2	DATA
1CH	S	ON	ON
2CH	S	ON	ON
3CH	S	ON	ON
4CH	S	ON	ON
5CH	S	OFF	OFF
6CH	S	OFF	OFF
7CH	S	OFF	OFF
8CH	S	OFF	OFF

CABLE COMP/VD2/DATA SETUP 2 OF 2			
CAM	CABLE	VD2	DATA
9CH	S	OFF	OFF
10CH	S	OFF	OFF
11CH	S	OFF	OFF
12CH	S	OFF	OFF
13CH	S	OFF	OFF
14CH	S	OFF	OFF
15CH	S	OFF	OFF
16CH	S	OFF	OFF

3. Move the cursor to the columns you want to edit for the channel by pressing the ▼, ▲, ◀ or ▶ button.
4. Select one of the parameters shown below in the CABLE column by pressing the □ or ⊕ button. This item lets you select a suitable cable-loss compensator corresponding with the cable length.

S: Up to 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)

(Using the RG-59/U, BELDEN 9259 or equivalent cable)

Note: Set CABLE to S if no camera is connected to the channel.

5. Select either ON or OFF in the VD2 column by pressing the □ or ⊕ button.

Note: Select ON for a camera with VD2 capability, otherwise select OFF.

6. Select one of the parameters shown below in the DATA column by pressing the □ or ⊕ button.

ON: Communicates with the camera site by multiplexed data.

1-16: Communicate with the camera site by RS-485.

This number indicates the unit address of the selected camera.

OFF: Disables communication with the camera site.

6. Repeat steps 3 to 6 above to edit other channels. Press the [FUNCTION] button to display the next page of the table, then press this button again to return to the previous page.

7. After finishing the settings, press the [SET UP/ESC] button to execute the settings and returns to the previous SYSTEM SETUP menu.

Note: Installation of the WV-PB6164 Data Multiplex Boards is required for controlling more than 4 cameras.

■ Alarm Terminal Setup

This item lets you designate the alarm input from the ALARM/REMOTE port located on the rear of the multiplexer.

1. Move the cursor to ALM TERMINAL SETUP in the SYSTEM SETUP menu, then press the [HOME/SET] button. The ALARM TERMINAL SETUP table shown in the figure appears on the monitor screen.

ALARM TERMINAL SETUP					
NO.	CAM	PRE	NO.	CAM	PRE
1	1CH	-	9	9CH	-
2	2CH	-	10	10CH	-
3	3CH	-	11	11CH	-
4	4CH	-	12	12CH	-
5	5CH	-	13	13CH	-
6	6CH	-	14	14CH	-
7	7CH	-	15	15CH	-
8	8CH	-	16	16CH	-

2. Move the cursor to the columns you want to edit for the terminal number by pressing the ▼, ▲, ◀ or ▶ button.

3. Select the channel number to be assigned in the CAM column by pressing the □ or ⊕ button.

Note: Channel numbers can also be input directly with the camera number buttons.

- Select the preset position number to be assigned in the PRE column by pressing the \ominus or \oplus button.
- Repeat steps 2 to 4 above to assign other terminal numbers.

Note: The same channel number can be assigned to multiple alarm terminals.

In this case, different preset positions can be assigned, but when alarm occurs at these positions, the camera moves to the preset position where the most recent alarm occurred.

- Press the [SET UP/ESC] button to execute the settings and returns to the previous SYSTEM SETUP menu.

■ Playback Mode

This item lets you select the ID code for playback of recorded videotape.

- Move the cursor to the PLAYBACK MODE parameter in the SYSTEM SETUP menu.
- Select either FIELD or FS10.

FIELD: Normally set to this position.

FS10: Enables playback of the videotape that is recorded with the WJ-FS10.

The factory default setting is FIELD.

■ Data Mode

This item lets you select an external controller from the DATA port.

- Move the cursor to the DATA MODE parameter in the SYSTEM SETUP menu.
- Select either CU or PC.

CU: Enables control from the specified System Controller.

PC: Enables control from a PC.

The factory default setting is CU.

■ RS-232C Mode

This item lets you select the RS-232C port for control of the VCR, or for external control of the system from a PC.

- Move the cursor to the RS-232C MODE parameter in the SYSTEM SETUP menu.
- Select either VCR or PC.

VCR: Enables use as VCR control port.

PC: Enables use as external control port from a PC.

The factory default setting is VCR.

Note: Be sure to select PC in this menu if you plan to use the REMOTE OUT connector for controlling the VCR.

■ Communication Port Setup

This item lets you set the parameters for communication between the ports and the connected appliances.

- Move the cursor to COM PORT SETUP in the SYSTEM menu, then press the [HOME/SET] button. The COM PORT SETUP table shown in the figure appears on the monitor screen.

COM PORT SETUP			
	RS-232C	DATA	RS-485
DELAY	OFF	OFF	OFF
BAUD RATE	9600	9600	19200
WAIT TIME	OFF	100	OFF
DATA BIT	7	8	8
PARITY	ODD	EVEN	NONE
STOP BIT	1	1	1
XON/XOFF	-	OFF	OFF
FULL/HALE	-	-	FULL

- Move the cursor to the port column you want to edit by pressing the ∇ , \blacktriangle , \blacktriangleleft or \blacktriangleright button. The table indicates the factory default settings.
- Select the desired delay time for DELAY by pressing the \ominus or \oplus button.

\leftrightarrow OFF \leftrightarrow 10 \leftrightarrow 20 \leftrightarrow 40 \leftrightarrow 60 \leftrightarrow 80 \leftrightarrow 100 \leftrightarrow

- Select the desired transmission speed (bits per second) for BAUD RATE by pressing the \ominus or \oplus button.

\leftrightarrow 1 200 \leftrightarrow 2 400 \leftrightarrow 4 800 \leftrightarrow 9 600 \leftrightarrow 19 200 \leftrightarrow

5. Select the desired waiting time for WAIT TIME by pressing the \ominus or \oplus button.

This item lets you set the waiting time to retry if there is no response from the connected device.

OFF: Selects no retry.

100 – 1000: Selects a waiting time in milli-seconds.

6. Select a number of data bit, 7 or 8, for DATA BIT by pressing the \ominus or \oplus button.

7. Select the parity check mode for PARITY by pressing the \ominus or \oplus button.

NONE: No parity check

EVEN: Even parity

ODD: Odd parity

8. Select a number of stop bit, 1 or 2, for STOP BIT by pressing the \ominus or \oplus button.

9. Select the flow control mode, ON or OFF, for XON/XOFF by pressing the \ominus or \oplus button. (except RS-232C)

OFF: Disables the flow control.

ON: Enables the flow control.

10. Select FULL or HALF Duplex for FULL/HALF by pressing the \ominus or \oplus button. (RS-485 only)

11. Repeat the above steps to edit other ports.

12. Press the [SET UP/ESC] button to execute the setting and returns to the previous SYSTEM SETUP menu.

■ VCR Input Select

This item lets you select the VCR input terminal.

1. Move the cursor to the VCR IN SELECT parameter in the SYSTEM SETUP menu.

2. Select input either VIDEO or S-VIDEO.

VIDEO: Selects input from the VCR VIDEO terminal.

S-VIDEO: Selects input from the VCR S-VIDEO terminal.

The factory default setting is VIDEO.

■ Daisy Mode

This item lets you select whether to have the video signal connected to SPOT IN looped through to the SPOT OUT connector (daisy-chain connection).

1. Move the cursor to the DAISY MODE parameter in the SYSTEM SETUP menu.

2. Select either ON or OFF.

ON: Select this parameter if the video multiplexer is daisy-chained.

OFF: Normal position.

The factory default setting is OFF.

■ Unit Address

This item lets you assign a unit number for identification when multiple video multiplexers are connected in a system.

1. Move the cursor to the UNIT ADDR. SET parameter in the SYSTEM SETUP menu.

2. Select a unit number, 1 to 16, by pressing the A or B button.

The factory default setting is 1.

■ Password

This item lets you select whether to permit free or limited access to the setup menus.

When PASSWORD is set to ON, the operator must enter the password to access the setup menus.

1. Move the cursor to the PASSWORD parameter in the SYSTEM SETUP menu.
2. Select either ON or OFF by pressing the ◀ or ▶ button.

ON: Enables limited access to the menus.

OFF: Enables freely access to the menus.

The factory default setting is OFF.

● Password Registration

Enter a 4-digit password consisting of numbers from 1 to 9 (except 0).

Password is required to access to the WJ-FS616C SETUP MENU.

1. Select ON by pressing the ◀ or ▶ button.
The password editing area shown in the figure will appear in the menu.
2. Press the [HOME/SET] button to move the cursor to the first digit in the editing area.
3. Move the cursor to the position to be edited in the editing area by pressing the ▼ or ▲ button.
4. Select the desired number by pressing the A or B button.

Note: Numbers can also be input directly with the [CAMERA (1 – 9)] buttons.

5. Repeat steps 3 and 4 until all digits are registered.
6. Press the [SET UP/ESC] button to execute the settings and the cursor returns to ON position in the menu.
7. After finishing the settings, press the [SET UP/ESC] button to execute the settings and return to the previous SETUP MENU.

OTHER SETUP MENUS

■ Camera Download

This item lets you save the camera setup data into the memory of the video multiplexer.

If the setup contents of the camera should be lost due to malfunctioning or replacement of a camera, you can simply reload the data stored in the video multiplexer.

1. Move the cursor to the CAM DOWNLOAD parameter in the SETUP MENU.

2. Select YES by pressing the ◀ or ▶ button, then press the [HOME/SET] button.

The CAM DOWNLOAD table shown in the figure appears on the monitor screen.

CAM DOWNLOAD									
DOWNLOAD								1CH	NO
CAM	1	2	3	4	5	6	7	8	
DATA	O+	-	O+	-	-	N-	+	-	
CAM	9	10	11	12	13	14	15	16	
DATA	-	-	-	-	-	-	-	-	
O:RESULT OK				+:DATA EXISTENCE					
N:RESULT NG				-:DATA NOTHING					
CAUTION:ALL ALARM INPUTS HAVE BEEN DISABLED.									

3. Select the channel you want to save by pressing the ◀ or ▶ button.

1CH - 16CH: Enables storing of setup data for the selected camera channel.

ALL: Enables storing of setup data for all camera channels.

Note: Channel numbers can also be input directly with the Camera Number buttons.

4. Move the cursor to "NO" by pressing the ▼ or ▲ button.

5. Select "YES" by pressing the ◀ or ▶ button.

6. Press the [HOME/SET] button to begin loading. "NOW LOADING" appears on the table. To cancel loading, press the [SET UP/ESC] button.

7. When loading is finished, the result is displayed for each channel.

8. Press the [SET UP/ESC] button, then system will restart.

Note: Alarm is disabled while this menu is displayed.

■ Camera Upload

This item lets you upload camera setup data from the video multiplexer's memory to a camera.

1. Move the cursor to the CAM UPLOAD parameter in the SETUP MENU.

2. Select YES by pressing the ◀ or ▶ button, then press the [HOME/SET] button.

The CAM UPLOAD table shown in the figure appears on the monitor screen.

CAM UPLOAD									
UPLOAD								1CH	NO
CAM	1	2	3	4	5	6	7	8	
DATA	O+	-	O+	-	-	N-	+	-	
CAM	9	10	11	12	13	14	15	16	
DATA	-	-	-	-	-	-	-	-	
O:RESULT OK				+:DATA EXISTENCE					
N:RESULT NG				-:DATA NOTHING					
CAUTION:ALL ALARM INPUTS HAVE BEEN DISABLED.									

3. Select the channel you want to upload by pressing the ◀ or ▶ button.

1CH - 16CH: Enables data uploading to a selected camera.

ALL: Enables data uploading to all cameras.

Note: Channel numbers can also be input directly with the Camera Number buttons.

4. Move the cursor to "NO" by pressing the ▼ or ▲ button.

5. Select "YES" by pressing the ◀ or ▶ button.

6. Press the [Home/SET] button to begin the load. "NOW LOADING" appears on the table. To cancel loading, press the [SET UP/ESC] button.

7. When loading is finished, the result is displayed for each channel.

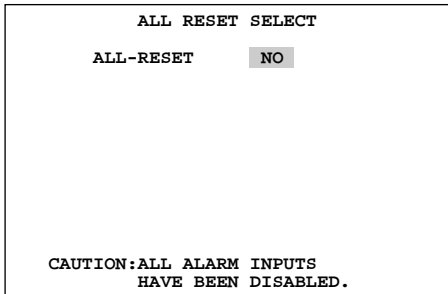
8. Press the [SET UP/ESC] button, then system will restart.

Note: Alarm is disabled while this menu is displayed.

■ All Reset

This item lets you restore the factory settings without having to go through each individual menu.

1. Move the cursor to ALL RESET SELECT in the SETUP MENU, then press the [HOME/SET] button.
The ALL RESET SELECT menu shown in the figure appears on the monitor screen.



2. Select "YES" by pressing the ◀ or ▶ button.
3. Press the [HOME/SET] button to execute the all reset function.
4. First "NOW RESETTING" appears, then "RESET COMPLETED".
5. Press the [SET UP/ESC] button to return to the SETUP MENU.

Note: Alarm is disabled while the ALL RESET SELECT menu is displayed.

OPERATING PROCEDURES

CONTROLLING THE VIDEO INPUT AND MONITORS

Before starting the following procedures, all system components should be turned on.
Then set the LOCK switch to the OFF position.

Controlling the Spot Monitor

The operations described below are available on the spot monitor.

■ Selecting the Spot Monitor

1. Select the spot monitor by pressing the [SPOT] button.
The indicator (green) in the button is on to indicate the spot monitor is selected.



2. In this condition, select the images to be displayed on the monitor screen followed the procedure shown below.

■ Single Spot (Live)

1. Select an image to be displayed on the monitor by pressing a [1 – 16] button.
The indicator in the selected button lights and the camera image corresponding to the button appears on the monitor screen.



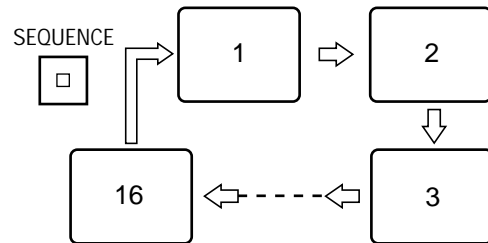
2. To select another image, press a [1 – 16] button corresponding to the image.

The selected image appears on the monitor screen.
The indicator in the button previously selected turns off and the indicator in the button currently selected lights.

■ Single Sequence (Live)

A series of camera images can be displayed in succession on the monitor screen for the specified duration.
Refer to the Sequence Setup for further details.

1. Press the [SEQUENCE] button to run the assigned sequence (SEQ1) forward on the monitor screen.
The indicator in the button lights to indicate that the sequence mode is selected.



The indicator in the CAMERA button lights up and the camera image corresponding to the button appears on the monitor screen.

2. During the sequence, press the [SEQUENCE] button to move one step forward in the sequence.
3. To return to spot monitoring, select an image to be displayed on the monitor by pressing a [1 – 16] button.

Note: You can also enable the auto skip function to skip any steps where no video signal is present.

Controlling the Multiscreen Monitor

The operations described below are available on the multi-screen monitor.

Note: We recommend using the spot monitor in single spot for preventing image disturbance when displaying non-interlace images.

■ Selecting the Multiscreen Monitor

1. Select the multiscreen monitor by pressing the [MULTI-SCREEN] button repeatedly.
The indicator in the button is on to indicate the multi-screen monitor is selected.



Note: The indicator in the button blinks to indicate the multi-screen 2 monitor is selected, if applicable.

2. Press the [VCR/CAM] button will toggle the indicator in the button on and off.



Off: Indicates camera images (Live Mode) is selected.
On: Indicates playback images (VCR Mode) is selected.

3. In this condition, select the images to be displayed on the monitor screen followed the procedure shown below.

■ Controlling the Camera Images

While the VCR/CAM button is off, the camera images on the monitor screen can be controlled followed the procedure described below.

● Single Spot (Live)

1. Select an image to be displayed on the monitor by pressing a [1 - 16] button.

The indicator in the selected button lights and the camera image corresponding to the button appears on the monitor screen.



2. To select another image, press a [1 - 16] button corresponding to the image.
The selected image appears on the monitor screen.
The indicator in the button previously selected turns off and the indicator in the button currently selected lights.

● Freezing Single Spot (Live)

While the image on the monitor screen is displayed in single spot mode, the image can be frozen followed the procedure below.

1. Select an image to be frozen on the monitor by pressing a [1 - 16] button.
The indicator in the selected button lights and the camera image corresponding to the button appears on the monitor screen.



2. Press the [STILL] button to display the freeze image on the monitor.
The indicator in the STILL button lights and the indicator in the pressed CAMERA button starts to blink.



- To cancel this mode, press the [STILL] button to return to the image previously shown.
The indicator in the button goes off.

● Zooming Single Spot (Live)

While the image on the monitor screen is displayed in single spot mode, the image can be zoomed followed the procedure below.

- Select an image to be zoomed on the monitor by pressing a [1 – 16] button.
The indicator in the selected button lights and the camera image corresponding to the button appears on the monitor screen.



- Press the [EL-ZOOM] button to display the zoomed image on the monitor.
The indicator in the button lights to indicate zoom mode is selected.

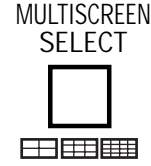


- In the zoom mode, pressing the ▼, ▲, ◀, or ▶ button will move the image in the direction of the button.
- To cancel this mode, press the [EL-ZOOM] button to return to the image previously shown.
The indicator in the button goes off.

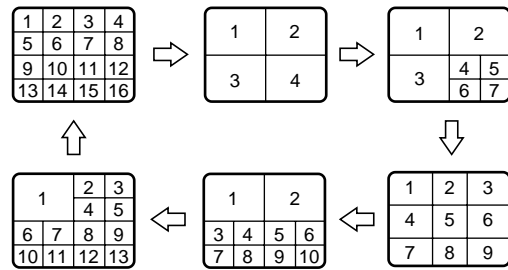
● Multiscreen Spot (Live)

The monitor can display the camera images on a 4, 7, 9, 10, 13 and 16 multiscreen shown below.

- Select the screen segments to be displayed on the monitor by pressing the [MULTISCREEN SELECT] button repeatedly.



Each time the [MULTISCREEN SELECT] button is pressed, the next group of 6 multiscreens available is displayed as follows.



Notes:

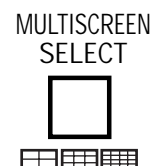
- Any camera can be assigned to any segment in the pattern.
- The setting can be adjusted in such a way that a screen segment for displaying an image on the spot monitor screen in the single spot mode is blacked out.
Refer to the SECRET VIEW for further details.

- To display a single spot image, select an image to be displayed on the monitor by pressing one of the CAMERA buttons that the indicator in the button lights up.

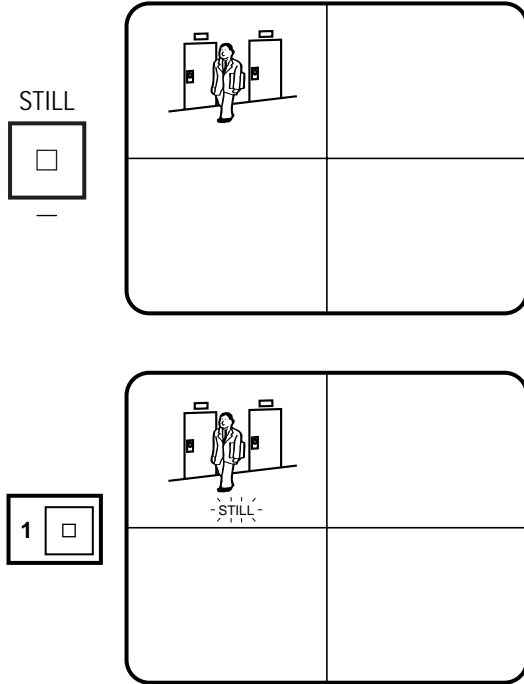
● Freezing Multiscreen Spot (Live)

The monitor can display the freeze camera images on a 4, 7, 9, 10, 13 and 16 multiscreen shown below.

- Select the screen segments to be displayed on the monitor by pressing the [MULTISCREEN SELECT] button repeatedly.



- Press the [STILL] button. The indicator in the button lights.
- Select an image to be frozen on the monitor by pressing a [1 – 16] button. The indicator in the selected button start blink and the camera image corresponding to the button is displayed in freeze on the monitor screen.



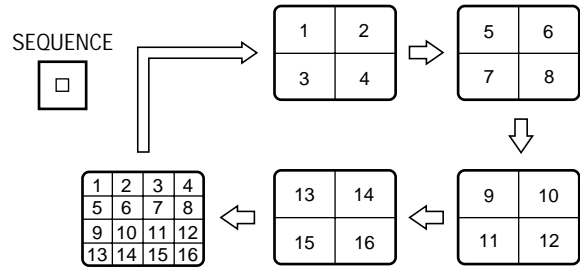
Note: You can apply this function to multiple images on the monitor screen

- Press the blinking CAMERA button to cancel the freeze function individually.
- Press the [STILL] button to return to the normal camera images. The indicator in the -STILL- button goes off.
- To display a single spot image, select an image to be displayed on the monitor by pressing one of the CAMERA buttons that the indicator in the button lights up.

● Single or Multi Sequence (Live)

A series of camera images can be displayed in succession on the monitor screen for the specified duration. Each sequence step can be combined with multiple screen segments and single image. Refer to the Sequence Setup for further details.

- Press the [SEQUENCE] button to run the assigned sequence (SEQ1, SEQ2 or SEQ3) forward on the monitor screen. The indicator in the button lights to indicate that the sequence mode is selected.



- SEQ1:** Single Sequence
- SEQ2:** Multi Sequence
- SEQ3:** Multi Sequence

The indicator in the CAMERA buttons light up and the camera image corresponding to the buttons appear on the monitor screen.

- During the sequence, press the [SEQUENCE] button to move one step forward in the sequence.
- To return to single spot monitoring, select an image to be displayed by pressing a [1 – 16] button. Or to return to screen segments display, press the [MULTISCREEN SELECT] button.

Notes:

- You can also enable the auto skip function to skip any steps when no video signal is present. (or a screen segment is blacked out on the multi-screen display.) Refer to AUTO SKIP in the Sequence Setup for further details.
- The setting can be adjusted in such a way that the sequence step for displaying an image on the spot monitor screen in the single spot mode can be skipped automatically. (or a screen segment is blacked out on the multi-screen display.) Refer to the SECRET VIEW for further details.

■ Controlling the Playback Images

The following procedure is not applicable for multiscreen 2 monitor.

- Select the multiscreen monitor by pressing the [MULTI-SCREEN] button repeatedly. The indicator in the button is on to indicate the multi-screen monitor is selected.



- Select the VCR playback mode (indicator on) by pressing the [VCR/CAM] button.



- In this condition, select the images to be displayed on the monitor screen followed the procedure shown below.

Notes:

- This unit does not reproduce a clear image in reverse playback.
- The playback image may be skewed (horizontally distorted) in the upper portion of the monitor screen depending on the selected playback mode.
- The indicator in the VCR/CAM button blinks when no signal is input to the PLAY IN connector on the rear of the multiplexer. The indicator also blinks if the codes (camera ID numbers, etc.) recorded on the videotape track have not been read for some reason. In this case, the playback image is displayed simply by tracing along the tape. Skipping instructions or other selections are ignored.
- The looped through VCR output may appear on the monitor while playing back a tape in forward or reverse search.
- The image or title may become unstable because of the recording field rate.
- Depending on the condition of the VCR's video heads, the images of another channel may appear on the monitor. If this occurs frequently, adjust the tracking and slow tracking of the VCR.
- The size of images displayed on the multiscreen is smaller than in single image format, which makes the titles hard to read. Select single image (spot) to make titles easier to read.
- Playback in linear mode (L12H, L18H, or L24H) may produce noise or the image of another channel in any recorded mode. Play back the tape in normal (real time mode) or time lapse mode.
- Select FS10 in the SETUP MENU to play back a recorded tape with the WJ-FS10. (See page 42) It is recommended to play back on the 16-segment screen and select the desired camera channel from the images displayed, because a tape recorded with the WJ-FS10 multiplexer is not compatible with one recorded on the WJ-FS616C (the camera display channels for recording and playback differ).

While the [VCR/CAM] button is on, the VCR playback images on the monitor can be controlled followed the procedure described below.

Confirm that the VCR is playing back the recorded videotape.

● **Single Spot (Playback)**

- Select an image to be displayed on the monitor by pressing a [1 – 16] button. The indicator in the selected button lights and the playback image corresponding to the button appears on the monitor screen.



Note: While playing back a videotape recorded in quad images, the corresponding 4-segment image is displayed, if the selected number is recorded as part of the quad image.

For instance, if #5 is selected, the quad image of "5-6-7-8" is displayed.

- To select another image, press a [1 – 16] button corresponding to the image. The selected image appears on the monitor screen. The indicator in the button previously selected turns off and the indicator in the button currently selected lights.

● **Freezing Single Spot (Playback)**

While the image on the monitor screen is displayed in single spot mode, the image can be frozen followed the procedure below.

- Select an image to be frozen on the monitor by pressing a [1 – 16] button. The indicator in the selected button lights and the playback image corresponding to the button appears on the monitor screen.
- Press the [STILL] button to display the freeze image on the monitor. The indicator in the STILL button lights and the indicator in the pressed CAMERA button starts to blink.
- To cancel this mode, press the [STILL] button to return to the image previously shown. The indicator in the button goes off.

Note: The VCR does not enter pause mode while the freeze image is displayed on the monitor screen.

● Zooming Single Spot (Playback)

While the image on the monitor screen is displayed in single spot mode, the image can be zoomed followed the procedure below.

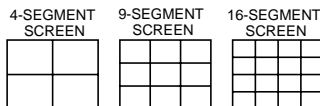
1. Select an image to be zoomed on the monitor by pressing a [1 – 16] button.
The indicator in the selected button lights and the camera image corresponding to the button appears on the monitor screen.
2. Press the [EL-ZOOM] button to display the zoomed image on the monitor.
The indicator in the button lights to indicate zoom mode is selected.
3. In the zoom mode, pressing the ▼, ▲, ◀, or ▶ button will move the image in the direction of the button.
4. To cancel this mode, press the [EL-ZOOM] button to return to the image previously shown.
The indicator in the button goes off.

● Multiscreen Spot (Playback)

The monitor can display the playback images on a 4, 9 and 16 multiscreen shown below.

1. Select the screen segments to be displayed on the monitor by pressing the [MULTISCREEN SELECT] button repeatedly.

Each time the [MULTISCREEN SELECT] button is pressed, the next group of 3 multiscreens available is displayed as follows.



Notes:

- The 7-, 10-, and 13-segment multiscreen modes are not available in playback mode.
- The same channel cannot be displayed in multiple segments.
If this attempt is made, only the image of the channel with the lowest number is displayed; the other segments appear black out.
- The videotape recorded in quad images mode is disabled display in multiscreen.
To display the videotape, select mode in single spot.

2. To display a single spot image, select an image to be displayed on the monitor by pressing one of the CAMERA buttons that the indicator in the button lights up.

● Freezing Multiscreen Spot (Playback)

The monitor can display the freeze playback images on a 4, 9 and 16 multiscreen shown below.

1. Select the screen segments to be displayed on the monitor by pressing the [MULTISCREEN SELECT] button repeatedly.
2. Press the [STILL] button. The indicator in the button lights.
3. Select an image to be frozen on the monitor by pressing a [1 – 16] button.
The indicator in the selected button start blink and the playback image corresponding to the button is displayed in freeze on the monitor screen.

Note: You can apply this function to multiple images on the monitor screen

4. Press the blinking CAMERA button to cancel the freeze function individually.
5. Press the [STILL] button to return to the normal playback images.
The indicator in the STILL button goes off.
6. To display a single spot image, select an image to be displayed on the monitor by pressing one of the CAMERA buttons that the indicator in the button lights up.

● Single or Multi Sequence (Playback)

A series of playback images can be displayed in succession on the monitor screen for the specified duration. Each sequence step can be combined with multiple screen segments and single image.

Refer to the Sequence Setup for further details.

1. Press the [SEQUENCE] button to run the assigned sequence (SEQ1, SEQ2 or SEQ3) forward on the monitor screen.
The indicator in the button lights to indicate that the sequence mode is selected.

SEQ1: Single Sequence

SEQ2: Multi Sequence

SEQ3: Multi Sequence

The indicator in the CAMERA buttons light up and the camera image corresponding to the buttons appear on the monitor screen.

2. During the sequence, press the [SEQUENCE] button to move one step forward in the sequence.

- To return to single spot monitoring, select an image to be displayed by pressing a [1 – 16] button.
Or to return to screen segments display, press the [MULTISCREEN SELECT] button.

Note: The same channel cannot be displayed in multiple segments.

If this attempt is made, only the image of the channel with the lowest number is displayed; the other segments appear black out.

■ Displaying the Camera and Playback Images

The following procedures are not applicable to the Multiscreen 2 Monitor.

- One segment of the multiscreen for camera images can be assigned to playback.
- This function is available with the 4-, 7-, 10- or 13-segment multiscreen modes.
- The playback image will be displayed in the upper left segment of the multiscreen.
- This function is not available when S-VIDEO playback input is used.

To enable this function, connect with the VIDEO playback input at the same time. The VIDEO playback image is displayed automatically without making any setting changes.

● Multiscreen Spot (Live Images with a Playback Image)

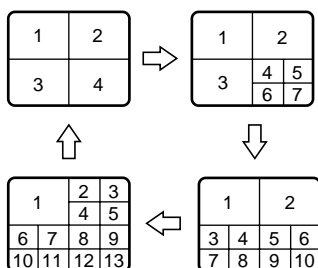
- Select the cameras live mode (indicator off) by pressing the [VCR/CAM] button.



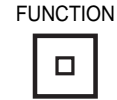
- Select the screen segments to be displayed on the monitor by pressing the [MULTISCREEN SELECT] button repeatedly.

Confirm that the 4-, 7-, 10- or 13-segment multiscreen is selected for the camera images.

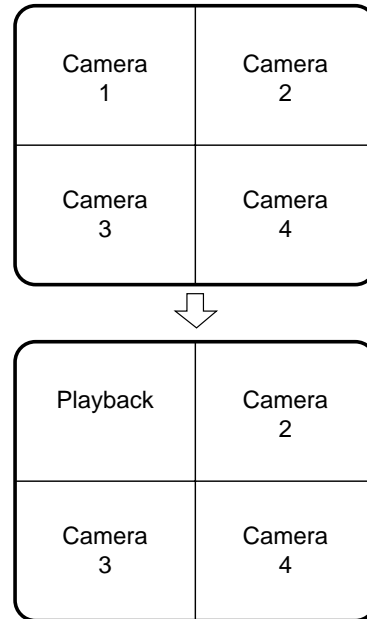
If not, press the [MULTISCREEN SELECT] button repeatedly until the desired multiscreen appears.



- Press the [FUNCTION] button. The indicator in the button starts to blink.



- Select the playback channel you want to display by pressing the corresponding [1 – 16] button. The indicator in the [FUNCTION] button lights, and the selected playback image is displayed in the upper left segment of the multiscreen.



- To display another playback image, press the [FUNCTION] button.

The indicator in the button starts to blink.

Select the channel you want to display by pressing the corresponding [1 – 16] button.

- To return to the camera images multiscreen, press the [MULTISCREEN SELECT] button.

Or to display the playback image in single spot mode, press the [VCR/CAM] button.

Note: To return to the previous camera images multiscreen, press the [FUNCTION] button while the indicator in the button is blinking.

● Freezing Multiscreen Spot (Live Images with a Playback Image)

The monitor can display the freeze camera images on a 4-, 7-, 10- or 13-segment multiscreen while cameras with playback images are displayed.

1. Repeat steps 1 to 4 referring the procedure in the Multiscreen Spot.
2. Press the [STILL] button. The indicator in the button lights.
3. Select a camera image to be frozen on the monitor by pressing a [1 – 16] button.
The indicator in the selected button start blink and the playback image corresponding to the button is displayed in freeze on the monitor screen.
4. Press the blinking [CAMERA] button to cancel the freeze function individually.
5. Press the [STILL] button to return to the previous combined images.
The indicator in the STILL button goes off.
6. To return to the camera images multiscreen, press the [MULTISCREEN SELECT] button.
Or to display the playback image in single spot mode, press the [VCR/CAM] button.

Note: You cannot freeze the displayed playback image on the monitor screen.

CAMERA CONTROL FUNCTION

The camera control is only available while the camera image is displayed in single spot on the selected monitor screen and the LOCK switch is in OFF position.

■ Camera Selection

1. Select an either spot or multiscreen monitor by pressing the [SPOT] or [MULTISCREEN] button.
The indicator in the selected button is on.



2. Select the live camera mode (indicator off) by pressing the [VCR/CAM] button.



3. Select a camera image you want control by pressing a [1 – 16] button
The indicator in the selected button lights and the camera image corresponding to the button appears on the monitor screen.

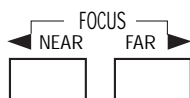
■ Controlling Camera Site Accessories

For controlling camera site accessories, normally combination camera equipped with the specific feature or a specified receiver are required to utilize these functions.

● Lens Control

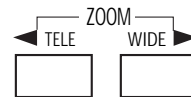
Confirm that the specified lens with power zoom/focus functions is mounted on the camera.

1. Select the desired monitor and camera referring to the Camera Selection procedure described above.
2. Press the [FOCUS NEAR/FAR] button to adjust the lens focus to achieve a sharply focused image while observing the active monitor.

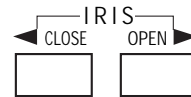


Pressing both of these buttons simultaneously will automatically set the lens focus, if the specified camera with auto focus feature is used.

3. Press the [ZOOM] button to adjust the lens zoom to achieve the desired image while observing the active monitor.
Press the [TELE] button to optically bring an object closer.
Pressing the [WIDE] button has the reverse effect.



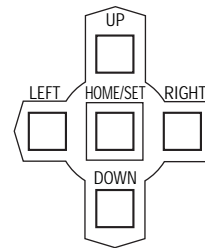
4. Press the [IRIS CLOSE/OPEN] buttons to close/open the lens iris. Adjust the lens iris by pressing these buttons to obtain the proper image exposure.



Pressing these buttons at the same time will reset the lens iris to the factory default setting.

● Pan/Tilt Control (Manual Operation)

1. Select the desired monitor and camera referring to the Camera Selection procedure described above.
2. Press the Direction buttons to move the pan/tilt head in the desired direction.
Pressing the ▲ and ► buttons will move the pan/tilt head upwards and to the right.



Note: To move the pan/tilt head faster, press the [HOME/SET] button while holding down the Direction buttons.

● Pan/Tilt Control (Preset Operation)

The following function requires the use of cameras equipped with the specific feature.

Note: Select only preset position numbers 1 to 16.

1. Select the desired monitor and camera referring to the Camera Selection procedure described above.
2. Press the [PRE-POSI] button.

PRE-POSI



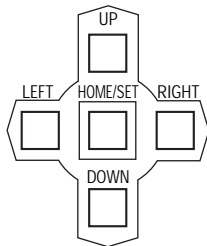
3. Select the preset position number by pressing the [1 – 16] button to move the pan/tilt head to the preset position on the active monitor.

Note: Select a number from 1 through 16. ("17" is not allowed.)

● Pan/Tilt Control (Home Position)

The following function requires the use of cameras equipped with the specific feature.

1. Select the desired monitor and camera referring to the Camera Selection procedure described above.
2. Press the [HOME/SET] button to move the camera to the home position on the active monitor.



● Pan/Tilt Control (Auto Panning)

The following function requires the use of cameras equipped with the specific feature.

1. Select the desired monitor and camera referring to the Camera Selection procedure described above.
2. Press the [AUTO] button to activate the auto panning function.

AUTO



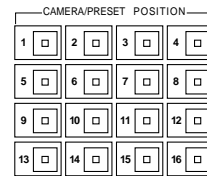
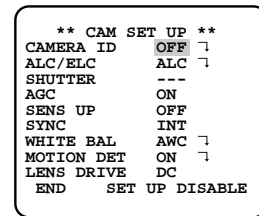
3. To cancel the auto panning function, press one of the Direction buttons.

Note: When using the combination cameras with auto panning feature, make sure that the LOCAL/REMOTE setting is set to LOCAL at the camera site. If REMOTE is selected, the panning movement is retained for only one minute.

● Camera Setup

The following function requires the use of cameras equipped with the specific feature.

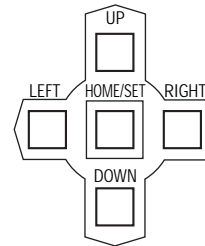
1. Select the desired monitor and camera referring to the Camera Selection procedure described above.
2. Press the [SET UP/ESC] button, while holding down the selected [CAMERA] button, to gain access to the camera setup menu on the active monitor.



SET UP/ESC

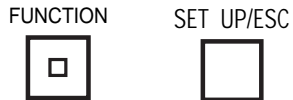


3. Select the desired item by pressing the ▲ or ▼ button, and then select the desired mode by pressing the ◀ or ▶ button.



4. Press the [HOME/SET] button to execute the setting or enter a submenu.
5. Press the ◀ and ▶ buttons simultaneously to reset the selected menu.
6. Press the [SET UP/ESC] button to execute the setting and returns to the previous setup menu.

7. Press the [SET UP/ESC] button, while holding the [FUNCTION] button, to exit from the setup mode or menu.



Note: Refer to the operating instructions of the selected camera for further details.

Caution: Camera addresses are important for RS-485 type cameras.

- Do not use addresses other than 1 through 16 for individual cameras. ("17" is not allowed)
- Do not set a single address for more than one camera in an RS-485 chain.

• Simplified preset position setting

The preset position can be set by a simplified procedure.

The following function requires the use of cameras equipped with the specific feature.

1. Press the [FUNCTION] button while the position setting menu is displayed on the active monitor.
2. Press the Direction buttons to move the pan/tilt head in the desired direction.
3. Press the [FOCUS] or [ZOOM] button to adjust the lens to achieve the desired image.
4. Press the [FUNCTION] button again to restore the Direction buttons' cursor control function.

ALARM CONTROL FUNCTION

The alarm function activates the warning alarm status, when an externally connected alarm sensor is turned on. Described below is an example of an alarm status activation.

■ Alarm Input

The video multiplexer can handle the following alarms:

- **Interface Alarm**

Alarm received from the ALARM/REMORTE port on the rear of the multiplexer.
"ALARM" is displayed on the monitor screen.

- **Video Input Signal Loss Alarm**

Alarm indicating that a camera video signal loss has occurred.
"CH**LOSS" is displayed on the monitor screen.

- **Camera Site Alarm**

Alarm received from the associated camera site receiver or camera.
"ALARM" is displayed on the monitor screen.

- **PC Command Alarm**

OAI command received from the Personal Computer.
"ALARM" is displayed on the monitor screen.

■ Alarm Operation

When an alarm signal is received, the multiplexer, the Record Output, Spot Output and Multiscreen Output of the multiplexer are activated as shown below.

Refer to the ALARM SETUP menu of the WJ-FS616C SETUP MENU for further settings.

- **Front Panel Display**

When an alarm function is activated, the ALARM Indicator (Red) and the corresponding CAMERA (1 - 16) button (Green) blink.

The Alarm Output signal is supplied to pin 9 of the ALARM/REMOTE port for the programmed duration.

After the programmed time has elapsed, the indicator changes to a steady light.

If another alarm is activated during output of the previous alarm, the alarm signal is output for the programmed duration.

- **Alarm Buzzer**

The buzzer beeps for the programmed duration.

The buzzer stops beeping before that duration when the alarm is reset.

- **Alarm Log**

There are 100 alarm records stored in chronological order in 10 pages of table.

If more than 100 alarms are received, the oldest record is overwritten.

The tables also indicate the alarm mode.

- **Camera Preset Movement**

Enables movement of the camera to the preset position that was specified in the ALARM TERMINAL SETUP table of the SYSTEM SETUP menu.

- **Record Output**

- Alarms are recorded in the mode specified for the ALM REC MODE parameter in the ALARM SETUP menu.
- Alarmed channels are recorded preferentially over other video input if ON is specified for the DYNAMIC REC parameter in the ALARM SETUP menu.

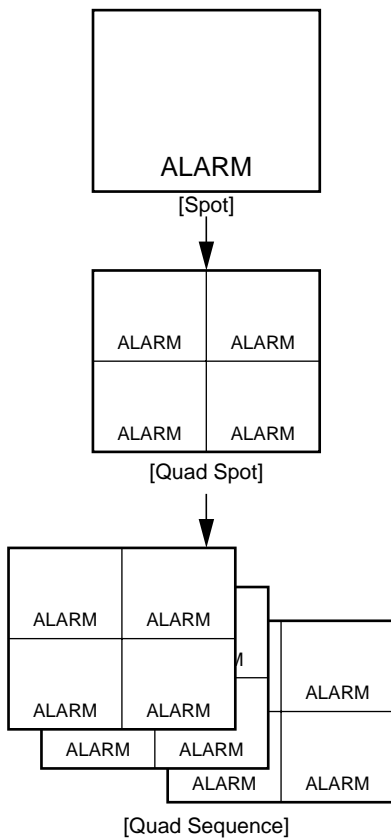
● Multiscreen Output

The alarmed input image and alarm display are displayed on the multiscreen monitor as shown below.

Described below are several examples; the selected mode varies, depending on the menu setting.

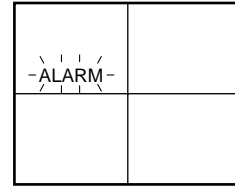
• Alarm Link Mode

- The image of the alarmed camera is displayed in single spot mode on the monitor. The indicator in the corresponding CAMERA button blinks.
- When multiple alarms are activated, the images of the alarmed cameras are displayed on a quad screen in the order of upper left to lower right segment. From the fifth alarm on, the images are overwritten in the order of upper left to lower right segment, then displayed in sequence with the previous quad images.
- The dwell time for each step can be programmed on the ALARM SETUP menu.
- An incomplete image may appear when switching the 4-segment screen sequence.



• Alarm Indication Mode

- The camera images selected before the alarm was activated remain on the monitor screen.
- If the alarmed channels are displayed, the camera title and alarm display blink alternately on the monitor screen.



Note: If the alarm channel is in the freeze mode, it returns to normal viewing.

● Spot Output

The alarmed input image and alarm display are displayed on the spot monitor as shown below.

• Alarm Spot Mode

- The alarmed camera image is displayed in single spot mode on the monitor. When another alarm is received, the display switches to the most recent alarmed camera image in single spot mode.
- The camera title and alarm display blink alternately on the monitor.

• Alarm Ignore Mode

- The camera images selected before the alarm was activated remain on the monitor screen.
- If the alarmed channels are displayed, the camera title and alarm display blink alternately on the monitor screen.

■ Alarm Reset

● Manual Reset

When an alarm is activated, the ALARM indicator blinks. The indicator keeps blinking until all alarms are cleared by pressing the [ALARM RESET] button. The blinking or lit indicator goes off.



● Auto Reset

The alarm is automatically reset after the programmed alarm output time has elapsed or the lost video signal has been recovered. The ALARM indicator changes from blinking to a steady light. Pressing the [ALARM RESET] button will clear the alarm and switch the indicator off.

● External Reset

The alarm is reset by a recover signal received from the external equipment at pin 8 of the ALARM/REMOTE port located on the rear of the video multiplexer. The ALARM indicator goes off.

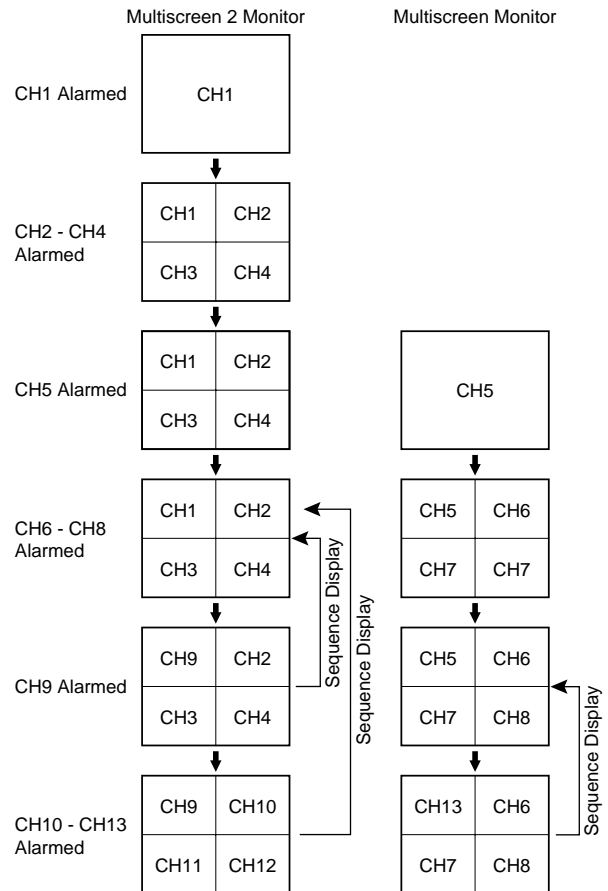
● PC Command Reset

The alarm is reset by an OAL command from a personal computer, either manually or automatically depending on the Alarm Reset parameter selected. Refer to the command table on page 78.

In these reset functions, the reset signal is output from pin 27 of the ALARM/REMOTE port.

■ Example of Using Multiscreen 2 Monitor

The figure below shows an example of how alarm is displayed when a Multiscreen 2 Monitor is connected to the REC OUT connector. (selects ALM-LINK for ALM MODE-MLT in the ALARM SETUP menu.)



- When alarm is activated, the image of the alarmed camera is displayed in single spot mode on the multiscreen 2 monitor.
- From the second alarm on, the images of the alarmed cameras are displayed in quad mode on the multiscreen 2 monitor in the order of upper left to lower right segment.
- The fifth alarm activated is displayed in single spot mode on the multiscreen monitor, while the previous four alarms remain displayed in quad mode on the multiscreen 2 monitor.
- From the sixth alarm on, the images of the alarmed cameras are displayed in quad mode on the multiscreen monitor.
- From the ninth alarm on, the images of the alarmed cameras on the multiscreen 2 monitor are overwritten in the order of upper left to lower right segment. Then the overwritten and previous images are displayed alternately.
- From the thirteenth alarm on, the images of the alarmed cameras on the multiscreen monitor are overwritten in the order of upper left to lower right segment. Then that overwritten and previous images are displayed alternately.

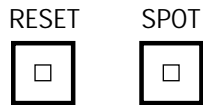
■ Alarm Suspension

This function disables activation of the alarm link and instead enables storing of any alarm activated in the alarm log.

It is used to suspend the alarm link during camera setup.

To suspend the alarm:

1. Press the [RESET] and [SPOT] buttons at the time for 2 seconds or more to suspend the alarm.
The indicator in the [RESET] button lights.



2. Press the [RESET] button to reset the alarm suspension.
The indicator in the [RESET] button goes off.

■ Recording on the Time Lapse VCR

The following selections are made in the WJ-FS616C SETUP MENU described previously.

Refer to the Recording Mode Setup on page 33 for further details.

1. Check the selected recording mode (MODE 0 - MODE 9).

MODE 0: Normal Mode (Real Time)

MODE 1 - 9: Time Lapse Mode (Linear Mode)

If MODE 9 is selected, check the image (spot or quad) to be recorded on the VCR.

2. Press the Record button of the VCR to begin recording.

Notes:

- To let the VCR display the VCR menu for setup, select MODE 0 in the REC MODE SETUP menu of the multiplexer.
- While recording with the camera switching pulse (MODE 9), quad recording will work properly when the selected recording interval is more than 0.11 seconds (less than 9 fields/s).
- While recording without the camera switching pulse (MODE 1 – 8), quad recording is not available. When using a VCR whose recording interval is 2 or 3 fields, select 4 fields (minimum) for the REC MODE parameter. However the same image may be recorded repeatedly.

■ Camera Switching Pulse Loss Display

- When loss of the camera switching pulse is detected, "SW LOSS" will blink on the monitor screen.
- The buzzer does not beep.
- When the camera switching pulse is recovered, "SW LOSS" is cleared from the monitor.

Notes:

- When MODE 0 to MODE 8 is selected for recording, or MULTI2 OUTPUT for REC/ MULTI2, "SW LOSS" is not displayed because of the way the system application works.
- If "ALARM" or "CH**LOSS" is displayed on the monitor screen, "SW LOSS" is not displayed because alarm has priority.

OPERATING PROCEDURES

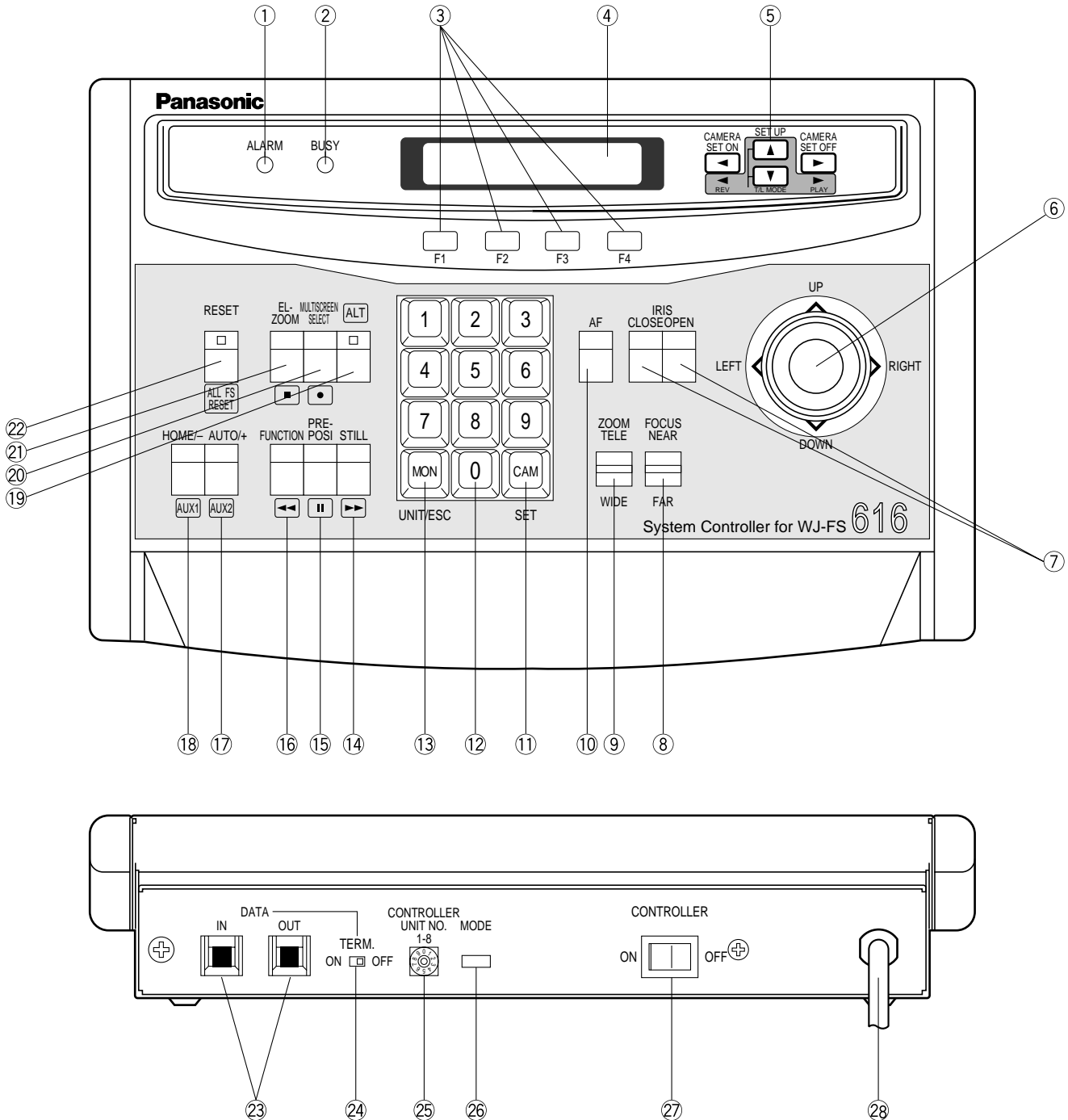
(with WV-CU550C)

SYSTEM CONTROLLER WV-CU550C

The WJ-FS616C video multiplexer can be controlled from the WV-CU550C system controller. The following procedures apply when the WV-CU550C system controller is connected to the system.

Major Operating Controls and Their Functions

Note: When using this controller in combination with the WJ-FS616C, cover the panel of the controller with the panel templates provided.



① **Alarm Indicator (ALARM)**

This indicator (Red) lights to indicate that an alarm condition exists.

It goes off when the alarm is reset automatically.

To turn the ALARM indicator off of the multiplexer, press the RESET button.

② **Busy Indicator (BUSY)**

This indicator lights to indicate that the system is locked by PC command.

While this indicator is lit, control from the video multiplexer and system controller is disabled.

③ **Function buttons (F1/F2/F3/F4)**

Selects functions displayed on the LCD (Liquid Crystal Display) display.

F1: Operates the multiscreen monitor.

F2: Operates the spot monitor.

F3: Activates the sequence mode.

In this mode, a series of camera images is displayed in succession on the monitor screen for the specified duration.

F4: Selects the camera image or VCR playback image to be displayed on the monitor screen.

④ **LCD (Liquid Crystal Display) display**

Displays the function menu and function status.

In this Instructions Manual, it is hereafter referred to as the "LCD".

⑤ **Direction buttons (◀ ▲ ▶ ▼)**

These buttons function as shown below.

Camera Set On button (CAMERA SET ON ◀)

This button is used to display the camera setup menu on the monitor screen.

Set Up button (SET UP ▲)

This button is used to display the setup menu of the video multiplexer.

Camera Set Off button (CAMERA SET OFF ▶)

This button is used to exit the camera setup menu displayed on the monitor screen.

Time Lapse Mode Buttons (T/L MODE, ▲ ▼)

These buttons, in combination with the Alternate button, select the time lapse mode of the time lapse VCR.

Press the ▲ button to increase the recording duration or the ▼ button to decrease the recording duration.

Reverse Play button (REV ◀)

This button, in combination with the Alternate button, activates reverse playback on the time lapse VCR.

Play button (PLAY ▶)

This button, in combination with the Alternate button, activates playback on the time lapse VCR.

⑥ **Joystick Controller**

The joystick is used to manually operate the Pan/Tilt Head, move the cursor position in the setup menu of the video multiplexer, or to select an area for Electronic Zooming.

UP: Upward

DOWN: Downward

LEFT: Left

RIGHT: Right

⑦ **Iris Buttons (IRIS, CLOSE/OPEN)**

Close or open the lens iris of cameras equipped with the specified lens.

When these buttons are pressed at the same time, the lens iris is reset to the factory default settings.

⑧ **Focus button (FOCUS, NEAR/FAR)**

Adjusts the lens focus of cameras equipped with the specified lens.

⑨ **Zoom button (ZOOM, TELE/WIDE)**

Adjusts the lens zoom of cameras equipped with the specified lens.

⑩ **Auto Focus button (AF)**

This button is used to activate the auto focus function when the camera equips with the specific feature.

⑪ **Camera (Set) key [CAM(SET)]**

CAM: Used for camera selection. To select a camera, enter the desired camera number with the Numeric keys, and then press the CAM key.

SET: While displaying the setup menu on the monitor, pressing this button will execute the currently highlighted selection and to enter a submenu in the setup menu if the item has its own setting menu.

⑫ **Numeric keys (0-9)**

These keys are used for numeric input into the system, such as the camera number, preset position, etc.

⑬ **Monitor (Unit/Escape) key [MON(UNIT/ESC)]**

This key is used to select a unit of video multiplexer.

Select a unit number with the Numeric key, then press this key to select a specific Video multiplexer.

This key is also used to execute the settings and return to the previous menu in the setup menu of the video multiplexer.

⑭ **Still button (STILL)**

This button is used to freeze the image currently displayed on the monitor screen.

⑮ **Preset Position Button (PRE-POS)**

This button is used to assign a preset position to a specified camera.

⑩ **Function button (FUNCTION)**

This button is used to display the camera images with a VCR playback image on the multiscreen monitor. While displaying the setup menu on the monitor, pressing this button will select the next page of the setup menu.

⑪ **Auto/Increment button (AUTO/+)**

This button is used to activate the auto panning function if the camera is equipped with the specific feature. While displaying the setup menu on the monitor, pressing this button will select the parameter forwardly in the setup menu.

⑫ **Home/Decrement button (HOME/-)**

This button is used to return to the home position of the camera. While displaying the setup menu on the monitor, pressing this button will select the parameter reversely in the setup menu.

⑬ **Alternate button (ALT)**

Press this button to have the other 8 buttons switch to their alternate functions. These buttons are identified by special labeling - - text or a symbol in a rounded corner rectangular. For example, while the indicator (green) of the ALT button is lit, pressing the STILL button controls the VCR fast forward function.

⑭ **Multiscreen Selection button (MULTISCREEN SELECT)**

This button is used to select the multiscreen pattern to be displayed on the multiscreen monitor while monitoring the camera images or VCR playback images. Pressing this button will toggle the screen pattern as follows:

Camera Images:

4→7→9→10→13→16→4 screen segments

VCR Playback Images:

4→9→16→4 screen segments

⑮ **Electronic Zoom button (EL-ZOOM)**

This button is used to zoom the image currently displayed on the multiscreen monitor.

Note: The above operation is not valid unless multi-screen output is selected by pressing the [F1] button.

⑯ **Alarm Reset button (RESET)**

This button is used to cancel an activated alarm. Press this button, while the alarm function is activated, to reset the alarm and return the system to the condition before the alarm function was activated. When more than one multiplexer are connected in a daisy chain, pressing the ALT button and then this button resets all alarm inputs at once.

⑰ **Data ports (DATA, IN/OUT)**

Exchanges control data with the video multiplexer in a system.

⑱ **Termination switch (TERM., ON/OFF)**

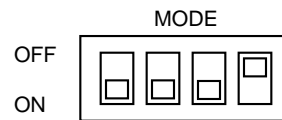
This switch enables termination of the controller's data port. When combined with the video multiplexer, set this switch to the "ON" position.

⑲ **Controller Unit Number switch (CONTROLLER UNIT NO. 1-8)**

This switch is used to identify the unit number of the System Controller. When combined with the video Multiplexer, set this switch to the "0" position.

⑳ **Mode Selection switch (MODE)**

These switches are used to set the mode of the system controller connected to the video multiplexer. When combined with the WJ-FS616C video multiplexer, set as shown below.



㉑ **Controller On/Off switch (CONTROLLER ON/OFF)**

This switch is used to turn the system controller power on or off.

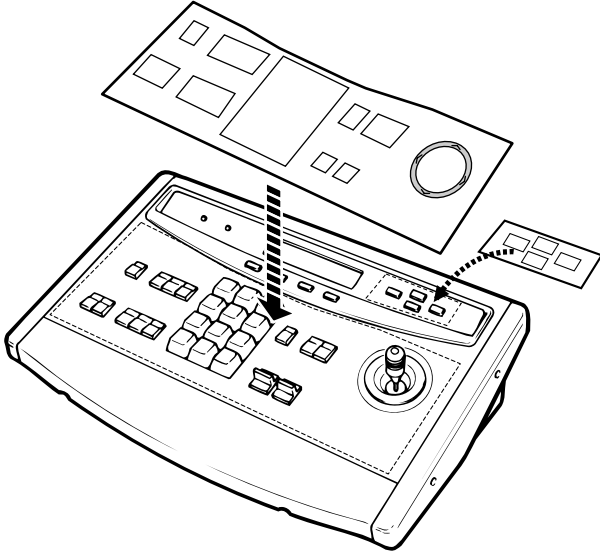
㉒ **Power Cord**

■ Installations

The installations described below should be made by qualified service personnel or system installers.

● Modifying the Front Panel

Peel the tape off the supplied panel templates, then attach them on the front panel of the system controller.

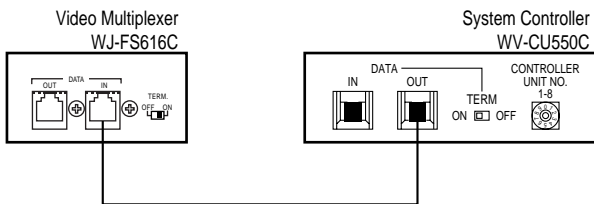


● Connection with the WV-CU550C System Controller

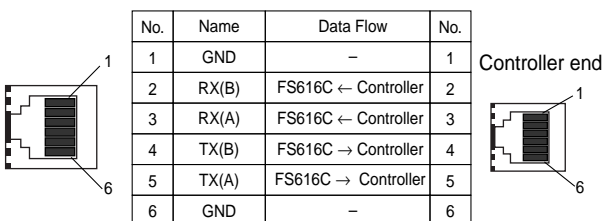
If the supplied 6-conductor cable assembly is used, simply plug one end of the cable into the DATA IN port of the video multiplexer and the other end into the DATA OUT port on the system controller.

If you use cables assembled from locally procured materials, it is important that only high quality, data grade cable, suitable for RS-485 communication (shielded 4-wire twisted pair cable) is used.

Low grade cable will result in unstable operation of the system.



Connection with the WV-CU550C System Controller



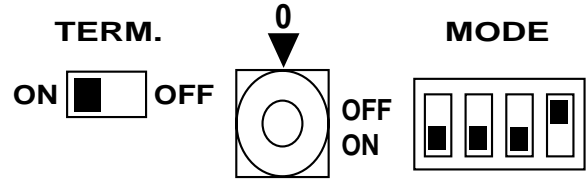
● Setting the Termination and Controller Unit Number

The Termination switch and the Controller Unit Number switch are located on the rear of the system controller. When combined with the WJ-FS616C video multiplexer, always keep these switches in the positions shown below.

● Setting the Mode Selection Switch



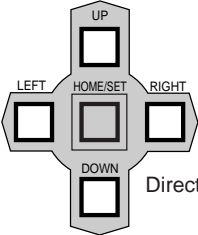
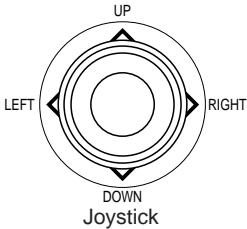




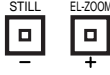
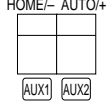

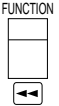
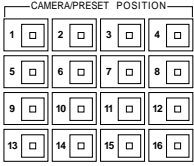

The Mode Selection switch, that selects the operation mode of the system controller, is located on the rear of the system controller.

When combined with the video multiplexer, always keep these switches in the positions shown below.



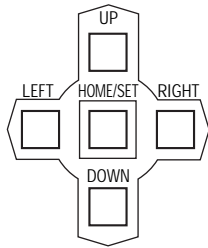
SETUP MENU OPERATIONS (WITH WV-CU550C)

During setup of the WJ-FS616C with the WV-CU550C system controller, the following buttons and keys of the system controller correspond with those of the WJ-FS616C as shown below.

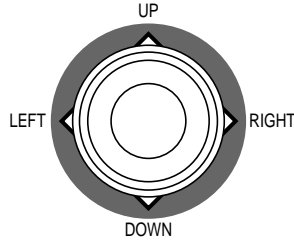
WJ-FS616C	WV-CU550C	Function
 <p>Press 2 sec or more.</p>		<p>Display the SETUP MENU or escape from the menu.</p>
 <p>Direction buttons</p>	 <p>Joystick</p>	<p>Move the cursor or select the mode or parameter.</p>
		<p>Execute the selection and display the submenu for items with the (*) mark</p>
		<p>Execute the selection and return to the previous menu.</p>
		<p>Select the mode or parameter.</p>
		<p>Select the next page.</p>
	 <p>UNIT/ESC SET</p>	<p>Input any numeric values.</p>

FUNCTION OPERATIONS (WITH WV-CU550C)

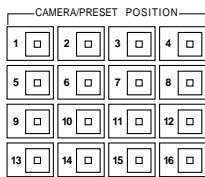
When operating the video multiplexer with the WV-CU550C system controller, the following buttons and keys of the system controller correspond with those of the video multiplexer.



Direction Button



Joystick Controller



Camera Selection Buttons



Numeric Key + Set Key

While the indicator of the [ALT] button is on, control of the VCR with the buttons shown below is enabled.

	: Rewind	FUNCTION
	: Pause	PRE-POSI
	: Fast Forward	STILL
	: Reverse Play	CAMERA SET ON ◀
	: Stop	EL-ZOOM
	: Play	CAMERA SET OFF ▶
	: T/L mode	▼
	: T/L mode	SET UP ▲
	: Record	MULTISCREEN SELECT

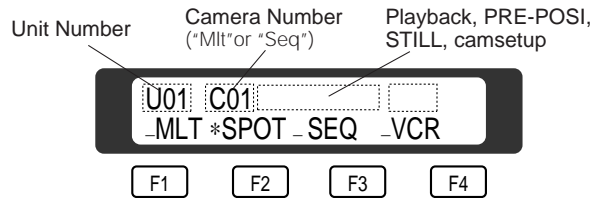
Refer to the supplied panel templates for the other buttons.

Note: When controlling the multiplexer with the WV-CU550C, it is recommended to set the LOCK switch on the WJ-FS616C to the ON position to prevent false operation.

Controlling the Video Input and Monitors

To select a monitor and camera, follow the procedure shown below.

1. Turn on the power of the system controller by pressing the Controller On/Off Switch located on the rear of the system controller to the ON position.
The following displays appear on the LCD display.

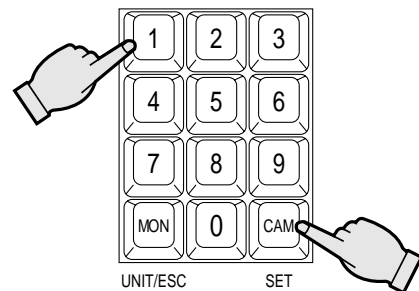


Select the mode by pressing the Function buttons. The buttons operate as shown below.

- F1:** Same operation as MULTISCREEN button
- F2:** Same operation as SPOT button
- F3:** Same operation as SEQUENCE button
- F4:** Same operation as VCR/CAM button

- _ Mode OFF
- * MODE ON

2. Set the LCD display to *SPOT or *MLT by pressing the [F2] or [F1] button on the controller.
The indicator on the LCD display indicates the selected monitor.
3. Select the desired camera number by pressing the Numeric keys, then press the [CAM(SET)] key.
The selected camera image is displayed in single spot on the selected monitor screen.



Note: Proceed as described for Controlling the Video Input and Monitors on page 48 to 55.

Camera Control Function

The camera control is only available while the camera image is displayed in single spot on the selected monitor screen.

Note: When controlling the camera with multiplexed control data by connecting a coaxial cable, you should install the optional WV-PB6164 Data Multiplex Board in the video multiplexer.

■ Camera Selection

1. Select an either spot or multiscreen monitor by pressing the [F2] or [F1] button on the controller.
2. Select the camera mode (VCR off) by pressing the [F4] button on the controller.
3. Select the desired camera number by pressing the Numeric keys, then press the [CAM(SET)] key. The selected camera image is displayed in single spot on the active monitor screen.

■ Controlling Camera Site Accessories

For controlling camera site accessories, normally combination camera equipped with the specific feature or a specified receiver are required to utilize these functions.

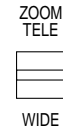
● Lens Control

Confirm that the specified lens with power zoom/focus functions is mounted on the camera.

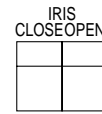
1. Select the desired monitor and camera referring to the Camera Selection procedure described above.
2. Press the [FOCUS] button to adjust the lens focus to achieve a sharply focused image while observing the active monitor.
If the specified camera with auto focus feature is used in the system, you can adjust the lens focus automatically by pressing the [AF] button.



3. Press the [ZOOM] button to adjust the lens zoom to achieve the desired image while observing the active monitor.
Press this button to the [TELE] position to optically bring an object closer.
Pressing to the [WIDE] position has the reverse effect.



4. Press the [IRIS CLOSE/OPEN] buttons to close/open the lens iris. Adjust the lens iris by pressing these buttons to obtain the proper image exposure.



Pressing these buttons at the same time will reset the lens iris to the factory default setting.

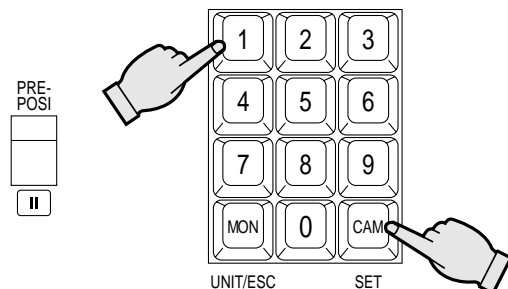
● Pan/Tilt Control (Manual Operation)

1. Select the desired monitor and camera referring to the Camera Selection procedure described above.
2. Move the joystick to move the pan/tilt head in the desired direction.
If the joystick is positioned in between UP and RIGHT, the pan/tilt head moves diagonally upward and to the right.
The moving speed of the pan/tilt head depends on the tilt of the joystick.

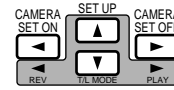
● Pan/Tilt Control (Preset Operation)

The following function requires the use of cameras equipped with the specific feature.

1. Select the desired monitor and camera referring to the Camera Selection procedure described above.
2. Press the [PRE-POSI] button, then select the preset position number by pressing the Numeric keys.



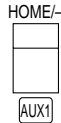
3. Press the [CAM(SET)] key to move the pan/tilt head to the preset position on the active monitor.



● Pan/Tilt Control (Home Position)

The following function requires the use of cameras equipped with the specific feature.

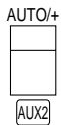
1. Select the desired monitor and camera referring to the Camera Selection procedure described above.
2. Press the [HOME/-] button to move the camera to the home position on the active monitor.



● Pan/Tilt Control (Auto Panning)

The following function requires the use of cameras equipped with the specific feature.

1. Select the desired monitor and camera referring to the Camera Selection procedure described above.
2. Press the [AUTO/+] button to activate the auto panning function.



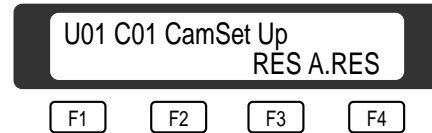
3. To cancel the auto panning function, move the joystick controller in the desired direction.

Note: When using the combination cameras with auto panning feature, make sure that the LOCAL/REMOTE setting is set to LOCAL at the camera site. If REMOTE is selected, the panning movement is retained for only one minute.

● Camera Setup

The following function requires the use of cameras equipped with the specific feature.

1. Select the desired monitor and camera referring to the Camera Selection procedure described above.
2. Press the [CAMERA SET ON ◀] button to gain access to the camera setup menu on the active monitor.



3. Select the desired item by moving the joystick UP or DOWN, and then select the desired mode by moving the joystick LEFT or RIGHT.
4. Press the [CAM(SET)] button to execute the setting or enter a submenu.
5. Press the [F3] button to reset the selected item parameter, or press the [F4] button to reset all functions to the factory default setting.
6. Press the [MON(UNIT/ESC)] button to execute the setting and returns to the previous setup menu.
7. Press the [CAMERA SET OFFB] button to exit from the setup mode or menu.

Note: Refer to the operating instructions of the selected camera for further details.

Caution: Camera addresses are important for RS-485 type cameras.

- Do not use addresses other than 1 through 16 for individual cameras. ("17" is not allowed)
- Do not set a single address for more than one camera in an RS-485 chain.

• Simplified preset position setting

The preset position can be set by a simplified procedure.

The following function requires the use of cameras equipped with the specific feature.

1. Press the [ALT] button while the position setting menu is displayed on the active monitor.
2. Move the joystick to move the pan/tilt head in the desired direction.
3. Press the [FOCUS] or [ZOOM] button to adjust the lens to achieve the desired image.
4. Press the [ALT] button again to restore the joystick's cursor control function.

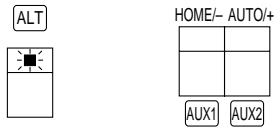
Caution: If camera setup is started with the buttons on the camera, all settings must also be made with buttons on the camera's.

If camera setup is started with a controller, all e settings must be made with the controller.

● Auxiliary Control

The following function is available only with a system that includes WV-RC100 or WV-RC150 Receivers.

1. Select the desired monitor and camera referring to the Camera Selection procedure described above.
2. While the ALT indicator is on, press the [HOME/-] or [AUTO/+] button to toggle the user's auxiliary switch in the receiver on and off.



Note: The auxiliary control is not available while operating the zoom or pan/tilt head.

Alarm Control Function

■ Alarm Suspension

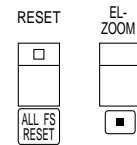
This function disables activation of the alarm link and instead enables storing of any alarm activated in the alarm log.

It is used to suspend the alarm link during camera setup.

To suspend the alarm:

1. Press the [RESET] and [EL-ZOOM] buttons at the time for 2 seconds or more to suspend the alarm.

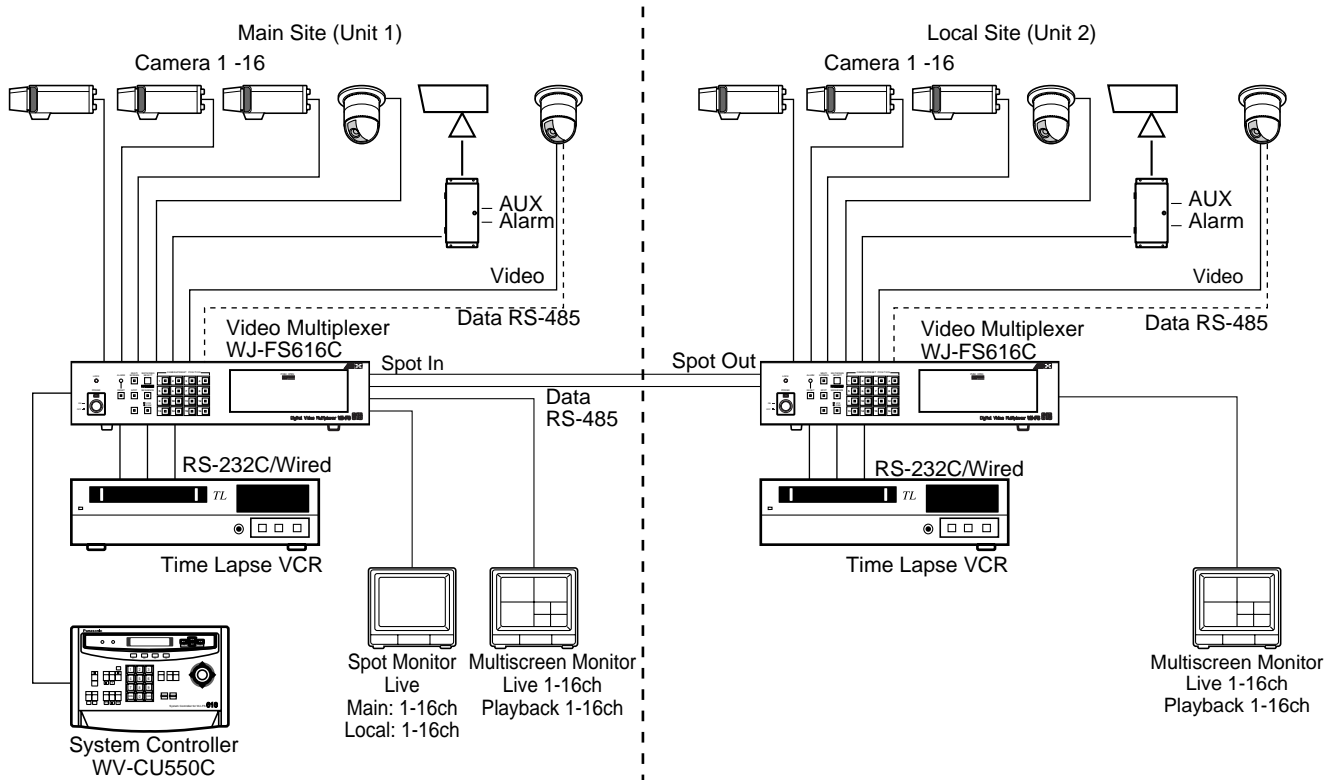
The indicator in the RESET button lights.



2. Press the [RESET] button to reset the alarm suspension. The indicator in the RESET button goes off.

SYSTEM EXPANSION

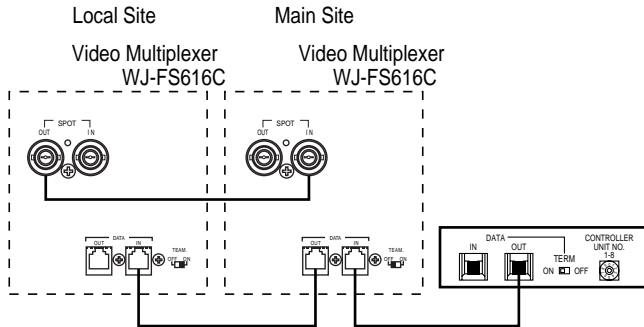
The system shown below is an example of the expansion capabilities of the WJ-FS616C video multiplexer. Up to four video multiplexers can be connected to expand the camera inputs.



32-Input System

■ Connections

In this type of installation, only one video multiplexer is connected directly to the system controller by a control cable. The rest of the video multiplexers are connected to the system controller in a daisy-chain type connection. Refer to the connections and data port settings shown below.



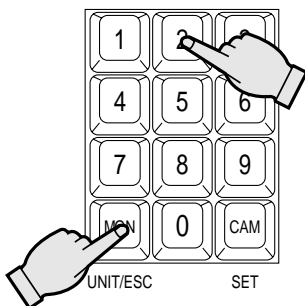
Notes:

- Up to four video multiplexers can be daisy-chained to the system controller.
- Unit numbers should be assigned in the order of connection, starting with the unit connected directly to the WV-CU550C system controller.
- Sequence display is limited to the cameras connected to one multiplexer unit only.
- It is recommended to set the LOCK switch to the ON position while making these connections.
- For controlling more than 4 cameras, additional WV-BP6164 Data Multiplex Boards need to be installed in the video multiplexer.

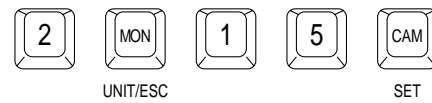
■ Operating Procedure

To control the system, follow the procedure shown below.

1. Confirm that the camera and peripherals are connected correctly and firmly.
2. Turn on the power switches of all system components.
3. Confirm that the DAISY MODE parameter in the SYSTEM SETUP menu is set to ON.
4. Select the unit number of the video multiplexer with the Numeric key, then press the [MON(UNIT/ESC)] key to activate the selected unit.



For example, press the keys shown below.



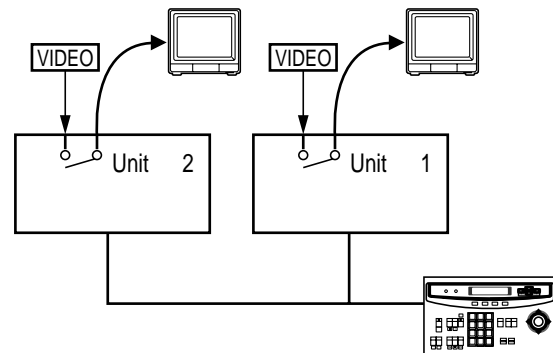
In this example, the image of camera 15 connected to the video multiplexer Unit 2 is displayed on the Spot Monitor connected to the video multiplexer Unit 1.

5. Operate the selected unit as described in the OPERATING PROCEDURES.
6. Select another unit with the Numeric key, then press the [MON(UNIT/ESC)] key to activate the selected unit.

■ Other Applications

● Application 1

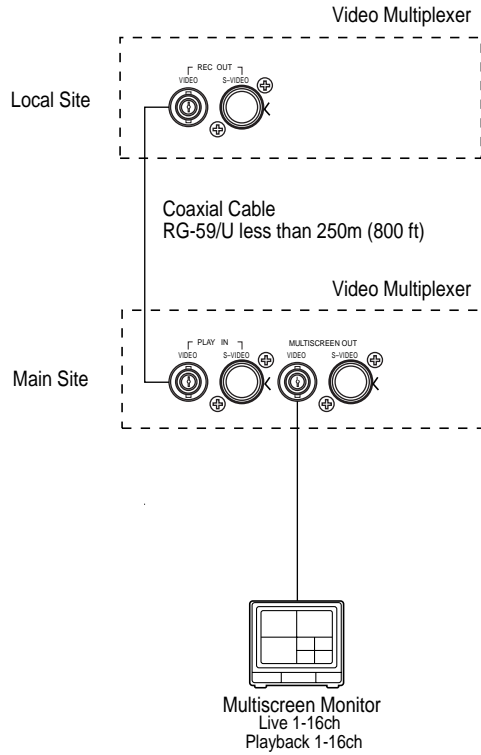
The video signal looped through the SPOT IN connector can be displayed on the Spot Monitor.



1. Confirm that the DAISY MODE in the SYSTEM SETUP menu is set to OFF.
2. Select the unit number of the video multiplexer with the Numeric key, then press the [MON(UNIT/ESC)] key to activate the selected unit.
3. Press the [F2] button on the controller to select the spot monitor.
4. Press [0] then press the [CAM(SET)] key to display the video looped through the SPOT IN connector on the Spot Monitor.

● Application 2

The camera images in the Local Site (Unit 2) can be displayed on the multiscreen monitor in the Main Site (Unit 1) by connecting a coaxial cable shown below.



For Local Site

- Confirm that the REC MODE SETUP in the REC OUTPUT SETUP menu (page 33) is set to MODE 0. If the another mode is set for the REC MODE SETUP, this application does not work properly.

For Main Site

- To display the camera images in the Local Site, operate the video multiplexer as displaying the playback image. However same functions are enabled displaying the playback image.

APPENDIX

This Appendix details the elements for communication between the Video Multiplexer and the personal computer. For BAUD RATE, DATA BIT, STOP BIT and PARITY settings, see page 42 COM PORT SETUP menu.

● Communication Protocol

1. Transmission Command

The PC sends messages to operate the Multiplexer in the format shown below. Also refer to the command table shown later.

Code	[STX] [Address] [:] [Transmission Command] [ETX]
ASCII	(02H) () ----- () (03H)

A transmission message consists of [STX], [Address], [:], [Transmission Command], and [ETX]. [Address] is expressed as "ADuu," where 'uu' is in the range of "00" through "16" in decimal form to identify the unit number of the Video Multiplexer. When using the RS-232C port to communicate with the PC, [Address] and [:] can be omitted.

2. Response Command

The Multiplexer returns messages in reply to the PC's messages with the following formats.

(1) Reception completed

When the reception was completed successfully, the Multiplexer sends back "ACK code, 06H", followed by parameters. The response command is shown in the Command Table.

Code	[STX] [Address] [:] [Response Command] [ETX]
ASCII	(02H) () ----- () (03H)

(2) Reception error

The Multiplexer sends back "NAK code, 15H", followed by the parameters shown below. The Multiplexer then resets the reception buffer and enters waiting mode for the next message. Parameter "e" identifies the error status.

Code	[NAK] [e]
ASCII	(15H)

"e" value 1: Parity error
 2: Data Over error
 3: Framing error
 4: Overrun error
 5: Time Out error

(3) Parameter error

The Multiplexer returns "ACK code, 06H", the transmission command that was not processed properly for some reason, followed by an error code as shown below.

Code	[STX] [Transmission Command] [:] [Error Code] [ETX]
ASCII	(02H) () ----- () (3AH) () --- () (03H)

Error code ER001: Command invalid
 ER002: Parameter invalid
 ER301: Command legal but out of range
 ER302: Parameter legal but out of range

Note: The Video Multiplexer returns [ACK] or [NAK] to the PC within 20 ms after the reception of [ETX] in a transmission message.

● Command Table

(1) Operation Control

Item	Transmission Command (ASCII)	Response Command (ASCII)	Parameter (ASCII)
Monitor Select	OMS : m	OMS	<u>m=0</u> Spot Monitor m=1 Multiscreen Monitor m=2 Multiscreen 2 Monitor
VCR/Camera Select	OVC : m	OVC	<u>m=0</u> Camera Mode m=1 VCR Mode
Still ON/OFF	OST : m : nn	OST	<u>m=0</u> Still OFF m=1 Still ON <u>nn=00</u> All video channels specify nn=01 - 16 Camera Number
Multiscreen Select	OTC : m	OTC	<u>m=0</u> Quad m=1 7 divide m=2 9 divide m=3 10 divide m=4 13 divide m=5 16 divide m= I No. of divisions (+) m=D No. of divisions (-)
Sequence	OSQ : m	OSQ	<u>m=0</u> End Sequence m=1 Activate Sequence
Sequence Mode Select	OSE : m	OSE	<u>m=0</u> SEQ1 m=1 SEQ2 m=2 SEQ3
Electronic Zoom ON/OFF	OZM : m	OZM	<u>m=0</u> Zoom OFF m=1 Zoom ON
Single Spot CH Select	OCS : mm	OCS	mm=00 - 16 Camera Number *00=Spot Input
Camera & Playback Display Playback CH Select	OVS : mm	OVS	mm=01 - 16 Playback CH number
Alarm Input	OAI : m	OAI	<u>m=0</u> 1CH Alarm : m=F 16CH Alarm
Alarm Reset	OAL : m	OAL	<u>m=0</u> Manual Reset m=1 Auto Reset
Alarm Log Clear	OAR	OAR	None

Note: If a command has no parameter value, it is processed with the value under lined in the table.

(2) Mode Change

Item	Transmission Command (ASCII)	Response Command (ASCII)	Parameter (ASCII)
Alarm Suspension	MAD : m	MAD	<u>m=0</u> Alarm Suspension OFF m=1 Alarm Suspension ON
Lock *1	MKL : m	MKL	<u>m=0</u> Lock OFF m=1 Lock ON
Setup	MSU : m	MSU	<u>m=0</u> End Setup m=1 Begin Setup

*1: The LOCK (key lock) command is used to prohibit operations on the panel of the Video Multiplexers and the System Controllers. After execution of this command, only the personal computer can operate the system.

(3) Cursor Control

Item	Transmission Command (ASCII)	Response Command (ASCII)	Parameter (ASCII)
Cursor Movement Select Parameter	DCR : mm	DCR	mm=UU Move Upward mm=DD Move Downward mm=RR Move to Right mm=LL Move to Left mm=BB Move to lower layer mm=ES Move to upper layer Item decision (partial) mm=IC Select parameter (+) mm=DC Select parameter (-) mm=FF Select page mm=UR Move to Upper-Right mm=UL Move to Upper-Left mm=DR Move to Lower-Right mm=DL Move to Lower-Left

*2

*2 The parameter valid on the main unit setup menu is:

mm=UU, DD, RR, LL, BB, ES, FF, IC, DC

The parameter valid for zoom position move during electronic zooming is:

mm=UU, DD, RR, LL, UR, UL, DR, DL

(4) Status Inquiry

Item	Transmission Command (ASCII)	Response Command (ASCII)	Parameter (ASCII)
Status Inquiry	QOP	Table below (19 kinds)	None

Examples of response

No.	Response Command (ASCII)	Main Unit Information
1	@mPLSNcc	Single Spot (Camera)
2	@mPLSZcc	Single Spot + Electronic Zoom (Camera)
3	@mPLSScc	Single Spot + Still (Camera)
4	@mPLSXcc	Single Spot + Zoom + Still (Camera)
5	@mPLSMLa	Multi Spot (+ Still) (Camera)
6	@mPLQNcc	Spot Sequence (Camera)
7	@mPLOMLa	Multi Sequence (Camera)
8	@mPLQZcc	Spot Sequence + Zoom (Camera)
9	@mPVSNcc	Single Spot (VCR)
10	@mPVSZcc	Single Spot + Zoom (VCR)
11	@mPVSScc	Single Spot + Still (VCR)
12	@mPVSXcc	Single Spot + Zoom + Still (VCR)
13	@mPVSMLa	Multi Spot (+ Still) (VCR)
14	@mPVQNcc	Spot Sequence (VCR)
15	@mPVQMLa	Multi Sequence (VCR)
16	@mPVQZcc	Spot Sequence + Zoom (VCR)
17	@mPRSMLa	Live & VCR Display (+ Still)
18	@mPE	Setup Mode
19	@mPX	Playback through

m=0, 1, 2 Monitor Number (0 : Spot Monitor, 1 : Multiscreen Monitor, 2 : Multiscreen 2 Monitor)
 P=N, A, D, F N : Normal A : Alarm D : Normal + Alarm Suspension F : Alarm + Alarm Suspension
 cc=01 - 16 Camera Number (00 (SPOT IN) is also possible when Spot Monitor (m=0)) is selected
 a = 0 - 6 According to the number of screen divisions.
 0 : Quad 1 : 7 divide 2 : 9 divide 3 : 10 divide 4 : 13 divide 5 : 16 divide 6 : Single Spot

SPECIFICATIONS

Power Source:	120 V AC 60 Hz
Power Consumption:	50 W
Camera Input (1-16):	1.0 V[p-p] /75 Ω composite video signal 0.5 V[p-p] /75 Ω data signal and 2.5 V[p-p] /75 Ω vertical timing pulse multiplexed.
Camera Output (1-16):	1.0 V[p-p] /75 Ω composite video signal
Spot Output:	1.0 V[p-p] /75 Ω composite video signal
Multiscreen Output:	1.0 V[p-p] /75 Ω composite video signal Y Signal; 0.714 V[p-p], C Signal; 0.286 V[p-p] /75 Ω S-video signal
Recording Output:	1.0 V[p-p] /75 Ω composite video signal Y Signal; 0.714 V[p-p], C Signal; 0.286 V[p-p] /75 Ω S-video signal
Playback Input:	1.0 V[p-p] /75 Ω composite video signal Y Signal; 0.714 V[p-p], C Signal; 0.286 V[p-p] /75 Ω S-video signal
Alarm/Remote Control:	37-pin D-sub Connector
VCR Control (RS-232C):	25-pin D-sub Connector
VCR Control (Wired):	Mini-jack f2.5 mm
Ambient Operating Temperature:	-10°C - +50°C (14°F - 122°F)
Ambient Operating Humidity:	Less than 90 %
Dimensions:	420 mm (W) X 88 mm (H) X 350 mm (D) [16-9/16" (W) X 3-7/16" (H) X 13-3/4" (D)]
Weight:	6.5 kg (14.3 lbs.)

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

STANDARD ACCESSORIES

Rack Mounting Bracket	2 pcs.
Screws (M4 x 10)	4 pcs.
Switch Protector	1 pc.

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