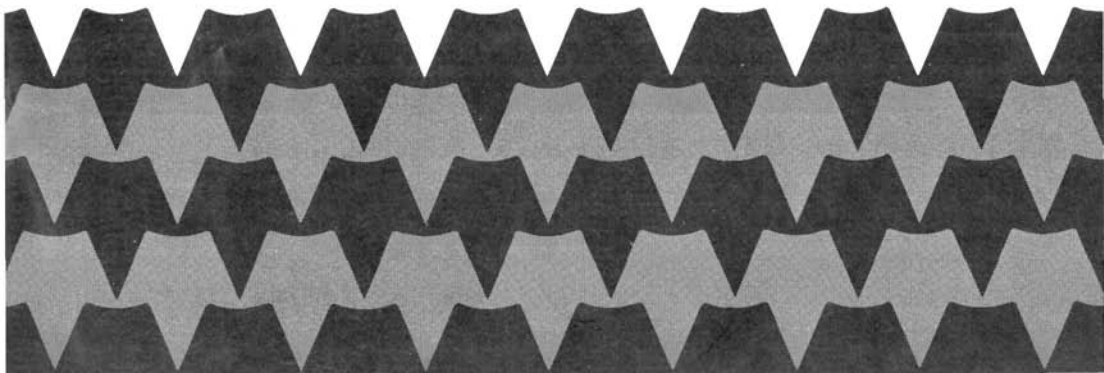


# **Color Monitor CM-5 Owner's Manual**



# 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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The warranties granted herein give the **original** CUSTOMER specific legal rights, and the **original** CUSTOMER may have other rights which vary from state to state.

# Introduction

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Tandy is proud to present the CM-5, a color display monitor designed to display characters and graphics in 15 vivid colors.

Features of the CM-5 include:

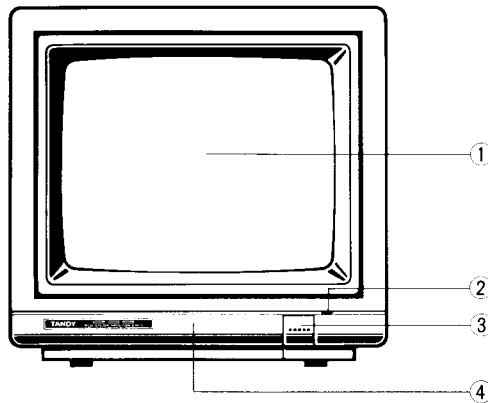
- Thirteen-inch color display providing eye-pleasing graphics
- High contrast CRT with 0.64 mm screen pitch
- Adjustable picture controls that tailor brightness and contrast to suit environmental lighting
- Sharp, “flicker-free” image provided by non-interlaced circuitry

## Description of the CM-5

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Before connecting your CM-5 to a computer or power source, first read the instructions provided in the section **Using the CM-5**. The information below will only acquaint you with the parts of your monitor.

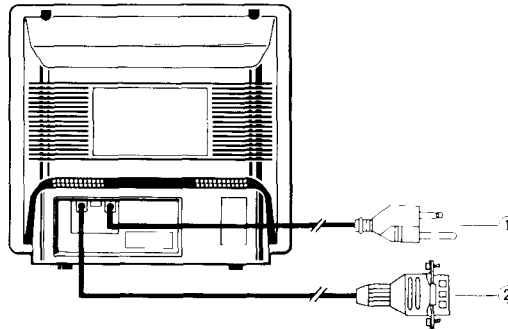
### Features and Controls



**Figure 1. Front View**

- ① **Video Screen.** Front viewing surface.
- ② **POWER ON Indicator.** This indicator illuminates when the monitor's power is on.

- ③ **POWER ON/OFF Switch.** Press to turn on power to the CM-5. Press again to turn off power.
- ④ **Control Panel.** Behind this panel are the Vertical Hold, Vertical Size, Horizontal Centering, Contrast, and Brightness rotary controls.



**Figure 2. Rear View**

- ① **Power Cord.** Plug the power cord into a standard, grounded AC outlet or approved power strip.
- ② **RGB Connector.** Connect the RGB connector to the CPU.

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## Setting Up the CM-5

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To set up the CM-5, you only have to connect the monitor to a compatible computer via cable.

### Connecting to a Computer

- 1. Be sure that power to all components is OFF.
- 2. Connect the RGB connector to the computer's RGB interface.

After you have connected the CM-5 to a compatible computer, connect the CM-5's AC cord to the power source.

# Using the CM-5

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Power up all equipment. Use your system owner's manual for instructions on powering your computer and other peripherals.

After power-up, you may need to adjust the display of the CM-5.

## Adjusting the Display

The 5 display adjustment knobs are located below the video screen on the left side behind the control panel. The panel door opens from the left side and swings down to reveal the controls.

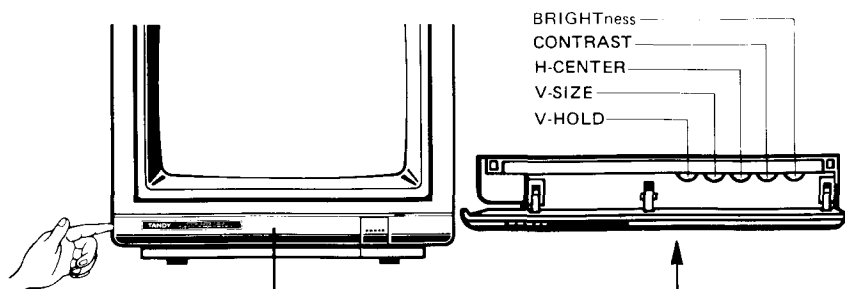


Figure 3. Control Panel

### V-HOLD

This control stabilizes the display on the screen. Rotate the knob fully counter-clockwise and then slowly clockwise until the display is stable.

### V-SIZE

This control sets vertical size.

### H-CENTER

This control sets horizontal position. Rotate the knob to center the display.

### CONTRAST and BRIGHTness

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 —low or high as required.

# Care and Maintenance

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Provided the CM-5 is connected to the proper power source and is handled gently, it should give you a long period of trouble-free service. Unplug the set and have it checked by your qualified Radio Shack service technician, if you suspect a malfunction with the unit under conditions such as:

- Set is dropped or the cabinet is damaged
- Power cord is damaged or frayed
- Set is exposed to rain or water

If you are unable to restore normal operation by following the detailed procedure in your operation instructions, do not attempt any further adjustments as improper adjustment of other controls may result in damage and could require extensive work by a qualified technician to restore the set to normal operation. Unplug the set and call your Radio Shack Computer Center or Radio Shack store.

If the set fails, or exhibits a distinct change in performance, the unit needs servicing. Unplug the set and have it checked by a professional Radio Shack service technician.

It is normal for some sets to make occasional snapping and popping sounds, particularly when being turned on or off. If the snapping or popping is continuous or frequent, unplug the set and consult your Radio Shack Computer Center or Radio Shack store.

## Installation and Location Hints

The set has slots, openings in the cabinet and back for ventilation purposes, to provide reliable operation of the monitor and protect it from overheating.

- Install the set at least 4" (0.1 meters) away from the wall.
- Never cover the slots or openings with cloth or other fabric.
- Never block the bottom ventilation slots 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 or excessive moisture and dust as this can be a potential cause of fire or shock hazard.
- Never place the monitor on an unstable monitor cart or stand. The monitor may fall, causing damage to the monitor or personal injury.

### Operation

- Operate the set only from the power source indicated on the back of the cabinet.
- To use a power source that is not marked on the monitor will shorten the life of the monitor and cause damage in addition to improper operation.
- To ensure safe operation, the 3-pin plug (supplied) must be inserted only into a standard 3-pin power point which is effectively grounded through the normal household wiring. 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.
- Do not overload wall outlets and extension cords as this can result in a fire or electrical shock.
- Adjust only those controls that are described in the owner's manual. Improper adjustment of other controls may result in possible damage and will require the services of a technician to restore proper operation.
- Do not allow anything to rest on the power cord. Do not locate this monitor where the cord will be abused by persons walking on it.
- When not using the set for extended periods of time, such as a weekend or vacation, unplug the set from the wall outlet.
- If the same characters or graphics are shown for a long time with the BRIGHTness and CONTRAST controls set to maximum positions, part of the screen may be damaged. Use these controls with care.
- Do not remove the back cover of the set as this can expose you to very high voltage and other hazards.
- Caution children about dropping or pushing objects into the cabinet openings. Some internal parts carry hazardous voltages and contact can result in electrical shock or fire.
- Never operate the set near water—for example, near a bathtub, washbasin, kitchen sink, laundry tub, swimming pool, or in a wet basement, etc.
- Never spill 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 the CM-5

Always unplug the monitor before cleaning it. Wipe the screen and cabinet, front and sides, with a soft cloth. If the screen requires more than dusting, apply a household window cleaner to a soft cloth to clean the monitor screen.

**Caution**—Do not use benzene, thinner, or any volatile substances to clean the unit as the finish may be permanently marred. 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 yearly cleaning.



# Technical Information

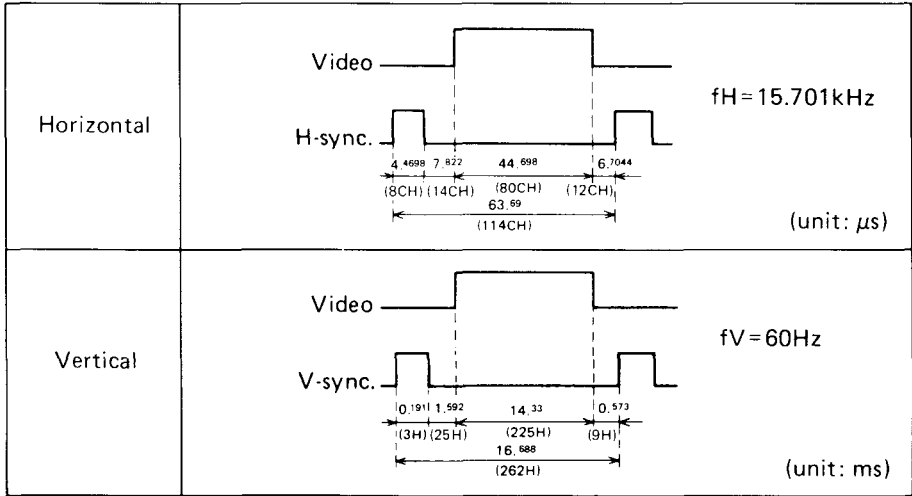
The CM-5 is designed for connection to a non-interlaced 225-line signal with 15.701 kHz scanning frequency (as detailed on pages 9 and 10). When the CM-5 is connected to a computer with other than the specified input signal, the following may occur:

Symptom	Cause
Shrunk 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

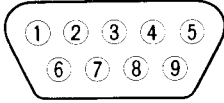


## Technical Information

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### 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

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Power Supply	120V AC, 60 Hz
AC Input Current	0.75 A
CRT	13" diagonal, 90° deflection, high contrast, picture tube, 0.64 mm screen pitch
Input Signal	Red, green, and blue (RGB) video and intensity, vertical and horizontal synchronization
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	15.701 kHz±500 Hz
Vertical	60 Hz±1.0 Hz
Display Size	9-27/32" x 6-11/16" (250mm x 170mm)
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 22 lbs. 1 ozs. (10 kg)
Power Cord	Approximately 6 ft. (1.83m)

## **SERVICE POLICY**

Radio Shack's nationwide network of service facilities provides quick, convenient, and reliable repair services for all of its computer products, in most instances. Warranty service will be performed in accordance with Radio Shack's Limited Warranty. Non-warranty service will be provided at reasonable parts and labor costs.

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