COMPAQ

User's Guide

Compaq TFT1701 Flat Panel Monitor

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User's Guide
TFT1701 Flat Panel Monitor
First Edition August 2002
Part Number: 304323-001

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1

Product Features

Your flat panel monitor has an active matrix, thin-film transistor (TFT), liquid crystal display (LCD). The monitor features include:

- 17-inch (43.18 cm) viewable area display.
- 1280 x 1024 resolution, plus full-screen support for lower resolutions.
- Wide viewing angle to allow viewing from a sitting or standing position, or moving side-to-side.
- Removable base for flexible mounting solutions.
- Plug and play capability if supported by your system.
- On-Screen Display (OSD) adjustments in seven different languages: English, French, German, Italian, Russian, Swedish and Spanish for ease of set-up and screen optimization.
- *Software and Reference Library* CD that comes with your monitor and contains an information file (INF), Image Color Matching file (ICM) and Auto-adjustment software.
- Energy Saver feature for Energy Star compliance.
- Compliant with the following regulated specifications:
  - EPA ENERGY STAR
  - European Union CE Directives
  - Swedish MPR II 1990
  - Swedish TCO '99

2

Safety and Maintenance Guidelines

Important Safety Information

A power cord is included with your monitor. If another cord is used, use only a power source and connection appropriate for this monitor. For information on the correct power cord set to use with your monitor, refer to the "Power Cord Set Requirements" section in Appendix C of this guide.

WARNING: To reduce the risk of electric shock or damage to your equipment, do not disable the power cord grounding feature. This equipment is designed to be connected to a grounded (earthed) power outlet that is easily accessible to the operator. The grounding plug is an important safety feature.

WARNING: For your safety, be sure that the power outlet you plug the power cord into is easily accessible and located as close to the equipment as possible. When you need to disconnect the power to the equipment, unplug the power cord from the power outlet by grasping the plug firmly. Never pull on the cord.

CAUTION: For the protection of your monitor, as well as your computer, connect all power cords for your computer and its peripheral devices (such as a monitor, printer, scanner) to some form of surge protection device such as a power strip or Uninterruptible Power Supply (UPS). Not all power strips provide surge protection; the power strips must be specifically labeled as having this ability. Use a power strip whose manufacturer offers a Damage Replacement Policy so you can replace your equipment if surge protection fails.

Maintenance Guidelines

To enhance the performance and extend the life of your monitor:

- Do not open your monitor cabinet or attempt to service this product yourself. Adjust only those controls that are covered in the operating instructions. If your monitor is not operating properly or has been dropped or damaged, contact your HP authorized dealer, reseller, or service provider.
- Adjust only those controls that are discussed in the operating instructions.
- Place your monitor at least 3 inches (76 mm) away from walls or other enclosures.
- Use only a power source and connection appropriate for this monitor, as indicated on the label/back plate of the monitor.
- Be sure the total ampere rating of the products connected to the outlet does not exceed the current rating of the electrical outlet, and the total ampere rating of the products connected to the cord does not exceed the rating of the cord. Look on the power label to determine the ampere rating (AMPS or A) for each device.
- Install your monitor near an outlet that you can easily reach. Disconnect the monitor by grasping the plug firmly and pulling it from the outlet. Never disconnect the monitor by pulling the cord.
- Turn your monitor off when not in use. You can substantially increase the life expectancy of your monitor by using a screen saver program and turning off monitor when not in use.
- Unplug your monitor from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning. If the screen requires additional cleaning, use an antistatic screen cleaner.

CAUTION: Do not use benzene, thinner, ammonia, or any other volatile substances to clean your monitor or the screen. These chemicals may damage the cabinet finish as well as the screen.

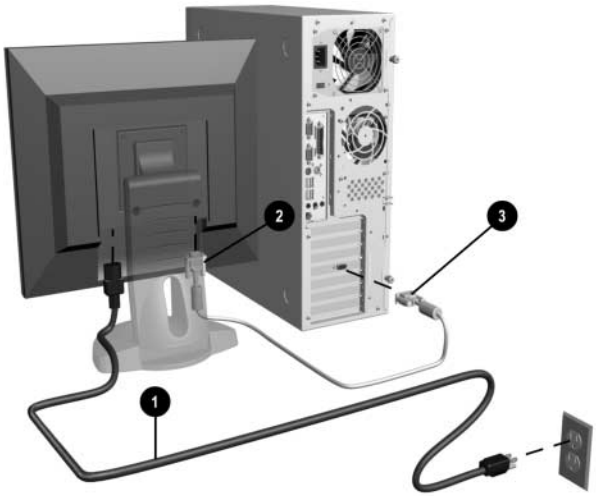
- Slots and openings in the cabinet are provided for ventilation. These openings must not be blocked or covered. Never push objects of any kind into cabinet slots or other openings.
- Do not drop your monitor or place it on an unstable surface.
- Do not allow anything to rest on the power cord. Do not walk on the cord.
- Keep your monitor in a well-ventilated area, away from excessive light, heat or moisture. Keep your monitor away from high-capacity transformers, electric motors, and other devices with strong magnetic fields.

3

Setting Up the Monitor

Before setting up the monitor, ensure that power is turned off to the monitor, computer system, and other attached devices, then follow these steps:

1. Place the monitor in a convenient, well ventilated location near your computer.
2. Connect the power cord ❶ for your monitor to the power port on the rear of the monitor. Plug the power cord for the monitor into a nearby electrical outlet.
3. Connect the monitor signal cable ❷ to the 15-pin, D-sub connector on the back of your monitor.
4. Connect the other end of the signal cable ❸ to your computer's video port, video board, video card or graphics card.



5. Connect the computer's power cable to an electrical outlet.
6. Turn on your computer and monitor. If your monitor displays an image, installation is complete.

WARNING: To reduce the risk of electric shock or damage to your equipment:

- Do not disable the power cord grounding plug. The grounding plug is an important safety feature.
- Plug the power cord into a grounded (earthed) electrical outlet that is easily accessible at all times.
- Disconnect power from the monitor by unplugging the power cord from the electrical outlet.
- Do not place anything on power cords or cables. Arrange them so that no one may accidentally step on or trip over them. Do not pull on a cord or cable. When unplugging from the electrical outlet, grasp the cord by the plug.

After you turn on the monitor and computer equipment, refer to "Installing Information Files" in chapter 4 to install the software contained on the CD that is included with your monitor. Use the on-screen instructions to adjust the picture quality of your monitor.

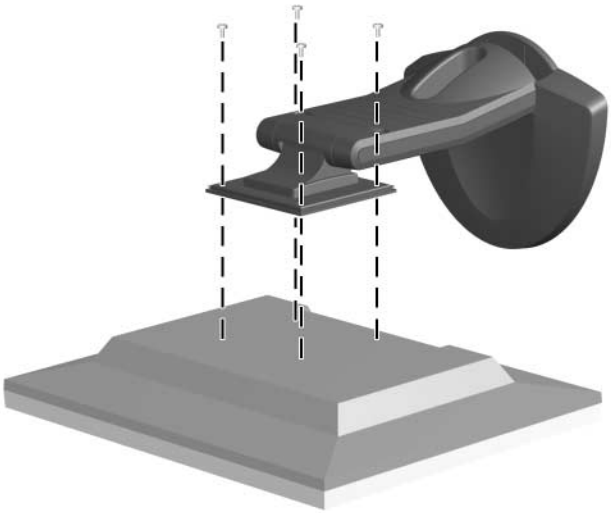
Always activate a screen saver program or turn off the monitor when it is not in use for a prolonged period of time. All LCD monitors that display the same static image on screen for a prolonged period of time may exhibit screen image retention. Note that image retention is not a permanent condition and will fade over a period of time. Image retention is a condition that may occur on all LCD screens.

Removing the Monitor Base

The monitor base is removable, which allows flexible mounting solutions. If you choose to mount the monitor onto a swing arm or other mounting fixture, use the following steps to remove the base from the monitor.

CAUTION: Before beginning to disassemble the monitor, be sure the monitor is turned off and the power and signal cables are both disconnected.

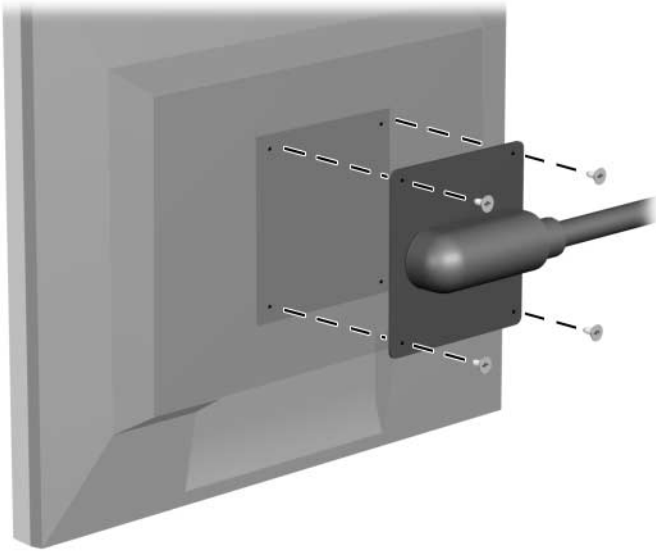
1. Lay the monitor face-down on a flat surface with a cushion beneath it to protect the screen.
2. Remove the four screws from the back of the monitor then remove the base from the monitor.



Attaching a Wall-Mount Base

This monitor accepts a 100 mm x 100 mm VESA-compliant mounting interface pad.

1. Remove the monitor base. Refer to “Removing the Monitor Base” steps in the previous section.
2. Align the mounting interface pad with the holes in the rear cover mounting pad.
3. Secure the rear cover mounting pad with the four screws that came with the arm-type base, wall mount hanger or other base.



4

Operating the Monitor

Installing Information Files

The *Software and Reference Library* CD-ROM included with your monitor contains two information files to be installed onto your computer; an .INF file and an .ICM file.

The .INF file defines monitor resources and provides specifications used by most operating systems to install support software for certain hardware devices. The .INF file ensures monitor compatibility and optimization with your computer's graphics adapter. The .INF files are also downloadable from the Internet by clicking on www.hp.com/go/support and selecting the your monitor model.

The .ICM file provides color matching consistency from monitor screen to printer and is activated from within graphics programs that have this feature.

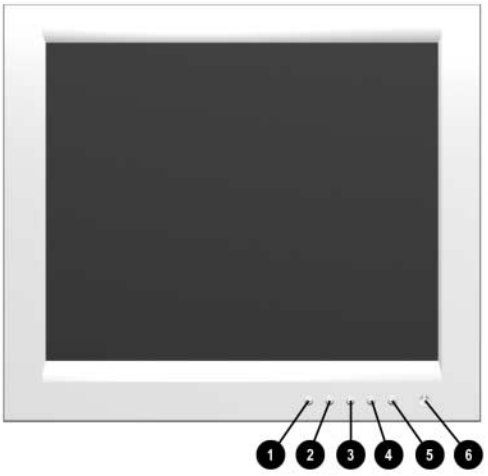
To install these files on your computer:

1. Insert the *Software and Reference Library* CD-ROM in your computer's optical drive.
2. When the CD-ROM menu launches, select Install **INF and ICM** Files and follow the on-screen instructions.

To get the latest .INF and .ICM files, download them from the HP Web site at www.hp.com/go/support, then select your monitor model to download the appropriate files.

3. Install the Auto-Adjustment software and follow the on-screen instructions.

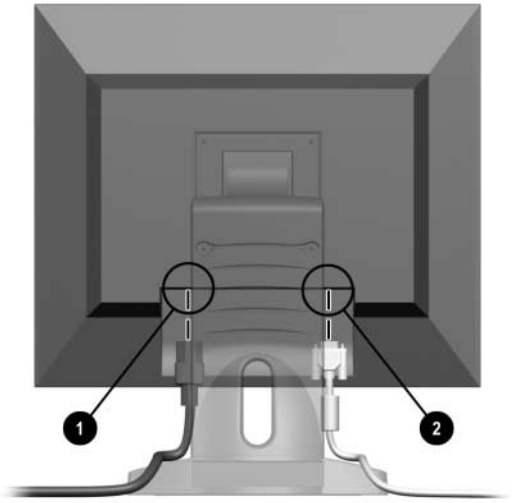
Front Panel Components



No.	Component	Function
❶	Auto button	Use to start Auto-adjustment of the screen image.
❷	Exit button	Use to close the active menu or the On-screen display (OSD) menu.
❸ ❹	Adjust buttons	Use to highlight and adjust items in the menu.
❺	Menu button	Use to open the OSD and activate a highlighted menu item.
❻	Power button	Use to turn the monitor on and off. The power light Illuminates green during normal operation and blinks green when the monitor is in sleep mode.

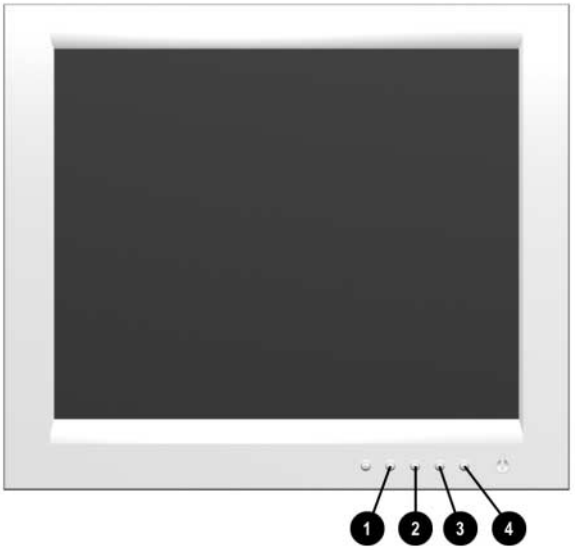
For energy conservation, turn your monitor off when it is not needed or when leaving it unattended for long periods. Refer to your computer manual for instructions on setting energy saver features (sometimes called power management features).

Rear Components



No.	Component	Function
❶	Power port connector	Connects the monitor power cord.
❷	Signal cable connector	Connects the signal cable.

Using the On-Screen Display



No.	Button	Function
❶	Exit	Use the Exit button to close the active menu or the OSD.
❷ ❸	**+** and **-**	Use the adjustment buttons to highlight and adjust items using the OSD. These buttons are also direct access buttons for the brightness feature.
❹	Menu	Use the Menu button to open the OSD and activate a highlighted menu item.

The On-Screen Display (OSD) adjusts the screen image based on your viewing preferences. To access the OSD:

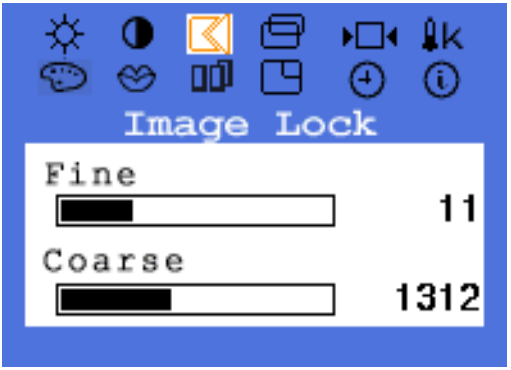
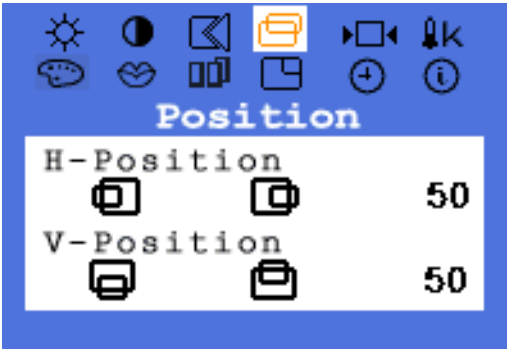
1. Press the **Power** button to turn on the monitor, if the monitor is not already on.
2. Press the **Menu** button to display the On-Screen Display menu.
3. To move to a function, press the **+** or **- Adjust** button until the function is highlighted and press the Menu button to select the item.

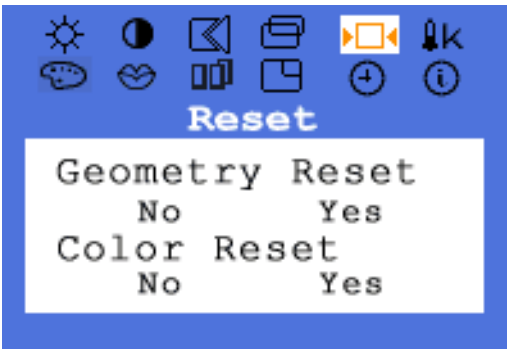
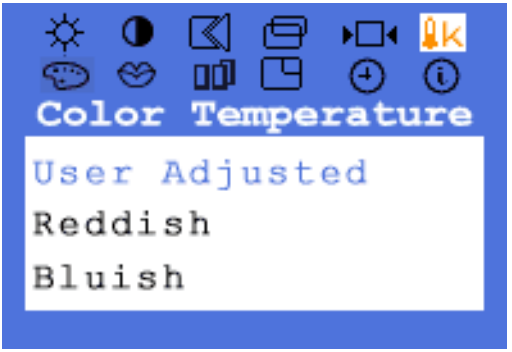
   When the item menu is displayed, press the + or - Adjust button to change an item to your preferred setting.
4. Press the **Exit** button to close the active menu or OSD.

Using the OSD Menu

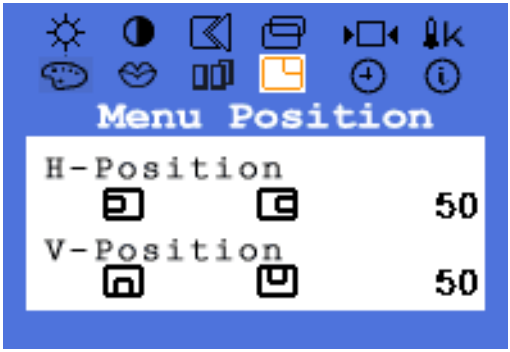
Your OSD menu has the following feature settings. Use the + or - buttons to adjusts the OSD menu functions.

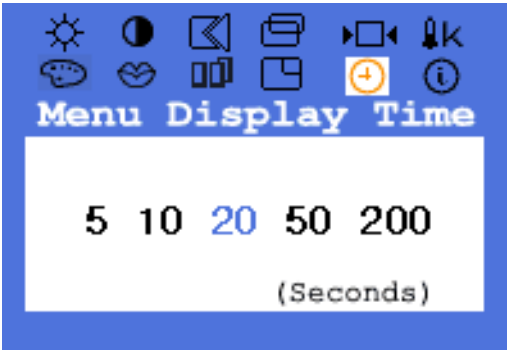
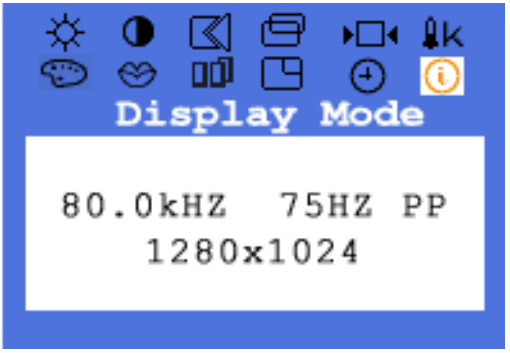
Menu	Function
Brightness	Adjusts the screen brightness. When the OSD is not on the screen, press the + or - button to adjust brightness.
Contrast	Adjusts the screen contrast.

Menu	Function
Image Lock	Use to fine tune and get the best image by removing noises that create unstable images with jitters and shimmers. If satisfactory results are not obtained using the Fine adjustment, select the Coarse adjustment, and then the Fine adjustment again. 
Position	Use to change the horizontal or vertical position of the monitor's entire display. 

Menu	Function
Reset	Use to reset the geometry and color parameters. These parameters are replaced with the factory default values. If you don't want to reset your monitor, use the - adjust button to select No. 
Color Temperature	Use to adjust the color temperature and color control. 

Menu	Function
Color Control	Use to individually adjust to the red, green, and blue screen colors of the display.
Language	Use to change the language used in the menu. You can choose one of seven languages: English, French, German, Italian, Russian, Spanish, Swedish. The language chosen affects only the language of the OSD. It has no effect on any software running on the computer.

Menu	Function
Menu Halftone	Use to make the OSD menus transparent.
Menu Position	Use to change to the horizontal or vertical position where the OSD menu appears on your monitor. 

Menu	Function
Menu Display Time	Use to set the amount of time the OSD menu will wait before turning off if no adjustments are made. 
Display Mode	Use to see the frequency, the polarity of the operational signals and the resolution level. 

Menu	Function
Auto Adjustment	Allows the monitor to self-adjust to the incoming video signal. The values of fine, coarse and position are adjusted automatically.

Monitor Messages

Special messages will appear on the monitor screen to identify the following monitor conditions:

- Video mode not supported - If there is something wrong with the input signal, a message appears on the screen or the screen goes blank although the power indicator light is still on. This message indicates the monitor is out of scan range or that you need to check the signal cable.
- No Connection, check signal cable - Indicates the video cable may not be plugged into the computer or the computer may not be turned on.

Energy Saver Feature

When the monitor is in its normal operating mode, the monitor utilizes less than 40 watts of power and the Power light is green.

The monitor also supports a reduced power state. The reduced power state will initiate if the monitor detects the absence of either the horizontal sync signal and/or the vertical sync signal. Upon detecting the absence of these signals, the monitor screen is blanked, the backlight is turned off, and the power light flashes green. When the monitor is in the reduced power state, the monitor will utilize less than 3 watts of power. There is a brief warm up period before the monitor will return to its normal operating mode.

Refer to your computer manual for instructions on setting energy saver features (sometimes called power management features).

The above energy saver feature only works when connected to computers that have energy saver features.

Adjusting Screen Quality

The Auto Adjustment feature allows the monitor to self-adjust to the incoming video signal. To adjust, press the Auto button on the front panel of the monitor. To improve the results of auto-adjustment, run the Auto Adjustment software, contained on the CD included with your monitor, before pressing the Auto button.

User Modes

The video controller signal may occasionally require a mode that is not preset if:

- You are not using a Compaq standard graphics adapter.
- You are not using a preset mode.

If this occurs, you may need to readjust the parameters of the monitor screen by using the on-screen display. User changes can be made to any or all of these modes and saved in memory. The monitor automatically stores the new setting, then recognizes the new mode just as it does a preset mode. In addition to the 15 factory preset modes, there are 15 user modes that can be entered and stored.

A

Troubleshooting

Solving Common Problems

The following table lists possible problems, the possible cause of each problem, and the recommended solutions.

Problem	Possible Cause	Solution
Screen is blank.	Power cord is disconnected.	Connect the power cord.
	Power switch is off.	Turn on power.
	Video cable is improperly connected.	Connect video cable properly.
	Screen blanking utility is active.	Depress any key on the keyboard or move the mouse.
Image appears blurred, indistinct, or too dark.	Brightness and contrast are too low.	Press the Menu button to access the OSD menu. Select the Brightness or Contrast menu and adjust the screen as needed.

Problem	Possible Cause	Solution
Image is not centered.	Position may need adjustment.	Press the Menu button to access the OSD menu. Select Position to adjust the horizontal or vertical position of the image.
“Check Signal Cable” is displayed on screen.	Monitor video cable is disconnected.	Connect the 15-pin monitor video cable to the computer. Be sure that the computer power is on.
“Video Mode Not Supported” is displayed on screen.	Video resolution and/or refresh rate are set higher than what your monitor supports.	Restart your computer and enter Safe Mode. Change your settings to a supported setting (see “Technical Specifications”). Restart your computer so that the new settings take effect.
Monitor is overheating.	There is not enough air space to allow proper ventilation.	Leave at least 3 inches (76 mm) of ventilation space around the monitor.

Using the Worldwide Web

Before contacting customer services, refer to the support web site at: http://www.hp.com/go/support

Preparing to Call Technical Support

If you cannot solve a problem using the troubleshooting tips in this section, you may need to call technical support. Have the following information available when you call:

- The monitor
- Monitor model number
- Serial number for the monitor
- Purchase date on invoice
- Conditions under which the problem occurred
- Error messages received
- Hardware configuration
- Hardware and software you are using

B

Specifications

Compaq TFT1701 Flat Panel Monitor

Technical Specifications

Display Type	17 inches a-si flat panel, active matrix-TFT LCD	43.18 cm
Viewable Image Size	17 inch diagonal	43.18 cm
Face Treatment	3H hardness coating with antiglare treatment	
Maximum Weight (Unpacked)	12.79 lb	5.8 kg
Dimensions		
Height	17.9 in	457 mm
Depth	8.2 in	208.8 mm
Width	17.4 in	414 mm
Maximum Graphics Resolution	1280 x 1024 60Hz refresh rate	
Text Mode	720 x 400	
Dot Pitch	0.297 mm	
Horizontal Frequency	30 to 81 kHz	
Vertical Frequency	56 to 76 Hz	

Technical Specifications *(Continued)*

Environmental Requirements		
Temperature (Independent of Altitude)		
Operating Temperature	50 to 104 ^{o} F	5 to 35 ^{o} C
Storage Temperature	-04 to +113 ^{o} F	-20 to +60^{o} C
Humidity (Noncondensing)		
Operating	20 to 80%	
Nonoperating	5 to 90%	
Power Source	100 - 240VAC, 50/60 +/- 3Hz	
Power Consumption	40 watts	
Input Terminals	15-pin D-type connector with cable included	

Display Resolutions

The display resolutions listed below are the most commonly used modes and are set as factory defaults. This monitor automatically recognizes these preset modes and they will appear properly sized and centered on the screen.

Factory Preset Display Modes

Pre-set	Pixel Format	Horz Freq (kHz)	Horz Polarity	Vert Freq (Hz)	Vert Polarity	Pixel Clk (MHz)	Source
1	640 x 480	31.469	-	59.940	-	25.175	VGA
2	640 x 480	37.861	-	72.809	-	31.500	VESA
3	640 x 480	37.500	-	75.00	-	31.500	VESA
4	720 x 400	31.469	-	70.087	-	28.322	VGA
5	800 x 600	35.156	+,-	56.250	+,-	36.000	VESA

Factory Preset Display Modes *(Continued)*

Pre-set	Pixel Format	Horz Freq (kHz)	Horz Polarity	Vert Freq (Hz)	Vert Polarity	Pixel Clk (MHz)	Source
6	800 x 600	37.879	+	60.317	+	40.00	VESA
7	800 x 600	48.077	+	72.188	+	50.000	VESA
8	800 x 600	46.875	+	75.000	+	49.500	VESA
9	832 x 600	49.726	+,-	74.551	+,-	57.284	MAC
10	1024 x 768	48.363	-	60.004	-	65.000	VESA
11	1024 x 768	56.476	-	70.069	-	75.000	VESA
12	1024 x 768	60.023	+	75.029	-	78.750	VESA
13	1152 x 864	67.5	+,-	75	+,-	108.0	VESA
14	1280 x 1024	63.98	+	60.02	+	108.000	VESA
15	1280 x 1024	79.97	+	75.02	+	135.000	VESA

C

Agency Regulatory Notices

Federal Communications Commission Notice

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. 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 communications. 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 or more of the following measures:

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

Modifications

The FCC requires the user to be notified that any changes or modifications made to this device that are not expressly approved by Hewlett-Packard Company may void the user's authority to operate the equipment.

Cables

Connections to this device must be made with shielded cables with metallic RFI/EMI connector hoods to maintain compliance with FCC Rules and Regulations.

Declaration of Conformity for Products Marked with FCC Logo, United States Only

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

For questions regarding your product, contact:

Hewlett-Packard Company
P. O. Box 692000, Mail Stop 530113
Houston, Texas 77269-2000

Or, call - 1-800- 652-6672 (1-800-OK COMPAQ)

For questions regarding this FCC declaration, contact:

Hewlett-Packard Company
P. O. Box 692000, Mail Stop 510101
Houston, Texas 77269-2000

Or, call - (281) 514-3333

To identify this product, refer to the Part, Series, or Model number found on the product.

Canadian Notice

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

Avis Canadien

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

European Union Notice

Products with the CE Marking comply with both the EMC Directive (89/336/EEC) and the Low Voltage Directive (73/23/EEC) issued by the Commission of the European Community.

Compliance with these directives implies conformity to the following European norms (in brackets are the equivalent international standards):

- EN55022 (CISPR 22) - Electromagnetic Interference
- EN55024 (IEC61000-4-2,3,4,5,6,8,11) - Electromagnetic Immunity
- EN61000-3-2 (IEC61000-3-2) - Power Line Harmonics
- EN61000-3-3 (IEC61000-3-3) - Power Line Flicker
- EN60950 (IEC950) - Product Safety

Japanese Notice

この装置は、情報処理装置等電波障害自主規制協議会（VCCI）の基準に基づくクラスB情報技術装置です。この装置は、家庭環境で使用することを目的としていますが、この装置がラジオやテレビジョン受信機に近接して使用されると、受信障害を引き起こすことがあります。

取扱説明書に従って正しい取り扱いをして下さい。

Korean Notice

사용자 안내문 : **B** 급 기기

이 기기는 비업무용으로 전자파적합등록을 받은 기기이오니, 주거지역에서는 물론, 모든 지역에서 사용 하실 수 있습니다.

EPA Energy Star Compliance

Monitors that are marked with the Energy Star Logo meet the requirements of the EPA Energy Star program. As an Energy Star Partner, Hewlett-Packard Company has determined that this product meets the Energy Star guidelines for energy efficiency. Specific details on using the Energy Saving features can be found in the energy saver or power management section of the computer manual.

Power Cord Set Requirements

The monitor power supply is provided with Automatic Line Switching (ALS). This feature allows the monitor to operate on input voltages between 100-120V or 200-240V.

The power cord set (flexible cord or wall plug) received with the monitor meets the requirements for use in the country where you purchased the equipment.

If you need to obtain a power cord for a different country, you should purchase a power cord that is approved for use in that country.

The power cord must be rated for the product and for the voltage and current marked on the product's electrical ratings label. The voltage and current rating of the cord should be greater than the voltage and current rating marked on the product. In addition, the cross-sectional area of the wire must be a minimum of 0.75 mm^2 or 18AWG, and the length of the cord must be between 6 feet (1.8 m) and 12 feet (3.6 m). If you have questions about the type of power cord to use, contact your HP authorized service provider.

A power cord should be routed so that it is not likely to be walked on or pinched by items placed upon it or against it. Particular attention should be paid to the plug, electrical outlet, and the point where the cord exits from the product.

D

TCO ‘99

You have just purchased a TCO'99 approved and labelled product! Your choice has provided you with a product developed for professional use. Your purchase has also contributed to reducing the burden on the environment and also to the further development of environmentally adapted electronics products.

Why do we have environmentally labelled computers?

In many countries, environmental labelling has become an established method for encouraging the adaptation of goods and services to the environment. The main problem, as far as computers and other electronics equipment are concerned, is that environmentally harmful substances are used both in the products and during their manufacture. Since it is not so far possible to satisfactorily recycle the majority of electronics equipment, most of these potentially damaging substances sooner or later enter nature.

There are also other characteristics of a computer, such as energy consumption levels, that are important from the viewpoints of both the work (internal) and natural (external) environments. Since all methods of electricity generation have a negative effect on the environment (e.g. acidic and climate-influencing emissions, radioactive waste), it is vital to save energy. Electronics equipment in offices is often left running continuously and thereby consumes a lot of energy.

What does labelling involve?

This product meets the requirements for the TCO'99 scheme which provides for international and environmental labelling of personal computers. The labelling scheme was developed as a joint effort by the TCO (The Swedish Confederation of Professional Employees), Svenska Naturskyddsforeningen (The Swedish Society for Nature Conservation) and Statens Energimyndighet (The Swedish National Energy Administration).

Approval requirements cover a wide range of issues: environment, ergonomics, usability, emission of electric and magnetic fields, energy consumption and electrical and fire safety.

The environmental demands impose restrictions on the presence and use of heavy metals, brominated and chlorinated flame retardants, CFCs (freons) and chlorinated solvents, among other things. The product must be prepared for recycling and the manufacturer is obliged to have an environmental policy which must be adhered to in each country where the company implements its operational policy.

The energy requirements include a demand that the computer and/or display, after a certain period of inactivity, shall reduce its power consumption to a lower level in one or more stages. The length of time to reactivate the computer shall be reasonable for the user.

Labelled products must meet strict environmental demands, for example, in respect of the reduction of electric and magnetic fields, physical and visual ergonomics and good usability.

Below you will find a brief summary of the environmental requirements met by this product. The complete environmental criteria document may be ordered from:

TCO Development

SE-114 94 Stockholm, Sweden

Fax: +46 8 782 92 07

Email (Internet): development@tco.se

Current information regarding TCO'99 approved and labelled products may also be obtained via the Internet, using the address: http://www.tco-info.com/

Environmental Requirements

Flame Retardants

Flame retardants are present in printed circuit boards, cables, wires, casings and housings. Their purpose is to prevent, or at least to delay the spread of fire. Up to 30% of the plastic in a computer casing can consist of flame retardant substances. Most flame retardants contain bromine or chloride, and those flame retardants are chemically related to another group of environmental toxins, PCBs. Both the flame retardants containing bromine or chloride and the PCBs are suspected of giving rise to severe health effects, including reproductive damage in fish-eating birds and mammals, due to the bioaccumulative* processes. Flame retardants have been found in human blood and researchers fear that disturbances in foetus development may occur.

The relevant TCO'99 demand requires that plastic components weighing more than 25 grams must not contain flame retardants with organically bound bromine or chlorine. Flame retardants are allowed in the printed circuit boards since no substitutes are available.

Bioaccumulative is defined as substances which accumulate within living organisms.

Cadmium

Cadmium is present in rechargeable batteries and in the colour-generating layers of certain computer displays. Cadmium damages the nervous system and is toxic in high doses. The relevant TCO'99 requirement states that batteries, the colour-generating layers of display screens and the electrical or electronics components must not contain any cadmium.

Cadmium is a heavy metal that is Bioaccumulative.

Mercury

Mercury is sometimes found in batteries, relays and switches. It damages the nervous system and is toxic in high doses. The relevant TCO'99 requirement states that batteries may not contain any mercury. It also demands that mercury is not present in any of the electrical or electronics components associated with the labelled unit. There is however one exception. Mercury is, for the time being, permitted in the back light system of flat panel monitors as there today is no commercially available alternative. TCO aims on removing this exception when a mercury free alternative is available.

Mercury is a heavy metal that is Bioaccumulative.

CFCs (Freons)

The relevant TCO'99 requirement states that neither CFCs nor HCFCs may be used during the manufacture and assembly of the product. CFCs (freons) are sometimes used for washing printed circuit boards. CFCs break down ozone and thereby damage the ozone layer in the stratosphere, causing increased reception on earth of ultraviolet light with e.g. increased risks of skin cancer (malignant melanoma) as a consequence.

Lead

Lead can be found in picture tubes, display screens, solders and capacitors. Lead damages the nervous system and in higher doses, causes lead poisoning. The relevant TCO´99 requirement permits the inclusion of lead since no replacement has yet been developed.

Lead is a heavy metal that is Bioaccumulative.