



HP Compaq LE1902x, LE2002x,
LE2002xm, and LE2202x LED Backlit
LCD Monitors

User Guide

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About This Guide

This guide provides information on monitor features, setting up the monitor, 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.

Table of contents

1 Product Features	1
HP LCD Monitors	1
2 Setting Up the Monitor	3
Attaching the Monitor Base	3
Rear Components	4
Connecting the Cables	5
Front Panel Controls	7
Adjusting the Monitor	8
Turning on the Monitor	8
Removing the Monitor Pedestal Base	9
Mounting the Monitor	9
Installing a Cable Lock	10
3 Finding More Information	11
4 Technical Specifications	12
LE1902x Model	12
LE2002x and LE2002xm Models	12
LE2202x Model	13
Recognizing Preset Display Resolutions	13
LE1902x Model	13
LE2002x and LE2002xm Models	13
LE2202x Model	14
Entering User Modes	14
Energy Saver Feature	14

1 Product Features

HP LCD Monitors

The LCD (liquid crystal display) monitors have an active matrix, thin-film transistor (TFT) panel. The monitor models and features include:

- LE1902x model, 47.0 cm (18.5-inch) diagonal viewable area display with 1366 x 768 resolution, plus full-screen support for lower resolutions; includes custom scaling for maximum image size while preserving original aspect ratio
- LE2002x and LE2002xm models, 50.8 cm (20-inch) diagonal viewable area display with 1600 x 900 resolution, plus full-screen support for lower resolutions; includes custom scaling for maximum image size while preserving original aspect ratio
- LE2202x model, 54.6 cm (21.5-inch) diagonal viewable area display with 1920 x 1080 resolution, plus full-screen support for lower resolutions; includes custom scaling for maximum image size while preserving original aspect ratio
- Non-glare panel with a LED backlight that provides better clarity and consumes less energy than traditional CCFL backlights
- Wide viewing angle to allow viewing from a sitting or standing position, or moving side-to-side
- Tilt capability
- Removable stand for flexible monitor panel mounting solutions
- Video signal input to support VGA analog with VGA signal cable provided
- Video signal input to support DVI digital with DVI-D signal cable provided (select models)
- Integrated speakers and audio cable (select models)
- Supports an optional HP speaker bar
- Plug and play capability if supported by the system
- Privacy filter slots to insert filters (purchased separately) to block side screen viewing
- Security slot provision on rear of monitor for optional cable lock
- Cable management feature for placement of cables and cords
- On-Screen Display (OSD) adjustments in several languages for easy setup and screen optimization
- HP Display Assistant for adjusting monitor settings and enabling the theft deterrence feature
- HDCP copy protection on DVI input
- Software and documentation CD that includes monitor drivers and product documentation
- Energy saver feature to meet requirements for reduced power consumption
- Energy Star® qualified

- Intelligent Management AssetControl
- Compliant with the following regulated specifications:
 - European Union CE Directives
 - Swedish TCO Requirements

2 Setting Up the Monitor

To set up the monitor, ensure that the power is turned off to the monitor, computer system, and other attached devices, then follow the instructions below.

Attaching the Monitor Base

1. Lift the base from the monitor box and set it on a flat surface such as a table top.
2. Using both hands, lift the monitor from its box, position the pedestal over the base, and press down firmly to lock it in place. Be sure the base is securely locked in place and adjust the tilt angle to the desired position.

⚠ CAUTION: 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.

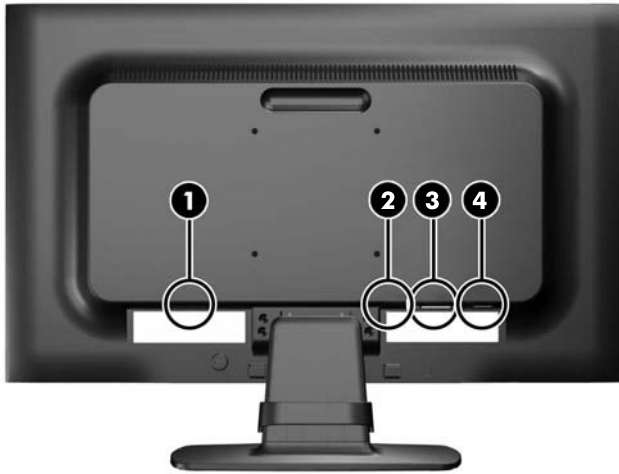
Figure 2-1 Attaching the Monitor Base



📝 NOTE: To remove the base, press inward on the tab in the center of the underside of the base and pull the base from the pedestal.

Rear Components

Figure 2-2 Rear Components

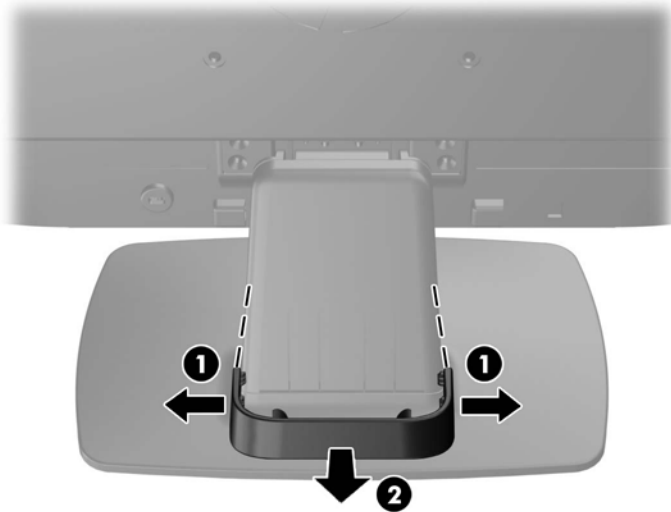


Component	Function
1 AC Power Connector	Connects the AC power cord to the monitor.
2 Audio Connector (select models)	Connects the audio cable to the monitor.
3 DVI-D (select models)	Connects the DVI-D cable to the monitor.
4 VGA	Connects the VGA cable to the monitor.

Connecting the Cables

1. Place the monitor in a convenient, well-ventilated location near the computer.
2. Remove the cable management clip from the pedestal by pulling outward on the two sides of the clip (1) then lifting the clip off the pedestal (2).

Figure 2-3 Removing the Cable Management Clip



3. Connect a VGA signal cable or DVI-D signal cable (select models).

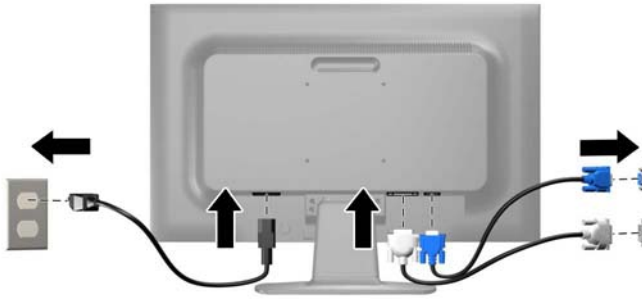


NOTE: The monitor is capable of supporting either analog or digital input (select models). The video mode is determined by the video cable used. The monitor will automatically determine which inputs have valid video signals. The inputs can be selected by pressing the **+ / source** button on the front panel or through the On-Screen Display (OSD) feature by pressing the **Menu** button.

- For analog operation, use the VGA signal cable provided. Connect the VGA signal cable to the VGA connector on the rear of the monitor and the other end to the VGA connector on the computer.
 - For DVI digital operation, use the DVI-D signal cable provided. Connect the DVI-D signal cable to the DVI connector on the rear of the monitor and the other end to the DVI connector on the computer.
4. Connect one end of the provided audio cable to the audio connector on the monitor and connect the other end of the cable to an audio output connector on the rear panel of the computer (select models).

5. Connect one end of the power cord to the AC power connector on the back of the monitor, and the other end to an electrical wall outlet.

Figure 2-4 Connecting the Cables



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

Do not disable the power cord grounding plug. The grounding plug is an important safety feature.

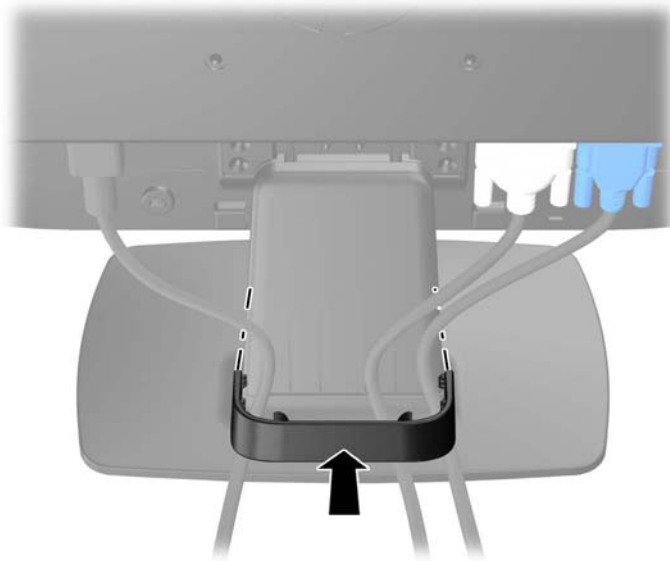
Plug the power cord into a grounded (earthed) electrical outlet that is easily accessible at all times.

Disconnect power from the equipment 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.

6. Secure the cables in place with the cable management clip. Press the clip straight down on the curved neck of the pedestal ensuring that the tabs on the sides of the clip snap into the slots on the pedestal.

Figure 2-5 Installing the Cable Management Clip



Front Panel Controls

Figure 2-6 Monitor Front Panel Controls

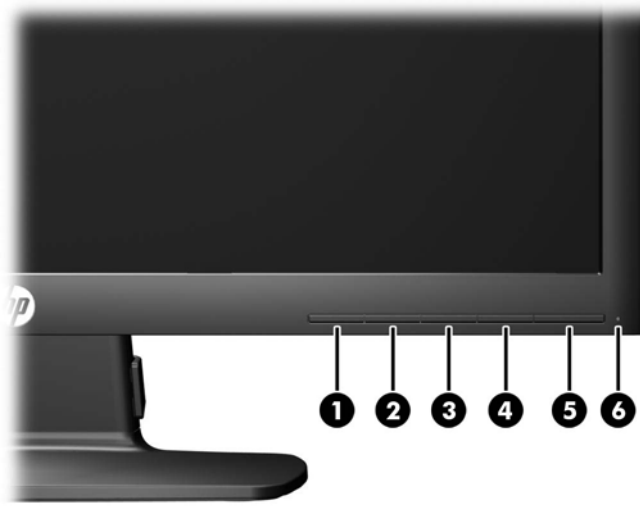








Table 2-1 Monitor Front Panel Controls

Control	Function
1  Menu	Opens, selects or exits the OSD menu.
2  Minus	If the OSD menu is on, press to navigate backward through the OSD menu and decrease adjustment levels. If the OSD menu is inactive, press to activate the volume adjustment bar. Press - or + to adjust the volume (select models).
3  Plus/source	If the OSD menu is on, press to navigate forward through the OSD menu and increase adjustment levels. If the OSD menu is inactive, press to activate the source button that chooses the video signal input (VGA or DVI).
4  OK/auto	If the OSD menu is on, press to select the highlighted menu item. If the OSD menu is inactive, press to activate the auto adjustment feature to optimize the screen image.
5  Power	Turns the monitor on or off.
6	Power LED Blue = Fully powered. Amber = Sleep mode. Flashing Amber = Sleep Timer mode.

 **NOTE:** To view an OSD menu simulator, visit the HP Customer Self Repair Services Media Library at <http://www.hp.com/go/sml>.

Adjusting the Monitor

Tilt the monitor's panel forward or backward to set it to a comfortable eye level.

Figure 2-7 Tilting the Monitor



Turning on the Monitor

1. Press the power button on the computer to turn it on.
2. Press the power button on the front of the monitor to turn it on.

CAUTION: Burn-in image damage may occur on monitors that display the same static image on screen for a prolonged period of time.* To avoid burn-in image damage on the monitor screen, you should always activate a screen saver application or turn off the monitor when it is not in use for a prolonged period of time. Image retention is a condition that may occur on all LCD screens. Monitors with a “burned-in image” are not covered under the HP warranty.

* A prolonged period of time is 12 consecutive hours of non-use.

NOTE: If pressing the power button has no effect, the Power Button Lockout feature may be enabled. To disable this feature, press and hold the monitor power button for 10 seconds.

NOTE: You can disable the power LED in the OSD menu. Press the **Menu** button on the front of the monitor, then select **Management > Bezel Power LED > Off**.

When the monitor is powered on, a Monitor Status message is displayed for five seconds. The message shows which input (DVI or VGA) is the current active signal, the status of the auto-switch source setting (On or Off; factory default is On), the default source signal (factory default is VGA), the current preset display resolution, and the recommended preset display resolution.

The monitor automatically scans the signal inputs for an active input and uses that input for the display. If two or more inputs are active, the monitor will display the default input source. If the default source is not one of the active inputs, then the monitor will display the highest ranking priority input in the following order: DVI then VGA. You can change the default source in the OSD by pressing the front panel **Menu** button and selecting **Source Control > Default Source**.

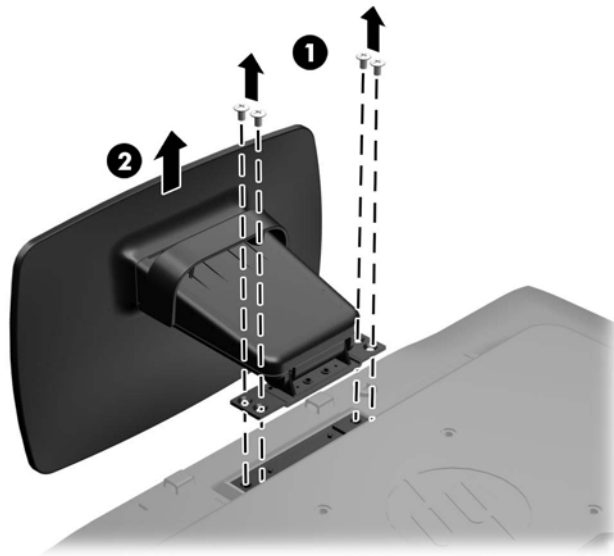
Removing the Monitor Pedestal Base

You can remove the monitor panel from the pedestal base to install the panel on a wall, a swing arm, or other mounting fixture.

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

1. Disconnect and remove the signal and power cables from the monitor.
2. Lay the monitor face down on a flat surface covered by a clean, dry cloth.
3. Remove the four pedestal neck screws (1) and lift the pedestal neck (2) off of the monitor panel.

Figure 2-8 Removing the Pedestal Neck Screws



Mounting the Monitor

The monitor panel can be attached to a wall, swing arm, or other mounting fixture.

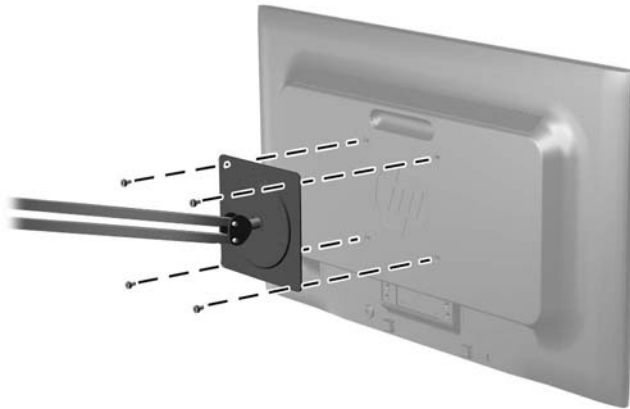
📝 NOTE: This apparatus is intended to be supported by UL or CSA Listed wall mount bracket.

1. Remove the monitor panel from the pedestal base. Refer to [Removing the Monitor Pedestal Base on page 9](#).

⚠ CAUTION: This monitor supports the VESA industry standard 100 mm mounting holes. To attach a third-party mounting solution to the monitor, four 4 mm, 0.7 pitch, and 10 mm long screws are required. Longer screws must not be used because they may damage the monitor. It is important to verify that the manufacturer's mounting solution is compliant with the VESA standard and is rated to support the weight of the monitor display panel. For best performance, it is important to use the power and video cables provided with the monitor.

2. To attach the monitor to a swing arm, insert four 10mm screws through the holes on the swing arm plate and into the mounting holes on the monitor.

Figure 2-9 Mounting the Monitor



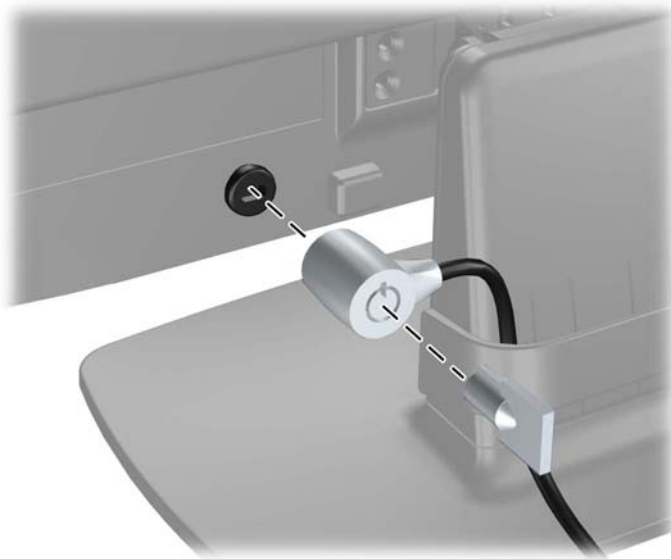
To attach the monitor to other mounting fixtures, follow the instructions included with the mounting fixture to ensure that the monitor is safely attached.

3. Reconnect the cables to the monitor panel.

Installing a Cable Lock

You can secure the monitor to a fixed object with an optional cable lock available from HP.

Figure 2-10 Installing a Cable Lock




3 Finding More Information

Refer to the *HP LCD Monitors Reference Guide* included on the CD with your monitor for additional information on:

- Optimizing monitor performance
- Safety and maintenance guidelines
- Installing software from the CD
- Using the OSD menu
- Downloading software from the Web

For additional information on using and adjusting your monitor, go to <http://www.hp.com/support>. Select your country or region, select Product Support & Troubleshooting, and then enter your monitor model in the SEARCH window.

4 Technical Specifications

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

LE1902x Model

Table 4-1 LE1902x Specifications

Maximum Weight (Unpacked)	2.8 kg	6.17 lbs
Dimensions (include base)		
Height	33.89 cm	13.34 inches
Depth	12.6 cm	4.96 inches
Width	44.93 cm	17.69 inches
Maximum Graphic Resolution	1366 x 768 (60 Hz) analog input 1366 x 768 (60 Hz) digital input	
Optimum Graphic Resolution	1600 x 900 (60 Hz) analog input 1600 x 900 (60 Hz) digital input	
Power Source	100 – 240 VAC 50/60 Hz	
Input Terminal	One VGA connector with cable included	

LE2002x and LE2002xm Models

Table 4-2 LE2002x and LE2002xm Specifications

Maximum Weight (Unpacked)	3.5 kg	7.7 lbs
Dimensions (include base)		
Height	35.92 cm	14.14 inches
Depth	15.11 cm	5.95 inches
Width	48.20 cm	18.98 inches
Maximum Graphic Resolution	1600 x 900 (60 Hz) analog input 1600 x 900 (60 Hz) digital input	
Optimum Graphic Resolution	1600 x 900 (60 Hz) analog input 1600 x 900 (60 Hz) digital input	
Power Source	100 – 240 VAC 50/60 Hz	
Input Terminal	One VGA connector with cable included; one DVI connector (cable not included with LE2002x); one audio connector with cable included (LE2002xm only)	

LE2202x Model

Table 4-3 LE2202x Specifications

Maximum Weight (Unpacked)	3.6 kg	7.94 lbs
Dimensions (include base)		
Height	37.9 cm	14.92 inches
Depth	16 cm	6.3 inches
Width	51.8 cm	20.39 inches
Maximum Graphic Resolution	1920 x 1080 (60 Hz) analog input	
	1920 x 1080 (60 Hz) digital input	
Optimum Graphic Resolution	1920 x 1080 (60 Hz) analog input	
	1920 x 1080 (60 Hz) digital input	
Power Source	100 – 240 VAC 50/60 Hz	
Input Terminal	One VGA connector with cable included; one DVI connector with cable included	

Recognizing Preset 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.

LE1902x Model

Table 4-4 Factory Preset Modes

Preset	Pixel Format	Horz Freq (kHz)	Vert Freq (Hz)
1	640 × 480	31.469	59.94
2	720 × 400	31.469	70.087
3	800 × 600	37.879	60.317
4	1024 × 768	48.363	60.004
5	1280 × 960	60.0	60.0
6	1280 × 1024	63.98	60.02
7	1366 × 768	47.712	59.79

LE2002x and LE2002xm Models

Table 4-5 Factory Preset Modes

Preset	Pixel Format	Horz Freq (kHz)	Vert Freq (Hz)
1	640 × 480	31.469	59.940

Table 4-5 Factory Preset Modes (continued)

2	720 × 400	31.469	70.087
3	800 × 600	37.879	60.317
4	1024 × 768	48.363	60.004
5	1280 × 720	45.00	59.94
6	1280 × 1024	63.981	60.02
7	1440 × 900	55.935	59.887
8	1600 × 900	55.935	59.887

LE2202x Model

Table 4-6 Factory Preset Modes

Preset	Pixel Format	Horz Freq (kHz)	Vert Freq (Hz)
1	640 × 480	31.469	59.940
2	720 × 400	31.469	70.087
3	800 × 600	37.879	60.317
4	1024 × 768	48.363	60.004
5	1280 × 720	45.00	60.00
6	1280 × 1024	63.981	60.02
7	1440 × 900	55.94	59.89
8	1680 × 1050	65.29	60.0
9	1920 × 1080	67.5	60.00

Entering User Modes

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

- You are not using a 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. Your 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 factory preset modes, there are at least 10 user modes that can be entered and stored.

Energy Saver Feature

The monitors support a reduced power state. The reduced power state will be entered into 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 is turned amber. When the monitor is in the reduced power state, the monitor will

utilize .5 watts of power. There is a brief warm up period before the monitor will return to its normal operating mode.

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



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

By selecting the settings in the monitor's Energy Saver utility, you can also program the monitor to enter into the reduced power state at a predetermined time. When the monitor's Energy Saver utility causes the monitor to enter the reduced power state, the power light blinks amber.

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