

# **Color Video Monitor**

## **Instruction Manual**

**Read this manual thoroughly before use,  
and retain it for maintenance.**

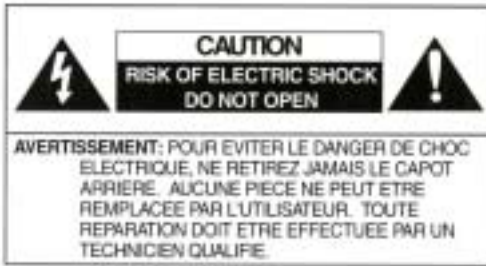
The product's exterior design and specifications may subject to change  
without prior notice for quality improvement.

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**WARNING – To Prevent Fire or Shock Hazard, Do Not Expose This Monitor To Rain or Moisture.**

**PRECAUTION**



**Graphic Symbol Explanation**

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.



**SCOPE**

The information in this instruction manual covers the installation and operation of the color monitor. This unit should be installed with approved materials and wiring practices in accordance with the National Electrical Code and applicable local wiring ordinances.

**INTRODUCTION**

The color video monitor features with high resolution both at center & corner, which produces crisp and high-quality video images for any discreet installation purpose. For industrial applications, the monitor accepts a standard NTSC or PAL color input signal and loop-through connectors are included with a switchable 75-ohm termination . Operating controls for tint, color, brightness, contrast and volume are located in the front panel for easy access. Furthermore, a regulated power supply maintains excellent performance during fluctuation in line voltage. This monitor is suitable for specialized and industrial CCTV surveillance applications where clear, high quality pictures and proven system reliability are required.



### **IMPORTANT SAFEGUARDS**

**All the safety and operating instructions should be read before the appliance is operated.**

1. **Retain instructions:** The safety and operating instructions should be retained for future reference.
2. **Heed Warnings:** All warnings on the monitor and in the operating instructions should be adhered to.
3. **Follow Instructions:** All operating and use instructions should be followed.
4. **Cleaning:** Unplug the monitor from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning. Exception. A monitor that is meant for uninterrupted service and that for some specific reason, such as the possibility of the loss of an authorization code for a CATV converter, is not intended to be unplugged by the user for cleaning or any other purpose, may exclude the reference to unplugging the monitor in the cleaning description otherwise required in item 5.
5. **Attachments:** Do not use attachments not recommended by the manufacturer as they may cause hazards.
6. **Water and Moisture:** Do not use this monitor near water – for example, a bath tub, wash bowl, kitchen sink, or laundry tub, in a wet basement, or a swimming pool, and the like.
7. **Accessories:** Do not place this monitor on an unstable cart, stand, tripod, bracket, or table. The monitor may fall, causing serious injury to a child or adult, and serious damage to the appliance. Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer, or sold with the monitor. Any mounting of the monitor should follow the manufacturer's instructions, and recommended by manufacturer.
8. **Ventilation:** Slots and openings in the cabinet are provided for ventilation and to ensure reliable operation of the monitor and to protect it from overheating, and these openings should never be blocked by placing her monitor on a bed, sofa, rug, or other similar surface. This monitor should never be placed near or over a radiator or heat register. This monitor should not be placed in a built in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer instructions have been adhered to.
9. **Power Sources:** This monitor should be operated only from the type of power source indicated on the making label. If you are not sure the type of power supply to the installation site, consult with your dealer or local power company.
10. **Grounding or Polarization:** For monitors equipped with a 3-wire grounding type plug having a third (grounding) pin. This plug will only fit into a grounding-type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace the obsolete outlet. Do not defeat the safety purpose of the grounding-type plug.
11. **Power:** Cord Protection-Power supply cords should be routed well so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the monitor.
12. **Lighting:** For added protection for this monitor during a lighting storm, or when it is left unattended and unused

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for long periods of time, unplug it from the wall outlet and disconnect the cable system. This will prevent damage to the monitor due to lighting and power-line surges.

13. **Overloading:** Do not overload wall outlets and extension cords as this can result in a risk of fire or electric shock.
14. **Object and Liquid Entry:** Never push objects of any kind into this monitor through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind on the monitor.
15. **Servicing:** Do not attempt to service this monitor yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
16. **Damage Requiring Service:** Unplug this monitor from the wall outlet and refer servicing to qualified service personnel under the following conditions.
  - a. When the power-supply cord or plug is damaged.
  - b. If liquid has been spilled, or objects have fallen into the monitor.
  - c. If the monitor has been exposed to rain or water.
  - d. If the monitor does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the monitor to its normal operation.
  - e. If the monitor has been dropped or the cabinet has been damaged.
  - f. When the monitor exhibits a distinct change in performance – this indicates a need for service.
17. **Replacement Parts:** When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original parts. Unauthorized substitutions may result in fire, electric shock or other hazards.
18. **Safety Check:** Upon completion of any service or repairs to this monitor, ask the service technician to perform safety checks to determine that the monitor is in proper operating condition.

## ACCESSORIES

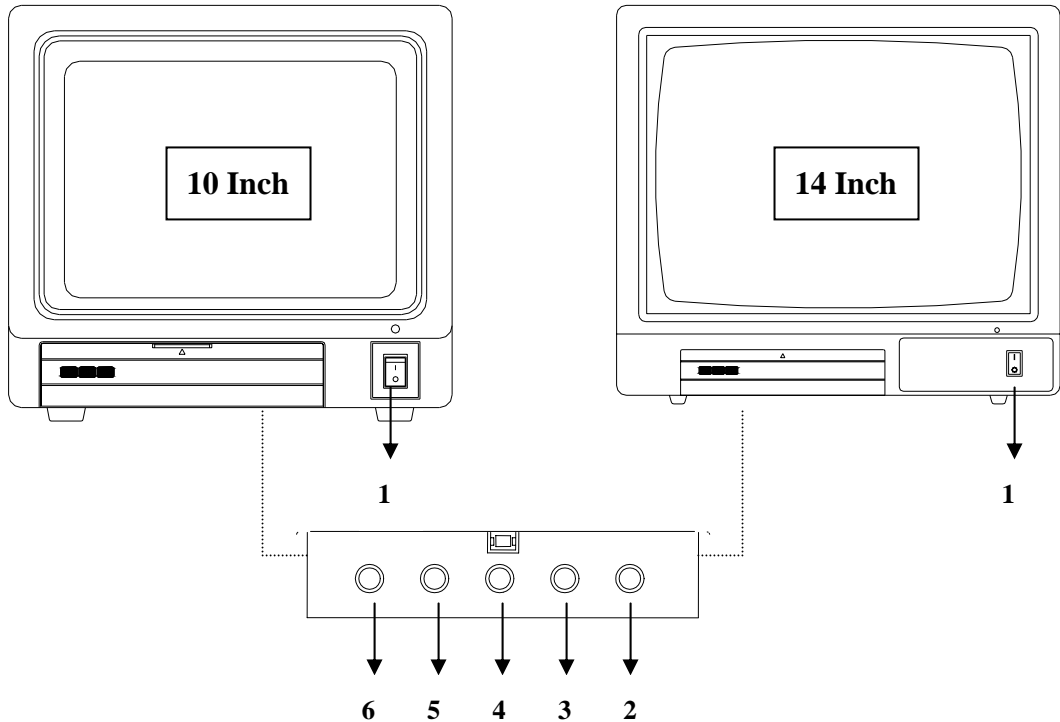
This package is basically including:

- 1 x monitor
- 1 x instruction manual
- 1 x power cord

## FEATURES

- High resolution ( for 14" , 15" , 17" )
- Looping Video in/out
- Y/C in/out ( for 14" , 15" , 17" & 21" )
- Detect and switch NTSC/PAL system automatically
- Convenient front controls
- Rugged metal cabinet
- With optional audio function

## FUNCTION DESCRIPTION for 10 / 14 Inch



### FRONT PANEL CONTROLS

**1. POWER ON/OFF SWITCH**

The switch provides power on-off control.

**2. VOLUME (Option)**

Rotate the switch for adjustment of the volume when needed.

**3. CONTRAST**

The control permits adjustment of the contrast between the light and dark areas of the picture.

**4. BRIGHTNESS**

The control supports the adjustment of the overall picture shade and brightness.

**5. COLOR**

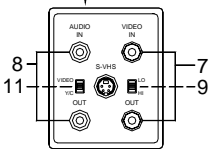
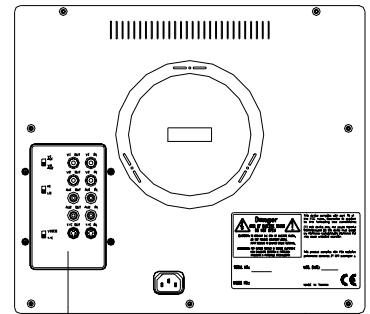
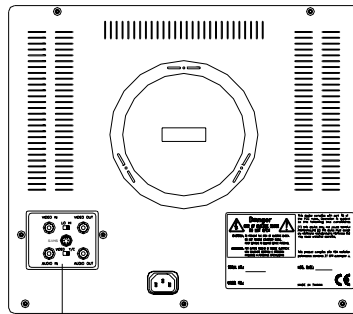
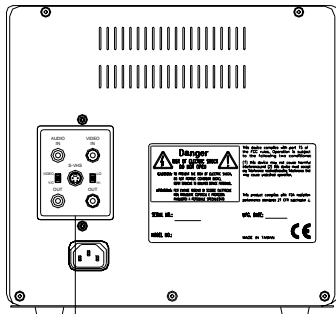
Permit to adjust the depth or saturation of color in the picture. Used to select individual viewer's preference in color saturation.

**6. TINT ( NTSC only )**

The control permits adjustment of the R.G.B. phase differences as you need .

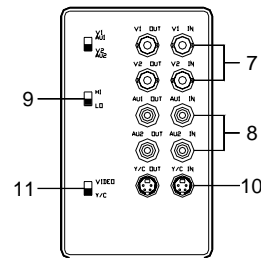
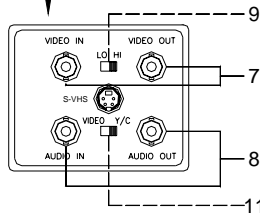
10 Inch

14 Inch



OPTION: Y/C FUNCTION

AUDIO FUNCTION



## REAR PANEL CONTROLS

### 7. VIDEO IN & OUT

These BNC Connectors permits 'loop-through' connection of a video signal in installations where it is desirable to display the video signal on more than one monitor. A standard 1.0 vp-p video signal applied to the video input will also appear at the video output . Use a coaxial cable with a BNC type plug for these connections.

### 8. AUDIO IN & OUT

The rear RCA connectors permit audio signal connection.

### 9. HI / LO

This switch provides convenient selection of a 'HIGH' or 'LOW' for video input impedance. The switch should be set to 'HIGH' position when loop-through configuration is used or set to 'LOW' when the video signal is to be terminated at the monitor.

### 10. Y/C IN & OUT

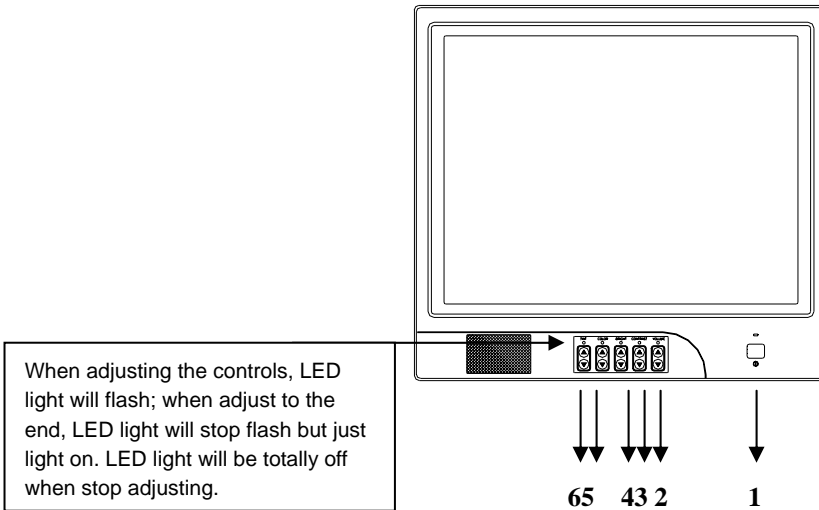
Permit high resolution VCD,LD,DVD or V-cam signal input connection.

### 11. Y/C VIDEO

Control for Y/C & video switch.



## FUNCTION DESCRIPTION for 15 / 17 / 21 Inch



### FRONT PANEL CONTROLS

#### 1. POWER ON/OFF SWITCH

The switch provides power on-off control.

#### 2. TINT ( NTSC only )

The controls permit adjustment of the R.G.B. phase differences as you need .

#### 3. COLOR

Adjusts the depth or saturation of color in the picture. Used to select individual viewer's preference in color saturation.

#### 4. BRIGHTNESS

The controls support the adjustment of the overall picture shade and brightness.

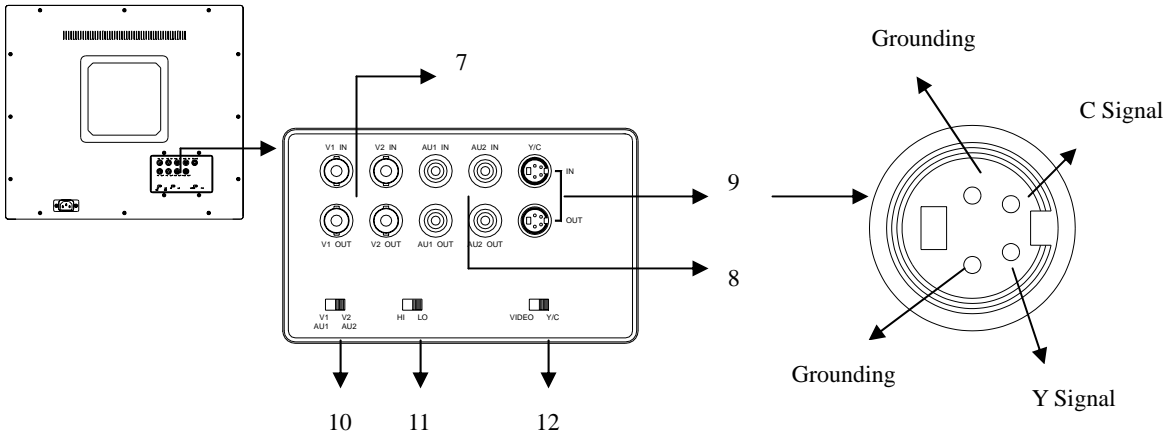
#### 5. CONTRAST

The controls permit adjustment of the contrast between the light and dark areas of the picture.

#### 6. VOLUME (Option)

Push up or down for volume control.

## FUNCTION DESCRIPTION for 14 / 15 / 17 / 21 Inch



### REAR PANEL CONTROLS

#### 7. VIDEO IN & OUT

These BNC Connectors permits 'loop-through' connection of a video signal in installations where it is desirable to display the video signal on more than one monitor. A standard 1.0 vp-p video signal applied to the video input will also appear at the video output . Use a coaxial cable with a BNC type plug for these connections.

#### 8. AUDIO IN & OUT

The rear RCA connectors permit audio signal connection.

#### 9. Y/C IN & OUT

Permit high resolution VCD, LD, DVD or V-cam signal input connection.

#### 10. V1 AUI / V2 AU2

Permit V1 AU1 / V2 AU2 switch at user's request.

#### 11. HI / LO

This switch provides convenient selection of a 'HIGH' or 'LOW' for video input impedance. The switch should be set to 'HIGH' position when loop-through configuration is used or set to 'LOW' when the video signal is to be terminated at the monitor.

#### 12. Y/C / VIDEO

Controls for Y/C & video switch.

### OPERATING THE MONITOR

1. Place the monitor where you plan to use it.
2. This monitor can be operated between 96VAC to 256VAC.
3. Plug the power cord into AC adapter on the wall.
4. Link the A/V terminal from your device into the video-in BNC connector of the monitor.
5. Press POWER switch and the POWER indicator will light. After approximately 10~30 seconds a picture will appear.
6. The monitor will detect the frequency of the input signals automatically, and the display image may be able to be adjusted through the function switch on FRONT CONTROL PANEL.

### INSTALLATION

**CAUTION:** Do not install this monitor in an excessively hot location, or in any way obstruct the ventilation openings in the cabinet. Premature component failure or damage to the cabinet may result.

When the monitor is not to be used for several days, it is advisable to disconnect the AC power cord from the utility outlet. To reduce the risk of electric shock, do not remove cover or back. No user-serviceable parts are inside. Refer servicing to qualified personnel. Some household aerosol sprays, cleaning agents, solvents or polishes may cause damage to the cabinet finish. Best results for cleaning are obtained with mild soap and water, and a soft cloth for drying.

### INSTALLING THE MONITOR

1. Connect the coaxial cable from the video equipment to any VIDEO-IN BNC connector of this unit.
2. If loop-through video configuration is desired, connect a coaxial cable from the VIDEO-OUT BNC connector to the VIDEO-IN BNC connector on the next monitor. Set HI-LO switch of the first monitor to HIGH and set LOW for the second or last monitor.
3. Plug the power cord into the applicable utility outlet.

**Note :** *If the monitor is the last unit in the video loop-through configuration, set its HI-LO switch to low. Each non-looping video circuit must be terminated either at the unit or at another device such as an additional switcher. Failure to terminate video circuits with 75 ohm (low) will result in picture degradation, and lack of color.*

### TROUBLE SHOOTING

Incorrect operations may result in trouble or malfunction to the unit, before referring to the authorized personnel, please check the followings firstly and investigate the components and electrical appliances as used. If the troubles still can not be solved, please ask your dealer for further detailed checking.

#### **Power does not come on even when power switch is pressed**

Check if the power cord is connected securely.

#### **Flash Image Display**

Adjust the controls (ex. contrast, brightness,.....etc.) well.

#### **Ghosting Image Display**

Check if there are any glasses put in front of camera, if not, then contact with your dealer for further examination.

#### **No Image shown on the screen**

Check if the video cable and camera are connected well.

## SPECIFICATION

<b>General</b>	10"	14" / 14"H	15"H	17"H	21"
Location	Indoor				
Construction	Steel cabinet with Plastic front				
Finish	Black or white matte Texture coat finish				
N.W. / G.W. (kg)	8.5 / 9.2	14 / 15	20/21	24/25	26 / 27
Dimension (D x W x H) m/m	262x238x292	362x318x376	400x362x364	475x420x414	500x490x445
Master Carton (pc/ctn)	2 pcs/ctn	1pc/ctn	1pc/ctn	1pc/ctn	1pc/ctn
<b>Front Panel Controls</b>					
Power ON/OFF	Rocker Switch				
Color / Contrast	Rotary switch	/Push button	Push button	Push button	Push button
Brightness	Rotary switch	/Push button	Push button	Push button	Push button
TINT (NTSC only)	Rotary switch	/Push button	Push button	Push button	Push button
Volume	Rotary switch	/Push button	Push button	Push button	Push button
<b>Electrical</b>					
Input Voltage	96~256 Vac 50Hz/60Hz				
Power Consumption	55 W	40 / 45 W	48 W	50 W	75 W
Input Signal	Composite 1.0 Vp-p (Video Signal 0.714Vp-p Sync. Signal: 0.286 Vp-p)				
Subcarrier Frequency					
NTSC	3.58MHz ±200Hz				
PAL	4.43MHz ±200Hz				
Input Impedance	75 ohms or high				
Band Width	6 MHz	6 / 8 MHz	8 MHz	8 MHz	6 MHz
Video Gain	30dB				
<b>Resolution</b>					
Center (TV lines)	350	420 / 600	600	600	520
Corner (TV lines)	330	380 / 500	500	500	330
<b>Linearity</b>					
Horizontal	10 % Max				
Vertical	10 % Max				

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	10"	14" /14"H	15"H	17"H	21"
<b>Operation System</b>					
NTSC	525 lines, 60 fields/ sec.				
PAL	625 lines, 50 fields/ sec.				
<b>Connections</b>					
Y/C (In /Out) – 4 pin DIN	"IN" only	"IN" only / IN / OUT	IN / OUT	IN / OUT	IN / OUT
Video (In/Out) – BNC jack	1 set	1 set	2 sets	2 sets	2 sets
With audio – Phone jack	1 set	1 set	2 sets	2 sets	2 sets
<b>Audio</b>					
Audio Input Signal	10~150mVp-p				
Audio Amplifier	1W / 8 ohm (Incl. a speaker)				
<b>Environment</b>					
Operation temperature	-10 to 55° C ( 50 to 130°F )				
Humidity	0% to 90% (non-condensing)				