



User Guide

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Product notice

This guide describes features that are common to most models. Some features may not be available on your device.

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1 Starting right

 **NOTE:** For basic operating instructions, see the printed *Quick Start* guide or *Setup Instructions* poster that is included in the box with your device.

 **IMPORTANT:** Depending on your device, before using the device for the first time, connect it to external power, and then charge the battery for at least 15 minutes.

To start using your device, follow these instructions:

1. After charging the battery, and while the battery image is displayed on the screen, turn on the device by pressing and holding the power button for up to 5 seconds until the HP or Compaq logo is displayed.

The first time you turn on the device, you will see the Welcome screen.

 **IMPORTANT:** If the battery image is not displayed on the screen, press the power button briefly to display the image, and then press and hold the power button until the HP or Compaq logo is displayed.

2. Follow the on-screen instructions to select a language and connect to a wireless network.

Best practices

To get the most from your smart investment, we recommend the following steps:

- If you haven't already done so, connect to a wired or wireless network. See details in [Connecting to a network on page 10](#).
- Become familiar with the device hardware and software. For more information, see [Getting to know your device on page 3](#) and [Using apps and widgets on page 24](#).
- Update or purchase antivirus software at the Google Play store (select devices only) .

Fun things to do

- Did you know that you can connect your device to a television? For more information, see [Connecting video devices using an HDMI cable \(select devices only\) on page 18](#).
- Did you know that you can also stream live radio to the device and listen to music or talk radio from all over the world? See [Enjoying entertainment features on page 16](#).
- Did you know that you can use Google Docs and Google Sheets to get work done on the go, and that you can save your work to the cloud, from almost anywhere in the world? For more information on saving files to the cloud, see [Managing files on page 32](#).

More HP resources

To locate resources that provide product details, how-to information, and more, use this table.

Resource	Contents
HP support For worldwide support, go to http://welcome.hp.com/country/us/en/wwwcontact.us.html .	• Online chat with an HP technician (select countries only). • Telephone numbers. • HP service center locations.
Google For Google support, go to http://www.google.com/mobile/android .	• Access Google online help and support.
<i>Quick Start</i> guide or <i>Setup Instructions</i> poster The <i>Quick Start</i> guide or <i>Setup Instructions</i> poster is located in the device box.	• Basic operating instructions.
<i>Regulatory, Safety, and Environmental Notices</i> <i>Product Notices</i> This document is provided in the box with your device.	• Important regulatory notices.
Limited Warranty This document is provided in the box with your device. You can also go to http://www.hp.com/go/orderdocuments .	• Warranty information about this device.

2 Getting to know your device

Using the Home screen

The Home screen provides a central location where you can customize the information, media, and applications you would like to access quickly.

Touch or click an icon on the Home screen to perform the action described in the table.



NOTE: The icons on the Home screen and the appearance of the Home screen may vary.

Icon	Description
	All apps (select devices only)—Displays a list of all apps. To see all widgets, touch or click the Widgets tab. – or – On a touch screen, touch and hold the Home screen to display the Set Home Screen menu, and then select Widgets.
	Back—Opens the previous screen.
	Home—Opens the central Home screen. - To see a left or right Home screen, swipe to the left or right. - To quickly return to the Home screen, touch or click the Home icon
	Recent apps—Opens a list of apps that you have used recently. - Touch or click an app to open it. - To remove an app from the list, swipe it to the left or right.
	Settings—Allows you to connect to networks, set preferences, and find information about your device. To display settings: - Touch or click the All Apps icon , and then touch or click the Settings icon – or – - On a touch screen, swipe down from the top-right edge, and then touch or click the Settings icon
	Menu—Displays a list of additional options relevant to your current activity.
	Calendar—Displays events.
	Notifications—Appear as different icons at the top of the screen to notify you about new messages or events. To display notifications, swipe down from the top-left edge.

Icon	Description
	NOTE: This icon does not display on all screens. When on the Quick Settings Menu, the Notifications icon displays.
	Quick Settings Menu—Display icons on the top of the screen to notify you about new messages or events. When on the Notifications menu, the Quick Settings Menu icon displays.
	Wi-Fi—Allows you connect to a Wi-Fi network.
	Bluetooth™—Provides pairing options for use with Bluetooth-capable devices such as keyboards, mice, and headsets (all purchased separately).
	Battery—Displays information regarding the current state of your device's battery.
	HP Apps—Accesses HP-specific applications such as HP File Manager and more.
	HP Print Service—Allows you to print directly to certain HP printers. For more information, see Enjoying entertainment features on page 16.
	HP File Manager (select devices only)—Controls file operations for local and removable storage.
	Google Play store (select devices only)—Accesses Android apps for your device in this online marketplace featuring both free and paid downloadable content. NOTE: On select devices, you may find a different online marketplace app.
	Search (varies by country)—Allows you to type one or more keywords to search with the installed search app.
	Voice search (voice devices only)—Allows you to touch or click , and then speak one or more keywords to search with the installed search app.
	HP Media Player (select devices only)—Allows you to view images and photos, listen to music, and use the camera.

Identifying components

Your device may have some of the following components. To see which components are specific to your device, refer to the *Quick Start* guide or *Setup Instructions* poster included in the box with your device.

Component	Description
AC adapter light	- On: The AC adapter is connected and the battery is charged. - Off: The device is using battery power.
Accessory battery connector	Connects an optional accessory battery.

Component	Description	
	Action keys	Execute frequently used functions on a keyboard. For more information, see Using an external or attached keyboard and mouse (select devices only) on page 41 .
	Airplane mode key (also referred to as the wireless button)	Turns the airplane mode and wireless feature on or off. NOTE: A wireless network must be set up before a wireless connection is possible.
	Audio-in (microphone) jack	Connects an optional headset microphone, stereo array microphone, or monaural microphone.
	Audio-out (headphone) jack	Connects optional powered stereo speakers, headphones, earbuds, a headset, or a television audio cable. WARNING! To reduce the risk of personal injury, adjust the volume before using headphones, earbuds, or a headset. For additional safety information, see the <i>Regulatory, Safety and Environmental Notices</i> or the <i>Product Notices</i> . NOTE: When a device is connected to a headphone jack, the device speakers are disabled.
	Audio-out (headphone)/Audio-in (microphone) jack	Connects optional powered stereo speakers, headphones, earbuds, a headset, or a television audio cable. Also connects an optional headset microphone. This jack does not support optional microphone-only devices. WARNING! To reduce the risk of personal injury, adjust the volume before putting on headphones, earbuds, or a headset. NOTE: When a device is connected to the jack, the device speakers are disabled. NOTE: Be sure that the device cable has a 4-conductor connector that supports both audio-out (headphone) and audio-in (microphone).
	Caps lock light	On select devices with attached or external keyboards, this key switches the keys to all capital letters. On: Caps lock is on.
	Dual-Mode DisplayPort	Connects an optional digital display device, such as a high-performance monitor or projector.
	esc key	On select devices with external or attached keyboards, this key will display device information when pressed in combination with the fn key.
	fn key	On select devices with external or attached keyboards, this key will execute frequently used functions when pressed in combination with the various other keys.
	Hard drive light	Blinking white: The hard drive is being accessed.
	HDMI port	Connects an optional video or audio device, such as a high-definition television, any compatible digital or audio component, or a high-speed High-Definition Multimedia Interface (HDMI) device.

Component	Description	
	NOTE: HDMI refers to an HDMI or micro HDMI port.	
	Internal display switch	Turns off the display and initiates Standby if the display is closed while the power is on. NOTE: The internal display switch is not visible from the outside of the device.
	Internal microphones	Record sound.
	Left TouchPad button	Functions like the left button on an external mouse.
	Memory card reader	Reads optional memory cards that store, manage, share, or access information. To insert a card: ▲ Hold the card label-side up, with connectors facing the slot, insert the card into the slot, and then push in on the card until it is firmly seated. To remove a card: ▲ Press in on the card it until it pops out. NOTE: Memory card refers to an SD or a micro SD memory card.
	Micro-USB charging port	Permits you to connect to a wall outlet to charge the battery or power the device. CAUTION: Insert a micro USB adapter with the icon embossed on the plug facing up. Failure to do so may damage the charging port.
	Mute light	• Amber: Device sound is off. • Off: Device sound is on.
	num lock key	On select devices with external or attached keyboards, this key will alternate between the navigational and numeric functions on the integrated numeric keypad.
	Optical drive	Depending on your device, reads an optical disc or reads and writes to an optical disc.
	Power button	• When the device is off, press the button to turn on the device. • When the device is on, press the button briefly to initiate Sleep. • When the device is in the Sleep state, press the button briefly to exit Sleep. CAUTION: Pressing and holding down the power button results in the loss of unsaved information.
	Power connector	Connects an AC adapter.
	Power light	Your device may have more than one power light. Each may display different light conditions, depending on device behavior. • On: The device is on.

Component	Description
	- Blinking: The device is using battery power, or may be in Sleep mode, a power-saving state. - Off: The device is off.
Right TouchPad button	Functions like the right button on an external mouse.
 RJ-45 (network) jack/status lights	On select devices, this jack connects a network cable and the lights indicate jack functionality. - White: The network is connected. - Amber: Activity is occurring on the network.
 Security cable slot	Attaches an optional security cable to the device. NOTE: The security cable is designed to act as a deterrent, but it may not prevent the device from being mishandled or stolen.
 SIM slot	Supports a wireless subscriber identity module (SIM). For more information on the location of the SIM slot, see the <i>Quick Start</i> guide or <i>Setup Instructions</i> poster included with your device. CAUTION: To prevent damage to the connectors, use minimal force when inserting a SIM. To insert a SIM: ▲ Hold the SIM label-side up, with connectors facing the slot, insert the SIM into the slot, and then push in on the SIM until it is firmly seated. To remove a SIM: ▲ Press in on the SIM it until it pops out. NOTE: SIM refers to a SIM, micro SIM, or nano SIM. NOTE: SIM size varies by product, SIM, micro SIM, or nano SIM.
Speakers	Produce sound.
TouchPad light	On: The TouchPad is off.
TouchPad zone	Reads your finger gestures to move the pointer or activate items on the screen. NOTE: The TouchPad also supports edge-swipe gestures.
 USB 2.0 charging (powered) port	Connects an optional USB device, such as a keyboard, mouse, external drive, printer, scanner or USB hub. Standard USB ports will not charge all USB devices or will charge using a low current. Some USB devices require power and require you to use a powered port. NOTE: USB charging ports can also charge select models of cell phones and MP3 players, even when the device is off.
 USB 2.0 port	Connects an optional USB device, such as a keyboard, mouse, external drive, printer, scanner or USB hub.

Component	Description	
	USB 3.0 charging (powered) port	Connects an optional USB device, such as a keyboard, mouse, external drive, printer, scanner or USB hub. Standard USB ports will not charge all USB devices or will charge using a low current. Some USB devices require power and require you to use a powered port. NOTE: USB charging ports can also charge select models of cell phones and MP3 players, even when the device is off.
	USB 3.0 port	Connects an optional USB device, such as a keyboard, mouse, external drive, printer, scanner or USB hub.
	Vents	Enable airflow to cool internal components. NOTE: The device fan starts up automatically to cool internal components and prevent overheating. The number of vent varies depending on the device. It is normal for the internal fan to cycle on and off during routine operation.
	Webcam	Records video and captures photographs. Some devices allow you to video conference and chat online using streaming video.
	Webcam light	On: The webcam is in use.
	Wireless light	On: An integrated wireless device, such as a WLAN device and/or a Bluetooth®  device, is on. NOTE: On some devices, the wireless light is amber when all wireless devices are off.
	WLAN (wireless local area network) antennas	Send and receive wireless signals to communicate with WLANs. NOTE: The antennas are not visible from the outside of the device. For optimal transmission, keep the areas immediately around the antennas free from obstructions. For wireless regulatory notices, see the section of the <i>Regulatory, Safety, and Environmental Notices</i> or the <i>Product Notices</i> that apply to your country or region.
	WWAN (wireless wide area network) antennas	Send and receive wireless signals to communicate with WWANs. NOTE: The antennas are not visible from the outside of the device. For optimal transmission, keep the areas immediately around the antennas free from obstructions. For wireless regulatory notices, see the section of the <i>Regulatory, Safety, and Environmental Notices</i> or the <i>Product Notices</i> that apply that applies to your country or region.

Labels

The labels affixed or etched onto the device provide information you may need when you troubleshoot device problems or travel internationally with the device.

 **IMPORTANT:** Check the following locations for the labels described in this section: the bottom of the device, inside the battery bay, under the removable service door, or on the back of the display.

 **NOTE:** Your label may look slightly different from the illustration in this section.

- Service label—Provides important information to identify your device. When contacting support, you will probably be asked for the serial number, and possibly for the product number or the model number. Locate these numbers before you contact support.

Your service label will resemble one of the examples shown below. Refer to the illustration that most closely matches the service label on your device.



Component	
(1)	Serial number
(2)	Product number
(3)	Warranty period
(4)	Model number (select devices only)

- Regulatory label(s)—Provide(s) regulatory information about the device.
- Wireless certification label(s)—Provide(s) information about optional wireless devices and the approval markings for the countries or regions in which the devices have been approved for use.

3 Connecting to a network

Connecting to the Internet is quick and easy on your Android device. Follow the directions in the sections below to connect to a wired local area network (LAN) (select devices only) or to connect wirelessly through your device's onboard WLAN antennas or by Bluetooth  (select devices only). For more information on the location of your antennas, see the *Quick Start* guide or *Setup Instructions* Poster included with your device.

Connecting to a wireless network

 **NOTE:** You must be connected to a wireless network before you can connect to the Internet.

To connect to a wireless network:

1. Touch or click the **All Apps** icon , and then touch or click the **Settings** icon .
- or –
- On a touch screen, swipe down from the top-right edge, and then touch or click the **Settings** icon .
2. Under **Wireless and networks**, be sure that Wi-Fi is turned on.
3. Touch or click the **Wi-Fi** icon , and then touch or click one of the available networks that is displayed.
4. Type the security key if required, and then touch or click **Connect**.

 **NOTE:** To delete the security key for a wireless network to which you have previously connected, touch or click the name of the network, and then touch or click **Forget**.

Connecting to a wired network—LAN (select devices only)

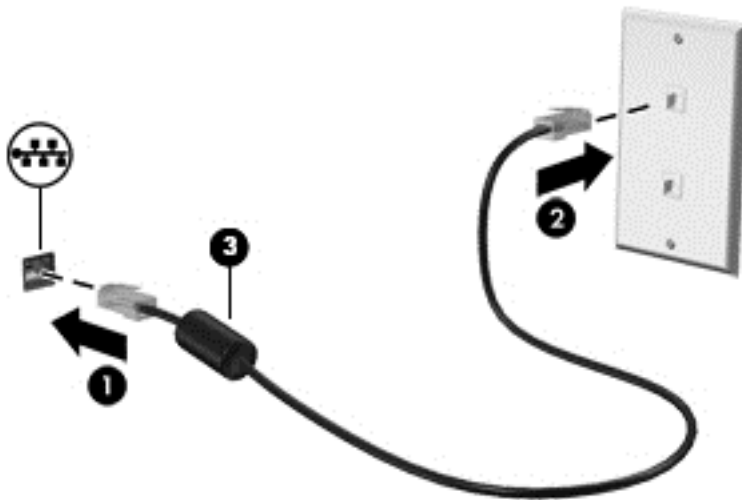
Use a LAN connection if you want to connect the device directly to a router in your home (instead of working wirelessly), or if you want to connect to an existing network at your office.

Connecting to a LAN requires an 8-pin, RJ-45 (network) cable.

To connect to a wired network:

1. Plug the network cable into the network jack (1) or a micro-USB-to-LAN adapter.
2. Plug the other end of the network cable into a network wall jack (2) or router.

 **NOTE:** If the network cable contains noise suppression circuitry (3), which prevents interference from TV and radio reception, orient the circuitry end of the cable toward the device.



Browsing the Internet

After you have established an Internet connection, you can surf the Internet using an Internet browser.

To begin surfing the Internet:

- ▲ Touch or click the **All Apps** icon (⋮), and then touch or click the browser icon.

Using Bluetooth wireless devices (select devices only)

Pair a Bluetooth  device, such as a headset, keyboard, or mouse with your device.

To connect to a Bluetooth device:

1. Turn on the Bluetooth device.
2. Touch or click the **All Apps** icon (⋮), and then touch or click the **Settings** icon .

– or –

On a touch screen, swipe down from the top-right edge, and then touch or click the **Settings** icon .

3. Under **Wireless and networks**, turn on **Bluetooth** , and then touch or click **Bluetooth** .
4. Touch or click your device name to make it visible to all nearby Bluetooth devices.
5. To find available Bluetooth devices, touch or click **Search for devices**.
6. When the device name appears, touch or click it to pair the device to your device.

 **NOTE:** To maximize battery life, turn off Bluetooth when not in use.

Connecting to a mobile network (select devices only)

If a SIM is not preinstalled, you can purchase one from a mobile wireless carrier. To insert the SIM, see the *Quick Start* guide or *Setup Instructions* Poster included with your device.

1. Touch or click the **All Apps** icon , and then touch or click the **Settings** icon .
– or –
On a touch screen, swipe down from the top-right edge, and then touch or click the **Settings** icon .
2. Under **Wireless and networks**, touch or click **More ...**, touch or click **Mobile Networks**.
3. If your device has multiple SIM slots, select **SIM1** or **SIM2**.
4. Touch or click **Access Point Names**.
5. Swipe down from the top of the screen, touch or click **Select New APN**, and then follow the on-screen instructions.

Activating data transfer (select devices only)

To enable data transfer over a mobile network:

1. Touch or click the **All Apps** icon , and then touch or click the **Settings** icon .
– or –
On a touch screen, swipe down from the top-right edge, and then touch or click the **Settings** icon .
2. Under **Wireless and networks**, touch or click **More ...**, touch or click **Mobile Networks**, and then touch or click **Mobile data**.

Activating tethering or a portable hotspot (select devices only)

To share your device's mobile data connection through a USB device or as a portable Wi-Fi hotspot:

1. Touch or click the **All Apps** icon , and then touch or click the **Settings** icon .
– or –
On a touch screen, swipe down from the top-right edge, and then touch or click the **Settings** icon .
2. Under **Wireless and networks**, **More ...**, and then touch or click **Tethering and portable hotspot**.

3. To set up a portable Wi-Fi hotspot, touch or click **Portable Wi-Fi hotspot**.
4. To share your device's mobile data connection, touch or click **Bluetooth tethering** or **USB tethering**.

To disable tethering:

1. Touch or click the **All Apps** icon , and then touch or click the **Settings** icon .
– or –
On a touch screen, swipe down from the top-right edge, and then touch or click the **Settings** icon .
2. Under **Wireless and networks**, **More ...**, touch or click **Tethering and portable hotspot**.
3. To disable tethering, touch or click **USB tethering**, and then disconnect the USB device, or touch or click **Bluetooth tethering**.

Connecting to a Windows device (select devices only)

 **NOTE:** USB tethering must be turned off before you can use a USB port to transfer files between your device and the Windows device.

 **NOTE:** On select devices, a memory card must be installed in your device before you can transfer files between your device and a Windows device.

1. Connect the USB cable to your device and to a Windows® device.
The USB storage unit, drive, or other Windows device appears as a drive on your device. You can copy files back and forth as you would with any other external device.
2. When you are finished, eject the device from Windows and disconnect the USB cable.

Streaming content to a high-definition TV or monitor (select devices only)

Cast screen technology allows you to stream or display content, such as a movie, wirelessly from your device to a compatible display device, such as a high-definition TV or monitor.

 **NOTE:** Screen casting is only available on devices running Android 4.2 or later.

Tips and recommendations for best performance

- Store media content locally on your device or on an installed memory card.
- Close apps that are not in use.
- Place your device and the display device in the same room.

 **NOTE:** Cast screen video stream performance may be impacted by wireless environment factors, including Bluetooth  usage and other wireless network congestion within close proximity.

Connecting to a wireless display (select devices only)

To connect to a wireless display:

1. Touch or click the **All Apps** icon , and then touch or click the **Settings** icon .
– or –
On a touch screen, swipe down from the top-right edge, and then touch or click the **Settings** icon .
2. Touch or click **Wireless & Networks**, and then touch or click **Cast screen**.
– or –
Touch or click **Display**, and then touch or click **Cast screen**.

 **NOTE:** On select devices, the **Cast screen** feature can be found by touching or clicking **Settings > Display > Cast screen**.

3. Select your wireless display device from the list, and then follow the on-screen instructions to complete the connection.
4. To adjust the resolution, touch or click **Resolution** (select devices only), and then touch or click the slider to increase or decrease the resolution.

If your adapter does not appear in the list of detected adapters, check the following:

- Make sure the display or adapter is compatible to work with your adapter.
- Make sure the display or adapter is connected to external power.
- Make sure your firewall is not blocking the software.
- Update the adapter firmware using the manufacturer's instructions that came with your adapter or from the manufacturer's website.
- Consult the adapter manufacturer for support.

Improving the display resolution

- Adjust the display properties on your device to match the native display resolution of your TV.
- Refer to the user guide provided by your TV or display adapter to find the native display resolution. Most manufacturers also provide this information online.
- The display adapter may have a maximum display resolution that does not match the native display resolution of the TV.

Improving the connection speed to improve performance

When video streaming is not smooth or the audio cuts in and out, the wireless connection to your adapter may have lost bandwidth.

- Move the device closer to your adapter. The closer your device is to the adapter, the better the connection speed will be.
- Make sure there are no major obstacles, such as walls, between the device and the receiver.
- Stream media files directly from your device, not wirelessly from the Internet. Streaming from the Internet uses the device's wireless connection for both screen cast and Internet, and it can impact wireless performance.
- Consult the adapter manufacturer for support.

4 Enjoying entertainment features

Use your HP device as an entertainment hub to socialize via the webcam, camera, enjoy and manage your music, and download and watch movies. Or, to make your device an even more powerful entertainment center, connect external devices like a monitor, projector, or TV, or speakers and headphones.



NOTE: You can run some apps and media features offline without an Internet connection.

Using a camera (select devices only)



NOTE: Depending on your device, the front camera may be called a webcam.

You can take a photo with the rear camera (select devices only), and take your own photo or screenshots with the front camera (select devices only).



NOTE: The icons on the Home screen and the appearance of the Home screen may vary.

Taking a photo (select devices only)

- Touch or click the **camera** icon .
- To take a photo, touch or click the **camera** icon .

The photo is saved in the Gallery.

Switching between cameras (select devices only)

To switch between the front and rear camera:

1. Touch or click the **camera** icon .
2. Touch or click the **Rotating camera** icon.

Recording a video (select devices only)



NOTE: Some devices may require tapping the selection icon before choosing the icon.

- Touch or click the **camera** icon .
- To record a video, touch or click the **video camera** icon.
- To start or stop recording, touch or click the red button.

The video is saved in the Gallery.

Taking a screenshot (select devices only)

- ▲ To take a screenshot, press the power button and the volume down button at the same time for about 1 second.

A message is displayed when the screenshot is saved in the Gallery.

Viewing photos or videos (select devices only)

- To view the photos or videos in your Gallery, touch or click the **Gallery** or the **Photos** icon.
- To delete a photo or video, touch or click the photo or video, and then touch or click **Delete**.



NOTE: On select devices, you may need to tap the **garbage can** icon  and confirm the deletion.

Printing photos (select devices only)

You can print photos, documents, or web pages to a printer connected to the installed printing app.

On select devices, you can activate **HP Print Service**, which allows you to print directly to an HP printer.

1. Touch or click the **Menu** icon, and then **Print**.
2. Adjust settings in the menu that appears, such as printer, copies, orientation, and so on.
3. Touch **Print**. For more information, see [Printing Files on page 33](#)

Using audio

On your device, or on select devices using an external optical drive, you can play music CDs, download and listen to music, stream audio content from the web (including radio), record audio, or mix audio and video to create multimedia. To enhance your listening enjoyment, attach external audio devices such as speakers or headphones.

Connecting speakers (select devices only)

You can attach wired speakers to your device by connecting them to a USB port or to the audio-out (headphone) jack on your device or on a docking station.

To connect wireless speakers to your device, follow the device manufacturer's instructions. Before connecting speakers, lower the volume setting.

Connecting headphones (select devices only)

 **WARNING!** To reduce the risk of personal injury, lower the volume setting before putting on headphones, earbuds, or a headset. For additional safety information, see the *Regulatory, Safety and Environmental Notices* or *Product Notices*.

You can connect wired headphones to the headphone jack on your device.

To connect wireless headphones to your device, follow the device manufacturer's instructions.

Connecting a microphone (select devices only)

To record audio, connect a microphone to the microphone jack on the device. For best results when recording, speak directly into the microphone and record sound in a setting free of background noise.

Connecting headsets (select devices only)

⚠ WARNING! To reduce the risk of personal injury, lower the volume setting before putting on headphones, earbuds, or a headset. For additional safety information, see the *Regulatory, Safety and Environmental Notices* or *Product Notices*.

You can connect wired headphones or headsets to the audio-out (headphone)/audio-in (microphone) jack on your device. Many headsets with integrated microphones are commercially available.

To connect *wireless* headphones or headsets to your device, follow the device manufacturer's instructions.

Using video

Your device is a powerful video device that enables you to watch streaming video from your favorite websites and download video and movies to watch on your device when you are not connected to a network.

To enhance your viewing enjoyment, use one of the video ports on your device to connect an external monitor, projector, or TV.

📝 IMPORTANT: Be sure that the external device is connected to the correct port on your device, using the correct cable. Check the device manufacturer's instructions.

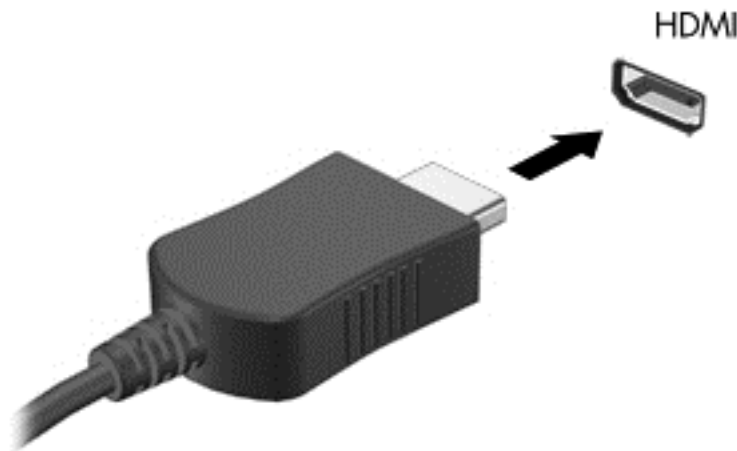
Connecting video devices using an HDMI cable (select devices only)

HDMI is the only video interface that supports high-definition video and audio.

📝 NOTE: To connect an HDMI device to your device, you need an HDMI cable, sold separately.

To see the device screen image on a high-definition TV or monitor, connect the high-definition device according to the following instructions.

1. Connect one end of the HDMI cable to the HDMI port on the device.



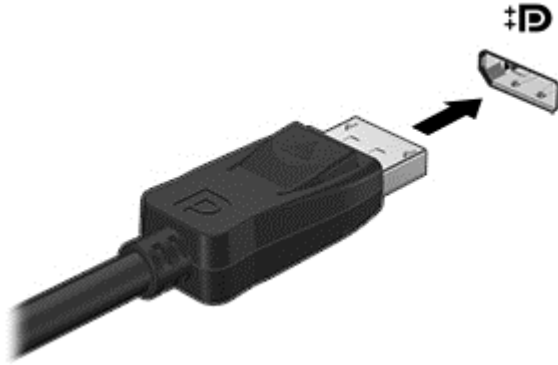
2. Connect the other end of the cable to the high-definition TV or monitor.
3. The device screen image now appears on your display device.

Connecting digital display devices using a DisplayPort cable (select devices only)

 **NOTE:** To connect a digital display device to your device, you need a DisplayPort (DP-DP) cable, sold separately.

The DisplayPort connects a digital display device such as a high-performance monitor or projector.

1. Connect one end of the DisplayPort cable to the DisplayPort on your device.



2. Connect the other end of the cable to the digital display device.
3. The device screen image now appears on your display device.

5 Navigating the screen

You can navigate the device screen in the following ways:

- Touch gestures
- Keyboard and optional mouse (purchased separately)

Touch gestures can be used on your device's TouchPad (select devices only) or on a touch screen (select devices only).



NOTE: An external USB mouse (purchased separately) can be connected to one of the USB ports on the device (select devices only).

Using the TouchPad and touch screen gestures

On devices with an attached or external keyboard, the TouchPad helps you navigate the device screen and control the pointer using simple touch gestures. To navigate the touchscreen, you can use the left and right TouchPad buttons as you would use the corresponding buttons on an external mouse. You can also customize gestures and view demonstrations of how they work.



NOTE: Most of the gestures shown here can be used on either the TouchPad or touchscreen. TouchPad gestures are not supported in all apps.

Tap

Use the tap/double-tap gesture to select or open an item on the screen.

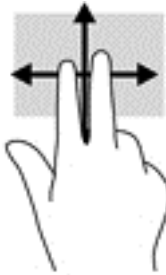
- Point to an item on the screen, and then tap one finger on the TouchPad zone or touch screen to select it. Double-tap an item to open it.



Two-finger scroll

Use the two-finger scroll gesture to move up, down, or sideways on a page or image.

- Place two fingers slightly apart on the TouchPad zone or touch screen and then drag them up, down, left, or right.



Two-finger pinch zoom

Use the two-finger pinch zoom to zoom out or in on images or text.

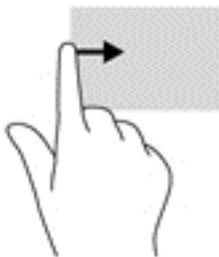
- Zoom out by placing two fingers apart on the TouchPad zone or touch screen and then moving your fingers together.
- Zoom in by placing two fingers together on the TouchPad zone or touch screen and then moving your fingers apart.



Left-edge swipe

Use the left-edge swipe to reveal your open apps, move through home screens, and move through photos so that you can access them quickly.

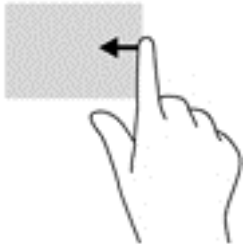
- Gently swipe your finger inward from the left edge of the TouchPad or touch screen to switch between apps, move through home screens, and move through photos. Without lifting your finger, swipe back toward the left edge to reveal all open apps.



Right-edge swipe

Use the right-edge swipe to access additional desktop space on your device.

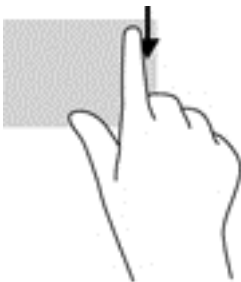
 **NOTE:** On select devices, this gesture may provide access to additional apps, settings, or other features.



Top-right-edge swipe

Use the top-right-edge swipe to display the Quick Settings Menu.

- Gently swipe your finger from the top-right edge to reveal the Quick Settings Menu.

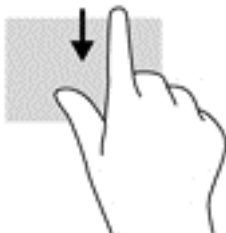


Top-edge swipe and bottom-edge swipe

Use the top-edge swipe or bottom-edge swipe to display command options that allow you to customize an open app.

 **IMPORTANT:** When an app is open, the top-edge swipe varies depending on the app.

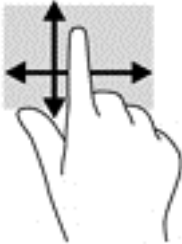
- Gently swipe your finger from the top edge or the bottom edge to reveal the app command options.



One-finger slide (touch screen only)

Use the one-finger slide to pan or scroll through lists and pages, or to move 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.



6 Using apps and widgets

Touch or click an app to open an application installed on your device.

Widgets are apps with special functionality that displays content that is updated frequently. You can view the updated content without opening the widget.

To see all apps, touch or click the **All apps** icon (⋮) (select devices only).



NOTE: The icons on the Home screen and the appearance of the Home screen may vary.

- To open an app, touch or click the icon for the app. To return to the Home screen, touch or click the **Home** icon (🏠).
- On a touch screen, to add an app to the Home screen, touch and hold the app icon until the Home screen appears, and then slide it to the location where you want it to be.
- On a touch screen, to remove an app from the Home screen, touch and hold the app icon, and then drag it to the **Remove** icon at the top of the screen.

To see all widgets, touch or click the **All apps** icon (⋮) (select devices only), and then touch or click the **Widgets** tab.

– or –

On a touch screen, touch and hold the home screen to display the **Set Home Screen** menu, and then select **Widgets**.

- To open a widget, touch or click the icon. To return to the Home screen, touch or click the **Home** icon (🏠).
- On a touch screen, to add a widget to the Home screen, touch and hold the widget icon until the Home screen appears, and then slide it to the location where you want it to be.
- On a touch screen, to remove a widget from the Home screen, touch and hold the widget icon, and then drag it to the **Remove** icon at the top of the screen.

Organizing apps on the Home screen

To add an app to the Home screen:

1. Touch or click the **All apps** icon (⋮) on the Home screen.



NOTE: The apps on the screen are initially displayed alphabetically.

2. On a touch screen, touch and hold the app until the Home screen appears, slide it into place, and lift your finger.

To move an app icon to a different location on a Home screen:

1. On a touch screen, touch and hold the icon.
2. Slide your finger to the new position.
3. Lift your finger. The icon drops into its new position.

To remove an app from the Home screen:

1. On a touch screen, touch and hold the icon.
2. While holding the icon, drag it to the **Remove** icon at the top of the screen.

 **NOTE:** The Remove option is only available at the top of the screen if you are touching and holding an icon.

Using the on-screen keyboard (select devices only)

The on-screen keyboard is displayed by an app when you need to enter information.

 **NOTE:** The appearance of the keyboard may vary.

Using email

 **NOTE:** A Google account is required to use this feature. You can also add other types of accounts, such as Microsoft Exchange, Facebook, Twitter, and more.

1. Touch or click the **All Apps** icon (⋮), and then touch or click the **Settings** icon (⚙️).

– or –

On a touch screen, swipe down from the top-right edge, and then touch or click the **Settings** icon (⚙️).

2. Under **Accounts**, touch or click **Add account**.
3. Touch or click the installed email app, and then follow the on-screen instructions.
4. To access your email account, touch or click the email icon.

Using the calendar

Touch or click the **Calendar** icon (📅), and then follow the on-screen instructions.

 **NOTE:** When you add an email account, the email, calendar, and people associated with the account are synchronized automatically.

Using the clock

To add an alarm, touch or click the **Clock** icon (🕒), touch or click the **Alarm** icon, and then follow the on-screen instructions.

Downloading apps

Download apps, music, books, games, and more from the app marketplace for your region or country.

 **NOTE:** You must be connected to the Internet and signed into an email account to download apps.

- Touch or click the icon for the app marketplace, and then touch or click a category, or type a keyword in the search field.
- To download and install an app, follow the on-screen instructions.

Uninstalling apps

1. Touch or click the **All Apps** icon , and then touch or click the **Settings** icon .
– or –
On a touch screen, swipe down from the top-right edge, and then touch or click the **Settings** icon .
2. Under **Device**, touch or click **Storage**, and then touch or click **Apps**.
3. Touch or click the app that you want to uninstall, and then touch or click **Uninstall**.
4. Touch or click **OK**, and then touch or click **OK** again.

7 Voice device features (voice devices only)

Using voice calling features (voice devices only)

 **NOTE:** The icons on the Home screen and the appearance of the Home screen may vary.

Icon	Description
	Make a call —Touch or click the  icon on the Home screen or the Apps screen, touch or click the keys to enter the phone number, and then touch or click the  icon. – or – Touch or click  , touch or click a contact name, and then touch or click the  icon.
	Answer a call —Slide the  icon outside the circle.
	End a call —Touch or click the  icon at the bottom of the screen.
	Send a call to voicemail —Slide the  icon outside the circle.
	Return a recent call —Touch or click the  icon, and then touch or click a recent call to return it.
	People —Allows you to manage your contacts and if enabled, synchronizes with your Google account. Also allows you to store frequently called phone numbers. The phone numbers that you contact most often are listed first.

Connecting to a mobile network (voice devices only)

If a SIM is not preinstalled, a SIM can be purchased from a mobile carrier. To insert the SIM, see the *Setup Instructions* poster or the *Quick Start* guide included with your product.

1. Touch or click the **All Apps** icon , and then touch or click the **Settings** icon .

– or –

On a touch screen, swipe down from the top-right edge, and then touch or click the **Settings** icon .
2. Under **Wireless and networks**, touch or click **More ...**, touch or click **Mobile Networks**, select a SIM, and then touch or click **Access Point Names**.
3. Swipe down from the top, touch or click **Select New APN**, and then follow the on-screen instructions.

8 Using Settings



NOTE: The icons in Settings and the available selections may vary.

Use Settings for connecting to networks, setting preferences, and finding information about your device.

- Touch or click the **All Apps** icon , and then touch or click the **Settings** icon .
- or –
- On a touch screen, swipe down from the top-right edge, and then touch or click the **Settings** icon .

Wireless and networks

Select preferences for connecting your device to wireless and other types of networks.

- **WLAN**—Enable or disable **WLAN**. When WLAN is enabled, you can connect to a wireless network to check email, search the Web, or access social media websites.
- **Wi-Fi**—Enable or disable **Wi-Fi**. When Wi-Fi is enabled, you can connect to a wireless network to check email, search the Web, or access social media websites.
- **Cast screen** (select devices only)—Enable or disable connection to a wireless Cast screen. When a Cast screen is enabled, you can stream content from your device to a wireless display device.
- **Miracast** (select devices only)—Enable or disable **Miracast**. When Miracast is enabled, you can connect to a wireless network to stream content from your device to a device compatible with Miracast-certified devices.
- **Bluetooth** (select devices only)—Enable or disable **Bluetooth**. When Bluetooth is enabled, you can pair a Bluetooth  device, such as a headset or keyboard, with your device.
- **Data usage** (select devices only)—View a graph of the data used during the selected period. The data usage by each installed app is also displayed.
- **More...**—Enable or disable **Airplane mode**, **VPN**, **Tethering & portable hotspot**, or **Mobile networks**.

Device

- **Sound**—Select volume, ringtone (select devices only), and vibration preferences for your device.
 - **Volumes**—Touch or click **Volumes**, touch or click **Music, video, games, and other media**, **Ringtone and notifications** (select devices only), or **Alarms**, touch or click the slider to select the desired volume, and then touch or click **OK**.
 - **Phone ringtone** (select devices only)—Touch or click **Phone ringtone**, touch or click a ringtone to select it, and then touch or click **OK**.
 - **Vibrate when ringing** (select devices only)—Select the check box to enable vibration or clear the check box to disable it.
- **Beats Audio** (select devices only)—Enable or disable Beats Audio. Once enabled, Beats Audio is turned on automatically when you are listening to music.
- **Controller** (select devices only)—Enable or disable a game controller.
 - **System**—Select notification, touch, and vibration sound preferences for your device.
 - **Default notification sound**—Touch or click **Default notification sound**, touch or click a sound to select it, and then touch or click **OK**.
 - **Dial pad touch tones** (select devices only)—Select the check box to enable, or clear the check box to disable.
 - **Touch sounds**—Select the check box to enable, or clear the check box to disable.
 - **Screen lock sound**—Select the check box to enable, or clear the check box to disable.
 - **Vibrate on touch**—Select the check box to enable, or clear the check box to disable.
- **Display**—Select display brightness, wallpaper, and font size for your device.
 - **Brightness**—Touch or click the slider to select the desired brightness.
 - **Wallpaper**—To select an image to be displayed on the Home screen, select **Gallery**, **Live Wallpapers**, or **Wallpapers**, and then select **Set Wallpaper**.
 - **Sleep**—Select a time period after which the device will go to Sleep.
 - **Daydream**—Select an image to display when the device is daydreaming, and then touch or click **Start now**, or touch or click **When to daydream**, and then select **While docked**, **While charging**, or **Either**.
 - **Font size**—Select **Small**, **Normal**, **Large**, or **Huge**.
 - **Cast screen** (select devices only)—Touch or click to display a list of available wireless devices.
 - **Wireless display**—Touch or click to display a list of available wireless devices.
- **DirectStylus** (device name may vary) (select devices only)—Select preferences for a digital stylus.
- **HDMI** (select devices only)—Select preferences for a connected HDMI device.
- **Sensor calibration** (select devices only)—Manage the sensitivity of the touch screen of your device.
- **Storage**—View available space in device memory and microSD card memory (if installed).

- **Battery** (select devices only)—View battery charge percentage and battery usage by various features.
- **Power saving**—Enable or disable and set preferences for the power saving mode.
- **Apps**—View downloaded apps and running apps. To view information or uninstall an app, touch or click the app.
- **Users**—Enable or disable additional users for use your device.

Personal

- **Enable widgets**—Enable or disable Home Screen widgets.
- **Location**—Enable or disable **Access to my location**, **GPS satellites**, and **Wi-Fi and mobile network location**.
- **Security**—Select preferences for the following features:
 - **Screen security**—Touch or click **Screen lock**, touch or click **Slide**, **Face unlock**, **Pattern**, **Pin**, or **Password**, and then follow the on-screen instructions.
 - **Owner info**—To show owner information on the lock screen, touch or click the check box, and then type the text to be displayed. To disable this feature, clear the check box.
 - **SIM card lock** (select devices only)—If a SIM is installed, select a PIN to lock the SIM.
 - **Make passwords visible**—Touch or click the check box to enable this feature, or clear the check box to disable it.
 - **Device administrators**—Touch or click to view or deactivate device administrators.
 - **Unknown sources**—Touch or click the check box to allow installation of apps from unknown sources, or clear the check box to disable this feature.
 - **Verify apps**—Touch or click the check box to disallow or warn before installation of apps that may cause harm, or clear the check box to disable this feature.
 - **Trusted credentials**—Touch or click to display trusted credential certificates.
 - **Storage type**—Lets you choose a storage type such as software or hardware backup to store data.
 - **Clear credentials**—(select devices only) Allows the removal of all user-installed security certificates from the device.
 - **Install from storage**—Touch or click to install certificates from an installed microSD memory card.
- **Language & input**—Select language, spelling, keyboard, and search preferences for your device.
 - **Language**—Touch or click to select a language.
 - **Spell checker**—Touch or click the check box to enable this feature, and then touch or click the **Settings** icon  to select a language.
 - **Personal dictionary**—Follow the on-screen instructions to add words to your personal dictionary.
 - **Keyboard & input methods**—Touch or click **Default** to select a keyboard.

- **Google™ keyboard** (select devices only)—Allows you to configure the Google keyboard preferences.
- **Voice typing**—Touch or click the check box to enable this feature, and then touch or click the **Settings** icon  to select preferences. Clear the check box to disable this feature.
- **Voice search**—Select voice search preferences for your device.
- **Mouse/trackpad**—Touch or click **Pointer speed**, touch the slider to select the desired speed, and then touch or click **OK**.
- **Speech**—Speech options for your device.
 - **Voice search**—Choose options for searching your device using a speech-to-text interface.
 - **Text-to-speech output**—Choose options for the text-to-speech interface.
- **Mouse/trackpad**—Mouse and trackpad options for your device.
 - **Pointer speed** (select devices only)—Use the slider to increase or decrease mouse pointer speed.
- **Backup and reset**—Select **Backup and restore**, and **Personal data** preferences for your device. For more information, see [Backing up and recovering your data on page 34](#).

Accounts

Existing accounts are displayed.

- **Add account**—To add an email account or another type of account, touch or click **+ Add account**, and then follow the on-screen instructions.
- **Sync an account**—To sync an account, touch or click the name of the account, touch or click it again, and then touch or click **Sync now**.
- **Remove an account**—To remove an account, touch or click the name of the account, touch or click it again, and then touch or click **Remove account**.

Device

- **Date and time**—Enable or disable **Automatic date and time**, and select preferences for time zone, time format, and date format.
- **Accessibility**—Enable or disable **accessibility features**.
- **Printing** (select devices only)—Enable or disable printing to a connected printer or Cloud printing capability.
- **About device**—Display the device status, legal information, model number, and operating system version for your device.

To check for updates, touch or click **System updates**, and then touch or click **Check now**.

9 Managing files

HP File Manager  (select devices only) is a file management app that provides file browsing, copying, cutting, renaming, printing and other functions on local storage/USB drives/SD Cards. If there are multiple apps installed that can open a file, HP File Manager allows you choose which app to use.

To access File Manager:

1. Select the **File Manager** icon from the Home screen.
2. Select the storage device in the left navigation column to access files and folders from that device.

Downloading files

You can download a file from your email, the Internet, or any other location, and it will automatically be saved to your downloads folder. Check the status of the download in your **Notifications** by swiping down from the top-left edge of the screen.

To open the **Downloads** folder and access your downloaded files:

- ▲ Touch or click **All Apps** and then open the **Downloads** folder.

Opening files

You can open files with the app or apps they are associated with. You can open some files with more than one app. File management apps are available for download in the Google Play store (select devices only) .

Saving files

You can use local storage, a memory card, a USB flash drive (select devices only), or online (cloud) storage to save files.

Printing Files

Before you can print, you need a printing service installed on your device. To check what services are currently available, touch or click **Settings > System > Printing**.



NOTE: You can also find the **Print** option from a supported app. From the app's menu, touch or click **Print**.

From here you can open each available service to turn it on or off, check which printers it makes available, and adjust the service's settings.

To print a document:

1. Touch or click **Menu**, and then **Print**.
2. Adjust settings in the menu that appears, such as printer, copies, orientation, and so on.
3. Touch **Print**.

Installing software

You can install software on your device. To do so, find Android apps for your device in the Google Play store (select devices only) , an online marketplace featuring both free and paid downloadable content.



NOTE: On select devices, you may find a different online marketplace app.

Cloud storage and file sharing

Your device includes an online file sharing and cloud content storage service that allows you to access, view, edit, and manage files on the cloud from your device.

With a preinstalled drive, you can store all your files in one place, so you can access them from anywhere and share them with others.

Transferring files



NOTE: On select devices, an external storage location such as a memory card or USB device, or cloud storage, must be available before you can transfer files between your device and a Windows computer.



NOTE: On select devices, such as voice devices, USB tethering must be turned off before you can use a USB to transfer files between your device and a Windows computer (see [Activating tethering or a portable hotspot \(select devices only\) on page 12](#)).

1. Connect the micro USB cable to your device and to a Windows computer.

The USB storage appears as a drive on the computer. You can copy files back and forth as you would with any other external device.

2. When you have finished transferring files, disconnect the USB cable.

10 Backing up and recovering your data

Automatically updating apps

Some online marketplaces update your apps automatically. Some keep a record of your purchases as well as your last synched settings. If you should need to perform a recovery on your device, this record will be available to retrieve all of your settings, favorites, and apps.



NOTE: The auto-update feature is a setting in the online marketplace, not on your device. The online marketplace available to you will vary based on your device and country.

Manually updating apps, widgets, and the operating system

HP recommends that you update your apps, widgets, and the operating system on a regular basis to the latest versions. Updates can resolve issues and bring new features and options to your device. Technology is always changing, and updating apps, widgets, and the operating system allows your device to run the latest technology available. For example, older apps and widgets may not be compatible with the most recent operating system.

If you download the latest versions of HP and third-party apps and widgets, the operating system will download updates automatically and notify you when it is ready to install these updates. For more information:

1. Go to <http://www.hp.com/support>, and follow the on-screen instructions to select your country and your product.
2. Follow the on-screen instructions to access your Android operating system software.

Back up and reset

HP strongly encourages that you periodically back up your personal data on your device to another device, a dedicated storage device, or to the cloud using one of several commercially available solutions.

You can select preferences for backing up and restoring your data in case of loss.

1. Touch or click the **All Apps** icon (⋮), and then touch or click the **Settings** icon (⚙️).

– or –

On a touch screen, swipe down from the top-right edge, and then touch or click the **Settings** icon (⚙️).

2. Under **Personal**, touch or click **Back up and reset**.
3. Under **Backup and restore**, select one or more of the following:
 - **Back up my data**—Select the check box to enable backing up app data, Wi-Fi passwords, and other settings to Internet servers, or clear the check box to disable this feature.
 - **Backup account**—Select an email account for backing up data.
 - **Automatic restore**—Select the check box to enable backed up settings and data to be restored when an app is reinstalled, or clear the check box to disable this feature.

Factory data reset

Resetting with the device turned on

If the device starts normally, and if you are able to sign in to the owner account (the first account added to the device), follow the steps in this section.

To reset all settings and delete all data on the device:

1. Touch or click the **All Apps** icon , and then touch or click the **Settings** icon .

– or –
On a touch screen, swipe down from the top-right edge, and then touch or click the **Settings** icon .
2. Under **Personal**, touch or click **Back up & reset**.
3. Under **Personal data**, select **Factory data reset**.

 **CAUTION:** All data saved on your device is deleted when you perform a factory reset. All apps are uninstalled. It may be possible to restore data in your email account. Back up all important files with an external storage device or to the cloud using one of several commercially available solutions, before resetting the device.

4. Touch or click **Reset** on your device.
5. If you set a lock screen password for your device, enter your password when prompted.
6. Touch or click **Erase everything** to begin the reset.

The device turns off. When the reset is complete, the device starts.

Resetting with the device turned off

If the device does not start normally, or if you do not remember the lock screen password, you can reset the device without turning it on.

 **CAUTION:** All data saved on your device is deleted when you perform a factory reset. All apps are uninstalled, but it may be possible to restore data in your email account. Back up all important files with an external storage device or to the cloud using one of several commercially available solutions, before resetting the device.

 **NOTE:** The touch screen is disabled when the device is in recovery mode. Use the volume up (+) and volume down (-) buttons to navigate up or down in the recovery menu.

1. To provide enough power to complete the factory reset process, charge the device for at least half an hour, and then disconnect the AC adapter from the device.
2. If a micro SD card is installed in the device, remove the memory card before resetting the device.
3. With the device turned off, press and hold the volume up (+) button and the power button at the same time.
4. When the system recovery menu appears, use the volume down (-) button to highlight **Wipe data/factory reset**.
5. Press the power button to select.

The screen displays **Confirm wipe of all user data? THIS CAN NOT BE UNDONE**

6. Use the volume down (-) button to highlight **Yes -- delete all user data**.
7. Press the power button to begin the reset.
A recovery system screen shows the reset process.
8. When the screen displays the message **Data wipe complete**, highlight **Reboot system now**, and then press the power button to select.
The device restarts.

Starting up using the recovery menu

If your device is unable to boot into the operating system, you can perform a system recovery by directly accessing the Recovery menu.

1. Turn off your device and, if a battery powered device, plug in the AC adapter.
2. To boot into the Recovery menu, press and hold the volume down key and then press the power button. Hold the volume down key until the HP logo is displayed.
3. Move the arrow up or arrow down key to highlight **wipe data/factory reset**, and then press the **enter** key to confirm the selection.
4. Move the arrow up or arrow down key to highlight **Yes — delete all user data**, and then press the **enter** key to confirm the selection.
5. Move the arrow up or arrow down key to highlight **reboot system now**, and then press the **enter** key to confirm the selection.

Updating the device using an over-the-air (OTA) update

1. Turn off your device and, if a battery powered device, plug in the AC adapter.
2. Turn on your device, and connect to the Internet.
3. To access Settings, touch or click the **All Apps** icon, and then touch or click **Settings**,
4. Under **About device**, touch or click **System updates**, and then touch or click **Check now**.
5. Follow the on-screen instructions to finish the process. The device may reboot as updates are applied.

Updating the device using a file-based update



NOTE: Before performing the following procedure, plug in the AC adapter for your device, if one has been provided.

1. Download the latest operating system restore image for your device.
 - a. Go to <http://www.hp.com/support>, and follow the on-screen instructions to select your country and your product.
 - b. Follow the on-screen instructions to access your Android operating system software.
2. Locate **update.zip** and copy it to a memory card.
3. Turn off the device, and then insert the memory card containing the **update.zip** file.
4. To power on the device, press and hold the volume down key and the power button.
5. Select **Apply update from SD**.
6. Follow the on-screen instructions to finish the process and reboot the device.

Resetting with the device powered off

If the device does not start normally, or if you do not remember the lock screen password, you can reset the device without turning it on.



CAUTION: All data saved on your device is deleted when you perform a factory reset. All apps are uninstalled, but it may be possible to restore data in your email account. Back up all important files with an external storage device or to the cloud using one of several commercially available solutions, before resetting the device.

1. If a battery-powered device, disconnect the AC adapter from the device.
2. With the device powered off, press and hold the volume up (+) button and the power button at the same time.
3. When the system recovery menu appears, use the volume down (-) button to highlight **Wipe data/factory reset**.
4. Press the power button to select.

The screen displays **Confirm wipe of all user data? This cannot be undone..**
5. Use the volume down (-) button to highlight **Yes -- delete all user data**.
6. Press the power button to begin the reset.

A recovery system screen shows the reset process.
7. When the screen displays the message **Data wipe complete**, highlight **reboot system now**, and then press the power button to select.

The device reboots.

11 Managing power

Your device can operate on either battery power or external power. When the device is running on battery power only and an AC power source is not available to charge the battery, it is important to monitor and conserve the battery charge.

Running on battery power

When a charged battery is in the device and the device is not plugged into external power, the device runs on battery power. When the device is off and unplugged from external power, the battery in the device slowly discharges. The device will display a message when the battery reaches a low or critical battery level.

A device's battery life varies, depending on power management settings, programs running on the device, screen brightness, external devices connected to the device, and other factors.

Factory-sealed battery (select devices only)

The battery[ies] in this device cannot be easily replaced by user themselves. Removing or replacing the battery could affect your warranty coverage. If a battery is no longer holding a charge, contact support. When a battery has reached the end of its useful life, do not dispose of the battery in general household waste. Follow the local laws and regulations in your area for battery disposal.

Charging the battery

1. Connect the power adapter to the device.
2. Verify that the battery is charging by checking the AC adapter light.
3. While the battery is charging, keep the AC adapter connected until the battery information in the status area or Notification area reads as 100% charged.

Conserving battery power

To conserve battery power and maximize battery life:

- Enable **Power Saving Mode** under **Settings**.
- Lower the brightness on the display.
- If the device will be unused and unplugged from external power for more than 2 weeks, remove the user-replaceable battery (select devices only) from the device and store it separately in a cool, dry place.
- Turn off wireless devices when you are not using them.
- Disconnect unused external devices that are not plugged into an external power source, such as an external hard drive connected to a USB port.
- Stop, disable, or remove any external media cards that you are not using.
- Before you leave your work, initiate Sleep or shut down the device.

Running on AC power

For information about connecting to AC power, see the *Quick Start* guide or *Setup Instructions* poster included with your device.

The device does not use battery power when the device is connected to AC external power with an approved AC adapter or an optional docking/expansion device.

⚠ WARNING! To reduce potential safety issues, use only the AC adapter provided with the device, a replacement AC adapter provided by HP, or a compatible AC adapter purchased from HP.

Connect the device to external AC power under any of the following conditions:

⚠ WARNING! Do not charge the device battery while you are onboard aircraft. Some airlines may have different rules and/or restrictions.

- When charging or calibrating a battery
- When installing or modifying system software
- When writing information to a disc (select devices only)
- When performing a backup or recovery

When you connect the device to external AC power:

- The battery begins to charge.
- The screen brightness increases.

When you disconnect external AC power, the following events occur:

- The device switches to battery power.
- Depending on your device, the screen brightness may automatically decrease to save battery life.

Troubleshooting power problems

Test the AC adapter if the device exhibits any of the following symptoms when it is connected to AC power:

- The device does not turn on.
- The display does not turn on.
- The power lights are off.

To test the AC adapter:

1. Shut down the device.
2. Connect the AC adapter to the device, and then plug it into an AC outlet.
3. Turn on the device.
 - If the power lights turn *on*, the AC adapter is working properly.
 - If the power lights remain *off*, check the connection from the AC adapter to the device and the connection from the AC adapter to the AC outlet to be sure that the connections are secure.
 - If the connections are secure and the power lights remain *off*, the AC adapter may not be functioning and should be replaced.

Contact support for information about obtaining a replacement AC power adapter.

Powering off (turning off) the device

 **CAUTION:** Unsaved information is lost when the device shuts down. Be sure to save your work before shutting down the device.

The Power off command closes all open programs, including the operating system, and then turns off the display and device.

Shut down the device under any of the following conditions:

- When you need to replace the battery or access components inside the device
- When you are connecting an external hardware device that does not connect to a USB or video port
- When the device will be unused and disconnected from external power for an extended period

Although you can turn off the device with the power button, follow the recommended Android shutdown procedure.

If the device is unresponsive and you are unable to use the Android shutdown procedure, try the following emergency procedures in the sequence provided:

- Press and hold the power button for at least 5 seconds.
- Disconnect the device from external power.
- On devices with a user-replaceable battery, remove the battery.

12 Using an external or attached keyboard and mouse (select devices only)

Using an attached keyboard, or connecting an external keyboard and mouse allows you to type, select items, scroll and to perform other functions. A keyboard also allows you to use action keys to perform specific functions.

 **TIP:** HP recommends using an Android-compatible keyboard with your device. Keyboards not compatible with Android may not offer the same action key functionality. To find a Android-compatible keyboard, go to www.hp.com.

An action key performs an assigned function. The icon on each of the action key illustrates the assigned function for that key.

To use an action key function, press and hold the key.

 **NOTE:** If your device has action keys, the feature is enabled at the factory. On some devices, you can disable this feature in Setup Utility (BIOS). Refer to Help and Support for additional information.

If you have disabled the action key feature, on some devices, you can still perform each function by pressing the **fn** key or **esc** key in combination with the appropriate action key.

Depending on your device, your keyboard may have some of the following action key features.

Icon	Description
	Opens the previous screen.
	Allows you to type one or more keywords to search with the installed search app.
	Decreases the screen brightness incrementally as long as you hold down the key.
	Increases the screen brightness incrementally as long as you hold down the key.
	Opens the Settings menu.
	Allows you to speak one or more keywords to search with the installed search app.
	Mutes or restores speaker sound.
	Decreases speaker volume incrementally while you hold down the key.
	Increases speaker volume incrementally while you hold down the key.

Icon	Description
	Plays the previous track of an audio CD or the previous section of a DVD or a BD.
	Begins, pauses, or resumes playback of an audio CD, a DVD, or a BD.
	Plays the next track of an audio CD or the next section of a DVD or a BD.
	Turns the Airplane mode and wireless feature on or off. NOTE: A wireless network must be set up before a wireless connection is possible.
	Opens a list of apps that you have used recently. • Touch or click an app to open it. • On a touch screen, to remove an app from the list, swipe it up or down.
	Returns you to the home screen.
	Go to the previous page in your browser history.
	Go to the next page in your browser history.
	Reload your current page.
	Open your page in full-screen mode.
	Switch to your next window.

13 Maintenance

It is important that you perform simple maintenance of your device to be sure that it works at peak performance.

Cleaning your device

Use the following products to safely clean your device:

- Dimethyl benzyl ammonium chloride 0.3 percent maximum concentration (for example, disposable wipes, which come in a variety of brands)
- Alcohol-free glass-cleaning fluid
- Water with mild soap solution
- Dry microfiber cleaning cloth or a chamois (static-free cloth without oil)
- Static-free cloth wipes

 **CAUTION:** Avoid strong cleaning solvents that can permanently damage your device. If you are not sure that a cleaning product is safe for your device, check the product contents to make sure that ingredients such as alcohol, acetone, ammonium chloride, methylene chloride, and hydrocarbons are not included in the product.

Fibrous materials, such as paper towels, can scratch the device. Over time, dirt particles and cleaning agents can get trapped in the scratches.

Cleaning procedures

Follow the procedures in this section to safely clean your device.

 **WARNING!** To prevent electric shock or damage to components, do not attempt to clean your device while it is turned on.

- Turn off the device.
- Disconnect AC power.
- Disconnect all powered external devices.

 **CAUTION:** To prevent damage to internal components, do not spray cleaning agents or liquids directly on any device surface. Liquids dripped on the surface can permanently damage internal components.

Cleaning the display

 **CAUTION:** Do not spray or place the cleaner directly on the screen.

Gently wipe the sides and the surface of the display using a soft, lint-free cloth moistened with an alcohol-free glass cleaner.

Cleaning the device vents (select devices only)

Air vents keep the device cool. Keep these vents clean by using a small, battery-powered vacuum cleaner. (A battery-powered vacuum cleaner eliminates the risk of electric shock.)

1. Vacuum the vents on the device case.
2. Remove any debris that has accumulated in and around the device connectors (for example, the Ethernet and USB connectors).

Cleaning the keyboard or mouse (select devices only)

 **WARNING!** To reduce the risk of electric shock or damage to internal components, do not use a vacuum cleaner attachment to clean the keyboard. A vacuum cleaner can deposit household debris on the keyboard surface.

 **CAUTION:** To prevent damage to internal components, do not allow liquids to drip between the keys.

- To clean the keyboard or mouse, use a soft microfiber cloth or a chamois moistened with one of the cleaning solutions listed previously or use an acceptable disposable wipe.
- To prevent keys from sticking and to remove dust, lint, and particles from the keyboard, use a can of compressed air with a straw extension.

14 Securing your device

Locking and unlocking the device

Lock—Press the power button.

Unlock—Press the power button to turn on the device, then place your finger on the lock icon  and slide the icon to the unlock  position.

Setting a screen lock

1. Touch or click the **All Apps** icon , and then touch or click the **Settings** icon .
– or –
On a touch screen, swipe down from the top-right edge, and then touch or click the **Settings** icon .
2. Under **Personal**, touch or click **Security**, and then under **Screen security**, touch or click **Screen lock**.
3. Under **Choose screen lock**, select one of the following types of screen locks, and then follow the on-screen instructions.

 **NOTE:** If you have previously set a screen lock, you must unlock the screen before changing the lock settings.

- **Slide**—Unlock the screen by swiping in any direction.
 - **Password**—Enter four or more letters or numbers. This option provides the most protection, if a strong password is selected.
 - **Pin**—Enter four or more numbers to unlock the screen.
 - **Pattern**—Draw a simple pattern to unlock the screen.
 - **Face Unlock** (select devices only)—Unlock the screen by looking at the screen.
4. In **Owner info**, enter text to be displayed when the screen is locked.

Encrypting your device

 **CAUTION:** Encryption cannot be reversed. A factory data reset must be performed, which erases all of your data.

To provide additional protection in case the device is stolen, you can encrypt all of your data, including accounts, app data, music and other media, and downloaded information. If you encrypt the device, you must enter a PIN/password to decrypt the device each time you turn it on.

 **CAUTION:** Encryption may take an hour or more. If the encryption process is interrupted, you will lose data.

1. Set a lock screen PIN/password.
2. Charge the battery (select devices only).
3. Touch or click the **All Apps** icon , and then touch or click the **Settings** icon .

– or –

On a touch screen, swipe down from the top-right edge, and then touch or click the **Settings** icon .

4. Under **Personal**, touch or click **Security**, and then under **Encryption**, touch or click **Encrypt device**.



NOTE: Read the information about encryption carefully. The **Encrypt device** button is unavailable if your battery is not charged or your device is not plugged in. If you change your mind about encrypting your device, touch or click the **Back** button.

5. Enter your lock screen PIN/password and touch or click **Continue**.
6. Touch or click **Encrypt device** again.

Progress is displayed during encryption. When the encryption is complete, you must enter your PIN/password. You must also enter your PIN/password each time you turn on the device.

Power button lockout (select devices only)

The Power Button Lockout feature allows you to lock the power button so that it cannot be used. To lock the power button, press the power button and volume down button and Volume up button at the same time and hold them down for 10 seconds while the monitor is powered On. Upon locking the power button, an on-screen display (OSD) message **Power Button Lockout** is displayed for 10 seconds. When the power button is locked and pressed, the OSD message **Power Button Lockout** is displayed for 10 seconds.

When the power button is locked, holding down the power button and volume down button and volume up button at the same time for 10 seconds will unlock the power button functionality and turn off the monitor. When the power button is pressed, the monitor will remain on until the button is released. If the power button is locked and the monitor is off, the power button will remain functional so the monitor can be powered on.

On-screen display (OSD) lockout (select devices only)

The OSD Lockout feature allows you to lock the OSD so that it cannot be accessed. To lock the OSD, press the menu button and hold it down for 10 seconds. Upon locking the OSD, an OSD message of **OSD Lockout** is displayed for 10 seconds. When the OSD is locked and any OSD button is pressed, the OSD message **OSD Lockout** is displayed for an additional 10 seconds. When the OSD is locked, holding the menu button for 10 seconds will unlock the OSD and display the Main Menu.

15 Accessibility features

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. HP's accessibility initiative includes training and educating employees on issues related to accessibility, enhancing HP products to meet the established accessibility standards, and incorporating these standards into our development and quality assurance processes. As part of that initiative, we are constantly refining the accessibility of our products and services and welcome active 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, 6:00 a.m. Mountain Time until 9:00 p.m. Customers who are deaf or hard of hearing who require technical support, or who have accessibility questions and who use TRS/VRS/WebCapTel, please contact us at (877) 656-7058, Monday through Friday, 6:00 a.m. Mountain Time until 9:00 p.m.

To learn more about accessibility, use the Search feature on your device.

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