



User Guide

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Product notice

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

Not all features are available in all editions of Windows. This computer may require upgraded and/or separately purchased hardware, drivers and/or software to take full advantage of Windows functionality. Go to <http://www.microsoft.com> for details.

To access the latest user guide, go to <http://www.hp.com/support>, and select your country. Select **Drivers & Downloads**, and then follow the on-screen instructions.

Software terms

By installing, copying, downloading, or otherwise using any software product preinstalled on this computer, you agree to be bound by the terms of the HP End User License Agreement (EULA). If you do not accept these license terms, your sole remedy is to return the entire unused product (hardware and software) within 14 days for a full refund subject to the refund policy of your seller.

For any further information or to request a full refund of the price of the computer, please contact your seller.

Safety warning notice


 **WARNING!** To reduce the possibility of heat-related injuries or of overheating the tablet, do not place the tablet directly on your lap or obstruct the tablet air vents. Use the tablet only on a hard, flat surface. Do not allow another hard surface, such as an adjoining optional printer, or a soft surface, such as pillows or rugs or clothing, to block airflow. Also, do not allow the AC adapter to come into contact with the skin or a soft surface, such as pillows or rugs or clothing, during operation. The tablet and the AC adapter comply with the user-accessible surface temperature limits defined by the International Standard for Safety of Information Technology Equipment (IEC 60950-1).

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1 Welcome

After you set up and register the tablet, we recommend the following steps to get the most out of your smart investment:

- **Connect to the Internet**—Set up your wired or wireless network so that you can connect to the Internet. For more information, see [Network connections on page 11](#).
- **Update your antivirus software**—Protect your tablet from damage caused by viruses. The software is preinstalled on the tablet. For more information, see [Using antivirus software on page 33](#).
- **Get to know your tablet**—Learn about your tablet features. See [Components on page 4](#) and [Navigating using touch gestures on page 14](#) for additional information.
- **Find installed software**—Access a list of the software preinstalled on the tablet:
Select the **Start** button, and then select **All apps**.
– or –
Right-click the **Start** button, and then select **Programs and Features**.
- **Back up your hard drive by creating recovery discs or a recovery flash drive**. See [Backup and recovery on page 38](#).

Finding information

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

Resource	Contents
<i>Setup Instructions</i>	<ul style="list-style-type: none">• Overview of tablet setup and features
Get started app	<ul style="list-style-type: none">• A broad range of how-to information and troubleshooting tips
To access the Get started app:	
▲ Select the Start button, and then select the Get started app .	
HP support	<ul style="list-style-type: none">• Online chat with an HP technician
For U.S. support, go to http://www.hp.com/go/contactHP . For worldwide support, go to http://welcome.hp.com/country/us/en/wwcontact_us.html .	<ul style="list-style-type: none">• Support telephone numbers• HP service center locations
<i>Safety & Comfort Guide</i>	<ul style="list-style-type: none">• Proper workstation setup
To access this guide:	
1. Type <code>support</code> in the taskbar search box, and then select the HP Support Assistant app.	
– or –	
Click the question mark icon in the taskbar.	
2. Select My PC , select the Specifications tab, and then select User Guides .	
– or –	
Go to http://www.hp.com/ergo .	
<i>Regulatory, Safety and Environmental Notices</i>	<ul style="list-style-type: none">• Important regulatory notices, including information about proper battery disposal, if needed.
To access this document:	
1. Type <code>support</code> in the taskbar search box, and then select the HP Support Assistant app.	
– or –	
Click the question mark icon in the taskbar.	
2. Select My PC , select the Specifications tab, and then select User Guides .	
<i>Limited Warranty*</i>	<ul style="list-style-type: none">• Specific warranty information about this tablet
To access this document:	
1. Type <code>support</code> in the taskbar search box, and then select the HP Support Assistant app.	
– or –	
Click the question mark icon in the taskbar.	
2. Select My PC , and then select Warranty and services .	
– or –	

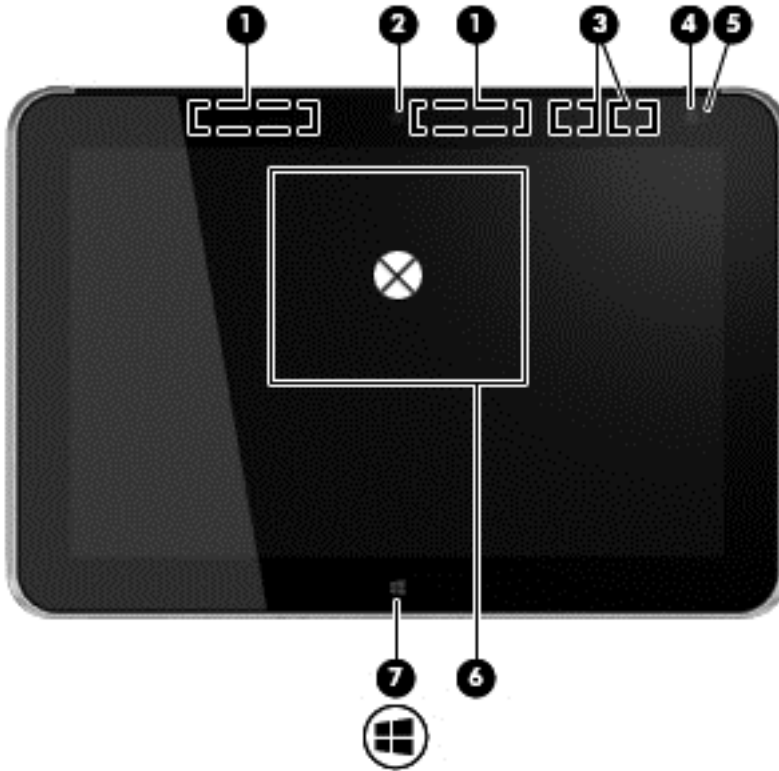
Resource**Contents**

Go to <http://www.hp.com/go/orderdocuments>.

*You can find your HP Limited Warranty located with the user guides on your product and/or on the CD or DVD provided in the box. In some countries or regions, HP may provide a printed warranty in the box. For countries or regions where the warranty is not provided in printed format, you can request a copy from <http://www.hp.com/go/orderdocuments>. For products purchased in Asia Pacific, you can write to HP at Hewlett Packard, POD, P.O. Box 200, Alexandra Post Office, Singapore 911507. Include your product name, and your name, phone number, and postal address.

2 Components

Front

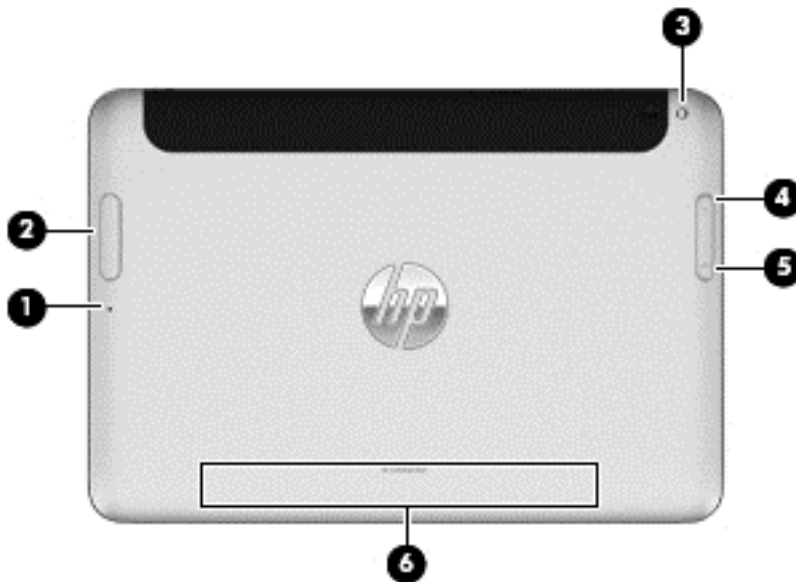


Component	Description
(1) WWAN antennas (2)* (select products only)	Send and receive wireless signals to communicate with wireless wide area networks (WWAN).
(2) Front webcam	Records video and captures still photographs. To use the webcam, type <code>cam</code> in the taskbar search box, and then tap CyberLink YouCam .
(3) WLAN antennas (2)*	Send and receive wireless signals to communicate with wireless local area networks (WLAN).
(4) Ambient light sensor	The ambient light sensor automatically adjusts the display brightness based on the lighting conditions in your environment.
(5) Webcam status light (front)	On: The webcam is on.
(6) Near Field Communications (NFC) tapping area (select products only)	Allows you to touch an NFC-compatible device to this area to wirelessly connect and communicate with the tablet and transfer data back and forth.
(7) Windows button	Displays the Start menu.

*The antennas are not visible on the outside of the tablet. For optimal transmission, keep the areas immediately around the antennas free from obstructions. To see wireless regulatory notices, see the section of the *Regulatory, Safety, and Environmental Notices* that

Component	Description
	applies to your country or region. To access HP Support Assistant, type <code>support</code> in the taskbar search box, tap the HP Support Assistant app, tap My PC , select the Specifications tab, and then tap User guides .

Rear



Component	Description
(1)	Micro SD Card Reader/Micro SIM slot access hole
(2)	Memory card reader/Micro SIM slot
(3)	Rear webcam
(4)	Volume up button
(5)	Volume down button
(6)	Regulatory information

Allows you to insert the end of a paper clip to open the access door to insert or remove a micro SD card or micro SIM module.

Reads optional micro memory cards that store, manage, share, or access information, and supports an optional wireless micro subscriber identity module (SIM) (select products only).

Records video, captures still photographs, and allows video conferences and online chat by means of streaming video.

To use the webcam, type `cam`, and then tap **CyberLink YouCam**.





To increase speaker volume, press the top edge of the button.

To decrease speaker volume, press the bottom edge of the button.

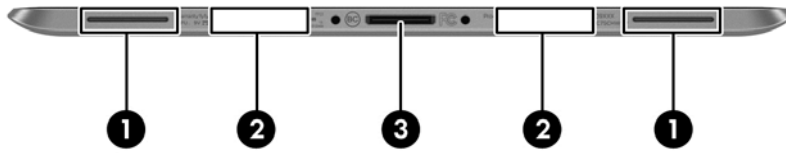
Displays regulatory information (select products only). See [Locating system information on page 8](#).


Top



Component	Description
(1) 	<p>Audio-out (headphone) jack/Audio-in (microphone) jack</p> <p>WARNING! To reduce the risk of personal injury, adjust the volume before putting on headphones, earbuds, or a headset. For additional safety information, see the <i>Regulatory, Safety, and Environmental Notices</i>. To access HP Support Assistant, type <code>support</code> in the taskbar search box, tap the HP Support Assistant app, tap My PC, select the Specifications tab, and then tap User guides.</p> <p>NOTE: When a device is connected to the jack, the tablet speakers are disabled.</p> <p>NOTE: Be sure that the device cable has a 4-conductor connector that supports both audio-out (headphone) and audio-in (microphone).</p>
(2) 	<p>Autorotate switch</p> <p>When the tablet is on, slide the autorotate switch to lock the autorotate feature of the display. To unlock the autorotate feature, slide the switch again.</p>
(3) 	<p>Integrated microphones (2)</p> <p>Record sound.</p>
(4) 	<ul style="list-style-type: none">• When the tablet is off, press the button to turn on the tablet.• When the tablet is on, press the button briefly to initiate Sleep.• When the tablet is in the Sleep state, press the button briefly to exit Sleep. <p>CAUTION: Pressing and holding down the power button will result in the loss of unsaved information.</p> <p>If the tablet has stopped responding and Windows® shutdown procedures are ineffective, press and hold the power button for at least 5 seconds to turn off the tablet.</p> <p>To learn more about your power settings, see your power options.</p>

Bottom



Component	Description
(1) Speakers (2)	Produce sound.
(2) Product and regulatory information	Displays product and regulatory information (select products only). See Locating system information on page 8
(3)  Docking connector	Connects an AC adapter or an optional docking device.

Locating system information

Important system information is located on the bottom edge or the rear of the tablet (select products only). You may need the information when travelling internationally or when you contact support:

- Serial number
- Product number
- Regulatory information

Changing your tablet's settings

You can change view and screen brightness.

Changing your tablet's view

Your tablet's orientation, or view, changes automatically from landscape to portrait view, or from portrait to landscape view.

1. To change the view of your tablet from landscape view to portrait view:
Hold the tablet vertically, and then turn it 90 degrees to the right (in a clockwise direction).
2. To change the view of your tablet from portrait view to landscape view:
Hold the tablet vertically, and then turn it 90 degrees to the left (in a counter-clockwise direction).

Using the tablet's autorotate lock feature

To turn on your tablet's autorotate lock feature:

- ▲ Slide the autorotate switch on the top edge of the tablet.
– or –
- 1. Tap the **Start** button, and then tap **Settings**.
- 2. Tap the screen icon to lock your current tablet screen in place and to prevent rotation. The icon displays a lock symbol when the autorotate lock is active.

To turn off your tablet's autorotate lock feature:

- ▲ Slide the autorotate switch on the top edge of the tablet again.
– or –
- 1. Tap the **Start** button, and then tap **Settings**.
- 2. Tap the **Screen** icon at the bottom right, and then tap the autorotate lock icon again.

Adjusting your tablet's screen brightness

To adjust the screen brightness:

1. Tap the **Start** button, and then tap **Settings**.
2. Tap the **Screen** icon at the bottom right. A vertical slider displays that controls the screen brightness.



NOTE: You can also tap the **Power Meter** icon in the notification area at the far right of the taskbar, tap **Adjust screen brightness**, and then move the slider next to **Screen brightness** at the bottom of the screen.

Finding your hardware and software information

Updating the software installed on the tablet

Most software, including the operating system, is updated frequently by the manufacturer or provider. Important updates to the software included with the tablet may have been released since the tablet left the factory.

Some updates may affect the way the tablet responds to optional software or external devices. Many updates provide security enhancements.

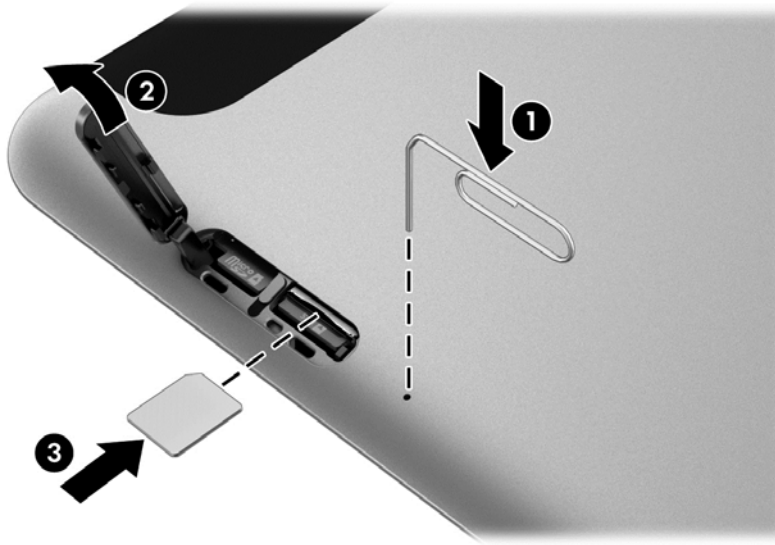
Update the operating system and other software installed on the tablet as soon as the tablet is connected to the Internet. Access the updates on the HP website at <http://www.hp.com>.

Inserting and removing a micro SIM card

CAUTION: To prevent damage to the connectors, use minimal force when inserting a micro SIM card.

To insert or remove a micro SIM card, follow these steps:

1. Shut down the tablet.
2. Disconnect all external devices connected to the tablet.
3. Unplug the power cord from the AC outlet.
4. Insert the end of a paper clip into the micro SIM slot access hole **(1)**, and then open the access door **(2)**.



5. Insert the micro SIM card into the micro SIM slot **(3)**, and then push to lock it.

– or –

Push the micro SIM card again to remove it from the micro SIM slot.

6. Insert the door hinge (1), and then close the access door (2).



7. Reconnect external power.
8. Reconnect external devices.
9. Turn on the tablet.

3 Network connections

Your tablet can travel with you wherever you go. But even at home, you can explore the globe and access information from millions of websites using your tablet and a wired or wireless network connection. This chapter will help you get connected to that world.

Connecting to a wireless network

Your tablet may be equipped with one or more of the following wireless devices:

- **WLAN device**—Connects the tablet to wireless local area networks (commonly referred to as Wi-Fi networks, wireless LANs, or WLANs) in corporate offices, your home, and public places such as airports, restaurants, coffee shops, hotels, and universities. In a WLAN, the mobile wireless device in your tablet communicates with a wireless router or a wireless access point.
- **HP Mobile Broadband Module (select products only)**—A wireless wide area network (WWAN) device that gives you wireless connectivity over a much larger area. Mobile network operators install base stations (similar to cell phone towers) throughout large geographic areas, effectively providing coverage across entire states, regions, or even countries.
- **Bluetooth device**—Creates a personal area network (PAN) to connect to other Bluetooth-enabled devices such as computers, phones, printers, headsets, speakers, and cameras. In a PAN, each device communicates directly with other devices, and devices must be relatively close together—typically within 10 meters (approximately 33 feet) of each other.

Using the wireless controls

You can control the wireless devices in your tablet using one or more of these features:

- **Wireless button** (also called airplane mode key or wireless key) (referred to in this chapter as wireless button)
- **Operating system controls**

Wireless button

The tablet may have a wireless button, one or more wireless devices, and one or two wireless lights. All the wireless devices on your tablet are enabled at the factory.

The wireless light indicates the overall power state of your wireless devices, not the status of individual devices.


Operating system controls

The Network and Sharing Center allows you to set up a connection or network, connect to a network, and diagnose and repair network problems.

To use operating system controls:

1. Type `control panel` in the taskbar search box, and then select **Control Panel**.
2. Select **Network and Internet**, and then select **Network and Sharing Center**.


Connecting to a WLAN


 **NOTE:** When you are setting up Internet access in your home, you must establish an account with an Internet service provider (ISP). To purchase Internet service and a modem, contact a local ISP. The ISP will help set up the modem, install a network cable to connect your wireless router to the modem, and test the Internet service.

To connect to a WLAN, follow these steps:

1. Be sure that the WLAN device is on.
2. Select the network status icon in the taskbar, and then connect to one of the available networks.


If the WLAN is a security-enabled WLAN, you are prompted to enter a security code. Enter the code, and then select **Next** to complete the connection.

 **NOTE:** If no WLANs are listed, you may be out of range of a wireless router or access point.

 **NOTE:** If you do not see the WLAN you want to connect to, right-click the network status icon in the taskbar, and then select **Open Network and Sharing Center**. Select **Set up a new connection or network**. A list of options is displayed, allowing you to manually search for and connect to a network or to create a new network connection.


3. Follow the on-screen instructions to complete the connection.

After the connection is made, select the network status icon at the far right of the taskbar, to verify the name and status of the connection.

 **NOTE:** The functional range (how far your wireless signals travel) depends on WLAN implementation, router manufacturer, and interference from other electronic devices or structural barriers such as walls and floors.

Using HP Mobile Broadband (select products only)

Your HP Mobile Broadband tablet has built-in support for mobile broadband service. Your new tablet, when used with a mobile operator's network, gives you the freedom to connect to the Internet, send e-mail, or connect to your corporate network without the need for Wi-Fi hotspots.

 **NOTE:** If your tablet includes HP Mobile Connect, the instructions in this section do not apply. See [Using HP Mobile Connect \(select products only\) on page 13](#).

You might need the HP Mobile Broadband Module IMEI and/or MEID number to activate mobile broadband service. The number may be printed on a label located on the bottom of your tablet or on the back of the display.

– Or –

You can find the number following these steps:

1. From the taskbar, select the network status icon.
2. Select **View Connection Settings**.
3. Under the **Mobile broadband** section, select the network status icon.

Some mobile network operators require the use of a SIM card. A SIM card contains basic information about you, such as a personal identification number (PIN), as well as network information. Some tablets include a SIM card that is preinstalled. If the SIM card is not preinstalled, it may be provided in the HP Mobile Broadband information provided with your tablet or the mobile network operator may provide it separately from the tablet.

For information about HP Mobile Broadband and how to activate service with a preferred mobile network operator, see the HP Mobile Broadband information included with your tablet.

Using HP Mobile Connect (select products only)

HP Mobile Connect is a prepaid, mobile broadband service that provides a cost-effective, secure, simple, and flexible mobile broadband connection for your tablet. To use HP Mobile Connect, your tablet must have a SIM card and the **HP Mobile Connect** app. For more information about HP Mobile Connect and where it is available, go to <http://www.hp.com/go/mobileconnect>.

Using GPS (select products only)

Your tablet may be equipped with a Global Positioning System (GPS) device. GPS satellites deliver location, speed, and direction information to GPS-equipped systems.

For more information, see the HP GPS and Location software Help.

Using Bluetooth wireless devices (select products only)

A Bluetooth device provides short-range wireless communications that replace the physical cable connections that traditionally link electronic devices such as the following:

- Computers (desktop, notebook)
- Phones (cellular, cordless, smart phone)
- Imaging devices (printer, camera)
- Audio devices (headset, speakers)
- Mouse

Bluetooth devices provide peer-to-peer capability that allows you to set up a personal area network (PAN) of Bluetooth devices. For information about configuring and using Bluetooth devices, see the Bluetooth software Help.

4 Navigating using touch gestures

Your tablet allows navigation using touch gestures on the touch screen.

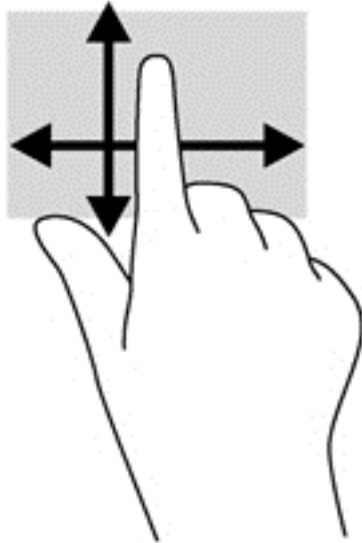
Using touch screen gestures

You can control items on the touch screen directly with your fingers.

One-finger slide

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


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



Tapping

To make an on-screen selection, use the tap function.

- Use one finger to tap an object on the screen to make a selection. Double-tap an item to open it.

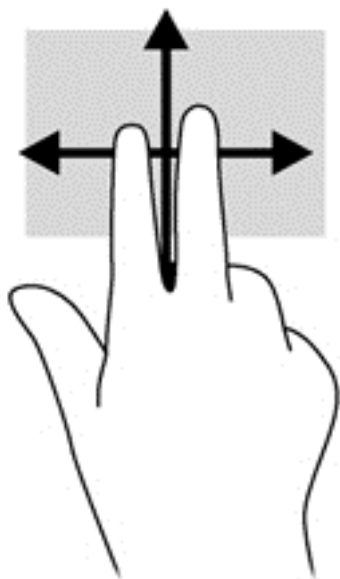
 **NOTE:** Press and hold your finger on an object to open a help screen that provides information about the object.



Scrolling

Scrolling is useful for moving the pointer up, down, left, or right on a page or image.

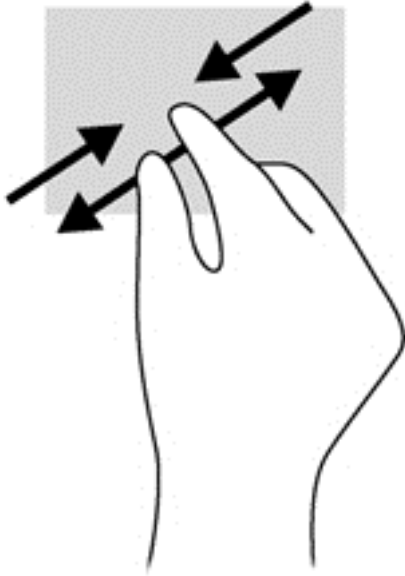
- Place two fingers on the screen and then drag them in an up, down, left, or right motion.



2-finger pinch zoom

2-finger pinch zoom allows you to zoom out or in on images or text.


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



Using the on-screen keyboard

You may want to enter data into a data field. This may be required when you set up a wireless network configuration or a weather reporting location, or when you access user accounts on Internet sites. The tablet has an on-screen keyboard that is displayed when you need to enter such information into data fields.

1. To display the on-screen keyboard, tap in the first data field. The keyboard is displayed.
– or –
Tap the keyboard icon in the navigation area, at the far right of the taskbar.
2. Tap each character, continuing until you have spelled out the name or word that you are entering into the data field.

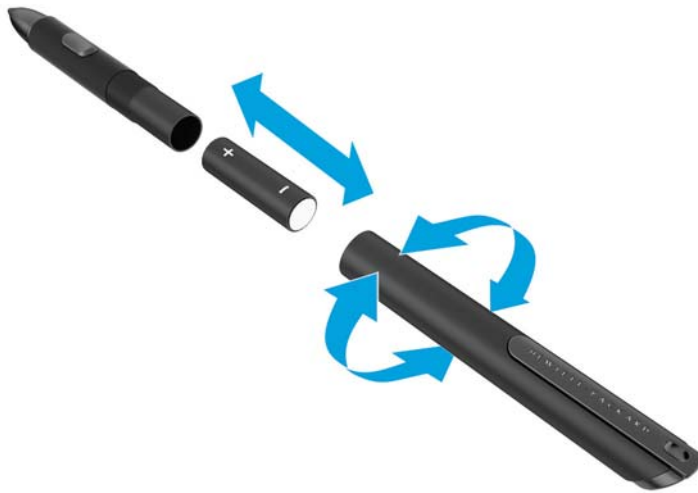
 **NOTE:** Suggested words may be displayed at the top of the keyboard. If an appropriate word is displayed, tap to select it.

3. Tap **enter** on the keyboard.

To change settings for the on-screen keyboard:


1. Type `settings` in the taskbar search box, and then select **Settings**.
2. Tap **Change PC settings**, tap **PC and devices**, tap **Typing**, and then follow the on-screen instructions.

Using the digital pen (select products only)



To insert the battery in the pen:

1. Unscrew the pen to disassemble it.
2. Remove the old battery and recycle it properly.
3. Install the new battery.
4. Securely reassemble the pen.
5. Wait 2 seconds for the pen to calibrate automatically.


 **NOTE:** Pressing the tip of the pen during the 2-second calibration cycle invalidates the process and requires that you recalibrate the pen.

The digital pen is now ready to use with your tablet. Simply touch the tip of the pen lightly on the screen to write text or select items on the screen.

To perform a right-click action, press the button on the side of the pen when selecting an item on the screen.

The digital pen uses inherent pressure sensitivity, so you can create a bolder stroke by pressing harder on the screen with the digital pen. Pressure sensitivity may not be enabled or supported, depending on the application or program.

To change pen settings, such as pen sensitivity, type `control panel` in the taskbar search box, select **Control Panel**, select **Hardware and Sound**, select **Pen and Touch**, and then follow the on-screen instructions.

 **NOTE:** For regulatory and safety information, refer to the *Regulatory, Safety, and Environmental Notices* on the HP tablet. To access HP Support Assistant, type `support` in the taskbar search box, tap the **HP Support Assistant** app, tap **My PC**, select the **Specifications** tab, and then tap **User guides**.


5 Multimedia


Audio

On your HP tablet, you can 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.

Adjusting the volume

You can adjust the volume using the volume buttons.


 **WARNING!** To reduce the risk of personal injury, adjust the volume before putting on headphones, earbuds, or a headset. For additional safety information, see the *Regulatory, Safety and Environmental Notices*. To access HP Support Assistant, type `support` in the taskbar search box, tap the **HP Support Assistant** app, tap **My PC**, select the **Specifications** tab, and then tap **User guides**.

 **NOTE:** Volume can also be controlled through the operating system and some programs.


Connecting headphones

You can connect wired headphones to the headphone jack on your tablet. See [Top on page 6](#).

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

 **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*.

Checking audio functions on the tablet

 **NOTE:** For best results when recording, speak directly into the microphone and record sound in a setting free of background noise.

To check the audio functions on your tablet, follow these steps:

1. Type `control panel` in the taskbar search box, and then select **Control Panel**.
2. Tap **Hardware and Sound**, and then tap **Sound**.

When the Sound window opens, tap the **Sounds** tab. Under **Program Events**, tap any sound event, such as a beep or alarm and then tap **Test**. You should hear sound through the speakers or through connected headphones.

To check the recording functions on your tablet, follow these steps:

1. Type `sound` in the taskbar search box, and then tap **Sound Recorder**.
2. Tap **Start Recording** and speak into the microphone.
3. Save the file to your desktop.
4. Open a multimedia program and play back the recording.

To confirm or change the audio settings on your tablet:

1. Type `control panel` in the taskbar search box, and then select **Control Panel**.
2. Tap **Hardware and Sound**, and then tap **Sound**.

Webcam


Some tablets include two integrated webcams. With the preinstalled software, you can use the webcams to take a photo or record a video. You can preview and save the photo or video recording.

The webcam software enables you to experiment with the following features:


- Capturing and sharing video
- Streaming video with instant message software
- Taking still photos

For details about using the webcam, refer to the help for the app.

6 Power management

 **NOTE:** A computer may have a power button or a power switch. The term *power button* is used throughout this guide to mean both types of power controls.

Shutting down (turning off) the computer


 **CAUTION:** Unsaved information is lost when the computer shuts down.

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

Shut down the computer under any of the following conditions:

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

Although you can turn off the computer with the power button, the recommended procedure is to use the Windows shutdown command:

 **NOTE:** If the computer is in the Sleep state or in Hibernation (select products only), you must first exit Sleep or Hibernation before shutdown is possible by briefly pressing the power button.

1. Save your work and close all open programs.
2. Select the **Start** button, select the **Power** icon, and then select **Shut down**.


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


- Press **ctrl+alt+delete**. Select the **Power** icon, and then select **Shut Down**.
- Press and hold the power button for at least 5 seconds.
- Disconnect the computer from external power.
- Press and hold the power button for at least 15 seconds.

Setting power options

Using power-saving states

Sleep is enabled at the factory. When Sleep is initiated, the power lights blink and the screen clears. Your work is saved to memory.

 **CAUTION:** To reduce the risk of possible audio and video degradation, loss of audio or video playback functionality, or loss of information, do not initiate Sleep while reading from or writing to a disc or an external memory card.

 **NOTE:** You cannot initiate any type of networking connection or perform any computer functions while the computer is in the Sleep state.


Initiating and exiting Sleep

With the computer on, you can initiate Sleep in any of the following ways:

- Briefly press the power button.
- Select the **Start** button, select the **Power** icon, and then select **Sleep**.

To exit Sleep, briefly press the power button.

When the computer exits Sleep, the power lights turn on and the computer returns to the screen where you stopped working.

 **NOTE:** If you have set a password to be required on wakeup, you must enter your Windows password before the computer will return to the screen.

Enabling and exiting user-initiated Hibernation (select products only)

You can enable user-initiated Hibernation and change other power settings and timeouts using Power Options:

1. Type `power options` in the taskbar search box, and then select **Power Options**.

– or –

Right-click the **Power meter** icon , and then select **Power Options**.


2. In the left pane, select **Choose what the power buttons do**.
3. Select **Change Settings that are currently unavailable**, and then, in the **When I press the power button** or **When I press the sleep button** area, select **Hibernate**.

– or –

Under **Shutdown settings**, select the **Hibernate** box to show the Hibernate option in the Power menu.



4. Select **Save changes**.

To exit Hibernation, briefly press the power button. The power lights turn on and your work returns to the screen where you stopped working.

 **NOTE:** If you have set a password to be required on wakeup, you must enter your Windows password before your work will return to the screen.

Using the power meter and power settings

The power meter is located on the Windows desktop. The power meter allows you to quickly access power settings and view the remaining battery charge.

- To view the percentage of remaining battery charge and the current power plan, place the mouse pointer over the power meter icon .
- To use Power Options, right-click the power meter icon , and then select an item from the list. You can also type `power options` in the task bar search box, and then select **Power Options**.

Different power meter icons indicate whether the computer is running on battery or external power. The icon also reveals a message if the battery has reached a low or critical battery level.

Setting password protection on wakeup

To set the computer to prompt for a password when the computer exits Sleep or Hibernation, follow these steps:

1. Type `power options` in the taskbar search box, and then select **Power Options**.

– or –

Right-click the **Power meter icon** , and then select **Power Options**.

2. In the left pane, select **Require a password on wakeup**.
3. Select **Change Settings that are currently unavailable**.
4. Select **Require a password (recommended)**.



NOTE: To create a user account password or change your current user account password, select **Create or change your user account password**, and then follow the on-screen instructions. If you do not need to create or change a user account password, go to step 5.

5. Select **Save changes**.

Using battery power



WARNING! To reduce potential safety issues, use only the battery provided with the computer, a replacement battery provided by HP, or a compatible battery purchased from HP.

The computer runs on battery power whenever it is not plugged into external AC power. Computer battery life varies, depending on power management settings, running programs, display brightness, external devices connected to the computer, and other factors. Keeping the battery in the computer whenever the computer is plugged into AC power charges the battery and also protects your work in case of a power outage. If the computer contains a charged battery and is running on external AC power, the computer automatically switches to battery power if the AC adapter is disconnected on the computer or an AC power loss occurs.



NOTE: When you disconnect AC power, the display brightness is automatically decreased to save battery life. Select computer products can switch between graphic modes to increase battery life.

Finding additional battery information

To access battery information:

1. Type `support` in the taskbar search box, and then select the **HP Support Assistant app**.

– or –

Click the question mark icon in the taskbar.

2. Select **My PC**, select the **Diagnostics and Tools** tab, and then select **HP Battery Check**. If HP Battery Check indicates that your battery should be replaced, contact support.

HP Support Assistant provides the following tools and information about the battery.

- HP Battery Check tool to test battery performance
- Information on calibration, power management, and proper care and storage to maximize battery life
- Information on battery types, specifications, life cycles, and capacity

Using HP Battery Check

To monitor the status of your battery, or if the battery is no longer holding a charge, run HP Battery Check in the HP Support Assistant app. If HP Battery Check indicates that your battery should be replaced, contact support.

To run HP Battery Check:

1. Connect the AC adapter to the computer.



NOTE: The computer must be connected to external power for Battery Check to work properly.

2. Type `support` in the taskbar search box, and then select the **HP Support Assistant** app.


– or –

Click the question mark icon in the taskbar.

3. Select **My PC**, select the **Diagnostics and Tools** tab, and then select **HP Battery Check**. If HP Battery Check indicates that your battery should be replaced, contact support.

Battery Check examines the battery and its cells to see if they are functioning properly, and then reports the results of the examination.

Displaying the remaining battery charge

- ▲ Move the pointer over the **Power meter** icon .

Maximizing battery discharge time

Battery discharge time varies depending on features you use while on battery power. Maximum discharge time gradually decreases as the battery storage capacity naturally degrades.

Tips for maximizing battery discharge time:

- Lower the brightness on the display.
- Select the **Power saver** setting in Power Options.

Managing low battery levels

The information in this section describes the alerts and system responses set at the factory. Some low-battery alerts and system responses can be changed using Power Options. Preferences set using Power Options do not affect lights.

Type `power options` in the taskbar search box, and then select **Power Options**.

Identifying low battery levels

When a battery that is the sole power source for the computer reaches a low or critical battery level, the following behavior occurs:

- The battery light (select products only) indicates a low or critical battery level.

– or –

- The **Power meter** icon  shows a low or critical battery notification.

If the computer is on or in the Sleep state, the computer remains briefly in the Sleep state and then shuts down and loses any unsaved information.

Resolving a low battery level

Resolving a low battery level when external power is available

- ▲ Connect one of the following devices:
 - AC adapter
 - Optional docking or expansion device
 - Optional power adapter purchased as an accessory from HP

Resolving a low battery level when no power source is available

To resolve a low battery level when no power source is available, save your work and shut down the computer.

Conserving battery power

- Type `power options` in the taskbar search box, and then select **Power Options**.
– or –
- Select low power-use settings through Power Options.
- Turn off wireless and LAN connections and exit modem applications when you are not using them.
- Disconnect unused external devices that are not plugged into an external power source.
- Stop, disable, or remove any external memory cards that you are not using.
- Decrease screen brightness.
- Before you leave your work, initiate Sleep, or shut down the computer.


Disposing of a battery


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.

Replacing a battery

The battery(ies) in this product cannot be easily replaced by users themselves. Removing or replacing the battery could affect your warranty coverage. If a battery is no longer holding a charge, contact support.

Using external AC power

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

 **NOTE:** For information on connecting to AC power, see the *Setup Instructions* poster provided in the computer box.

External AC power is supplied through an approved AC adapter or an optional docking or expansion device.

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

- When charging or calibrating a battery
- When installing or modifying system software
- When writing information to a CD, a DVD, or a BD (select products only)
- When running Disk Defragmenter
- When performing a backup or recovery

When you connect the computer to external AC power, the following events occur:

- The battery begins to charge.
- If the computer is turned on, the power meter icon in taskbar changes appearance.





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

- The computer switches to battery power.
- The display brightness is automatically decreased to save battery life.

7 Security

Protecting the computer

Standard security features provided by the Windows operating system and the non-Windows Computer Setup utility (BIOS) can protect your personal settings and data from a variety of risks.

-  **NOTE:** Security solutions are designed to act as deterrents. These deterrents may not prevent a product from being mishandled or stolen.
-  **NOTE:** Before you send your computer for service, back up and delete confidential files, and remove all password settings.
-  **NOTE:** Some features listed in this chapter may not be available on your computer.
-  **NOTE:** Your computer supports Computrace, which is an online security-based tracking and recovery service available in select regions. If the computer is stolen, Computrace can track the computer if the unauthorized user accesses the Internet. You must purchase the software and subscribe to the service in order to use Computrace. For information about ordering the Computrace software, go to <http://www.hp.com>.

Computer risk	Security feature
Unauthorized use of the computer	HP Client Security, in combination with a password, smart card, contactless card, registered fingerprints, or other authentication credential
Unauthorized access to Computer Setup (BIOS)	BIOS Administrator password in Computer Setup*
Unauthorized access to the contents of a hard drive	DriveLock password (select products only) in Computer Setup*
Unauthorized startup from an optional external optical drive (select products only), optional external hard drive (select products only), or internal network adapter	Boot options feature in Computer Setup*
Unauthorized access to a Windows user account	Windows user password
Unauthorized access to data	<ul style="list-style-type: none">• HP Drive Encryption software• Windows Defender
Unauthorized access to Computer Setup settings and other system identification information	BIOS Administrator password in Computer Setup*
Unauthorized removal of the computer	Security cable slot (used with an optional security cable on select products only)

*Computer Setup is a preinstalled, ROM-based utility that can be used even when the operating system is not working or will not load. You can use a pointing device (TouchPad, pointing stick, or USB mouse) or the keyboard to navigate and make selections in Computer Setup.

NOTE: On tablets without keyboards, you can use the touchscreen.

Using passwords

A password is a group of characters that you choose to secure your computer information. Several types of passwords can be set, depending on how you want to control access to your information. Passwords can be set in Windows or in Computer Setup, which is preinstalled on the computer.

- BIOS administrator and DriveLock passwords are set in Computer Setup and are managed by the system BIOS.
- Windows passwords are set only in the Windows operating system.
- If you forget both the DriveLock user password and the DriveLock master password set in Computer Setup, the hard drive that is protected by the passwords is permanently locked and can no longer be used.

You can use the same password for a Computer Setup feature and for a Windows security feature. You can also use the same password for more than one Computer Setup feature.

Use the following tips for creating and saving passwords:

- When creating passwords, follow requirements set by the program.
- Do not use the same password for multiple applications or websites, and do not reuse your Windows password for any other application or website.
- Use the Password Manager feature of HP Client Security to store your user names and passwords for your websites and applications. You can securely read them in the future if they cannot be remembered.
- Do not store passwords in a file on the computer.

The following tables list commonly used Windows and BIOS administrator passwords and describe their functions.

Setting passwords in Windows

Password	Function
Administrator password*	Protects access to a Windows administrator-level account. NOTE: Setting the Windows administrator password does not set the BIOS Administrator password.
User password*	Protects access to a Windows user account.

*For information about setting a Windows administrator password or a Windows user password, type `support` in the taskbar search box, and then select the **HP Support Assistant** app.

Setting passwords in Computer Setup

Password	Function
BIOS administrator password*	Protects access to Computer Setup. NOTE: If features have been enabled to prevent removing the BIOS administrator password, you may not be able to remove it until those features have been disabled.
DriveLock master password*	Protects access to the internal hard drive that is protected by DriveLock. It is also used to remove DriveLock protection. NOTE: For select products, a BIOS administrator password must be set before you can set a DriveLock password.
DriveLock user password*	Protects access to the internal hard drive that is protected by DriveLock, and is set under DriveLock Passwords during the enable process. NOTE: For select products, a BIOS administrator password must be set before you can set a DriveLock password.

*For details about each of these passwords, see the following topics.

Managing a BIOS administrator password

To set, change, or delete this password, follow these steps:

Setting a new BIOS administrator password

1. Start Computer Setup.
 - Computers or tablets with keyboards:
 - ▲ Turn on or restart the computer, and when the HP logo appears, press **f10** to enter Computer Setup.
 - Tablets without keyboards:
 - ▲ Turn off the tablet. Press the power button in combination with the volume down button until the Startup menu is displayed, and then tap **F10** to enter Computer Setup.
2. Select **Security**, select **Create BIOS Administrator password** or **Set Up BIOS Administrator Password** (select products only), and then press **enter**.
3. When prompted, type a password.
4. When prompted, type the new password again to confirm.
5. To save your changes and exit Computer Setup, select the **Save** icon and then follow the on-screen instructions.

– or –

Select **Main**, select **Save Changes and Exit**, and then press **enter**.

Your changes go into effect when the computer restarts.

Changing a BIOS administrator password

1. Start Computer Setup.
 - Computers or tablets with keyboards:

- ▲ Turn on or restart the computer, and when the HP logo appears, press **f10** to enter Computer Setup.
- Tablets without keyboards:
 - ▲ Turn off the tablet. Press the power button in combination with the volume down button until the Startup menu is displayed, and then tap **F10** to enter Computer Setup.
- 2. Select **Security**, select **Change BIOS Administrator Password** or **Change Password** (select products only), and then press **enter**.
- 3. When prompted, type your current password.
- 4. When prompted, type your new password.
- 5. When prompted, type your new password again to confirm.
- 6. To save your changes and exit Computer Setup, select the **Save** icon, and then follow the on-screen instructions.

– or –

Select **Main**, select **Save Changes and Exit**, and then press **enter**.

Your changes go into effect when the computer restarts.

Deleting a BIOS administrator password

1. Start Computer Setup.
 - Computers or tablets with keyboards:
 - ▲ Turn on or restart the computer, and when the HP logo appears, press **f10** to enter Computer Setup.
 - Tablets without keyboards:
 - ▲ Turn off the tablet. Press the power button in combination with the volume down button until the Startup menu is displayed, and then tap **F10** to enter Computer Setup.
2. Select **Security**, select **Change BIOS Administrator Password** or **Change Password** (select products only), and then press **enter**.
3. When prompted, type your current password.
4. When prompted for the new password, leave the field empty, and then press **enter**.
5. When prompted to type your new password again, leave the field empty, and then press **enter**.
6. To save your changes and exit Computer Setup, select the **Save** icon, and then follow the on-screen instructions.

– or –


Select **Main**, select **Save Changes and Exit**, and then press **enter**.

Your changes go into effect when the computer restarts.

Entering a BIOS administrator password

At the **BIOS Administrator password** prompt, type your password (using the same kind of keys you used to set the password), and then press **enter**. After two unsuccessful attempts to enter the BIOS administrator password, you must restart the computer and try again.

Managing a Computer Setup DriveLock password (select products only)

 **CAUTION:** To prevent a DriveLock-protected hard drive from becoming permanently unusable, record the DriveLock user password and the DriveLock master password in a safe place away from your computer. If you forget both DriveLock passwords, the hard drive will be permanently locked and can no longer be used.

DriveLock protection prevents unauthorized access to the contents of a hard drive. DriveLock can be applied only to the internal hard drive(s) of the computer. After DriveLock protection is applied to a drive, a password must be entered to access the drive. The drive must be inserted into the computer or an advanced port replicator in order for it to be accessed by the DriveLock passwords.

To apply DriveLock protection to an internal hard drive, a user password and a master password must be set in Computer Setup. Note the following considerations about using DriveLock protection:

- After DriveLock protection is applied to a hard drive, the hard drive can be accessed only by entering either the user password or the master password.
- The owner of the user password should be the day-to-day user of the protected hard drive. The owner of the master password may be either a system administrator or the day-to-day user.
- The user password and the master password can be identical.
- You can delete a user password or master password only by removing DriveLock protection from the drive.



NOTE: For select products, a BIOS administrator password must be set before you can access the DriveLock features.

Setting a DriveLock password

To set a DriveLock password in Computer Setup, follow these steps:

1. Start Computer Setup.
 - Computers or tablets with keyboards:
 1. Turn off the computer.
 2. Press the power button, and when the HP logo appears, press **f10** to enter Computer Setup.
 - Tablets without keyboards:
 1. Turn off the tablet.
 2. Press the power button in combination with the volume down button until the Startup menu is displayed, and then tap **F10** to enter Computer Setup.
2. Select **Security**, make the selection for **Hard Drive Utilities** or **Hard Drive Tools** (select products only), select **DriveLock**, and then press **enter**.




NOTE: For select products, you may be required to set a DriveLock password and enter the BIOS administrator password.

3. Select the hard drive you want to protect, and then press **enter**.
4. Select **Set DriveLock Master Password** or **Set DriveLock Password** (select products only), and then press **enter**.
5. Carefully read the warning.
6. Follow the on-screen instructions to set a DriveLock password.
7. To exit Computer Setup, select **Main**, select **Save Changes and Exit**, and then select **Yes**.


Enabling DriveLock (select products only)

For select products, you may need to follow these instructions to enable DriveLock.

1. Start Computer Setup.
 - Computers or tablets with keyboards:
 1. Turn off the computer.
 2. Press the power button, and when the HP logo appears, press **f10** to enter Computer Setup.
 - Tablets without keyboards:
 1. Turn off the tablet.
 2. Press the power button in combination with the volume down button until the Startup menu is displayed, and then tap **F10** to enter Computer Setup.
2. Select **Security**, select **Hard Drive Utilities** or **Hard Drive Tools** (select products only), select **DriveLock**, and then press **enter**.

 **NOTE:** For select products, you may be required to enter the BIOS Administrator password and select **Set DriveLock Password**.


3. Select the hard drive you want to protect, and then press **enter**.
4. Follow the on-screen instructions to make the selections to enable DriveLock and to enter passwords when prompted.

 **NOTE:** For select products, you may be prompted to type `DriveLock`. The field is case sensitive.

5. To exit Computer Setup, select **Main**, select **Save Changes and Exit**, and then select **Yes**.

Disabling DriveLock (select products only)

1. Start Computer Setup.
 - Computers or tablets with keyboards:
 1. Turn off the computer.
 2. Press the power button, and when the HP logo appears, press **f10** to enter Computer Setup.
 - Tablets without keyboards:
 1. Turn off the tablet.
 2. Press the power button in combination with the volume down button until the Startup menu is displayed, and then tap **F10** to enter Computer Setup.
2. Select **Security**, select **Hard Drive Utilities** or **Hard Drive Tools** (select products only), select **DriveLock**, and then press **enter**.

 **NOTE:** For select products, you may be required to enter the BIOS Administrator password and select **Set DriveLock Password**.

3. Select the hard drive you want to manage, and then press **enter**.
4. Follow the on-screen instructions to disable DriveLock.
5. To exit Computer Setup, select **Main**, select **Save Changes and Exit**, and then select **Yes**.

Entering a DriveLock password (select products only)

Be sure that the hard drive is inserted into the computer (not into an optional docking device or external MultiBay).

At the **DriveLock Password** prompt, type your user or master password (using the same kind of keys you used to set the password), and then press [enter](#).

After three incorrect attempts to enter the password, you must shut down the computer and try again.

Changing a DriveLock password (select products only)

To change a DriveLock password in Computer Setup, follow these steps:

1. Turn off the computer.
2. Press the power button.
3. At the **DriveLock Password** prompt, type the current DriveLock user password or master password that you are changing, press [enter](#), and then press or tap **f10** to enter Computer Setup.
4. Select **Security**, select **Hard Drive Utilities** or **Hard Drive Tools** (select products only), select **DriveLock**, and then press [enter](#).



NOTE: For select products, you may be required to enter the BIOS Administrator password and select **Set DriveLock Password**.

5. Select the hard drive you want to manage, and then press [enter](#).
6. Make the selection to change the password, and then follow the on-screen prompts to enter passwords.



NOTE: The **Change DriveLock Master Password** option is visible only if the master password was provided at the DriveLock Password prompt in step 3.

7. To exit Computer Setup, select **Main**, select **Save Changes and Exit**, and then follow the on-screen instructions.

Using Computer Setup Automatic DriveLock (select products only)

In a multiple-user environment, you can set an Automatic DriveLock password. When the Automatic DriveLock password is enabled, a random user password and a DriveLock master password will be created for you. When any user passes the password credential, the same random user and DriveLock master password will be used to unlock the drive.



NOTE: A BIOS Administrator password must be set before you can access the Automatic DriveLock features.

Entering an Automatic DriveLock password (select products only)

To enable an Automatic DriveLock password in Computer Setup, follow these steps:

1. Turn on or restart the computer, and then press [esc](#) while the “Press the ESC key for Startup Menu” message is displayed at the bottom of the screen.
2. Press **f10** to enter Computer Setup.
3. Select **Security**, select **Hard Drive Tools**, select **Automatic DriveLock**, and then press [enter](#).
4. Enter the BIOS Administrator password, and then press [enter](#).
5. Select an internal hard drive, and then press [enter](#).

6. Read the warning. To continue, select **YES**.
7. To save your changes and exit Computer Setup, select the **Save** icon and then follow the on-screen instructions.
– or –
Select **Main**, select **Save Changes and Exit**, and then press [enter](#).

Removing Automatic DriveLock protection (select products only)

To remove DriveLock protection in Computer Setup, follow these steps:

1. Turn on or restart the computer, and then press [esc](#) while the “Press the ESC key for Startup Menu” message is displayed at the bottom of the screen.
2. Press [f10](#) to enter Computer Setup.
3. Select **Security**, select **Hard Drive Tools**, select **Automatic DriveLock**, and then press [enter](#).
4. Enter the BIOS Administrator password, and then press [enter](#).
5. Select an internal hard drive, and then press [enter](#).
6. Select **Disable protection**.
7. To save your changes and exit Computer Setup, select the **Save** icon, and then follow the on-screen instructions.
– or –
Select **Main**, select **Save Changes and Exit**, and then press [enter](#).

Using antivirus software

When you use the computer to access e-mail, a network, or the Internet, you potentially expose it to computer viruses. Computer viruses can disable the operating system, programs, or utilities, or cause them to function abnormally.

Antivirus software can detect most viruses, destroy them, and, in most cases, repair any damage they have caused. To provide ongoing protection against newly discovered viruses, antivirus software must be kept up to date.

Windows Defender is preinstalled on your computer. It is strongly recommended that you continue to use an antivirus program in order to fully protect your computer.

For more information about computer viruses, access the HP Support Assistant.

Using firewall software


Firewalls are designed to prevent unauthorized access to a system or network. A firewall can be a software program you install on your computer and/or network, or it can be a solution made up of both hardware and software.

There are two types of firewalls to consider:


- Host-based firewalls—Software that protects only the computer it is installed on.
- Network-based firewalls—Installed between your DSL or cable modem and your home network to protect all the computers on the network.

When a firewall is installed on a system, all data sent to and from the system is monitored and compared with a set of user-defined security criteria. Any data that does not meet those criteria is blocked.

Your computer or networking equipment may already have a firewall installed. If not, firewall software solutions are available.

 **NOTE:** Under some circumstances a firewall can block access to Internet games, interfere with printer or file sharing on a network, or block authorized e-mail attachments. To temporarily resolve the problem, disable the firewall, perform the task that you want to perform, and then reenables the firewall. To permanently resolve the problem, reconfigure the firewall.

Installing critical security updates

 **CAUTION:** Microsoft® sends out alerts regarding critical updates. To protect the computer from security breaches and computer viruses, install all critical updates from Microsoft as soon as you receive an alert.

You can choose whether updates are installed automatically. To change the settings, type `control panel` in the taskbar search box, and then select **Control Panel**. Select **System and Security**, select **Windows Update**, select **Change settings**, and then follow the on-screen instructions.

Using HP Client Security (select products only)

HP Client Security software is preinstalled on your computer. This software can be accessed through the , t HP Client Security icon at the far right of the taskbar or Windows Control Panel. It provides security features that help protect against unauthorized access to the computer, networks, and critical data. For more information, see the HP Client Security software Help.

Using HP Touchpoint Manager (select products only)

HP Touchpoint Manager is a cloud-based IT solution that enables businesses to effectively manage and secure their company assets. HP Touchpoint Manager helps protect devices against malware and other attacks, monitors device health, and enables customers to reduce time spent solving end-user device and security issues. Customers can quickly download and install the software, which is highly cost effective relative to traditional in-house solutions. For more information, see <http://www.hptouchpointmanager.com>.

8 Maintenance

Cleaning your tablet

Cleaning products

Use one of the following chemical mixtures to safely clean your tablet:

Cleaning products
Benzyl-C12-18-alkyldimethyl ammonium chlorides < 1%
Quaternary ammonium compounds, C12-14-alkyl[(ethylphenyl)methyl]dimethyl, chlorides < 1%
Isopropanol 10-20%; Ethylene Glycol Monobutyl Ether 1-5%
n-Alkyl Dimethyl Benzyl Ammonium Chloride 5%-10%
Didecyl Dimethyl Ammonium Chloride 5%-10%
Ethyl Alcohol 1%-5%
Lauryl dimethyl amine oxide 0.1%-1.5%
Alkyl dimethyl benzyl ammonium chloride 0.16%
Octyl decyl dimethyl ammonium chloride 0.12%
Dioctyl dimethyl ammonium chloride 0.06%
Didecyl dimethyl ammonium chloride 0.06%
Ethylene glycol n-hexyl ether 0.1%-1.0%
Isopropanol 1%-5%
Water 90%-95%
Sodium hypochlorite 1%-5%
Sodium hydroxide 0.5%-2%
Dimethyl benzyl ammonium chloride 0.3 percent maximum concentration (For example: germicidal disposable wipes. These wipes come in a variety of brand names.)
Alcohol-free glass cleaning fluid
Gentle dish soap and water
Dry microfiber cleaning cloth or a chamois (static-free cloth without oil)
Static-free cloth wipes

CAUTION: The common hospital cleaning agents listed previously were successfully tested with this product. Cleaning solvents other than those on this list may damage your tablet.

Fibrous materials, such as paper towels, can scratch the tablet. 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 tablet.

⚠ WARNING! To prevent electric shock or damage to components, do not attempt to clean your tablet while it is turned on:

Turn off the tablet.

Disconnect external power.

Disconnect all powered external devices.

⚠ CAUTION: To prevent damage to internal components, do not spray cleaning agents or liquids directly on any tablet port surface. Liquids dripped on the surface can permanently damage internal components. Close all ports and I/O doors.

Cleaning the display

Gently wipe the display using a soft, lint-free cloth moistened with an *alcohol-free* glass cleaner. Be sure that the display is dry before closing the display.

Cleaning the sides and cover

To clean and disinfect the sides and cover, use a soft microfiber cloth or chamois moistened with one of the cleaning solutions listed previously or use an acceptable germicidal disposable wipe.

📝 NOTE: When cleaning the cover of the tablet, use a circular motion to aid in removing dirt and debris.

Traveling with your tablet

For best results, follow these traveling and shipping tips:

- Prepare the tablet for traveling or shipping:
 - Back up your information.
 - Remove all external media cards, such as memory cards.

⚠ CAUTION: To reduce the risk of damage to the tablet, damage to a drive, or loss of information, remove the media from a drive before shipping, storing, or traveling with a drive.


- Turn off and then disconnect all external devices.
- Shut down the tablet.
- Take along a backup of your information. Keep the backup separate from the tablet.
- When traveling by air, carry the tablet as hand luggage; do not check it in with the rest of your bags.

⚠ CAUTION: Avoid exposing a drive to magnetic fields. Security devices with magnetic fields include airport walk-through devices and security wands. Airport conveyer belts and similar security devices that check carry-on baggage use X-rays instead of magnetism and do not damage drives.

- In-flight tablet use is at the discretion of the airline. If you plan to use the tablet during a flight, check with the airline in advance.
- If you are shipping the tablet, use suitable protective packaging and label the package “FRAGILE.”
- If the tablet has a wireless device installed, such as an 802.11b/g device, a Global System for Mobile Communications (GSM) device, or a General Packet Radio Service (GPRS) device, the use of these devices

may be restricted in some environments. Such restrictions may apply onboard aircraft, in hospitals, near explosives, and in hazardous locations. If you are uncertain of the policy that applies to the use of a particular device, ask for authorization to use it before you turn it on.

- If you are traveling internationally, follow these suggestions:
 - Check the computer-related customs regulations for each country or region on your itinerary.
 - Check the power cord and adapter requirements for each location in which you plan to use the tablet. Voltage, frequency, and plug configurations vary.

 **WARNING!** To reduce the risk of electric shock, fire, or damage to the equipment, do not attempt to power the tablet with a voltage converter kit sold for appliances.

Updating programs and drivers

HP recommends that you update your programs and drivers on a regular basis with the latest versions. Go to <http://www.hp.com/support> to download the latest versions. You can also register to receive automatic update notifications when they become available.

9 Backup and recovery

This chapter provides information about the following processes. The information in the chapter is standard procedure for most products.


- Creating recovery media and backups
- Restoring and recovering your system

For additional information, refer to the HP support assistant app.

- ▲ Type `support` in the taskbar search box, and then select the **HP Support Assistant** app.

– or –

Click the question mark icon in the taskbar.

 **IMPORTANT:** If you will be performing recovery procedures on a tablet, the tablet battery must be at least 70% charged before you start the recovery process.


IMPORTANT: For a tablet with a detachable keyboard, connect the keyboard to the keyboard dock before beginning any recovery process.

Creating recovery media and backups

The following methods of creating recovery media and backups are available on select products only. Choose the available method according to your computer model.

- Use HP Recovery Manager to create HP Recovery media after you successfully set up the computer. This step creates a backup of the HP Recovery partition on the computer. The backup can be used to reinstall the original operating system in cases where the hard drive is corrupted or has been replaced. For information on creating recovery media, see [Creating HP Recovery media \(select products only\) on page 38](#). For information on the recovery options that are available using the recovery media, see [Using Windows tools on page 39](#).
- Use Windows tools to create system restore points and create backups of personal information.

For more information, see [Recovering using HP Recovery Manager on page 40](#).

 **NOTE:** If storage is 32 GB or less, Microsoft System Restore is disabled by default.

Creating HP Recovery media (select products only)


If possible, check for the presence of the Recovery partition and the Windows partition. From the **Start** menu, select **File Explorer**, and then select **This PC**.

- If your computer does not list the Windows partition and the Recovery partition, you can obtain recovery media for your system from support. See the *Worldwide Telephone Numbers* booklet included with the computer. You can also find contact information on the HP website. Go to <http://www.hp.com/support>, select your country or region, and follow the on-screen instructions.

You can use Windows tools to create system restore points and create backups of personal information, see [Using Windows tools on page 39](#).

- If your computer does list the Recovery partition and the Windows partition, you can use HP Recovery Manager to create recovery media after you successfully set up the computer. HP Recovery media can be used to perform system recovery if the hard drive becomes corrupted. System recovery reinstalls the original operating system and software programs that were installed at the factory and then configures the settings for the programs. HP Recovery media can also be used to customize the system or restore the factory image if you replace the hard drive.
 - Only one set of recovery media can be created. Handle these recovery tools carefully, and keep them in a safe place.
 - HP Recovery Manager examines the computer and determines the required storage capacity for the media that will be required.
 - To create recovery discs, your computer must have an optical drive with DVD writer capability, and you must use only high-quality blank DVD-R, DVD+R, DVD-R DL, or DVD+R DL discs. Do not use rewritable discs such as CD±RW, DVD±RW, double-layer DVD±RW, or BD-RE (rewritable Blu-ray) discs; they are not compatible with HP Recovery Manager software. Or, instead, you can use a high-quality blank USB flash drive.
 - If your computer does not include an integrated optical drive with DVD writer capability, but you would like to create DVD recovery media, you can use an external optical drive (purchased separately) to create recovery discs. If you use an external optical drive, it must be connected directly to a USB port on the computer; the drive cannot be connected to a USB port on an external device, such as a USB hub. If you cannot create DVD media yourself, you can obtain recovery discs for your computer from HP. See the *Worldwide Telephone Numbers* booklet included with the computer. You can also find contact information on the HP website. Go to <http://www.hp.com/support>, select your country or region, and follow the on-screen instructions.
 - Be sure that the computer is connected to AC power before you begin creating the recovery media.
 - The creation process can take an hour or more. Do not interrupt the creation process.
 - If necessary, you can exit the program before you have finished creating all of the recovery DVDs. HP Recovery Manager will finish burning the current DVD. The next time you start HP Recovery Manager, you will be prompted to continue.

To create HP Recovery media:


 **IMPORTANT:** For a tablet with a detachable keyboard, connect the keyboard to the keyboard dock before beginning these steps.

1. Type `recovery` in the taskbar search box, and then select **HP Recovery Manager**.
2. Select **Create recovery media**, and then follow the on-screen instructions.

If you ever need to recover the system, see [Recovering using HP Recovery Manager on page 40](#).

Using Windows tools

You can create recovery media, system restore points, and backups of personal information using Windows tools.


 **NOTE:** If storage is 32 GB or less, Microsoft System Restore is disabled by default.

For more information and steps, see the Get started app.

- ▲ Select the **Start** button, and then select the **Get started** app.

Restore and recovery

There are several options for recovering your system. Choose the method that best matches your situation and level of expertise:

 **IMPORTANT:** Not all methods are available on all products.

- Windows offers several options for restoring from backup, refreshing the computer, and resetting the computer to its original state. For more information see the Get started app.
 - ▲ Select the **Start** button, and then select the **Get started** app.
- If you need to correct a problem with a preinstalled application or driver, use the Reinstall drivers and/or applications option (select products only) of HP Recovery Manager to reinstall the individual application or driver.
 - ▲ Type `recovery` in the taskbar search box, select **HP Recovery Manager**, select **Reinstall drivers and/or applications**, and then follow the on-screen instructions.
- If you want to recover the Windows partition to original factory content, you can choose the System Recovery option from the HP Recovery partition (select products only) or use the HP Recovery media. For more information, see [Recovering using HP Recovery Manager on page 40](#). If you have not already created recovery media, see [Creating HP Recovery media \(select products only\) on page 38](#).
- On select products, if you want to recover the computer's original factory partition and content, or if you have replaced the hard drive, you can use the Factory Reset option of HP Recovery media. For more information, see [Recovering using HP Recovery Manager on page 40](#).
- On select products, if you want to remove the recovery partition to reclaim hard drive space, HP Recovery Manager offers the Remove Recovery Partition option.


For more information, see [Removing the HP Recovery partition \(select products only\) on page 42](#).

Recovering using HP Recovery Manager

HP Recovery Manager software allows you to recover the computer to its original factory state by using the HP Recovery media that you either created or that you obtained from HP, or by using the HP Recovery partition (select products only). If you have not already created recovery media, see [Creating HP Recovery media \(select products only\) on page 38](#).


What you need to know before you get started

- HP Recovery Manager recovers only software that was installed at the factory. For software not provided with this computer, you must either download the software from the manufacturer's website or reinstall the software from the media provided by the manufacturer.


 **IMPORTANT:** Recovery through HP Recovery Manager should be used as a final attempt to correct computer issues.

- HP Recovery media must be used if the computer hard drive fails. If you have not already created recovery media, see [Creating HP Recovery media \(select products only\) on page 38](#).
- To use the Factory Reset option (select products only), you must use HP Recovery media. If you have not already created recovery media, see [Creating HP Recovery media \(select products only\) on page 38](#).
- If your computer does not allow the creation of HP Recovery media or if the HP Recovery media does not work, you can obtain recovery media for your system from support. See the *Worldwide Telephone Numbers* booklet included with the computer. You can also find contact information from the HP

website. Go to <http://www.hp.com/support>, select your country or region, and follow the on-screen instructions.

 **IMPORTANT:** HP Recovery Manager does not automatically provide backups of your personal data. Before beginning recovery, back up any personal data you want to retain.

Using HP Recovery media, you can choose from one of the following recovery options:

 **NOTE:** Only the options available for your computer display when you start the recovery process.


- System Recovery—Reinstalls the original operating system, and then configures the settings for the programs that were installed at the factory.
- Factory Reset—Restores the computer to its original factory state by deleting all information from the hard drive and re-creating the partitions. Then it reinstalls the operating system and the software that was installed at the factory.

The HP Recovery partition (select products only) allows System Recovery only.

Using the HP Recovery partition (select products only)

The HP Recovery partition allows you to perform a system recovery without the need for recovery discs or a recovery USB flash drive. This type of recovery can be used only if the hard drive is still working.

To start HP Recovery Manager from the HP Recovery partition:

 **IMPORTANT:** For a tablet with a detachable keyboard, connect the keyboard to the keyboard dock before beginning these steps (select products only).

1. Type `recovery` in the taskbar search box, select **Recovery Manager**, and then select **HP Recovery Environment**.

- or -

For computers or tablets with keyboards attached, press **f11** while the computer boots, or press and hold **f11** as you press the power button.

For tablets without keyboards:

Turn on or restart the tablet, and then quickly hold down the volume down button; then select **f11**.

- or -


Turn on or restart the tablet, and then quickly hold down the Windows button; then select **f11**.

2. Select **Troubleshoot** from the boot options menu.
3. Select **Recovery Manager**, and then follow the on-screen instructions.

Using HP Recovery media to recover

You can use HP Recovery media to recover the original system. This method can be used if your system does not have an HP Recovery partition or if the hard drive is not working properly.

1. If possible, back up all personal files.
2. Insert the HP Recovery media, and then restart the computer.


 **NOTE:** If the computer does not automatically restart in HP Recovery Manager, change the computer boot order. See [Changing the computer boot order on page 42](#).

3. Follow the on-screen instructions.

Changing the computer boot order

If your computer does not restart in HP Recovery Manager, you can change the computer boot order, which is the order of devices listed in BIOS where the computer looks for startup information. You can change the selection to an optical drive or a USB flash drive.

To change the boot order:

 **IMPORTANT:** For a tablet with a detachable keyboard, connect the keyboard to the keyboard dock before beginning these steps.

1. Insert the HP Recovery media.
2. Access BIOS:

For computers or tablets with keyboards attached:

- ▲ Turn on or restart the computer or tablet, quickly press **esc**, and then press **f9** for boot options.

For tablets without keyboards:

- ▲ Turn on or restart the tablet, and then quickly hold down the volume down button; then select **f9**.


- or -


Turn on or restart the tablet, and then quickly hold down the Windows button; then select **f9**.

3. Select the optical drive or USB flash drive from which you want to boot.
4. Follow the on-screen instructions.

Removing the HP Recovery partition (select products only)

HP Recovery Manager software allows you to remove the HP Recovery partition to free up hard drive space.

 **IMPORTANT:** After you remove the HP Recovery partition, you will not be able to perform System Recovery or create HP recovery media from the HP Recovery partition. So before you remove the Recovery partition, create HP Recovery media; see [Creating HP Recovery media \(select products only\) on page 38](#).

 **NOTE:** The Remove Recovery Partition option is only available on products that support this function.

Follow these steps to remove the HP Recovery partition:

1. Type `recovery` in the taskbar search box, and then select **HP Recovery Manager**.
2. Select **Remove Recovery Partition**, and then follow the on-screen instructions.


10 Computer Setup (BIOS), TPM, and HP Sure Start

Using Computer Setup

Computer Setup, or Basic Input/Output System (BIOS), controls communication between all the input and output devices on the system (such as disk drives, display, keyboard, mouse, and printer). Computer Setup includes settings for the types of devices installed, the startup sequence of the computer, and the amount of system and extended memory.

 **NOTE:** Use extreme care when making changes in Computer Setup. Errors can prevent the computer from operating properly.

Starting Computer Setup


 **NOTE:** An external keyboard or mouse connected to a USB port can be used with Computer Setup only if USB legacy support is enabled.

To start Computer Setup, follow these steps:

- ▲ Start Computer Setup.
 - Computers or tablets with keyboards:
 - ▲ Turn on or restart the computer, and when the HP logo appears, press **f10** to enter Computer Setup.
 - Tablets without keyboards:
 - ▲ Turn off the tablet. Press the power button in combination with the volume down button until the Startup menu is displayed, and then tap **F10** to enter Computer Setup.

Navigating and selecting in Computer Setup

- To select a menu or a menu item, use the **tab** key and the keyboard arrow keys and then press **enter**, or use a pointing device to select the item.

 **NOTE:** On tablets without keyboards, you can use your finger to make selections.


- To scroll up and down, select the up arrow or the down arrow in the upper-right corner of the screen, or use the up arrow key or the down arrow key on the keyboard.
- To close open dialog boxes and return to the main Computer Setup screen, press **esc**, and then follow the on-screen instructions.

To exit Computer Setup menus, choose one of the following methods:

- To exit Computer Setup menus without saving your changes:
Select the **Exit** icon in the lower-right corner of the screen, and then follow the on-screen instructions.
– or –
Select **Main**, select **Ignore Changes and Exit**, and then press [enter](#).
- To save your changes and exit Computer Setup menus:
Select the **Save** icon in the lower-right corner of the screen, and then follow the on-screen instructions.
– or –
Select **Main**, select **Save Changes and Exit**, and then press [enter](#).


Your changes go into effect when the computer restarts.

Restoring factory settings in Computer Setup

 **NOTE:** Restoring defaults will not change the hard drive mode.


To return all settings in Computer Setup to the values that were set at the factory, follow these steps:

1. Start Computer Setup. See [Starting Computer Setup on page 43](#).
2. Select **Main**, and then select **Apply Factory Defaults and Exit**.

 **NOTE:** On select products, the selections may display **Restore Defaults** instead of **Apply Factory Defaults and Exit**.

3. Follow the on-screen instructions.
4. To save your changes and exit, select the **Save** icon in the lower-right corner of the screen, and then follow the on-screen instructions.
– or –
Select **Main**, select **Save Changes and Exit**, and then press [enter](#).

Your changes go into effect when the computer restarts.

 **NOTE:** Your password settings and security settings are not changed when you restore the factory settings.

Updating the BIOS

Updated versions of the BIOS may be available on the HP website.

Most BIOS updates on the HP website are packaged in compressed files called *SoftPaqs*.

Some download packages contain a file named *Readme.txt*, which contains information regarding installing and troubleshooting the file.

Determining the BIOS version

To decide whether you need to update Computer Setup (BIOS), first determine the BIOS version on your computer.

BIOS version information (also known as *ROM date* and *System BIOS*) can be accessed by pressing **fn+esc** (if you are already in Windows) or by using Computer Setup.


1. Start Computer Setup. See [Starting Computer Setup on page 43](#).
2. Select **Main**, and then select **System Information**.
3. To exit Computer Setup without saving your changes, select the **Exit** icon in the lower-right corner of the screen, and then follow the on-screen instructions.

– or –

Select **Main**, select **Ignore Changes and Exit**, and then press **enter**.

To check for later BIOS versions, see [Downloading a BIOS update on page 45](#).

Downloading a BIOS update

 **CAUTION:** To reduce the risk of damage to the computer or an unsuccessful installation, download and install a BIOS update only when the computer is connected to reliable external power using the AC adapter. Do not download or install a BIOS update while the computer is running on battery power, docked in an optional docking device, or connected to an optional power source. During the download and installation, follow these instructions:


Do not disconnect power on the computer by unplugging the power cord from the AC outlet.

Do not shut down the computer or initiate Sleep.

Do not insert, remove, connect, or disconnect any device, cable, or cord.


1. Type `support` in the taskbar search box, and then select the HP Support Assistant app.
– or –
Select the question mark icon in the taskbar.
2. Select **Updates**, and then select **Check for updates and messages**.
3. Follow the on-screen instructions.
4. At the download area, follow these steps:
 - a. Identify the most recent BIOS update and compare it to the BIOS version currently installed on your computer. Make a note of the date, name, or other identifier. You may need this information to locate the update later, after it has been downloaded to your hard drive.
 - b. Follow the on-screen instructions to download your selection to the hard drive.

Make a note of the path to the location on your hard drive where the BIOS update is downloaded. You will need to access this path when you are ready to install the update.

 **NOTE:** If you connect your computer to a network, consult the network administrator before installing any software updates, especially system BIOS updates.

BIOS installation procedures vary. Follow any instructions that are revealed on the screen after the download is complete. If no instructions are revealed, follow these steps:

1. Type `file` in the taskbar search box, and then select **File Explorer**.
2. Select your hard drive designation. The hard drive designation is typically Local Disk (C:).
3. Using the hard drive path you recorded earlier, open the folder that contains the update.
4. Double-click the file that has an `.exe` extension (for example, `filename.exe`).
The BIOS installation begins.
5. Complete the installation by following the on-screen instructions.


 **NOTE:** After a message on the screen reports a successful installation, you can delete the downloaded file from your hard drive.

Changing the boot order using the f9 prompt

To dynamically choose a boot device for the current startup sequence, follow these steps:

1. Access the Boot Device Options menu:
 - Computers or tablets with keyboards:
 - ▲ Turn on or restart the computer, and when the HP logo appears, press **f9** to enter the Boot Device Options menu.
 - Tablets without keyboards:
 - ▲ Turn off the tablet. Press the power button in combination with the volume down button until the Startup menu is displayed, and then tap **F9** to enter the Boot Device Options menu.
2. Select a boot device, then press `enter`.

TPM BIOS settings (select products only)

 **IMPORTANT:** Before enabling Trusted Platform Module (TPM) functionality on this system, you must ensure that your intended use of TPM complies with relevant local laws, regulations and policies, and approvals or licenses must be obtained if applicable. For any compliance issues arising from your operation/usage of TPM which violates the above mentioned requirement, you shall bear all the liabilities wholly and solely. HP will not be responsible for any related liabilities.

TPM provides additional security for your computer. You can modify the TPM settings in Computer Setup (BIOS).

 **NOTE:** If you change the TPM setting to Hidden, TPM is not visible in the operating system.

To access TPM settings in Computer Setup:

1. Start Computer Setup. See [Starting Computer Setup on page 43](#).
2. Select **Security**, select **TPM Embedded Security**, and then follow the on-screen instructions.

Using HP Sure Start (select products only)


Select computer models are configured with HP Sure Start, a technology that continuously monitors the computer's BIOS for attacks or corruption. If the BIOS becomes corrupted or is attacked, HP Sure Start automatically restores the BIOS to its previously safe state, without user intervention.

HP Sure Start is configured and already enabled so that most users can use the HP Sure Start default configuration. The default configuration can be customized by advanced users.

To access the latest documentation on HP Sure Start, go to <http://www.hp.com/support>, and select your country. Select **Drivers & Downloads**, and then follow the on-screen instructions.

11 HP PC Hardware Diagnostics (UEFI)

HP PC Hardware Diagnostics is a Unified Extensible Firmware Interface (UEFI) that allows you to run diagnostic tests to determine whether the computer hardware is functioning properly. The tool runs outside the operating system so that it can isolate hardware failures from issues that are caused by the operating system or other software components.

 **NOTE:** To start BIOS on a convertible computer, your computer must be in notebook mode and you must use the keyboard attached to your tablet. The on-screen keyboard, which displays in tablet mode, cannot access BIOS.


To start HP PC Hardware Diagnostics UEFI:

1. Start BIOS:
 - Computers or tablets with keyboards:
 - ▲ Turn on or restart the computer, quickly press **esc**.
 - Tablets without keyboards:
 - ▲ Turn on or restart the tablet, and then quickly hold down the volume down button.
 - or -
 - Turn on or restart the tablet, and then quickly hold down the Windows button.

2. Press or tap **f2**.

The BIOS searches three places for the diagnostic tools, in the following order:


- a. Connected USB drive

 **NOTE:** To download the HP PC Hardware Diagnostics (UEFI) tool to a USB drive, see [Downloading HP PC Hardware Diagnostics \(UEFI\) to a USB device on page 48](#).

- b. Hard drive

- c. BIOS

3. When the diagnostic tool opens, select the type of diagnostic test you want to run, and then follow the on-screen instructions. On a tablet, press the volume down button to stop a diagnostic test.

 **NOTE:** If you need to stop a diagnostic test on computers or tablets with a keyboard, press **esc**.

Downloading HP PC Hardware Diagnostics (UEFI) to a USB device

There are two options to download HP PC Hardware Diagnostics to a USB device:

Download the latest UEFI version:

1. Go to <http://www.hp.com/go/techcenter/pcdiags>. The HP PC Diagnostics home page is displayed.
2. In the HP PC Hardware Diagnostics section, click the **Download** link, and then select **Run**.

Download any version of UEFI for a specific product:

1. Go to <http://www.hp.com/support>, and then select your country. The HP Support page is displayed.
2. Click **Drivers & Downloads**.
3. In the text box, enter the product name, and then click **Go**.
– or –
Click **Find Now** to let HP automatically detect your product.
4. Select your computer, and then select your operating system.
5. In the **Diagnostic** section, follow the on-screen instructions to select and download the UEFI version you want.

12 Specifications


Input power

The power information in this section may be helpful if you plan to travel internationally with the tablet.

The tablet operates on DC power, which can be supplied by an AC or a DC power source. The AC power source must be rated at 100–240 V, 50–60 Hz. Although the tablet can be powered from a standalone DC power source, it should be powered only with an AC adapter or a DC power source supplied and approved by HP for use with this tablet.

The tablet can operate on DC power within the following specifications.

Input Power	Rating
Operating voltage and current	9 V DC @ 1.1A – 10W

 **NOTE:** This product is designed for IT power systems in Norway with phase-to-phase voltage not exceeding 240 V rms.

 **NOTE:** The tablet operating voltage and current can be found on the system regulatory label.

Operating environment

Factor	Metric	U.S.
Temperature		
Operating (writing to optical disc)	5°C to 35°C	41°F to 95°F
Nonoperating	-20°C to 60°C	-4°F to 140°F
Relative humidity (noncondensing)		
Operating	10% to 90%	10% to 90%
Nonoperating	5% to 95%	5% to 95%
Maximum altitude (unpressurized)		
Operating	-15 m to 3,048 m	-50 ft to 10,000 ft
Nonoperating	-15 m to 12,192 m	-50 ft to 40,000 ft

13 Electrostatic Discharge

Electrostatic discharge is the release of static electricity when two objects come into contact—for example, the shock you receive when you walk across the carpet and touch a metal door knob.

A discharge of static electricity from fingers or other electrostatic conductors may damage electronic components.

To prevent damage to the computer, damage to a drive, or loss of information, observe these precautions:

- If removal or installation instructions direct you to unplug the computer, first be sure that it is properly grounded.
- Keep components in their electrostatic-safe containers until you are ready to install them.
- Avoid touching pins, leads, and circuitry. Handle electronic components as little as possible.
- Use nonmagnetic tools.
- Before handling components, discharge static electricity by touching an unpainted metal surface.
- If you remove a component, place it in an electrostatic-safe container.

14 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 device 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 +1 (888) 259-5707, Monday through Friday, 6 a.m. to 9 p.m. North American 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 +1 (877) 656-7058, Monday through Friday, 6 a.m. to 9 p.m. North American Mountain Time.



NOTE: Support is in English only.

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