User Guide

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About This Guide

This guide provides information on setting up the monitor, installing drivers, using the on-screen display menu, troubleshooting and technical specifications.

⚠ **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. Product Features

HP LCD Monitors

The HP LCD (liquid crystal display) monitors have an active matrix, thin-film transistor (TFT) screen with the following features:

- Large diagonal display
- Maximum graphics resolution: 1920 x 1080 @ 60Hz

  Plus full-screen support for lower resolutions

- VGA analog signal
- DVI digital signal
- HDMI digital signal
- Easy viewing from a sitting or standing position, or while moving from one side of the monitor to the other
- Tilt adjustment
- Removable base
- Built in stereo speakers on select models
- Security lock slot for a locking security cable (security cable sold separately)
- Plug and Play capability, if supported by your computer system
- On-Screen Display (OSD) adjustments in several languages for easy setup and screen optimization
- Power Saver to reduce energy consumption
- HDCP (High Bandwidth Digital Content Protection) on DVI input for select models
- Software and utilities CD, containing the following:
  Drivers
  Documents

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 *Product Notices* provided on your media disc, if one is included, or in your documentation kit.

⚠ **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, book cases, 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.

For displays with glossy bezels the user should consider the placement of the display as the bezel may cause disturbing reflections from surrounding light and bright surfaces.

Safety Precautions

• Use only a power source and connection compatible with 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 power cord does not exceed the rating of the power

cord. Look on the power label to determine the ampere rating (Amps or A) for each device.

- Install your monitor near a power 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.

- Do not allow anything to rest on the power cord. Do not walk on the cord.

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

- Slots and openings in the cabinet are provided for ventilation. These openings must not be blocked or covered. Never push objec ts 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 base, 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 the computer.

2. Unplug the monitor from the wall outlet or the power brick.

3. Clean the monitor plastics with a clean cloth dampened with water.

4. Clean the monitor screen with an antistatic screen cleaner.

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

3. Setting Up the Monitor

Unpacking the Monitor

1. Unpack the monitor. Make sure all contents are included. Store the packing box.

2. Turn off the computer and other attached devices.

3. Prepare a flat area to assemble the monitor. You may need a flat, soft, protected area for placing the monitor screen-down while preparing it for installation.

Installing the Monitor

You can install the monitor on a desktop or wall-mount it. Place the monitor in a convenient, well-ventilated location near your computer. Connect the monitor cables after you have installed the monitor.

Preparing the monitor for desktop use

1. Set the monitor screen face down on a flat, soft, protected table or desk surface with the support column overhanging the edge.

△ **CAUTION:** The screen is fragile. Avoid touching or applying pressure to the LCD screen; doing so can cause damage.

2. Press the base into the column until it locks in position, and then secure the base by tightening the screw on the bottom of the base.

Figure 3-1 Attaching the Base
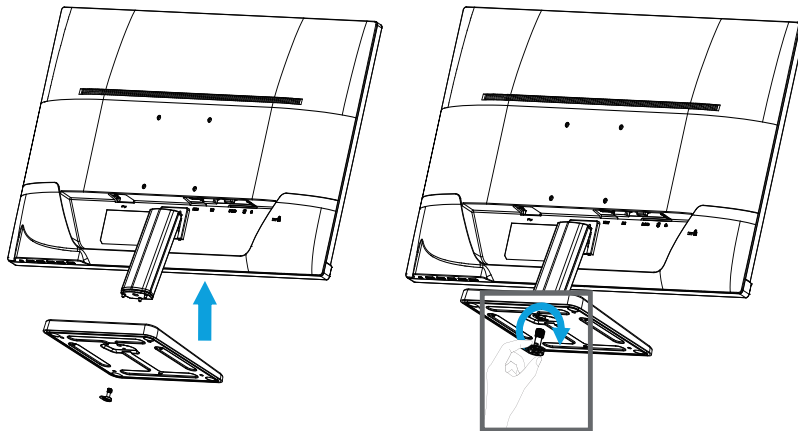
3. Lift the monitor to an upright position and place on a flat, stable surface.

Figure 3-2 Monitor in upright position

Preparing the monitor for wall-mounting

1. Check the stability of the wall-mounting fixture.

⚠ **WARNING!** To reduce the risk of personal injury or of damage to the equipment, check that the wall-mounting fixture is adequately installed and secured before attaching the monitor. Refer to the instructions supplied with the wall-mounting fixture and check that it is capable of supporting the monitor.

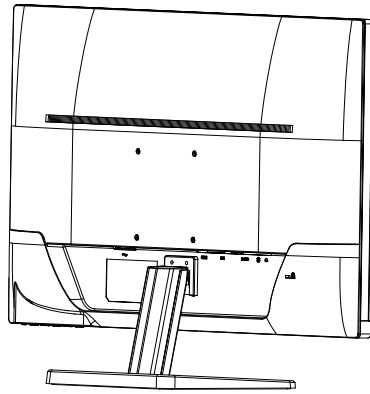2. Disconnect the power cable and any other cables from the monitor.

3. Place the monitor face down on a flat, protected surface.Slide the base away from the bottom of the monitor.

Figure 3-3   Sliding the base away from the monitor
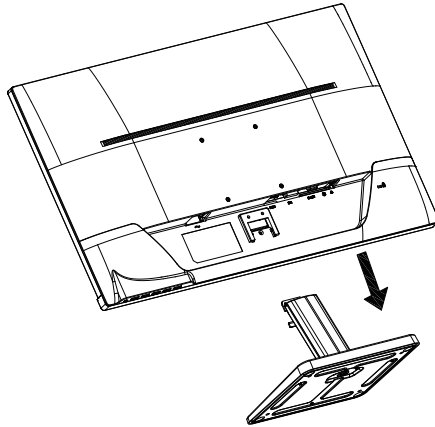
4. Four threaded holes are exposed on the back panel of the monitor. These holes are for screws to attach the swing arm or other mounting fixture to the back of the monitor.

5. Follow the instructions included with the mounting fixture to ensure that the monitor is safely attached. The four threaded holes that are on the back of the panel are compliant with the VESA standard for mounting flat-panel monitors.

6. Attach a swing arm or other mounting fixture.

Connecting Monitor Cables

Connecting the VGA (Analog) Cable or DVI-D (Digital) Cable or HDMI (Digital) Cable

Use a VGA video cable or a DVI-D cable or a HDMI cable to connect your monitor to your computer. To use DVI, you must have a DVI-compliant graphic card. Connectors are located on the back of the monitor. Be sure the computer and monitor are turned off and unplugged.

1.To connect the VGA cable:

Connect one end of the VGA video cable to the back of the monitor and the other end to the VGA video connector on the computer.

2.To connect the DVI-D cable:

Connect one end of the DVI-D video cable to the back of the monitor and the other end to the DVI-D video connector on the computer. You can use this cable only if your computer has a DVI compliant graphics card installed. The monitor DVI-D connector and cable are included.

3. To connect the HDMI cable:

Connect one end of the HDMI cable to the back of the monitor and the other end to the HDMI connector on the computer.

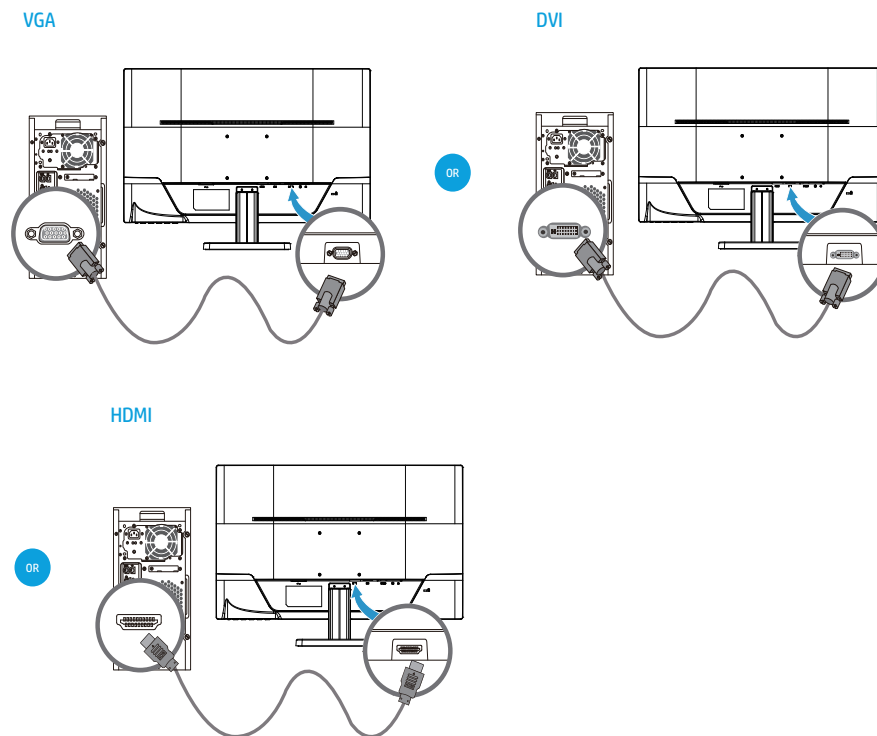Figure 3-4   Connecting the VGA or a DVI-D or a HDMI cable- connector locations may vary

NOTE: When using a VGA or DVI or HDMI signal, you must connect your audio separately because a VGA or DVI or HDMI signal converts only video data, not audio data.

Connecting the Audio Cable (Select Models)

Connect the built-in monitor speakers to the computer by using the audio cable as shown in the following illustration

Figure 3-5 connecting the Audio Cables - connector locations may vary
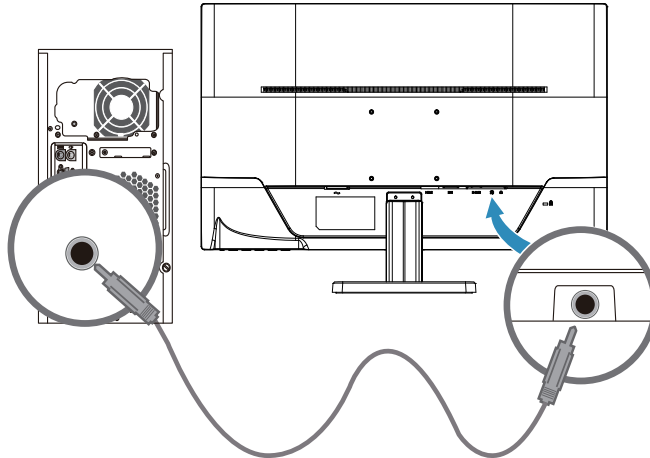
High-Bandwidth Digital Content Protection (HDCP) (Available on Select Models)

Your monitor supports HDCP and can receive high-definition content. High-definition content is available in many sources, such as Blue-ray Disc devices or HDTV air or cable broadcasts. If you do not have an HDCP-enabled monitor, you will see a blank screen or a lower resolution picture when playing high-definition protected content. Your computer graphics card and monitor must both support HDCP to display protected content.

Connecting the Power Cable

1. Follow all Electrical and Power Warnings

⚠ **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.

Be sure that the grounded power outlet you plug the power cord into is easily accessible to the operator and located as close to the equipment as possible. A power cord should be routed so that it is not likely to be walked on or pinched by items that are placed upon it or against it.

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.

See"Technical Specification" (Appendix B) for additional information.

Figure 3-6 Connecting the power cable
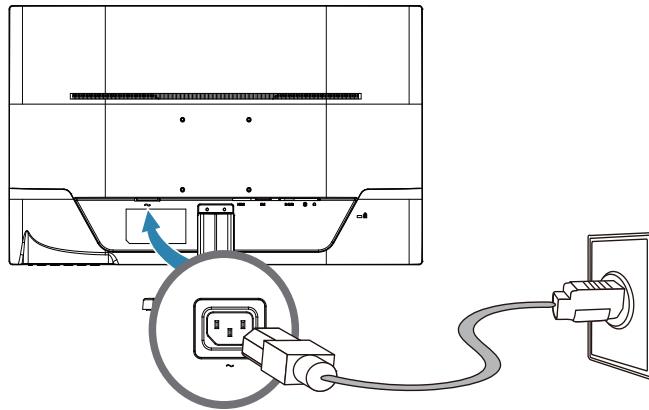
2. Connect one end of the power cable to the monitor and the other end to a grounded electrical outlet.

⚠ **WARNING!** To prevent injury from electrical shock, you should do one of the following if a properly grounded electrical outlet is not available: (1) You should use an electrical outlet adapter that provides proper grounding. (2) You should have a properly grounded electrical outlet installed.

Adjusting the Tilt

For optimal viewing, adjust the screen tilt to your own preference, as follows:

1. Face the front of the monitor and hold the base so that you do not topple the monitor while changing the tilt.

2. Adjust the tilt by moving the top edge of the monitor either toward or away from you, without touching the screen.

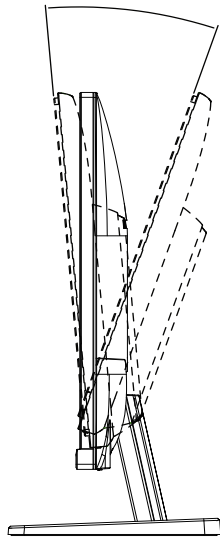Figure 3-7 Tilt adjustment

4. Operating the Monitor

CD Software and Utilities

The CD that is included with this monitor contains drivers and software that you can install on your computer.

Installing Drivers

If you determine that you need to update the drivers, you can install the monitor driver INF and ICM files from the CD, or download them from the Internet.

Installing the monitor driver software from the CD

To install the monitor driver software from the CD:

1. Insert the CD in your computer CD drive. The CD menu appears.
2. Select the language.
3. Click **Install Monitor Driver Software**.
4. Follow the on-screen instructions.
5. Ensure that the proper resolutions and refresh rates appear in the Display Control Panel settings.

Refer to the Windows® operating system documentation for more information.

🖉 **NOTE:** You might need to install the digitally signed monitor drivers (INF or ICM files) manually from the CD, in case of an installation error. Refer to the "HP Monitor Software Information" file on the CD for instructions (in English only).

Downloading updated drivers from the Internet

To download the latest version of drivers and software files from the HP Support site:

1. Refer to: **http://www.hp.com/support** .
2. Select your country/region.
3. Select **Download Drivers and Software**.
4. Enter the model number of your monitor and click Go.
5. Download and install the driver and software files by following the instructions on the download pages.
6. Ensure that your system meets the requirements.

Front-Panel Controls

The monitor buttons are located on the bottom of the front panel

Figure 4-1 Front-panel control buttons
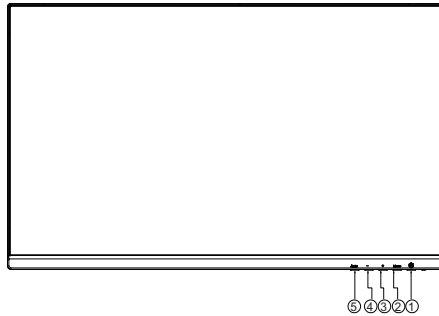
No.	Icon
1	**Power button**
2	**MENU/ENTER**
3	**27sv: + / Volume & audio source** **V272: + / Volume**
4	**- / ECO**
5	**Auto Config. button / Exit**

• **Power Button:**

Press to switch the monitor on or off.

• **Power Indicator:**

Blue — Power On mode.

Orange — Standby mode.

LED off — Off mode.

• **MENU / ENTER:**

Activate OSD menu or function adjust confirm or Exit OSD menu when in Brightness/Contrast OSD status.

• **+ / Volume(V272):**

Activate the volume control when the OSD is OFF, Press + or - to adjust the setting when OSD is ON.

• **+ / Volume & audio source(27sv):**

When the OSD is closed, press the button will be Audio Hot-Key Function, and press MENU key to move the orange cursor to Audio Source, then it can be adjust.

• **- / ECO:**

Activate the ECO function when the OSD is OFF, navigate through adjustment icons when OSD is ON, or adjust a function when function is activated.

• **Auto Config. button / Exit:**

1. When OSD menu is off, press and hold to activate the Auto Adjustment function (only for VGA source). The Auto Adjustment function is used to optimize the H.Pos, V.Pos, Clock and Phase.
2. When OSD menu is on, press to exit the OSD menu.
3. When the OSD is closed, Press Auto/Source button continuously about 3 second to popup Source window.

OSD Lock Function: To lock the OSD, press and hold the MENU button while the monitor is off and then press power button to turn the monitor on. To un-lock the OSD, press and hold the MENU button while the monitor is off and then press power button to turn the monitor on.

NOTES

•   Do not install the monitor in a location near heat sources such as radiators or air ducts, or in a place subject to direct sunlight, or excessive dust or mechanical vibration or shock.

•   Save the original shipping carton and packing materials, as they will come in handy if you ever have to ship your monitor.

•   For maximum protection, repackage your monitor as it was originally packed at the factory.

•   To keep the monitor looking new, periodically clean it with a soft cloth. Stubborn stains may be removed with a cloth lightly dampened with a mild detergent solution. Never use strong solvents such as thinner, benzene, or abrasive cleaners, since these will damage the cabinet. As a safety precaution, always unplug the monitor before cleaning it.

•   Do not scratch the screen with hard things, it may cause permanent damage.

•   Do not leak liquid into monitor which will result in the damage of component.

How To Adjust A Setting

1. Press the MENU-button to display the OSD menu.

2. Press + or - to navigate through the menu items. Once the desired item is highlighted, press the MENU-button to enter. Press + or - again to navigate through the sub-menu.Once the desired item is highlighted, press MENU-button to activate it.

3. Press + or - to adjust the setting.

4. To exit and save, press the EXIT-button. If you would like to adjust other settings, please repeat steps 2-3.

	Luminance	
	Contrast	50
	Brightness	0
	Eco Mode	Standard
	DCR	Off
	AMA	Off

AUTO:Exit   :Move   MENU:Select
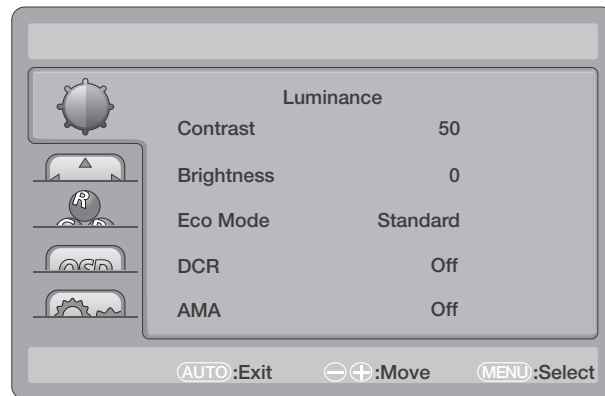
Adjusting The Picture

The descriptions for function control:

Main Menu Item	Main Menu Icon	Sub Menu Item	Sub Menu	Description
Luminance		Contrast*		Contrast adjustment
		Brightness*		Brightness adjustment
		Eco	Standard	Standard Mode
			Text	Text Mode
			Internet	Internet Mode
			Game	Game Mode
			Movie	Movie Mode
			Sports	Sports Mode
		DCR	Off/on	Turn On/Off DCR Mode
		AMA	Off/on	
Image Setup		Clock		Adjust picture Clock to reduce Vertical-Line noise.
		Phase		Adjust Picture Phase to reduce Horizontal-Line noise
		H.Position		Adjust the vertical position of the picture.
		V.Position		Adjust the horizontal position of the picture.
		Image Ratio	Wide/4:3	Select Picture wide and 4:3
Color Temp.		Warm		Recall Warm Color Temperature from EEPROM.
		Normal		Recall Normal Color Temperature from EEPROM.
		Cool		Recall Cool Color Temperature from EEPROM.
		User	Red	Red gain adjustment
			Green	Green gain adjustment
			Blue	Blue gain adjustment
		sRGB		Recall SRGB Color Temperature from EEPROM.

Main Menu Item	Main Menu Icon	Sub Menu Item	Sub Menu	Description
OSD Setup		H.Position		Adjust the horizontal position of OSD
		V.Position		Adjust the vertical position of OSD
		Timeout		Adjust the OSD Timeout
		Language		Select the OSD language
Extra		Input Select	D-SUB/DVI/HDMI	
		DDC/CI		Turn ON/OFF DDC/CI Support
		Reset	yes or no	Reset the menu to default.
		Information		Show the information of the main image source.

Selecting Video Input Connectors

The input connectors are:

- VGA connector (analog)
- DVI-D connector (digital)
- HDMI connector (digital)

The monitor automatically determines which inputs have valid video signals, and displays the image.

You can connect the VGA cable, the DVI-D cable and the HDMI cable, or all. If both or all cables are installed, the default input selection is VGA.The source of input can be switched using the Input Select option in the OSD menu.

Identifying Monitor Conditions

Special messages will appear on the monitor screen when identifying the following monitor conditions:

- 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.

- No 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 or input source signal is not the same with OSD Input Select setting.

- Auto Adjustment in Progress - Indicates the auto-adjustment function is active.

- Monitor Going to Sleep - Indicates the screen display is entering a sleep mode.

- OSD Lock - The OSD can be enabled or disabled by pressing and holding the Menu button while the monitor is off and then press power button to turn the monitor on.

  - If the OSD is locked, press and hold the Menu button while the monitor is off and then press power button to turn the monitor on to unlock the OSD.

  - If the OSD is unlocked, press and hold the Menu button while the monitor is off and then press power button to turn the monitor on to lock the OSD.

- Dynamic Contrast Ratio On - Indicates that Dynamic Contrast Ratio has been turned on. This occurs if Dynamic Contrast Ratio is turned on in the Luminance 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 Luminance OSD menu.

Adjusting Screen Quality

The auto adjustment feature automatically fine-tunes the image quality for display size, position, clock, and phase each time a new video mode is displayed. For more precise adjustments of VGA input, run the Auto Adjustment software on the CD. If you want additional image quality improvement, use the Clock and Phase controls of the monitor to fine tune the image.

Optimizing Analog Video

Some monitors contain advanced circuitry that allow the monitor to function as a standard analog monitor. Two controls in the OSD menu can be adjusted to improve analog image performance:

Clock - Increase or decrease the value to minimize any vertical bars or stripes visible on the screen background.

Phase - Increase or decrease the value to minimize video distortion or video jitter.

Use these controls only when the auto adjustment function does not provide a satisfactory monitor image in analog mode. To obtain the best results:

1. Allow the monitor to warm up for 30 minutes before adjusting.

2. Access the OSD menu, then select Image Setup.

3. Set the main Clock settings correctly first, because the Phase settings depend on the main Clock settings.When adjusting the Clock and Phase values, if the monitor images become distorted,continue adjusting the values until the distortion disappears. To restore the factory settings, access the OSD menu, select Factory Reset , and then select Yes .

Power-Saver Feature

When the monitor is in normal operating mode, the Power light is blue and the monitor uses the normal watts of power. For power usage, refer to "Technical Specification" (Appendix B). The monitor also supports a power-saver mode that is controlled by the computer. When the monitor is in the reduced-power state, the monitor screen is blank, the backlight is off, and the Power light is amber. The monitor uses minimum power. When the monitor is "awakened," a brief warm-up period occurs before the monitor returns to normal operating mode. The energy-saving reduced power state activates if the monitor does not detect either the horizontal sync signal or the vertical sync signal. The power-saver feature must be activated on your computer for this feature to work. Refer to your computer documentation for instructions on setting energy-saver features (sometimes called power-management features).

NOTE: The energy-saver feature works only when the monitor is connected to computers that have energy-saver features.

A. Troubleshooting

Solving Common Problems

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

Problem Solution

Problem & Question	Possible Solutions
Power LED Is Not ON	• Make sure the power button is ON and the Power Cord is properly connected to a grounded power outlet and to the monitor.
No Plug & Play	• In order for the Plug & Play feature of the monitor to work, you need a Plug & Play compatible computer & video card. Check with your computer manufacturer. Also check the monitor's video cable and make sure none of the pins are bent. • Make sure the HP Monitor Drivers are installed (HP Monitor Drivers are available at : http://www.hp.com/support)
Picture Is Fuzzy & Has Ghosting Shadowing Problem	• Adjust the Contrast and Brightness Controls. • Make sure you are not using an extension cable or switch box. We recommend plugging the monitor directly to the video card output connector on the back of your computer.
Picture Bounces, Flickers Or Wave Pattern Is Present In The Picture	• Move electrical devices that may cause electrical interference as far away from the monitor as possible. • Use the maximum refresh rate your monitor is capable of at the resolution your are using.
Monitor Is Stuck In Active Off-Mode	• The Computer Power Switch should be in the ON position. • The Computer Video Card should be snugly seated in its slot. • Make sure the monitor's video cable is properly connected to the computer. • Inspect the monitor's video cable and make sure none of the pins are bent.
Missing one of the primary colors (RED, GREEN, or BLUE)	• Inspect the monitor's video cable and make sure that none of the pins are bent. • Make sure the monitor's video cable is properly connected to the computer.
Screen image is not centered or sized properly	• Adjust H-Position and V-Position or press hot-key (AUTO).
Picture has color defects (white does not look white)	• Adjust RGB color or select color temperature
Horizontal or vertical disturbances on the screen	• Use Windows shut-down mode. Adjust CLOCK and Phase or press the Auto button to display ideal setting

Getting Support from hp.com

Before you contact customer service, refer to HP Technical Support at:
http://www.hp.com/support

Select your country/region, and then follow the links to the support page for your monitor.

Preparing to Call Technical Support

If you cannot solve a problem by using the troubleshooting tips in this section, you might have to call technical support. For technical support contact information, refer to the printed documentation included with the monitor.

Have the following information available when you call:

- Monitor model number (located on label on back of monitor)
- Monitor serial number (located on label on back of monitor or in the OSD display in the Informationmenu)
- Purchase date on invoice
- Conditions under which the problem occurred
- Error messages received
- Hardware configuration
- Name and version of hardware and software you are using

Locating the Rating Label

The rating label on the monitor provides the product number and serial number. You may need these numbers when contacting HP about your monitor model.

The rating label is on the back of the monitor.

B. Technical Specifications

All specifications represent the typical specifications provided by HP's component manufacturers; actual performance may vary either higher or lower.

HP LCD Monitors

Face treatment: Glare polarizer with hard coating

Input terminal:

    VGA connector
    DVI-D 24-pin D-type connector
    HDMI connector

Table B-1

Specifications:	
Display Type:	IPS/LED backlight
Viewable Image Size	68.6 cm (27 in.) diagonal
Tilt	-2° (+/-1)~+25° (+/-1)
Maximum Weight (unpacked)	5.3 kg (11.7 lbs)
Dimensions (h x w x d)	62.23cm x 20.0cm x 43.42cm 24.5 x 7.88 x 17.09 in
Maximum Graphics Resolution	1920x1080 @ 60 Hz
Optimum Graphics Resolution	1920x1080 @ 60 Hz
Text Mode	720 x 400
Dot Pitch	0.311(H) x 0.311(V) mm/0.012 x 0.012 in
Horizontal Frequency (analog mode)	30 to 80 kHz
Vertical Frequency (analog mode)	50 to 60 Hz
Operating Temperature	41° to 95°F (5° to 35°C)
Non-Operating Temperature	-4° to 140°F (-20° to 60°C)
Operating Humidity	15% to 90%
Non-Operating Humidity	5% to 90%
Power Source	100-240V~, 50/60 Hz
Power Consumption	27sv:40 W (Full power); 26 W (Typical settings) V272:36 W (Full power); 24 W (Typical settings)
Sleep Power Consumption	<0.5 watts (W)

Preset Video Modes

The monitor automatically recognizes many preset video input modes that will appear properly sized and centered on the screen.

Table B-2 Factory Preset Video Input Modes

Item	Preset Resolution	Horizontal Frequency (kHz)	Vertical Frequency (Hz)
1	640 x 480	31.469	59.940
2	800 x 600	37.879	60.317
3	1024 x 768	48.363	60.004
4	1280 x 720	45.00	60.000
5	1280 x 800	49.702	59.810
6	1280 x 1024	63.981	60.020
7	1440 x 900	55.935	59.887
8	1600 x 900	60.000	60.000
9	1680 x 1050	65.290	59.954
10	1920 x 1080	67.500	60.000

LCD Monitor Quality and Pixel Policy

Your LCD Monitor uses high-precision technology, manufactured according to high standards, to help 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 your LCD Monitor. These imperfections are caused by one or more defective pixels or subpixels.

A pixel consists of one red, one green, and one blue subpixel. 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 subpixel (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 and in normal operating mode at a supported resolution and refresh rate, from a distance of approximately 50 cm (16 inches). We expect that, over time, the industry will continue to improve its ability to produce displays with fewer cosmetic imperfections, and we will adjust guidelines as improvements are made. For more information about your LCD Monitor, refer to the HP Web site at: http://www.hp.com/support.