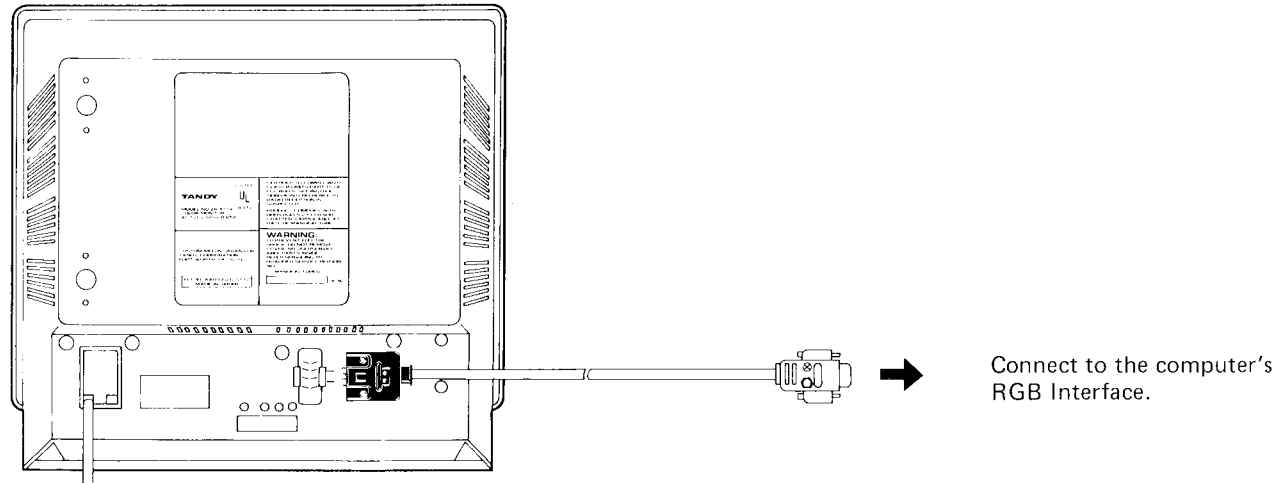


### Connecting to a Computer

To connect the CM-1 to a computer:

1. Make sure that power to all components is OFF.
2. Connect the RGB Cable to the RGB Connector located at the back of the monitor. Connect the other end of the RGB cable to the computer's RGB Interface.



After you have satisfactorily adjusted the tilt stand and connected the CM-1 to a compatible computer, connect the CM-1's AC cord to the power source.

## 3/ Using the CM-1

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 color on the CM-1.

### Display Adjustment

Three display adjustment knobs are concealed. To reveal them, press gently on the panel beneath the video screen. (See Description of the CM-1 earlier in this manual.)

#### H - CENT

This control horizontally centers the display area.

- Rotate the knob to adjust the position of the display.

#### CONT and BRIGHT

Adjust the screen brightness to compensate for room lighting.

- If the room is dark, rotate either or both of these controls toward LOW until the picture is easily visible.
- If the room is bright, rotate either or both of these controls toward HIGH until the picture is easily visible.
- The contrast (CONT) control also adjusts color brilliance, Low or High as required.

## 4/ Care and Maintenance

Provided the CM-1 is connected to the proper power source and is handled gently, it should give you a long period of trouble-free productivity. If there is a rare occasion when you suspect a malfunction with the unit, unplug the set and have it checked by your qualified Radio Shack Service Technician under conditions such as:

- If the set has been dropped or the cabinet has been damaged.
- When the power cord is damaged or frayed.
- If the set has been 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 will result in damage and will often require extensive work by a qualified technician to restore the set to normal operation.

Unplug the set and call your Radio Shack Store or Radio Shack Computer Center.

If the set fails, or exhibits a distinct change in performance – this indicates a need for service. 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 Store or Radio Shack Computer Center.

### 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 to protect it from overheating.

- Install the set about 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 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 injury. Use only with a cart or stand recommended by the manufacturer.

## 2/ Setting Up the CM-1

To set up the CM-1, you only have to adjust the tilt stand to the angular position of your choice and connect the CM-1 to a compatible computer via cable.

### Adjusting the Tilt Stand

Depending on your preference, you may want to adjust the tilt stand to 90°, 95°, or 100° angles.

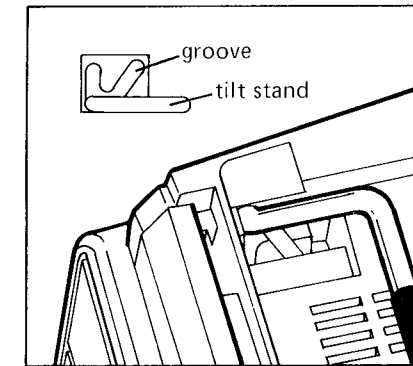


Figure 4. 90° Tilt Stand Adjustment.

When the stand is level, the CM-1 is viewed at a 90° angle.

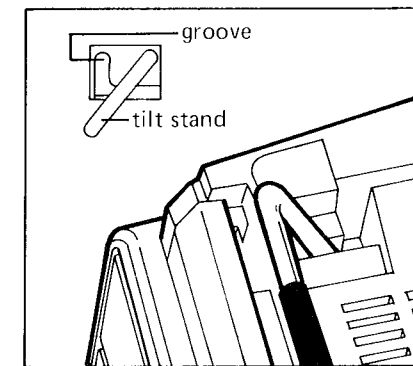


Figure 5. 95° Tilt Stand Adjustment.

For the CM-1 to be viewed at a 95° angle, adjust the stand to fit into the first groove.

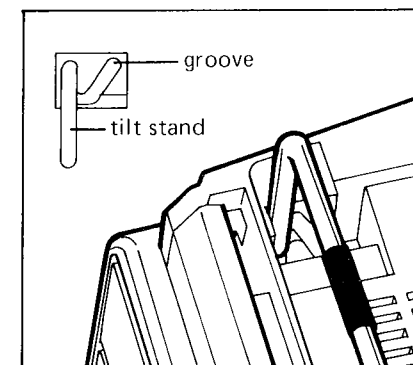


Figure 6. 100° Tilt Stand Adjustment.

For the CM-1 to be viewed at a 100° angle, adjust the tilt stand into the last groove. Make sure that the wire bar is horizontally in the proper groove.

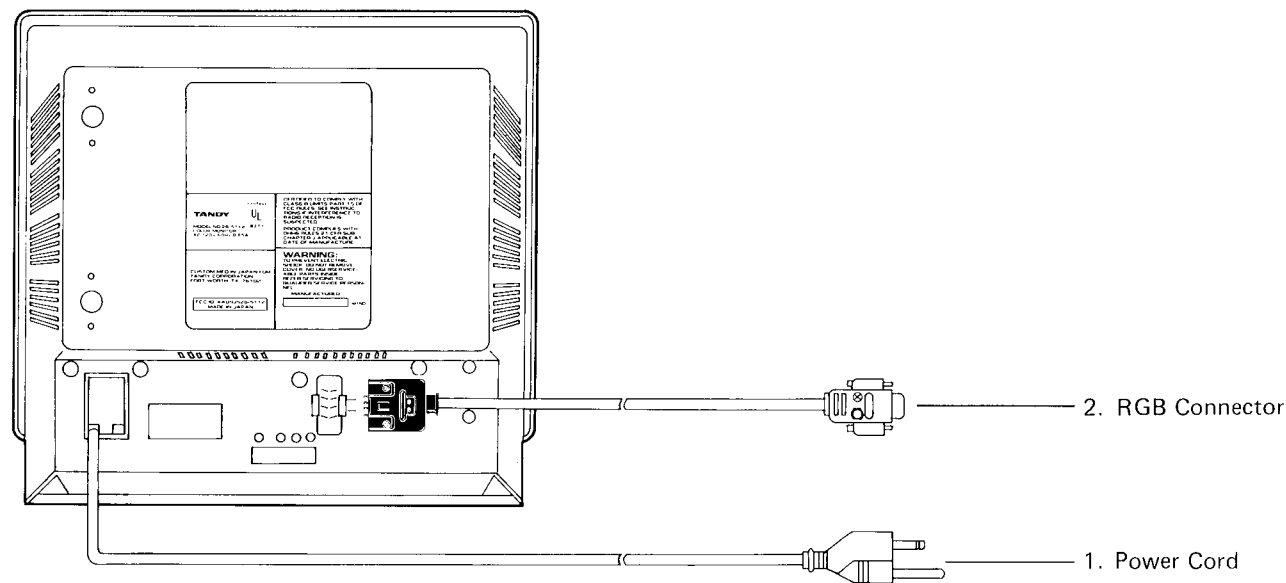


Figure 2. CM-1 (Rear View)

1. Power Cord. Plug the power cord into a standard AC outlet or approved power strip.
2. RGB Connector. Connect the RGB monitor-to-Computer cable (included with the package) to this connector. Connect the other end to the CPU.

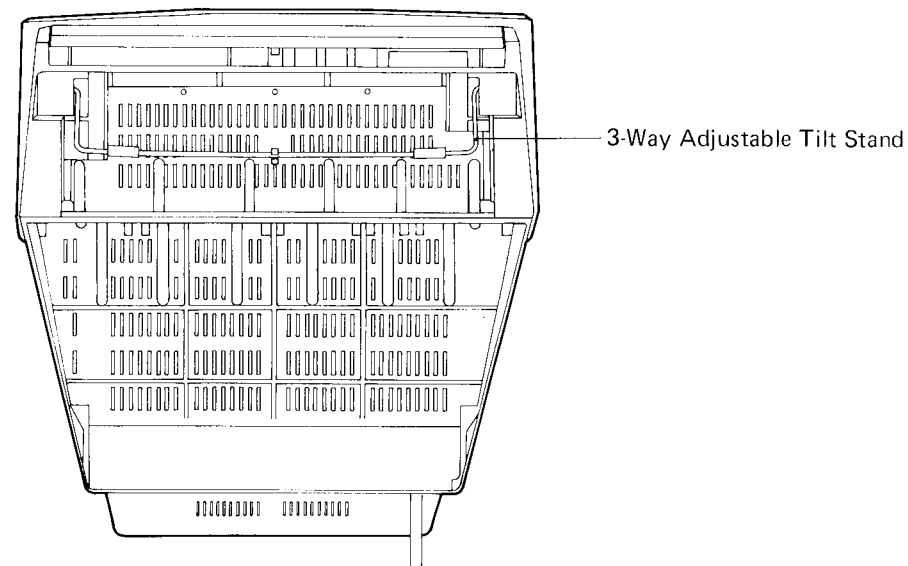


Figure 3. CM-1 (Bottom View)

3-Way Adjustable Tilt Stand. Adjust according to your viewing preference.

### 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 back will shorten the life of the Monitor and cause damage in addition to improper operation.
- This monitor is equipped with a three-pin plug. To ensure safe operation the three-pin plug supplied must be inserted only into a standard three-pin power point which is effectively grounded through the normal household wiring. Extension cords used with the equipment must be three-wire and be correctly wired to provide connection to ground. Wrongly 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 fire or 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, washbowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool, etc.
- Never spill liquid of any kind on the monitor. If liquid has accidentally spilled into it, unplug the set and have it checked by a Radio Shack Service Technician before use.

### Cleaning the CM-1

- Always unplug the monitor before cleaning.
- 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.

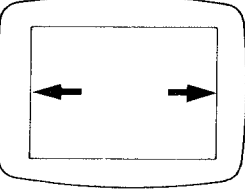
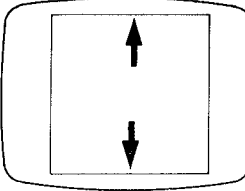
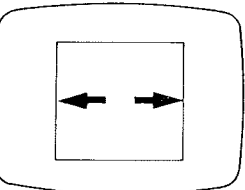
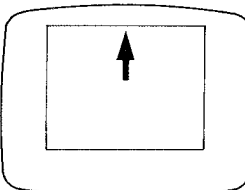
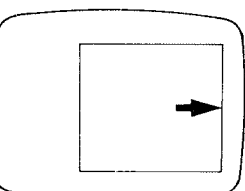
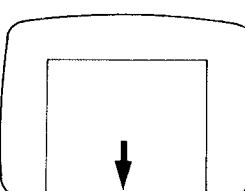
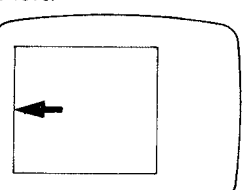
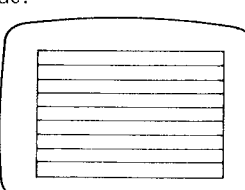
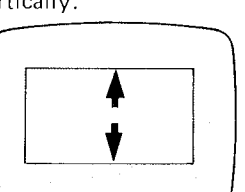
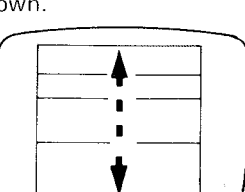
**Caution**— Do not use benzene, thinner, or any volatile substances to clean the unit as the finish may be permanently marred. Never leave the unit in contact with rubber or vinyl for an extended period.

- Occasionally, the internal parts of the monitor may need to be cleaned to prevent 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.

## 5/ Technical Information

The CM-1 is designed for connection to a non-interlaced 400 line signal, 26.4 kHz scanning frequency, (as detailed on P.12 and P.13).

When the CM-1 is connected to a computer having other than the specified input signal, distortion in display image, shape, and position may be due to the inadequate input signal of some computers. The following chart illustrates such conditions.

Symptom	Cause	Symptom	Cause
Display area is spread horizontally. 	Display time is over 28.59 $\mu$ S.	Display area is spread vertically. 	Vertical frequency is below 60Hz (U.S.A. model) 50Hz (European, Australian and U.K. models)
Display area is too narrow. 	Display time is under 28.59 $\mu$ S.	Display area is positioned toward the top. 	Back porch time is under 0.91mS (U.S.A. model) 2.62mS (European, Australian and U.K. models)
Display area is positioned too far to the right. 	Front porch time is less than 2.14 $\mu$ S.	Display area is too far toward bottom. 	Front porch time is under 0.30mS (U.S.A. model) 1.93mS (European, Australian and U.K. models)
Display area is too far to the left. 	Back porch time is less than 4.29 $\mu$ S.	Picture moves from side to side. 	Horizontal sync is not within the range of 25.4–27.4 kHz.
Display area is reduced vertically. 	Vertical frequency is over 65Hz (U.S.A. model) 55Hz (European, Australian and U.K. models)	Display area rolls up and down. 	Vertical sync is not within range of 50–70Hz (U.S.A. model) 43–60Hz (European, Australian and U.K. models)

## 1/ Description of the CM-1

Before doing anything else, be sure the following is included in the package.

- CM-1
- RGB Monitor-to-Computer Cable

**Note:** The descriptions on pages 4 and 5 are only to acquaint you with the parts of your CM-1. Before connecting your CM-1 to a computer or power source, follow the instructions given on page 7.

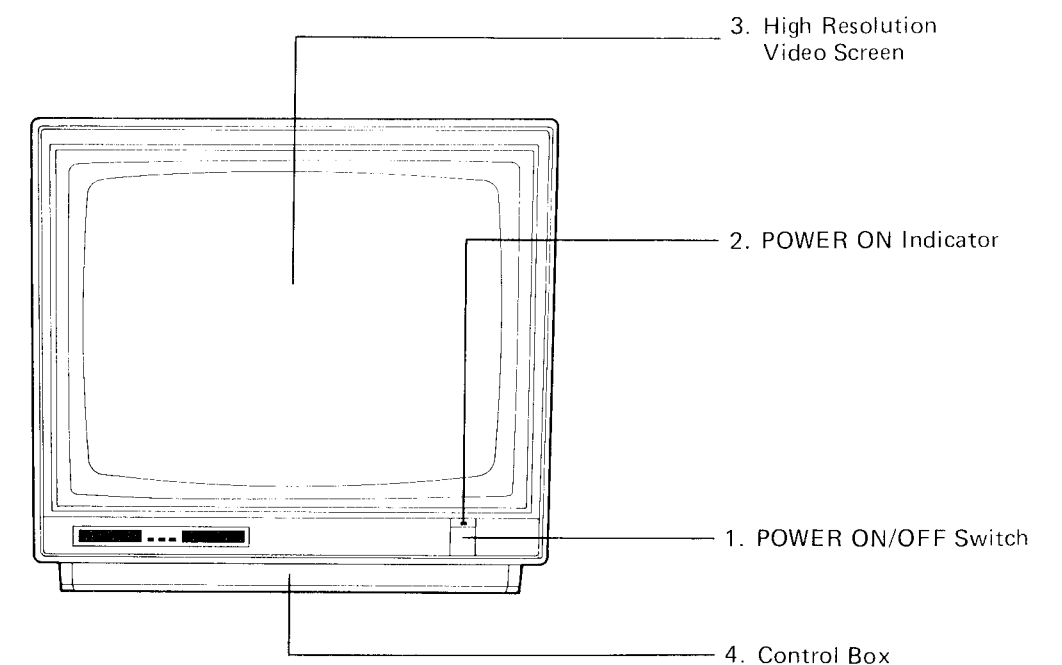


Figure 1. CM-1 (Front View)

1. POWER ON/OFF Switch. Press to turn the CM-1's power ON. Press again to turn the power OFF.
2. POWER ON Indicator. This indicator illuminates when the CM-1's power is ON.
3. High Resolution Video Screen.
4. Control Box. Behind this panel are the Horizontal Centering, Contrast, and Bright rotary controls. Gently press the bottom of the panel to reveal these controls.

## Introduction

Tandy is proud to present the CM-1 High Resolution Color Display Monitor designed to display characters and graphics in 15 vivid colors.

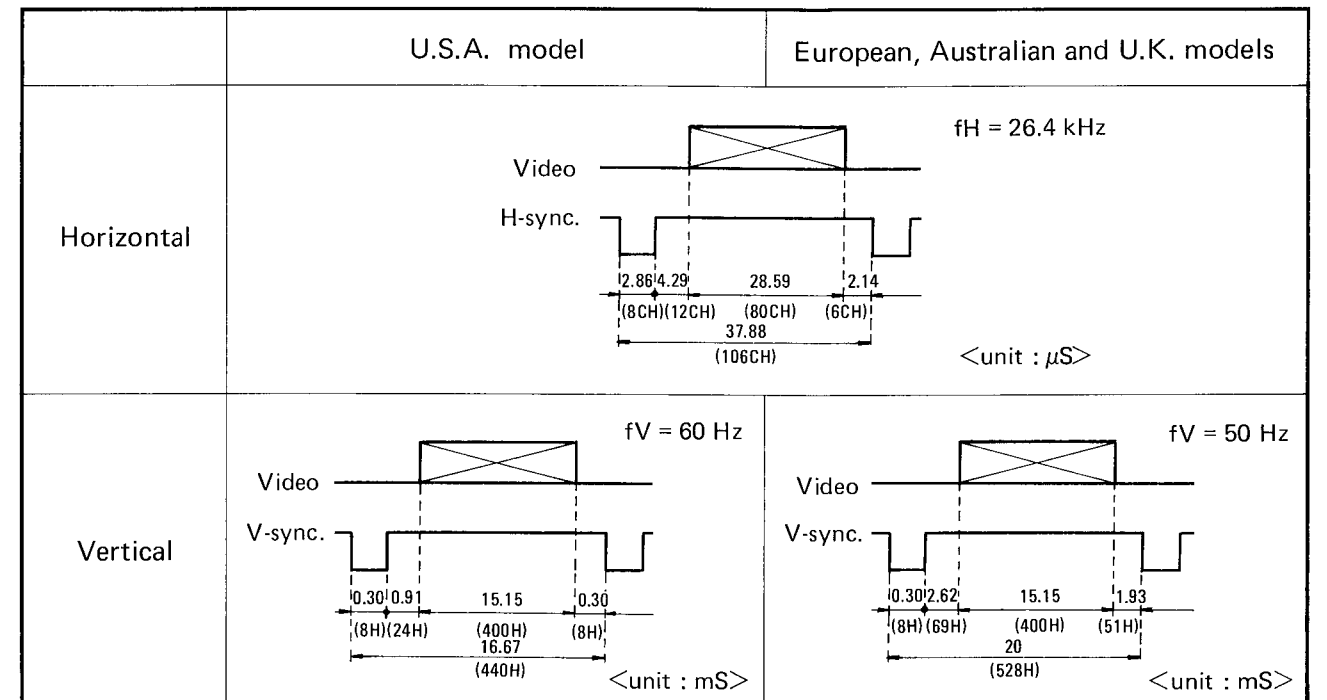
The CM-1 has many advantages over other color monitors. These include:

- \* 14-inch color display providing eye-pleasing graphics displays.
- \* Adjustable 3-position tilting stand assuring maximum viewing comfort.
- \* Adjustable picture controls so that you can tailor the Brightness and Contrast to suit your 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.
- \* High focus assured by the built-in multi-step focus gun.
- \* RGB direct drive signal system that provides 640 dot by 400 line display for crisp characters and vivid color graphics.

## Input Signal

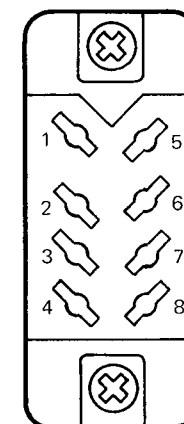
Video Signal	Horizontal Sync.	Vertical Sync.
RGB & Intensity Separate TTL Positive	TTL negative	TTL negative

## Timing Chart



## Input Connector

The connector is EIA 8 pin. The relations between pins and signals are as follows:



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

## 6/ Specifications

Power Supply	U.S.A. : AC120V 60Hz Europe : AC220V 50Hz U.K./Australia : 240V 50Hz
Power Consumption	75W
CRT	14" 90° deflection, super high contrast and multistep focus tube, fine pitch stripe screen.
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 negative.
Input Connector	EIA 8-Pin
Scanning Frequency	Horizontal 26.4 kHz Vertical 60 Hz (U.S.A. model) 50 Hz (European, Australian and U.K. models)
Display Time	Horizontal 28.59μS Vertical 15.15mS
Display Size	10" x 7" (256mm x 180mm)
Resolution	640 dots x 400 lines (within display size)
Character Number	Approximately 2000.
Cabinet Dimensions	13 <sup>3</sup> / <sub>4</sub> " (W) x 12 <sup>5</sup> / <sub>8</sub> " (H) x 15" (D) [350mm (W) x 322mm (H) x 381mm (D)]
Weight	Approximately 24 lbs. 11 ozs. (11.2 Kg)
Power Cord	Approximately 6 ft. 6 in. (2 m)

TERMS AND CONDITIONS OF SALE AND LICENSE OF RADIO SHACK AND TANDY COMPUTER EQUIPMENT AND SOFTWARE PURCHASED FROM A RADIO SHACK COMPANY-OWNED COMPUTER CENTER, RETAIL STORE OR FROM A RADIO SHACK FRANCHISEE OR DEALER AT ITS AUTHORIZED LOCATION

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- B. The limitations of liability and Warranty provisions herein shall inure to the benefit of RADIO SHACK, the author, owner and/or licensor of the Software and any manufacturer of the Equipment sold by RADIO SHACK.

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## 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.

Because of the sensitivity of computer products, and the problems which can result from improper servicing, the following limitations also apply to the services offered by Radio Shack:

1. If any of the warranty seals on any Radio Shack and Tandy computer products it sells are broken, Radio Shack reserves the right to refuse to service the product or to void any remaining warranty on the product.
2. If any computer product purchased from Radio Shack has been modified so that it is not within manufacturer's specifications, including, but not limited to, the installation of any non-Radio Shack parts, components, or replacement boards, then Radio Shack reserves the right to refuse to service the product, void any remaining warranty, remove and replace any non-Radio Shack part found in the product, and perform whatever modifications are necessary to return the product to original factory manufacturer's specifications.
3. The cost for the labor and parts required to return the computer product to original manufacturer's specifications will be charged to the customer in addition to the normal repair charge.

## IMPORTANT INFORMATION

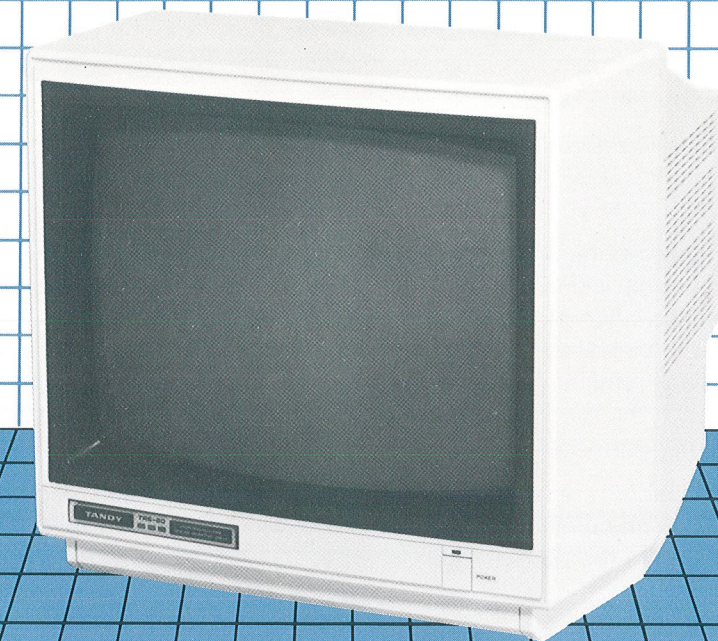
This equipment generates and uses radio frequency energy and if not installed and used properly (that is, in strict accordance with the manufacturer's instructions) may cause interference to radio and television reception. It has been type-tested and found to comply with the limits for a Class B computing 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.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet prepared by the Federal Communications Commission helpful: **How to Identify and Resolve Radio-TV Interference Problems.** This booklet is available from the U.S. Government Printing Office, Washington, DC 20402, Stock No. 004-000-00345-4.

**TANDY®**

**CM-1  
Operation Manual  
Catalog Number 26-5112**



**RADIO SHACK, A DIVISION OF TANDY CORPORATION**

**U.S.A.: FORT WORTH, TEXAS 76102  
CANADA: BARRIE, ONTARIO L4M 4W5**

**TANDY CORPORATION**

**AUSTRALIA**

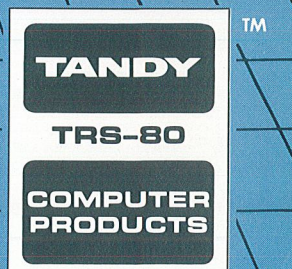
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