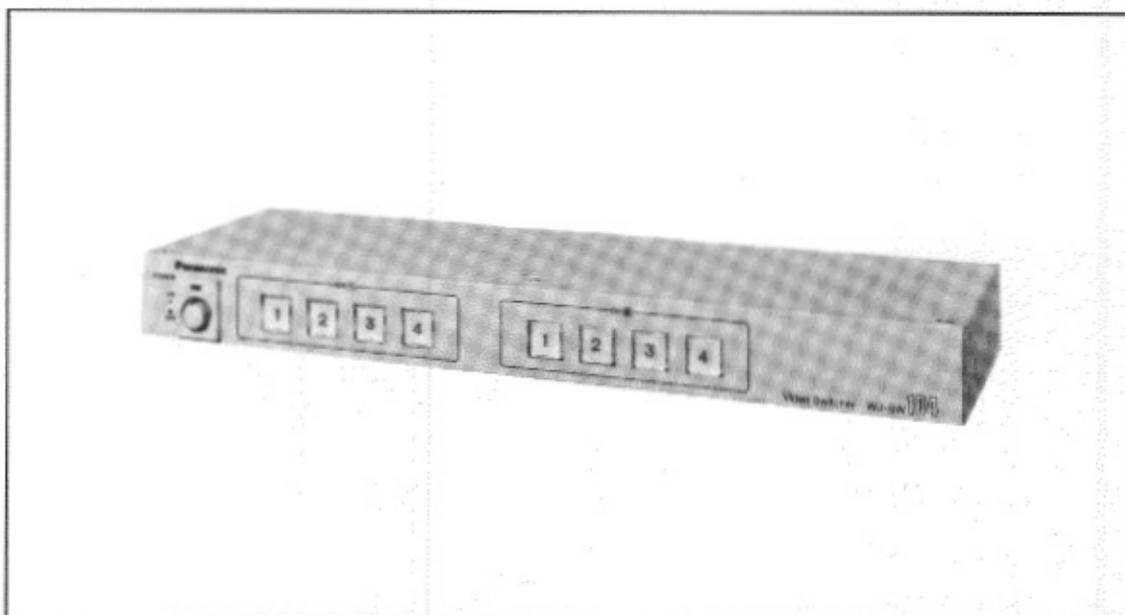


# Operating Instructions

Video Switcher  
WJ-SW104



**Panasonic.**

Before attempting to connect or operate this product, please read these instructions completely.

# CONTENTS

|  |   |
|--|---|
| PREFACE .....                                      | 2 |
| FEATURES .....                                     | 2 |
| PRECAUTIONS .....                                  | 2 |
| MAJOR OPERATING CONTROLS AND THEIR FUNCTIONS ..... | 3 |
| RACK MOUNTING .....                                | 4 |
| SYSTEM CONNECTION .....                            | 5 |
| 1. The Composite Video Signal Connection .....     | 5 |
| 2. The Y/C Video Signal Connection .....           | 6 |
| OPERATION .....                                    | 7 |
| SPECIFICATIONS .....                               | 7 |
| STANDARD ACCESSORIES .....                         | 7 |
| MAJOR OPTIONAL ACCESSORIES .....                   | 7 |



**CAUTION**

RISK OF ELECTRIC SHOCK  
DO NOT OPEN



**CAUTION:**  
TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE.  
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



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



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

For U.S.A.

**Warning:**  
This equipment generates and uses radio frequency energy and if not installed and used properly, i.e., in strict accordance with the instruction manual, may cause harmful interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment.

For CANADA

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

The serial number of this product may be found on the rear cover of the unit.  
You should note the serial number of this unit in the space provided and retain this book as a permanent record of your purchase to aid identification in the event of theft.

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

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

**WARNING:**  
TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

## PREFACE

The Panasonic active Video Switcher WJ-SW104 is designed for use in a multi-camera production systems. Four composite video inputs or four Y/C video inputs can be switched to the two channel video outputs. The non-lock push switches light up to show which input has been selected.

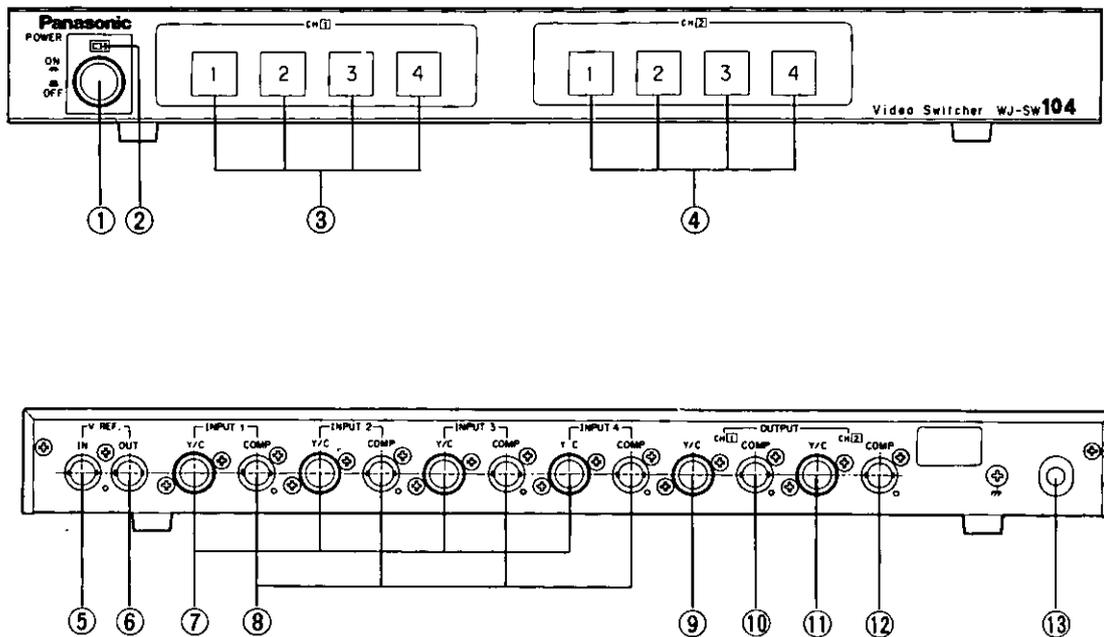
## FEATURES

1. Either four composite video signals or four Y/C video signals can be supplied.
2. Two channel video outputs are available.
3. External vertical sync input for the vertical synchronization.

## PRECAUTIONS

- Do not supply both the composite video signals and the Y/C video signals to the Video Switcher WJ-SW104 simultaneously.
- Do not attempt to disassemble the instrument. In order to prevent electric shock, do not remove screws or covers. There are no user-serviceable parts inside. Do refer all servicing to qualified service personnel.
- Do not abuse the instrument. Avoid striking, shaking, etc. It could be damaged by improper handling or storage. Do handle the instrument with care.
- Do not use strong or abrasive detergents when cleaning the instrument body. Do use a dry cloth to clean the instrument when dirty. In case the dirt is hard to remove, use mild detergent and wipe gently.
- Do not expose the instrument to water or moisture, and do not operate in wet area. Do take immediate action if ever the instrument does become wet. Turn the power off and refer servicing to qualified service personnel. Moisture can damage the instrument and also create the danger of electric shock.
- Do not use the instrument in an extreme environment where high temperature or high humidity exist. Use the instrument under conditions where temperatures are within 32°F - 104°F (0°C - +40°C), and humidity is below 95%.
- The input power source is 120V AC 60 Hz.
- Every necessary procedures with regard to install this product should be made by qualified service personnel or System Installers.

# MAJOR OPERATING CONTROLS AND THEIR FUNCTIONS



## 1. Power ON/OFF Switch (POWER ON/OFF)

### 2. Power Indicator

This indicator lights up when the Power ON/OFF Switch (POWER ON/OFF) (1) is pressed.

### 3. Channel 1 Video Input Selection Switches (CH 1, 1-4)

These are push-push type switches with LED indicators and used to select the desired video input signal.

#### Notes :

1. When the selected video signal is a composite video signal, the selected video signal is provided at the Channel 1 Composite Video Output Connector (OUTPUT CH 1 COMP) (10).
2. When the selected video signal is a Y/C video signal, the selected video signal is provided at the Channel 1 Y/C Video Output Connector (OUTPUT CH 1 Y/C) (9).

### 4. Channel 2 Video Input Selection Switches (CH 2, 1-4)

These are push-push type switches with LED indicators and used to select the desired video input signal.

#### Notes :

1. When the selected video signal is a composite video signal, the selected video signal is provided at the Channel 2 Composite Video Output Connector (OUTPUT CH 2 COMP) (12).

2. When the selected video signal is a Y/C video signal, the selected video signal is provided at the Channel 2 Y/C Video Output Connector (OUTPUT CH 2 Y/C) (11).

### 5. Vertical Sync Input Connector (V REF IN)

This connector accepts the color or B/W composite video signal or the black-burst video signal for the vertical synchronization for the video input signals. Connecting coaxial cable with BNC connector to the Vertical Sync Output Connector (V REF OUT) (6), the high impedance video loop is automatically selected. At all other times, the connector is automatically terminated with 75 ohms.

### 6. Vertical Sync Output Connector (V REF OUT)

The external sync signal connected to the Vertical Sync Input Connector (V REF IN) (5) is provided at this connector by looping through to be supplied to other system component.

### 7. Y/C Video Input Connectors (VIDEO 1-4, Y/C)

These connectors accept the S-video signals.

### 8. Composite Video Input Connectors (VIDEO 1-4, COMP)

These connectors accept the color or B/W composite video signals.

**9. Channel 1 Y/C Video Output Connector  
(OUTPUT CH 1 Y/C)**

The Y/C video signal selected by one of the Channel 1 Video Input Selection Switches (CH 1, 1-4) (3) is provided at this connector.

**10. Channel 1 Composite Video Output Connector  
(OUTPUT CH 1 COMP)**

The composite video signal selected by one of the Channel 1 Video Input Selection Switches (CH 1, 1-4) (3) is provided at this connector.

**11. Channel 2 Y/C Video Output Connector  
(OUTPUT CH 2 Y/C)**

The Y/C video signal selected by one of the Channel 2 Video Input Selection Switches (CH 2, 1-4) (4) is provided at this connector.

**12. Channel 2 Composite Video Output Connector  
(OUTPUT CH 2 COMP)**

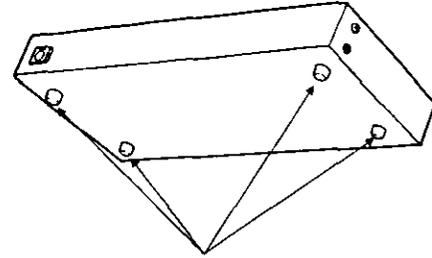
The composite video signal selected by one of the Channel 2 Video Input Selection Switches (CH 2, 1-4) (4) is provided at this connector.

**13. Power Cord**

## RACK MOUNTING

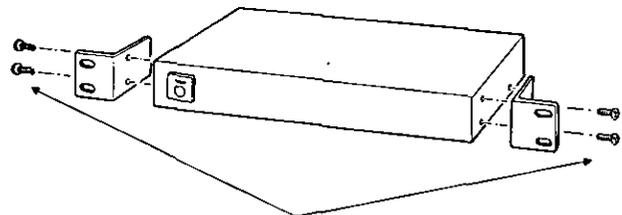
When the Video Switcher WJ-SW104 is to be mounted on a EIA 19-inch rack, use Rack mount angles (provided) and four screws (M4 × 10) (provided).

1. Turn off the Power ON/OFF Switch of the unit.
2. Remove four screws fixing the rubber legs and remove the four rubber legs from the bottom of the unit.



Remove rubber legs.

3. Attach the Rack mount angles on both sides and fix them by using four screws provided with the rack mount angle.

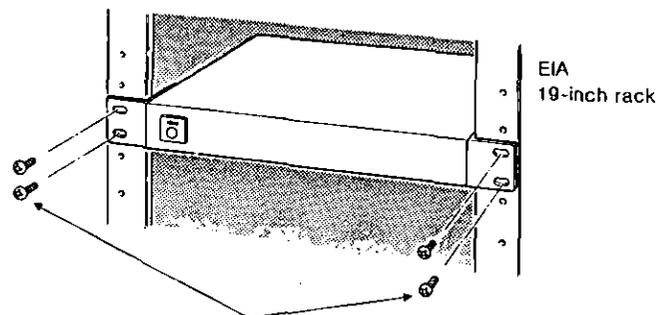


Fix four screws.

4. Install the Video Switcher WJ-SW104 on the EIA 19-inch rack by using four screws (Locally procured).

**Cautions :**

1. Keep 1-unit or more space for both the top and bottom of the unit or install a cooling fan in the rack for cooling.
2. Secure the rear of the unit to the rack by using the additional mounting angles (procured locally) when the vibration is added to the rack.



Fix four screws (not provided).

# SYSTEM CONNECTION

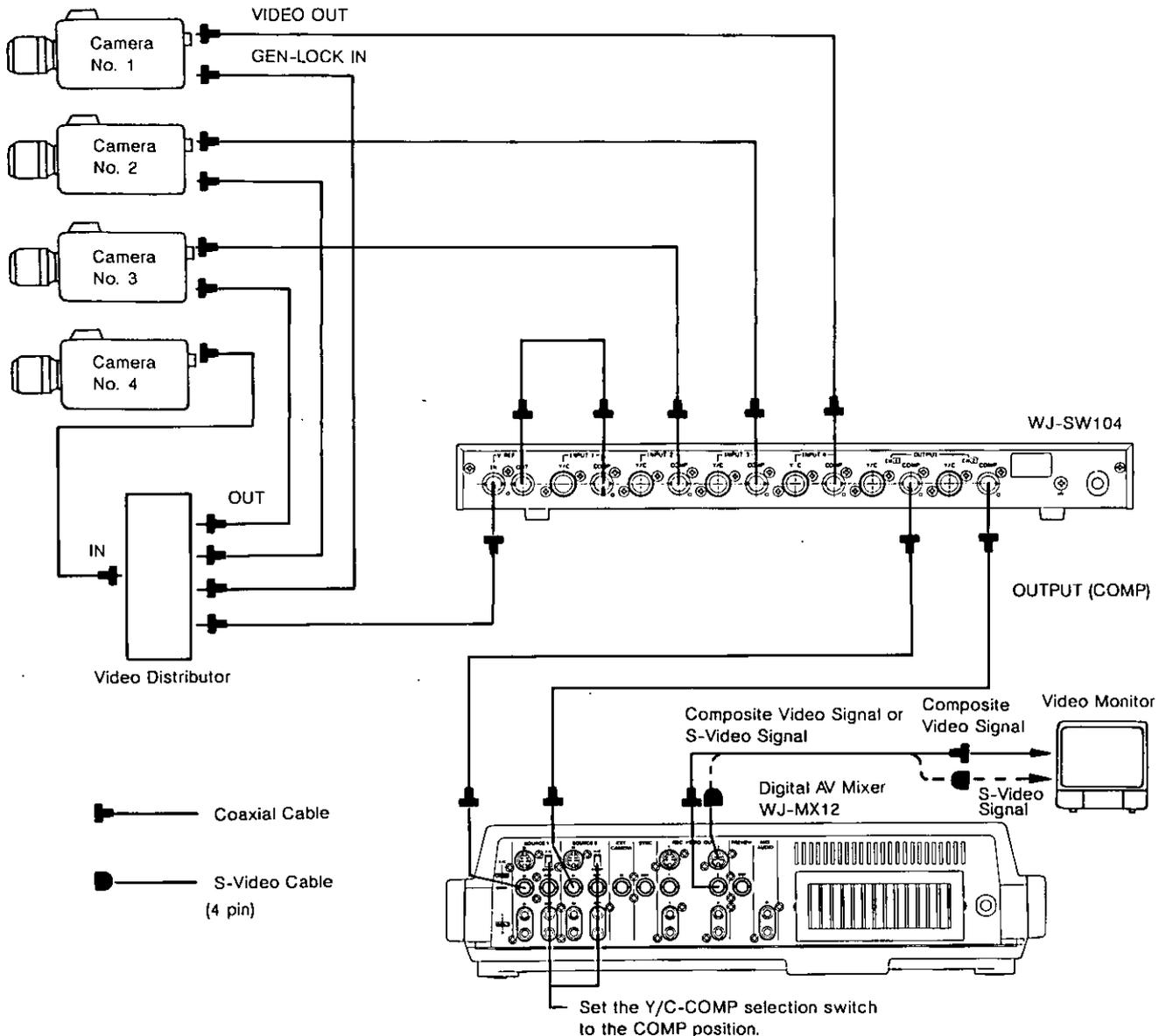
**Notes :**

1. The Video Switcher WJ-SW104 accepts either the composite video signals or the Y/C video signals.
2. Avoid to make a looping circuit for the external sync system. Do not feed the video output signal from the AV Mixer WJ-MX12 to the Vertical Sync Input Connector (5) on the Video Switcher WJ-SW104.

**1. The composite Video Signal Connection**

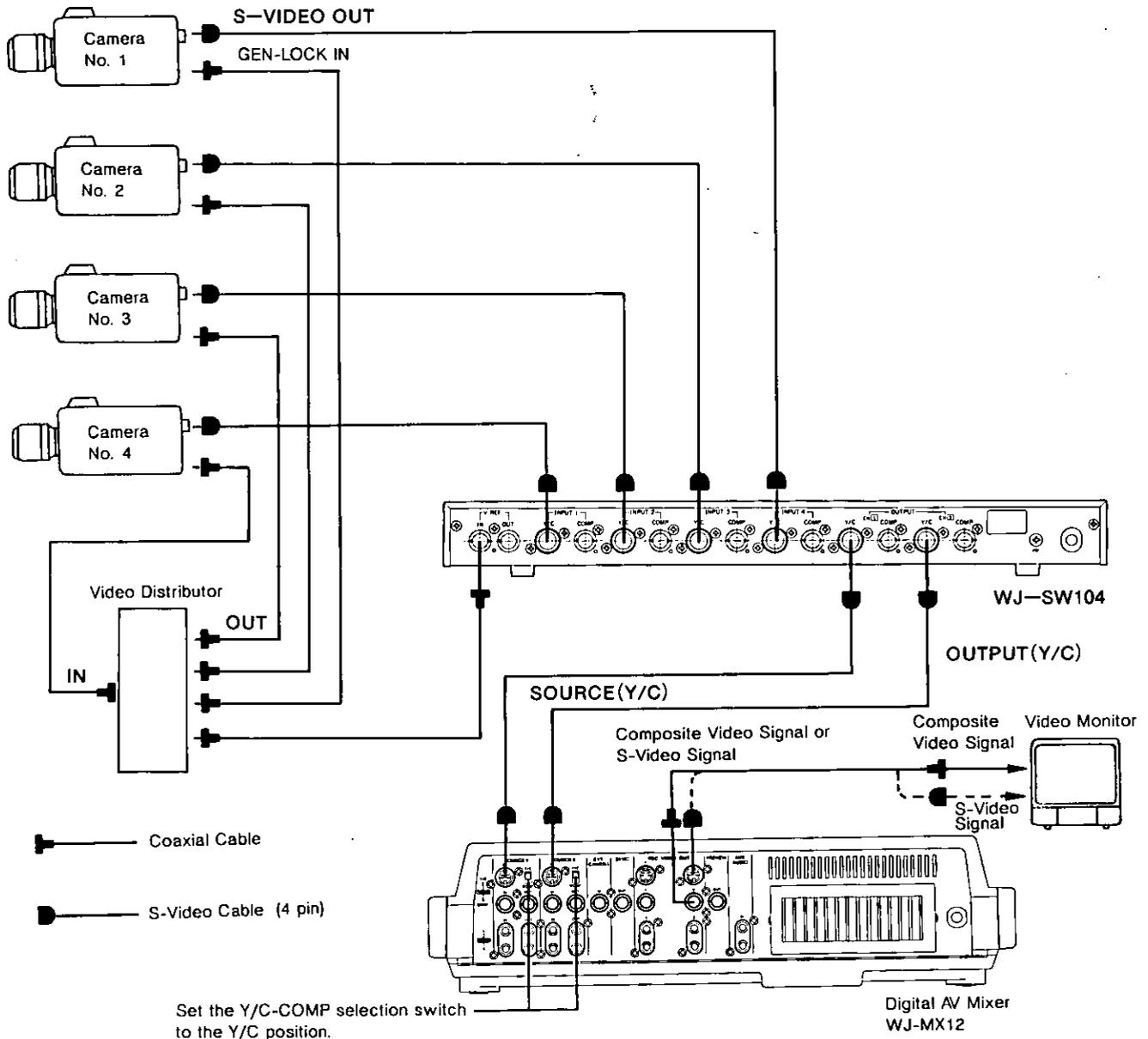
1. Connect the coaxial cable (s) between the Video Output Connector (s) on the Camera (s) No. 1 to No. 3 and the Input 2 to 4 of the Composite Video Input Connectors (8) on the Video Switcher WJ-SW104.
2. Connect the coaxial cable (s) between the Video Output Connector (s) on the Video Distributor and the Gen-Lock Video Input Connector (s) on the Camera (s) No. 1 to No. 3.
3. Connect the coaxial cable between the Video Output Connector on the Video Distributor and the Vertical Sync Input Connector (5) on the Video Switcher WJ-SW104.

4. Connect the coaxial cable between the Video Output Connector on the Camera No. 4 and the Video Input Connector on the Video Distributor.
5. Connect the coaxial cable between the Vertical Sync Output Connector (6) and the Input 1 of the Composite Video Input Connectors (8).
6. Connect the coaxial cable between the Channel 1 Composite Video Output Connector (10) and the Source 1 Composite Video Input Connector on the AV Mixer WJ-MX12.
7. Connect the coaxial cable between the Channel 2 Composite Video Output Connector (12) and the Source 2 Composite Video Input Connector on the AV Mixer WJ-MX12.
8. Connect the coaxial cable or S-Video Cable between the Video Output Connector on the AV Mixer WJ-MX12 and the Video Input Connector on the video monitor.



## 2. The Y/C Video Signal Connection

1. Connect the S-Video Cable (s) between the S-Video Output Connector (s) on the Camera (s) No. 1 to No. 4 and the Input 1 to 4 of the Y/C Video Input Connectors (7) on the Video Switcher WJ-SW104.
2. Connect the coaxial cable (s) between the Video Output Connector (s) on the Video Distributor and the Gen-Lock Video Input Connector (s) on the Camera (s) No. 1 to No. 3.
3. Connect the coaxial cable between the Video Output Connector on the Video Distributor and the Vertical Sync Input Connector (5) on the Video Switcher WJ-SW104.
4. Connect the coaxial cable between the Video Output Connector on the Camera No. 4 and the Video Input Connector on the Video Distributor.
5. Connect the S-Video Cable between the Channel 1 Y/C Video Output Connector (9) and the Source 1 Y/C Video Input Connector on the AV Mixer WJ-MX12.
6. Connect the S-Video Cable between the Channel 2 Y/C Video Output Connector (11) and the Source 2 Y/C Video Input Connector on the AV Mixer WJ-MX12.
7. Connect the coaxial cable or S-Video Cable between the S-Video Output Connector on the AV Mixer WJ-MX12 and the S-Video Input Connector on the video monitor.



# OPERATION

1. Press the Power ON/OFF Switch (1).
2. The Power Indicator (2) lights up.
3. The LED (Yellow) on the No. 1 switch of the Channel 1 Video Input Selection Switches (3) and the LED (Green) on the No. 2 switch of the Channel 2 Video Input Selection Switches (4) light up automatically.

- These selected video signals are provided at the video output connector of the Channel 1 and the Channel 2 accordingly.
4. Select the desired camera by pressing the Channel 1 Video Input Selection Switches (3) and the Channel 2 Video Input Selection Switches (4).

# SPECIFICATIONS

|                                 |  |
|---------------------------------|--|
| Power Source :                  | 120V AC 60Hz   |
| Power Consumption :             | Approx. 9W   |
| Input                           |  |
| Composite Video In :            | × 4, 1Vp-p/75 ohms - BNC connector   |
| Y/C Video In :                  | × 4, 1Vp-p/75 ohms for Y signal and 0.3Vp-p/75 ohms for C signal -4pin S-connector |
| Vertical Sync In :              | × 1, 1Vp-p/75 ohms loop through signal with auto termination - BNC connector       |
| Output                          |  |
| Composite Video Out :           | × 2, 1Vp-p/75 ohms - BNC connector   |
| Y/C Video Out :                 | × 2, 1Vp-p/75 ohms for Y signal and 0.3Vp-p/75 ohms for C signal -4pin S-connector |
| Ambient Operating Temperature : | 32°F - 104°F (0°C - +40°C)   |
| Ambient Operating Humidity :    | Less than 95%  |
| Dimensions :                    | 16-9/16" (W) × 1-3/4" (H) × 5-15/16" (D)<br>[420 (W) × 44 (H) × 150 (D) mm]        |
| Weight :                        | 5.1 lbs (2.3 kg)   |

Weight and dimensions indicated are approximate.  
Specifications are subject to change without notice.

# STANDARD ACCESSORIES

- 19" Rack Mount Angle ..... 1 set.  
Screws for Rack Mount Angle (M4×10) ..... 4 pcs.

# MAJOR OPTIONAL ACCESSORIES

- Camera ..... WV-D5100, WV-F70, WV-F250  
AV Mixer ..... WJ-MX12  
Video Distributor ..... WJ-300C

# Panasonic

Communications & Systems Company

Division of Matsushita Electric Corporation of America

## PROFESSIONAL/INDUSTRIAL VIDEO

### HEADQUARTERS:

50 Meadowland Parkway, Secaucus, New Jersey 07094

### EASTERN ZONE:

50 Meadowland Parkway, Secaucus, NJ 07094 (201) 348-7620

### CENTRAL ZONE:

425 E. Algonquin Road, Arlington Hts. IL 60005 (708) 981-4826

### SOUTHERN ZONE:

Dallas Region: 4500 Amon Carter Blvd., Ft Worth, TX 76155 (817) 685-1117

Atlanta Region: 1854 Shackleford Ct. Suite 115, Norcross, GA 30093 (404) 925-6841

### WESTERN ZONE:

Seattle Region: 1200 Westlake Ave. N., Suite 508, Seattle, WA 98109 (206) 285-8883

Los Angeles Region: 6550 Katella Ave., Cypress, CA 90630 (714) 373-7275

### MATSUSHITA ELECTRIC OF CANADA LIMITED

5770 Ambler Drive, Mississauga, Ontario, Canada L4W 2T3 (416) 624-5010

### PANASONIC SALES COMPANY

### DIVISION OF MATSUSHITA ELECTRIC OF PUERTO RICO, INC.

San Gabriel Industrial Park, 65th Infantry, Ave. KM. 9.5 Carolina, Puerto Rico 00630 (809) 750-4300