Contents

About This Manual v

1 Unpacking

Unpack the carton 1–1
Check the Contents 1–2
If you need help 1–2

2 Installation

Select the monitor location 2–1
Connect the video cable 2–2
Standard Cable Configuration 2–2
EMI-type cable configuration 2–4
Connect the power cord 2–5
Locate the monitor controls and power light 2–6

3 Operation

Power up the monitor 3–1
Log in to the system 3–2
Adjust the tilt stand 3–2

4 Maintenance

Clean the Screen 4–1
Identify and Correct Problems 4–1

5 Repairs

Digital Service 5–1
On-Site Repair 5–1
DECservice 5–1
BASIC 5–1
Site Servicenter 5–1
Per Call 5–2
DECall 5–2
Off-Site Service 5–2
Carry-In SERVICenters 5–2
DECmailer 5–2
How To Get Service 5–2

A Specifications

Index

Tables

2–1 Monitor Controls and Light 2–6
4–1 Correcting Simple Problems 4–2

Installing and Using the VRE01 Flat Panel Display

Order Number EK-VRE01-IN-002

digital equipment corporation
maynard, massachusetts

1st Edition June 1989
2nd Printing, February 1990

The information in this document is subject to change without notice and should not be construed as a commitment by Digital Equipment Corporation. Digital Equipment Corporation assumes no responsibility for any errors that may appear in this document.

The software described in this document is furnished under a license and may be used or copied only in accordance with the terms of such license.

No responsibility is assumed for the use or reliability of software on equipment that is not supplied by Digital Equipment Corporation or its affiliated companies.

Restricted Rights: Use, duplication, or disclosure by the U. S. Government is subject to restrictions as set forth in subparagraph (c) (1) (ii) of the Rights in Technical Data and Computer Software clause at DFARS 252.227–7013.

Copyright © Digital Equipment Corporation February, 1990

All Rights Reserved.
Printed in U.S.A.

FCC NOTICE: The equipment described in this manual 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, etcetera) certified to comply with the Class B limits may be attached to this computer. Operation with noncertified peripherals may result in interference to radio and television reception. 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.
- 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 US Government Printing Office, Washington, DC 20402, Stock No. 004–000–00398–5

The following are trademarks of Digital Equipment Corporation:

DEC	DIBOL	UNIBUS
DEC/CMS	EduSystem	VAX
DEC/MMS	IAS	VAXcluster
DECnet	MASSBUS	VMS
DECsystem–10	PDP	VT
DECSYSTEM–20	PDT	
DECUS	RSTS	
DECwriter	RSX	digital™

This document was prepared and published by Educational Services Development and Publishing, Digital Equipment Corporation.

About This Manual

About the VRE01

The VRE01 is a monochrome electroluminescent flat panel monitor with a 346 mm by 292 mm (13.5 in by 11.5 in) display. When connected to a host system, the VRE01 monitor displays information you send to the host system and information the host system sends to you. The monitor uses either a keyboard or a mouse as the data input devices.

The VRE01 monitor can be used in a standard or Electromagnetic Interference (EMI-protected) configuration. The EMI version requires a special video cable.

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:

- Whether an option module must be installed in the host system to support your monitor.
- Whether your host system has a video cable assembly to connect the monitor.

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.

1
Unpacking

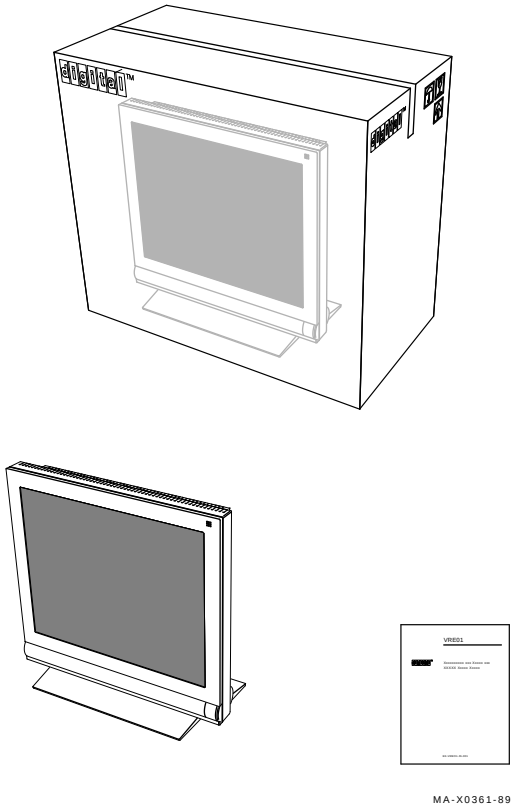
Unpack the carton

The next figure shows the contents of the shipping carton.

NOTE
The video cable, power cord, keyboard, and mouse cables are usually supplied with your host system.

CAUTION
The monitor weighs approximately 7.7 kilograms (15 pounds). Lift it carefully to prevent damage or injury.

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



MA-X0361-89

Check the Contents

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

If you need help

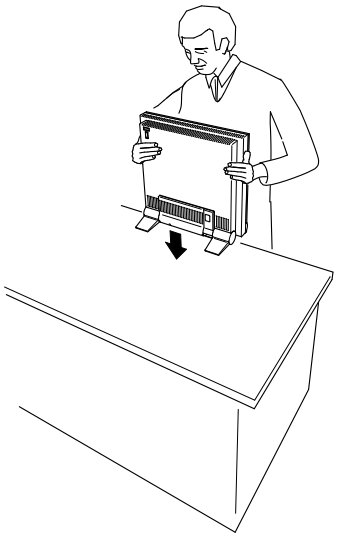
If you need help for repairs or service, call Digital Equipment Corporation. Refer to Chapter 5 for the correct phone number. When you call, have the model number and serial number of your monitor ready.

2
Installation

Select the monitor location

Choose a flat, level surface on which to place the monitor. Refer to Appendix A for more information about selecting a location for the monitor.

CAUTION
The monitor weighs approximately 7.7 kilograms (15 pounds). Move it carefully to prevent damage or injury.



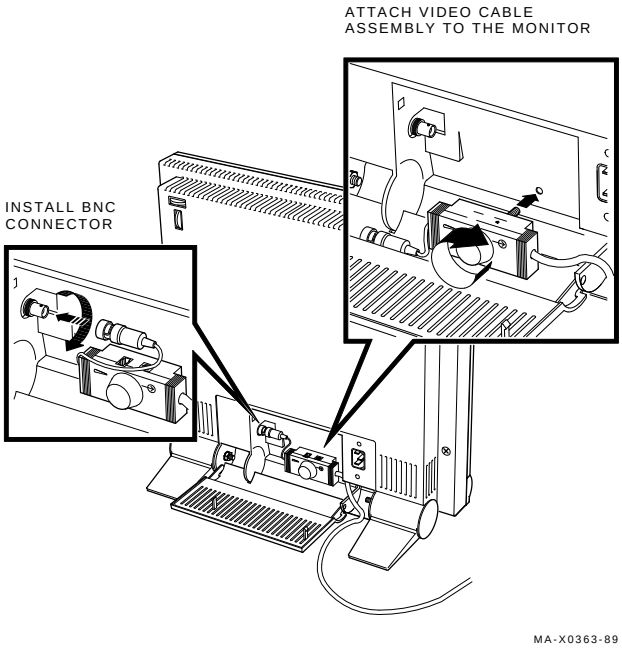
Connect the video cable

You may have either a standard or EMI-type video cable assembly (host system cable) which is shipped with your host system. Refer to your host system documentation for information. Use one of the next two procedures to connect the video cable.

Standard Cable Configuration

To connect a standard video cable assembly to your monitor, use the following procedure:

1. Open the cable cover at the rear of the monitor.
2. Position the video cable with the thumbwheel positioned over the round hole in the cable mounting plate.



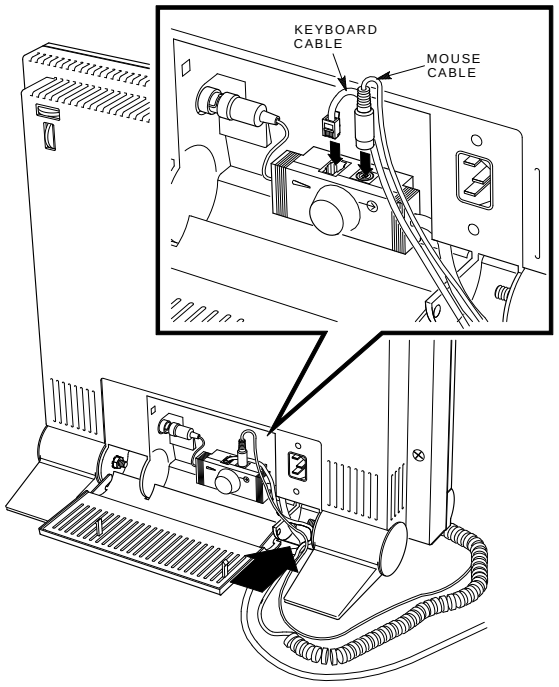
3. Turn the thumbwheel clockwise and attach the video cable assembly to the cable mounting plate.

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

4. Connect the video cable to the BNC video connector on the rear panel. Push the cable in and turn the connector to the right to lock it in place.

5. Connect the keyboard cable and mouse cable to the video cable assembly.

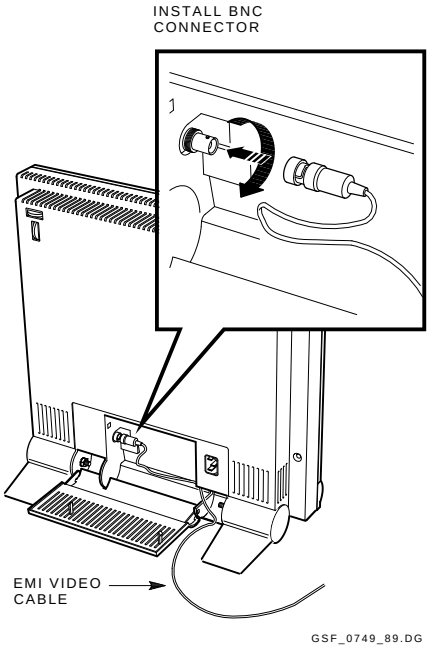
6. Close the cable cover. **Do not** force it when locking.



MA-X0364-89

EMI-type cable configuration

1. Open the cable cover at the rear of the monitor.
2. Position the video cable as shown in and plug it into the BNC connector on the rear panel. Turn the cable connector to the right to lock it place.
3. Connect the keyboard and mouse cables to the EMI-type system box as described in your system user's guide.
4. Close the cable cover. **Do not** force it when locking.

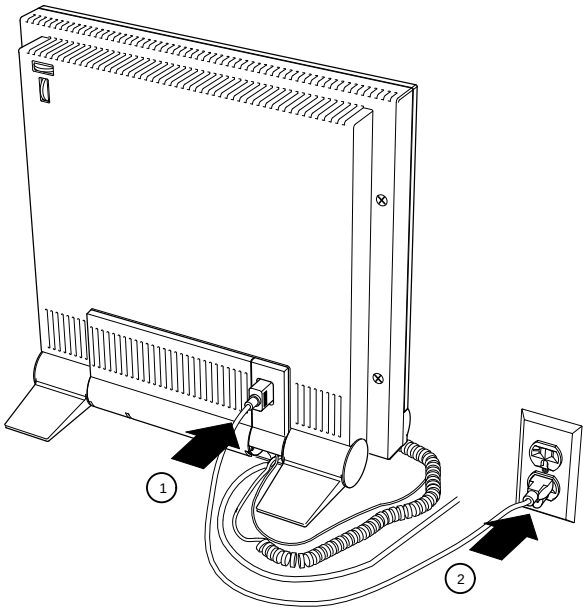


Connect the power cord

Be sure the monitor power is off before connecting the power cord. Depress the monitor power switch to the off position. To locate the power switch, refer to Table 2–1.

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

Depress the power switch to the on position to supply power to the monitor.



MA-X0365-89

CAUTION

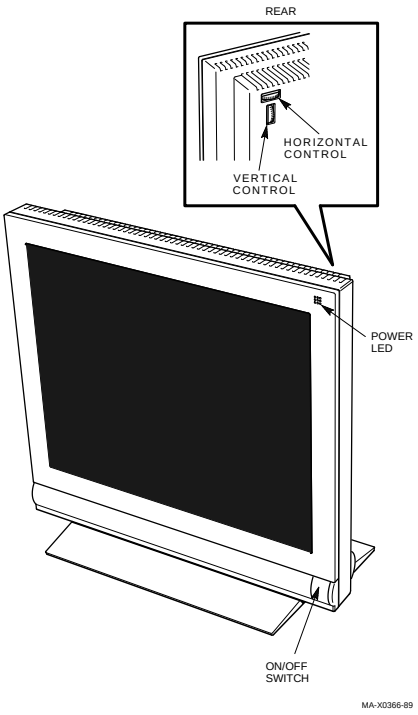
To avoid damaging a monitor that has been moved from a cold environment, let the monitor warm to room temperature before you turn it on.

Locate the monitor controls and power light

Table 2–1 describes the monitor controls and power light.

Table 2–1 Monitor Controls and Light

Control/Light	Function
Power switch	Lets you turn the monitor on and off. Press the switch in to turn the power on. Depress the switch again to release the switch and to turn the power off. Turn off the monitor at the end of the workday to extend the life of the monitor.
Power light (green LED)	Displays green light to indicate the presence of power. No light indicates the absence of power.
Centering controls	Lets you center the image on the screen. There are two centering knobs on the rear panel of the monitor for horizontal and vertical image adjustments. Turn the horizontal and vertical centering knobs to adjust the image.


REAR
HORIZONTAL CONTROL
VERTICAL CONTROL
POWER LED
ON/OFF SWITCH
MA-X0366-89

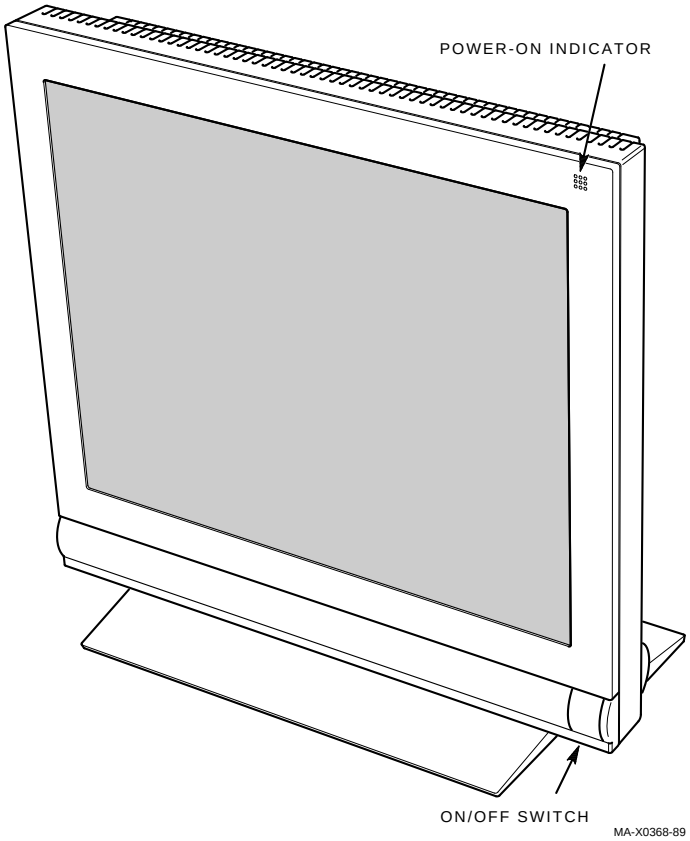
3
Operation

Power up the monitor

Depress the power switch to the on position and wait for the green power light to display. Wait a couple of seconds for a video display. The monitor runs the internal power-up self-test, and a system display appears on the screen.

- If the monitor **is connected** to the host system, a system-specific message (or prompt) appears on the screen.
- If the monitor **is not connected** to the host system, a self-test pattern (white, full-on display, all pixels illuminated) appears on the screen.

NOTE
If neither the green power light, the message display, nor the test pattern appear on the screen, refer to Table 4–1.



Log in to the system

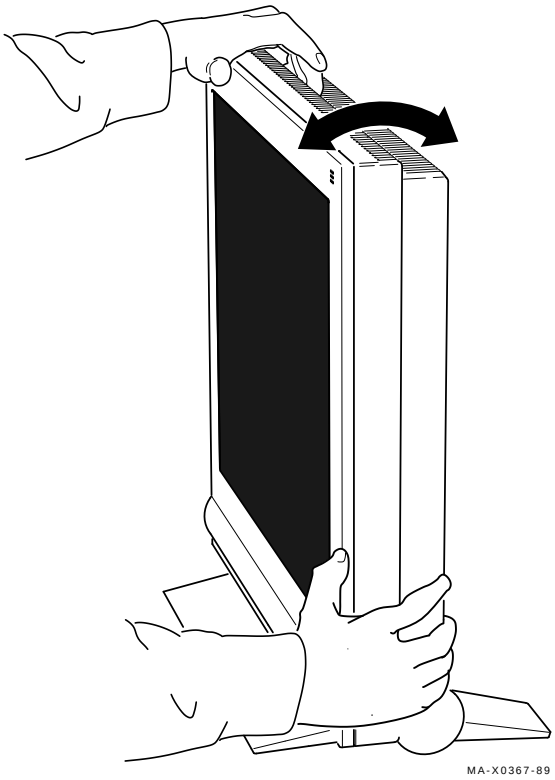
Use the keyboard to log in to the host system.

Adjust the tilt stand

To position the monitor angle for comfortable viewing, adjust the tilt stand.

NOTE
You must use two hands to adjust the tilt.

To adjust the angle, use one hand to keep the monitor steady and the other hand to move the monitor forward or backward to the desired position.



4
Maintenance

Clean the Screen

Clean the screen using a soft tissue or cloth and a good-quality, nonabrasive and nonflammable glass cleaner.

Identify and Correct Problems

Monitor screen display problems may come from your host system, power sources, or the monitor itself.

Table 4–1 primarily describes monitor problems and troubleshooting solutions. 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 cause problems.

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

When you have a problem with your monitor, follow these steps and refer to Table 4–1.

1. Note the symptom.
2. Find the symptom in the table.
3. Check the possible cause. Some problems may have more than one possible cause.
4. Follow the advice in the Suggested Solution column. If there is more than one cause or solution, follow them in the order given.

If you perform all the suggested solutions and the problem still exists, refer to Chapter 5 for information on how to call for service.

Table 4–1 Correcting Simple Problems

Symptom	Possible Cause	Suggested Solution
Power light does not come on when you turn the monitor on.	Power cord is not connected to the power source or the monitor.	Turn the monitor off. Connect 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 something that does work. If the item does not work, call the responsible facilities person.
	Power cord is faulty.	Replace the power cord.
	Monitor is faulty.	Turn the monitor off. Contact Field Service.
Screen is blank, but power light displays.	Host system screen saver feature is activated.	Press any key to reactivate display.
	Loose or faulty video cable.	Turn the monitor off. Check the connection of the video cable to the monitor and the host system. If the cable looks OK, contact Field Service.
	Monitor or host system is faulty.	Turn the monitor off. Contact Field Service.

Table 4–1 (Cont.) Correcting Simple Problems

Symptom	Possible Cause	Suggested Solution
Video displays but screen does not respond to input devices (keyboard, mouse). Text, an error message, or cycling diagnostic patterns may display.	One of the input devices has a faulty or loose connection. Video cable assembly is loose or connected incorrectly to the monitor or host system.	Turn the monitor and host system off. Reconnect the input device. Turn the monitor and host system on. Refer to Chapter 2 and your host system manuals for correct procedures to install the video cable assembly. Reconnect the cable.
Parts of characters or rows or columns in the text are missing at the top, bottom, left, or right edges.	Centering knobs are not adjusted properly. Monitor is faulty.	Adjust the centering knobs located on the rear panel of the unit. Turn the monitor off. Contact Field Service.
Parts of characters missing or deformed within the screen.	Vertical centering is not adjusted. Monitor or host system is faulty.	Adjust the vertical centering knob on the rear of the unit. Turn off the monitor. Contact Field Service.
Video signal is suddenly lost and a white self-test pattern displays.	Broken connection with the host system. Host system is faulty.	Check and secure the external video cable. line>Contact Field Service.

If you are unable to correct the problem with your monitor, and feel that there may be a system failure, refer to the service information in your host system owner's manual.

5
Repairs

Digital Service

The Digital Service program provides a wide range of maintenance plans that cover small systems and monitors. These include on-site, carry-in, and mail-in maintenance services. You can use this program 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 from the service facility. DECservice guarantees a continuous repair effort until service is restored. You can choose the hours of coverage, as much as 24 hours a day, 7 days a week.

BASIC

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

Site Servicenter

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 service provides on-site repair based on time and materials. The Per Call service is available during regular business hours, Monday through Friday.

DECall

DECall is similar to Per Call service. 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 time.

How To Get Service

Digital has a central SERVICcenter in your area to help you keep your system running at peak efficiency. To find out more about Digital hardware and software service offerings, call one of the following telephone numbers.

In the United States

1-800-554-3333

Worldwide

Contact your local Digital Field Service office.

A
Specifications

Dimensions	
Height	39 cm (15.25 in approx.)
Width	43 cm (16.75 in approx.)
Depth	7 cm (2.75 in approx.)
Weight	7.7 kg (15 lbs approx.)
Shipping weight	Less than 8.2 kg (18 lbs approx.)
Tilt range	–5 to +15 degrees
Display	
Electroluminescent	Yellow-orange phosphor
	High efficiency antiglare treatment, reflects less than 1/2 % of incident light within the visible spectrum.
Video input	75 Ohms terminated BNC composite video
Video composite signal (with sync)	1.0 Vpp / 75 ohm
Display characteristics	1,024 columns x 864 rows giving approximate picture size of 346 mm x 292 mm
	Maximum light no less than 6.5 footlamberts (fl)
Power	

AC input voltage	90 to 132 and 180 to 264 Vac
Frequency	50/60 Hz
Power consumption	Less than 80 Watts (nominal)
External controls and indicator	Horizontal and vertical centering knobs
	Tilt
	Power switch
	Power indicator
Operating temperature	10 to 40° C (50 - 104° F)
Humidity	10% to 95% relative humidity (with maximum wet bulb of 32 degrees C and minimum dew point of 2 degrees C noncondensing)