



HP LCD Monitors

Reference Guide

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About This Guide

This guide provides information on safety and maintenance guidelines, operating the monitor, and troubleshooting common problems.

 **WARNING!** Text set off in this manner indicates that failure to follow directions could result in bodily harm or loss of life.

 **CAUTION:** Text set off in this manner indicates that failure to follow directions could result in damage to equipment or loss of information.


 **NOTE:** Text set off in this manner provides important supplemental information.

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1 Optimizing Monitor Performance

Use Caution When Setting Up the Monitor

To prevent damage to the monitor, do not touch the surface of the LCD panel. Pressure on the panel may cause non-uniformity of color or disorientation of the liquid crystals. If this occurs the screen will not recover to its normal condition.

If installing a base, lay the monitor face down on a flat surface covered with a protective sheet foam or non-abrasive cloth. This prevents the screen from getting scratched, defaced or broken as well as damage to the front panel buttons.

Figure 1-1 Handling the Monitor



NOTE: Your monitor may look different from the monitor in this illustration.

To Get the Best Performance from Your Monitor

1. Be sure to install the latest graphics card driver from your graphics card manufacturer.
2. For monitors using VGA signal input, once the monitor is operating, press the Auto button on the monitor to optimize the display. If the Auto function does not fully correct the display, run the Auto-Adjustment software available on the CD included with the monitor and then press the Auto button.
3. Using the Display Properties settings of the computer's operating system, set your screen to the optimal resolution for your monitor size as indicated in the following table.

Monitor Size		Aspect Ratio Format	Optimal Resolution	Refresh Rate (Hz)
15 in	38.1 cm	4:3	1024 x 768	60
15 in	38.1 cm	16:9	1280 x 720	60
15.6 in	39.6 cm	16:9	1366 x 768	60
18.5 in	47 cm			
17 in	43.2 cm	5:4	1280 x 1024	60
19 in	48.3 cm			
17 in	43.2 cm	16:10	1440 x 900	60
19 in	48.3 cm			
20 in	50.8 cm	16:9	1600 x 900	60
20.1 in	51.1 cm	4:3	1600 x 1200	60
20.1 in	51.1 cm	16:10	1680 x 1050	60
22 in	55.9 cm			
21.5 in	54.6 cm	16:9	1920 x 1080	60
42 in	106.7 cm			
47 in	119.4 cm			
23 in	58.4 cm	16:10	1920 x 1200	60
24 in	61 cm	16:9		
27 in	68.6 cm			
30 in	76.2 cm	16:10	2560 x 1600	60

4. Install the most up-to-date driver on the computer if it is not already installed. The latest driver is on the CD included with the monitor, or you can download the latest driver from the HP monitors support Web site, <http://www.hp.com/support>.



IMPORTANT: For optimal video performance, use only the video cable(s) included with the monitor. To maximize the display life and avoid burn-in damage, activate a screen saver application or turn off the monitor when it is not in use for a prolonged period of time (12 consecutive hours of non-use).

2 Safety and Maintenance Guidelines

Important Safety Information

A power cord is included with the 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 the monitor, refer to the [Power Cord Set Requirements on page 17](#).

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

- Do not disable the power cord grounding feature. The grounding plug is an important safety feature.
- Plug the power cord in a grounded (earthed) outlet that is easily accessible at all times.
- Disconnect power from the product by unplugging the power cord from the electrical outlet.

For your safety, 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.

To reduce the risk of serious injury, read the *Safety and Comfort Guide*. It describes proper workstation, setup, posture, and health and work habits for computer users, and provides important electrical and mechanical safety information. This guide is located on the Web at <http://www.hp.com/ergo> and/or on the documentation CD, if one is included with the monitor.

⚠ CAUTION: For the protection of the monitor, as well as the computer, connect all power cords for the 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 the equipment, if surge protection fails.

Use the appropriate and correctly sized furniture designed to properly support your HP LCD monitor.

⚠ WARNING! LCD monitors that are inappropriately situated on dressers, bookcases, shelves, desks, speakers, chests, or carts may fall over and cause personal injury.

Care should be taken to route all cords and cables connected to the LCD monitor so that they can not be pulled, grabbed, or tripped over.

Maintenance Guidelines

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

- Do not open the monitor cabinet or attempt to service this product yourself. Adjust only those controls that are covered in the operating instructions. If the monitor is not operating properly or has been dropped or damaged, contact an authorized HP dealer, reseller, or service provider.
- 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 the 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 the monitor off when not in use. You can substantially increase the life expectancy of the monitor by using a screen saver program and turning off the monitor when not in use.



NOTE: Monitors with a “burned-in image” are not covered under the HP warranty.

- 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 the 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 the monitor in a well-ventilated area, away from excessive light, heat or moisture.
- When removing the monitor stand, you must lay the monitor face down on a soft area to prevent it from getting scratched, defaced, or broken.

Cleaning the Monitor

1. Turn off the monitor and unplug the power cord from the back of the unit.
2. Dust the monitor by wiping the screen and the cabinet with a soft, clean antistatic cloth.
3. For more difficult cleaning situations, use a 50/50 mix of water and Isopropyl alcohol.



CAUTION: Spray the cleaner onto a cloth and use the damp cloth to gently wipe the screen surface. Never spray the cleaner directly on the screen surface. It may run behind the bezel and damage the electronics.

CAUTION: Do not use cleaners that contain any petroleum based materials such as benzene, thinner, or any volatile substance to clean the monitor screen or cabinet. These chemicals may damage the monitor.

Shipping the Monitor

Keep the original packing box in a storage area. You may need it later if you move or ship the monitor.

3 Operating the Monitor


Setting Up the Monitor

Refer to the monitor user guide for your model to assemble the monitor and connect the cables.

Software and Utilities

The CD that comes with the monitor contains files you can install on the computer:

- an .INF (Information) file
- an .ICM (Image Color Matching) file
- auto-adjustment pattern utility
- additional software for the monitor model

 **NOTE:** If the monitor does not include a CD, the .INF and .ICM files can be downloaded from the HP monitors support Web site. See [Downloading from the Internet on page 6](#) in this chapter.


The Information File

The .INF file defines monitor resources used by Microsoft Windows operating systems to ensure monitor compatibility with the computer's graphics adapter.

This monitor is Microsoft Windows Plug and Play compatible and the monitor will work correctly without installing the .INF file. Monitor Plug and Play compatibility requires that the computer's graphic card is VESA DDC2-compliant and that the monitor connects directly to the graphics card. Plug and Play does not work through separate BNC type connectors or through distribution buffers/boxes.

The Image Color Matching File

The .ICM files are data files that are used in conjunction with graphics programs to provide consistent color matching from monitor screen to printer, or from scanner to monitor screen. This file is activated from within graphics programs that support this feature.

 **NOTE:** The ICM color profile is written in accordance with the International Color Consortium (ICC) Profile Format specification.

Installing the .INF and .ICM Files

After you determine that you need to update, you can install the .INF and .ICM files from the CD or download them.

Installing from the CD

To install the .INF and .ICM files on the computer from the CD:

1. Insert the CD in the computer CD-ROM drive. The CD menu is displayed.
2. View the **Monitor Driver Software Readme** file.
3. Select **Install Monitor Driver Software**.
4. Follow the on-screen instructions.
5. Ensure that the proper resolution and refresh rates appear in the Windows Display control panel.



NOTE: You may need to install the digitally signed monitor .INF and .ICM files manually from the CD in the event of an installation error. Refer to the Monitor Driver Software Readme file on the CD.

Downloading from the Internet

To download the latest version of .INF and .ICM files from the HP monitors support Web site:

1. Refer to <http://www.hp.com/support> and select the country region.
2. Follow the links for the monitor to the support page and download page.
3. Ensure the system meets the requirements.
4. Download the software by following the instructions.

Using and Adjusting the Monitor

Using the Auto-Adjustment Function

You can optimize the screen performance for the VGA (analog) input by using the **auto** button on the monitor (see your model's user guide for the specific button name) and the auto-adjustment pattern software utility on the CD provided (select models only).

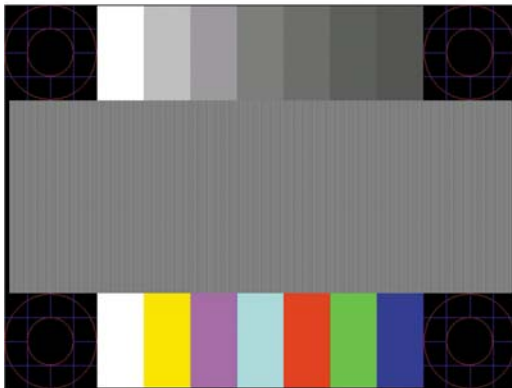
Do not use this procedure if the monitor is using an input other than VGA. If the monitor is using a VGA (analog) input, this procedure can correct the following image quality conditions:

- Fuzzy or unclear focus
- Ghosting, streaking or shadowing effects
- Faint vertical bars
- Thin, horizontal scrolling lines
- An off-center picture

To use the auto-adjustment feature:

1. Allow the monitor to warm up for 20 minutes before adjusting.
2. Press the **auto** button on the monitor front panel.
 - You can also press the **Menu** button, then select **Image Control > Auto-Adjustment** from the OSD Main Menu. Refer to [Adjusting the Monitor Settings on page 7](#) in this chapter.
 - If the result is not satisfactory, continue with the procedure.
3. Insert the CD in the disc drive. The CD menu is displayed.
4. Select **Open Auto-Adjustment Software**. The setup test pattern is displayed.
5. Press the **auto** button on the monitor front panel to produce a stable, centered image.
6. Press the **ESC** key or any other key on the keyboard to exit the test pattern.

Figure 3-1 Auto-Adjustment Test Pattern



NOTE: The auto-adjustment test pattern utility can be downloaded from <http://www.hp.com/support>.

Adjusting the Monitor Settings

The monitor settings can be adjusted from the On-Screen Display (OSD) menu.




NOTE: If there is a problem with the display settings, try resetting the settings to the factory defaults by opening the OSD and selecting **Factory Reset** from the OSD menu.

Using the On-Screen Display Menu

Use the On-Screen Display (OSD) to adjust the screen image based on your viewing preferences. To access the OSD, do the following:












1. If the monitor is not already on, press the **Power** button to turn on the monitor.
2. To access the OSD Menu, press the **Menu** button on the monitor's front panel.
3. To navigate through the OSD Menu, press the **+** (Plus) button on the monitor's front panel to scroll up, or the **-** (Minus) button to scroll in reverse.
4. To select an item from the OSD Menu, use the **+** or **-** buttons to scroll to and highlight your selection, then press the **OK** button to select that function (the **OK** button may be different on your model).

5. Adjust the item using the + or – buttons on the front panel to adjust the scale.
6. After adjusting the function, select **Save and Return**, or **Cancel** if you don't want to save the setting, then select **Exit** from the Main Menu.

 **NOTE:** If the buttons remain untouched for 10 seconds while displaying a menu, the OSD automatically saves all changes and exits.


The following table lists the OSD Main menu items with a brief descriptions of each item.

Table 3-1 OSD Main Menu

Icon	Main Menu	Description
	Brightness	Adjusts the brightness level of the screen. The factory default range is 90.
	Contrast	Adjusts the contrast level of the screen. The factory default range is 80.
	Color	Selects and adjusts the screen color.
	Image Control	Adjusts the screen image. (This menu is only available when using VGA input.)
	OSD Control	Adjusts the on-screen display (OSD) controls.
	Management	Selects the power management, audio, and timer features of the monitor.
	Language	Selects the language in which the OSD menu is displayed. The factory default is English.
	Information	Selects and displays important information about the monitor.
	Factory Reset	Returns all OSD menu settings and DDC/CI controls to the factory default settings, except the Language.
	Source Control	Selects the video input signal. (This menu is only available for models with more than one input.)
	Exit	Exits the OSD menu screen.

Optimizing Image Performance (Analog Input)

Two controls in the on-screen display can be adjusted to improve image performance: Clock and Clock Phase.

 **NOTE:** The Clock and Clock Phase controls are adjustable only when using an analog (VGA) input. These controls are not adjustable for digital inputs.

The Clock must first be set correctly since the Clock Phase settings are dependent on the main Clock setting. Use these controls only when the auto-adjustment function does not provide a satisfactory image.

- **Clock**—Increases/decreases the value to minimize any vertical bars or stripes visible on the screen background.
- **Clock Phase**—Increases/decreases the value to minimize video flickering or blurring.



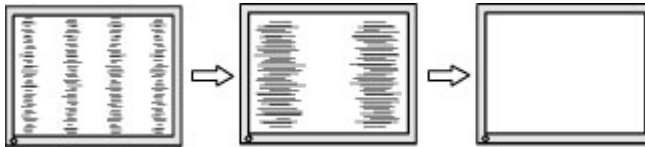
NOTE: When using the controls, you will obtain the best results by using the auto-adjustment pattern software utility provided on the CD.

When adjusting the Clock and Clock Phase values, if the monitor images become distorted, continue adjusting the values until the distortion disappears. To restore the factory settings, select **Yes** from the **Factory Reset** menu in the on-screen display.

To eliminate vertical bars (Clock):

1. Press the **Menu** button on the monitor's front panel to open the OSD Menu, and then select **Image Control > Clock**.
2. Press the **+** (Plus) or **-** (Minus) buttons on the monitor's front panel to eliminate vertical bars. Press the buttons slowly so that you do not miss the optimum adjustment point.

Figure 3-2 Clock Adjustment

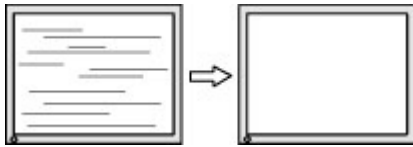


3. After adjusting the Clock, if blurring, flickering, or bars appear on the screen, proceed to adjust the Clock Phase.

To remove flickering or blurring (Clock Phase):

1. Press the **Menu** button on the monitor's front panel to open the OSD Menu, and then select **Image Control > Clock Phase**.
2. Press the **+** (Plus) or **-** (Minus) buttons on the monitor's front panel to eliminate flickering or blurring. Flicking or blurring may not be eliminated depending on your computer or graphics controller card installed.

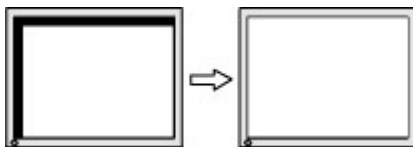
Figure 3-3 Clock Phase Adjustment



To correct screen position (Horizontal Position or Vertical Position):

1. Press the **Menu** button on the monitor's front panel to open the OSD Menu, and then select **Image Control > Horizontal Position** and/or **Vertical Position**.
2. Press the **+** (Plus) or **-** (Minus) buttons on the monitor's front panel to properly adjust the position of the image in the display area of the monitor. The Horizontal Position shifts the image left or right; the Vertical Position shifts the image up and down.

Figure 3-4 Horizontal or Vertical Position Adjustment




Sleep Timer Mode

The Sleep Timer mode is an energy-saving feature that enables you to set a time for the monitor to power on and off at the same time every day. This also extends the life of the backlight bulbs in the monitor. The Sleep Timer has five settings:

- Set Current Time
- Set Sleep Time
- Set On Time
- Timer: On/Off
- Sleep Now

To set the timer:

1. Press the **Menu** button on the monitor front panel to display the **OSD Menu**.
2. Scroll down and highlight **Management**.
3. Press the **OK** button to select **Management**.
4. Scroll down and highlight and select **Sleep Timer > Set Current Time**.

 **NOTE:** You must set the current local time before you reset the time for **Sleep Time** or **On Time**. Note that the time is displayed in a 24-hour clock format. For example, 1:15 p.m. is displayed as 13 hours 15 minutes.

A power failure or loss of power to the monitor will cause the timer to reset to 00:00. If this occurs, you will need to reset the sleep timer mode.

5. Press the **OK** button once to enter the adjustment mode for hours.
6. Press the - (Minus) or + (Plus) button to adjust the hour.
7. Press the **OK** button again to enter the time for minutes.
8. Press the - (Minus) or + (Plus) button to adjust the minutes.
9. Press the **OK** button to lock in the time chosen.
10. After setting the current time, the highlight automatically skips to **Set Sleep Time**. Repeat steps 6 through 9 to set **Sleep Time**.
11. If you do not want to set **Sleep Time**, press the **OK** button twice, then select **Save and Return** to exit the menu.
12. After setting **Sleep Time**, the highlight automatically skips to **Set On Time**. Repeat steps 6 through 9 to set **On Time**.
13. Set the **Timer mode** to **On** to activate the **Sleep Timer** settings.
14. When you are finished, select **Save and Return** to exit the menu.

The fifth selection, **Sleep Now**, turns the monitor backlights off immediately and stays in sleep mode until the next **On Time** activates or a monitor button is pressed.

Using the HP Display Assistant Utility (select models)

HP Display Assistant, included on the software and documentation CD for select models, is a software utility that guides you through the tuning process with easy to understand instructions and background patterns designed for each monitor control. It provides:

- Accurate screen calibration through the use of step-by-step instruction Wizards to obtain the best overall image quality.
- Software control of the monitor image and color settings to eliminate dependence on the monitor's front panel buttons and On-Screen Display (OSD) menu.
- Defined preset display settings for each individual user in a multi-user environment.
- Multiple preset display settings for a single user based on content and ambient lighting.
- Asset Management and Power Management capabilities that include remote control for individual or a group of displays on the domain from a centralized console application.

The HP Display Assistant Utility has two modes of operation: Wizard and OSD mode. The preferred method of use is Wizard mode, which takes you through a step-by-step process to accurately calibrate the monitor. This method relies on a sequence of steps that will obtain the best display results when completed.



NOTE: Refer to the HP Display Assistant user guide for additional information about the software.

Identifying Monitor Conditions

Special messages will appear on the monitor screen when identifying the following monitor conditions (some conditions only apply to select models):

- **Monitor Status**—When the monitor is powered on or when the input source signal is changed, a Monitor Status message is displayed for five seconds. The message shows which input is the current active signal, the status of the auto-switch source setting (On or Off), the default source signal, the current preset display resolution, and the recommended preset display resolution.
- **Input Signal Out of Range**—Indicates the monitor does not support the input signal because the resolution and/or refresh rate are set higher than the monitor supports (refer to the user guide for your model for supported settings).
- **No Source Signal**—Indicates the monitor is not receiving a video signal from the PC on the monitor video input connector. Check to determine if the PC or input signal source is off or in the power saving mode.
- **Auto Adjustment in Progress**—Indicates the auto-adjustment function is active.
- **Monitor Going to Sleep**—Indicates the screen display is entering a sleep mode.
- **Check Video Cable**—Indicates the video cable is not properly connected to the computer.
- **Settings Saved as Custom**—Indicates that a Custom setting has been saved in the Quick View sub-menu. This occurs if a preset is selected in the Quick View menu then the Brightness, Contrast, or Color is also changed in the OSD.
- **OSD Lockout**—The OSD can be enabled or disabled by pressing and holding the [Menu](#) button on the front panel for 10 seconds. If the OSD is locked, the warning message **OSD Lockout** displays for ten seconds.
 - If the OSD is locked, press and hold the [Menu](#) button for 10 seconds to unlock the OSD.
 - If the OSD is unlocked, press and hold the [Menu](#) button for 10 seconds to lock the OSD.

- **Power Button Lockout**—Indicates the power button is locked. If the power button is locked, the warning message **Power Button Lockout** displays.
 - If the power button is locked, press and hold the power button for 10 seconds to unlock the power button function.
 - If the power button is unlocked, press and hold the power button for 10 seconds to lock out the power button function.
- **Dynamic Contrast Ratio On**—Indicates that Dynamic Contrast Ratio has been turned on. This occurs if Dynamic Contrast Ratio is turned on in the **Image Control** OSD menu.
- **Dynamic Contrast Ratio Off**—Indicates that Dynamic Contrast Ratio has been turned off. This occurs if Dynamic Contrast Ratio is turned off in the **Image Control** OSD menu.
- **Theft Mode Enabled**—Indicates that theft deterrence mode has been activated. Theft deterrence is an optional feature that can be set up in HP Display Assistant. Theft deterrence mode is triggered if both the power and display cables have been disconnected from the monitor, the monitor is reconnected to a different computer, and the theft deterrence PIN number is not entered within the elapsed time. When the monitor is in theft deterrence mode, all front panel buttons are disabled other than the power button.
- **Speaker Self-Test In Progress**—Indicates the monitor is testing the left and right speakers.

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 button on front panel of the monitor is turned off.	Press the front panel power button. NOTE: If pressing the power button has no effect, press and hold the power button for 10 seconds to disable the power button lockout feature.
	Video cable is improperly connected.	Connect the video cable properly.
	Screen blanking is active.	Press any key on the keyboard or move the mouse to inactivate the screen blanking utility.
Screen image appears distorted; text is fuzzy or blurred; image quality is degraded.	The computer's graphics card resolution is set lower or higher than the monitor's native resolution.	Set the computer's display resolution to the same mode as the monitor's recommended native screen resolution to provide the best picture quality.
Image appears blurred, indistinct, or too dark.	Brightness and contrast are too low.	Press the OK/auto button on the front panel. If this does not correct the image, press the Menu button to open the OSD Menu, and adjust the brightness and contrast scales as needed.
Image is not centered	Position may need adjustment.	Press the Menu button to access the OSD menu. Select Image Control/Horizontal Position or Vertical Position to adjust the horizontal or vertical position of the image.
Check Video Cable is displayed on screen.	Monitor video cable is disconnected.	Connect the appropriate video cable (DVI or VGA) between the computer and monitor. Be sure that the computer power is off while connecting the video cable.
Input Signal Out of Range is displayed on screen.	Video resolution and/or refresh rate are set higher than what the monitor supports.	Restart the computer and enter Safe Mode. Change the settings to a supported setting (refer to the monitor user guide for supported resolution settings). Restart the computer so that the new settings take effect.
The monitor is off but it did not seem to enter into a low-power sleep mode.	The monitor's power saving control is disabled.	In the monitor's OSD menu, select Management > Power Saver . The control should be set to On to allow the monitor to enter into low-power modes.
OSD Lockout is displayed.	The monitor's OSD Lockout function is enabled.	Press and hold the Menu button for 10 seconds to disable the OSD Lockout function.
Power Button Lockout is displayed.	The monitor's Power Button Lockout function is enabled.	Press and hold the Power button for 10 seconds to unlock the power button function.

Online Technical Support

For the online access to technical support information, self-solve tools, online assistance, community forums of IT experts, broad multivendor knowledge base, monitoring and diagnostic tools, go to <http://www.hp.com/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:

- Monitor model number
- Monitor serial number
- Purchase date on invoice
- Conditions under which the problem occurred
- Error messages received
- Hardware configuration
- Name and version of the hardware and software you are using

Locating the Rating Labels

The rating labels on the monitor provide the spare part number, product number, and serial number. You may need these numbers when contacting HP about the monitor model. The rating labels are located on the rear panel of the monitor display head.

B 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 the 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.
2. This device must accept any interference received, including interference that may cause undesired operation.

For questions regarding the product, contact:

Hewlett Packard Company

P. O. Box 692000, Mail Stop 530113

Houston, Texas 77269-2000

Or, call 1-800-HP-INVENT (1-800 474-6836)

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 Regulatory Notice

Products bearing the CE marking comply with the following EU Directives:

- Low Voltage Directive 2006/95/EC
- EMC Directive 2004/108/EC
- Ecodesign Directive 2009/125/EC, where applicable

CE compliance of this product is valid if powered with the correct CE-marked AC adapter provided by HP.

Compliance with these directives implies conformity to applicable harmonized European standards (European Norms) that are listed in the EU Declaration of Conformity issued by HP for this product or product family and available (in English only) either within the product documentation or at the following web site: <http://www.hp.eu/certificates> (type the product number in the search field).

The compliance is indicated by one of the following conformity markings placed on the product:



For non-telecommunications products and for EU harmonized telecommunications products, such as Bluetooth® within power class below 10mW.



For EU non-harmonized telecommunications products (If applicable, a 4-digit notified body number is inserted between CE and !).

Please refer to the regulatory label provided on the product.

The point of contact for regulatory matters is: Hewlett-Packard GmbH, Dept./MS: HQ-TRE, Herrenberger Strasse 140, 71034 Boeblingen, GERMANY.

German Ergonomics Notice

HP products which bear the “GS” approval mark, when forming part of a system comprising HP brand computers, keyboards and monitors that bear the “GS” approval mark, meet the applicable ergonomic requirements. The installation guides included with the products provide configuration information.

Japanese Notice

この装置は、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。

VCCI-B

Korean Notice

B급 기기
(가정용 방송통신기기)

이 기기는 가정용(B급)으로 전자파적합등록을 한 기기로서 주로 가정에서 사용하는 것을 목적으로 하며, 모든 지역에서 사용할 수 있습니다.

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 mm² or 18 AWG, 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 an authorized HP 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.

Japanese Power Cord Requirements

For use in Japan, use only the power cord received with this product.

⚠ CAUTION: Do not use the power cord received with this product on any other products.

Product Environmental Notices

ENERGY STAR® Qualification

As an ENERGY STAR® Partner, Hewlett Packard Company has followed the EPA's enhanced product qualification and certification process to ensure that the products marked with the ENERGY STAR® logo are ENERGY STAR® qualified per the applicable ENERGY STAR® guidelines for energy efficiency.

The following ENERGY STAR® certification mark appears on all ENERGY STAR® qualified displays:



The ENERGY STAR® program specifications for displays and computers were created by the EPA to promote energy efficiency and reduce air pollution through more energy-efficient equipment in homes, offices, and factories. One way products achieve this goal is by using the Microsoft Windows power management feature to reduce power consumption when the product is not in use.

The power management feature enables the computer to initiate a low-power or “sleep” mode after a period of user inactivity. When used with an external ENERGY STAR® qualified display, this feature also supports similar power management features for the display. To take advantage of these potential energy savings, users should use the default power management settings that are provided with ENERGY STAR qualified computers and displays. The default power management settings on ENERGY STAR® qualified computers are preset to behave in the following ways when the system is operating on AC power:

- Turn off an external display after 15 minutes of user inactivity
- Initiate a low power sleep mode for the computer after 30 minutes of user inactivity

ENERGY STAR® qualified computers exit the low power sleep mode and ENERGY STAR® qualified displays resume operation when the user resumes use of the computer. Examples include the user pressing the power/sleep button, receiving an input signal from an input device, receiving an input signal from a network connection with the Wake On LAN (WOL) feature enabled, etc.

Additional information on the ENERGY STAR® program, its environmental benefits and the potential energy and financial savings of the power management feature can be found on the EPA ENERGY STAR® Power Management Web site at <http://www.energystar.gov/powermanagement>.

Materials Disposal

Some HP LCD monitors contain mercury in the fluorescent lamps that might require special handling at end-of-life.

Disposal of this material can be regulated because of environmental considerations. For disposal or recycling information, contact the local authorities or the Electronic Industries Alliance (EIA) <http://www.eiae.org>.

Disposal of Waste Equipment by Users in Private Household in the European Union



This symbol on the product or on its packaging indicates that this product must not be disposed of with your household waste. Instead, it is your responsibility to dispose of your waste equipment by handing it over to a designated collection point for the recycling or waste electrical and electronic equipment. The separate collection and recycling of your waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste equipment for recycling, please contact the local city office, the household waste disposal service or the shop where you purchased the product.

HP Recycling Program

HP encourages customers to recycle used electronic hardware, HP original print cartridges, and rechargeable batteries. For more information about recycling programs, go to <http://www.hp.com/recycle>.

Chemical Substances

HP is committed to providing our customers with information about the chemical substances in our products as needed to comply with legal requirements such as REACH (Regulation EC No 1907/2006 of the European Parliament and Council). A chemical information report for this product can be found at <http://www.hp.com/go/reach>.

Restriction of Hazardous Substances (RoHS)

A Japanese regulatory requirement, defined by specification JIS C 0950, 2005, mandates that manufacturers provide Material Content Declarations for certain categories of electronic products offered for sale after July 1, 2006. To view the JIS C 0950 material declaration for this product, visit <http://www.hp.com/go/jisc0950>.

2008年、日本における製品含有表示方法、JISC0950が公示されました。製造事業者は、2006年7月1日以降に販売される電気・電子機器の特定化学物質の含有につきまして情報提供を義務付けられました。製品の部材表示につきましては、www.hp.com/go/jisc0950を参照してください。

产品中有毒有害物质或元素的名称及含量

根据中国《电子信息产品污染控制管理办法》

LCD 显示器

部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr(VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
液晶显示屏 - CCFL	X	X	○	○	○	○
液晶显示屏 - WLED	X	○	○	○	○	○
机箱 / 其他	X	○	○	○	○	○

○: 表示该有毒或有害物质在该部件所有均质材料中的含量均在 SJ/T11363-2006 标准规定的限量要求以下。

X: 表示该有毒或有害物质至少在该部件的某一均质材料中的含量超出 SJ/T11363-2006 标准规定的限量要求。

表中标有 "X" 的所有部件都符合欧盟 RoHS 法规，即“欧洲议会和欧洲理事会 2003 年 1 月 27 日关于在电子电气设备中限制使用某些有害物质的 2002/95/EC 号指令”。

注：环保使用期限的参考标识取决于产品正常工作的温度和湿度等条件。

Turkey EEE Regulation

In Conformity with the EEE Regulation

EEE Yönetmeliğine Uygundur

Ukraine Restriction of Hazardous Substances

The equipment complies with requirements of the Technical Regulation, approved by the Resolution of Cabinet of Ministry of Ukraine as of December 3, 2008 No. 1057, in terms of restrictions for the use of certain dangerous substances in electrical and electronic equipment.

C LCD Monitor Quality and Pixel Policy

The TFT monitor uses high-precision technology, manufactured according to HP standards, to guarantee trouble-free performance. Nevertheless, the display may have cosmetic imperfections that appear as small bright or dark spots. This is common to all LCD displays used in products supplied by all vendors and is not specific to the HP LCD. These imperfections are caused by one or more defective pixels or sub-pixels.

- A pixel consists of one red, one green, and one blue sub-pixel.
- A defective whole pixel is always turned on (a bright spot on a dark background), or it is always off (a dark spot on a bright background). The first is the more visible of the two.
- A defective sub-pixel (dot defect) is less visible than a defective whole pixel and is small and only visible on a specific background.

To locate defective pixels, the monitor should be viewed under normal operating conditions, in normal operating mode at a supported resolution and refresh rate, from a distance of approximately 50 cm (20 in).

HP expects that, over time, the industry will continue to improve its ability to produce LCDs with fewer cosmetic imperfections and HP will adjust guidelines as improvements are made.