



PCXBV-Yx Multi-Mode Color Monitor

Installation Guide

Order Number: ER-XBVYA-IM. B01

Digital Equipment Corporation

March 1996

The information in this document is subject to change without notice and should not be construed as a commitment by Digital Equipment Corporation.

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.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. Any changes or modification made to this equipment may void the user's authority to operate this equipment.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio and television reception; however, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful 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 of the following measures:

- Re-orient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

DO NOT attempt to modify this equipment. If modified, the FCC may void your authority to operate this equipment.

Canadian Department of Communications Statement

This Class B digital apparatus meets all requirements of the Canadian Interference Causing Equipment Regulations.

DEC and the DIGITAL logo are trademarks of Digital Equipment Corporation. IBM is a registered trademark of International Business Machines Corporation. VESA is a registered trademark of the Video Electronics Standards Association. All other trademarks and registered trademarks are the property of their respective holders.

As an ENERGY STAR™ partner, Digital Equipment Corporation has determined that this product meets the ENERGY STAR™ guidelines for energy efficiency.

© 1996 Digital Equipment Corporation.

All Rights Reserved.

Contents

Introduction

Overview	1
DDC (Display Data Channel)	2

Installation

Installation/Operation Guidelines	2
Tilt/Swivel Stand Installation	3
Monitor Installation	4
Monitor Adjustments.....	7

Display Modes

Preset Modes	9
User Modes.....	9
Recalling Display Modes	10

Servicing

Cleaning the Monitor	11
Maintenance and Troubleshooting	11

Specifications

Monitor Specifications	13
Power Management System	14
Environment.....	14

Tables

Table 1 User Controls and Functions	6
Table 2 Display Modes and Addressability	9
Table 3 Identifying and Correcting Problems	12
Table 4 Monitor Specifications.....	13
Table 5 Power Saving States	14

Figures

Figure 1 PCXBV-Yx Color Monitor	1
Figure 2 Tilt/Swivel Stand Installation	3
Figure 3 PCXBV-Yx Monitor (Rear View)	4
Figure 4 Control Panel, LED, and Power Switch	5
Figure 5 Monitor Controls	6

Audience

This guide is intended for user's who wish to install the monitor.

Conventions

The following conventions are used in this document:

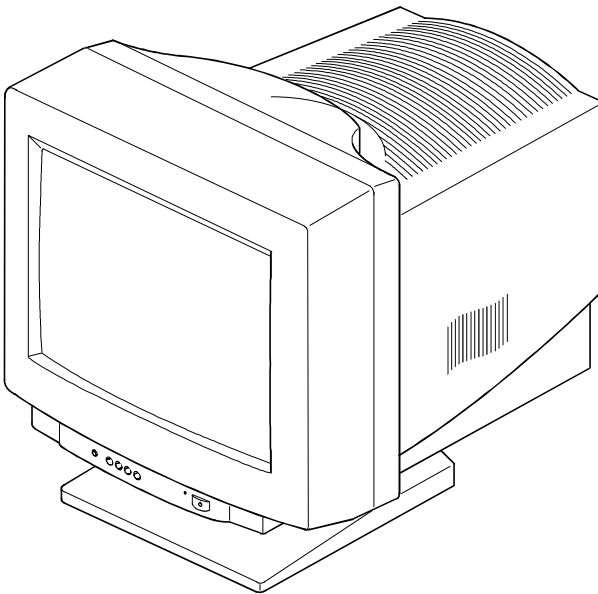
Convention	Meaning
Note	Provides general information.
Caution	Provides information to prevent damage to equipment.
Warning	Provides information to prevent injury.

Introduction

Overview

The PCXBV-Yx Monitor is a 15-inch (14-inch viewable) *multi-mode* color monitor with high resolution, compatible with VGA, SVGA, and 1024 x 768 modes. The PCXBV-Yx offers the following features:

- 1024 x 768 non-interlaced mode
- Power Management system that exceeds EPA ENERGY STAR™ requirements for saving energy.
- VESA Data Display Channel - DDC1/2B
- Complies with Swedish MPR2 standards for low magnetic emissions
- Anti-glare screen with anti-static coating
- Tilt-swivel base



DEC00712

Figure 1. PCXBV-Yx Color Monitor

DDC (Display Data Channel)

DDC is a communication channel over which the monitor automatically informs the host system about its capabilities. DDC uses a formerly unconnected signal pin in the 15-pin VGA connector. The system will perform the “Plug ‘n Play” feature if both the monitor and the host implement DDC protocol.

Installation

Installation/Operating Guidelines

Observe the following basic rules for installation and use.

Do . . .

- Use the power cord supplied with the monitor, which is UL-, CSA-, and VDE-approved.
- Turn the monitor off when not being used for an extended period of time, or use Power Management if applicable.

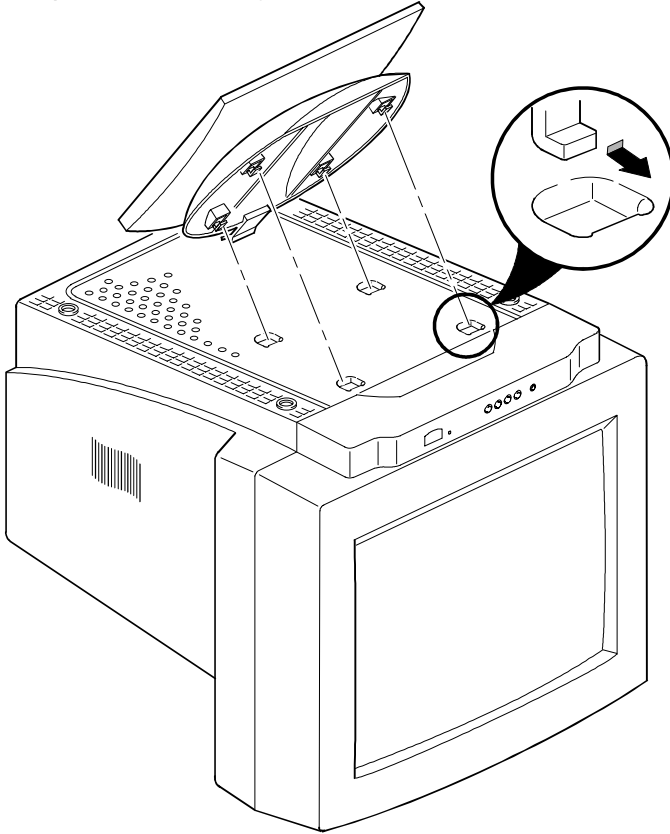
Do Not . . .

- Overload the ac outlet.
- Move the monitor on a stand over carpet or thresholds.
- Push objects into the monitor’s openings.
- Add accessories that are not designed for this monitor.
- Operate the monitor near water or in a damp environment, which could cause an electrical hazard.
- Operate the monitor near magnets, motor devices, transformers, high power lines, or large steel pillars, which can cause distortion in the picture.
- Obstruct the ventilation openings in the monitor’s cabinet, such as placing the monitor on a rug or within an enclosure.
- Place the monitor near a radiator or heat source.

Tilt/Swivel Stand Installation

To install the stand:

1. Insert the hooks on the stand into the slots in the bottom of the monitor.
2. Apply pressure near the latch so it is secure. (To remove the stand, pull on the latch).



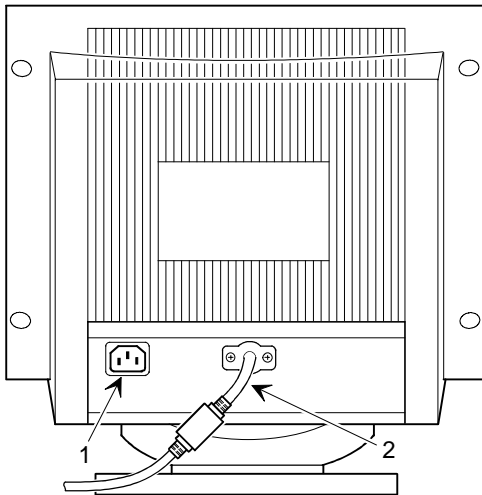
DEC00713

Figure 2. Tilt/Swivel Stand Installation

Monitor Installation

To connect your monitor:

1. Make sure the power to the monitor and the computer is off.
2. Connect the monitor's signal cable (**2**) to the 15-pin interface connector on the High Resolution Graphic Video Adapter on the back of the computer.
3. Plug the ac power cord to the monitor (**1**), then to a properly-grounded ac electrical outlet.

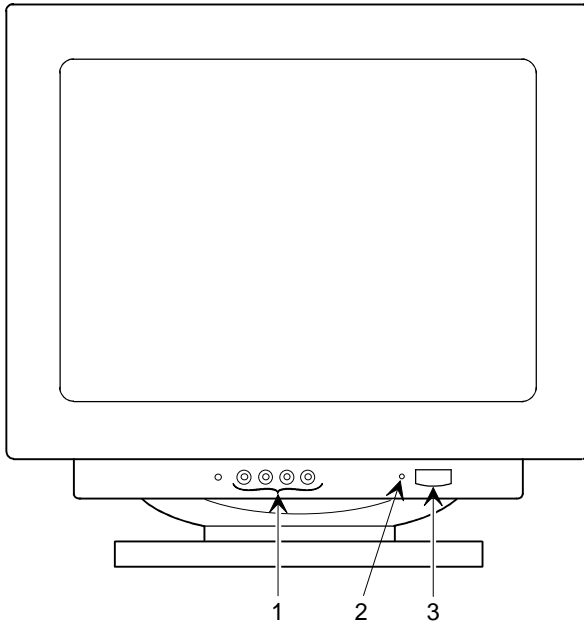


DEC00638

Figure 3. PCXBV-Yx Monitor (Rear View)

Turn On Power to Monitor

Push the power switch button (3) to turn on the monitor. The power indicator LED (2) to the left of the switch should light green. The control panel (1) is described on the next page.



DEC00714

Figure 4. Control Panel, LED, and Power Switch

Control Panel

Figure 5 shows the monitor controls; Table 1 lists their function.

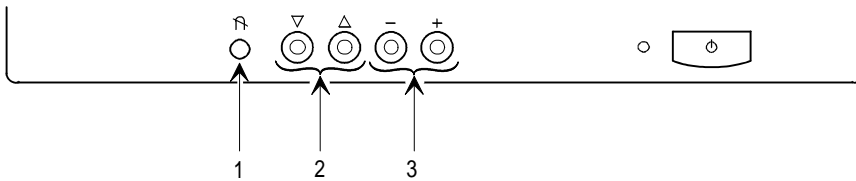


Figure 5. Monitor Controls

DEC00715

Table 1. User Controls and Functions

Item	Icon	Name	Function
1		Degauss	Demagnetize the picture to give a more accurate image and color.
2		Menu Select	Select a menu item.
3		Increase /decrease	Increase or decrease a menu item.

HELP Menu

The Help menu, activated by selecting HELP from Menu 3, gives you some operating information about the monitor. It is composed of three sequential menus. The first shows the total number of preset, user mode, and current mode information. The second shows the preset mode data stored. And the third shows user mode data. The “+” key displays next and the “-” key the previous.

Monitor Adjustments

In addition to brightness and contrast digital controls, this monitor has a microprocessor-based On Screen Display (OSD) control system for adjusting the following items:

- horizontal width and position
- vertical width and position
- Pin and barrel distortion
- trapezoid distortion
- zoom
- color levels

Once you make an adjustment to one or more of these, the monitor automatically maintains it even when it is off.

The only time you may need to change the image settings is if you change display modes (for example, you go from a 640 x 480 display mode in DOS to a 800 x 600 display mode in Windows). In this case, you may need to adjust the monitor controls to meet the display you desire. The monitor stores the new display settings for the new mode. When you switch between the two display modes, the monitor recalls each of the settings you specified.

To adjust the OSD controls:

1. Press either image select button to highlight an item you wish to adjust.
2. Press the + or – buttons to increase or decrease the adjustment.
3. To adjust another, repeat step 1 and 2.

NOTE: Most menus will disappear after 5 to 6 seconds. In order to adjust an item, the item's OSD must be on screen.

Menu 1



Contrast

Selects the contrast level screen display.



Brightness

Selects the brightness level screen display.



Zoom

Simultaneously adjusts horizontal and vertical image.



Recall

Recalls all factory preset modes.

Menu 2



Horizontal Position

Adjusts the horizontal position.



Horizontal Size

Adjusts the image width.



Vertical Position

Adjusts the vertical position.



Vertical Size

Adjusts the image height.

Menu 3



Side Pincushion

Corrects the bowing in and out.



Trapezoid

Corrects the geometric distortion.



Help

Informs users of preset and user mode data.

Menu 4



RGB Select

Selects color temperature – 9300°K, 7200°K, or user set color.



RGB Adjust

Adjusts RGB color at user color code.

Display Modes

Preset Modes

The monitor has 30 memory locations for display modes, seven of which are factory preset to popular video modes as described in Table 2.

Table 2. Display Modes and Addressability

Mode	Display Mode	Horizontal Frequency (KHz)	Vertical Frequency (Hz)	H Sync	V Sync
1	DOS, 720 x 400	31.47	70.00	-	+
2	VGA, 640 x 480	31.47	60.00	-	-
3	VGA, 640 x 480	37.50	75.00	+	+
4	SVGA, 800 x 600	37.88	60.00	+	+
5	SVGA, 800 x 600	46.80	78.00	+	+
6	1024 x 768	56.47	70.00	-	-
7	1024 x 768	60.02	75.08	+	+

If the monitor detects one of these frequencies from your computer's video card or system, it recalls that mode and any stored image adjustments you may have made.

User Modes

Modes 8 – 30 are empty and can accept new video data. If the monitor detects a new video mode that has not been present before or is not one of the preset modes, it stores the new mode automatically in one of the empty modes, starting with mode 8.

If you use up the 23 blank modes and still have more new video modes, the monitor replaces the information in the user modes, starting with mode 8.

Recalling Display Modes

When your monitor detects a mode it has seen before, it automatically recalls the image settings you may have made the last time you used that mode. You may, however, manually force a recall of each of the seven preset modes by using the Recall function from Menu 1. All preset modes are automatically recalled as the monitor senses the incoming signal.

The ability to recall the preset modes is dependent on the signal coming from your PC's video card or system. If this signal does not match any of the factory modes, the monitor automatically sets itself to display the image.

NOTE: You may customize the factory modes by following the same procedure used for image adjustment.

Servicing

Cleaning the Monitor

To clean the monitor:

1. Unplug the monitor.
2. Clean the monitor with a soft, slightly damp cloth. **Do not** use an aerosol cleaner directly on the screen.

CAUTION

Do not use benzene, thinner, or any volatile substance to clean the monitor, as these products may discolor the monitor's cabinet. Likewise, do not place rubber or vinyl on the monitor.

Maintenance and Troubleshooting

Identifying and Correcting Problems

The following can be sources of problems:

- Communications cables
- Host system
- Nearby power or electrical sources

Self Diagnostics

This monitor can sense when there is a possible problem present, and informs you of this condition by presenting you with a Self Diagnostic OSD. This OSD may pop up when it is *on* but no signal is detected. In this case, the message "CHECK S/CABLE" will be highlighted, alerting you to check the signal cable connections.

Troubleshooting Table

Use Table 3 to identify and correct any problem area.

Table 3. Identifying and Correcting Problems

Symptom	Possible Cause	Suggested Solution
Display does not appear.	Brightness or contrast control is set too low. Power Management feature is active in the off state. There is no power.	Increase the brightness and contrast control setting to suit you. Press any key and allow 20 seconds for monitor to warm up. Check the power cord. Use another ac outlet.
Color impurity	Magnetic fields can build up on the CRT.	Press the degauss switch to demagnetize the CRT.
Video display has moving dots or distorted lines. The display rolls or flickers.	There is electromagnetic interference. Adjustments may be out of alignment.	Move any electromagnetic device, such as a fan or motor, away from the monitor or move the monitor. Use the Recall function from Menu 1.

WARNING

Serious shock hazards exist inside this display. There are no user serviceable parts inside. DO NOT remove the covers under any circumstances or attempt to service the monitor yourself. Call a qualified service representative.

Specifications

Monitor Specifications

Table 4. Monitor Specifications

Monitor	38.10 cm (15-inch, 14-inch maximum viewable) non-glare, non-static
Active Area	26.0 x 19.0 cm (10.2 x 7.5 in)
Cabinet	
Height	38.6 cm (15.2 in)
Width	36.1 cm (14.2 in)
Depth	38.3 cm (14.7 in)
Swivel	±45°
Tilt	-5° to +15°
Weight	13.4 (29.5 lb) Kg
Video Signal	0.7V p-p R, G, B color; separate Sync (positive or negative); 75 Ω TTL, composite sync or sync on Green
Horizontal Scan Rate	30 - 66 KHz
Vertical Refresh Rate	50 - 110 Hz
Connector	15-pin D-sub
Power input	100 - 240 Vac, 1.5 A. maximum, 50 - 60 Hz.
Environment	
Operating Temperature	0 - 40°C
Humidity	10 - 90% relative humidity (noncondensing)

Power Management System

The monitor has three power-saving states indicated by the LED on the front panel. A personal computer can control these states to reduce the monitor's output power levels while not in use, thus saving energy.

For proper operation of this Power Management System, make sure that the monitor signal cable is connected to the host system and that the host is On.

Table 5. Power Saving States

LED	State	Power Consumption (Watts)*	Recovery Time
Green (Normal)	On	80 (max)	n/a
Blinking Amber	Standby or Suspend	< 15	3 s
Amber	Off	< 5	15 s

*These power-saving states exceed the Environmental Protection Agency (EPA) Energy Star requirements using the Video Electronics Standards Association (VESA) methodology for Display Power Management Signals.

Environment

This monitor has been designed and manufactured to minimize the impact to the environment.

Acoustic Levels

Preliminary declared values per ISO 9296 and ISO 7779:

	Sound Power Level ¹		Sound Pressure Level ²	
	L _{Wad} B		L _{pAm} dBA	
	Idle	Operate	Idle	Operate
PCXBV-Yx	N/A	3.3	N/A	25

¹ 1 B = 10 dBA

² Operator position

Asbestos

This monitor does not use asbestos in any form.

Flame Retardants

The enclosures do not contain polybrominated diphenylether (PBDE) as a flame retardant additive; therefore, they do not emit toxic dibenzofuran and dibenzodioxin gases.

Ozone Depleting Substances (ODS)

These monitors are in full compliance with the labeling requirements in the U.S. Clean Air Act Amendments of 1990. It does not contain, nor is it manufactured with, a Class 1 ODS, as defined in Title VI section 611 of this act.

PVC

The plastic enclosures are not made of rigid PVC. The material has a non-halogenated, flame-retardant system and is cadmium free.

Recyclable Material

The packaging material can be recycled, or you can save it to return the monitor to a service center for repair or disposal.

Monitor Disposal

WARNING

If you need to dispose of a monitor, ask a qualified service representative for the proper procedure. Improper disposal could result in personal injury from implosion.

VCCI Class 2