HP L6015tm and L6017tm Retail Touch Monitors

User Guide

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About This Guide

This guide provides information on setting up and using the retail touch monitors.

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

The LCD (liquid crystal display) monitors have an active matrix, thin-film transistor (TFT) panel. The monitors feature:

HP L6015tm and L6017tm Retail Touch Monitors

- L6015tm model: 38.1 cm (15-inch) diagonal viewable area display with 1024 x 768 resolution, plus full support for lower resolutions, includes custom scaling for maximum image size while preserving original aspect ratio
- L6017tm model: 43.2 cm (17-inch) diagonal viewable area display with 1280 x 1024 resolution, plus full support for lower resolutions, includes custom scaling for maximum image size while preserving original aspect ratio
- Touch screen assembly mounted to the LCD panel (projected capacitive) with flush, arsenic-free glass front surface
- Industrial LCD panel with WLED backlight that provides better clarity and consumes less energy
- USB 2.0 hub with 5 ports (1 internal upstream port and 4 edge-mounted downstream ports at USB 2.0 speed)
- 100mm VESA mounting support
- Video input supports VGA analog signal input plus DisplayPort and DVI digital signal inputs
- Audio In port and built-in 1 watt speakers
- Plug and play capability if supported by the system
- High-Bandwidth Digital Content Protection (HDCP) copy protection on DVI and DisplayPort inputs
- On-Screen Display (OSD) adjustments in several languages for easy setup and screen optimization, with OSD controls that are rear-lit capacitive sense switches
- Software and documentation CD that includes driver software and product documentation
- IP54 intrusion protection for LCD display and touch screen assembly
- Compliant with the following regulated specifications (for additional certifications and regulatory notices, refer to the *HP LCD Monitors Reference Guide* provided on the CD included with this product):
    - Energy Star® qualified
    - Compliant with Swedish TCO5 requirements

Optional Accessories

The following can be purchased separately from HP:

- HP Retail Integrated Webcam
- HP Retail Integrated Dual-Head MSR

- HP Retail Integrated Fingerprint Reader
- HP Height Adjustable Stand for Touch Monitors
- Cable lock

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.

Identifying Rear Connectors

Figure 2-1 Rear Connectors

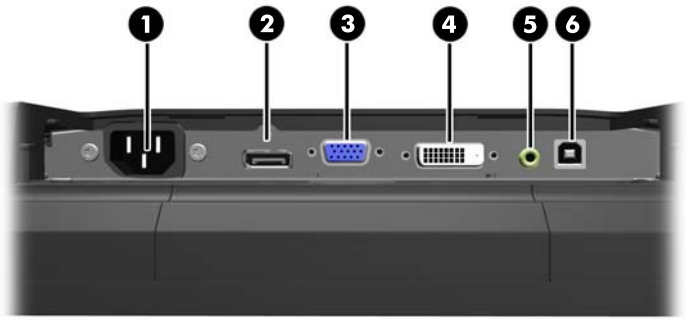


Table 2-1 Rear Connectors

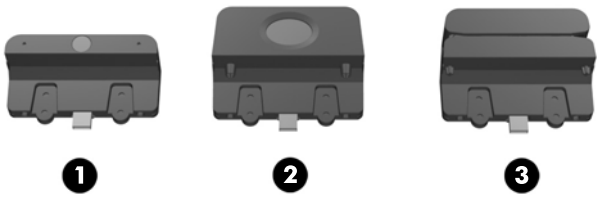
Connector		Function
1	AC Power	Connects the AC power cord to the monitor.
2	DisplayPort	Connects a DisplayPort video cable from the PC to the monitor.
3	VGA	Connects a VGA video cable from the PC to the monitor.
4	DVI	Connects a DVI video cable from the PC to the monitor.
5	Audio In	Connects an audio cable from the PC to the monitor.
6	USB Upstream	Connects a USB cable from the PC to the monitor (required for optional USB modules and touch screen operation).

Installing Optional USB Modules

There are three optional USB modules available from HP (sold separately):

- (1) a webcam for live video functions
- (2) a retail integrated fingerprint reader to add security identification functions
- (3) a retail integrated dual-head magnetic stripe reader for card data read

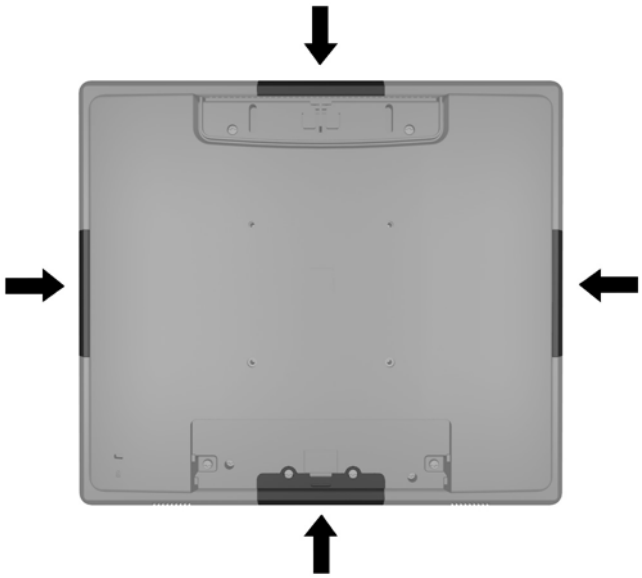
Figure 2-2 Optional USB Modules



The USB modules can be installed on the top of the monitor, the bottom of the monitor, or on either side of the monitor.

NOTE: If you are installing a webcam, HP recommends that you install it on top of the monitor for proper video orientation.

Figure 2-3 USB Module Installation Locations



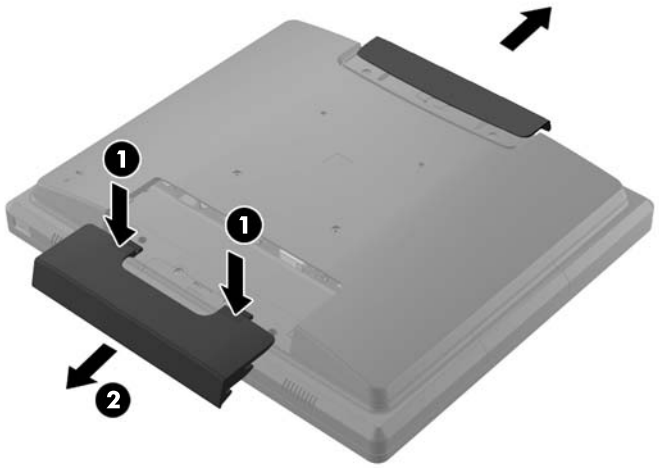
NOTE: These USB ports only support the USB modules listed above. They do not support optical drives or hard drives.

The procedure for installing a USB module is the same for all modules. To install a USB module:

1. Place the monitor panel face down on a flat surface covered with a clean, dry cloth.

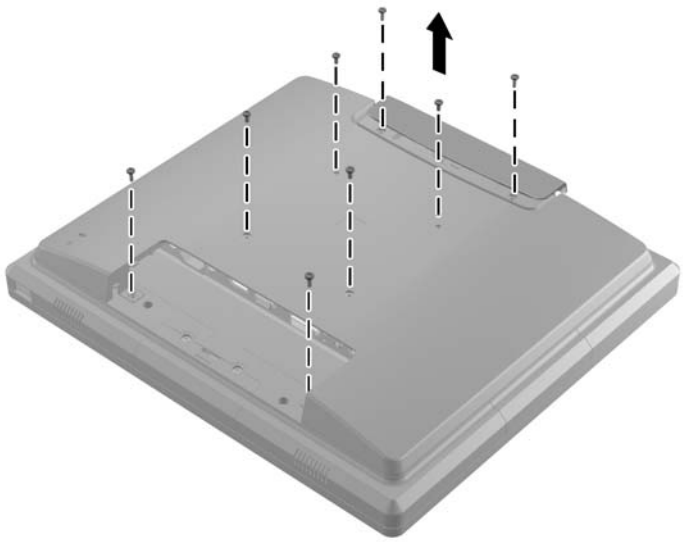
2. Slide the top cover plate on the back of the monitor up approximately 12mm (1/2 inch) to access two of the rear panel screws. Remove the cable connection cover plate by pressing the two ribbed areas at the top of the cover (1) and pulling the cover straight down and off the monitor (2) to access two more of the rear panel screws.

Figure 2-4 Removing the Top and Bottom Cover Plates



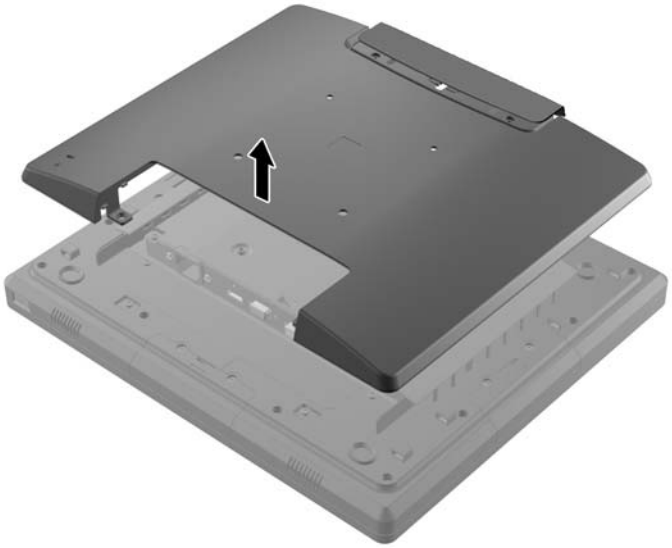
3. Remove the eight screws that attach the rear panel to the monitor.

Figure 2-5 Removing the Rear Panel Screws



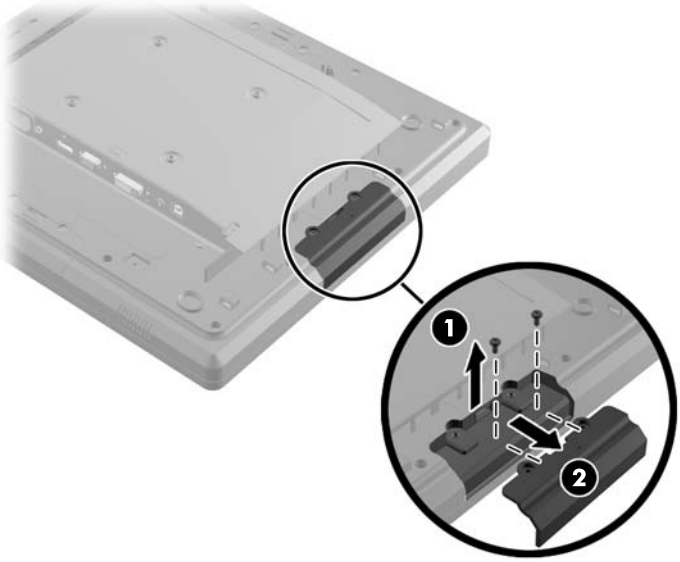
4. Lift the rear panel up and off the monitor.

Figure 2-6 Removing the Rear Panel



5. Remove the two screws that attach the USB cover plate to the monitor (1) then slide the cover plate off the monitor (2). Remove only the cover plate that is in the location where you want to install the USB module.

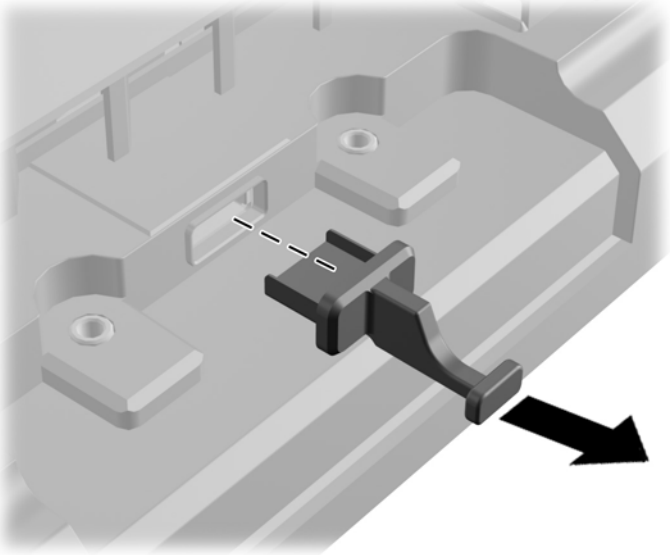
Figure 2-7 Removing the USB Cover Plate



6. Pull the plug that is inserted in the USB port out of the port.

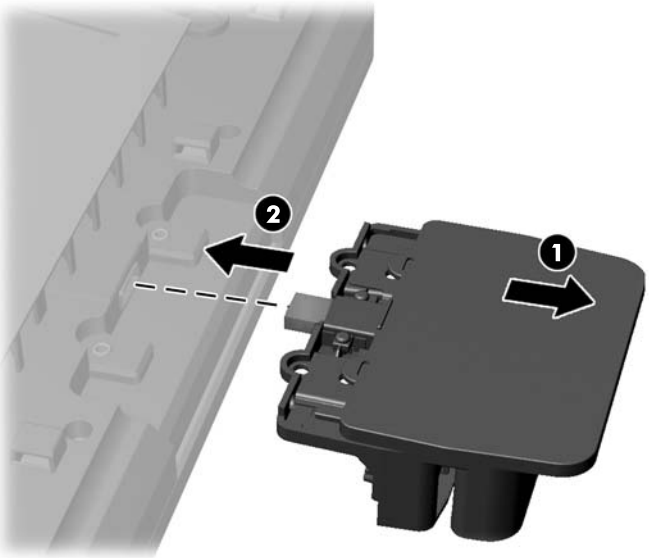
NOTE: Some models do not have plugs in the USB ports.

Figure 2-8 Removing the USB Plug



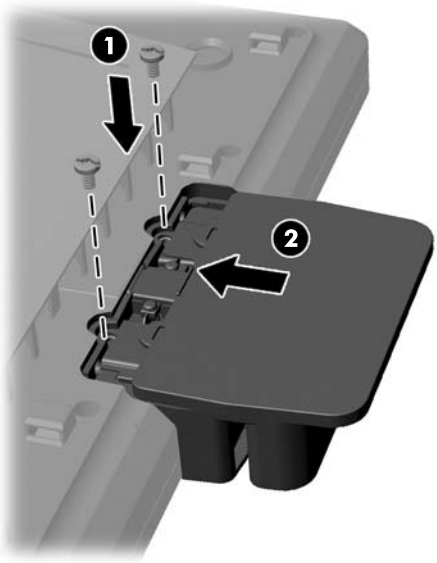
7. Slide the module screw hole cover plate back (1) and insert the USB connector on the module into the USB port (2).

Figure 2-9 Inserting the USB Module



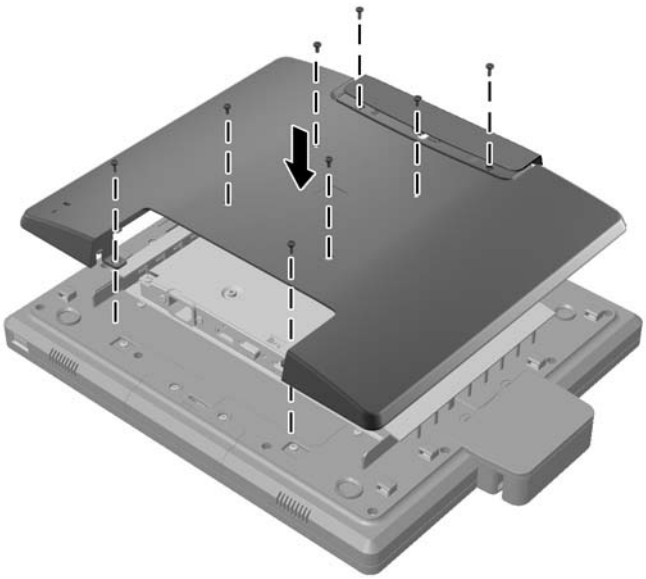
8. Install the two screws that were previously removed (1) and slide the cover plate on the module forward to cover the screws (2).

Figure 2-10 Securing the USB Module



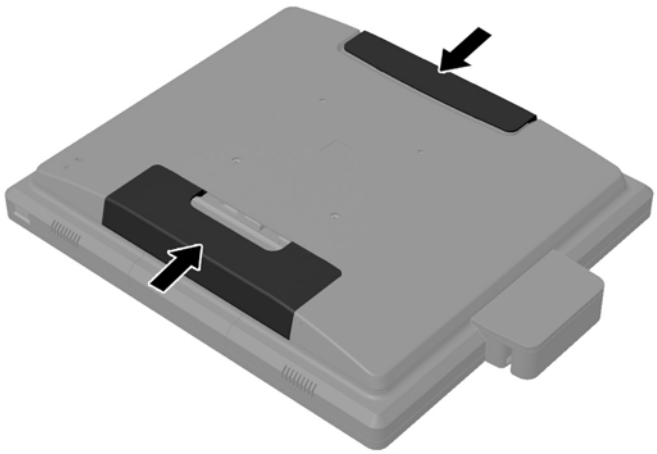
9. Replace the rear panel and insert the eight screws that attach the panel to the monitor.

Figure 2-11 Replacing the Rear Panel



10. Slide the top cover plate down and replace the cable connection cover plate.

Figure 2-12 Replacing the Top and Bottom Cover Plates



11. Ensure that the USB upstream cable is connected between the monitor and the PC.
12. Install the applicable software and drivers for the module(s) according to instructions provided with the accessory.

Attaching an Optional Monitor Stand

The optional monitor stand is available from HP (sold separately). The stand attaches to the 100mm VESA mounting holes on the rear panel.

1. Place the monitor panel face down on a flat surface covered with a clean, dry cloth.
2. If there are screws installed in the VESA mounting holes on the rear panel, remove the screws.

3. Install the two large screws included with the stand into the two lower VESA mounting holes on the monitor.

Figure 2-13 Installing the Lower Mounting Screws

4. Place the stand mounting bracket on the rear of monitor so that the keyholes on the bracket align with the two large screws on the monitor then slide the mounting bracket toward the top of the monitor so that the screws heads are captured inside the keyholes.

Figure 2-14 Aligning the Mounting Bracket

5. Install the two small screws included with the stand into the upper two VESA mounting holes to secure the mounting bracket to the stand.

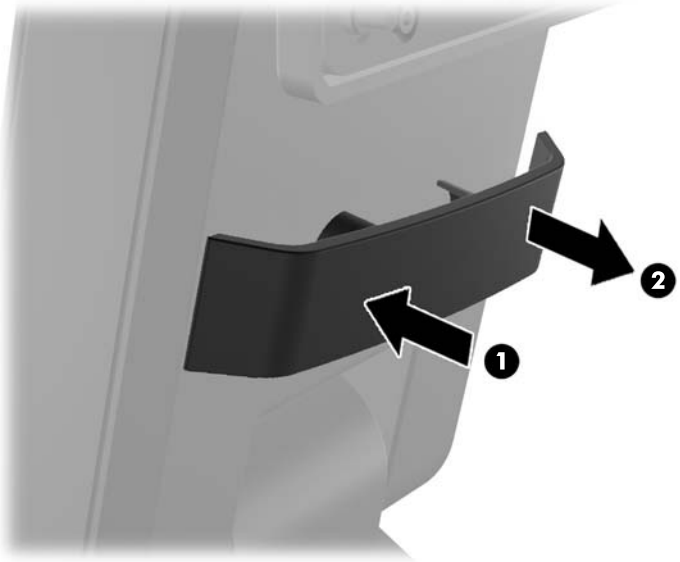
Figure 2-15 Installing the Upper Mounting Screws

Routing Cables through the Optional Monitor Stand

The optional stand has a clip on the neck of the stand and a hole on the base of the stand for routing cables.

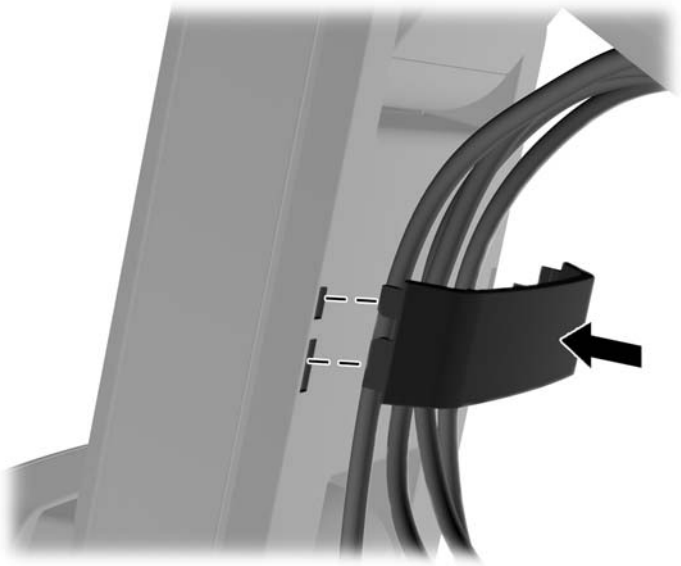
1. Remove the clip on the neck of the stand by pressing inward on one side of the clip (1) and pulling outward on the other side of the clip (2).

Figure 2-16 Removing the Cable Routing Clip



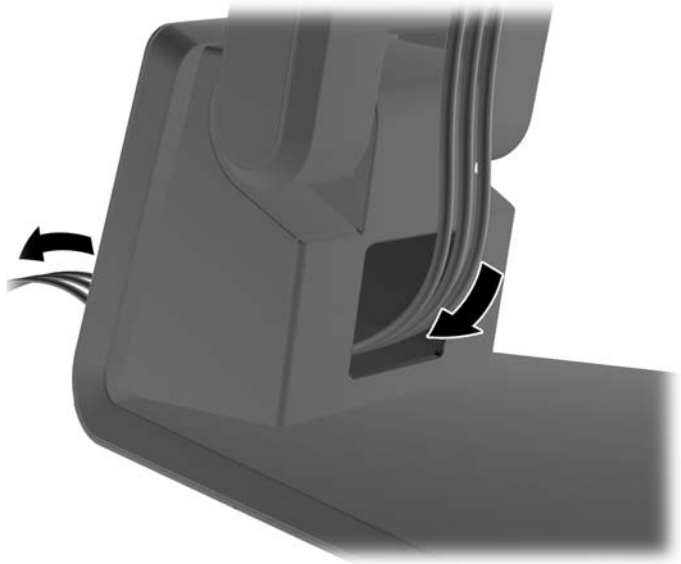
2. Replace the clip on the neck of the stand so that it secures the cables.

Figure 2-17 Replacing the Cable Routing Clip



3. Route the cables through the hole in the center of the base.

Figure 2-18 Routing Cables through the Base



Adjusting the Optional Monitor Stand

You can adjust the monitor stand height and tilt to a variety of positions. Choose a position that is the most ergonomically appropriate for your usage.

NOTE: Tilt range is -5 degrees forward to +60 degrees backward.

Figure 2-19 Adjusting the Optional Monitor Stand

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 four screws from the VESA mounting holes on the back of the monitor.

   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 mounting fixture, insert the four screws that were previously removed through the holes on the mounting fixture and into the mounting holes on the monitor. Follow the manufacturer's documentation provided with the mounting fixture for additional assembly instructions.

3. Connect the required cables to the monitor panel and PC.

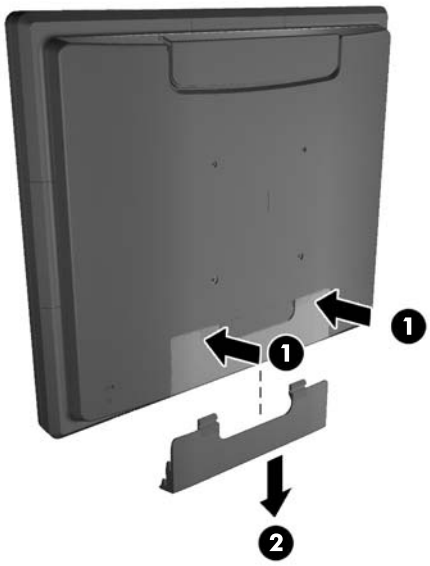
Connecting the Cables

NOTE: If the monitor is attached to the optional stand, route the cables through the stand as described in Routing Cables through the Optional Monitor Stand on page 11.

1. Place the monitor in a convenient, well-ventilated location near the computer.

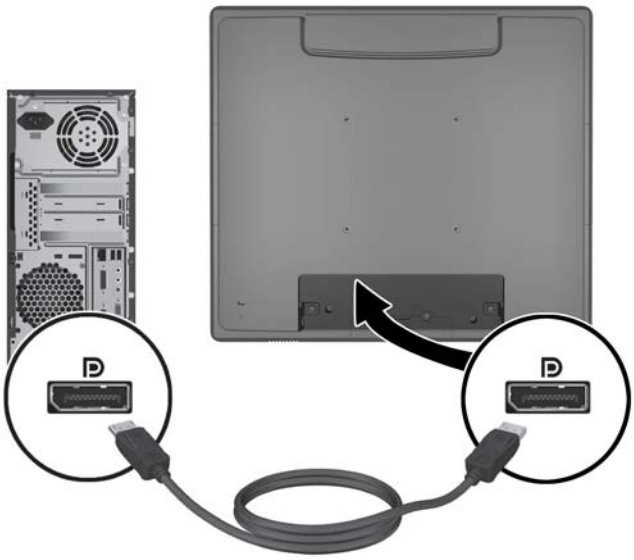
2. Remove the cable connection cover on the rear of the monitor by pressing the two ribbed areas at the top of the cover (1) and pulling the cover straight down and off the monitor (2).

Figure 2-20 Removing the Cable Connection Cover Plate

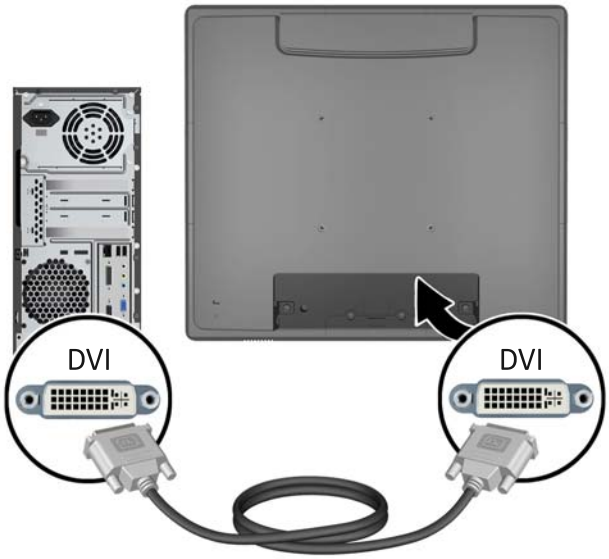


3. Depending on your configuration, connect either the DisplayPort, DVI, or VGA video cable between the PC and the monitor.

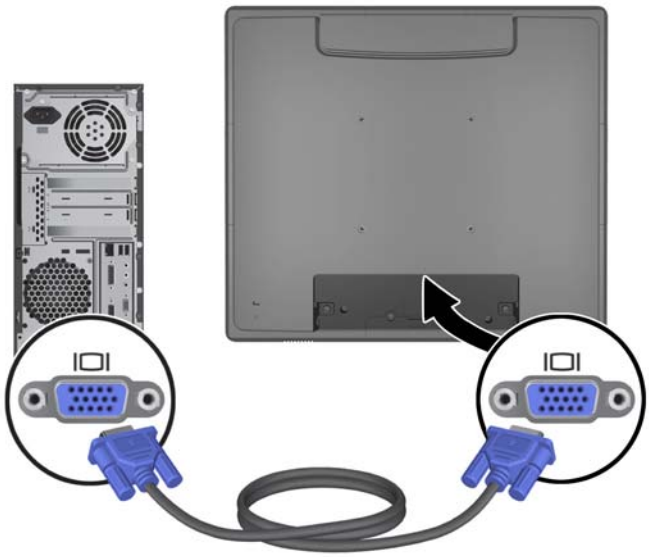
- **Figure 2-21** Connecting the DisplayPort Video Cable



- **Figure 2-22** Connecting the DVI Video Cable



- **Figure 2-23** Connecting the VGA Video Cable



4. Connect the audio cable between the PC audio out port and the monitor audio in port.

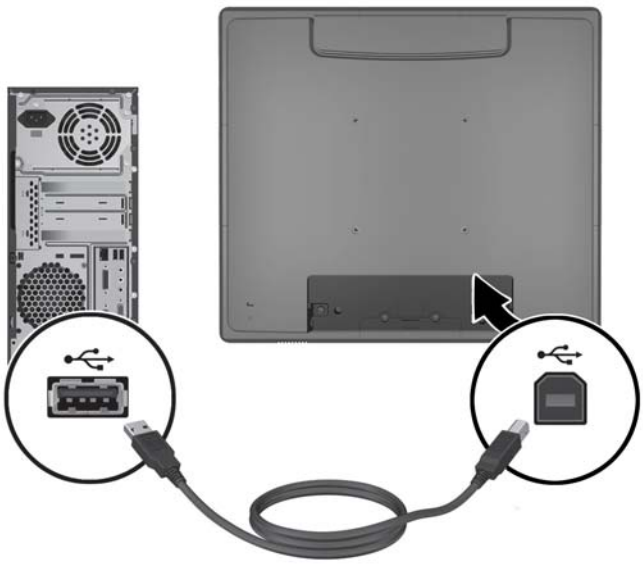
NOTE: The audio cable is required for the monitor speakers to function.

Figure 2-24 Connecting the Audio Cable

5. Connect the USB upstream cable between the PC and the monitor.

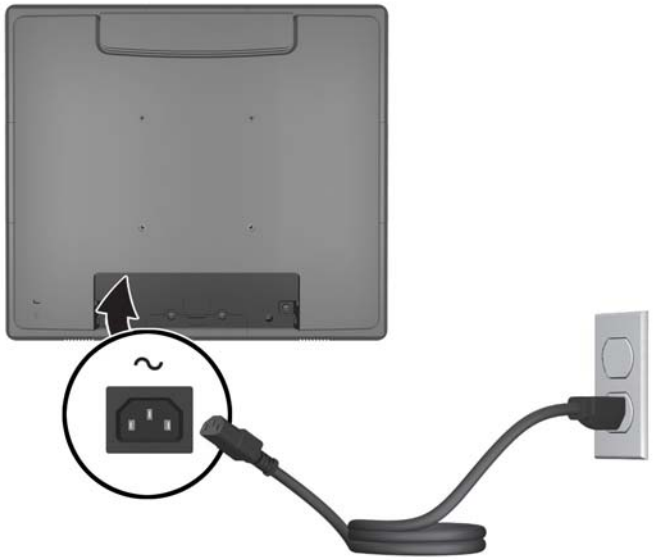
NOTE: The USB cable is required for optional USB modules and touch screen operation.

Figure 2-25 Connecting the USB Cable



6. Connect the AC power cord between the monitor and an electrical wall outlet.

Figure 2-26 Connecting the AC Power Cord



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.

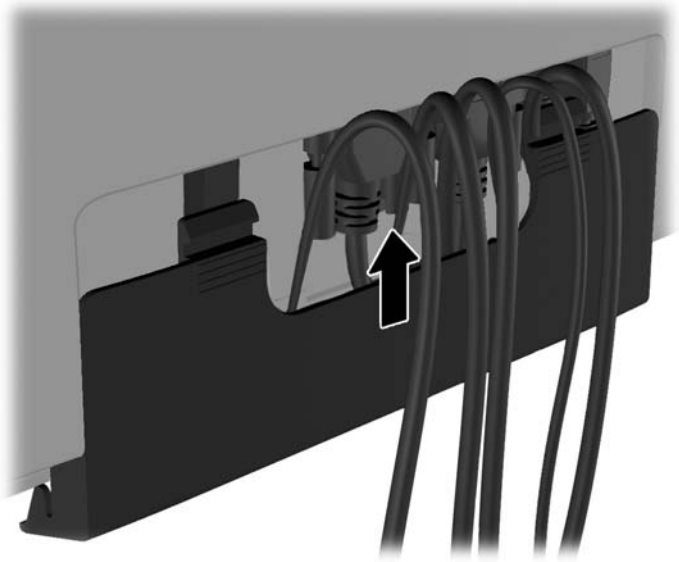
Plug the power cord into a grounded (earthed) electrical outlet that is easily accessible at all times.

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.

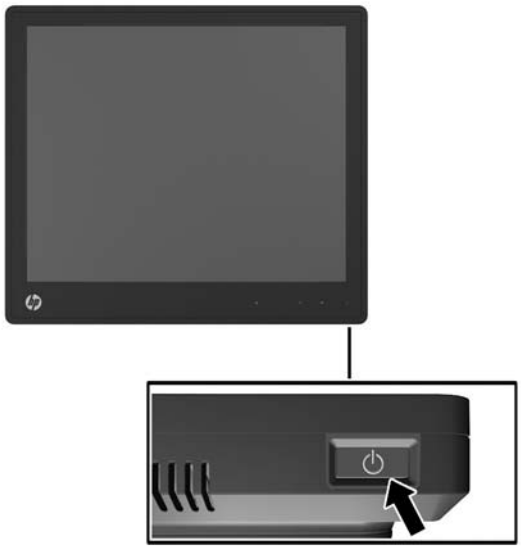
7. Replace the cable connection cover on the rear of the monitor.

Figure 2-27 Replacing the Cable Connection Cover Plate



8. Turn on the computer, then press the power button on the underside of the monitor to power it on.

Figure 2-28 Pressing the Power Button



Installing the Touch Drivers for Microsoft Windows XP

NOTE: You do not need to install the touch driver software for Microsoft Windows 7 or Windows Vista. Microsoft plug-and-play touch drivers are already included in those operating systems for this monitor.

Using the touch screen function on systems running Microsoft Windows XP requires the HP touch driver installation. The touch driver software can be downloaded from the Internet or from the HP software and documentation CD included with the monitor.

Installing Drivers from the CD

1. Insert the HP software and documentation CD in the computer's optical drive. The CD menu is displayed.
2. Select the menu to install the touch driver for Microsoft Windows XP from the CD menu.
3. Follow the on screen instructions to complete the touch driver installation process.

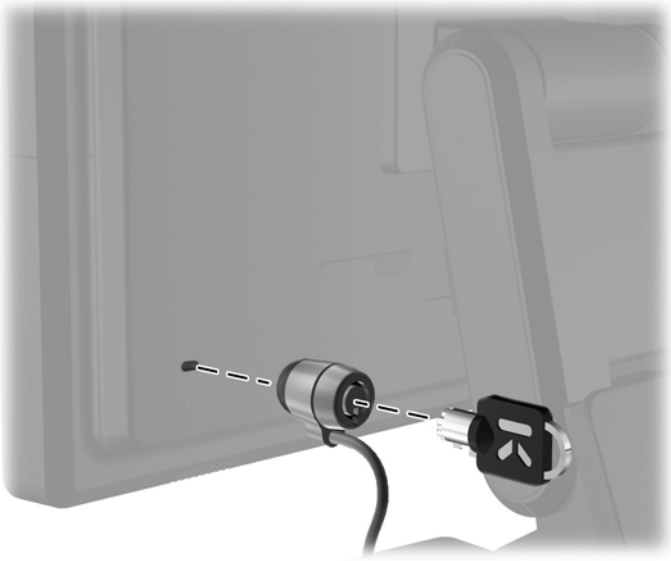
Downloading Drivers from the Internet

1. Go to http://www.hp.com/support.
2. Select your country or region.
3. Select your language.
4. Select **Drivers & Software** and enter your monitor model name and number.
5. Follow the instructions on the screen to download the touch driver software.

Installing a Cable Lock

When the monitor is assembled to the optional stand and used on a desktop, you can secure the monitor to a fixed object with an optional cable lock available from HP.

Figure 2-29 Installing a Cable Lock



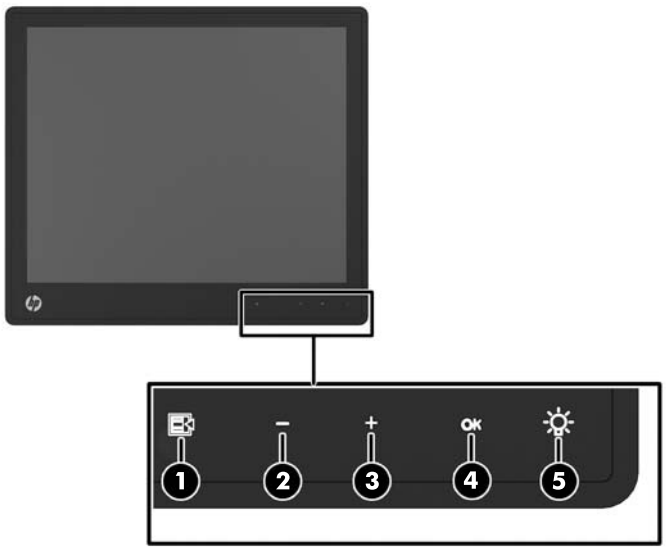
Locating the Rating Labels

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.

3 Operating the Monitor

Front Panel Controls

Figure 3-1 Monitor Front Panel Controls



NOTE: The front panel controls are inactive unless they are illuminated. To activate the controls, tap on the area where the icons are located. All icons will become illuminated and active. The backlight for the icons will turn off upon exit from the OSD or when the OSD times out.

Table 3-1 Monitor Front Panel Controls

Control			Function
1		Menu	Opens the On-Screen Display (OSD) main menu.
2		– (Minus)	If the OSD menu is on, tap to navigate backward through the OSD menu and decrease adjustment levels. If the OSD menu is inactive and the icons are illuminated, tap to open the OSD volume control menu and adjust the volume level.
3		+ (Plus)	If the OSD menu is on, tap to navigate forward through the OSD menu and increase adjustment levels. If the OSD menu is inactive and the icons are illuminated, tap to activate the Source button that chooses the video signal input.

Table 3-1 Monitor Front Panel Controls (continued)

Control			Function
4	OK	OK	If the OSD menu is on, tap to select a menu item. If the OSD menu is inactive and the icons are illuminated, tap to activate the auto adjustment feature to optimize the screen image.
5		Power LED	Green = Fully powered. Amber = Sleep mode. Flashing Amber = Sleep Timer mode. Off = Power is off or the LED has been suppressed in the OSD

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

Power Management System

The monitor is equipped with the power management function which automatically reduces the power consumption when not in use.

Table 3-2 Power Management

Mode	Power Consumption
Full Power	44 W
Typical Power	26 W
Sleep	1 W
Off	0.5 W

It is recommended that you switch the monitor off when it is not in use for a long period of time.

NOTE: The monitor automatically goes through the power management system steps when it is idle. To release the monitor from the power management system, press any key on the keyboard or move the mouse or touch the touch screen. In order for the touch screen to bring the monitor from the power management system, the touch screen function must be fully operational.

OSD Lock/Unlock

The OSD feature can be locked and unlocked. The monitor is shipped with the OSD menu in the unlocked position.

To lock the OSD menu and disable the OSD controls, tap on the area where the OSD icons are located so that the icons become illuminated and active, then press the Menu icon for 10 seconds. To unlock the OSD menu and enable the OSD controls, press the Menu icon again for 10 seconds.

Power Button Lock/Unlock

The power button can be locked and unlocked. The monitor is shipped with the power button in the unlocked position.

To lock the power button, press the power button for 10 seconds. To unlock the power button, press the power button again for 10 seconds. Unlocking the power button will power off the monitor. To power it back on, press the power button.

Touch Screen Tips

The HP L6015tm and L6017tm retail displays use projected capacitive technology with an all glass front surface and provides multi-touch functionality. The fast response rate enables the creation of touch applications as well as supports speed sensitive applications.

Keep your display and touch sensor clean. The touch sensor requires very little maintenance. HP recommends that you periodically clean the glass touch sensor surface. Be sure to turn off your display before cleaning. Typically, an isopropyl alcohol and water solution ratio of 50:50 is the best cleaning agent for your touch sensor. It is important to avoid using any caustic chemicals on the touch sensor. Do not use any vinegar-based solutions.

Apply the cleaner with a soft, lint-free cloth. Avoid using gritty cloths. Always dampen the cloth and then clean the sensor. Be sure to spray the cleaning liquid onto the cloth, not the sensor, so that drips do not seep inside the display or stain the bezel.

Touch Screen Calibration

The retail touch monitor has been calibrated at the factory prior to shipment and should not need to be calibrated when first installed. You should be able to accurately touch icons on the sensor. However, if you find that the touch point is not registering on the screen where the stylus or finger touches, the touch sensor's active area may not be aligned to the underlying video and you will have to perform the touch module calibration process.

Calibration for Windows Vista and Windows 7

To calibrate the touch module in Windows Vista and Windows 7:

1. After you connect your touch display, go to the **Control Panel** and click on **Tablet PC Settings**.
2. In the **Tablet PC Settings** dialog box, click on the **Calibrate** button and follow the instructions to press the target marks on the touch screen. At the end of the calibration process, the touch module should be aligned with the video and the touch points will be accurate.

Calibration for Windows XP

You must load the touch screen driver provided on the software and documentation CD that shipped with the monitor if you are using Windows XP or a Windows XP based operating system (see Installing the Touch Drivers for Microsoft Windows XP on page 18 for details). A Calibration Tool for Windows XP is also included on the CD shipped with the monitor.

To calibrate the touch module in Windows XP:

1. Install the **Calibration Tool** from the software and documentation CD.
2. After installation, launch the **Calibration Tool** and follow the on screen instructions. At the end of the calibration process, the touch module should be aligned with the video and the touch points will be accurate.

4 Finding More Information

Reference Guides

Refer to the *HP LCD Monitors Reference Guide* included on the CD shipped with the monitor and available at http://www.hp.com/support for additional information on:

- Optimizing monitor performance
- Safety and maintenance guidelines
- Agency regulatory and environmental notices
- Using the OSD menu

Product Support

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.

NOTE: The monitor user guide, reference guide, and drivers are available at http://www.hp.com/support.

If the information provided in the guide or in the *HP LCD Monitors Reference Guide* do not address your questions, you can contact support. For U.S. support, go to http://www.hp.com/go/contactHP. For worldwide support, go to http://welcome.hp.com/country/us/en/wwcontact_us.html.

Here you can:

- Chat online with an HP technician

NOTE: When support chat is not available in a particular language, it is available in English.

- E-mail support
- Find support telephone numbers
- Locate an HP service center

A Troubleshooting

Touch Screen Troubleshooting

The following table lists possible problems and the recommended solutions.

Table A-1 Troubleshooting

Problem	Solution
Computer does not recover from Sleep mode when the touch screen is touched.	Sleep mode recovery is not supported by the touch screen. Use the keyboard or mouse to recover from Sleep mode.
The USB cable is quickly removed from the monitor and reinserted, and the touch function is lost.	Windows takes a minimum amount of time to adjust system parameters when a USB device is either removed or connected. Try removing the USB cable again, wait for at least five seconds, and then plug it in again.
Multi-touch gestures do not function on Windows 7 Home Basic or Starter editions, Windows Vista, or Windows XP.	Only Windows 7 Home Premium, Professional, Enterprise, and Ultimate editions support multi-touch gestures.
The **Start**, **Close**, and other icons are too small to touch with a finger.	Windows 7 provides a large icon feature that supports touch screen functions. This feature can be accessed in the Control Panel. A stylus may also be used.
Touch operation does not function properly on lower-resolution video modes that are not displayed in fullscreen.	Although the monitor supports a fill-to-aspect ratio function, the touch controller does not know how to respond to less-than-fullscreen images. Either change the resolution to the native resolution (1024 x 768 for the L6015tm model, 1280 x 1024 for the L6017tm model), or access the OSD menu and select **Image Control** to enable **Fill-to-Screen** (default setting).
A single touch is recognized as two touches. If using a paint tool, a single finger creates two lines.	The touch controller has a limitation on the size of the "touch" area. A fingertip touch usually works better than a flat forefinger or thumb touch.
When the monitor used is in a dual-screen configuration, the touch function on the second display does not work.	The USB connection is only capable of operating a single-touch screen monitor. If the second monitor is a touch monitor, you must connect a second USB cable. **NOTE:** Windows 7 Home Basic and Starter editions, Windows Vista, and Windows XP do not support extended display touch functionality. They support single-touch functions on the primary monitor only, not the secondary monitor (extended or cloned desktop).

B Technical Specifications

NOTE: All performance specifications are provided by the component manufacturers. Performance specifications represent the highest specification of all HP's component manufacturers' typical level specifications for performance and actual performance may vary either higher or lower.

HP L6015tm Retail Touch Monitor

Table B-1 HP L6015tm Specifications

LCD Display	38.1 cm	15 inches
Type	TFT LCD	
Pixel Pitch	0.297 (H) x 0.297 (V) mm	0.01 (H) x 0.01 (V) in
Horizontal Frequency	24 to 83 kHz	
Vertical Frequency	50 to 76 Hz	
Maximum Resolution	1024 x 768 at 60Hz	
Aspect Ratio	4:3	
Contrast Ratio	700:1 (typical)	
Brightness	350 nits	
Response Time	8 ms	
Color Gamut	68%	
Viewing Angle (V/H at CR>10)	140 / 160	
Video Sources	VGA + DVI + DP	
Front Controls	Menu, Minus, Plus, OK, Power	
OSD Main Menu	Brightness, Contrast, Color, Image Control, OSD Control, Management, Language, Information, Factory Reset, Source Control, Exit	
Touch Panel	Projected Capacitive	
Power	Input AC 100-240V, 50-60Hz	
Operating Conditions		
Temperature (Operating)	5°C to 40°C (41°F to 104°F)	
Temperature (Storage)	-20°C to 60°C (-4°F to 140°F)	
Humidity	20% ~ 80% (No Condensation)	
Altitude	0 to 5000 meters (16,400 feet)	

Table B-1 HP L6015tm Specifications (continued)

Dimensions		
Width	366.0 mm	14.41 in
Height (with stand)	414.0 mm	16.30 in
Height (without stand)	313.0 mm	12.32 in
Depth (with stand)	283.4 mm	11.16 in
Depth (without stand)	58.0 mm	2.28 in
Weight		
Actual (unpacked, with stand)	6.8 kg	14.99 lb
Actual (unpacked, without stand)	4.0 kg	8.82 lb
Shipping (packaged without stand)	5.9 kg	12.76 lb

HP L6017tm Retail Touch Monitor

Table B-2 HP L6017tm Specifications

LCD Display	43.2 cm	17 inches
Type	TFT LCD	
Pixel Pitch	0.264 (H) x 0.264 (V) mm	0.01 (H) x 0.01 (V) in
Horizontal Frequency	24 to 83 kHz	
Vertical Frequency	50 to 76 Hz	
Maximum Resolution	1280 x 1024 at 60Hz	
Aspect Ratio	5:4	
Contrast Ratio	1000:1 (typical)	
Brightness	225 nits	
Response Time	5 ms	
Color Gamut	68%	
Viewing Angle (V/H at CR>10)	160 / 170	
Video Sources	VGA + DVI + DP	
Front Controls	Menu, Minus, Plus, OK, Power	
OSD Main Menu	Brightness, Contrast, Color, Image Control, OSD Control, Management, Language, Information, Factory Reset, Source Control, Exit	
Touch Panel	Projected Capacitive	
Power	Input AC 100-240V, 50-60Hz	

Table B-2 HP L6017tm Specifications (continued)

Operating Conditions		
Temperature (Operating)	5°C to 40°C (41°F to 104°F)	
Temperature (Storage)	-20°C to 60°C (-4°F to 140°F)	
Humidity	20% ~ 80% (No Condensation)	
Altitude	0 to 5000 meters (16,400 feet)	
Dimensions		
Width	385.58 mm	15.18 in
Height (with stand)	423.31 mm	16.67 in
Height (without stand)	338.90 mm	13.34 in
Depth (with stand)	283.39 mm	11.16 in
Depth (without stand)	58.00 mm	2.28 in
Weight		
Actual (unpacked, with stand)	7.5 kg	16.53 lb
Actual (unpacked, without stand)	4.7 kg	10.36 lb
Shipping (packaged without stand)	6.5 kg	14.33 lb

Projected Capacitive Technology

Table B-3 Projected Capacitive Specifications

Input Method	Bare finger, 3 layers of food service gloves, 3M SmartPen stylus
Positional Accuracy	Standard deviation of error is less than 0.080 in (2.03 mm). Equates to less than ±1% error on most displays.
Resolution Accuracy	More than 100,000 touchpoints/in² (15,500 touchpoints/cm²) for a 15-inch touch screen. The controller firmware program may reduce resolution to accommodate axis length greater than 465 mm.
Touch Activation Force	Typically less than 3 ounces (85 grams).
Surface Durability	Surface scratches will not cause functional failures regardless of the length or depth of the scratch. A Mohs' pick with a hardness rating of 6 or higher is required to induce a cosmetic scratch.
Expected Life Performance	No known wear-out mechanism, as there are no layers, coatings, or moving parts. Technology has been operationally tested to more than 50 million touches in one location without failure, using a stylus similar to a finger.
Optical Light Transmission (per ASTM D1003)	>87%
Electrostatic Protection (per EN 61 000-4-2, 1995)	Meets Level 4 (15 kV air/8j V contact discharges).

Recognizing Preset Display Resolutions

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

L6015tm and L6017tm

Table B-4 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 × 1024 (L6017tm only)	63.981	60.020

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 4 or 5 factory preset, there are 10 user modes that can be entered and stored.

The only condition to store as a user mode is the new display information must have 1 KHz difference for horizontal frequency or 1 Hz for vertical frequency or the sync signal polarities are different from the default modes.

Energy Saver Feature

When the monitor is in its normal operating mode, the monitor uses less than 21 watts and the Power light is green.

The monitor also supports 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 less than 1 watt 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.