HP EliteDisplay S230tm Touch Monitor

User Guide

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First Edition: October 2013

Document Part Number: 739499-001

About this guide

This guide provides information on setting up the monitor, operating the touch screen, 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.

TIP: Text set off in this manner provides helpful hints.

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1 Product features

HP Touch Monitor

The LCD (liquid crystal display) monitor has an active matrix, wide viewing angle panel. The monitor features include:

- 58.4 cm (23-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
- LED backlight consumes less energy than traditional CCFL backlights
- Wide viewing angle to allow viewing from a sitting or standing position, or moving from side-to-side
- Optical touch technology, which is Windows 8 certified
- Tilt capability with up to 70 degree recline
- Removable stand for flexible monitor panel mounting solutions with VESA Standard 100 x 100 mounting pattern
- Video signal input to support DVI digital with DVI-D signal cable provided
- Video signal input to support DisplayPort digital with DisplayPort signal cable provided
- USB cable provided to connect the monitor's touch controller to the computer (required for webcam and touch functionality)
- Audio input jack with audio cable included
- Integrated webcam and dual microphone array
- Integrated speakers
- Audio output headphone jack
- Supports Windows 7 and Windows 8 operating systems only
- Plug and play capability on Windows 7 and Windows 8
- Security slot provision on rear of monitor for optional cable lock
- On-screen display (OSD) adjustments in several languages for easy setup and screen optimization
- HDCP (High-Bandwidth Digital Content Protection) copy protection on DVI and DisplayPort inputs

- Software and documentation disc that includes monitor drivers and product documentation
- Energy saver feature to meet requirements for reduced power consumption
- Safety guidelines, certifications, and regulatory notices for these products are available in the *HP LCD Monitors Reference Guide* on the disc included with this monitor

2 Setting up and using the monitor

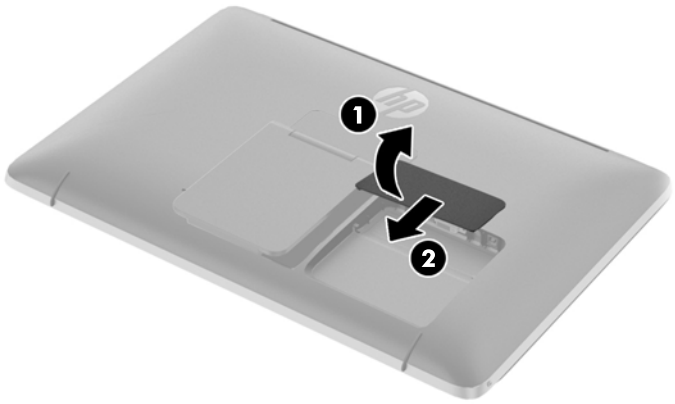
To set up the monitor, ensure that the power is turned off to the monitor, computer system, and other attached devices, and then follow the instructions below.

Rear components

Component		Description
1	DC power connector	Connects the DC power cable to the monitor.
2	DisplayPort connector	Connects the DisplayPort cable to the monitor.
3	DVI-D connector	Connects the DVI-D cable to the monitor.
4	Audio In connector	Connects the audio cable from a host computer to the monitor .
5	USB upstream connector	Connects the USB cable to the monitor's touch screen USB connector and to a host USB port/hub. **NOTE:** A USB connection between the monitor and computer is required for webcam and touch functionality.

Connecting the cables

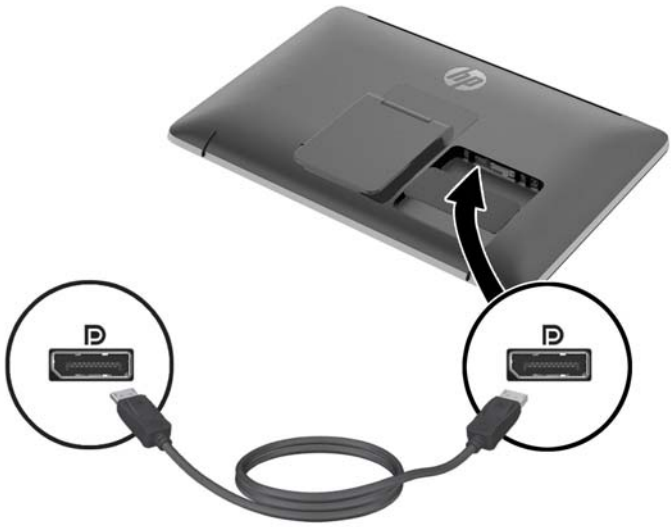
1. Lay the monitor panel face down on a flat surface covered by a clean, dry cloth.
2. Rotate the bottom of the cable cover up (1) then slide out the top of the cover (2) to remove it.



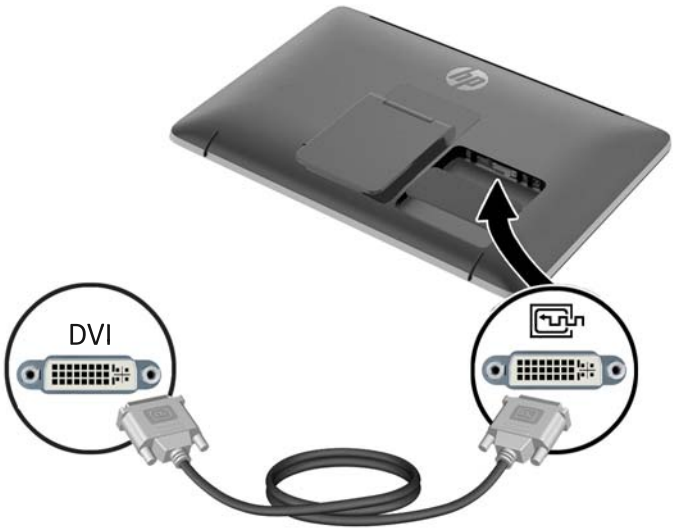
3. Depending on your configuration, connect either the DVI or DisplayPort video cable between the PC and the monitor.

NOTE: 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 Input button on the side panel or through the On-Screen Display (OSD) feature by pressing the Menu button.

- For DisplayPort digital operation, connect the DisplayPort signal cable to the DisplayPort connector on the rear of the monitor and the other end to the DisplayPort connector on your input device (cable provided).



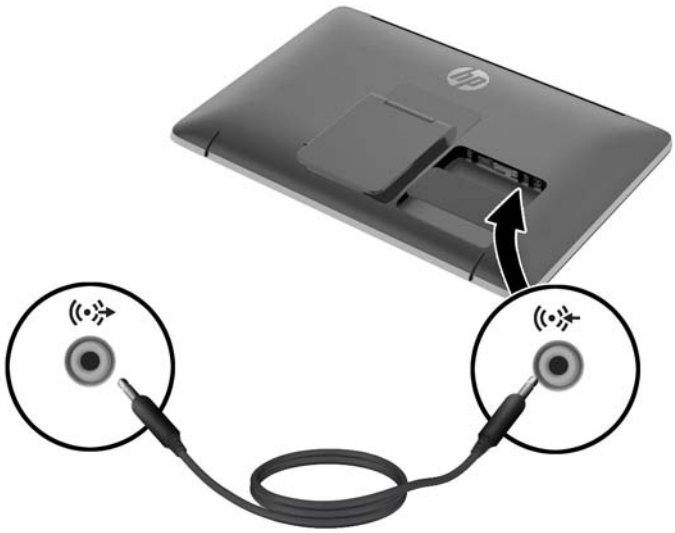
- For DVI digital operation, connect the DVI-D signal cable to the DVI connector on the rear of the monitor and the other end to the DVI connector on your input device (cable provided).



4. Connect one end of the provided USB cable to a USB connector on the rear panel of the computer, and the other end to the USB connector on the monitor.

NOTE: You must connect the USB cable between the computer and monitor for webcam and touch functionality.

5. Connect the provided audio cable to the audio input jack on the rear of the monitor and the other end to the audio output jack on your input device.



6. Plug the round end of the power supply cord into the power supply connector on the rear of the monitor (1). Plug the power cord into the power supply brick (2) and connect the other end of the power cord to an electrical outlet (3).

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

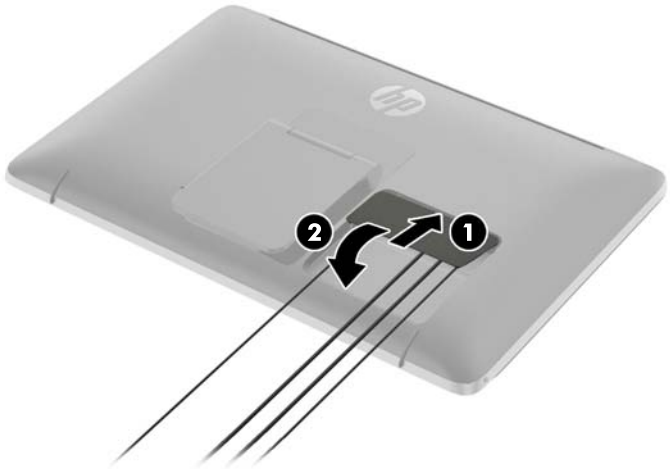
Do not disable the power cord grounding plug. The grounding plug is an important safety feature.

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 cover on the rear of the monitor by sliding the tabs on the top of the cover into the slots on the top of the cable connection recess (1) then rotate the cover down and snap into the recess (2) so that it is securely fastened to the rear of the monitor.

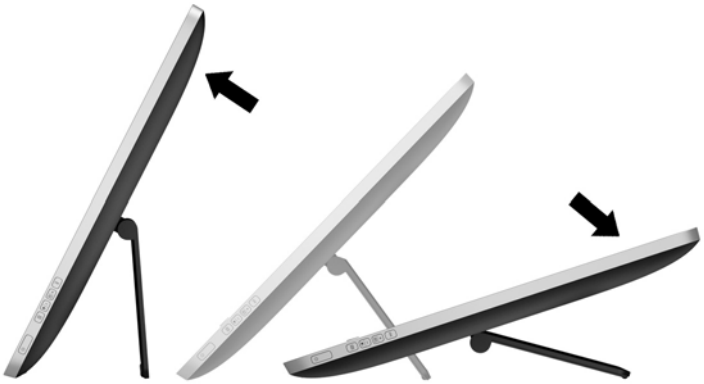


8. Place the monitor upright and pull the easel stand out to support the monitor.

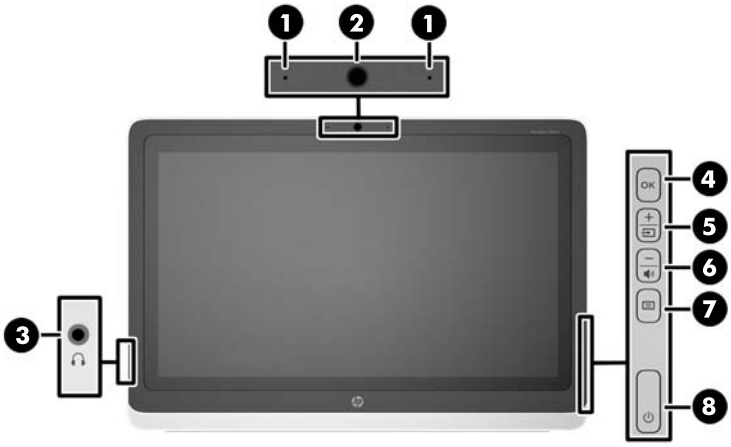
Adjusting the monitor tilt

Adjust the tilt to the desired position. To adjust the tilt upward, hold the top of the monitor with two hands and rotate the monitor upward and forward. To adjust the tilt downward, hold the top of the monitor with two hands and rotate the monitor back and down.

The monitor tilt range is 15 to 70 degrees.



Front and side components



Component			Description
1		Dual microphone array	Integrated into the top of the monitor's bezel.
2		Webcam	Integrated into the top of the monitor's bezel.
3		Headphone jack	Connects headphones. **NOTE:** Connecting headphones will mute the internal speakers.
4	OK	OK button	If the OSD menu is on, press to select the highlighted menu item.
5	+	Plus/input button	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 input button that chooses the video signal input (DVI or DisplayPort).
6	—	Minus/volume button	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 menu.
7		Menu button	Opens, selects from, or exits the OSD menu.
8		Power button	Turns the monitor on or off.

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

Turning on the monitor

1. Press the power button on the computer to turn it on.
2. Press the power button on the side 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 12 or more consecutive hours of non-use. 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.

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 status message is displayed for five seconds. The message shows which input (DVI or DisplayPort) 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 DisplayPort), 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. You can change the default source in the OSD by pressing the front panel Menu button and selecting **Input Control** > **Default Input**.

HP watermark and image retention policy

The wide viewing angle monitor models are designed with wide viewing angle display technology which provides ultra-wide viewing angles and advanced image quality. Wide viewing angle monitors are suitable for a wide variety of advanced image quality applications. This panel technology, however, is not suitable for applications that exhibit static, stationary or fixed images for long periods of time without the use of screen savers. These types of applications may include camera surveillance, video games, marketing logos, and templates that are displayed on the screen for a prolonged period of time. Static images may cause image retention damage that could look like stains or watermarks on the monitor's screen.

Monitors in use for 24 hours per day that result in image retention damage are not covered under the HP warranty. To avoid image retention damage, always turn off the monitor when it is not in use or use the power management setting, if supported on your system, to turn off the display when the system is idle.

Using the touchscreen

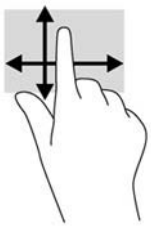
A touch screen device allows you to control items on the screen directly with your fingers.

TIP: On touch screen devices, you can also perform on-screen actions with a keyboard and mouse.

One-finger slide

The one-finger slide is mostly used to pan or scroll through lists and pages, but you can use it for other interactions, such as moving an object.

- To scroll across the screen, lightly slide one finger across the screen in the direction you want to move.
- To drag, press and hold an object, and then drag the object to move it.



Tapping

To make an on-screen selection, use the tap function. Use one finger to tap an object on the screen to select it. Double-tap an item to open it.

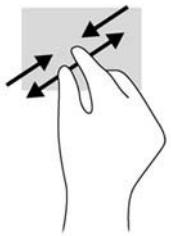
Scrolling

Scrolling is useful for moving up, down, left, or right on a page or image. Place two fingers on the screen and then drag them in an up, down, left, or right motion.

Pinching/stretching

Pinching and stretching allows you to zoom out or in on images or text.

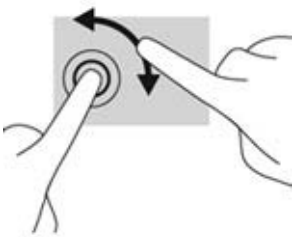
- Zoom in by placing two fingers together on the display and then move your fingers apart.
- Zoom out by placing two fingers apart on the display and then move your fingers together.



Rotating

Rotating allows you to turn items such as photos.

Anchor the forefinger of your left hand on the object you want to rotate. Using your right hand, slide your forefinger around in a sweeping motion from 12 o’clock to 3 o’clock. To reverse the rotation, move your forefinger from 3 o’clock to 12 o’clock.



NOTE: Rotate is intended for specific apps where you can manipulate an object or image. Rotate may not be functional for all apps.

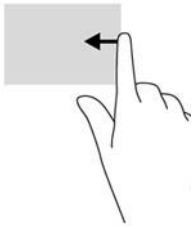
Edge swipes (Windows 8 only)

With edge swipes you can perform tasks such as changing settings and finding or using apps.

Right-edge swipe

The right-edge swipe reveals the charms, letting you search, share, start apps, access devices, or change settings.

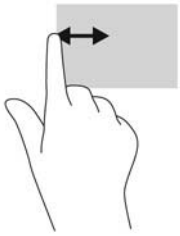
- To open the Charms bar, start at the right edge and swipe across the screen.
- To search for an app, setting, or file, swipe from the right edge across the screen to open the Charms bar, tap the **Search** charm, and then tap the category, such as **Files**. Then tap the **Search** box to use the on-screen keyboard.
- To open the Start screen, swipe from the right edge to open the Charms bar, and then tap **Start**.
- To shut down the computer, swipe from the right edge of the screen to open the Charms bar, tap the **Settings** charm, and the tap **Power**.



Left-edge swipe

The left-edge swipe reveals your open apps so that you can switch to them quickly.

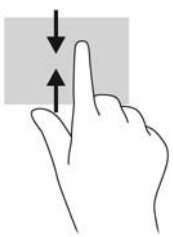
Gently swipe your finger inward from the left edge of the display bezel to switch between apps. Without lifting your finger, swipe back toward the left edge to reveal all open apps.



Top-edge and bottom-edge swipe

The top-edge swipe or bottom-edge swipe allows you to open a list of the apps that are available on your computer.

From the Start screen, gently swipe your finger from the top edge or the bottom edge of the display bezel onto the screen and tap **All apps**.



Cleaning the monitor

For optimal performance you should regularly clean the touch screen and the touch screen reflectors around the inside of the front bezel.

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.

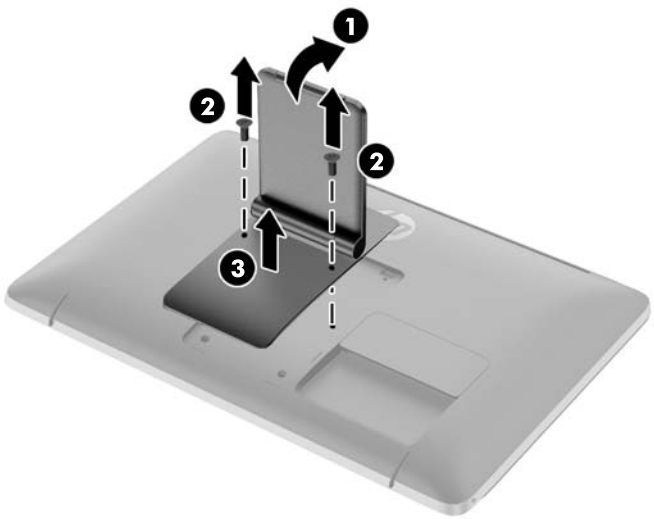
Removing the monitor stand

You can remove the monitor panel from the stand 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. Also disconnect the USB and audio cables connected to the monitor.

1. Disconnect and remove the signal, power, USB, and audio cables from the monitor.
2. Lay the monitor face down on a flat surface covered by a clean, dry cloth.
3. Pull the easel stand up to the vertical position (1), remove the two screws that attach the stand to the monitor (2), and then lift the easel stand off the monitor (3).

⚠ **WARNING!** The easel stand is spring loaded so be sure to hold it firmly in a vertical position so that it does not snap back and hit your hand while removing the screws.



Mounting the monitor

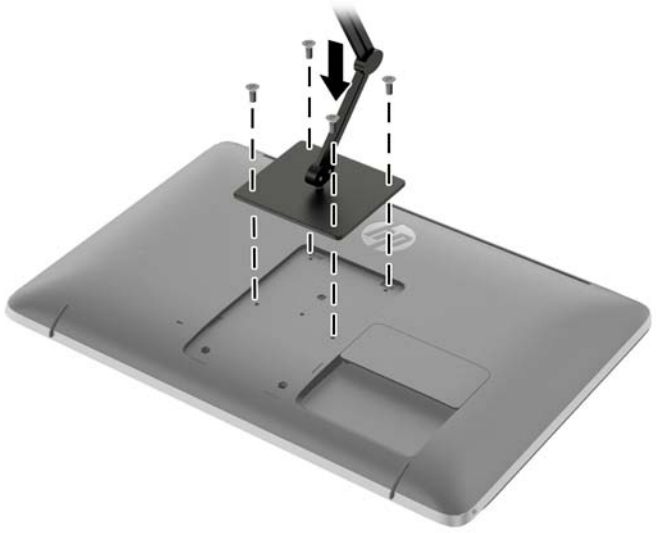
The monitor panel can be attached to a wall, swing arm, or other mounting fixture.

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

1. Remove the monitor panel from the easel stand. Refer to Removing the monitor stand on page 14.

   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 10 mm screws through the holes on the swing arm plate and into the mounting holes on the monitor.

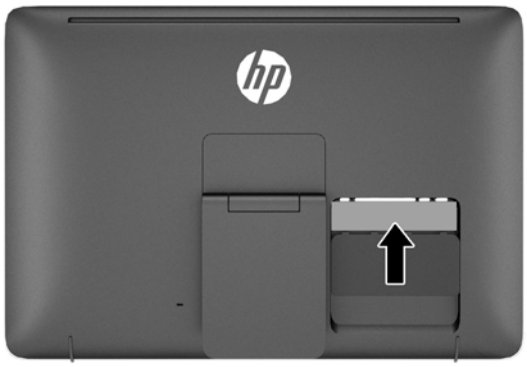


   To attach the monitor to other mounting fixtures, follow the instructions included with the mounting fixture to ensure that the monitor is safely attached.

3. Reconnect the cables to the monitor panel.

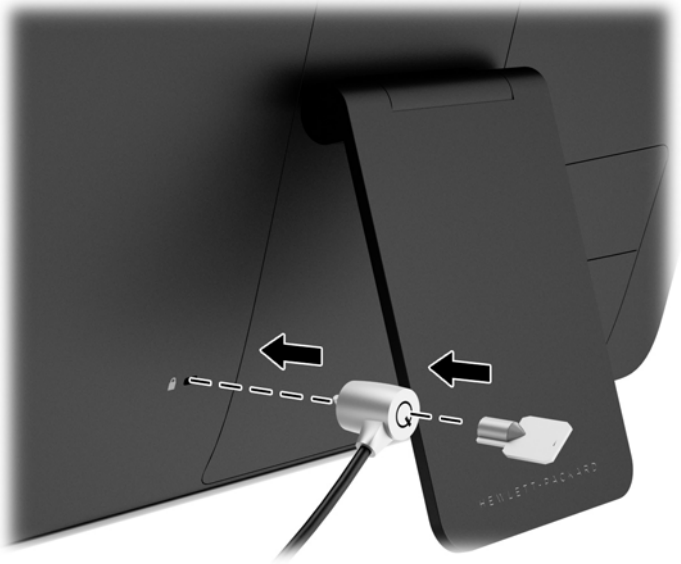
Locating the rating label

The rating label on the monitor provides the spare part number, product number, and serial number. You may need these numbers when contacting HP about the monitor model. The rating label is located on the rear panel of the monitor behind the cable cover.



Installing a cable lock

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



3 Using the webcam

Install CyberLink YouCam software and driver from the disc that came with your monitor.

NOTE: USB connectivity between the monitor and PC is required for the webcam to operate.

Use your webcam to:

- Create videos from files on your computer.
- Create snapshots to view, organize, edit, send, and print.
- Create video notes for an enhanced visual calendar and to share.
- Initiate live video chats with Windows Live Messenger or other compatible software program.
- Import live videos into a movie-making program to save, send, stream on the Web, or record to disc.

Installing YouCam from the disc

To install YouCam:

1. Insert the disc that came with your monitor into the computer's optical drive.
2. Select **Install YouCam** and run the setup file.
3. Follow the instructions on the screen.

Capturing webcam video and snapshots

To use CyberLink YouCam after you install it from the provided disc:

1. Click the **Start** button.
2. Click **All Programs**, **CyberLink YouCam**, and then click **CyberLink YouCam** again.
3. Click **Tutorials** to view an instructional video.

Having a video chat or making conference calls

To set up a video chat, you must have a connection to the Internet, and ISP, and software that enables you to make video calls over the Internet. As with chat or instant messenger software, you can use this kind of software to chat with one or more people at a time. This software may require a separate subscription.

The optimal distance for recording sound with the array microphone is about .5 meters (2 feet) away from the microphone.

Before you can set up a video chat:

1. Download an Internet messenger or video phone call program. Make sure the person you are calling has compatible video-calling software.
2. Enable your webcam as the default video input. This is usually done through the video setup in the **Tools** menu in the software program you are using.
3. Send your video call by following the instructions for the video-calling software program.

4 Finding more information

Reference guides

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

- Optimizing monitor performance
- Safety and maintenance guidelines
- Installing software from the disc
- Using the OSD menu
- Downloading software from the Web
- Agency regulatory information
- Troubleshooting and recommended solutions to common problems

Product support

For additional information on using your all-in-one, go to http://www.hp.com/support. Select your country or region, select **Troubleshooting**, and then enter your model in the search window and click the **Go** button.

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 Technical specifications

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

HP S230tm

Display	58.4 cm touch screen	23 inches touch screen
Type	Wide viewing angle LCD	
Viewable Image Size	58.4 cm diagonal	23-inch diagonal
Maximum Weight (Unpacked)	6.5 kg	14.3 lbs
Dimensions (with stand)		
Height	40.92 cm	16.1 inches
Depth	6.95 cm	2.7 inches
Width	59.93 cm	23.6 inches
Maximum Graphic Resolution	1920 x 1080 (60 Hz) digital input	
Optimum Graphic Resolution	1920 x 1080 (60 Hz) digital input	
Environmental Requirements Temperature		
Operating Temperature	5 to 35° C	41 to 95° F
Storage Temperature	-20 to 60° C	-4 to 140° F
Power Source	100 – 240 VAC 50/60 Hz external adapter	
Input Terminal	One DisplayPort connector (cable provided); one DVI connector (cable provided)	

NOTE: For the latest specifications or additional specifications on this product, go to http://www.hp.com/go/productbulletin and search for your specific display model to find the model-specific QuickSpecs.

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.

HP S230tm

Table A-1 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	55.935	59.887
8	1600 x 900	60.00	60.00
9	1680 × 1050	65.29	59.954
10	1920 × 1080	67.50	60.00

Table A-2 High Definition video formats

Preset	Timing name	Pixel format	Horz freq (kHz)	Vert freq (Hz)
1	480p	720 × 480	31.469	59.94
2	576p	720 × 576	31.25	50
3	720p50	1280 × 720	37.5	50
4	720p60	1280 × 720	45	60
5	1080p50	1920 × 1080	56.25	50
6	1080p60	1920 × 1080	67.5	60

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.

It 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 0.5 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 sleep timer utility, you can also program the monitor to enter into the reduced power state at a predetermined time. When the monitor's sleep timer utility causes the monitor to enter the reduced power state, the power light blinks amber.