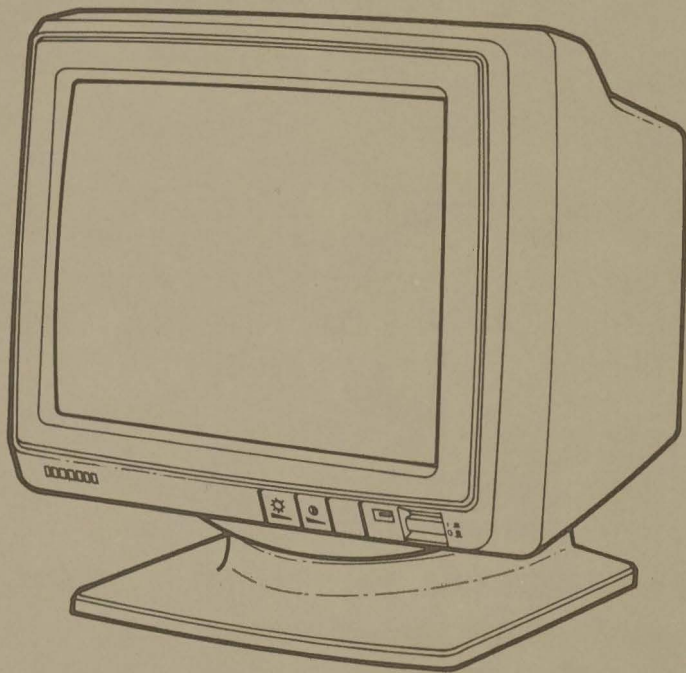


VR150

Installation/Owner's Guide



digital™

VR150 Installation/Owner's Guide

Order No. EK-VR150-IN-001

**digital equipment corporation
maynard, massachusetts**

1st Edition, August, 1987

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FCC NOTICE: The equipment described in this manual generates, uses, and may emit radio frequency energy. The equipment has been type tested and found to comply with the limits for a Class A computing device pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such radio frequency interference when operated in a commercial environment. Operation of this equipment in a residential area may cause interference, in which case the user at his own expense may be required to take measures to correct the interference.

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The logo consists of the word "digital" in a lowercase, sans-serif font. Each letter is contained within its own black rectangular box, and the boxes are arranged in a single horizontal row.

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ABOUT THIS MANUAL

This guide describes how to install, operate, and maintain your VR150 monitor. Perform the steps in sequence.

ABOUT THE VR150

The VR150 is a monochrome monitor with a 383 mm (15 in) diagonal screen. When connected to a host system, the VR150 can display information you send to the host system and information the host system sends to you.

BEFORE YOU START

The kind of host system you have affects the way you prepare to operate your monitor. Refer to your host system manuals for the following information.

- Must any option module be installed in the host system to support your monitor?
- Do you have your host system's video cable assembly?

WARNINGS, CAUTIONS, NOTES

The warnings, cautions, and notes in this installation manual have specific purposes.

WARNINGS contain important information that relate to personal safety.

CAUTIONS contain information to prevent damage to the equipment.

NOTES contain general information.

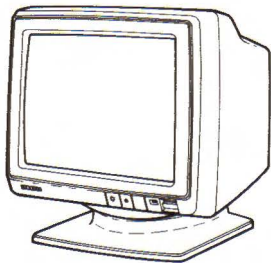
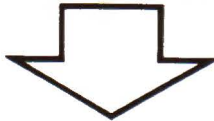
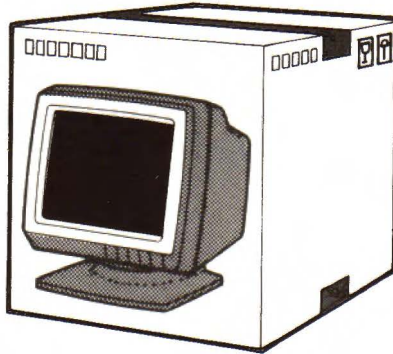
UNPACKING

Unpack the carton and check the contents.

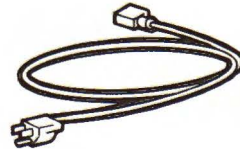
NOTE: *The power cord may be supplied separately.*

CAUTION: *This procedure requires two people. The shipping weight of the monitor is less than 19.43 kilograms (45 pounds). The weight of the monitor is 16.34 kilograms (36 pounds).*

Save the shipping carton and the packing material in case you need to return the monitor for service.



VR150 MONOCHROME MONITOR



POWER CORD



VR150 INSTALLATION/
OWNER'S GUIDE

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Check for missing or damaged items.

If you discover missing items, contact your sales representative. If you discover damaged items, contact your delivery agent.

Call Digital Equipment Corporation when you need help.

Refer to the Repairs section in this manual for the correct phone number. Be ready to report the model number and serial number of your monitor.

Avoid damage to your diskettes.

The electromagnetism from your monitor may damage diskettes by distorting or erasing the magnetic patterns. Do not place any magnetic media on or near your monitor.

Select the monitor's location.

Refer to the Specifications section at the end of this manual for information you should consider when selecting a location for the monitor.

INSTALLATION

Place the monitor on a level surface.

CAUTION: *This procedure requires two people. The monitor weighs 16.34 kilograms (36 pounds).*



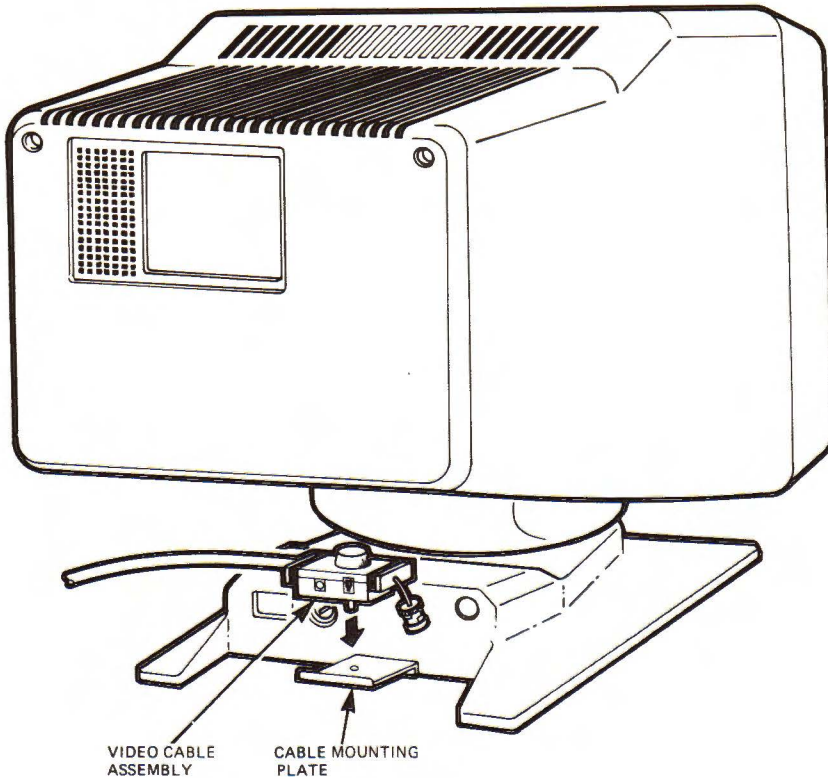
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Connect the cables to the monitor.

The video cable assembly (host system cable) is shipped with your host system. Refer to your host system documentation for information.

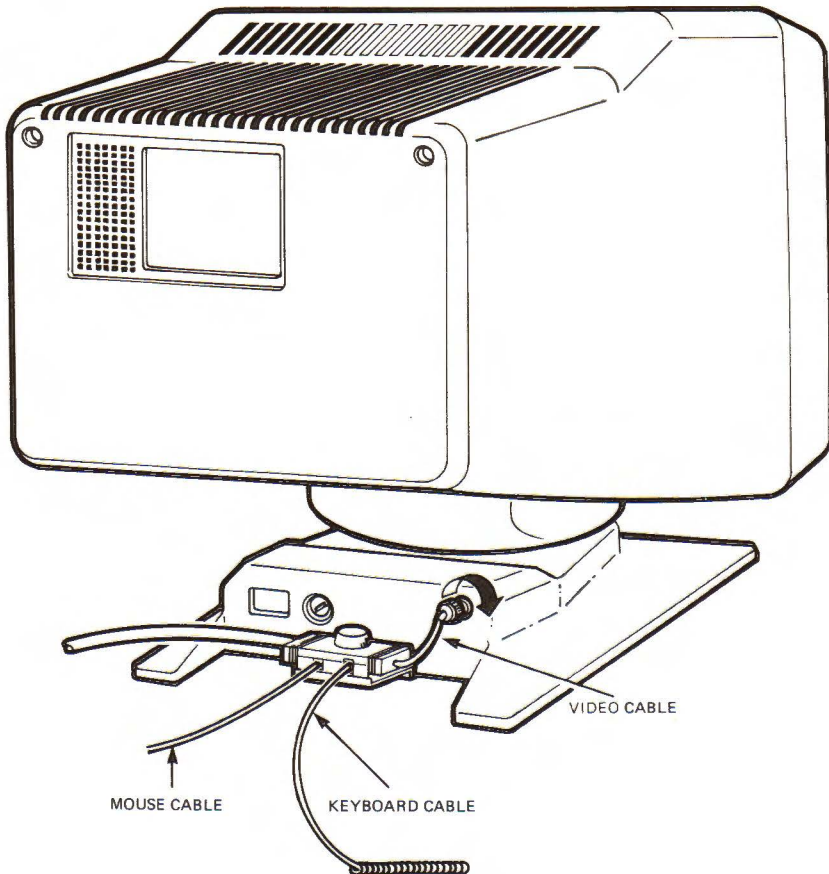
1. Screw the video cable assembly into the cable mounting plate.

CAUTION: *Failure to secure the video cable assembly to the cable mounting plate may strain the cable and may also cause radio emissions in excess of FCC guidelines.*



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2. Connect the video cable to the video connector on the rear panel. Push the cable in and turn the connector clockwise to lock it in place.
3. Connect the keyboard cable and mouse cable to the video cable assembly.



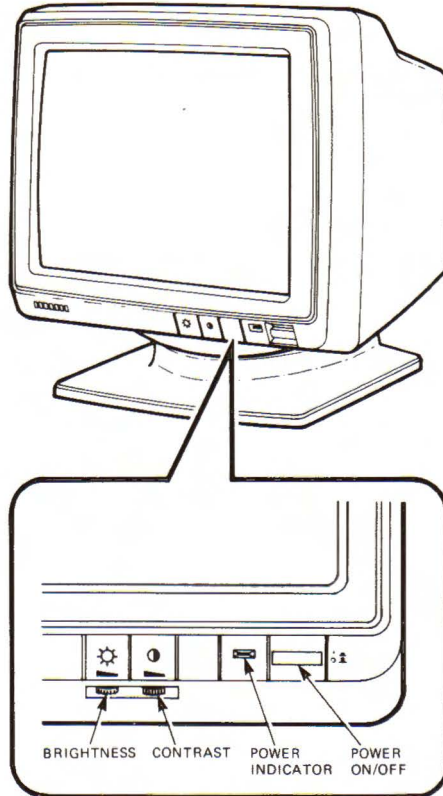
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Locate the monitor controls and power indicator.

Table 1 describes the monitor controls and power indicator.

Table 1: Monitor Controls and Indicator

Control/Indicator	Function
Brightness control	Lets you adjust the video raster (background intensity) to compensate for ambient light in the room.
Contrast control	Lets you adjust the video display to a suitable intensity.
Power switch	Lets you turn the monitor on and off. Press the switch in to turn the power on. Press the switch out to turn the power off. Turn off the monitor at the end of the workday to extend the life of the monitor.
Power indicator (green)	Turns on to indicate the presence of power. Turns off to indicate the absence of power.

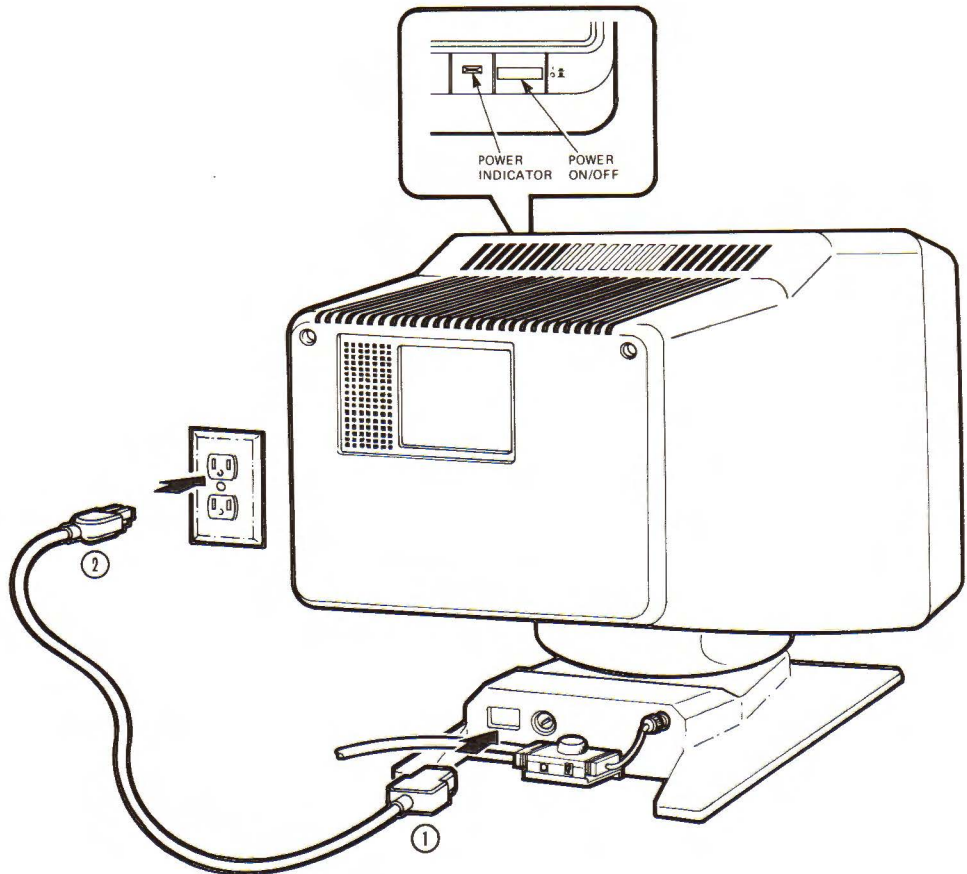


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Set the monitor power switch to the off position.

Connect the power cord first to the monitor, then to the wall outlet.

CAUTION: *To avoid damaging a monitor that has been moved inside from a cold environment, let the monitor warm to room temperature before you turn it on.*



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OPERATION

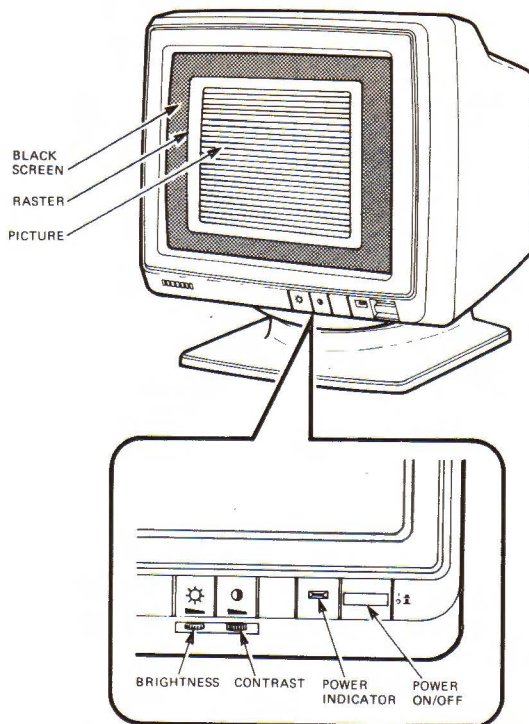
Set the monitor power switch to the on position.

Watch for the green power indicator to turn on. Wait about 30 seconds for a video display.

NOTE: *If the green power indicator does not turn on or if a video display does not appear, refer to the Identifying and Correcting Problems table in the Maintenance section of this manual.*

Set the brightness and contrast controls.

1. Increase both the brightness and contrast to the maximum.
2. Decrease the brightness until the raster (background intensity) just disappears.
3. Adjust the contrast to your viewing preference.

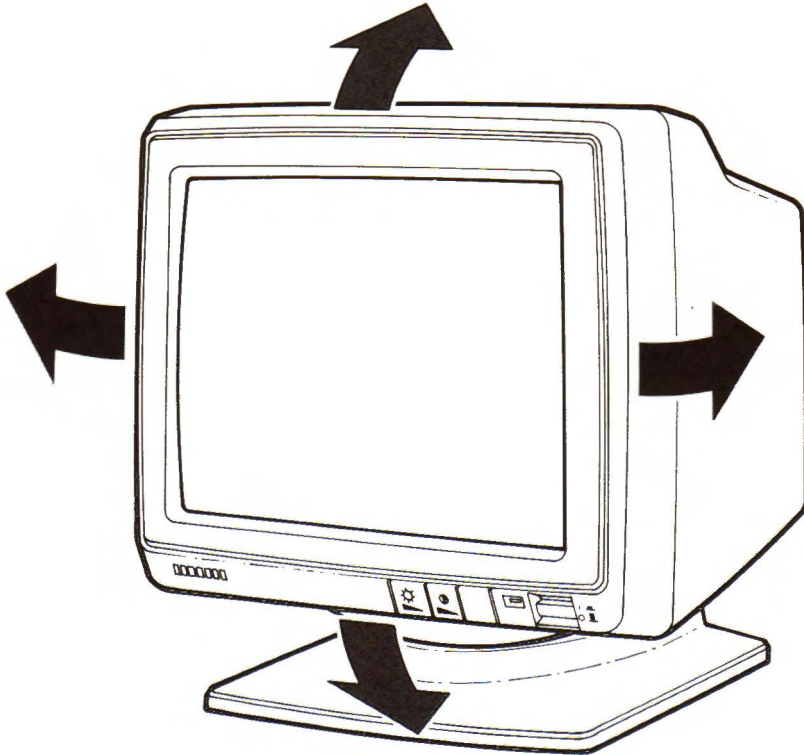


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Adjust the tilt-swivel stand to a comfortable viewing angle.

CAUTION: *The monitor does not swivel in a complete circle. If you try to swivel the monitor in a complete circle, you may damage the base.*

To set the angle, tilt the monitor forward or backward to the desired position. You can swivel the monitor about its base and still maintain the tilt angle.



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MAINTENANCE

Cleaning the Screen

NOTE: Before cleaning the screen, turn your monitor off and wait 20 seconds to let static electricity dissipate.

Clean the screen with the Digital-approved screen cleaning kit (Digital part number VT1XX-KF).

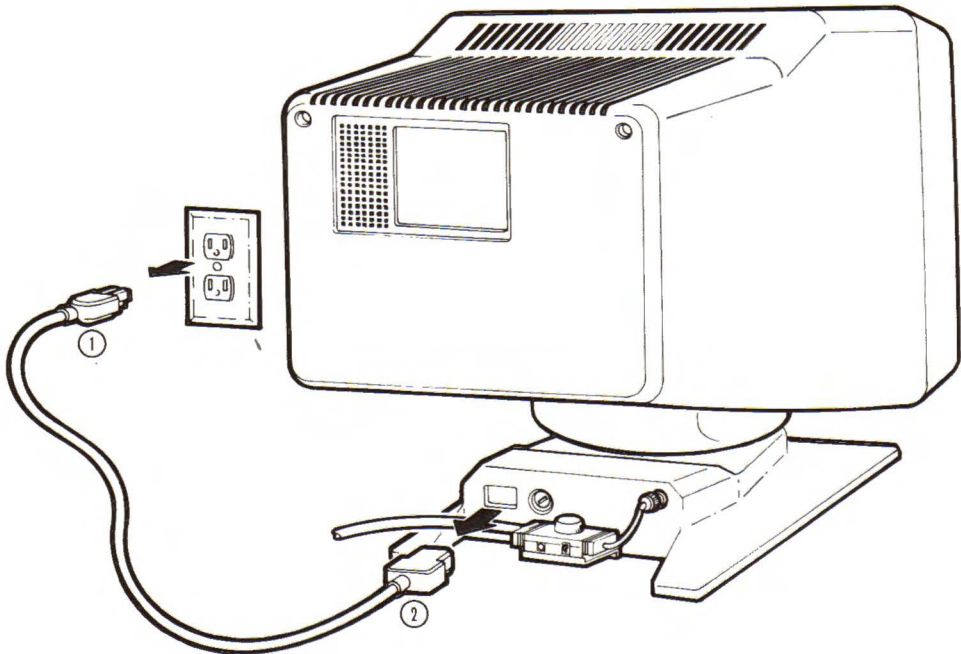
Replacing the Fuse

NOTE: Before replacing the fuse, turn your monitor off and wait 10 seconds. Disconnect the power cord first from the wall outlet, then from the monitor.

Your monitor uses a 4 amp, 250 volt slow blow fuse (T4 amp, 250 volt slow blow fuse for the international version).

To replace the fuse:

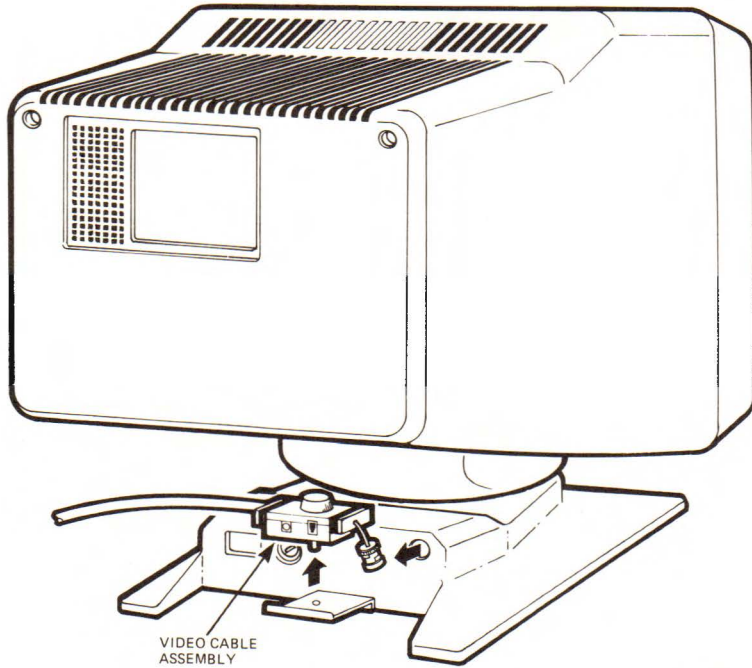
1. Turn your monitor off and wait 20 seconds; then unplug the power cord.



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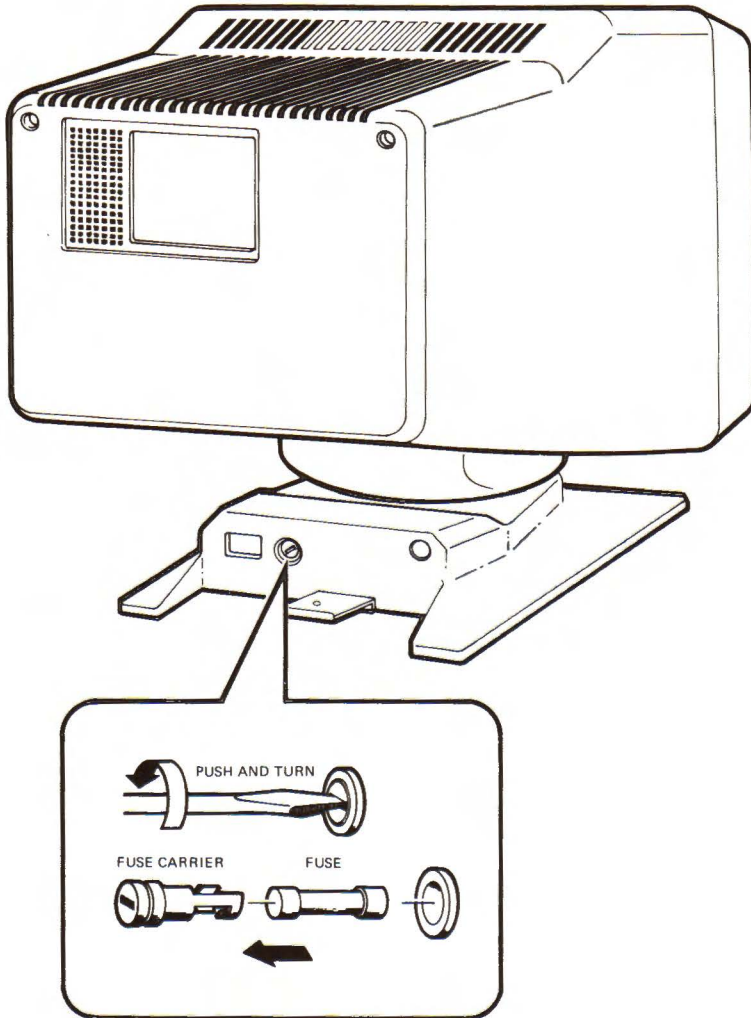
2. Remove the video cable assembly, including the video cable, from the cable mounting plate.

NOTE: *Failure to remove the video cable causes strain on the video cable assembly .*



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3. Push and turn the fuse carrier, using a screwdriver.
4. Pull out the fuse carrier and replace the fuse.
5. Replace the video cable assembly. (Refer to the Installation section of this manual.)



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Identifying and Correcting Problems

Problems on the monitor screen display may come from a number of sources: your host system, power sources, nearby electromechanical sources, or the monitor itself.

The following troubleshooting table deals primarily with monitor problems. The table also helps you determine if the problem is in the monitor, a source external to the monitor, or an input device. The following input devices can be sources of problems.

- Keyboard
- Mouse
- Tablet
- Host video cable assembly
- Host system

When you have a problem with your monitor, follow these steps.

1. Note the symptoms of the problem.
2. Check the Symptom column in Table 2 for a match.
3. Check the conditions for that symptom in the Possible Cause column. If the column contains more than one possible cause, check the possible causes and their suggested solutions in the order listed.
4. Follow the advice in the Suggested Solution column.

If you perform all the suggested solutions and the problem still exists, refer to the Repairs section. That section describes the procedures to call for service.

Table 2: Correcting Simple Problems

Symptom	Possible Cause	Suggested Solution
Power indicator does not turn on when you turn the monitor on.	Power cord is not connected to the power source or the monitor.	Turn the monitor off. Reconnect the power cord to the power source and the monitor. Turn the monitor on.
	No power at wall outlet.	Check the outlet by plugging in a lamp. If the lamp does not work, call the responsible facilities person.
	Monitor is faulty.	Turn the monitor off. Contact Field Service.
Screen is blank, but power indicator is on.	Host system's cathode-ray tube (CRT) saver feature is activated.	Press any key to reactivate display.
	Brightness and contrast controls are turned down.	Turn brightness and contrast controls up.
	Video cable assembly is loose or installed incorrectly on the monitor or host system.	Refer to the Installation section of this manual and host system manuals for correct procedures to install the video cable assembly. Reconnect the cable.
	Monitor or host system is faulty.	Turn the monitor off. Contact Field Service.
Video is displayed but screen display does not respond to input devices (keyboard, mouse, tablet). An error message may be displayed.	One of the input devices is disconnected.	Turn the monitor and host system off. Reconnect the input device. Turn the monitor and host system on.

Table 2 (Cont.): Correcting Simple Problems

Symptom	Possible Cause	Suggested Solution
Raster is present, but no cursor or video appears.	One of the input devices has a faulty or loose connection.	Turn the monitor and host system off. Disconnect and reconnect the input devices. Turn the monitor and host system on.
	Host system or one of the input devices is faulty.	Turn the monitor off. Contact Field Service.
	Video cable assembly is disconnected from either the monitor or host system.	Refer to the Installation section of this manual and host system manuals for correct procedures to install the video cable assembly. Reconnect the cable.
	Monitor or host system is faulty.	Turn the monitor and host system off. Contact Field Service.
CAUTION: <i>Before moving the monitor, turn the monitor off and wait 20 seconds to allow static electricity on the CRT to dissipate.</i>		
Screen display is rotated (Display appears to be tilted to the left or right).	Electromagnetic interference exists. To test for electromagnetic interference, slowly swivel the monitor. If the degree of rotation changes significantly, the rotation is caused by electromagnetic interference.	Move any electromechanical device, such as an electric pencil sharpener, away from monitor or move monitor.
	Monitor is faulty. Slowly swivel the monitor. If the degree of rotation does not change significantly, the monitor is faulty.	Turn the monitor off. Contact Field Service.
Screen display is distorted, flickering ,or rolling.	Monitor is faulty.	Turn the monitor off. Contact Field Service.

REPAIRS

If you are unable to correct the problem with your monitor, refer to the Service section in your host system owner's manual.

DIGITAL SERVICE

Digital provides a wide range of maintenance programs that cover small systems and monitors. These include on-site, carry-in, and mail-in maintenance services. You can use these programs to select a plan that suits your service needs.

On-Site Repair

Digital offers fast, low-cost, quality maintenance performed at your site by Digital-trained Service Specialists. There are several on-site services available.

DECservice

DECservice provides preferred on-site service, with a guaranteed response time when equipment is located within a specified distance of the service facility. DECservice guarantees a continuous repair effort until service is restored. You can choose the hours of coverage, up to 24 hours a day, 7 days a week.

Basic

Basic service provides on-site service during regular business hours, Monday through Friday.

Site Servicer

If you have at least 50 terminals or small systems and can provide workspace at your site, Digital will provide an on-site technician for a predetermined, periodic time interval. This repair service is provided for a variety of models.

Per Call

This noncontractual offering provides on-site repair based on time and materials. Per call service is available during regular business hours, Monday through Friday.

DECall

Similar to Per Call Service. However, you pay a fixed fee per call with an annual retainer fee.

Off-Site Service

Digital also provides several options for off-site service.

Carry-In Servicenters

Digital Servicenters are located in major cities around the world. They offer convenient, cost-effective repair service with a 48-hour turnaround time. Both contract and per call coverage is offered.

DECmailer

This mail-in service is for module and subassembly repairs. DECmailer provides five-day turnaround.

HOW TO GET SERVICE

Digital has a central service center in your area to help you keep your system running at peak efficiency. To find out more about Digital's hardware and software service offerings

In the United States

Call 1-800-554-3333

Worldwide

Contact your local Digital Field Service office.

SPECIFICATIONS

Dimensions

Height	39.4 cm (15.5 in)
Width	36.9 cm (14.5 in)
Depth	40.3 cm (15.9 in)
Weight	16.34 kg (36 lbs)
Shipping weight	Less than 19.43 kg (45 lbs)

Tilt range -5° to +13°

Swivel range ±60°

Display

Cathode-ray tube (CRT)	383 mm (15 in) diagonal flat square Paper white phosphor High efficiency antiglare treatment, reflects less than 1% of incident light within the visible spectrum.
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Video input 75 ohms terminated BNC composite video

Video composite signal (with sync) 1.0 Vpp / 75 ohm

Display characteristics 1,024 pixels horizontal x 864 lines vertical giving approximate picture size of 240 mm x 203 mm
Maximum contrast no less than 30 footlamberts (fl)

Timing

Horizontal rate timing

Frequency	54.054 kHz
Front porch	160 ns
Sync pulse	1850 ns
Back porch	1680 ns
Blanking interval	3.70 us (maximum)
Active video time	14.8 us
Horizontal period	18.5 us
Pixels displayed	1024

Vertical rate timing

Frequency	60 Hz
Front porch	0 Horizontal lines
Sync pulse	3 Horizontal lines
Blanking interval	37 Horizontal lines
Active video time	16.0 ms
Vertical period	16.67 ms
Lines displayed	864

Video rate (Bandwith)

Pixel frequency	70 MHz
Pixel period	14.45 ns (nominal)

Power

AC input voltage	88-132/185-264 vac
Frequency	50/60 Hz
Power consumption	70 watts (nominal)

External controls and indicator	Brightness Contrast Power switch Power indicator
Operating temperature	10° C to 40 ° C (50° - 104° F)
Humidity	10% to 95% relative humidity (with maximum wet bulb of 32° C and minimum dew point of 2° C noncondensing)