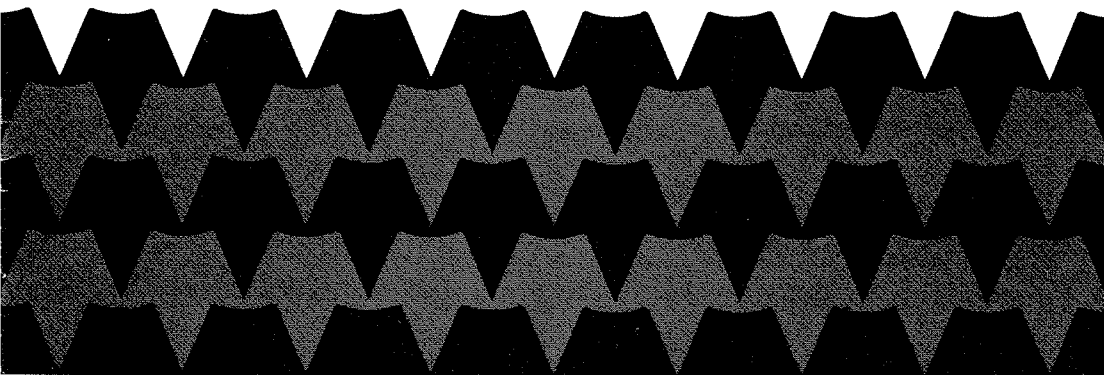


Color Monitor CM-11

Owner's Manual



The FCC Wants You to Know

This equipment generates and uses radio frequency energy. If not installed and used properly, that is in strict accordance with the manufacturer's instructions, it may cause interference to radio and television reception.

It has been type tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient the receiving antenna
- Relocate the computer with respect to the receiver
- Move the computer away from the receiver
- Plug the computer into a different outlet so that computer and receiver are on different branch circuits.

Warning

This equipment has been certified to comply with the limits for a Class B computing device, pursuant to Subpart J of Part 15 of FCC Rules. Only peripherals (computer input/output devices, terminals, printers, etc.) certified to comply with the Class B limits may be attached to this computer. Operation with non-certified peripherals is likely to result in interference to radio and TV reception.

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Color Monitor CM-11 Owner's Manual:

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Introduction

Tandy is proud to present the CM-11, a high-resolution color display monitor designed to display characters and graphics in 16 vivid colors.

The CM-11 has many advantages over other color monitors. These include:

- Thirteen-inch color display providing eye-pleasing graphics
- Adjustable picture controls that tailor brightness and contrast to suit environmental lighting
- Unique, selective light transmission properties which reduce the effects of ambient light while maintaining true color purity, even under harsh lighting conditions
- Sharp, "flicker-free" image provided by non-interlaced circuitry
- RGB direct-drive signal system that provides 640-dot by 225-line display for crisp characters and vivid color graphics

Description of the CM-11

Before connecting your CM-11 to a computer or power source, read the instructions provided in the section "Using the CM-11." Figure 1 and Figure 2 will acquaint you with the parts of your monitor.

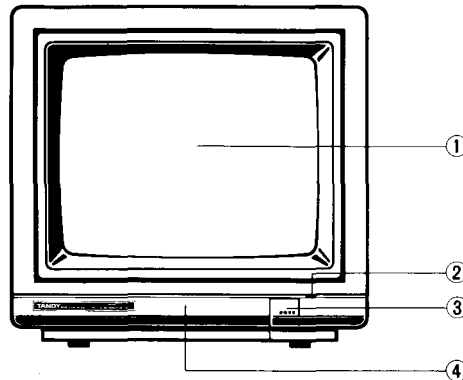


Figure 1. Front View.

- ① **High-Resolution Video Screen.** Front viewing surface.
- ② **POWER ON Indicator.** Illuminates when the monitor's power is on.
- ③ **POWER ON/OFF Switch.** Powers up the CM-11.
- ④ **Control Panel.** Contains the Vertical Hold, Vertical Size, Horizontal Centering, Contrast, and Brightness rotary controls.

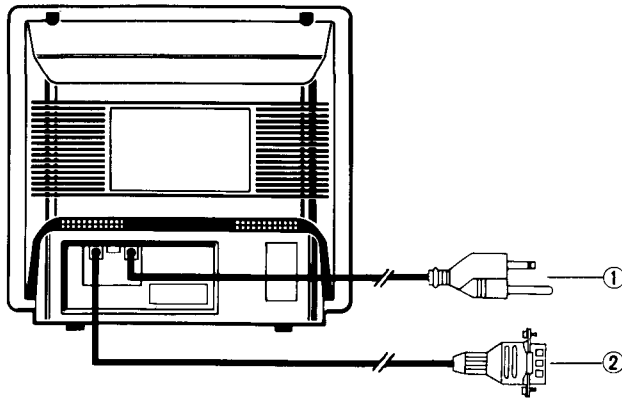


Figure 2. Rear View.

- ① **Power Cord.** Plugs into a standard, grounded AC outlet or approved power strip.
- ② **RGB Connector.** Connects to the CPU.

Setting Up the CM-11

Your CM-11 Color Monitor is easy to set up.

- 1. Be sure that power to all components is off.
- 2. Connect the RGB connector to the CPU of a compatible computer.
- 3. Plug the CM-11's power cord into a standard, grounded AC outlet or approved power strip.
- 4. Power up all equipment. Use your system owner's manual for instructions on powering up your computer and other peripherals.

Adjusting the CM-11 Display

You may need to adjust the display of the CM-11 before using it. The five rotary controls used to adjust the display are located below the video screen on the left side behind the control panel door. To open the control panel door, pull forward at the left corner. The door swings down.

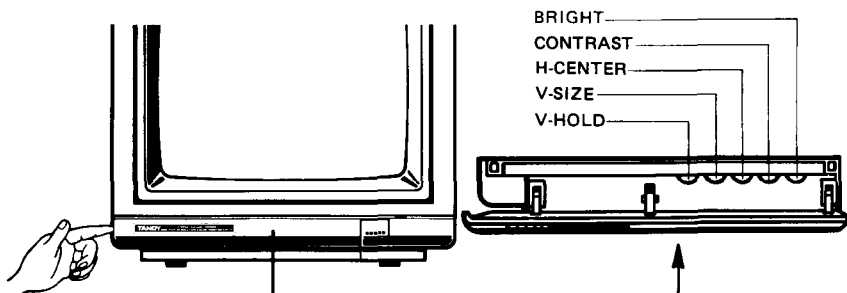


Figure 3. Control Panel.

V-HOLD

Use this control to stabilize the display on the screen. Rotate the control fully counterclockwise and then slowly clockwise until the display is stable.

V-SIZE

Use this control to set vertical size. When the display is vertically extended, turn this control counterclockwise. When the display is vertically contracted, rotate this control clockwise.

H-CENTER

Use this control to set horizontal position. Rotate the control to center the display.

CONTRAST and BRIGHT

Use these controls to adjust the screen brightness to compensate for room lighting.

- If the room is dark, rotate either or both of these controls counterclockwise until the picture is easily visible.
- If the room is bright, rotate either or both of these controls clockwise until the picture is easily visible.
- The **CONTRAST** control also adjusts separation of low and high intensity characters. Rotate this control clockwise for high-intensity characters or counterclockwise for low-intensity characters.

Care and Maintenance

Your CM-11 should give you a long period of trouble-free service if it is connected to the proper power source and handled gently. However, if the monitor malfunctions, have it checked by a qualified Radio Shack service technician.

Installation and Location Hints

The CM-11 has openings for ventilation purposes, to provide reliable operation of the monitor and protect it from overheating.

- Install the monitor at least 4" (0.1 meters) away from the wall.
- Never cover the openings with cloth or other fabric.
- Never block the openings on the bottom of the monitor by placing it on a bed, sofa, rug, etc.
- Never place the monitor in a built-in enclosure unless proper ventilation is provided.
- Never place the monitor near or over a radiator or heat register.
- Never expose the monitor to rain, excessive moisture, or excessive dust. Moisture and dust create shock and fire hazards.
- Never place the monitor on an unstable desk, cart, or stand.

Operation Hints

- Operate the monitor only from the power source indicated on the back of the cabinet. Use of a power source that is not marked on the monitor can cause monitor damage, as well as improper operation.
- To ensure safe operation, the 3-pin plug (supplied) **must** be inserted into a standard 3-pin AC outlet which is effectively grounded. Extension cords used with the equipment must be 3-wire and correctly wired to provide connection to ground. Improperly wired extension cords are a major cause of fatalities. The fact that the equipment operates satisfactorily does not imply that the power point is grounded and that the installation is completely safe. For your safety, if in any doubt about the effective grounding of the power point, consult a qualified electrician.
- To prevent a fire or electrical shock, do not overload wall outlets and extension cords.
- Adjust only those controls that are described in the section "Adjusting the CM-11 Display." Improper adjustment of other controls can result in damage that will require the services of a technician.
- Do not allow anything to rest on the power cord. The cord should not stretch across a hall or any other high-traffic area.

Care and Maintenance

- Unplug the monitor from the AC outlet if it is to be idle during a weekend, vacation, or other extended period of time.
- If the same characters or graphics are shown for a long time with the BRIGHT and CONTRAST controls set to maximum positions, part of the screen may be damaged. Use these controls with care.
- To prevent electrical shock and other hazards, do not remove the back cover of the monitor.
- Do not drop or push objects into the cabinet openings. Some internal parts carry hazardous voltages and contact can result in electrical shock or fire.
- Never spill a liquid of any kind on the monitor. If liquid is accidentally spilled, unplug the set and have it checked by a Radio Shack service technician before using.

Cleaning Hints

Always unplug the monitor before cleaning. Wipe the screen and cabinet with a soft cloth. If the screen requires more than dusting, use a household window cleaner and a soft cloth.

Caution: Do not use benzene, thinner, or any volatile substances to clean the unit. Such substances can permanently mar the finish. Never leave the unit in contact with rubber or vinyl for an extended period.

Occasionally, the internal parts of the monitor may need to be cleaned to prevent a fire and other damage caused by dust particles. It is recommended that you take the unit to a Radio Shack Computer Center for a yearly cleaning.

Technical Information

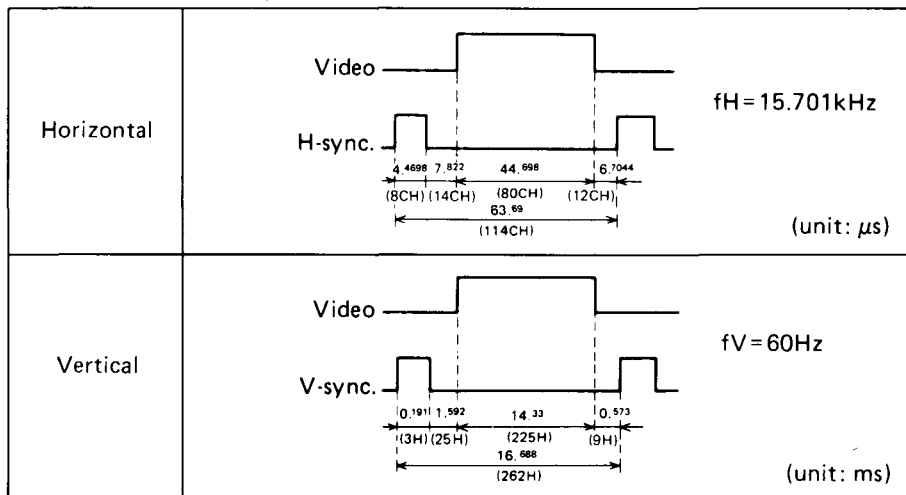
The CM-11 is designed for connection to a non-interlaced 225-line signal, 15.701kHz scanning frequency. When the CM-11 is connected to a computer with other than the specified input signal, distortion in the display image, shape, and position may be due to the inadequate input signal of some computers. The following chart illustrates such conditions.

Symptom	Cause
Shrunken screen	Data display period is too short.
Expanded screen	Data display period is too long.
Image to left or right	Data display period is out of alignment.
Moving screen	Synchronization period is different.
Dark screen	Front and back porch of video signal is missing.

Input Signal

Video Signal	Horizontal Sync.	Vertical Sync.
RGB and Intensity Separate TTL-Positive	TTL-Positive	TTL-Positive

Timing Chart



Input Connector

The connector is a 9-pin, Sub-D type. The relation between pins and signals is as follows:



Pin No.	Signal
1	Ground
2	Ground
3	R (Red Video)
4	G (Green Video)
5	B (Blue Video)
6	Intensity
7	No connect
8	Horizontal Sync.
9	Vertical Sync.

Specifications

Power Supply	120V AC, 60Hz
AC Input Current	0.8A
BTU/Hr.	205
CRT	13" diagonal, 90° deflection, high contrast, non-glare picture tube, 0.42 mm stripe pitch, P22 Phosphor Red, green, and blue (RGB) video and intensity, vertical and horizontal synchronization
Input Signal	Video TTL-positive, intensity TTL-positive, vertical and horizontal synchronization, TTL-positive
Input Level	Video TTL-positive, intensity TTL-positive, vertical and horizontal synchronization, TTL-positive
Input Connector	9-pin, Sub-D connector with cable
Scanning Frequency	
Horizontal	15.701kHz±500Hz
Vertical	60Hz±1.0Hz
Display Size	9-27/32" x 7-15/32" (250mm x 190mm)
Resolution	640 dots x 225 lines (within display size)
Character Number	Approximately 2000 (25 lines of 80 characters)
Cabinet Dimensions	13-11/16"(W) x 12-17/32"(H) x 15-1/8"(D) (348mm(W) x 318mm(H) x 384.5mm(D))
Weight	Approximately 23 lbs. 2 ozs. (10.5kg)
Power Cord	Approximately 6 ft. (1.83m)

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RADIO SHACK
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