

# SHARP®

Version 1.3  
Created in December 2004

**Instruction Manual  
for  
IV-08MTV  
LCD Color Monitor**

Thank you for purchasing our **IV-08MTV LCD Color Monitor**.

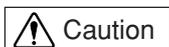
Before using it, read this manual carefully to become familiar with its functions and proper use.

## Notes

- This manual was written with the utmost care. However, if you have any questions or inquiries concerning the product, please feel free to contact our dealers or service agents.
- Copying all or part of this booklet is prohibited.
- The contents of this manual may be revised or modified for improvement without prior notice.

# Safety Precautions

Read this user's manual and the attached documents carefully before installing, operating, or performing any maintenance, in order to keep the machine working correctly. Make sure you understand all of the equipment details, safety information, and cautions before using this machine. In this user's manual, the safety precautions are categorized as "Caution."



**Caution**

: Improper handling may cause dangerous situation, moderate or light injury, or damage to equipment.

Even when only a  **Caution** is given, serious results may occur depending on the circumstances. In all cases, important points are described. Be sure to follow the advice given.

The following symbols are used to prohibit or explain required action.



: This means do not do what is described. For example, prohibited disassembly is shown as .

## (1) Installation

### **Caution**

- Use only in the environments specified in the leaflet, or instruction manual.  
Electric shock, fire or malfunction may result if used in high temperature, high humidity, dusty or corrosive environments, or if excessive vibration or impact occurs.
- Install the equipment only as described in the instruction manual.  
An improper installation may cause the equipment to fall, breakdown, or malfunction.
- Never leave wire cuttings or any other foreign matter lying about.  
A fire, breakdown or malfunction may result from inappropriate objects left near the equipment.

## (2) Connection

### **Caution**

- To provide power to the IV-08MTV, use only the specialized AC cord and adapter that come with the monitor.
- The included AC power cord is for plugging the monitor into a 100 VAC outlet.
- If you need to plug the monitor into a 200 VAC outlet, please contact our sales division or the shop where you purchased the monitor.
- Do not use the specialized AC cord and adapter that come with the IV-08MTV to power any other devices.

## (3) Maintenance

### **Prohibit**

- Don't disassemble or modify the Monitor.  
Fires, breakdowns or malfunctions may occur, if the monitor is disassembled.

# 1. Outline / Features

The IV-08MTV (or simply the Monitor) is a compact, 8.4" screen liquid crystal color monitor.

- **It meets the IP65 regulations (when installed in a frame) making it suitable for FA use.**
- **The Monitor's brightness, color, and contrast can be adjusted and the display language can be switched between Japanese and English.**
- **An external monitor can be connected to its video output terminal.**  
The Monitor has an NTSC video output terminal so a separate monitor can be used to check the settings on IV series controllers or for remote monitoring.
- **NTSC video input and analog RGB input terminals are standard**  
The Monitor can be used as a display monitor for any equipment with an NTSC output, such as the SHARP IV-S30 series, IV-C35M etc., and it can be used as a monitor for the SHARP IV-S51M (analog RGB output) or as a monitor for a personal computer.

## 2. Precautions for Use

Please note the following points when handling the Monitor.

### (1) Installation location and environment

- The Monitor should be used in a location with an ambient temperature of 0 to 45 °C and a relative humidity of 90%RH or less.  
If the ambient temperature is higher than the maximum temperature above, install a fan for forced air cooling or an air conditioner to conditioning the space to bring the ambient temperature within the specified range.
- Do not install the Monitor in a location subject to condensation due to rapid temperature changes.
- Do not install the Monitor in a location exposed to direct sunlight.
- Do not install the Monitor in a location directly subject to vibration or mechanical shock.
- Do not install the Monitor in a location exposed to corrosive or combustible gas, or to solvents or coolants.  
Do not install it in a location where there is lots of dust, salt in the air or metal powder.

### (2) Installation

- Allow adequate ventilation space. If the ventilation area is blocked the internal temperature of the Monitor may increase enough to cause a fire.
- Do not install the Monitor in a panel that contains high-voltage equipment. Install the Monitor at least 200 mm away from high voltage lines or power lines.

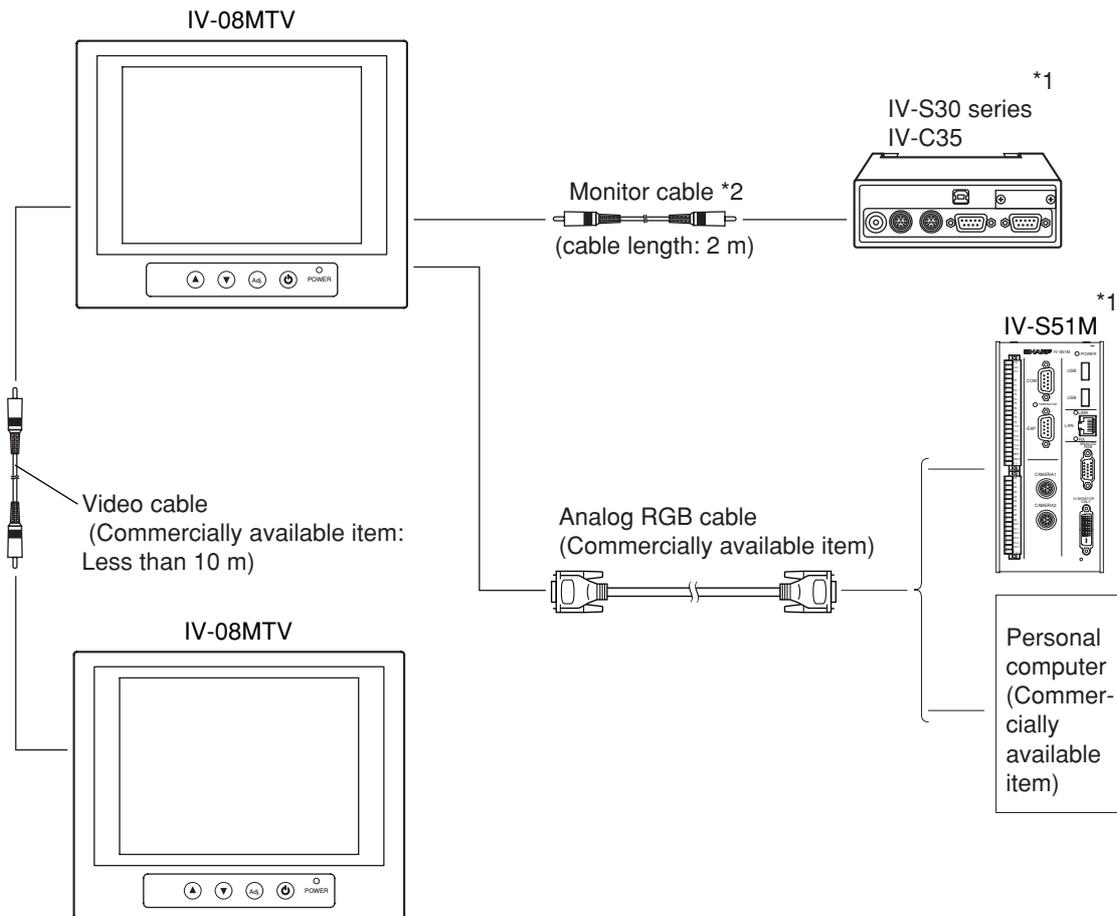
### (3) Use

- Use only the AC cord and adapter that come with the Monitor. Using any other cord or adapter may cause a fire.
- If the Monitor will not be used for a long time, unplug cord from the AC outlet.
- If a fault or error occurs in the Monitor (overheating, abnormal odor, or smoke), stop operation immediately and contact the shop where you purchased the Monitor or contact our service company.
- Glass is used in the display. Therefore, do not drop it or bang it.
- In a dry atmosphere, static electricity may build up on your body. If the static electricity is discharged by touching the display, the electronic parts inside the Monitor may be damaged. Discharge any static electricity in your body by touching a grounded metal object before touching the Monitor.

### (4) Maintenance

- Only authorized service personnel are allowed to remove the back cover on the Monitor.  
Some parts in the Monitor use high voltage and you may receive an electric shock or damage the Monitor if you are not trained.
- Turn OFF the power before cleaning the Monitor. Wipe off any dirt using a dry, soft cloth. Use of any thinner or other chemicals may damage the frame or screen and may cause color changes. If the cloth is too hard, it may scratch the display surface.

### 3. System Configuration



[For simultaneous monitoring  
at another location]

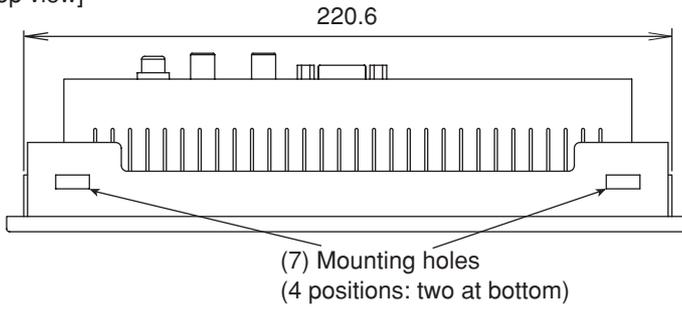
\*1: The Monitor is compatible with the following IV-S30 series controllers.

Product name	Controller (model name)
Compact image sensor camera (IV-S30 series)	IV-S31M, IV-S32M, IV-S33M
	IV-S31MX, IV-S32MX, IV-S33MX
Compact color image sensor camera	IV-C35M
Image sensor camera	IV-S51M

\*2: The monitor cable comes as an accessory with the IV-S30 series (controller),  
and the IV-C35M.  
If you need a cable longer than 2 m, purchase a standard cable locally.

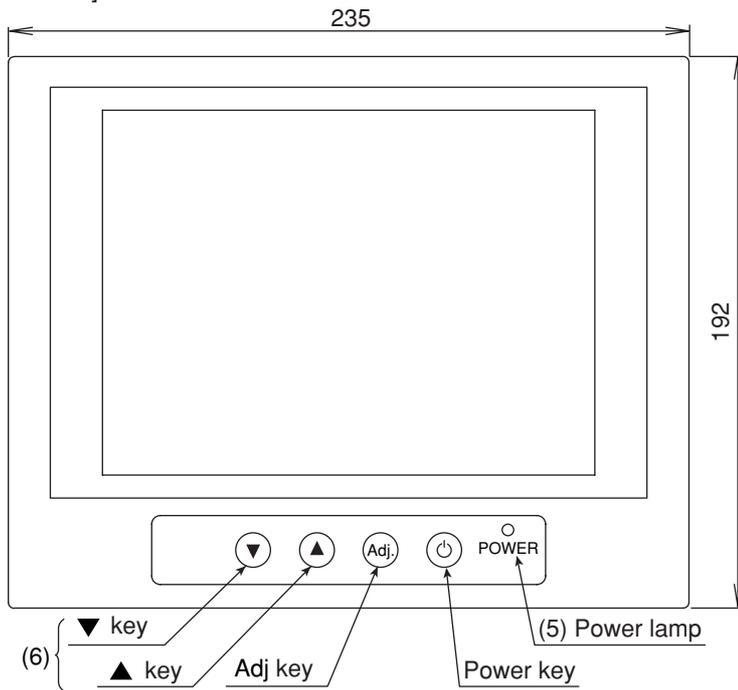
# 4. Name and Function of Each Part

[Top view]

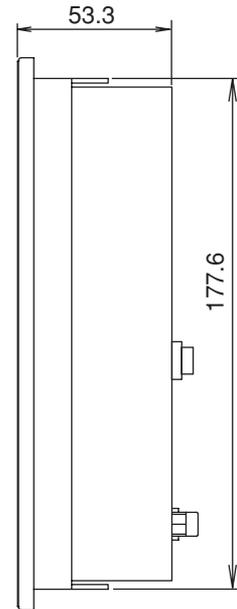


(Unit: mm)

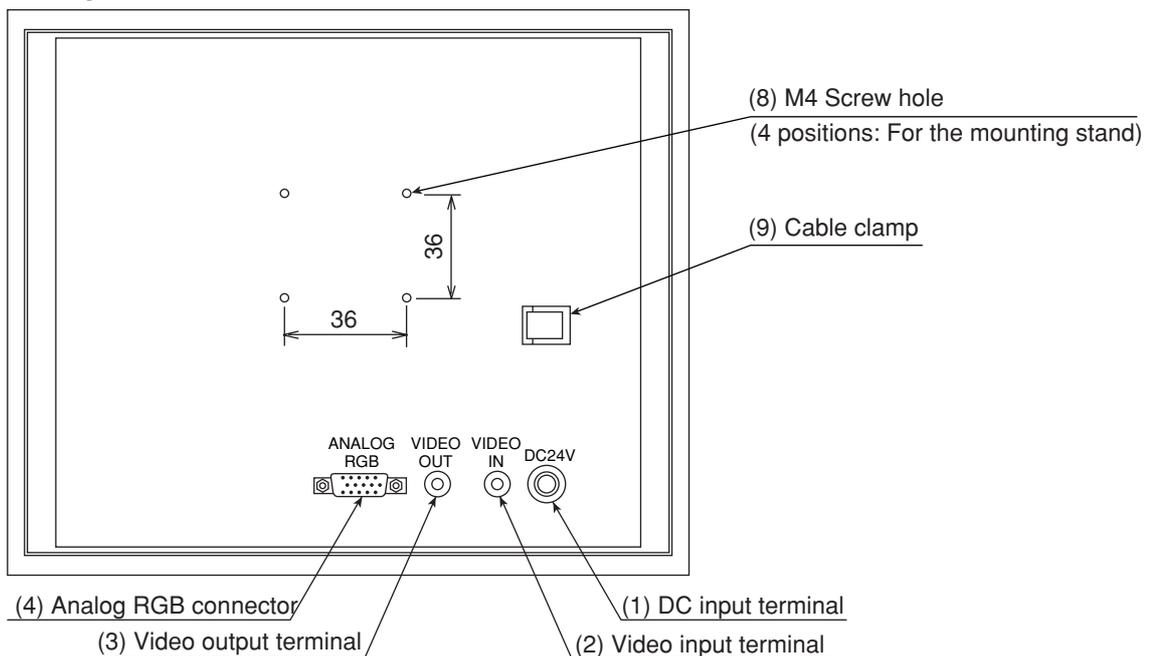
[Front view]



[Side view]



[Rear view]

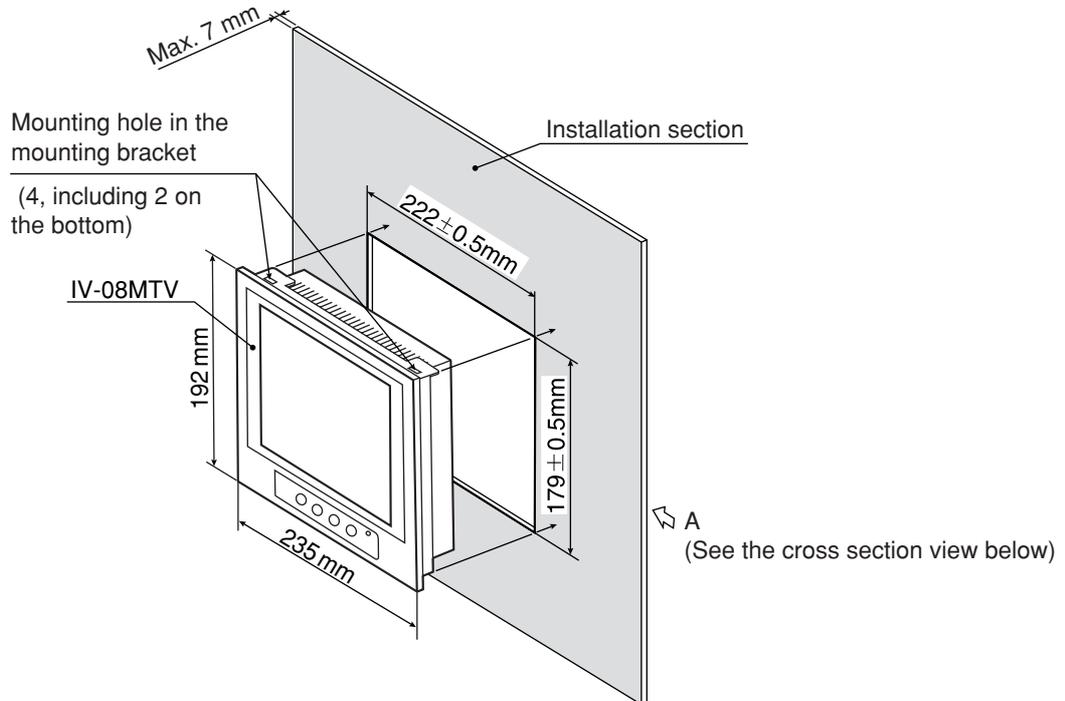


	Name	Function
(1)	DC input terminal (24 VDC)	Terminal used to supply power to the Monitor. - Connect the cable from AC adapter here (Monitor accessory).
(2)	Video input terminal (VIDEO IN)	Terminal used to supply an NTSC video signal (from an IV-S30/C35M etc.) to the Monitor. - Connect a monitor cable here (IV-S30/C35M accessory).
(3)	Video output terminal (VIDEO OUT)	Terminal used to output an NTSC video signal from the Monitor. - Connect another video monitor here (or IV-08MTV) to see the same image elsewhere at the same time.
(4)	Analog RGB connector (ANALOG RGB)	Terminal used to input analog RGB signals from an IV-S51M, or a personal computer. - Connect an analog RGB cable here (available locally).
(5)	Power lamp (POWER)	Lights when power is supplied to this Monitor.
(6)	Power key (⏻)	Turn the power to this Monitor ON/OFF.
	[Adj] key	[Adj] key
	▲ key ▼ key	Press the [Adj] key and the adjustment menu will appear on the display. - Select items (brightness etc.) on the adjustment menu. Then set the value using the ▲ / ▼ keys. Confirm the setting with the [Adj] key.
(7)	Mounting hole (for the mounting bracket)	Holes (4 positions) to install the Monitor using the mounting bracket (Monitor accessory).
(8)	Screw hole (for a support stand)	Screw holes (4 positions) for installing the Monitor on a specialized support stand (custom order item).
(9)	Cable clamp	Secure the AC adapter cord (Monitor accessory).

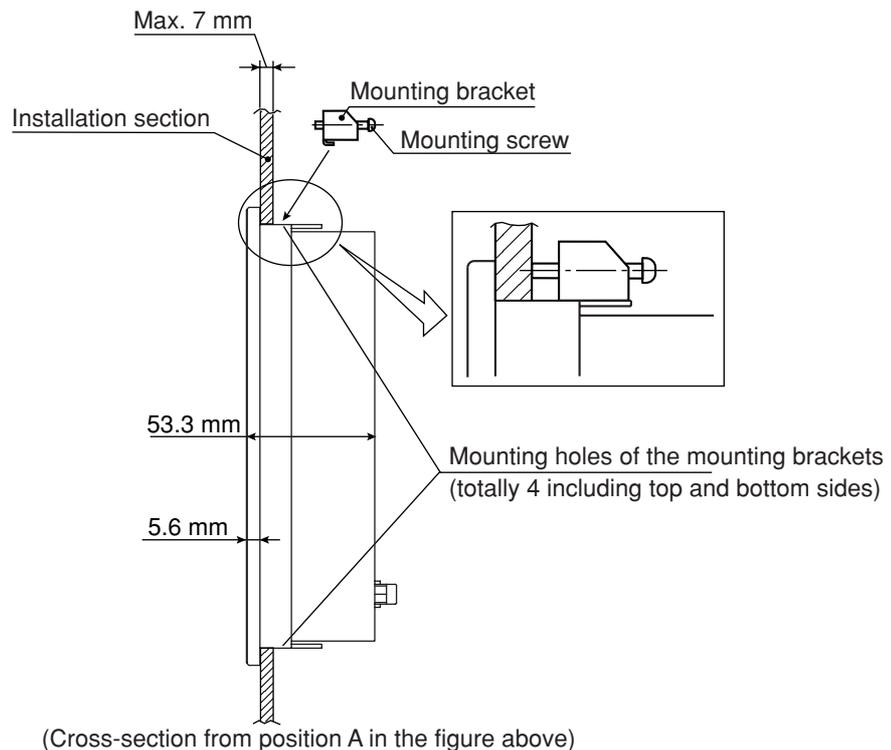
## 5. Installation Method

Secure the Monitor using the mounting bracket (Monitor accessory) in the mounting holes on the Monitor housing (4 positions). For specific external dimensions, see Section 4. "Name and Function of Each Part", in this manual.

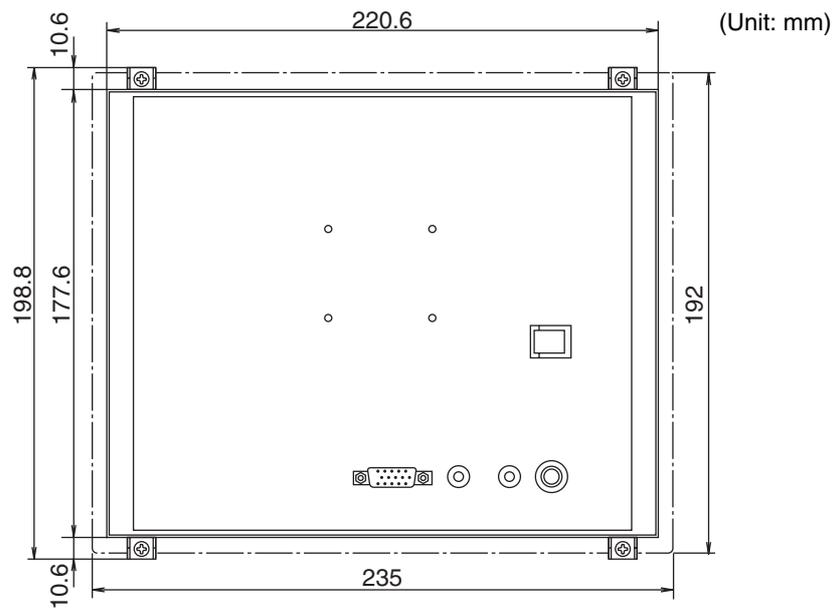
- 1) Cut a rectangular hole ( $222 \pm 0.5 \times 179 \pm 0.5$  mm) in the control panel (thickness: Max. 7 mm) and install the Monitor housing in this hole.



- 2) Insert a mounting bracket (2 each at the top and bottom) into each mounting hole on the housing, and secure the mounting brackets using the mounting screws.

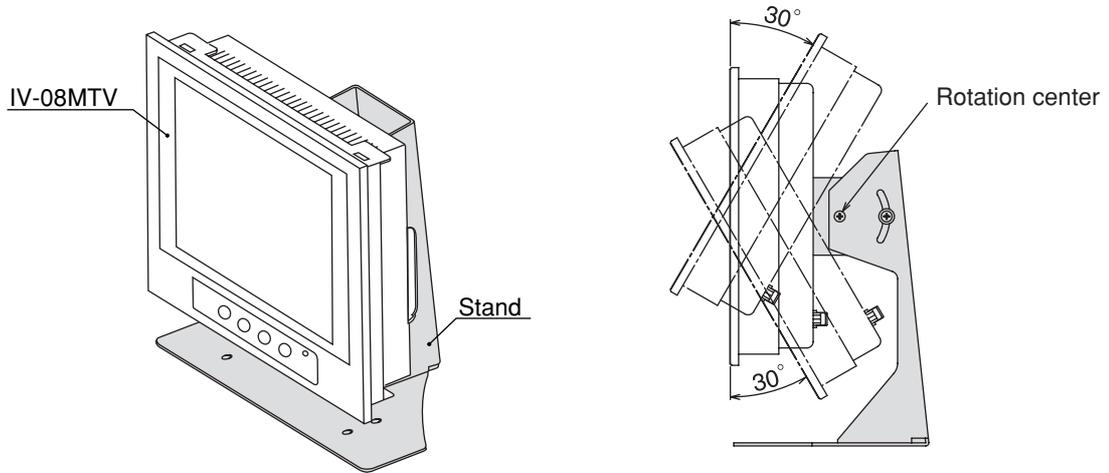


[Rear view when mounting the Monitor using the mounting brackets]



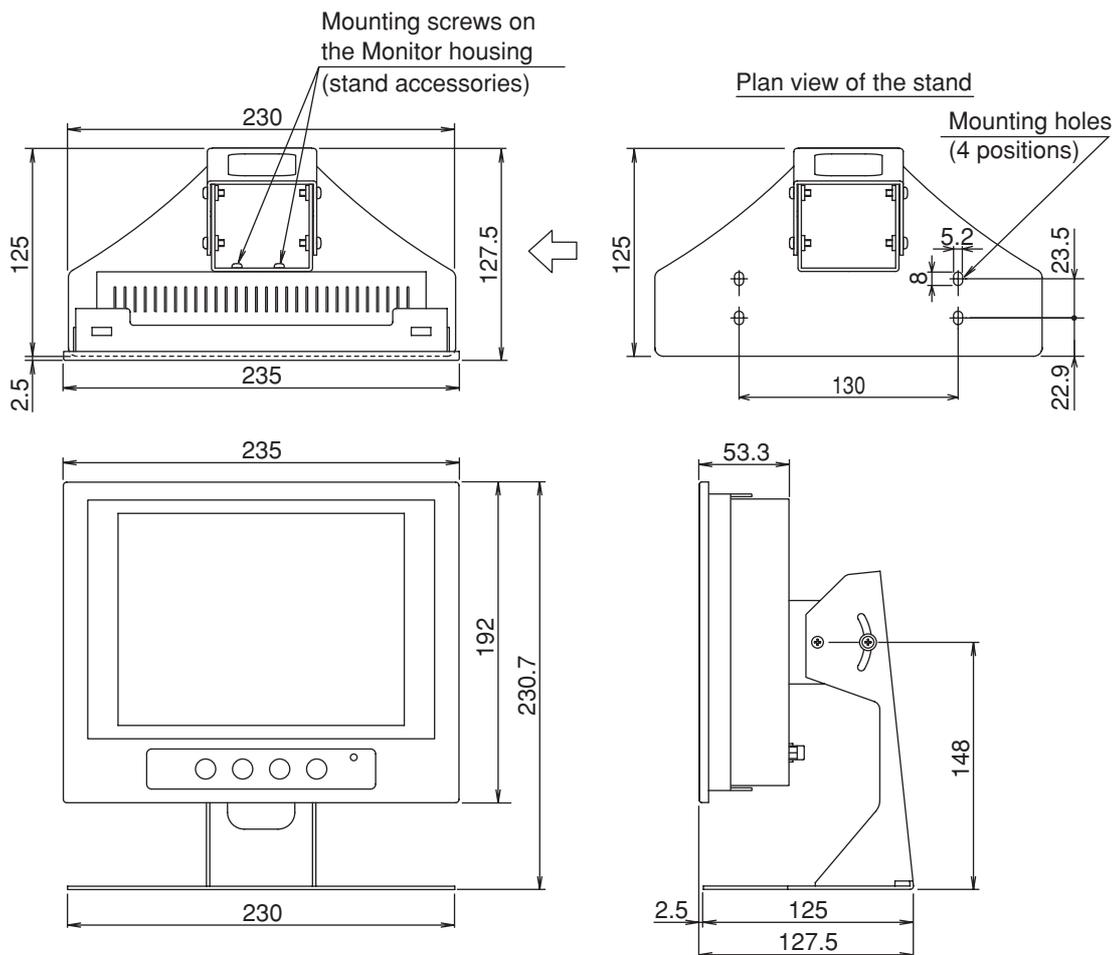
## When using the specialized stand

Install the Monitor on the specialized stand (custom order item). Then the Monitor can be used in a standalone configuration.



- The stand can tilt  $\pm 30^\circ$

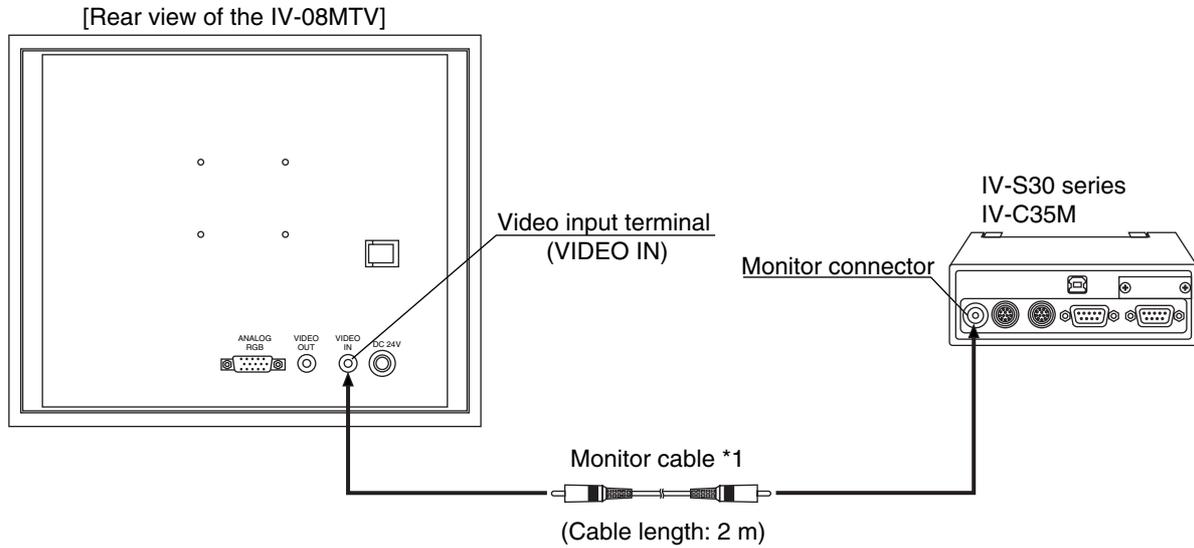
## Dimensional drawings when the Monitor is installed on the stand



## 6. Connection Method

### [1] To connect the Monitor to an IV-S30 series controller or an IV-C35M

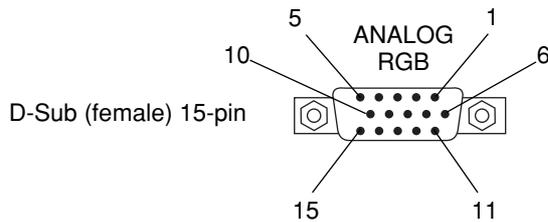
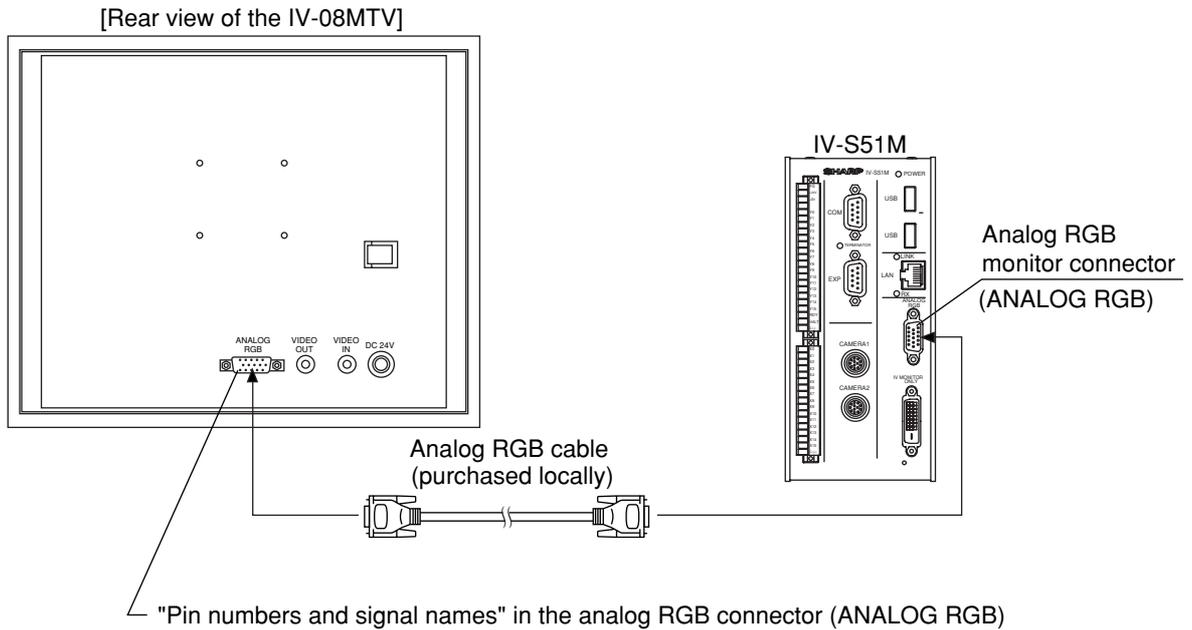
Connect the NTSC video input terminal (VIDEO IN) on the Monitor to the monitor connector on the IV-S30 series (controller), or the IV-C35M, using the monitor cable (\*1).



\*1: The monitor cable is an IV-S30 series and IV-C35M accessory.  
If you need a cable longer than 2 m, purchase one locally.

**[2] To connect the Monitor to an IV-S51M or a personal computer**

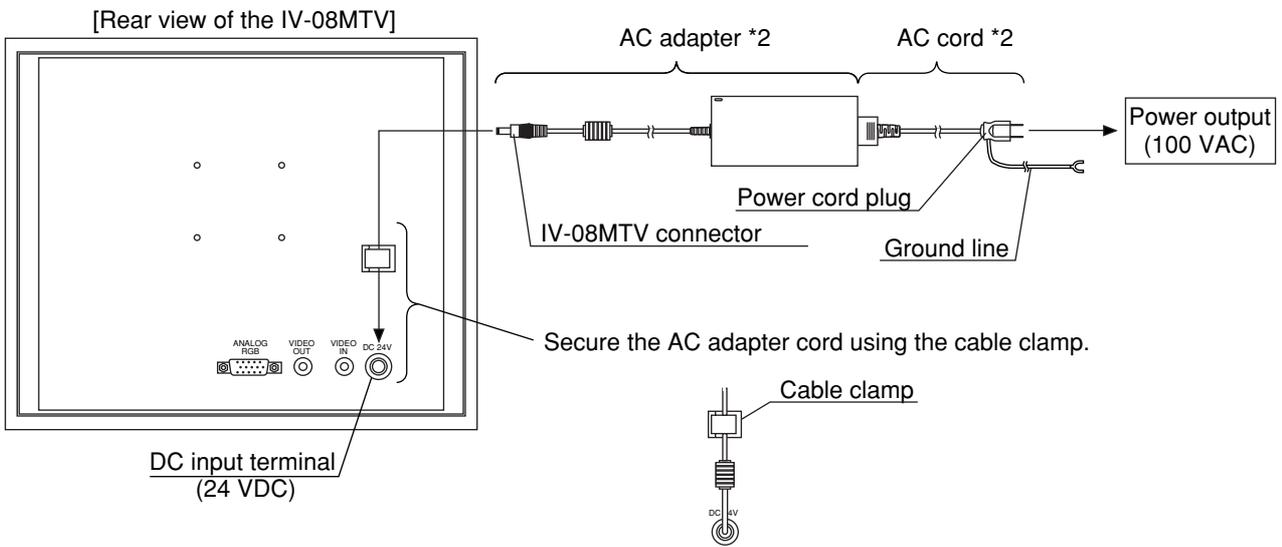
Connect the analog RGB connector (ANALOG RGB) on the Monitor to the analog connector on the IV-S51M or personal computer using an analog RGB cable (purchase one locally). A connection example using an IV-S51M is shown below



Pin No.	Signal name
1	VGA-R
2	VGA-G
3	VGA-B
4	—
5	DGND
6	AGND
7	AGND
8	AGND
9	D5V
10	DGND
11	—
12	DDC SDA
13	HSync
14	VSynC
15	DDC SCL

### [3] Power connections

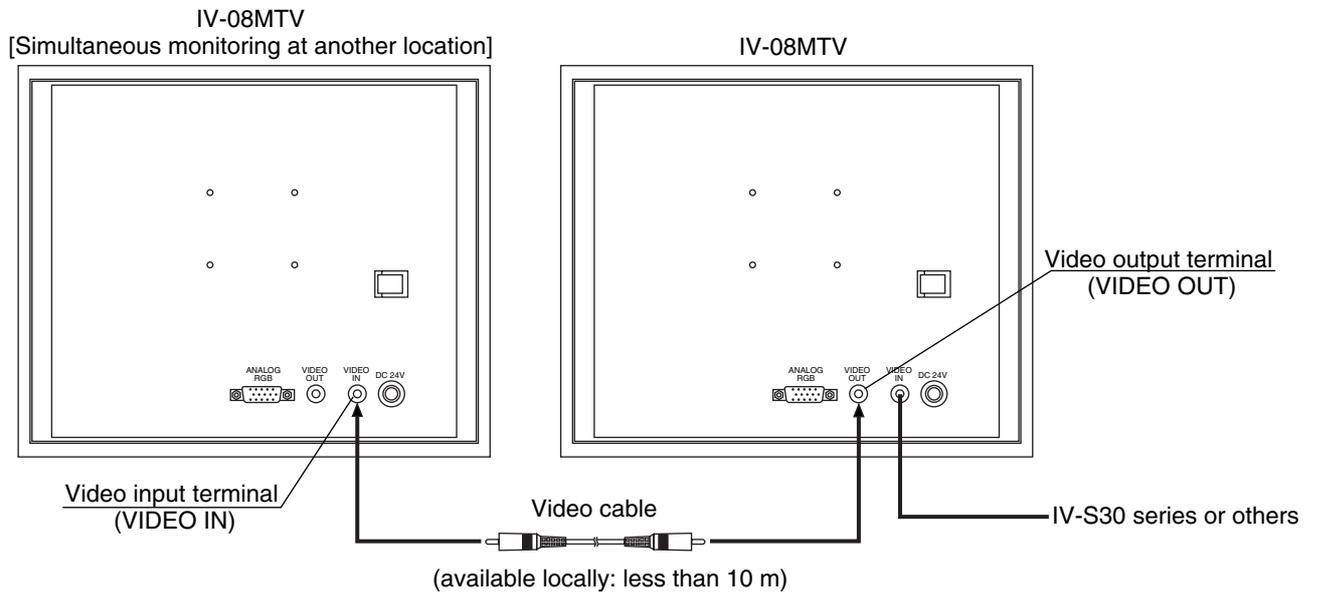
Provide power by connecting the DC input terminal (24 VDC) on the Monitor to the AC adapter. Then plug the AC cord from the adapter (\*2) into a 100 VAC power outlet. Make sure to connect the ground line on the power cord plug to a ground terminal on the power outlet.



\*2: The AC adapter and AC cord are accessories that come with the Monitor.

#### [4] To connect two IV-08MTV monitors

Connect the NTSC video output terminal (VIDEO OUT) on the IV-08MTV to the NTSC video input terminal (VIDEO IN) on another IV-08MTV using a standard video cable (available locally: less than 10 m). Then, you can monitor simultaneously at another location.  
The video output and video input terminals are RCA connectors.



## 7. How to Adjust the Screen Display

This chapter describes the adjustment procedures and display items on the Monitor.

### [1] Adjustment procedure

Adjust the display as follows.

1. Turn ON the power to the Monitor (Press the power key  on the Monitor).
2. Press the [Adj] key on the Monitor.  
=> The main menu will appear.
3. Select the item you want to adjust from the main menu using  and  keys. Then press the [Adj] key.  
=> A detailed menu will appear.
4. On the detailed menu, select the item you want to adjust using  and  keys. Then press the [Adj] key.  
=> The setting for that item will be displayed.
5. Set (or change) the item using the  and  keys. Then press the [Adj] key.
6. When through making changes, use the  and  keys to select "RETURN" and then press the [Adj] key.
7. Use the  and  keys to select "EXIT." Then press the [Adj] key.  
=> The adjustment screen will be closed and the current settings will be saved.

### [2] Adjustment item

The items affecting the screen display (that can be adjusted) vary with the type of input signal (ANALOG RGB or VIDEO).

#### (1) When a video input signal is used

Main menu	Detailed menu (default values)
LUMINANCE	BACKLIGHT (85)
	BRIGHTNESS (70)
	CONTRAST (75)
	RECALL
	RETURN
CHROMINANCE	SATURATION (80)
	HUE (50)
	RECALL
	RETURN
DISPLAY	SHARPNESS (53)
	QUALITY (20)
	H.POSITION (43)
	V.POSITION (56)
	RECALL
	RETURN
LANGUAGE	JAPANESE/ENGLISH (JAPANESE)
OSD DISPLAY	OSD H-POS (50)
	OSD V-POS (50)
	OSD TIMER (11)
	OSD TRANSPARENCY (50)
	RECALL
	RETURN
TIMER *	TIMER (0)
MODEL SELECT	SHARP IV/OTHER (SHARP IV)
SOURCE	VIDEO 1
	ANALOG RGB
	RETURN
RECALL	_____
EXIT	_____

(2) When an analog RGB input signal is used

Main menu	Detailed menu (default values)
AUTO SETUP	BASIC ADJUST
	AUTO COLOR ADJUST
	RETURN
LUMINANCE	BACKLIGHT (85)
	BRIGHTNESS (100)
	CONTRAST (100)
	RECALL
	RETURN
DISPLAY	H.POSITION (43)
	V.POSITION (56)
	CLOCK (50)
	PHASE (0)
	SHARPNESS (0)
	QUALITY (20)
	SUB PIXEL
	RECALL
	RETURN
LANGUAGE	JAPANESE/ENGLISH (JAPANESE)
OSD DISPLAY	OSD H-POS (50)
	OSD V-POS (50)
	OSD TIMER (11)
	OSD TRANSPARENCY (50)
	RECALL
	RETURN
TIMER *	TIMER (0)
SOURCE	VIDEO 1
	ANALOG RGB
	RETURN
RECALL	_____
EXIT	_____

\* The TIMER above is the "off delay timer" for switching OFF the backlight. (Can be set to 5, 10, 15, 30, 60, or 120 minutes)

## 8. Specifications

### (1) General specifications

Item	Specifications
Power supply	100 to 240 VAC, 50/60 Hz (using the accessory AC adapter)
Power consumption	10 W
Ambient storage temperature	- 20 to + 60 °C
Ambient operating temperature	0 to 45 °C
Ambient humidity	35 to 90 %RH (non condensing)
Environmental atmosphere	No corrosive gases
Protective construction	Conforms to IP65 (front operation section only)
Vibration proof	Meets JIS B 3502 standards (when mounted in a control panel) Vibration and acceleration: 0.15 mm (10 to 58 Hz), 9.8 m/s <sup>2</sup> (58 to 150 Hz) Vibration frequency: 10 to 150, 150 to 10 Hz. (1 octave/minute) 2 hours each in the X, Y, and Z directions (Number of sweeps: 15)
Shock proof	Meets JIS B 3502 standards (when mounted in a control panel) 147 m/s <sup>2</sup> (3 times each in the X, Y, and Z directions)
Noise immunity	1000 Vp-p, 1 μs width impulse - Test made using a noise simulator. Charge voltage (100 VAC) on the primary side of the AC adapter
Dielectric strength	One minute at 1500 VAC (between the plug of the AC cord and the chassis)
Insulation resistance	500 VDC, 10 M-ohm or more (between the plug of the AC cord and the chassis)
External dimensions (mm)	235 W x 192 H x 53.3 D
Panel cutout dimensions (mm)	222 ±0.5W x 179 ±0.5H
Weight	Approx. 1.6 kg
Accessories	One AC cord, One AC adapter, 4 mounting brackets, one Instruction manual.

## (2) Performance specifications

Item	Specifications	
Display size	8.4 inches diagonal: 170.4 W x 127.8 H mm	
Display type	Transmissive type TFT liquid crystal panel	
Driving system	TFT active matrix driving system	
Number of pixels	921,600 pixels: (640 W x 480 H) x 3, Ratio of functional pixels: 99.99% or better	
Display color	Approximately 262,000 colors	
Screen brightness	230 cd/m <sup>2</sup>	
Backlight working life	20,000 hours on average *1	
Number of pixels	800 x 600 pixels *2	
Signal system *3	NTSC, analog RGB (when connected to an IV-S51M)	
Image input connector	RCA connector (1 channel), D-sub 15 pin (1 channel)	
Image output connector	RCA connector (1 channel)	
Fine adjustment function (Display language selectable: Japanese/English)	<ul style="list-style-type: none"> <li>- When inputting an NTSC video signal: SATURATION, HUB, MODEL SELECT</li> <li>- When inputting an ANALOG RGB signal: AUTO SETUP (position, color etc.), CLOCK, PHASE, SUB PIXEL.</li> </ul>	<ul style="list-style-type: none"> <li>- Common to NTSC VIDEO INPUT and ANALOG RGB INPUT: BRIGHTNESS, CONTRAST, BACKLIGHT, SHARPNESS, QUALITY, horizontal/vertical position adjustment, position of the adjustment display screen, OSD TIMER, OSD TRANSPARENCY, change default setting between NTSC VIDEO / ANALOG RGB, RECALL.</li> </ul>

\*1: The life span is determined when the ambient temperature is held at 25 ±5 °C and the brightness remains above 50% of the default value (or the backlight does not flicker).

\*2: When connecting the Monitor to a personal computer with screen resolution greater than 800 x 600 pixels (such as 1024 x 786), a "NOT supported" message will appear. **Before connecting the personal computer, change the screen resolution on the personal computer to "800 x 600."**

\*3: The input signal selection can be changed on the adjustment screen.  
If you want the Monitor to connect equipment made by other manufacturers, check the compatibility using the actual equipment.