

User Guide

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Product notice

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

Not all features are available in all editions of Windows 8. This tablet may require upgraded and/or separately purchased hardware, drivers and/or software to take full advantage of Windows 8 functionality. See <http://www.microsoft.com> for details.

Software terms

By installing, copying, downloading, or otherwise using any software product preinstalled on this tablet, 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 refund subject to the refund policy of your place of purchase.

For any further information or to request a full refund of the tablet, please contact your local point of sale (the seller).

Safety warning notice


 **WARNING!** To reduce the possibility of heat-related injuries or of overheating the computer, do not place the computer directly on your lap or obstruct the computer air vents. Use the computer 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 computer 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).

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1 Welcome

After you set up and register the tablet, it is important to take the following steps:

- **Connect to the Internet**—Set up your wireless network so that you can connect to the Internet. For more information, see [Connecting to a network on page 8](#).
- **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 29](#).
- **Get to know your tablet**—Learn about your tablet features. See [Getting to know your tablet on page 4](#) and [Navigating the screen on page 15](#) for additional information.
- **Find installed software**—Access a list of the software preinstalled on the tablet:
From the Start screen, type **a**, tap **Apps**, and then select from the displayed options. For details about using the software included with the tablet, see the software manufacturer's instructions, which may be provided with the software or on the manufacturer's website.
- Back up your hard drive by creating recovery discs or a recovery flash drive. See [Backing up, restoring, and recovering on page 34](#).

Finding information

You have already used the *Quick Start* guide to turn on the tablet and locate this guide. To locate resources that provide product details, how-to information, and more, use this table.

Resources	For information about
<i>Quick Start</i>	<ul style="list-style-type: none">• How to set up the tablet• Help to identify tablet components
HP Support Assistant To access HP Support Assistant, from the Start screen, select the HP Support Assistant app. 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.	<ul style="list-style-type: none">• Operating system information• Software, driver, and BIOS updates• Troubleshooting tools• How to access support
Worldwide support To get support in your language, go to http://welcome.hp.com/country/us/en/wwcontact_us.html .	<ul style="list-style-type: none">• Online chat with an HP technician• Email support• Support telephone numbers• HP service center locations
HP website 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.	<ul style="list-style-type: none">• Support information• Ordering parts and finding additional help• Accessories available for the device
<i>Safety & Comfort Guide</i> To access this guide: ▲ From the Start screen, type <code>support</code> , and then select the HP Support Assistant app. – or – Go to http://www.hp.com/ergo .	<ul style="list-style-type: none">• Proper workstation setup, posture, health, and work habits• Electrical and mechanical safety information
<i>Regulatory, Safety, and Environmental Notices</i> To access this guide: 1. From the Start screen, type <code>support</code> , and then select the HP Support Assistant app. 2. Select My computer , and then select User guides .	<ul style="list-style-type: none">• Regulatory and safety information• Battery disposal information
<i>Limited Warranty*</i> To access this guide, from the Start screen, select the HP Support Assistant app, select My computer , and then select Warranty and services . – or – Go to http://www.hp.com/go/orderdocuments .	Warranty information

*You can find the expressly provided HP Limited Warranty applicable to your product located with the user guides on your computer and/or on the CD/DVD provided in the box. In some countries/regions, HP may provide a printed HP Limited

Resources**For information about**

Warranty in the box. For some countries/regions where the warranty is not provided in printed format, you may request a printed copy from <http://www.hp.com/go/orderdocuments> or write to:

- **North America:** Hewlett-Packard, MS POD, 11311 Chinden Blvd., Boise, ID 83714, USA
- **Europe, Middle East, Africa:** Hewlett-Packard, POD, Via G. Di Vittorio, 9, 20063, Cernusco s/Naviglio (MI), Italy
- **Asia Pacific:** Hewlett-Packard, POD, P.O. Box 200, Alexandra Post Office, Singapore 911507

When you request a printed copy of your warranty, please include your product number, warranty period (found on your service label), name, and postal address.

IMPORTANT: Do NOT return your HP product to the addresses above. 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.

2 Getting to know your tablet

Finding your hardware and software information

Locating hardware

To find out what hardware is installed on your tablet:

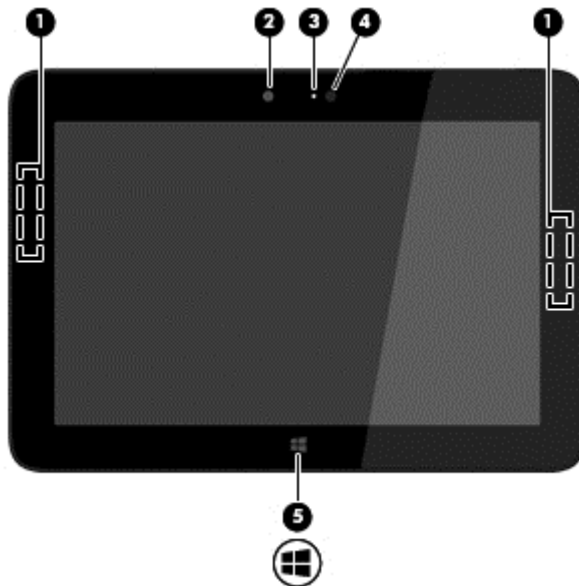
1. Swipe from the right edge, and then tap **Search**. In the search box, type `control panel`, and then select **Control Panel**.
2. Select **System and Security**, and then in the **System** area, tap **Device Manager**.

A list displays all the devices installed on your tablet.

Locating software

To find out what software is installed on your tablet, on the Start screen, swipe up from the center of the touch screen to display the Apps screen.

Front






Component	Description
(1) WLAN antennas (2)*	Send and receive wireless signals to communicate with wireless local area networks (WLANs).
(2) Webcam	Records video and captures photographs. Some models allow you to video conference and chat online using streaming video. To use the webcam, on the Start screen, tap the Camera app.
(3) Webcam light	On: The webcam is in use.

Component	Description
(4) Ambient light sensor	Automatically adjusts the display brightness based on the lighting conditions in your environment.
(5) Windows button	Minimizes all open applications and displays the Start screen.

*The antennas are not visible from the outside of the tablet. For optimal transmission, keep the areas immediately around the antennas free from obstructions. For wireless regulatory notices, see the section of the *Regulatory, Safety, and Environmental Notices* that applies to your country or region. To access this guide, swipe from the right edge, and then tap **Search**. In the search box, type `support`, select the **HP Support Assistant** app, select **My Computer**, and then select **User guides**.

Back



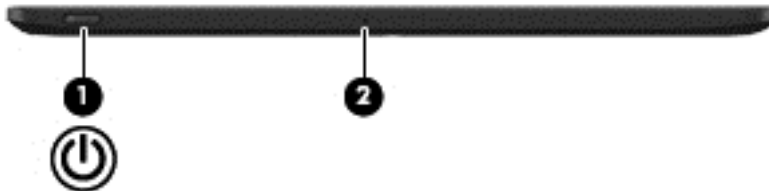
Component	Description
(1)  Volume down button	To decrease speaker volume, press the bottom edge of the button.
(2)  Volume up button	To increase speaker volume, press the top edge of the button.
(3) Camera	Records video and captures photographs. To use the webcam, on the Start screen, tap the Camera app.
(4)  Audio-out (headphone)/Audio-in (microphone) jack	Connects optional powered stereo speakers, headphones, earbuds, a headset, or a television audio cable. Also connects an optional headset microphone. This jack does not support optional microphone-only devices.


WARNING! To reduce the risk of personal injury, adjust the volume before putting on headphones, earbuds, or a headset. For additional safety information, refer to the *Regulatory, Safety, and Environmental Notices*. To access this guide, swipe from the right edge, and then tap **Search**. In the search box, type `support`, select the **HP Support Assistant** app, select **My computer**, and then select **User guides**.

NOTE: When a device is connected to the jack, the tablet speakers are disabled.

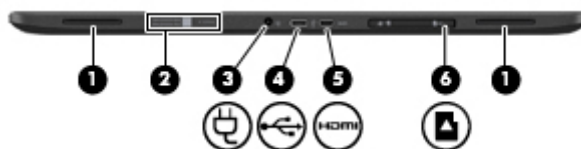
Component	Description
	NOTE: Be sure that the device cable has a 4-conductor connector that supports both audio-out (headphone) and audio-in (microphone).

Top edge






Component	Description
(1)  Power button	<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. When the tablet is in Hibernation, press the button briefly to exit Hibernation. <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 down for at least 5 seconds to turn off the tablet.</p> <p>To learn more about your power settings, see your power options. swipe from the right edge, and then tap Search. In the search box, type <code>power options</code>, and then select Power Options.</p>
(2) Internal microphone	Records sound.

Bottom edge




Component	Description
(1) Speakers (2)	Produce sound.
(2) Serial number and product number	Provide important information to identify your tablet. When contacting support, you will probably be asked for the serial

Component	Description
	number, and possibly for the product number or the model number. Locate these numbers before you contact support.
(3) Power connector	Connects an AC adapter.
(4)  Micro USB 2.0 port	Connects an optional micro USB device.
(5)  Micro HDMI port	Connects an optional video or audio device, such as a high-definition television, any compatible digital or audio component, or a high-speed HDMI device.
(6)  Micro SD card reader	<p>Reads optional memory cards that store, manage, share, or access information.</p> <p>To insert a card:</p> <p>Hold the card label-side up, with connectors facing the slot, insert the card into the slot, and then push in on the card until it is firmly seated.</p> <p>To remove a card:</p> <p>Press in on the card it until it pops out.</p>

Labels

The labels affixed to the tablet provide information you may need when you troubleshoot system problems or travel internationally with the tablet.

 **IMPORTANT:** For help finding these locations, refer to [Getting to know your tablet on page 4](#). All labels described in this section are located on the back of the tablet.

- Serial number and product number are located on the bottom edge of the tablet and/or affixed to the back of the tablet. When contacting support, you will probably be asked for the serial number, and possibly for the product number or the model number. Locate these numbers before you contact support.
- Regulatory label(s)—Provide(s) regulatory information about the tablet. Regulatory markings for your country or region are located on the back of the tablet.

For regulatory identification purposes, your product is assigned a Regulatory Model Number. The regulatory number should not be confused with the marketing name or product numbers. For more information, see the *Quick Start* guide included with your tablet.

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

3 Connecting to a network

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 wireless network connection. This chapter will help you get connected to that world.

Connecting to a wireless network

Wireless technology transfers data across radio waves instead of wires. Your tablet may be equipped with one or more of the following wireless devices:

- **Wireless local area network (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.
- **Bluetooth device**—Creates a personal area network (PAN) to connect to other Bluetooth-enabled devices such as tablets, 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.

For more information about wireless technology, see the information and website links provided in Help and Support. Swipe from the right edge, and then tap Search. In the search box, type `help`, and then select **Help and Support**.

Using the wireless controls

You can control the wireless devices in your tablet using the operating system controls:

Using 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. Swipe from the right edge, and then tap Search. In the search box, type `control panel`, and then select **Control Panel**.
2. Select **Network and Internet**, and then select **Network and Sharing Center**.

For more information, swipe from the right edge, and then tap **Search**. In the search box, type `help`, and then select **Help and Support**.

Sharing data and drives and accessing software

When your tablet is part of a network, you are not limited to using only the information that is stored in your tablet. Network tablets can exchange software and data with each other.

 **NOTE:** When a disc like a DVD movie or game is copy-protected, it cannot be shared.

To share folders or libraries on the same network:

1. From the Windows desktop, open **File Explorer**.
2. Tap the **Share** menu on the **Libraries** window, and then tap **Specific people**.
3. Type a name in the **File Sharing** box, and then tap **Add**.
4. Tap **Share** and then follow the on-screen instructions.

To share information from your Local Disk:

1. From the Windows desktop, open **File Explorer**.
2. Tap **Local Disk (C:)** on the **Libraries** window.
3. Tap the **Share** tab, and then tap **Advanced sharing**.
4. On the **Local Disk (C:) Properties** window, select **Advanced Sharing**.
5. Tap **Share this folder**.

To share drives on the same network:

1. From the Windows desktop, tap and hold the network status icon in the notification area, at the far right of the taskbar.
2. Select **Open Network and Sharing Center**.
3. Under **View your active networks**, select an active network.
4. Select **Change advanced sharing settings** to set sharing options for privacy, network discovery, file and printer sharing or other network options.

Using a WLAN

With a WLAN device, you can access a wireless local area network (WLAN), which is composed of other tablets and accessories that are linked by a wireless router or a wireless access point.


 **NOTE:** The terms *wireless router* and *wireless access point* are often used interchangeably.

- A large-scale WLAN, such as a corporate or public WLAN, typically uses wireless access points that can accommodate a large number of tablets and accessories and can separate critical network functions.
- A home or small office WLAN typically uses a wireless router, which allows several wireless and wired tablets to share an Internet connection, a printer, and files without requiring additional pieces of hardware or software.

To use the WLAN device in your tablet, you must connect to a WLAN infrastructure (provided through a service provider or a public or corporate network).

Using an Internet service provider


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.

 **NOTE:** Your ISP will give you a user ID and a password to use for Internet access. Record this information and store it in a safe place.

Setting up a WLAN

To set up a WLAN and connect to the Internet, you need the following equipment:

- A broadband modem (either DSL or cable) **(1)** and high-speed Internet service purchased from an Internet service provider
- A wireless router **(2)** (purchased separately)
- A wireless tablet **(3)**

 **NOTE:** Some modems have a built-in wireless router. Check with your ISP to determine what type of modem you have.

The illustration below shows an example of a wireless network installation that is connected to the Internet.




As your network grows, additional wireless and wired tablets can be connected to the network to access the Internet.

For help in setting up your WLAN, see the information provided by your router manufacturer or your ISP.

Configuring a wireless router

For help in setting up a WLAN, see the information provided by your router manufacturer or your ISP.

 **NOTE:** A USB to RJ-45 adapter (purchased separately) is required to connect your new wireless tablet to the router by using the network cable provided with the router. When the tablet successfully connects to the Internet, disconnect the cable, and access the Internet through your wireless network.

Protecting your WLAN

When you set up a WLAN or access an existing WLAN, always enable security features to protect your network from unauthorized access. WLANs in public areas (hotspots) like coffee shops and airports may not provide any security. If you are concerned about the security of your tablet when connected to a hotspot, limit your network activities to email that is not confidential and basic Internet surfing.

Wireless radio signals travel outside the network, so other WLAN devices can pick up unprotected signals. Take the following precautions to protect your WLAN:

- Use a firewall.

A firewall checks information and requests that are sent to your network, and discards any suspicious items. Firewalls are available in both software and hardware. Some networks use a combination of both types.

- Use wireless encryption.


Wireless encryption uses security settings to encrypt and decrypt data that is transmitted over the network. For more information, swipe from the right edge, and then tap **Search**. In the search box, type `help`, and then select **Help and Support**.


Connecting to a WLAN

To connect to the WLAN, follow these steps:

1. Be sure that the WLAN device is on.
2. From the Windows desktop, tap the network status icon in the notification area, at the far right of the taskbar.
3. Select your WLAN from the list.
4. Tap **Connect**.


If the WLAN is a security-enabled WLAN, you are prompted to enter a security code. Type the code, and then tap **OK** 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, from the Windows desktop, tap and hold the network status icon, and then select **Open Network and Sharing Center**. Tap **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.

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

After the connection is made, point over the network status icon in the notification area, 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 Bluetooth wireless devices

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, PDA)
- 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 PAN of Bluetooth devices. For information about configuring and using Bluetooth devices, see the Bluetooth software Help.

4 Multimedia

Using the webcam

The tablet has an integrated webcam that records video and captures photographs. Some models may allow you to video conference and chat online using streaming video.

- ▲ To start the webcam, on the Start screen, tap the **Camera** app.

For details about using the webcam, go to Help and Support. Swipe from the right edge, and then tap Search. In the search box, type `help`, and then select **Help and Support**.

Using audio

On your 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.

Connecting speakers

You can attach wired speakers to your tablet by connecting them to the audio-out (headphone) jack on your tablet.

To connect *wireless* speakers to your tablet, follow the device manufacturer's instructions. To connect high-definition speakers to the tablet, see [Setting up HDMI audio on page 14](#). Before connecting speakers, lower the volume setting.

Connecting headphones and microphones

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

To connect *wireless* headphones or headsets 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*. To access this guide, swipe from the right edge, and then tap **Search**. In the search box, type `support`, select the **HP Support Assistant** app, select **My computer**, and then select **User guides**.

Testing your audio features

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

1. Swipe from the right edge, and then tap Search. In the search box, type `control panel`, and then select **Control Panel**.
2. Select **Hardware and Sound**, and then select **Sound**.
3. When the Sound window opens, select the **Sounds** tab. Under **Program Events**, select 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. Swipe from the right edge, and then tap Search. In the search box, type `sound`, and then select **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 the recording.


To confirm or change the audio settings on your tablet, follow these steps:

1. Swipe from the right edge, and then tap Search. In the search box, type `control panel`, and then select **Control Panel**.
2. Select **Hardware and Sound**, and then select **Sound**.


Using video

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

To enhance your viewing enjoyment, use the high-definition multimedia interface (micro HDMI) port, which allows you to connect a high-definition monitor or TV.

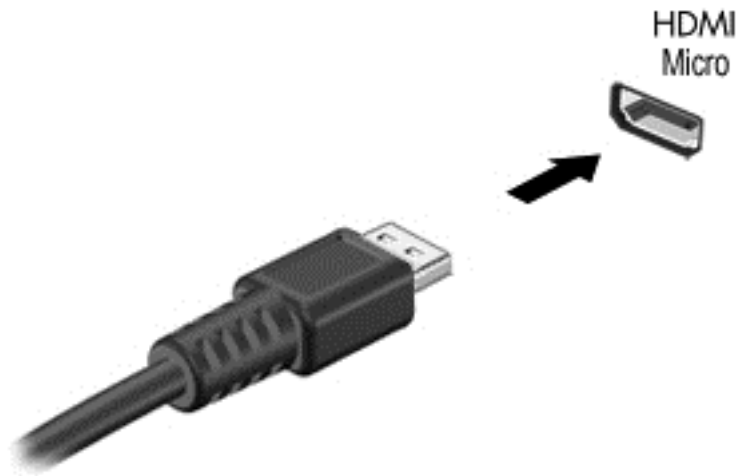
 **IMPORTANT:** Be sure that the external device is connected to the correct port on the tablet, using the correct cable. Check the device manufacturer's instructions.

Connecting video devices by using a micro HDMI cable

 **NOTE:** To connect an HDMI device to your tablet, you need an HDMI cable with a micro HDMI connector, sold separately.

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

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



2. Connect the other end of the cable to the high-definition TV or monitor.

Setting up HDMI audio

HDMI is the only video interface that supports high-definition video *and* audio. After you connect an HDMI TV to the tablet, you can then turn on HDMI audio by following these steps:

1. From the Windows desktop, tap and hold the **Speakers** icon in the notification area, at the far right of the taskbar, and then select **Playback devices**.
2. On the **Playback** tab, select the name of the digital output device.
3. Tap **Set Default**, and then tap **OK**.


To return the audio stream to the tablet speakers:

1. From the Windows desktop, tap and hold the **Speakers** icon in the notification area, at the far right of the taskbar, and then select **Playback devices**.
2. On the Playback tab, tap **Speakers / HP**.
3. Tap **Set Default**, and then tap **OK**.

Discovering and connecting to Miracast-compatible wireless displays (select models only)

To discover and connect to Miracast-compatible wireless displays without leaving your current apps, open Miracast:

- ▲ Swipe from the right edge of the Start screen, tap **Devices**, tap **Project**, and then follow the on-screen instructions.

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

5 Navigating the screen

You can navigate the tablet screen by using touch gestures.


Using touch screen gestures

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

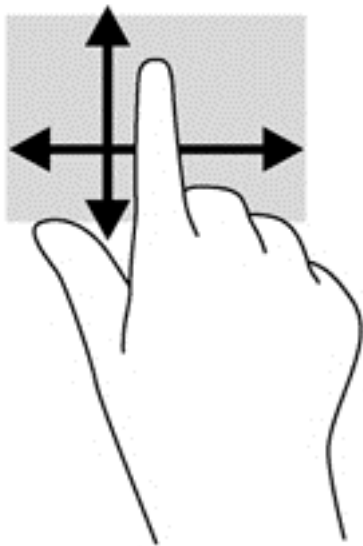
One-finger slide

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.

 **NOTE:** When many apps are displayed on the Start screen, you can slide your finger to move the screen left or right.

- 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.

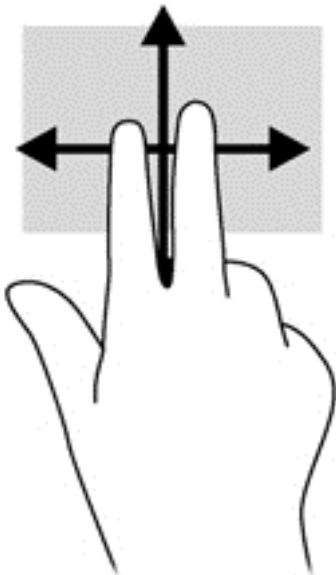
- Use one finger to tap an object on the screen to make a selection. Double-tap an item to open it.



Scrolling

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

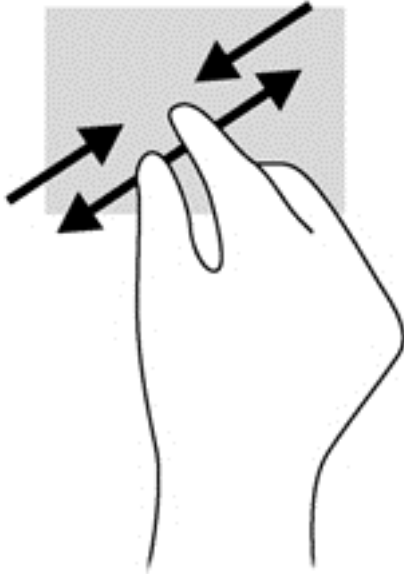
- Place two fingers on the screen and then drag them in an up, down, left, or right motion.



Pinching/zooming

Pinching and zooming allow you to zoom out or in on images or text.


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

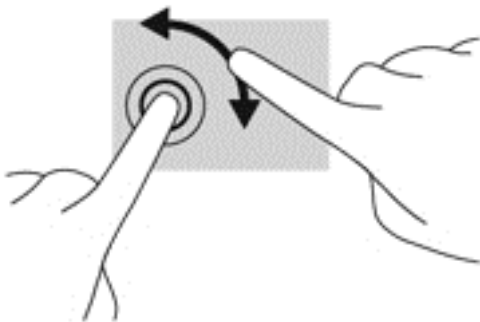


Rotating (select models only)

Rotating allows you to turn items such as photos.

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

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



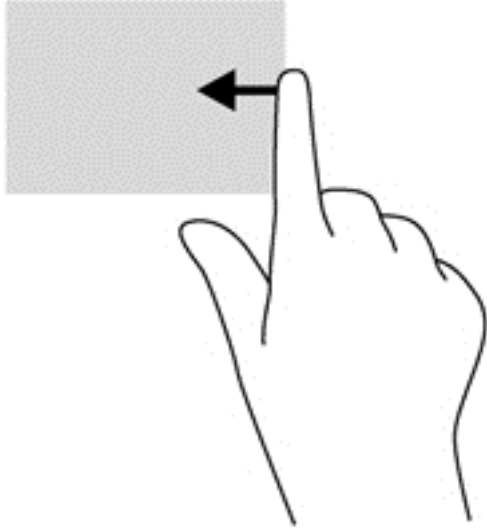
Edge swipes

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

Right-edge swipe

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

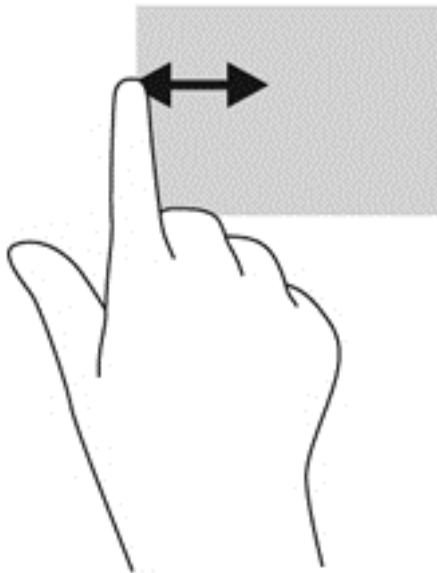
- Gently swipe your finger inward from the right edge of the display onto the screen to reveal the charms.



Left-edge swipe


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

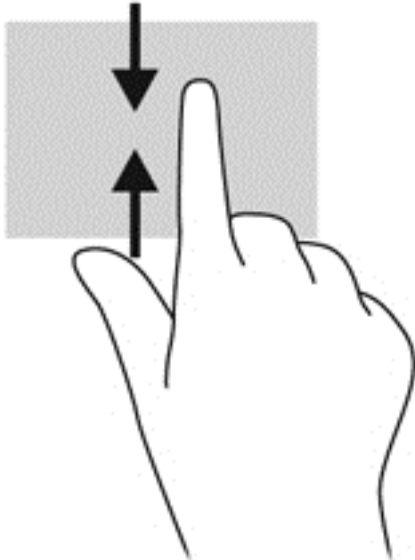
- Gently swipe your finger inward from the left edge of the display to switch between apps. Without lifting your finger, swipe back toward the left edge to reveal all open apps.



Top-edge swipe and bottom-edge swipe

- ▲ From the Windows Start screen, gently swipe your finger from the top edge or the bottom edge of the display onto the screen to display app command options that allow you to customize apps.

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




6 Managing power


Your tablet can operate on either battery power or external power. When the tablet is running on battery power only and an AC power source is not available to charge the battery, it is important to monitor and conserve the battery charge. Your tablet supports an optimal power plan to manage how your tablet uses and conserves power so that tablet performance is balanced with power conservation.

Initiating Sleep and Hibernation

Microsoft® Windows has two power-saving states, Sleep and Hibernation.

- Sleep—The Sleep state is automatically initiated after a period of inactivity when running on battery power or on external power. Your work is saved to memory, allowing you to resume your work very quickly. You can also initiate Sleep manually. For more information, see [Manually exiting Sleep on page 20](#).
- Hibernation—The Hibernation state is automatically initiated if the battery reaches a critical level. In the Hibernation state, your work is saved to a hibernation file and the tablet powers down.

 **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 media card.


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

Manually exiting Sleep

To initiate Sleep, press the power button briefly.


To exit Sleep, press the power button briefly.

When the tablet exits Sleep, your work returns to the screen.

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

Manually exiting Hibernation (select models only)


When the tablet exits Hibernation, your work returns to the screen.

 **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.

Setting password protection on wakeup

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

1. Swipe from the right edge, and then tap **Search**. In the search box, type `power options`, and then select **Power Options**.
2. In the left pane, tap **Require a password on wakeup**.
3. Tap **Change Settings that are currently unavailable**.
4. Tap **Require a password (recommended)**.

 **NOTE:** If you need to create a user account password or change your current user account password, tap **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. Tap **Save changes**.

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 reveal the percentage of remaining battery charge and the current power plan, on the Windows desktop, point over the power meter icon.
- To use Power Options, tap the power meter icon and select an item from the list. Swipe from the right edge, and then tap **Search**. In the search box, you can also type `power`, select **Settings**, and then select **Power Options**.

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

Running on battery power

When a charged battery is in the tablet and the tablet is not plugged into external power, the tablet runs on battery power. If the tablet has a charged battery installed and the AC adapter is disconnected from the tablet, the tablet automatically switches to battery power and the screen brightness decreases to conserve battery life. The battery in the tablet slowly discharges when the tablet is off and unplugged from external power.

Tablet battery life varies, depending on power management settings, programs running on the tablet, screen brightness, external devices connected to the tablet, and other factors.

Factory-sealed battery

To monitor the status of your battery, or if the battery is no longer holding a charge, run Battery Check in Help and Support. To access battery information, swipe from the right edge, and then tap **Search**. In the search box, type `support`, select the **HP Support Assistant** app, and then select **Battery and performance**. If Battery Check indicates that your battery should be replaced, contact support.

The battery in this product cannot be easily replaced by users themselves. HP recommends that you contact support to have the battery replaced.

Finding battery information

To monitor the status of your battery, or if the battery is no longer holding a charge, run Battery Check in HP Support Assistant. To access battery information, swipe from the right edge, and then tap **Search**. In the search box, type `support`, select the **HP Support Assistant** app, and then select **Battery and performance**.

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

- Battery test
- Information about battery types, specifications, life cycles, and capacity

Conserving battery power

Tips for conserving battery power and maximizing battery life:

- Lower the brightness on the display.
- Turn off wireless devices when you are not using them.
- Disconnect unused external devices that are not plugged into an external power source, such as an external hard drive connected to a USB port.
- Stop, disable, or remove any external media cards that you are not using.
- Before you leave your work, initiate Sleep or shut down the tablet.

Identifying low battery levels

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

- The power meter icon on the Windows desktop shows a low or critical battery notification.



NOTE: For additional information about the power meter, see [Using the power meter and power settings on page 21](#).

The tablet takes the following actions for a critical battery level:

- If Hibernation is disabled and the tablet is on or in the Sleep state, the tablet remains briefly in the Sleep state, and then shuts down and loses any unsaved information.
- If Hibernation is enabled and the tablet is on or in the Sleep state, the tablet initiates Hibernation.

Resolving a low battery level

Resolving a low battery level when external power is available

- Connect an AC adapter.
- Connect an optional power adapter purchased as an accessory from HP.

Resolving a low battery level when no power source is available

Save your work and shut down the tablet.

Resolving a low battery level when the tablet cannot exit Hibernation

When the tablet lacks sufficient power to exit Hibernation, follow these steps:

1. Connect the AC adapter to the tablet and to external power.
2. Exit Hibernation by pressing the power button.

Running on external AC power

For information about connecting to AC power, refer to the *Quick Start* guide provided in the tablet box.

The tablet does not use battery power when the tablet is connected to AC external power with an approved AC adapter.

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

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

⚠ WARNING! Do not charge the tablet battery while you are onboard aircraft.

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

When you connect the tablet to external AC power:

- The battery begins to charge.
- The screen brightness increases.
- The power meter icon on the Windows desktop changes appearance.

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

- The tablet switches to battery power.
- The screen brightness automatically decreases to save battery life.
- The power meter icon on the Windows desktop changes appearance.

Troubleshooting power problems

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

- The tablet does not turn on.
- The display does not turn on.


To test the AC adapter:

1. Shut down the tablet.
2. Connect the AC adapter to the tablet, and then plug it into an AC outlet.
3. Turn on the tablet.

- Check the connection from the AC adapter to the tablet and the connection from the AC adapter to the AC outlet to be sure that the connections are secure.
- If the connections are secure and the tablet remains *off*, the AC adapter is not functioning and should be replaced.

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

Shutting down (turning off) the tablet


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

The Shut down command closes all open programs, including the operating system, and then turns off the display and tablet.

Shut down the tablet under any of the following conditions:

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

Although you can turn off the tablet with the power button, the recommended procedure is to use the Windows Shut down command:

 **NOTE:** If the tablet is in the Sleep state or in Hibernation, 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. Swipe from the right edge, tap **Settings**, tap the **Power** icon, and then tap **Shut down**.

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

- Press and hold the power button for at least 10 seconds.
- Disconnect the tablet from external power.

7 Maintaining your tablet

It is important to perform regular maintenance to keep your tablet in optimal condition. This chapter provides information about improving the performance of your tablet by running tools such as Disk Defragmenter and Disk Cleanup. It also provides information about updating your programs and drivers, instructions for cleaning your tablet, and tips for traveling with your tablet.

Updating programs and drivers

HP recommends that you update your programs and drivers on a regular basis to the latest versions. Updates can resolve issues and bring new features and options to your tablet. Technology is always changing, and updating programs and drivers allows your tablet to run the latest technology available. For example, older graphics components might not work well with the most recent gaming software. Without the latest driver, you would not be getting the most out of your equipment.

Go to <http://www.hp.com/support> to download the latest versions of HP programs and drivers. In addition, register to receive automatic update notifications when they become available.

Cleaning your tablet

Use the following products to safely clean your tablet:

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

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

Fibrous materials, such as paper towels, can scratch the 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 surface. Liquids dripped on the surface can permanently damage internal components.

Cleaning the display

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

Cleaning the edges or cover

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

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

Traveling with or shipping your tablet

If you have to travel with or ship your tablet, here are some tips to keep in mind to keep your equipment safe.

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


⚠ 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.

- If you plan to use the tablet during a flight, listen for the in-flight announcement that tells you when you are allowed to use your tablet. In-flight tablet use is at the discretion of the airline.
- If you are shipping the tablet or a drive, use suitable protective packaging and label the package "FRAGILE."
- If the tablet has a wireless device installed, 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 your tablet before you turn it on.
- If you are traveling internationally, follow these suggestions:
 - Check the tablet-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.

8 Securing your tablet and information

Tablet security is essential for protecting the confidentiality, integrity, and availability of your information. Standard security solutions provided by the Windows operating system, HP applications, the non-Windows Setup Utility (BIOS), and other third-party software can help protect your tablet from a variety of risks, such as viruses, worms, and other types of malicious code.

 **IMPORTANT:** Some security features listed in this chapter may not be available on your tablet.

Tablet risk	Security feature
Unauthorized use of the tablet	Power-on password
Computer viruses	Antivirus software
Unauthorized access to data	Firewall software
Unauthorized access to Setup Utility (BIOS) settings and other system identification information	Administrator password
Ongoing or future threats to the tablet	Software updates
Unauthorized access to a Windows user account	User password
Unauthorized removal of the tablet	Security cable lock

Using passwords

A password is a group of characters that you choose to secure your tablet information and to protect online transactions. Several types of passwords can be set. For example, when you set up your tablet for the first time, you were asked to create a user password to secure your tablet. Additional passwords can be set in Windows or in the HP Setup Utility (BIOS) that is preinstalled on your tablet.

You may find it helpful to use the same password for a Setup Utility (BIOS) feature and for a Windows security feature.

Use the following tips for creating and saving passwords:

- To reduce the risk of being locked out of the tablet, record each password and store it in a secure place away from the tablet. Do not store passwords in a file on the tablet.
- When creating passwords, follow requirements set by the program.
- Change your passwords at least every three months.
- An ideal password is long and has letters, punctuation, symbols, and numbers.
- Before you send your tablet for service, back up your files, delete confidential files, and then remove all password settings.

For additional information about Windows passwords, such as screen-saver passwords, swipe from the right edge, and then tap **Search**. In the search box, type `support`, and then select the **HP Support Assistant** app.

Setting Windows passwords

Password	Function
User password	Protects access to a Windows user account.
Administrator password	Protects administrator-level access to tablet contents. NOTE: This password cannot be used to access Setup Utility (BIOS) contents.

Setting Setup Utility (BIOS) passwords

Password	Function
Administrator password	<ul style="list-style-type: none">• Must be entered each time you access Setup Utility (BIOS).• If you forget your administrator password, you cannot access Setup Utility (BIOS). <p>NOTE: The administrator password can be used in place of the power-on password.</p> <p>NOTE: Your administrator password is not interchangeable with an administrator password set in Windows, nor is it revealed as it is set, entered, changed, or deleted.</p> <p>NOTE: If you enter the power-on password at the first password check, you must enter the administrator password to access Setup Utility (BIOS).</p>
Power-on password	<ul style="list-style-type: none">• Must be entered each time you turn on or restart the tablet.• If you forget your power-on password, you cannot turn on or restart the tablet. <p>NOTE: The administrator password can be used in place of the power-on password.</p> <p>NOTE: A power-on password is not revealed as it is set, entered, changed, or deleted.</p>

To set, change, or delete an administrator or power-on password in Setup Utility (BIOS):

1. To start Setup Utility (BIOS), turn on or restart the tablet, quickly press the volume down button, and then press the power button.
2. Tap **Security**, and then follow the on-screen instructions.

Your changes take effect when the tablet restarts.

Using Internet security software

When you use your tablet to access email, a network, or the Internet, you potentially expose your tablet to tablet viruses, spyware, and other online threats. To help protect your tablet, Internet security software that includes antivirus and firewall features may be preinstalled on your tablet as a trial offer. To provide ongoing protection against newly discovered viruses and other security risks, security

software must be kept up to date. It is strongly recommended that you upgrade the security software trial offer or purchase the software of your choice in order to fully protect your tablet.

Using antivirus software

Computer viruses can disable programs, utilities, or the operating system, 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.

An antivirus program may be preinstalled on your tablet. It is strongly recommended that you use the antivirus program of your choice in order to fully protect your tablet.

For more information about tablet viruses, swipe from the right edge, and then tap **Search**. In the search box, type `support`, and then select the **HP Support Assistant** app.

Using firewall software

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

There are two types of firewalls to consider:


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

Installing software updates

HP, Microsoft Windows, and third-party software installed on your tablet should be regularly updated to correct security problems and improve software performance. For more information, see [Updating programs and drivers on page 25](#).

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, from the Start screen, type `c`, and then select **Control Panel**. Select **System and Security**, select **Windows Update**, select **Change settings**, and then follow the on-screen instructions.

Installing HP and third-party software updates

HP recommends that you regularly update the software and drivers that were originally installed on your tablet. To download the latest versions, go to <http://www.hp.com/go/contactHP>. At this location, you can also register to receive automatic update notifications when they become available.

If you have installed third-party software after you purchased your tablet, regularly update the software. Software companies provide software updates to their products to correct security problems and improve functionality of the software.

Securing your wireless network

When you set up your wireless network, always enable security features. For more information, see [Protecting your WLAN on page 10](#).

Backing up your software applications and information


Regularly back up your software applications and information to protect them from being permanently lost or damaged through a virus attack or a software or hardware failure. For more information, see [Backing up, restoring, and recovering on page 34](#).

9 Using Setup Utility (BIOS) and HP PC Hardware Diagnostics (UEFI)

Setup Utility, 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). Setup Utility (BIOS) includes settings for the types of devices installed, the startup sequence of the tablet, and the amount of system and extended memory.

Starting Setup Utility (BIOS)

To start Setup Utility (BIOS), turn on or restart the tablet, quickly press the volume down button, and then press the power button.

 **NOTE:** Use extreme care when making changes in Setup Utility (BIOS). Errors can prevent the tablet from operating properly.

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 *SoftPags*.

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


Determining the BIOS version

To determine whether available BIOS updates contain later BIOS versions than those currently installed on the tablet, you need to know the version of the system BIOS currently installed.

BIOS version information (also known as *ROM date* and *System BIOS*) can be revealed by using Setup Utility (BIOS).

1. Start Setup Utility (BIOS) (see [Starting Setup Utility \(BIOS\) on page 31](#)).
2. Select **Main**.
3. To exit Setup Utility (BIOS) without saving your changes, tap **Exit**, tap **Exit Discarding Changes**, and then tap **enter**.
4. Tap **Yes**.

Downloading a BIOS update

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


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

Do not shut down the tablet or initiate Sleep.

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

1. Swipe from the right edge, and then tap Search. In the search box, type `support`, and then select the **HP Support Assistant** app.
2. Tap **Updates and tune-ups**, and then tap **Check for HP updates now**.
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 tablet. If the update is more recent than your BIOS, 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.


If the update is more recent than your BIOS, 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 tablet 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. Swipe from the right edge, and then tap Search. In the search box, type `file`, and then select **File Explorer**.
2. Tap 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 on your hard drive that contains the update.
4. Double-tap 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.

Using 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 if the computer hardware is functioning properly. The tool runs outside of the operating system to isolate hardware failures from issues that may be caused by the operating system or other software components.

To start HP PC Hardware Diagnostics UEFI:

1. Shut down the tablet if it is not already powered off.
2. To power on the tablet, press the Power button and Volume down button simultaneously.
3. Select **System Diagnostics**.
4. Select the type of diagnostic test that you want to run, and then follow the on-screen instructions.


5.  **NOTE:** If you need to stop a diagnostic test while it is running, press anywhere on the screen.

10 Backing up, restoring, and recovering

Your tablet includes tools provided by Windows to help you safeguard your information and retrieve it if you ever need to. These tools will help you return your tablet to a proper working state or even back to the original factory state, all with simple steps.


This chapter provides information about the following processes:

- Creating a Microsoft recovery drive (select models only)
- Using Microsoft's Refresh your PC or Remove everything and reinstall Windows options to address issues with your tablet
- Backing up data using File History


 **NOTE:** This chapter describes an overview of backing up, restoring and recovering options. For more details about the tools provided, see Help and Support. Swipe from the right edge, and then tap Search. In the search box, type `help`, and then select **Help and Support**.

Creating a Microsoft recovery drive (select models only)

After you successfully set up the tablet, create a Microsoft recovery drive. The MS recovery drive backs up the recovery partition on the tablet and ensure access to the Refresh your PC and Remove everything and reinstall Windows options even if the recovery partition on the tablet has been corrupted or removed.

 **NOTE:** On select models, a recovery drive can be created on a USB flash drive (purchased separately). A micro USB to USB adapter cable (purchased separately) with a micro USB male (B-type) connector and a USB female (A-type) connector is also required.


1. Swipe from the right edge, and then tap Search. In the search box, type `create recovery drive`, and then select **Create a recovery drive**.


 **IMPORTANT:** Be sure that the check box labeled **Copy the recovery partition from the PC to the recovery drive** is selected.


2. After you have created the recovery drive, a prompt is displayed asking if you want to remove the recovery partition. If you select **No** and later reconsider, you must complete the entire process again before the prompt will be displayed a second time.

Using Windows Refresh for quick and easy recovery

When your tablet is not working properly and you need to regain system stability, the Windows Refresh option allows you to start fresh and keep what is important to you.

 **IMPORTANT:** Refresh removes any traditional applications that were not originally installed on the system at the factory. Any Windows 8 apps that came preinstalled on your tablet and any that were purchased from the Windows Store will be saved.

 **NOTE:** During Refresh, a list of removed traditional applications will be saved so that you have a quick way to see what you might need to reinstall. See Help and Support for instructions on reinstalling traditional applications. From the Start screen, type `h`, and then select **Help and Support**.

 **NOTE:** You may be prompted for your permission or password when using Refresh. See Help and Support for more information. From the Start screen, type `h`, and then select **Help and Support**.

To start Refresh:

1. Swipe from the right edge, and then tap Search. In the search box, type `recover`, and then select **Refresh your PC without affecting your files**.
2. Select **Get started**, and then follow the on-screen instructions.


System recovery instructions (select models only)

If a micro SD recovery card is already inserted in your tablet (select models only), the files installed on the SD card are used to recover the system to the factory settings. Be sure that the micro SD card is inserted before using the Windows recovery features.

Instead of using the Windows recovery features and the micro SD card to recover your system, you can order a USB System Recovery Kit from HP.

Removing everything and reinstalling Windows

Sometimes you want to perform detailed reformatting of your tablet, or you want to remove personal information before you give away or recycle your tablet. The process described in this section provides a speedy, simple way to return the tablet to its original state. This option removes all personal data, apps, and settings from your tablet, and reinstalls Windows.

 **IMPORTANT:** This option does not provide backups of your information. Before using this option, back up any personal information you wish to retain.

You can initiate this option from the Start screen:

1. Swipe from the right edge, and then tap Search. In the search box, type `recover`, and then select **Remove everything and reinstall Windows**.
2. Select **Get started**, and then follow the on-screen instructions.

Backing up data using File History

Recovery after a system failure is only as good as your most recent backup.

As you add photos, video, music, and other personal files, create a backup of your personal information. Windows File History can be set to regularly and automatically back up files from libraries, desktop, contacts, and favorites. If files are accidentally deleted from the hard drive and they can no longer be restored from the Recycle Bin, or if files become corrupted, you can restore the files that you backed up using File History. Restoring files is also useful if you ever choose to reset the tablet by reinstalling Windows.

File History is not enabled by default, so you must turn it on as follows:

- ▲ Swipe from the right edge, and then tap Search. In the search box, type `file history`, select **File History**, and then follow the on-screen instructions.

11 Specifications

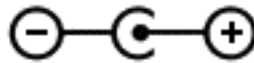
Input power


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. Operating voltage and current varies by platform.

Input power	Rating
Operating voltage and current	12V dc @ 1.5A - 18W
DC plug of external HP power supply	



 **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	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

12 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 tablet, damage to a drive, or loss of information, observe these precautions:

- If removal or installation instructions direct you to unplug the tablet, first be sure that it is properly grounded, and then remove the cover.
- 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 of the component.
- If you remove a component, place it in an electrostatic-safe container.

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