User Guide

Product notice

This guide describes features that are common to most models. Some features may not be available on your product. To access the latest user guide, go to http://www.hp.com/support. Select **Find your product**, and then follow the on-screen instructions.

About This Guide

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

⚠ **WARNING!**   Indicates a hazardous situation that, if not avoided, **could** result in death or serious injury.

⚠ **CAUTION:**   Indicates a hazardous situation that, if not avoided, **could** result in minor or moderate injury.

▨ **IMPORTANT:**   Indicates information considered important but not hazard-related (for example, messages related to property damage). A notice alerts the user that failure to follow a procedure exactly as described could result in loss of data or in damage to hardware or software. Also contains essential information to explain a concept or to complete a task.

▨ **NOTE:**   Contains additional information to emphasize or supplement important points of the main text.

☼ **TIP:**   Provides helpful hints for completing a task.

HDMI™
HIGH-DEFINITION MULTIMEDIA INTERFACE

This product incorporates HDMI technology.

Table of contents

1   Product features

Features

The LCD (liquid crystal display) monitor has an active matrix, In-Plane Switching (IPS) panel. The monitor features include:

- 61.0 cm (24-inch) diagonal viewable area display with 1920 x 1200 resolution, plus full-screen support for lower resolutions: includes custom scaling for maximum image size while preserving original aspect ratio

- Wide color gamut to provide 100% coverage of both AdobeRGB and sRGB color spaces

- Ability to accurately remap the color gamut of the monitor (within the supported color gamut of the panel) to enable the selection of the color space and very accurately set the RGB primaries for consistent and repeatable colors

- Very high color and luminance stability (with typical use)

- Calibrated color space factory presets for AdobeRGB, BT. 709, and sRGB so the monitor is ready to use for color critical applications with minimal setup

- Re-calibrateable color presets that allow you to re-calibrate to a standard or custom color space by specifying the color primaries, white point, gamma, and luminance (requires the separately purchased HP DreamColor Calibration Solution kit)

- Option to return to Factory Calibration settings or User Calibration settings to easily restore the monitor to the factory or user settings

- User calibration that requires the DreamColor calibration solution kit (sold separately)

- User adjustable color settings for customers who do not have calibration equipment

- Four reconfigurable front bezel Function buttons to quickly select the most commonly used operations

- Wide viewing angle to allow viewing from a sitting or standing position, or moving from side-to-side

- Adjustable tilt, height, swivel, and pivot capabilities

- Removable stand for flexible monitor panel mounting solutions

- HP Quick Release 2 to quickly install the monitor on the stand with a simple click and remove it with the convenient sliding tab release

- Optional thin client mounting bracket that attaches to the rear of the stand (purchased separately)

- Easy access pull-out information card with the information needed when contacting HP support

- Video signal inputs to support DisplayPort digital (cable provided), DVI digital (cable provided), and HDMI digital (cable not provided)

- DisplayPort output connector for DisplayPort multistreaming

- Analog audio output for headphones or an optional HP speaker bar

- USB 3.0 hub with one upstream port (cable provided) that connects to the computer and four downstream ports that connect to USB devices

- Plug and play capability if supported by your operating system

- 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

- PIP functionality to enable the DisplayPort, DVI, and HDMI inputs to be viewed in a small secondary window or side-by-side on the main window

- HDCP (High-Bandwidth Digital Content Protection) copy protection on all digital inputs

- In select regions, software and documentation optical disc provided with the monitor that includes monitor drivers and product documentation

NOTE: For safety and regulatory information, refer to the *Product Notices* provided in your documentation kit. To locate updates to the user guide for your product, go to http://www.hp.com/support. Select **Find your product**, and then follow the on-screen instructions.

2 Safety and maintenance guidelines

Important safety information

An AC power cord may be 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 the optical disc or in your documentation kit.

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

• Plug the power cord into an AC outlet that is easily accessible at all times.

• Disconnect power from the computer by unplugging the power cord from the AC outlet.

• If provided with a 3-pin attachment plug on the power cord, plug the cord into a grounded (earthed) 3-pin outlet. Do not disable the power cord grounding pin, for example, by attaching a 2-pin adapter. The grounding pin is an important safety feature.

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.

To reduce the risk of serious injury, read the *Safety & Comfort Guide*. It describes proper workstation setup, and proper posture, health, and work habits for computer users. The *Safety & Comfort Guide* also provides important electrical and mechanical safety information. The *Safety & Comfort Guide* is available on the Web at http://www.hp.com/ergo.

📝 IMPORTANT: For the protection of the monitor, as well as the computer, connect all power cords for the computer and its peripheral devices (such as a monitor, printer, scanner) to some form of surge protection device such as a power strip or uninterruptible power supply (UPS). Not all power strips provide surge protection; the power strips must be specifically labeled as having this ability. Use a power strip whose manufacturer offers a damage replacement policy so you can replace the equipment if surge protection fails.

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

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

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

Be sure that the total ampere rating of the products connected to the AC outlet does not exceed the current rating of the outlet, and that 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 AC outlet that you can easily reach. Disconnect the monitor by grasping the plug firmly and pulling it from the AC outlet. Never disconnect the monitor by pulling the cord.

Do not drop the monitor or place it on an unstable surface.

📝 NOTE: This product is suitable for entertainment purposes. Consider placing the monitor in a controlled luminous environment to avoid interference from surrounding light and bright surfaces that may cause disturbing reflections from the screen.

Maintenance guidelines

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

- Do not open the monitor cabinet or attempt to service this product yourself. Adjust only those controls that are covered in the operating instructions. If the monitor is not operating properly or has been dropped or damaged, contact an authorized HP dealer, reseller, or service provider.

- Use only a power source and connection appropriate for this monitor, as indicated on the label/back plate of the monitor.

- Be sure the total ampere rating of the products connected to the outlet does not exceed the current rating of the electrical outlet, and the total ampere rating of the products connected to the cord does not exceed the rating of the cord. Look on the power label to determine the ampere rating (AMPS or A) for each device.

- Install the monitor near an outlet that you can easily reach. Disconnect the monitor by grasping the plug firmly and pulling it from the outlet. Never disconnect the monitor by pulling the cord.

- Turn the monitor off when not in use. You can substantially increase the life expectancy of the monitor by using a screen saver program and turning off the monitor when not in use.

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

- Slots and openings in the cabinet are provided for ventilation. These openings must not be blocked or covered. Never push objects of any kind into cabinet slots or other openings.

- Do not drop the monitor or place it on an unstable surface.

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

- Keep the monitor in a well-ventilated area, away from excessive light, heat or moisture.

- When removing the monitor stand, you must lay the monitor face down on a soft area to prevent it from getting scratched, defaced, or broken.

Cleaning the monitor

1. Turn off the monitor and unplug the power cord from the back of the unit.

2. Dust the monitor by wiping the screen and the cabinet with a soft, clean antistatic cloth.

3. For more difficult cleaning situations, use a 50/50 mix of water and Isopropyl alcohol.

IMPORTANT: 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.

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

Shipping the monitor

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

3 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.

NOTE: Be sure the master power switch, located on the rear panel of the monitor, is in the off position. The master power switch turns off all power to the monitor.

Use caution when setting up the monitor

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

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

Attaching the monitor stand

IMPORTANT: 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.

The display uses the HP Quick Release 2 for easy moving of the monitor. To mount the panel onto the stand:

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

2. Slide the top of the mounting plate (1) on the stand under the upper lip of the recess in the back of the panel.

3. Lower the bottom of the stand's mounting plate (2) into the recess until it snaps into place.

4. The HP Quick Release 2 latch (3) pops up when the stand is locked in place.

NOTE: If you are mounting the monitor to a mounting fixture instead of the stand refer to Mounting the monitor on page 16.

Rear components
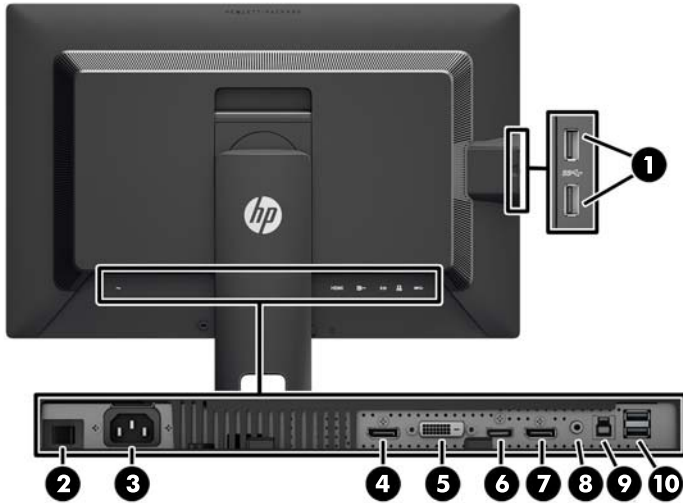
	Component		Function
1	SS⟨←	USB 3.0 Downstream Connectors (side panel)	Connects optional USB devices to the monitor.
2	∼	Master Power Switch	Turns off all power to the monitor. **NOTE:** Putting the switch in the Off position will yield the lowest power state for the monitor when not in use.
3	∼	AC Power Connector	Connects the AC power cord to the monitor.
4	ᗪIN	DisplayPort IN	Connects the DisplayPort cable to the monitor.
5		DVI-D	Connects the DVI-D cable to the monitor.
6	HDMI	HDMI	Connects an HDMI cable to the monitor.
7	ᗪOUT	DisplayPort OUT	Connects a second monitor. **NOTE:** A removable rubber plug covers the DisplayPort OUT connector.
8	((·⟩	Audio Out	Connects headphones or optional HP Speaker Bar to the monitor.
9		USB 3.0 Upstream Connector	Connects the USB hub cable to the monitor's USB hub connector and to a host USB port/hub.
10	SS⟨←	USB 3.0 Downstream Connectors	Connects optional USB devices to the monitor.

Connecting the cables

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

2. Before connecting the cables, route the cables through the cable routing hole in the center of the stand.
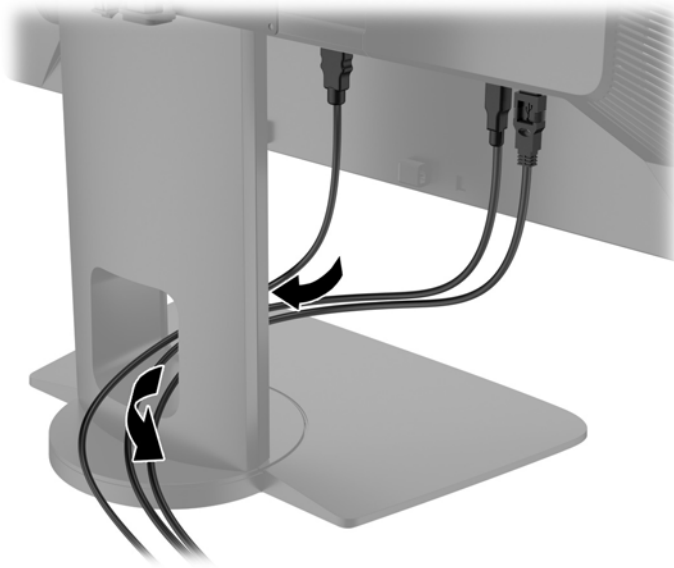
3. Depending on your configuration, connect either the DisplayPort, DVI, or HDMI video cable between the PC and the monitor.

   📝 **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 through the On-Screen Display (OSD) feature by pressing one of the five front bezel buttons to activate the buttons, and then press the bottom **Open Menu** button to open the OSD. In the OSD select **Video Input** and choose the desired input source.

   ● For DisplayPort digital operation, connect the DisplayPort signal cable to the DisplayPort IN connector on the rear of the monitor and the other end to the DisplayPort connector on the computer (cable provided).

   📝 **NOTE:** You must connect the DisplayPort cable to the DisplayPort IN connector, not the DisplayPort OUT connector. The monitor will not function if you connect the cable between the DisplayPort OUT connector and the computer.
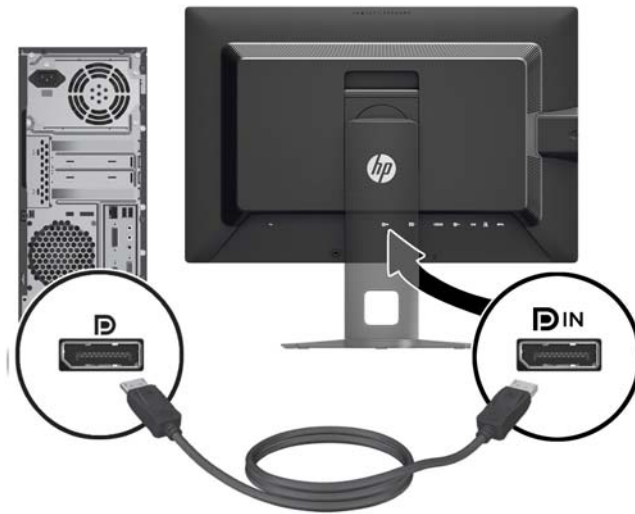
- For DVI digital operation, connect the DVI-D signal cable to the DVI connector on the rear of the monitor and the other end to the DVI connector on the computer (cable provided).
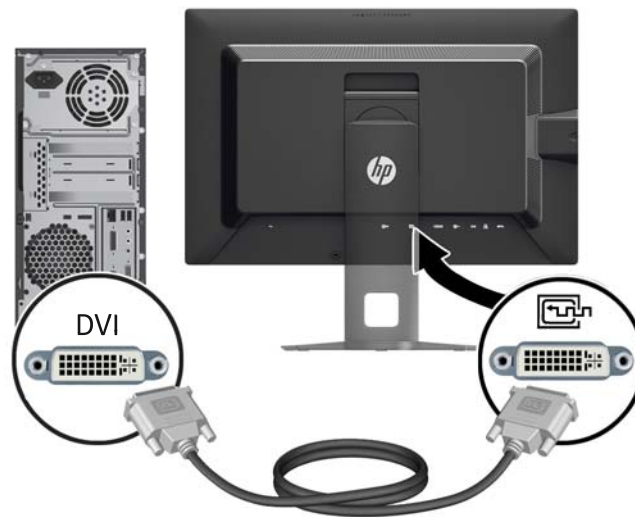
● For HDMI digital operation, connect the HDMI signal cable to the HDMI connector on the rear of the monitor and the other end to the HDMI connector on the computer (cable not provided).
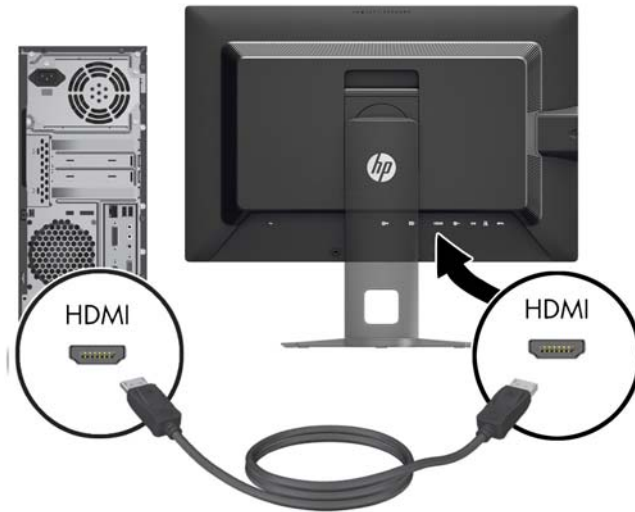
4. Connect one end of the provided USB cable to the USB hub connector on the rear panel of the computer, and the other end to the upstream USB connector on the monitor.

NOTE: The monitor supports USB 3.0. For optimal performance, connect the USB cable to a USB 3.0 port on the computer, if available.
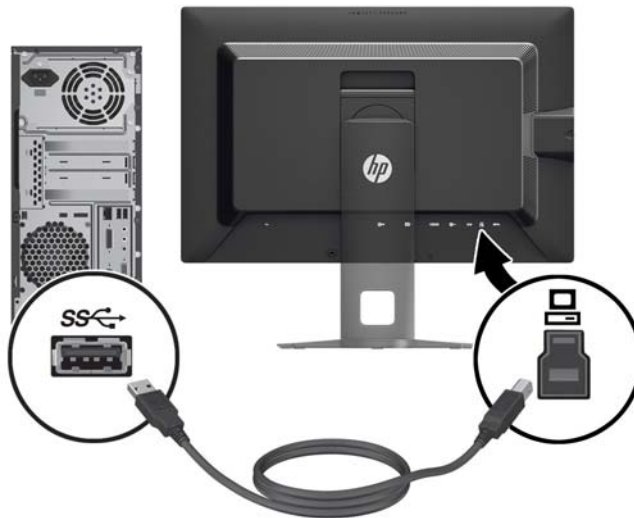
5. Connect one end of the power cord to the AC power connector on the back of the monitor, and the other end to an electrical wall outlet.

NOTE: The master power switch on the rear of the monitor must be in the On position before pressing the power button on the front of the monitor.
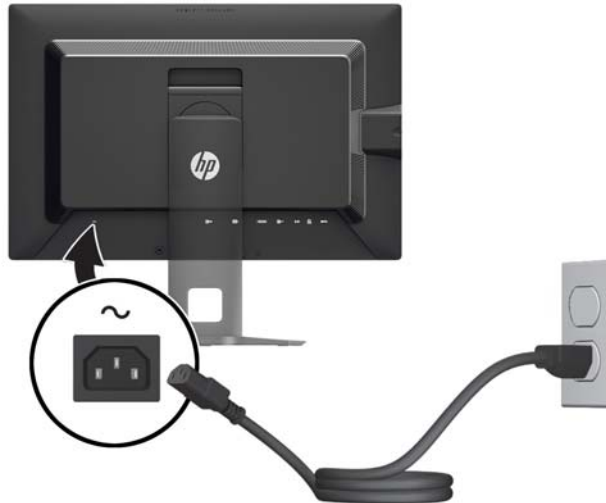
WARNING! To reduce the risk of electric shock or damage to the equipment:

Plug the power cord into an AC outlet that is easily accessible at all times.

Disconnect power from the computer by unplugging the power cord from the AC outlet.

If provided with a 3-pin attachment plug on the power cord, plug the cord into a grounded (earthed) 3-pin outlet. Do not disable the power cord grounding pin, for example, by attaching a 2-pin adapter. The grounding pin is an important safety feature.

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.

Front components

	Control	Function
1	Function buttons	Use these buttons to navigate through the OSD based on the indicators next to the buttons that are activated while the OSD is open.
2	Open Menu button	Opens and closes the OSD. **NOTE:** To activate the Open Menu button and the Function buttons, press any of the buttons so that the button labels appear on the right side of the screen and the button LEDs are lit.
3	Power button	Turns the monitor on or off. **NOTE:** Be sure the master power switch on the rear of the monitor is in the ON position to turn on the monitor.

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

NOTE: You can adjust the bezel button brightness and change the function of the buttons in the OSD. Refer to Adjusting the bezel button LEDs on page 25 and Changing the bezel button functions on page 25 for more information.

Adjusting the monitor

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

2. Swivel the monitor to the left or right for the best viewing angle.

3. Adjust the monitor's height to a comfortable position for your individual workstation. The monitor's top bezel edge should not exceed a height that is parallel to your eye height. A monitor that is positioned low and reclined may be more comfortable for users with corrective lenses. The monitor should be repositioned as you adjust your working posture throughout the work day.
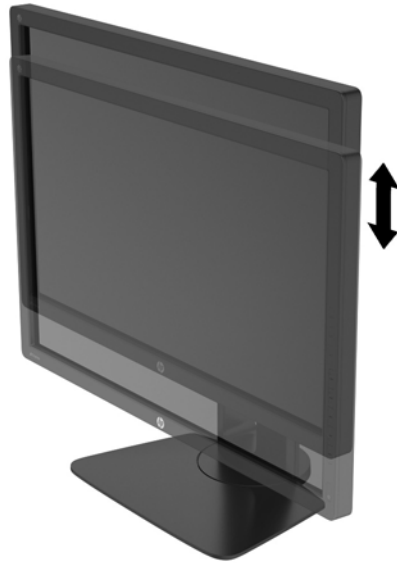
4. You can pivot the monitor from landscape to portrait orientation viewing to adapt to your application.

    a. Adjust the monitor to full height position and tilt the monitor back to full tilt position (1).

    b. Pivot the monitor clockwise 90° from landscape to portrait orientation (2).

    IMPORTANT: If the monitor is not in full height and full tilt position when pivoting, the bottom right corner of the monitor panel will come in contact with the base and potentially cause damage to the monitor.

    If you are adding an optional speaker bar to the monitor, install it after pivoting the monitor. The speaker bar will come in contact with the base when pivoting and potentially cause damage to the monitor or speaker bar.

NOTE: The monitor includes an auto-rotation sensor that automatically changes the displayed OSD from landscape to portrait when rotated. Use the operating system's display settings to rotate the image on the screen from portrait to landscape.

Turning on the monitor

1. Set the master power switch on the rear of the monitor to the On position.

2. Press the power button on the computer to turn it on.

3. Press the power button on the front of the monitor to turn it on.

IMPORTANT: 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 a static image.

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.

When the monitor is powered on, a Monitor Status message is displayed for five seconds. The message shows which input is the current active signal, the status of the auto-switch source setting (On or Off; 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 select the input source in the OSD. Press one of the five front bezel buttons to activate the buttons, and then press the bottom **Open Menu** button to open the OSD. In the OSD select **Video Input** and choose the desired input source.

HP watermark and image retention policy

The IPS monitor models are designed with IPS (In-Plane Switching) display technology which provides ultra-wide viewing angles and advanced image quality. IPS 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.

Connecting USB devices

There are four downstream USB ports on the monitor (two on the rear and two on the side).

NOTE: You must connect the USB hub cable from the monitor to the computer to enable the USB ports on the monitor. Refer to Connecting the cables on page 7.
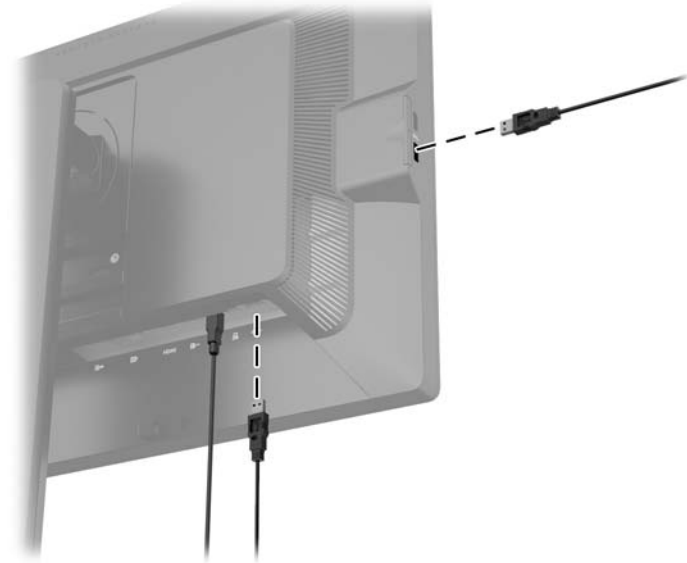
Removing the monitor stand

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

IMPORTANT: Before beginning to disassemble the monitor, be sure the monitor is turned off and the power and signal cables are both disconnected. Also disconnect any other cables connected to the monitor.

1. Disconnect and remove the signal, power, and USB cables from the monitor.

2. Lay the monitor face down on a flat surface covered by a clean, dry cloth.

3. Press down on the latch near the bottom center of the monitor to unlock the HP Quick Release 2 (1).

4. Swing the bottom of the stand up until the mounting plate clears the recess in the panel (2).

5. Slide the stand out of the recess (3).

Mounting the monitor

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

You can attach the monitor panel to a mounting fixture using the HP Quick Release 2 mounting bracket on the stand or you can attach the monitor panel to a mounting fixture without the use of the HP Quick Release 2 mounting bracket on the stand.

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

IMPORTANT: 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.

Mounting the monitor using the Quick Release 2 mounting bracket

To mount the monitor panel to a mounting fixture using the Quick Release 2 mounting bracket from the stand:

1. Remove the four screws holding the mounting plate attached to the head of the stand.
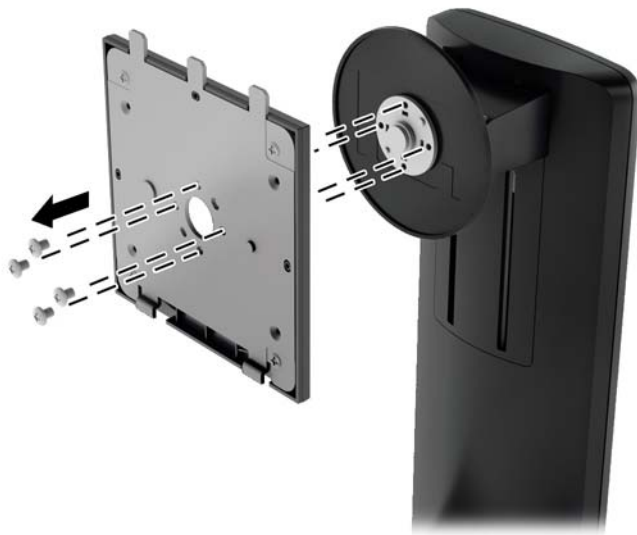
2. Remove the four screws from the mounting plate to separate the mounting plate from its cover.
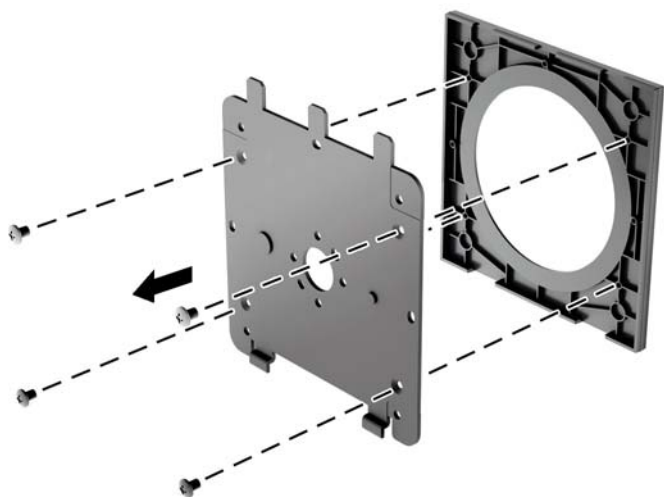
3. Remove the four screws from the VESA holes located on the rear of the monitor panel.

4. Install the mounting plate to the wall or swing arm of your choice using the four screws that were removed from the VESA holes on the rear of the monitor panel.
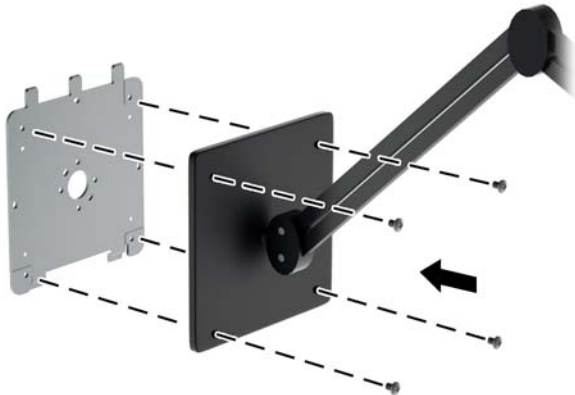
5. Place the monitor panel on the mounting bracket you've installed by aligning its recess with the mounting bracket, then sliding it down over the top of the bracket and pressing it back into place against the bracket. The release latch on the monitor will pop up when the monitor is safely locked in place.

Mounting the monitor without using the Quick Release 2 mounting bracket

Remove the monitor stand from the panel (see Removing the monitor stand on page 16). To mount the monitor panel directly to a mounting fixture without using the HP Quick Release 2 mounting bracket, use the four screws removed from the VESA holes on the rear of the monitor panel and install them to attach the mounting device to the rear of the monitor panel.
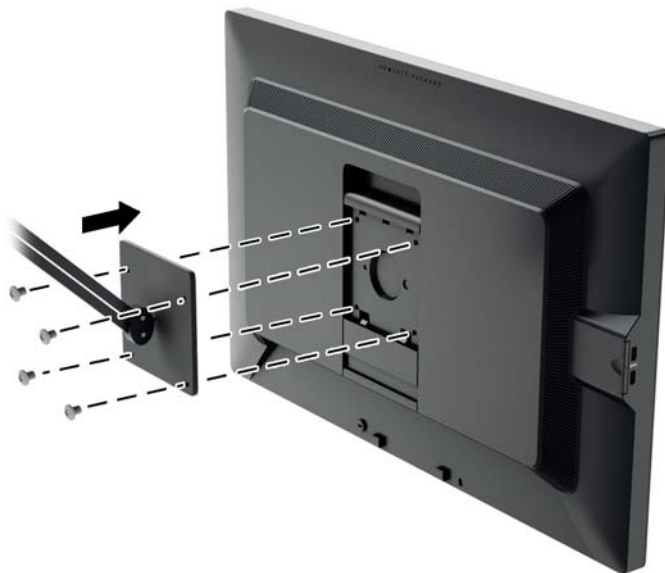
Locating the serial number and product number

The serial number and product number are located on a label on the rear panel of the display head. You may need these numbers when contacting HP about the monitor model.

NOTE: You may need to partially pivot the display head to read the label.

Locating the information card

A monitor Information Card is located on a pull-out card behind the USB connectors on the left side of the panel. Warranty support information (model number, serial number, product number) is printed on the front of the card and regulatory information is printed on the back of the card.

Installing a cable lock

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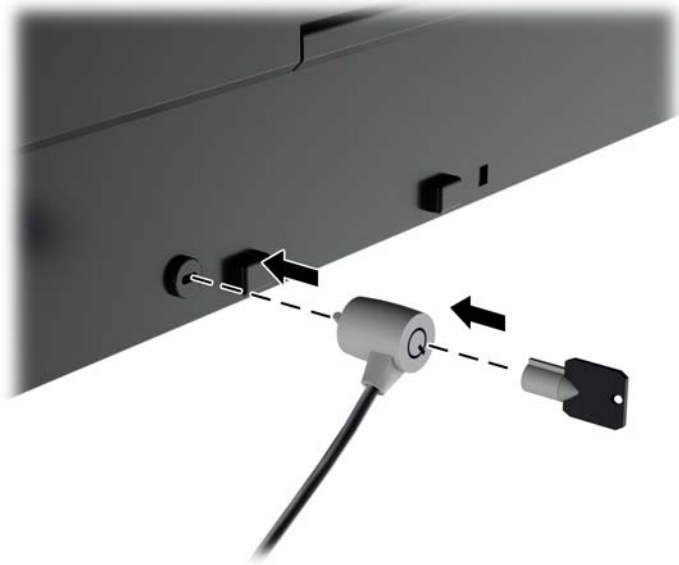
4   Operating the monitor

Software and utilities

The optical disc, if one is included with the monitor, contains the following files you can install on the computer. If you do not have an optical drive, you can download the files from http://www.hp.com/support.

- INF (Information) file
- ICM (Image Color Matching) files (one for each calibrated color space)
- Color calibration software

The Information file

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

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

The Image Color Matching file

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

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

Installing the INF and ICM files

After you determine that you need to update, use one of the following methods to install the files.

Installing from the optical disc (available in select regions)

1. Insert the optical disc into the computer optical drive. The optical disc menu is displayed.

2. View the **HP Monitor Software Information** file.

3. Select **Install Monitor Driver Software**.

4. Follow the on-screen instructions.

5. Ensure that the proper resolution and refresh rates appear in the Windows Display control panel.

Downloading from the web

If you do not have a computer or source device with an optical drive, you can download the latest versions of INF and ICM files from the HP monitors support website.

1. Go to http://www.hp.com/support.

2. Select **Get software and drivers**.

3. Follow the on-screen instructions to select your monitor and download the software.

Using Picture-in-Picture (PIP) and Picture-beside-Picture (PBP)

The monitor supports both PIP, where one source is overlaid over another, and PBP, where one source is positioned adjacent to another either horizontally (for landscape orientation) or vertically (for portrait orientation).

To use PIP or PBP:

1. Connect a secondary input source to the monitor.

2. Press one of the five front bezel buttons to activate the buttons, and then press the bottom **Open Menu** button to open the OSD.

3. In the OSD, select **PIP Control** > **PIP On/Off** and then select either **Picture-in-Picture** or **Picture-beside-Picture**.

4. The monitor will scan the secondary inputs for a valid input and use that input for the PIP/PBP picture. If you want to change the PIP/PBP input, select **PIP Input** in the OSD and select the desired input (**DisplayPort**, **DVI**, or **HDMI**).

5. If you want to change the size of the PIP, select **PIP Size** in the OSD then select either **Large** or **Small**.

6. If you want to adjust the position of the PIP, select **PIP Position** in the OSD, then select either **Top Left**, **Top Right**, **Bottom Left**, or **Bottom Right**.

DisplayPort multistreaming

If you are using DisplayPort as the primary video input source, you can multistream to other DisplayPort monitors connected in a daisy chain configuration. You can connect up to four monitors in this configuration if supported by the graphics card.

To use DisplayPort multistreaming:

1. Make sure that DisplayPort is used for your primary video input.

2. Add a second monitor by connecting a DisplayPort cable between the DisplayPort OUT connector on the primary monitor and the DisplayPort IN connector on a secondary multistream monitor or the DisplayPort input connector on a secondary non-multistream monitor.
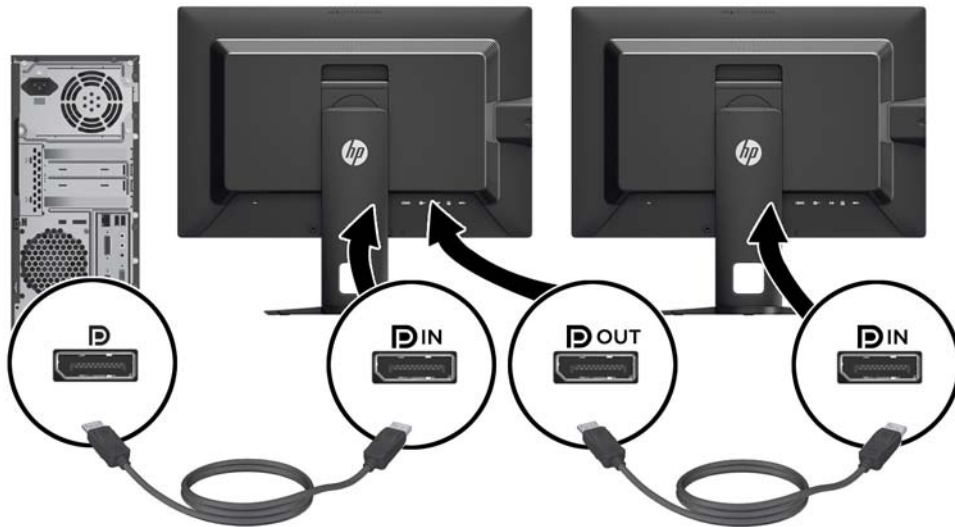
3. You can set the connected monitor to display the same image as the primary monitor or a different image. In the OSD for the connected monitor, select **Management** > **DisplayPort Output** and select one of the following:

    a. **DisplayPort 1.1 Compatibility Mode** (default) - allows the same video image to be sent to all monitors downstream of the monitor you are configuring

    b. **DisplayPort 1.2** - allows a different image to be sent to all monitors downstream of the monitor you are configuring

4. After setting the DisplayPort Compatibility Mode in the OSD, use the computer operating system's display settings to set the display mode for the secondary monitor to either mirror the image of the primary display or extend the second display for a different image from the primary display.

If you wish to connect additional monitors downstream (up to four maximum), all but the final monitor in the chain must support DisplayPort multstreaming.

Connect from the DisplayPort OUT of one monitor to the DisplayPort IN of the next, until you have the desired number of displays.

If you want different information on each screen be sure that all upstream monitors are configured to DisplayPort 1.2 mode, as described above.

The number of monitors you can connect through DisplayPort multistreaming depends on a number of factors, including the resolutions and scan rates used for each monitor and the capabilities of your GPU or embedded graphics system. Check the manual that came with your graphics card for further information on its capabilities.

Optimizing multi-monitor usage

To achieve optimum multi-monitor usage, follow the steps below to enable a calibrated color space.

1. Press any of the five buttons on the right side of the front bezel to activate the buttons.

2. Press the **Color Space** Function button or press the **Open Menu** button and select **Color Space** from the menu.

3. In the Color Space menu, select a calibrated color space (either **sRGB**, **AdobeRGB**, or **BT.709**).

Adjusting monitor luminance when working in a dark environment

You should adjust the luminance of the monitor based upon the luminance of your environment in order to maintain the expected luminance balance for optimal comfort.

1. Press any of the five buttons on the right side of the front bezel to activate the buttons.

2. Press the **Luminance** Function button or press the **Open Menu** button and select **Color Space** > **Adjust Luminance** from the menu.

3. In the Adjust Luminance menu, select **Set Luminance Value** and adjust the monitor luminance for your environment.

Changing the bezel button functions

You can change the top-level front bezel button functions from their default values so that when the buttons are activated you can quickly access commonly used menu items.

To change the bezel button functions:

1. Press one of the five front bezel buttons to activate the buttons, and then press the bottom **Open Menu** button to open the OSD.

2. In the OSD, select **Menu and Message Control** > **Configure Function Buttons** and then select one of the available options for the button you want to reconfigure.

Adjusting the bezel button LEDs

The bezel button LEDs have an automatic fade-out feature that is active by default. The LEDs will fade after the OSD timeout period. You can change the LED behavior so that they do not fade out and you can also adjust the brightness of the LEDs if the fade-out feature is disabled.

To disable the bezel button fade-out feature:

1. Press one of the five front bezel buttons to activate the buttons, and then press the bottom **Open Menu** button to open the OSD.

2. In the OSD, select **Menu and Message Control** > **Bezel Button Auto-Fade** > **Disable (Always On)**.

If the bezel button fade-out feature has been disabled (as described above), you can adjust the brightness of the buttons on the front bezel to different levels of ambient lighting.

To change the bezel button brightness:

1. Press one of the five front bezel buttons to activate the buttons, and then press the bottom **Open Menu** button to open the OSD.

2. In the OSD, select **Menu and Message Control** > **Bezel Button Brightness** and use the adjustment scale to set the buttons to the desired brightness.

Using Auto-Sleep Mode

The display supports an OSD (On-Screen Display) option called **Auto-Sleep Mode** that allows you to enable or disable a reduced power state for the display. When Auto-Sleep Mode is enabled (enabled by default), the monitor will enter a reduced power state when the host PC signals low power mode (absence of either horizontal or vertical sync signal).

Upon entering this reduced power state sleep mode, the monitor screen is blanked, the backlight is turned off and the power LED indicator turns amber. The monitor draws less than 0.5W of power when in this reduced power mode. The monitor will wake from the sleep mode when the host PC sends an active signal to the monitor (for example, if you activate the mouse or keyboard).

You can disable the Auto-Sleep Mode in the OSD. Press one of the five front bezel buttons to activate the buttons, and then press the bottom **Open Menu** button to open the OSD. In the OSD, select **Management** > **Auto-Sleep** > **Disable**.

Using the on-screen display (OSD) menu

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

1. Press any of the five buttons on the right side of the front bezel to activate the buttons.

2. Press the bottom **Open Menu** button to open the OSD.

3. Use the top four Function buttons to navigate, select, and adjust the menu choices. The button labels are variable depending on the menu or sub-menu that is active.

📝 **NOTE:** OSD menu items that are grayed out are not supported with the selected video input and settings.

The following table lists the On-Screen Display (OSD) menu selections and their functional descriptions.

Level 1	Level 2	Level 3
Color Space	sRGB	
	AdobeRGB	
	BT.709	
	User	
	Native	
	RGB Adjust	Warm
		Neutral
		Cool
		Custom (RGB)
	Adjust Luminance	Set Luminance Value
		Back
	Color Space Information	Current Color

Level 1	Level 2	Level 3
		Primaries (u'v' / xy)
		• *Red: x.xxx x.xxx*
		• *Blue: x.xxx x.xxx*
		• *Green: x.xxx x.xxx*
		White Point (u'v' / xy)
		• *x.xxx x.xxx*
		• *Name of White Point (ex. D65)*
		Gamma (x.x or sRGB)
		Switch coordinate display to xy/u'v' (allows you to switch the information to display as either CIE 1931 xy or CIE 1976 u'v')
		Back
	Reset to Last Calibration	
	Reset to Factory Calibration	
	Back	
Video Input	DisplayPort	
	DVI	
	HDMI	
	Auto-Switch Source	Enable
		Disable
		Back
	DP Hot-Plug Detection	Always Active
		Low Power
		Back
	Back	
Image Adjustment	Aspect Ratio Display	Fill to Source Aspect Ratio (Proportional)
		Fill to Entire Screen (Non-Proportional)
		Pixel-for-Pixel
		Back
	Sharpness	Soft
		Level 2
		Level 3
		Level 4
		Sharp
		Back
	Dynamic Contrast	Enable
		Disable

Level 1	Level 2	Level 3
		Back
	Back	
	Display Mode Information	
PIP Control	PIP On/Off	Picture-in-Picture
		Picture-beside-Picture
		Off
		Back
	PIP Size	Large
		Small
		Enlarge
		Reduce
		Back
	PIP Position	Top Left
		Top Right
		Bottom Left
		Bottom Right
		Back
	PIP Input	DisplayPort
		DVI
		HDMI
		Swap Primary and PIP Inputs
		Back
		Primary / PIP Source Information
	Back	
Language	Deutsch	
	Traditional Chinese	
	Simplified Chinese	
	English	
	Español	
	Français	
	Italiano	
	Japanese	
	Nederlands	
	Português	
Management	Auto-Sleep Mode	Enable
		Disable

Level 1	Level 2	Level 3
		Back
	Power On Recall	Enable
		Disable
		Back
	DDC/CI Communications	Enable
		Disable
		Back
	Auto EDID Update	Enable
		Disable
		Back
	Hot Plug Initiate	Enable
		Disable
		Back
	DisplayPort Compatibility	DisplayPort 1.1 Compatibility Mode
		DisplayPort 1.2
		Back
	Back	
Menu and Message Control	Position	Use the buttons to adjust the position of the Menu. Press "Back" when you are finished.
	Opacity	Set Opacity Value
		Back
	Timeout	Set Timeout Value
		Back
	Enable/Disable Messages	Show Info When Power Display On
		Show Info When Input Source Changes
		Show Info When Color Space Changes
		Notify Me When Recalibration is Due
		Back
	Configure Function Buttons	Configure Function Button 1
		Configure Function Button 2
		Configure Function Button 3
		Configure Function Button 4
	Bezel Button Brightness	Set Brightness Value
		Back
	Bezel Button Auto-Fade	Enable (Obey Menu Timeout)
		Disable (Always On)

Level 1	Level 2	Level 3
		Back
	Back	
Information	*Current Display Mode: Display Mode*	
	Color Space: Color Space	
	Serial Number: Serial Number	
	Firmware Revision:	
	Firmware Revision IDs	
	Last Calibration: xxxxx Hours	
	Backlight Hours: xxxxx Hours	
	Back	
Factory Reset		

Color management

The monitor includes both standard and user definable color space settings to support a variety of customer uses. Most color spaces are pre-calibrated at the factory and can be recalibrated by the end user when the HP DreamColor Calibration Solution kit is used (sold separately). Calibration includes control of the monitor's color gamut, RGB primaries, gamma, and luminance. The RGB Adjust color selections are not calibrated and cannot be calibrated.

Color presets

The calibrated color space presets are defined as follows:

Color Preset	Red Primary		Green Primary		Blue Primary		White Point	Gamma	Luminance (cd/m2)
	u'	v'	u'	v'	u'	v'			
sRGB	0.451	0.523	0.125	0.563	0.175	0.158	D65	sRGB	0–100%
AdobeRGB	0.451	0.523	0.076	0.576	0.175	0.158	D65	2.2	0–100%
BT.709	0.451	0.523	0.125	0.563	0.175	0.158	D65	2.4	0–100%
User	User	User	User	User	User	User	User	User	0–100%
Native	Panel	Panel	Panel	Panel	Panel	Panel	Panel	2.2	0–100%

User adjustment of luminance above or below the target luminance is possible for each color space while maintaining the accuracy of the primaries and the white point.

The RGB Adjust color selections are not calibrated and include:

- Warm (approximately 5000K)
- Neutral (approximately 6500K)
- Cool (approximately 9300K)
- Custom (RGB) (user adjustable setting for red, green, and blue)

Color calibration — Factory

Three standard color spaces, sRGB, AdobeRGB, and BT.709, are calibrated at the factory and a one-page calibration report is printed and included in each monitor carton.

Native color space is configured at the factory to provide the maximum panel luminance.

The default setting for the User color space is the same as Native.

Factory calibration settings are saved in monitor memory and can be re-applied at any time through the On-Screen Display.

Color calibration — User

With the exception of the native panel color space, each color space can be calibrated by the end user with the user calibration software that comes with the product and with a colorimeter device (the colorimeter is included in the DreamColor Calibration Solution option kit, sold separately). The user calibration software is a Windows-based application that requires use of the Windows 7 or later operating system. The calibration process uses the following steps:

1. Insert the optical disc provided in the DreamColor Calibration Solutions kit into the host computer's optical drive.

2. Install the user calibration program on the host computer.

3. Place the colorimeter from the DreamColor Calibration Solutions kit in front of the monitor panel as directed.

4. Run the calibration software and follow the on-screen steps. One color space can be calibrated and named at a time. Two methods of calibration are possible:

    ●   Wizard mode – the application will ask questions about the user's environment and usage then will suggest settings to be used.

    ●   Expert mode – the user will be asked to input all the variables intended for use in the calibration process.

When calibration is complete, the values are saved in monitor memory. The most recent calibration settings can be re-applied at any time through the On-Screen Display.

Auto EDID update

By default, the display automatically updates the display EDID when you switch color spaces.

If Auto EDID Update is enabled, the EDID will be updated for all inputs every time you change the active color space preset. If Auto EDID Update is disabled, each input will be set to the factory default values for the Native color space.

You can enable or disable Auto EDID Update in the OSD:

1. Press any of the five front bezel buttons on the right side of the front bezel to activate the buttons.

2. Press the bottom **Open Menu** button to open the OSD.

3. In the OSD, select **Management** > **Auto EDID Update** and then select either **Enable** or **Disable**.

A   Technical specifications

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

Specification	Measurement	
Display	61.0 cm wide screen	24 inches wide screen
Type	IPS LCD	
Viewable Image Size	61.0 cm diagonal	24–inch diagonal
Maximum Weight (Unpacked)	7.08 kg	15.61 lbs
Dimensions (include base)		
Height (highest position)	52.5 cm	20.67 inches
Height (lowest position)	40.5 cm	15.94 inches
Depth	23.798 cm	9.37 inches
Width	55.94 cm	22.02 inches
Maximum Graphic Resolution	1920 x 1200 (60 Hz) digital input	
Optimum Graphic Resolution	1920 x 1200 (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	
Input Terminal	One DisplayPort IN connector; one DVI connector; one HDMI connector	

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.

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.

Preset	Pixel Format	Aspect Ratio	Vert Freq (Hz)	Pixel Clk (MHz)
1	640 × 480	4:3	60(p)	25.175
2	720 × 480	4:3	60(i)	27.000
3	720 × 480	4:3	60(p)	27.000
4	720 × 480	16:9	60(i)	27.000
5	720 × 480	16:9	60(p)	27.000
6	720 × 576	4:3	50(i)	27.000
7	720 × 576	4:3	50(p)	27.000
8	720 × 576	16:9	50(i)	27.000
9	720 × 576	16:9	50(p)	27.000
10	800 × 600	4:3	60.317	40.000
11	1024 × 768	4:3	60.004	65.000
12	1280 × 720	16:9	24(p)	59.400
13	1280 × 720	16:9	30(p)	74.250
14	1280 × 720	16:9	50(p)	74.250
15	1280 × 720	16:9	60(p)	74.250
16	1280 × 800	16:10	59.91	71.000
17	1280 × 960	4:3	60.000	108.000
18	1280 × 1024	5:4	60.020	108.000
19	1366 × 768	16:9	60.000	72.000
20	1440 × 900	16:10	59.890	106.500
21	1600 × 1200	4:3	60.000	162.000
22	1920 × 1080	16:9	24(p)	74.250
23	1920 × 1080	16:9	30(p)	74.250
24	1920 × 1080	16:9	50(i)	74.250
25	1920 × 1080	16:9	50(p)	148.500
26	1920 × 1080	16:9	60(i)	74.250
27	1920 × 1080	16:9	60(p)	148.500
28	1920 × 1200	16:10	59.950	154.000

NOTE: Interlaced modes are indicated by (i); progressive scan modes are indicated by (p). If no indication is given, the mode is progressive scan.

B Support and troubleshooting

Solving common problems

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

Problem	Possible Cause	Solution
Screen is blank or video is flashing.	Power cord is disconnected.	Connect the power cord.
	Power button on front panel of the monitor is turned off.	Press the front panel power button. **NOTE:** If pressing the power button has no effect, press and hold the power button for 10 seconds to disable the power button lockout feature.
	Video cable is improperly connected.	Connect the video cable properly. Refer to Setting up the monitor on page 5 for more information. **NOTE:** If using DisplayPort input, make sure the cable is connected to the DisplayPort IN connector located at the rear center of the monitor. The monitor will not function if the cable is connected to the DisplayPort OUT connector.
	Screen blanking is active.	Press any key on the keyboard or move the mouse to inactivate the screen blanking utility.
	Video card compatibility.	Open the OSD menu and select the Video Input menu. Set Input Auto-Switch Source to Disable and manually select the input.
Monitor will not turn on.	Master power switch on rear panel of the monitor is turned Off.	Turn the master power switch to On.
Image appears blurred, indistinct, or too dark.	Brightness is too low.	Open the OSD menu and select Color Space > Adjust Luminance to adjust the luminance scale as needed.
	Sharpness is too soft.	Open the OSD menu and select Image Adjustment > Sharpness to select a sharpness level.
Check Video Cable is displayed on screen.	Monitor video cable is disconnected.	Connect the appropriate video signal cable between the computer and monitor. Be sure that the computer power is off while connecting the video cable.
Input Signal Out of Range is displayed on screen.	Video resolution and/or refresh rate are set higher than what the monitor supports.	Change the settings to a supported setting (see Preset display resolutions on page 33).
The monitor is off but it did not seem to enter into a low-power sleep mode.	The monitor's power saving control is disabled.	Open the OSD menu and select Management > Auto-Sleep and set auto-sleep to Enable.
OSD Lockout is displayed.	The monitor's OSD Lockout function is enabled.	Press and hold the bottom Menu button for 10 seconds to disable the OSD Lockout function.
Power Button Lockout is displayed.	The monitor's Power Button Lockout function is enabled.	Press and hold the power button for 10 seconds to unlock the power button function.

Problem	Possible Cause	Solution
Bezel button LEDs are not on.	By default, the Bezel button LEDs are set to fade out when not in use.	To set the bezel button LEDs so that they are always on, open the OSD menu and select Menu and Message Control > Bezel Button Auto-Fade > Disable (Always On).
Bezel button LEDs are always on but are too bright or too dim.	Bezel button auto-fade has been turned off in the OSD and the brightness needs adjustment.	Open the OSD menu and select Menu and Message Control > Bezel Button Brightness and adjust the brightness value.
Displayed colors do not look correct.	Monitor is not calibrated.	Recalibrate monitor or perform a Factory Reset.
Calibration failed.	Incorrect setup or equipment failure.	Redo calibration.

Product support

For additional information on using your monitor, go to http://www.hp.com/support. Select the appropriate support category, and then follow the on-screen instructions.

📝 **NOTE:** The monitor user guide, reference material, and drivers are all available at this location.

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.

- Locate an HP service center

Preparing to call technical support

If you cannot solve a problem using the troubleshooting tips in this section, you may need to call technical support. Have the following information available when you call:

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

C   Accessibility

HP designs, produces, and markets products and services that can be used by everyone, including people with disabilities, either on a stand-alone basis or with appropriate assistive devices.

Supported assistive technologies

HP products support a wide variety of operating system assistive technologies and can be configured to work with additional assistive technologies. Use the Search feature on your source device that is connected to the monitor to locate more information about assistive features.

NOTE: For additional information about a particular assistive technology product, contact customer support for that product.

Contacting support

We are constantly refining the accessibility of our products and services and welcome feedback from users. If you have an issue with a product or would like to tell us about accessibility features that have helped you, please contact us at (888) 259-5707, Monday through Friday, 6 a.m. to 9 p.m. Mountain Time. If you are deaf or hard-of-hearing and use TRS/VRS/WebCapTel, contact us if you require technical support or have accessibility questions by calling (877) 656-7058, Monday through Friday, 6 a.m. to 9 p.m. Mountain Time.