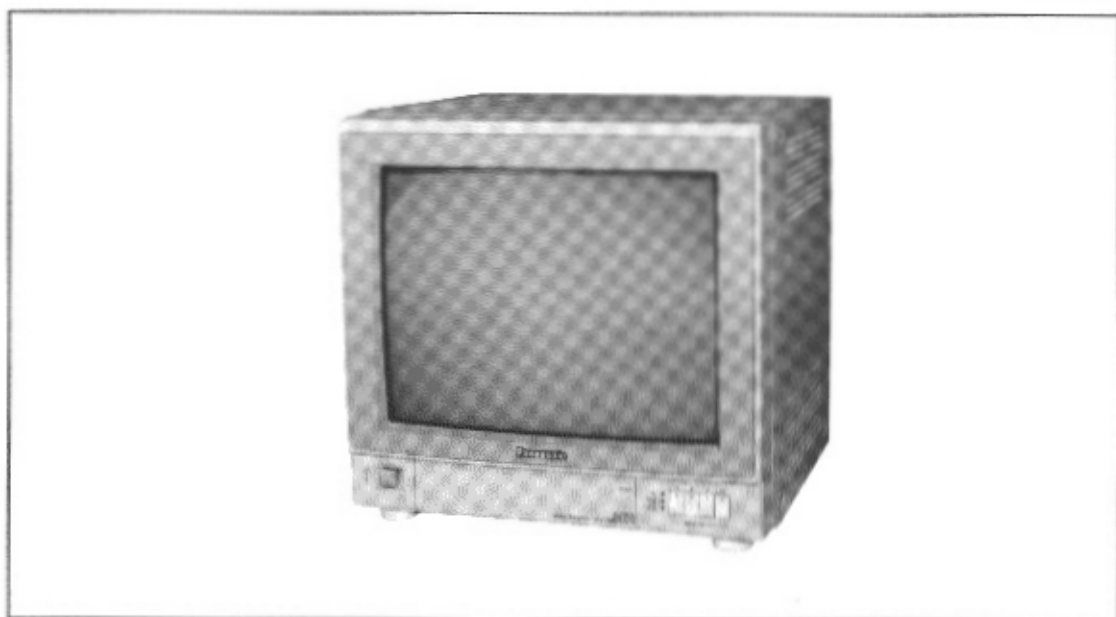


Operating Instructions

Video Monitor
WV-CM1450




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
CABLE INFORMATIONS	5
SYSTEM CONNECTIONS	5
APPEARANCE	6
SPECIFICATIONS	7
OPTIONAL ACCESSORY	7

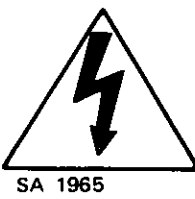


CAUTION

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

Model No. _____

Serial No. _____

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

PREFACE

The Panasonic's Video Monitor WV-CM1450 is a high resolution S-VIDEO to ensure high - defining picture quality for a PAL/NTSC/M-NTSC (Modified NTSC). All controls except for power and Input Signal Selection Switch are covered with a push door to give a sleek appearance on the front. The master controls of Tint, Color, Brightness and Contrast are provided with sub controls to permit adjustment of preset levels.

The ruggedly built metal cabinet is rack-mountable using the optional bracket WV-Q104. Standard BNC and S-Video input and output connectors enabled WV-CM1450 to be used with other CCTV monitors or Panasonic video tape recorder.

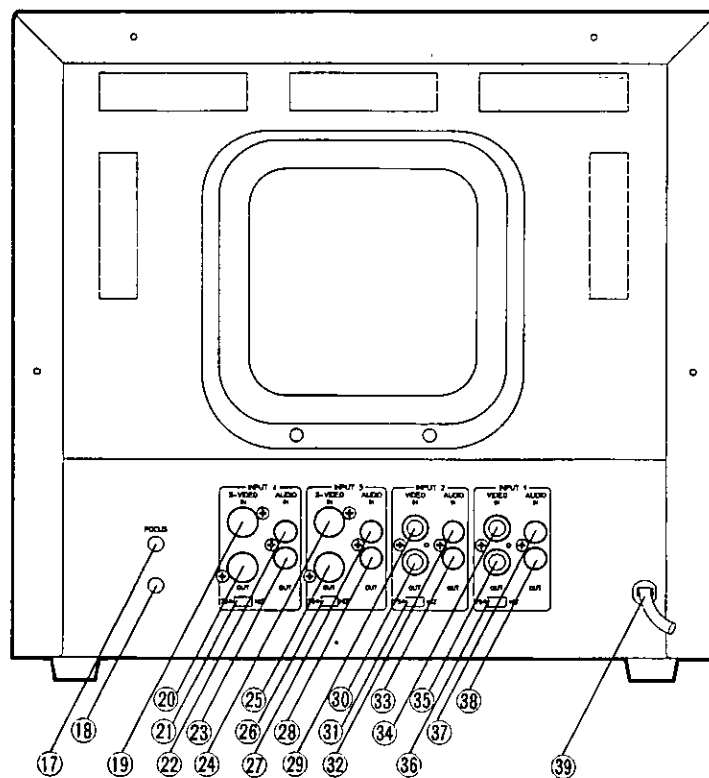
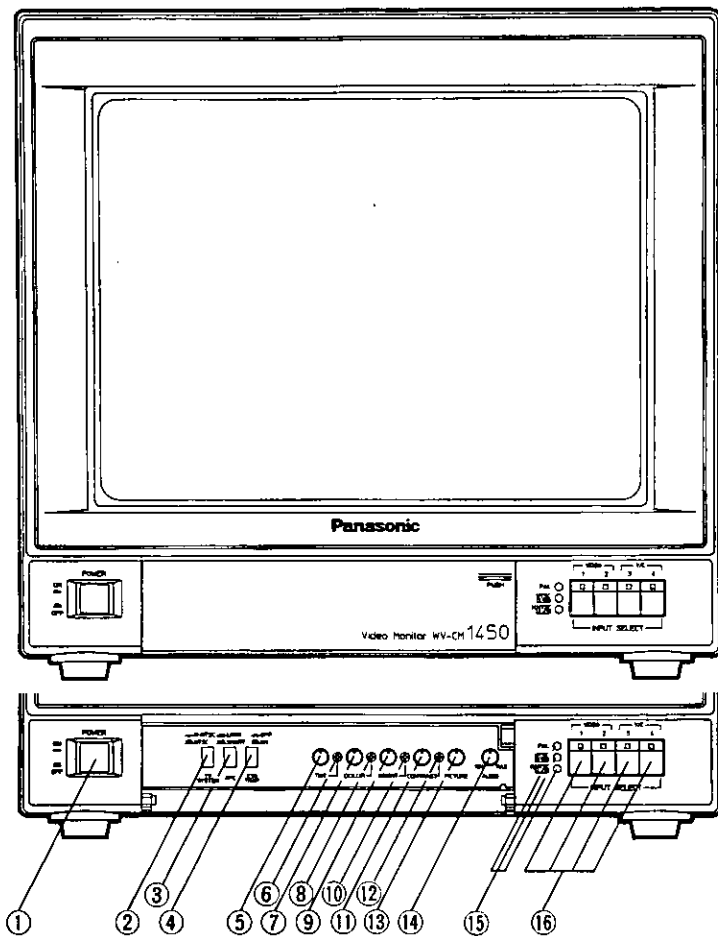
FEATURES

- Approx. 14" diagonal actual visual size.
- Switchable of AFC time constant
- Looping through BNC connectors for video input and output.
- Looping through S-Video connectors for S-Video input and output.
- Looping through RCA pin jack for audio input and output.
- PAL/NTSC/M-NTSC selectable.
- 3.58 MHz Trap On/Off Switch for NTSC
- Max. 1.3W for speaker output
- Selectable of 1 - 4 channel for input and output signals.

PRECAUTIONS

- Do not block the ventilation slots.
- Do place the video monitor at least 5cm (2") apart from the wall.
- Do not expose the monitor to water or moisture.
- Do not operate the monitor if it becomes wet.
- Do take immediate action if ever the monitor does become wet. Turn power off and refer service personnel. Moisture can damage the monitor and also create the danger of electric shock.
- Do not drop metallic parts through slots. This action could permanently damage the monitor. Do turn power off immediately and refer servicing to qualified service personnel.
- Do not attempt to disassemble the monitor. To prevent electric shock, do not remove screws or cover. There are no user serviceable parts inside. Refer servicing to qualified service personnel.
- Do not use the monitor beyond its temperature, humidity or power source ratings.
 - (a) Ambient temperature must not range beyond -10°C - $+50^{\circ}\text{C}$.
 - (b) Avoid using the monitor when humidity is above 90%.
 - (c) The input power must be 120 V AC at 60 Hz.

MAJOR OPERATING CONTROLS AND THEIR FUNCTIONS



1. **Power Switch (POWER ON/OFF)**
This is a push-push type switch which turns the power of the monitor on and off.
Press once and the switch remains down (■) for turning on the power of monitor.
Press again, the switch comes up (■) for turning off the power of the monitor.
2. **TV System Selection Switch (NTSC/M-NTSC)**
This is a push-push type switch which selects the signal of NTSC/M-NTSC.
When connecting a VTR providing the M-NTSC (4.43 MHz NTSC) signal, set this switch to the M-NTSC (■) position by pressing once.
When connecting a camera or VTR providing the NTSC (3.58 MHz) signal, set this switch to the NTSC (■) position by pressing again.
The selection between PAL and NTSC/M-NTSC mode is performed automatically.
3. **AFC Time Selection Switch (AFC, LONG/SHORT)**
This is a push-push type switch which selects the AFC time. Press once, then the switch remains down (■) for selecting the LONG position.
Press again, then the switch comes up (■) for selecting the SHORT position.
Normally (standard video signal), set this switch to the SHORT position.
When the video signal is jittery, set this switch to the LONG position:
4. **3.58 MHz Trap Filter On/Off Switch (3.58 TRAP, ON/OFF)**
This is a push-push type switch which turns on/off the 3.58 MHz Trap Filter.
Press once, then the switch remains down (■) for tuning off the 3.58 MHz Trap Filter.
Press again, then the switch remains down (■) for turning on the 3.58 MHz Trap Filter function.
Note :
When decreasing the cross color noise on the monitor screen, turn on this switch.
5. **Tint Control (TINT)**
Turn this control clockwise for purplish color of the picture and turn this counterclockwise for greenish color of the picture
6. **Tint Subcontrol**
7. **Color Control (COLOR)**
Turn this control clockwise to increase the picture color and turn this control counterclockwise to decrease the picture color.
8. **Color Subcontrol**
9. **Bright Control (BRIGHT)**
Turn this control clockwise to increase the picture brightness and turn this control counterclockwise to decrease the picture brightness.
10. **Bright Subcontrol**
11. **Contrast Control (CONTRAST)**
Turn this control clockwise to increase the picture contrast and turn this control counterclockwise to decrease the picture contrast.
12. **Contrast Subcontrol**
13. **Picture Adjustment (PICTURE)**
Turn this control clockwise for sharp picture and turn this control counterclockwise for soft picture.
14. **Audio Volume (AUDIO, MIN/MAX)**
Turn this volume clockwise to increase the audio level and turn this volume counterclockwise to decrease the audio level.
15. **Power Indicator/Broadcast System Indicator (PAL, NTSC, M-NTSC)**
When turning on the power of this monitor without any input signals, PAL LED indicator lights in red.
The NTSC LED indicator lights in green with the NTSC input signal.
The M-NTSC LED indicator lights in orange with the M-NTSC input signal.
These indicators are switched by the difference in the broadcasting system connected to this monitor.
16. **Input Signal Selection Switches (INPUT 1/2/3/4)**
By pressing the desired switch, both Video (S-Video) and Audio input signal is selected.
Note :
The video and audio input signal selected once will be kept in the memory for approx. 72 hours even if the power of this monitor is turned off. When this monitor is kept in the turning off condition more than 72 hours, the video and audio input signal to 1 channel will be selected.
17. **Focus Control (FOCUS)**
18. **Screen Control**
This control is preset at the factory.
Do not adjust this control.
When the adjustment of this control is required, refer to the qualified service personnel.
19. **S-Video Input Connector (INPUT 4, S-VIDEO IN)**
This input accepts a S-Video (PAL/NTSC) signal.
20. **S-Video Output Connector (INPUT 4, S-VIDEO OUT)**
The S-Video input signal connected to the S-Video Input Connector(19) is looped through to this connector.
21. **S-Video Termination Switch (INPUT 4, 75Ω/Hi-z)**
When bridging or looping through the S-Video signal, set this switch to Hi-z position, and other cases this switch should be set to 75Ω position.
22. **Audio Input Connector (INPUT 4, AUDIO IN)**
-8 dB/Hi-z audio signal can be supplied to this input connector.
23. **Audio Output Connector (INPUT 4, AUDIO OUT)**
The audio input signal connected to the Audio Input Connector(22) is looped through to this connector.

CABLE INFORMATIONS

Power Cable

1. Keep the Power Switch(1) in the OFF position during installation.
2. Connect the Power Cord to a grounded electrical outlet.

Video Cable

1. Use 75-ohm coaxial cable [RG-59/U(3C-2V), RG-6/U(5C-2V), RG-14/U(7C-2V), RG-15/U(10C-2V)]
2. Up to 10 monitors can be hooked up in this configuration before signal loss occurs. Total cable length should not exceed 150m.
3. Wiring Precautions :
 - Do not bend coaxial cable into a curve whose radius is smaller than 10 times of its diameter.
 - Never crush or pinch the cable.

All these will change the impedance of the cable and cause poor picture quality.

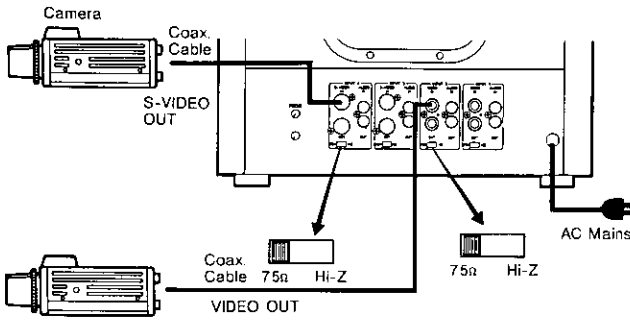
Type of coaxial cable		RG-59/U (3C-2V)	RG-6U (5C-2V)	RG-11/U (7C-2V)	RG-15/U (10C-2V)
Recommended maximum cable length	(ft)	825	1,650	1,980	2,640
	(m)	250	500	600	800

24. **S-Video Input Connector (INPUT 3, S-VIDEO IN)**
This input accepts a S-Video (PAL/NTSC) signal.
25. **S-Video Output Connector (INPUT 3, S-VIDEO OUT)**
The S-Video input signal connected to the S-Video Input Connector(24) is looped through to this connector.
26. **S-Video Termination Switch (INPUT 3, 75Ω/Hi-z)**
When bridging or looping through the video signal, set this switch to Hi-z position, and other cases this switch should be set to 75Ω position.
27. **Audio Input Connector (INPUT 3, AUDIO IN)**
-8 dB/Hi-z audio signal can be supplied to this input connector.
28. **Audio Output Connector (INPUT 3, AUDIO OUT)**
The audio input signal connected to the Audio Input Connector(27) is looped through to this connector.
29. **Video Input Connector (INPUT 2, VIDEO IN)**
This input accepts a composite PAL/NTSC/M-NTSC video signal.
30. **Video Output Connector (INPUT 2, VIDEO OUT)**
The video input signal connected to the Video Input Connector(29) is looped through to this connector.
31. **Video Termination Switch (INPUT 2, 75Ω/Hi-z)**
When bridging or looping through the video signal, set this switch to Hi-z position, and other cases this switch should be set to 75Ω position.
32. **Audio Input Connector (INPUT 2, AUDIO IN)**
-8 dB/Hi-z audio signal can be supplied to this input connector.
33. **Audio Output Connector (INPUT 2, AUDIO OUT)**
The audio input signal connected to the Audio Input Connector(32) is looped through to this connector.
34. **Video Input Connector (INPUT 1, VIDEO IN)**
This input accepts a composite PAL/NTSC/M-NTSC video signal.
35. **Video Output Connector (INPUT 1, VIDEO OUT)**
The video input signal connected to the Video Input Connector(34) is looped through to this connector.
36. **Video Termination Switch (INPUT 1, 75Ω/Hi-z)**
When bridging or looping through the video signal, set this switch to Hi-z position, and other cases this switch should be set to 75Ω position.
37. **Audio Input Connector (INPUT 1, AUDIO IN)**
-8 dB/Hi-z audio signal can be supplied to this input connector.
38. **Audio Output Connector (INPUT 1, AUDIO OUT)**
The audio input signal connected to the Audio Input Connector(37) is looped through to this connector.

39. **Power Cord**

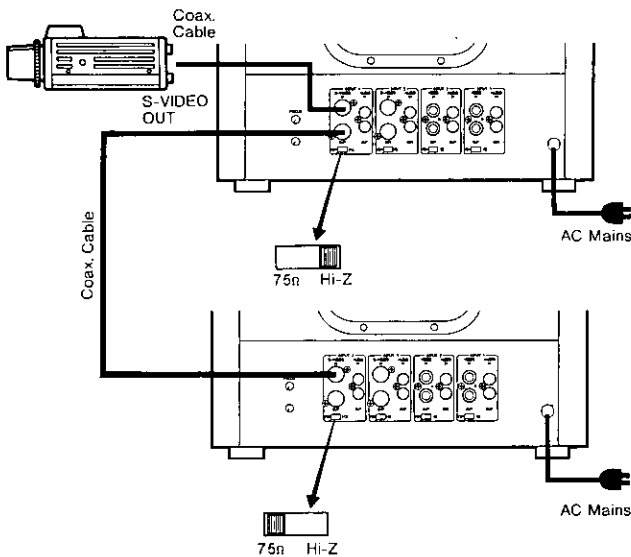
SYSTEM CONNECTIONS

1. Single Monitor Connection



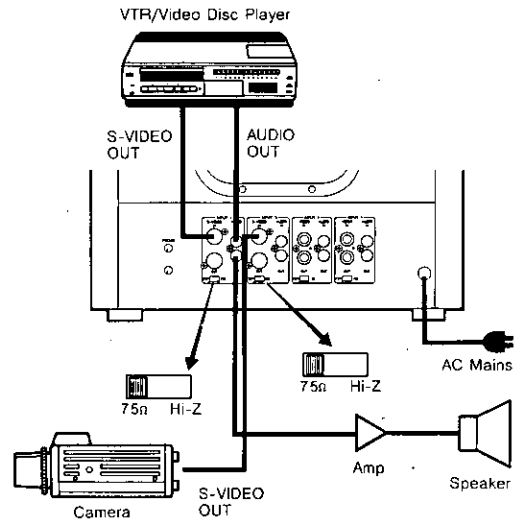
- Connect the coaxial cable between the S-Video Output connector of the camera or VTR and the S-Video Input Connector (19) or (24) of this monitor.
- Connect the coaxial cable between the Video Output connector of the camera or VTR and the Video Input Connector (29) or (34) of this monitor.
- Set the S-Video Termination Switch (21) or (26) to 75Ω position.
- Set the video Termination Switch (31) or (36) to 75Ω position.

2. Multiple Monitor Connection



- Connect the coaxial cable between the S-Video or Video Output terminal of the camera or VTR and the S-Video or Video Input Connector (19), (24), (29) or (34) of this monitor.
- Connect the coaxial cable between the S-Video/Video Output Connector (20), (25), (30) or (35) on the first monitor and the S-Video/Video Input Connector (19), (24), (29) or (34) on the second monitor, and continue until all monitors are connected.
- Set the S-Video/Video Termination Switch (21), (26), (31) or (36) of the first and intermediate monitors to Hi-z position. Then set the S-Video/Video Termination Switch (21), (26), (31) or (36) of the last monitor to 75Ω position.

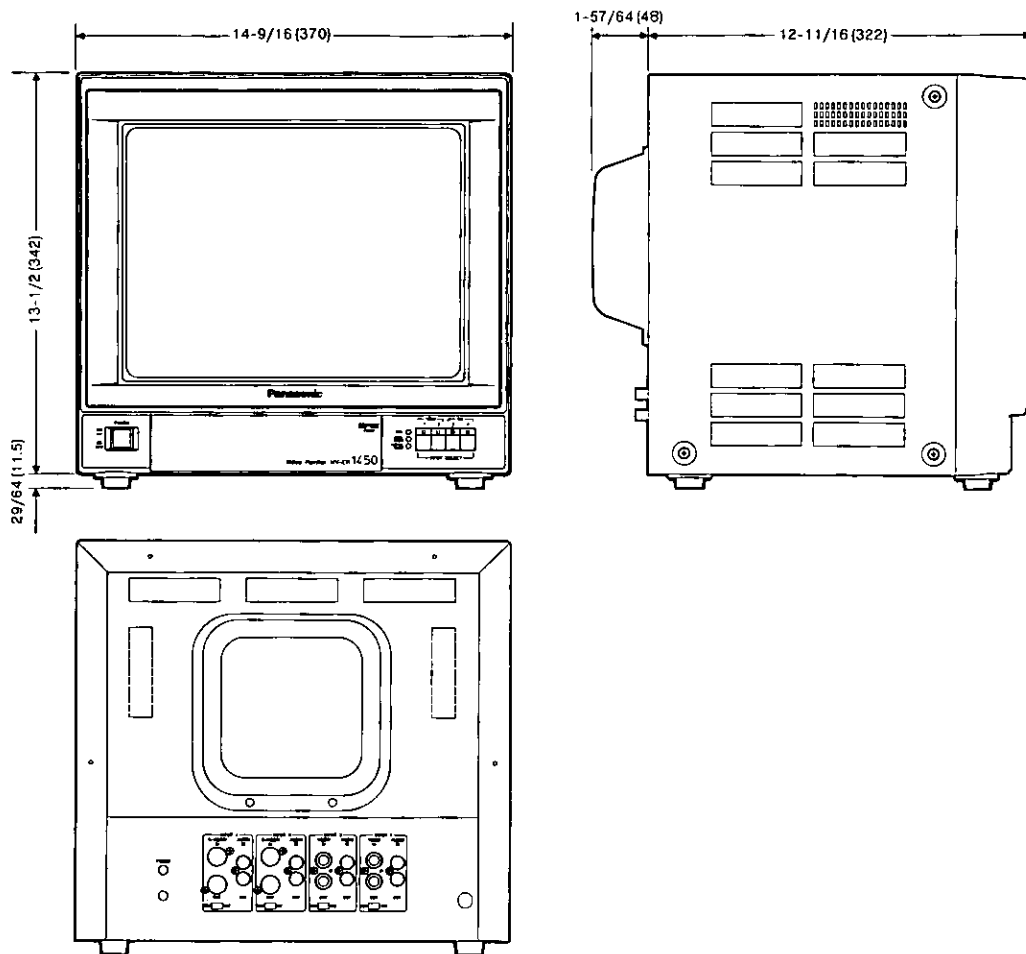
3. Audio Circuit Signal



- Connect the coaxial cable between the Video or S-Video Output connector of VTR or camera and the S-Video/Video Input Connector (19), (24), (29) or (34) on this monitor.
- Connect the coaxial cable between the Audio Output Connector of VTR and the Audio Input Connector (22), (27), (32) or (37) of this monitor, and connect the coaxial cable between the Audio Input Terminal of the audio amplifier to the Audio Output Connector (23), (28), (33) or (38) of this monitor.
- Set the S-Video/Video Termination Switch (21), (26), (31) or (36) to 75Ω position.

APPEARANCE

Unit : inches (mm)



SPECIFICATIONS

Power Source :	WV-CM1450, 120 V AC 60Hz
Power Consumption :	Approx. 65 watts
Video Input/Output :	1.0 Vp-p composite/75Ω or Hi-z looping through
S-Video Input/Output :	Y : 1.0 Vp-p/75-ohm or Hi-z looping through (PAL/NTSC) C : 0.3 Vp-p 75-ohm or Hi-z looping through (PAL) C : 0.286 Vp-p 75-ohm or Hi-z looping through (NTSC)
Sweep Linearity :	Less than 5%
Sweep Geometry :	Less than 2%
Scanning size :	Approx. 8% (Overscanning)
CRT :	394.6 mm (15") diagonal
Diagonal Actual Visual Size :	355.6 mm (14")
Audio Input/Output :	-8 dB/Hi-z
Switchable AFC Speed :	SHORT/LONG
Ambient Operating Temperature :	-10°C - +50°C
Ambient Operating Humidity :	Less than 90%
Dimensions :	14-9/16" (W) × 13-15/16" (H) × 14-9/16" (D) (370 (W) × 353.5 (H) × 370 (D) mm)
Weight :	32 lbs. (14.5 kg)

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

OPTIONAL ACCESSORY

Rack Angle Bracket WV-Q104

Panasonic

Broadcast & Television Systems Company

Division of Matsushita Electric Corporation of America

CLOSED CIRCUIT VIDEO EQUIPMENT DIVISION

Executive Office: One Panasonic Way, Secaucus, New Jersey 07094

Regional Offices:

Northeast: 43 Hartz Way, Secaucus, NJ 07094 (201) 348-7303
Southeast: 1854 Shackelford Court, Suite 115, Norcross, GA 30003 (404) 717-8835
Midwest: 1707 North Randall Road, Elgin, IL 60123 (708) 468-5200
Southwest: 4500 Amon Carter Blvd., Ft. Worth, TX 76155 (817) 885-1117
Western: 6550 Katella Ave., Cypress, CA 90630 (714) 373-7265