User Guide

© Copyright 2014 Hewlett-Packard Development Company, L.P.

Bluetooth is a trademark owned by its proprietor and used by Hewlett-Packard Company under license. Intel is a trademark of Intel Corporation in the U.S. and other countries. Microsoft and Windows are U.S. registered trademarks of the Microsoft group of companies.

The information contained herein is subject to change without notice. The only warranties for HP products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein.

Second Edition: September 2014

First Edition: September 2014

Document Part Number: 769172–002

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. This tablet 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 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 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 tablet, please contact your 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).

Table of contents

1 Starting right 1
Best practices 1
Visit the HP Apps Store 1
Fun things to do 2
More HP resources 3

2 Getting to know your tablet 5
Finding your hardware and software information 5
Locating hardware 5
Locating software 5
Right side 6
Left side 7
Display 8
Front 9
Rear 9
Bottom 10
Labels 11
Adjusting the tablet stand 12
Changing your tablet's settings 13
Changing your tablet's view 13
Adjusting your tablet's autorotate lock 13
Adjusting your tablet's screen brightness 13

3 Using the keyboard base 14
Keyboard base components 14
Top 14
Lights 16
Turning on the keyboard base 17
Connecting the tablet to the keyboard base 18
Pairing the keyboard base 19
Charging the keyboard base battery 20
Folding the keyboard base as a cover 20
Using the keyboard base keys 20
Using the action keys 21
Using Windows shortcut keys 22

4 Connecting to a network 23
Connecting to a wireless network 23
Using the wireless controls 23
Using operating system controls 23
Connecting to a WLAN 24
Using Bluetooth wireless devices 24
Sharing data and drives and accessing software 25

5 Enjoying entertainment features 26
Multimedia features 26
Using the webcam 27
Using audio 28
Connecting speakers 28
Connecting headphones and microphones 28
Using Beats Audio (select models only) 28
Accessing Beats Audio Control Panel 28
Enabling and disabling Beats Audio 28
Testing your audio features 29
Using HP Connected Music 29
Using video 30
Connecting video devices by using an HDMI cable 30
Setting up HDMI audio 31
Discovering and connecting to Miracast-compatible wireless displays (select models only) 31

6 Navigating the screen 32
Using the TouchPad and gestures 32
Tapping 33
Scrolling 33
2-finger pinch zoom 34
2-finger click 35
Edge swipes 36
Right-edge swipe 36
Left-edge swipe 36
Top-edge swipe 37
Using touch screen gestures (select models only) 38
One-finger slide 38
Tapping 39
2-finger pinch zoom 40
Rotating (select models only) 40
Edge swipes 41

Right-edge swipe 41
Left-edge swipe 41
Top-edge swipe and bottom-edge swipe 42
Using the digitizer pen (select models only) 42
Identifying the pen components 42
Holding the pen 43
Storing the pen 43
Storing the pen on the tablet 43
Storing the pen on the keyboard base 44
Using the on-screen keyboard 44

7 Managing power 45
Initiating Sleep and Hibernation 45
Manually initiating and exiting Sleep 46
Manually initiating and exiting Hibernation (select models only) 46
Setting password protection on wakeup 46
Using the power meter and power settings 47
Running on battery power 47
Factory-sealed battery 47
Finding battery information 47
Conserving battery power 47
Identifying low battery levels 48
Resolving a low battery level 48
Resolving a low battery level when external power is available 48
Resolving a low battery level when no power source is available 48
Resolving a low battery level when the tablet cannot exit Hibernation 48
Running on external AC power 48
Troubleshooting power problems 49
Refreshing your software content with Intel Smart Connect Technology (select models only) 50
Shutting down (turning off) the tablet 50

8 Maintaining your tablet 51
Improving performance 51
Using Disk Cleanup 51
Updating programs and drivers 51
Cleaning your tablet 51
Cleaning procedures 52
Cleaning the display 52
Cleaning the sides or cover 52
Cleaning the TouchPad, keyboard base, or mouse (select models only) 52
Traveling with or shipping your tablet 53

9 Securing your tablet and information 54
Using passwords 54
Setting Windows passwords 55
Setting Setup Utility (BIOS) passwords 55
Using Internet security software 55
Using antivirus software 56
Using firewall software 56
Installing software updates 56
Installing critical security updates 56
Installing HP and third-party software updates 56
Securing your wireless network 57
Backing up your software applications and information 57

10 Using Setup Utility (BIOS) and HP PC Hardware Diagnostics (UEFI) 58
Starting Setup Utility (BIOS) 58
Updating the BIOS 58
Determining the BIOS version 58
Downloading a BIOS update 59
Using HP PC Hardware Diagnostics (UEFI) 60
Downloading HP PC Hardware Diagnostics (UEFI) to a USB device 60

11 Backing up, restoring, and recovering 61
Creating recovery media and backups (select models only) 61
Creating HP Recovery media (select models only) 61
Using Windows tools 62
Restore and recover (select models only) 62
Recovering using HP Recovery Manager (select models only) 63
What you need to know 63
Using the HP Recovery partition (select models only) 64
Using HP Recovery media to recover 64
Changing the tablet boot order 64

12 Specifications 65
Input power 65
Operating environment 65

13 Electrostatic Discharge 66

Index 67

1 Starting right

This tablet is a powerful tool designed to enhance your work and entertainment. Read this chapter to learn about best practices after you set up your tablet, fun things to do with your tablet, and where to find additional HP resources.

Best practices

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

- If you haven't already done so, connect to a wireless network. See details in Connecting to a network on page 23.
- Become familiar with the tablet hardware and software. For more information, see Getting to know your tablet on page 5 and Enjoying entertainment features on page 26.
- Update or purchase antivirus software. See Using antivirus software on page 56.
- Back up your hard drive by creating recovery media. See Backing up, restoring, and recovering on page 61.

Visit the HP Apps Store

The HP Apps Store offers a wide choice of popular games, entertainment and music apps, productivity apps, and apps exclusive to HP that you can download to the Start screen. The selection is updated regularly and includes regional content and country-specific offers. Be sure to check the HP Apps Store frequently for new and updated features.

IMPORTANT: You must be connected to the Internet to access the HP Apps Store.

To view and download an app:

1. From the Start screen, select the **Store** app.

   NOTE: **HP picks** is available in select countries only.

2. Select **HP picks** to view all the available apps.
3. Select the app you want to download, and then follow the on-screen instructions. When the download is complete, the app appears on the All apps screen.

Fun things to do

- You know that you can watch a YouTube video on the tablet. But did you know that you can also connect your tablet to a TV or gaming console? For more information, see Connecting video devices by using an HDMI cable on page 30.
- You know that you can listen to music on the tablet. But did you know that you can also stream live radio to the tablet and listen to music or talk radio from all over the world? See Using audio on page 28.
- Experience music the way the artist intended, with deep controlled bass and clear, pure sound. See Using Beats Audio (select models only) on page 28.
- Use the TouchPad and the new Windows® touch gestures for smooth control of images and pages of text. See Using the TouchPad and gestures on page 32.

More HP resources

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

Resource	Contents
Setup Instructions	• Overview of tablet setup and features
Help and Support To access Help and Support, from the Start screen, type `help`, and then from the Search window, select **Help and Support**. For U.S. support, go to http://www.hp.com/go/contactHP. For worldwide support, go to http://welcome.hp.com/country/us/en/wwcontact_us.html.	• A broad range of how-to information and troubleshooting tips
Worldwide support To get support in your language, go to http://welcome.hp.com/country/us/en/wwcontact_us.html.	• Online chat with an HP technician • Support telephone numbers • HP service center locations
Safety & Comfort Guide To access this guide: 1. From the Start screen, type `support`, and then select the **HP Support Assistant** app. 2. Select **My computer**, and then select **User guides**. – or – Go to http://www.hp.com/ergo.	• Proper workstation setup • Guidelines for posture and work habits that increase your comfort and decrease your risk of injury • Electrical and mechanical safety information
Regulatory, Safety and Environmental Notices To access this guide: ▲ From the Start screen, type `support`, and then select the **HP Support Assistant** app.	• Important regulatory notices, including proper battery disposal information
*Limited Warranty** To access this guide: 1. From the Start screen, type `support`, and then select the **HP Support Assistant** app. 2. Select **My computer**, and then select **Warranty and services**. – or – Go to http://www.hp.com/go/orderdocuments.	• Specific warranty information about this tablet

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

Resource	Contents
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. From the Start screen, type `control panel`, and then select **Control Panel**.
2. Select **System and Security**, select **System**, and then click **Device Manager** in the left column.

   A list displays all the devices installed on your tablet.

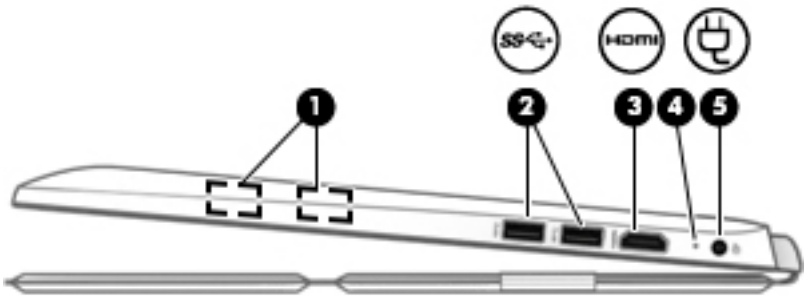
To find out information about system hardware components and the system BIOS version number, press fn+esc.

Locating software

To find out what software is installed on your tablet:

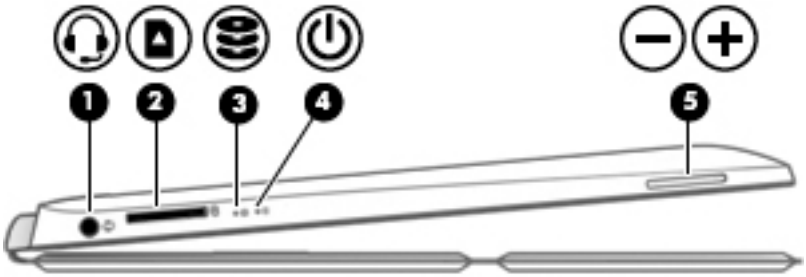
▲ From the Start screen, click the down arrow in the lower-left corner of the screen.

Right side



Component		Description
(1)	Magnetic pen holder	Holds the digitizer pen (select models only) magnetically to the tablet for temporary storage. IMPORTANT: To prevent losing your pen, avoid carrying the tablet around when the pen is attached to the magnetic pen holder.
(2)	USB 3.0 ports (2)	Connect optional USB devices, such as a keyboard, mouse, external drive, printer, scanner or USB hub.
(3)	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.
(4)	AC adapter light	• On: The AC adapter is connected and the battery is charged. • Off: The tablet is using battery power.
(5)	Power connector	Connects an AC adapter.

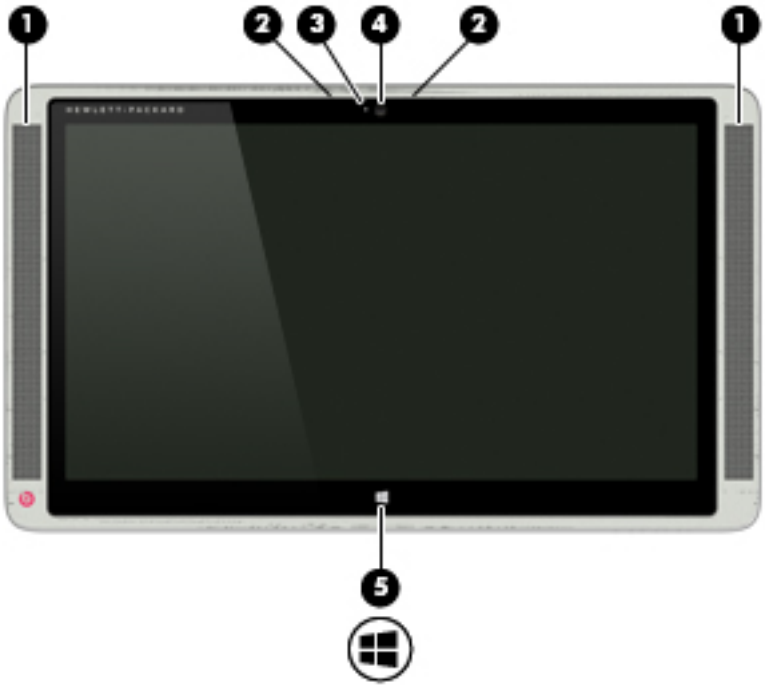
Left side



Component			Description
(1)		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, from the Start screen, type `support`, and then select the **HP Support Assistant** app. **NOTE:** When a device is connected to the jack, the tablet speakers are disabled. **NOTE:** Be sure that the device cable has a 4-conductor connector that supports both audio-out (headphone) and audio-in (microphone).
(2)		Memory card reader	Reads optional memory cards that store, manage, share, or access information. To insert a card: Hold the card label-side up, with connectors facing the slot, insert the card into the slot, and then push in on the card until it is firmly seated. To remove a card: Press in on the card it until it pops out.
(3)		Hard drive light	• Blinking white: The hard drive is being accessed.
(4)		Power light	• On: The tablet is on. • Blinking: The tablet is in the Sleep state, a power-saving state. The tablet shuts off power to the display and other unneeded components. • Off: The tablet is off or in Hibernation. Hibernation is a power-saving state that uses the least amount of power.
(5)	− +	Volume buttons	Controls speaker volume on the tablet. • To increase speaker volume, press the + edge of the button.

Component	Description
	• To decrease speaker volume, press the – edge of the button.

Display



Component		Description
(1)	Speakers (2)	Produce sound.
(2)	Internal microphones (2)	Record sound.
(3)	Webcam light	On: The webcam is in use.
(4)	Webcam	Records video and captures photographs. Some models allow you to video conference and chat online using streaming video. To use the webcam, from the Start screen, type `camera`, and then select **Camera** from the list of applications.
(5)	Windows button	Returns you to the Start screen from an open app or the Windows desktop. **NOTE:** Pressing the Windows button again will return you to the previous screen.

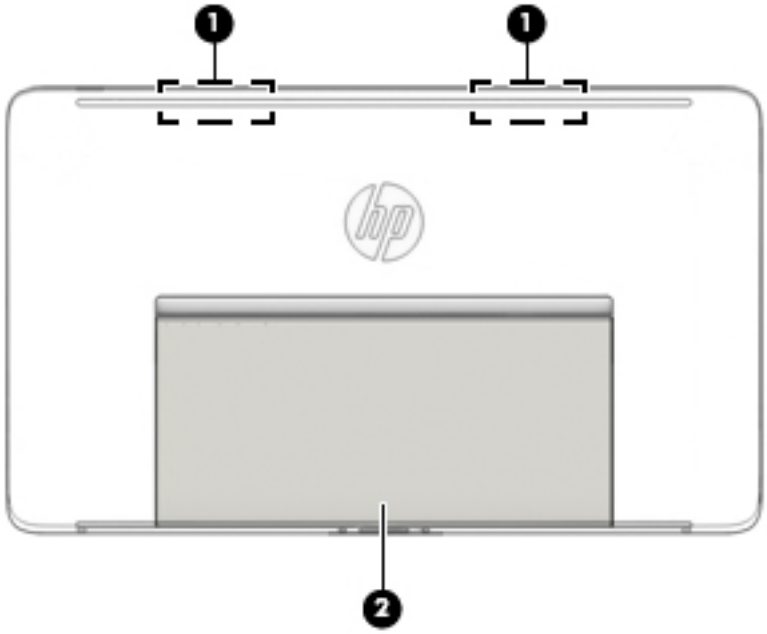
Front

Component		Description
(1)	Power button	• 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. **CAUTION:** Pressing and holding down the power button will result in the loss of unsaved information. 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. To learn more about your power settings, see your power options. From the Start screen, type `power`, select **Power and sleep settings**, and then select **Power and sleep** from the list of applications.

Rear

Component		Description
(1)	Docking port	Connects the tablet to the keyboard base (for keyboard charging only).

Bottom



Component		Description
(1)	WLAN antennas (2)*	Send and receive wireless signals.
(2)	Tablet stand	Positions the tablet at different angles.

*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, from the Start screen, type `support`, and then select the **HP Support Assistant** app.

Labels

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

IMPORTANT: All labels described in this section are located on the bottom of the tablet under the tablet stand.

- Service label—Provides important information to identify your 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.

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

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

- Microsoft Certificate of Authenticity label (select models only prior to Windows 8)—Contains the Windows Product Key. You may need the Product Key to update or troubleshoot the operating system. HP platforms preinstalled with Windows 8 or Windows 8.1 do not have the physical label, but have a Digital Product Key electronically installed.

  NOTE: This Digital Product Key is automatically recognized and activated by Microsoft Operating Systems on a reinstall of the Windows 8 or Windows 8.1 operating system with HP-approved recovery methods.

- Regulatory label(s)—Provide(s) regulatory information about the 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.

Adjusting the tablet stand

You can adjust the tablet stand to position the tablet at different angles.

▲ To adjust the tablet stand, pull the stand out and move it up or down to position the tablet.

NOTE: The tablet stand can open at angles from 110° (minimum) to 163° (maximum).

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.

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).

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).

Adjusting your tablet's autorotate lock

To adjust your tablet's autorotate lock when the tablet is undocked:

1. Swipe from the right edge of the TouchPad or touch screen to display the charms, and then tap **Settings**.
2. Tap the **Screen** icon at the bottom right. Tap the **Autorotate Lock** icon to lock your current tablet screen in place and to prevent rotation. The icon displays a lock symbol when autorotate lock is active. To turn off the autorotate lock, tap the **Autorotate Lock** icon again.

Adjusting your tablet's screen brightness

To adjust the screen brightness:

1. Swipe from the right edge of the TouchPad or touch screen to display the charms, and then tap **Settings**.
2. Tap the **Screen** icon at the bottom right. A vertical slider displays that controls the screen brightness.

NOTE: From the Windows desktop, 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.

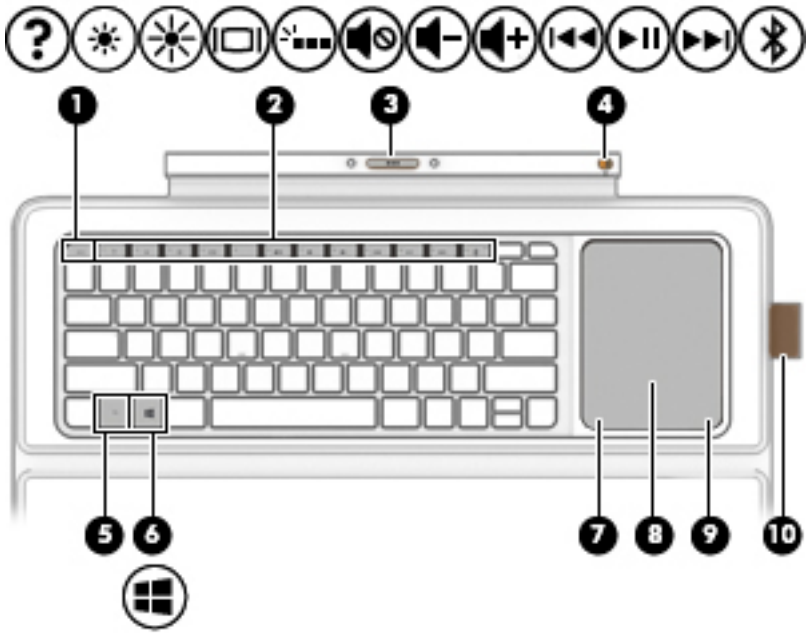
3 Using the keyboard base

Your tablet includes a full-size, detachable Bluetooth keyboard base for easy navigation. After the keyboard base is paired, you can use the keyboard base either attached or detached from the tablet.

IMPORTANT: Before you can use your keyboard base, you must pair the keyboard base with the tablet to establish a connection. See Pairing the keyboard base on page 19 for more information.

Keyboard base components

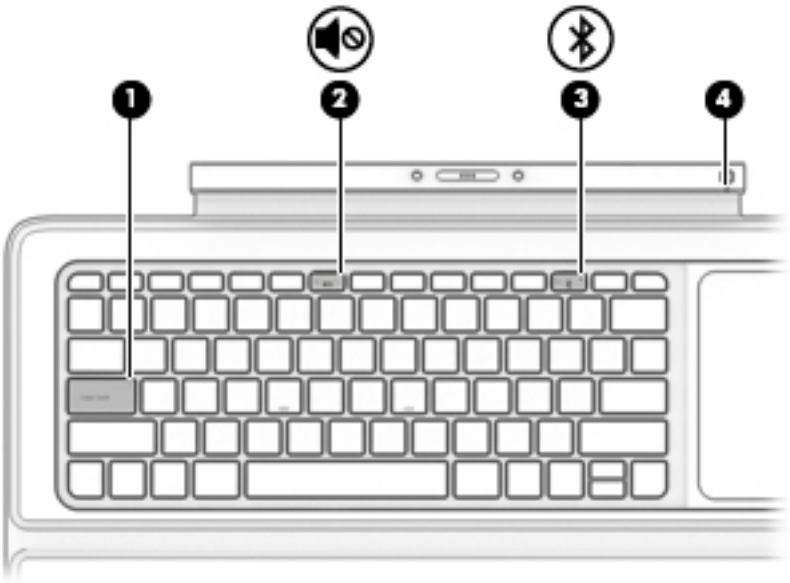
Top



Component		Description
(1)	esc key	Displays system information when pressed in combination with the fn key.
(2)	Action keys	Execute frequently used system functions. **NOTE:** On select models, the f5 action key turns the keyboard base backlight feature off or on.
(3)	Docking connector	Connects the tablet to the keyboard base (for keyboard charging only).
(4)	Keyboard base on/off switch	Turns the keyboard base on and off.
(5)	fn key	Executes frequently used system functions when pressed in combination with the esc key or the b key.

Component		Description
(6)	Windows key	Returns you to the Start screen from an open app or the Windows desktop. **NOTE:** Pressing the Windows key again returns you to the previous screen.
(7)	Left TouchPad button	Functions like the left button on an external mouse.
(8)	TouchPad zone	Reads your finger gestures to move the pointer or activate items on the screen. **NOTE:** The TouchPad also supports edge-swipe gestures. For more information, see Edge swipes on page 36.
(9)	Right TouchPad button	Functions like the right button on an external mouse.
(10)	Pen holder	Holds the digitizer pen (select models only).

Lights



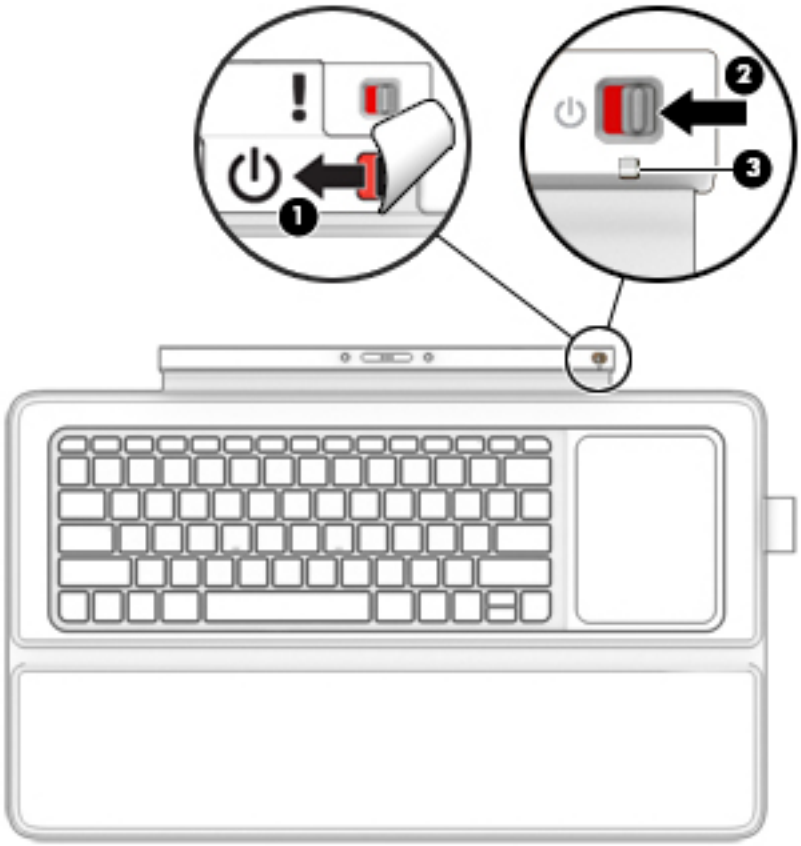
Component		Description
(1)	Caps lock light	On: Caps lock is on, which switches the keys to all capital letters.
(2)	Mute light	• Amber: Tablet sound is off. • Off: Tablet sound is on.
(3)	Pairing light	• Blinking white: The keyboard base and tablet are pairing. • Solid white: The keyboard base and tablet are successfully paired. **NOTE:** After Bluetooth is successfully paired, the light will turn off.
(4)	Keyboard base battery light	• Blinking amber: The keyboard base has less than 10% battery life. • Solid amber: The keyboard base battery is charging. • Off: The keyboard base battery is fully charged.

Turning on the keyboard base

To turn on the keyboard base:

1. If you have not already removed the keyboard label, remove the keyboard label **(1)** from the keyboard.
2. Slide the power switch **(2)** to the left to turn on the keyboard base.

   The battery light **(3)** blinks when the keyboard base needs to be charged.



Connecting the tablet to the keyboard base

IMPORTANT: Before you can use your keyboard base, you must pair the keyboard base with the tablet to establish a connection. See Pairing the keyboard base on page 19 for more information.

- To connect the tablet to the keyboard base, insert the tablet docking port into the keyboard base docking connector.

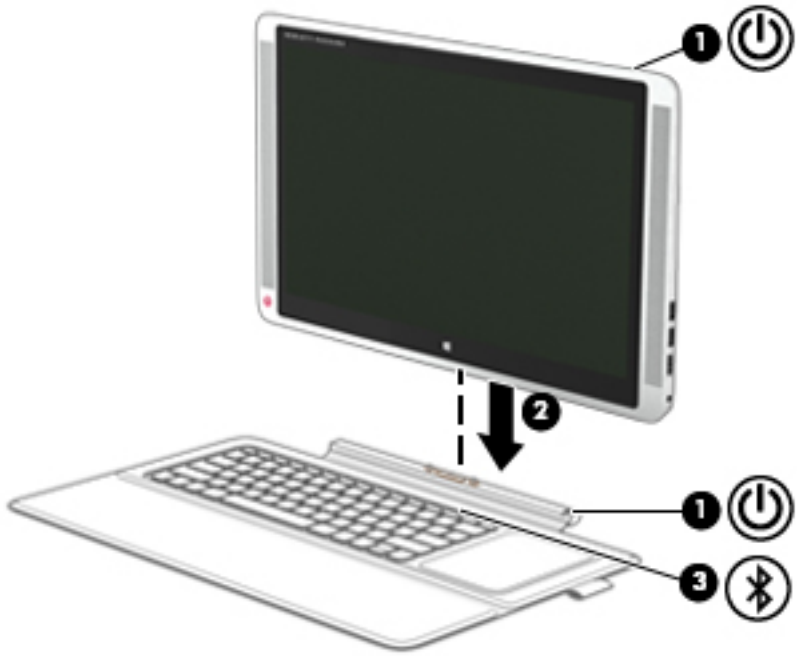
NOTE: To remove the tablet from the keyboard base, pull the tablet away from the keyboard base.

Pairing the keyboard base

If you did not pair your keyboard base during the initial tablet setup, you can pair your keyboard base through Bluetooth settings.

IMPORTANT: Before you can use your keyboard base, you must pair the keyboard base with the tablet to establish a connection.

1. Turn on the tablet **(1)** and keyboard base **(1)**.
2. Adjust the tablet stand and connect the tablet to the keyboard base **(2)**. See Adjusting the tablet stand on page 12 and Connecting the tablet to the keyboard base on page 18 for more information.
3. Press the Pairing key (f12) **(3)** on the keyboard base for 3 seconds or until the pairing light begins to blink rapidly.



4. From the Start screen, swipe from the right edge of the TouchPad or touch screen to display the charms, and then select **Settings**.
5. Select **Change PC Settings**, select **PC and device**, select **Bluetooth**, and then select **HP Wireless Bluetooth Backlight Keyboard**.
6. Type the PIN code and press Enter. The pairing light will be solid white when the pairing is successful and then the light will turn off.

TIP: If the pairing is not successful, repeat step 3 through 6.

NOTE: After the keyboard base has been paired with the tablet, it must be charged before using it for the first time. The battery light on the keyboard base turns off when the keyboard base is completely charged. See Charging the keyboard base battery on page 20 for more information.

Charging the keyboard base battery

The keyboard base has an internal, rechargeable battery. When the keyboard base battery light is blinking amber, there is less than 10% battery charge remaining in the keyboard base.

To charge the keyboard base battery:

1. Connect the tablet to AC power.
2. Connect the keyboard base to the tablet. The battery light turns off when the keyboard base is completely charged.

Folding the keyboard base as a cover

The keyboard base can fold into a cover to protect the entire tablet display.

Using the keyboard base keys

The keyboard base allows you to type, select items, scroll and to perform the same functions as you do using touch gestures. You can quickly access information or perform functions by using certain keys and key combinations.

TIP: The Windows key on the keyboard base allows you to quickly return to the Start screen from an open app or the Windows desktop. Pressing the Windows key again will return you to the previous screen.

NOTE: Depending on the country or region, your keyboard base may have different keys and keyboard functions than those discussed in this section.

Using the action keys

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

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

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

The action key feature is enabled at the factory. You can disable this feature in Setup Utility (BIOS). See Using Setup Utility (BIOS) and HP PC Hardware Diagnostics (UEFI) on page 58 for instructions on opening Setup Utility (BIOS), and then follow the instructions at the bottom of the screen.

After you have disabled the action key feature, you can still perform each function by pressing the fn key in combination with the appropriate action key.

Icon	Key	Description
	f1	Opens Help and Support, which provides tutorials, information about the Windows operating system and your tablet, answers to questions, and updates to your tablet. Help and Support also provides automated troubleshooting tools and access to support.
	f2	Decreases the screen brightness incrementally as long as you hold down the key.
	f3	Increases the screen brightness incrementally as long as you hold down the key.
	f4	Switches the screen image between display devices connected to the system. For example, if a monitor is connected to the tablet, repeatedly pressing this key alternates the screen image from the tablet display to the monitor display to a simultaneous display on both the tablet and the monitor.
	f5	On select models, turns the keyboard base backlight feature off or on. **NOTE:** To conserve battery power, turn off this feature.
	f6	Mutes or restores speaker sound.
	f7	Decreases speaker volume incrementally as long as you hold down the key.
	f8	Increases speaker volume incrementally as long as you hold down the key.
	f9	Plays the previous track of an audio CD or the previous section of a DVD or a BD.
	f10	Begins, pauses, or resumes playback of an audio CD, a DVD, or a BD.

Icon	Key	Description
▶▶|	f11	Plays the next track of an audio CD or the next section of a DVD or a BD.
	f12	Pairs the keyboard base to the tablet. **NOTE:** The f12 key is for pairing only and does not establish a wireless connection for the tablet.

Using Windows shortcut keys

Windows provides shortcuts so that you can perform actions quickly. Press the Windows key alone or in combination with a specific key to perform a designated action.

4 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 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:

- 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 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.

For more information about wireless technology, the Internet, and networking, see the information and website links provided in Help and Support.

▲ From the Start screen, type `help`, and then select **Help and Support**.

– or –

From the Windows desktop, click the question mark icon in the notification area, at the far right of the taskbar.

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. From the Start screen, type `control panel`, and then select **Control Panel**.

   – or –

   From the Windows desktop, right-click the **Start** button, and then select **Control Panel**.
2. Select **Network and Internet**, and then select **Network and Sharing Center**.

For more information, see the information provided in Help and Support.

▲ From the Start screen, type `help`, and then select **Help and Support**.

– or –

From the Windows desktop, click the question mark icon in the notification area, at the far right of the taskbar.

Connecting to a WLAN

To connect to the WLAN, follow these steps:

1. Be sure that the WLAN device is on.
2. From the Start screen or the Windows desktop, point to the upper-right or lower-right corner of the display to reveal the charms.
3. Select **Settings**, and then click the network status icon.
4. Select your WLAN from the list.
5. Click **Connect**.

   If the WLAN is a security-enabled WLAN, you are prompted to enter a security code. Type the code, and then click **Sign in** 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, right-click the network status icon, and then select **Open Network and Sharing Center**. Click **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.
6. Follow the on-screen instructions to complete the connection.

After the connection is made, place the mouse pointer 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)
- Phones (cellular, cordless, smartphone)
- Imaging devices (printer, camera)
- Audio devices (headset, speakers)
- Mouse
- External keyboard

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.

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. Computers connected to the network can exchange software and data with each other.

For more information about sharing files, folders, or drives, see the information provided in Help and Support.

- From the Start screen, type `help`, and then select **Help and Support**.

  –or–

  From the Windows desktop, click the question mark icon in the notification area, at the far right of the taskbar.

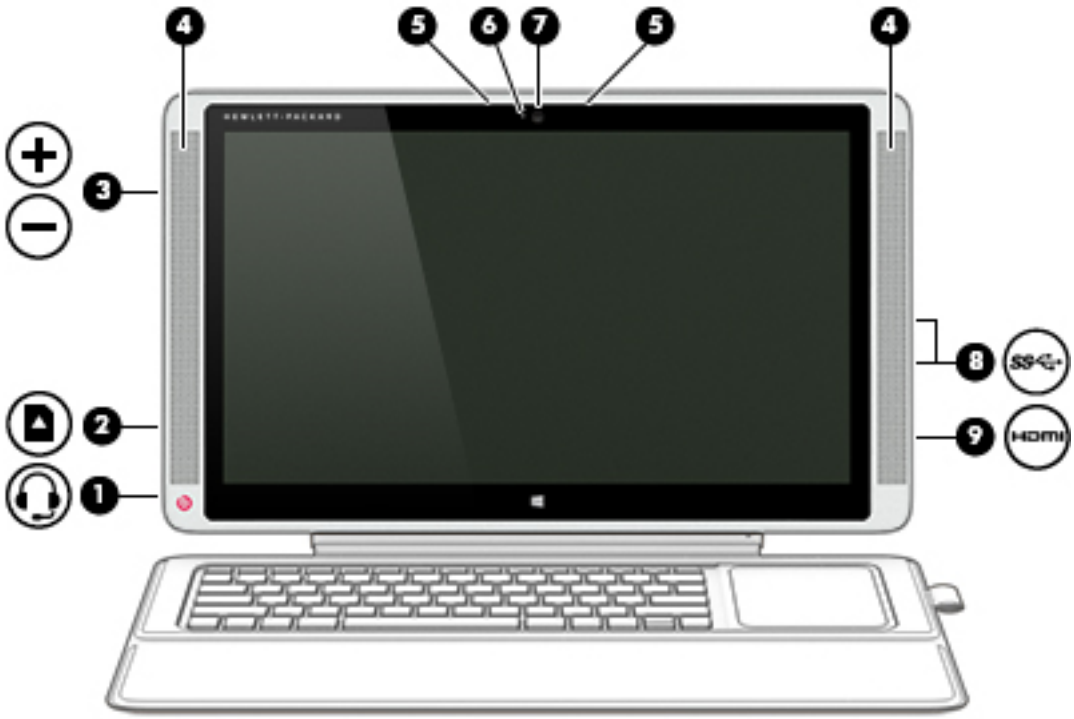
NOTE: When a disc like a DVD movie or game is copy-protected, it cannot be shared.

5 Enjoying entertainment features

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

Multimedia features

Here are some of the entertainment features on your tablet.



Component		Description
(1)	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, from the Start screen, type `support`, and then select the **HP Support Assistant** app. **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).
(2)	Memory card reader	Reads optional memory cards that store, manage, share, or access information. To insert a card: Hold the card label-side up, with connectors facing the slot, insert the card into the slot, and then push in on the card until it is firmly seated. To remove a card: Press in on the card it until it pops out.
(3)	Volume buttons	Controls speaker volume on the tablet. • To increase speaker volume, press the + edge of the button. • To decrease speaker volume, press the – edge of the button.
(4)	Speakers	Produce sound.
(5)	Internal microphones (2)	Record sound.
(6)	Webcam light	On: The webcam is in use.
(7)	Webcam	Records video and captures photographs. Some models allow you to video conference and chat online using streaming video. From the Start screen, type `camera`, and then select **Camera** from the list of applications.
(8)	USB 3.0 ports (2)	Connects optional USB devices, such as a keyboard, mouse, external drive, printer, scanner or USB hub.
(9)	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.

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, from the Start screen, type `camera`, and then select **Camera** from the list of applications.

For details about using the webcam, go to Help and Support. From the Start screen, type `help`, and then select **Help and Support**.

Using audio

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

Connecting speakers

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

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 31. 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, from the Start screen, type `support`, and then select the **HP Support Assistant** app.

Using Beats Audio (select models only)

Beats Audio is an enhanced audio feature that provides a deep, controlled bass while maintaining a clear sound. You can experience Beats Audio through the tablet's internal speakers, through external speakers connected to a USB port, or through Beats Audio headphones connected to the headphone jack.

Accessing Beats Audio Control Panel

Use Beats Audio Control Panel to view and manually control audio and bass settings.

- From Start screen, type `control panel`, select **Control Panel**, select **Hardware and Sound**, and then select **Beats Audio Control Panel**.

Enabling and disabling Beats Audio

- To enable or disable Beats Audio, press the fn key in combination with the b key.

Testing your audio features

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

1. From the Start screen, 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 click **Test**.

   You should hear sound through the speakers or through connected headphones.

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

1. From the Start screen, type `sound`, and then select **Sound Recorder**.
2. Click **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:

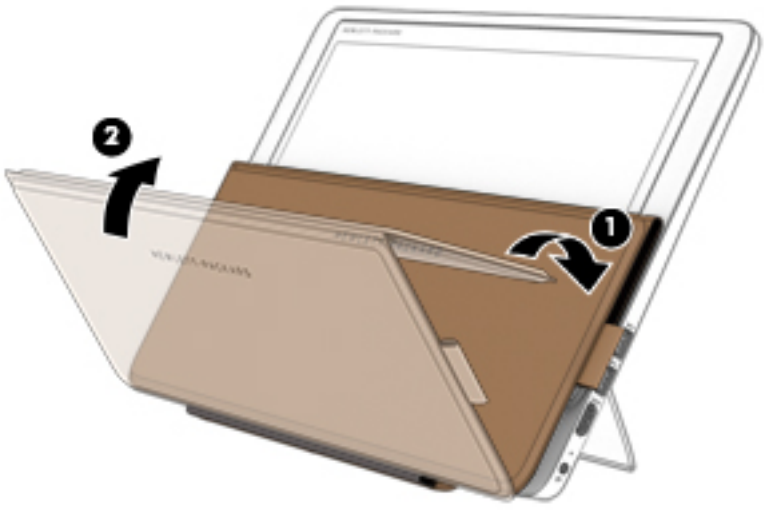
1. From the Start screen, type `control panel`, and then select **Control Panel**.
2. Select **Hardware and Sound**, and then select **Sound**.

Using HP Connected Music

With the HP Connected Music app, you can listen to Internet radio, preview and buy tracks in the 7digital music store, listen to subscription music services, and play music files stored on your tablet. When you fold the keyboard base in half, the HP Connected Music app automatically opens.

NOTE: If an external video device is connected to the tablet and you fold the keyboard base in half, the external display turns off.

▲ To fold the keyboard base in half and open the HP Connected Music app, fold the bottom half of the keyboard base **(1)**, and then fold the keyboard base flush against the display **(2)**.



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 one of the video ports on the tablet to connect an external monitor, projector, or TV.

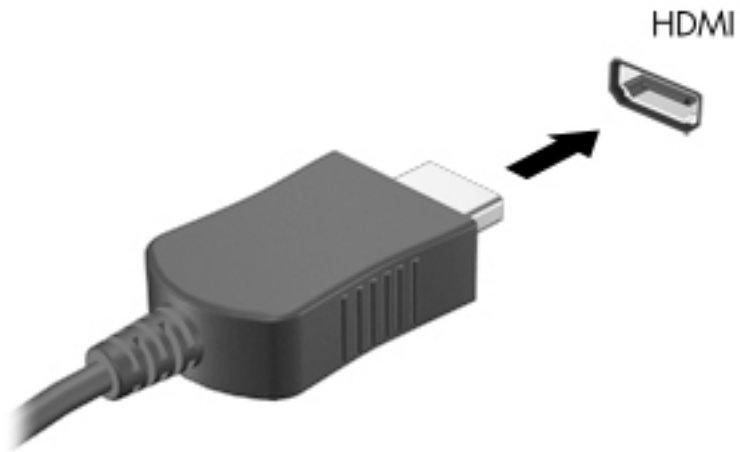
IMPORTANT: Be sure that the external device is connected to the correct port on the tablet, using the correct cable. Check the device manufacturer's instructions.

Connecting video devices by using an HDMI cable

NOTE: To connect an HDMI device to your tablet, you need an HDMI cable, 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 HDMI cable to the HDMI port on the tablet.



2. Connect the other end of the cable to the high-definition TV or monitor.
3. Press f4 to alternate the tablet screen image between 4 display states:
   - **PC screen only:** View the screen image on the tablet only.
   - **Duplicate:** View the screen image simultaneously on both the tablet and the external device.
   - **Extend:** View the screen image extended across both the tablet and the external device.
   - **Second screen only:** View the screen image on the external device only.

   Each time you press f4, the display state changes.

NOTE: For best results, especially if you choose the “Extend” option, adjust the screen resolution of the external device, as follows. From the Start screen, type `control panel`, and then select **Control Panel**. Select **Appearance and Personalization**. Under **Display**, select **Adjust screen resolution**.

NOTE: If an external video device is connected to the tablet and you fold the keyboard base in half, the external display turns off.

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, right-click 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. Click **Set Default**, and then click **OK**.

To return the audio stream to the tablet speakers:

1. From the Windows desktop, right-click the **Speakers** icon in the notification area, at the far right of the taskbar, and then click **Playback devices**.
2. On the Playback tab, click **Speakers**.
3. Click **Set Default**, and then click **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, follow the steps below.

To open Miracast:

- Point to the upper-right or lower-right corner of the Start screen to display the charms, click **Devices**, click **Project**, and then follow the on-screen instructions.

6 Navigating the screen

You can navigate the tablet screen in the following ways:

- Touch gestures
- Keyboard or optional mouse (purchased separately)
- Digitizer pen (purchased separately)

Touch gestures can be used on the TouchPad or on a touch screen.

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

Your tablet has action keys on the keyboard to perform routine tasks.

Using the TouchPad and gestures

The TouchPad allows you to navigate the tablet screen and control the pointer by using simple finger movements. You can customize the touch gestures by changing settings, button configurations, click speed, and pointer options. You can also view demonstrations of TouchPad gestures.

From the Start screen, type `control panel`, select **Control Panel**, and then select **Hardware and Sound**. Under **Devices and Printers**, select **Mouse**.

TIP: Use the left and right buttons on the TouchPad as you would use the corresponding buttons on an external mouse.

NOTE: TouchPad gestures are not supported in all apps.

Tapping

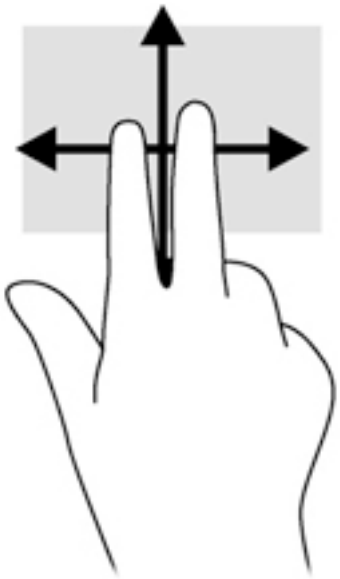
To make an on-screen selection, use the tap function on the TouchPad.

- Point to an item on the screen, and then tap one finger on the TouchPad zone to make a selection. Double-tap an item to open it.

Scrolling

Scrolling is useful for moving up, down, or sideways on a page or image.

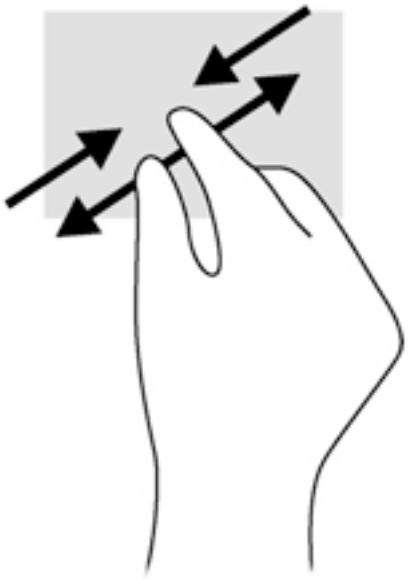
- Place two fingers slightly apart on the TouchPad zone and then drag them up, down, left, or right.



2-finger pinch zoom

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

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



2-finger click

2-finger click allows you to make menu selections for an object on the screen.

NOTE: Using 2-finger click is the same action as using right-click with the mouse.

- Place two fingers on the TouchPad zone and press down to open the options menu for the selected object.

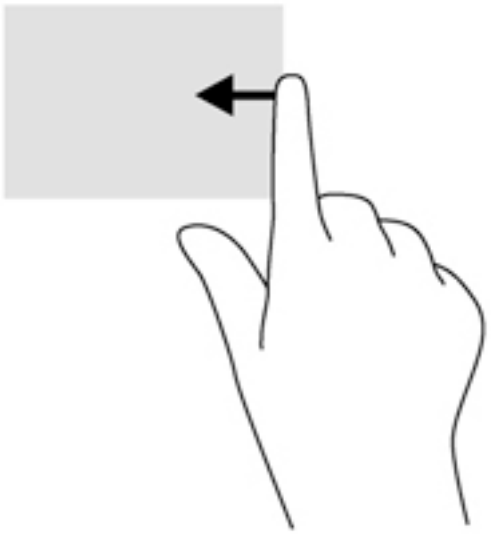
Edge swipes

Edge swipes allow you to 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.

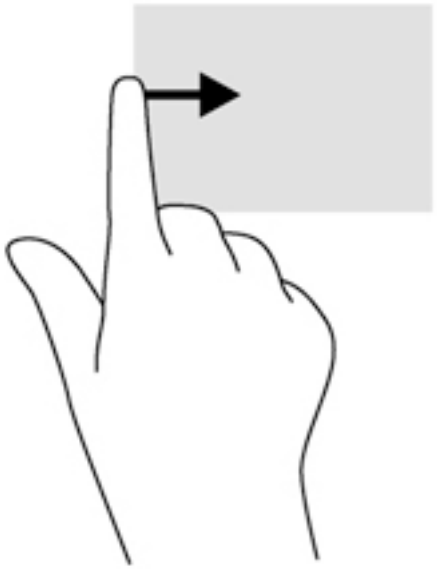
- Swipe your finger gently from the right edge to reveal the charms.



Left-edge swipe

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

- Swipe your finger gently from the left edge of the TouchPad.

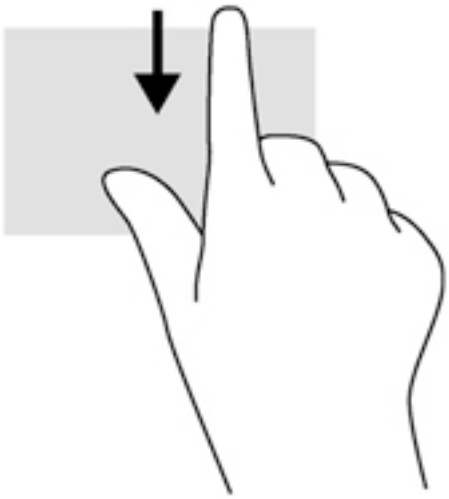


Top-edge swipe

The top-edge swipe displays app command options that allow you to customize apps.

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

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



Using touch screen gestures (select models only)

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

TIP: On touch screens, you can perform the gestures on the screen or on the TouchPad. You can also perform on-screen actions with the keyboard base or optional mouse.

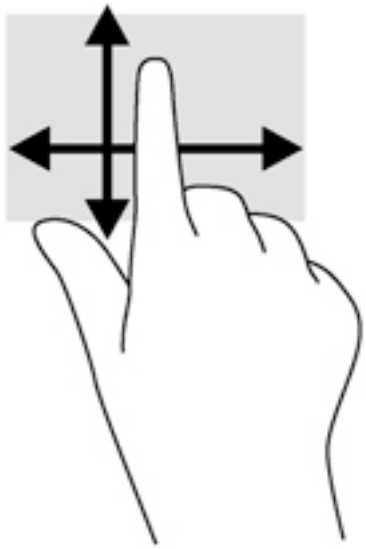
One-finger slide

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

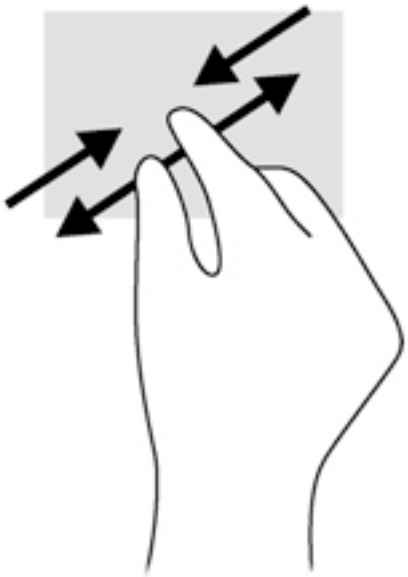
To make an on-screen selection, use the tap function.

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

2-finger pinch zoom

2-finger pinch zoom allows 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.

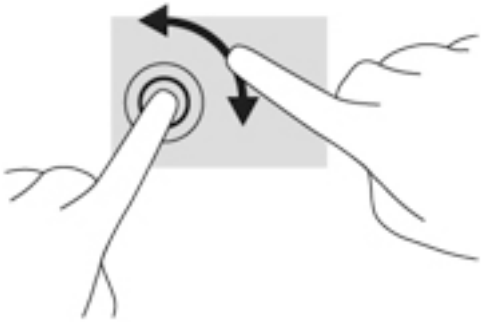


Rotating (select models only)

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.



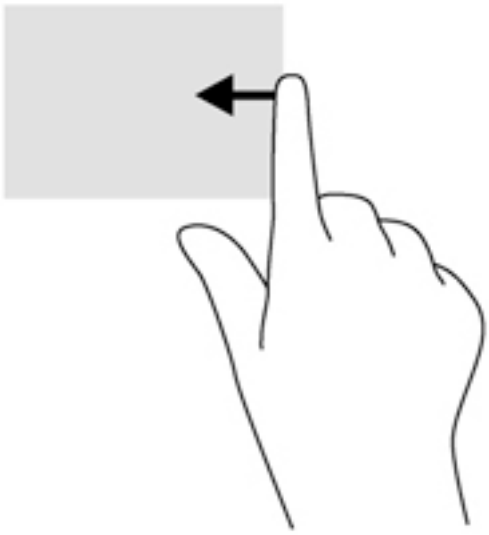
Edge swipes

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.

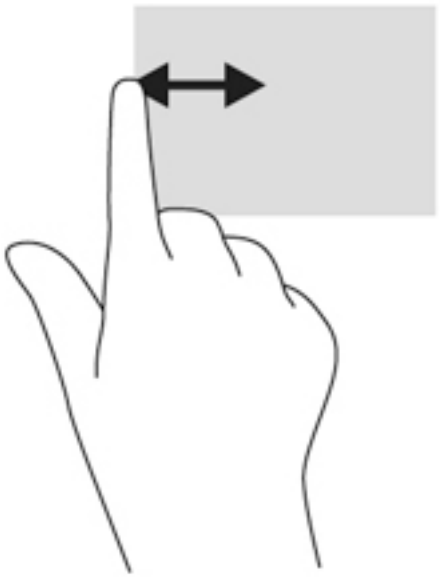
- Gently swipe your finger inward from the right edge of the display onto the screen to reveal the charms.



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.

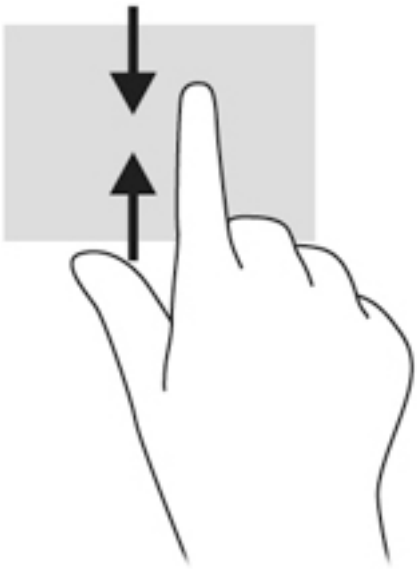


Top-edge swipe and bottom-edge swipe

The top-edge swipe or bottom-edge swipe displays app command options that allow you to customize apps.

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

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

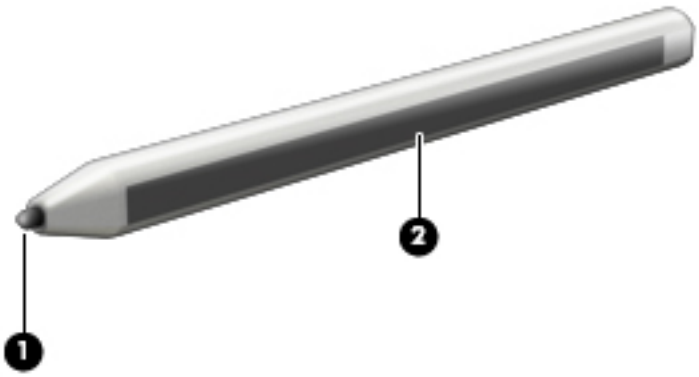


Using the digitizer pen (select models only)

You can write with the pen in pen-specific programs, in all Microsoft® Office programs, and in many other Windows programs and utilities. The information you write on the screen with the pen can be filed, searched, and shared among the programs.

Identifying the pen components

The pen interacts with the tablet whenever the tip **(1)** of the pen is pressed against the screen. The pen magnets **(2)** attach the pen to the tablet.



Holding the pen

Hold the pen as if you were writing with a standard pen or pencil.

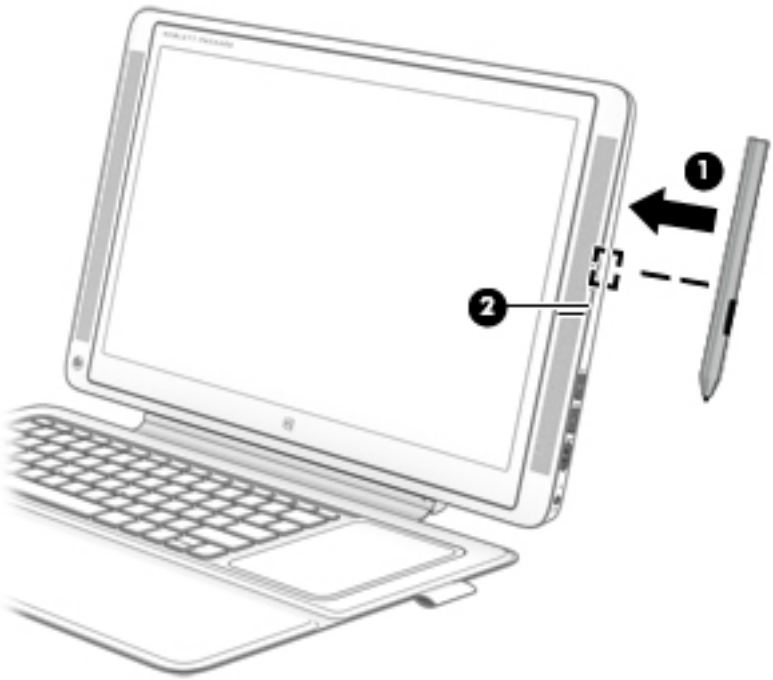
Storing the pen

When you are not using your pen, you can store it magnetically on the right side of the tablet or in the pen holder on the keyboard base.

Storing the pen on the tablet

IMPORTANT: The magnet on the side of the tablet is for temporary pen storage. To prevent losing your pen, avoid carrying the tablet around when the pen is attached to the magnetic pen holder.

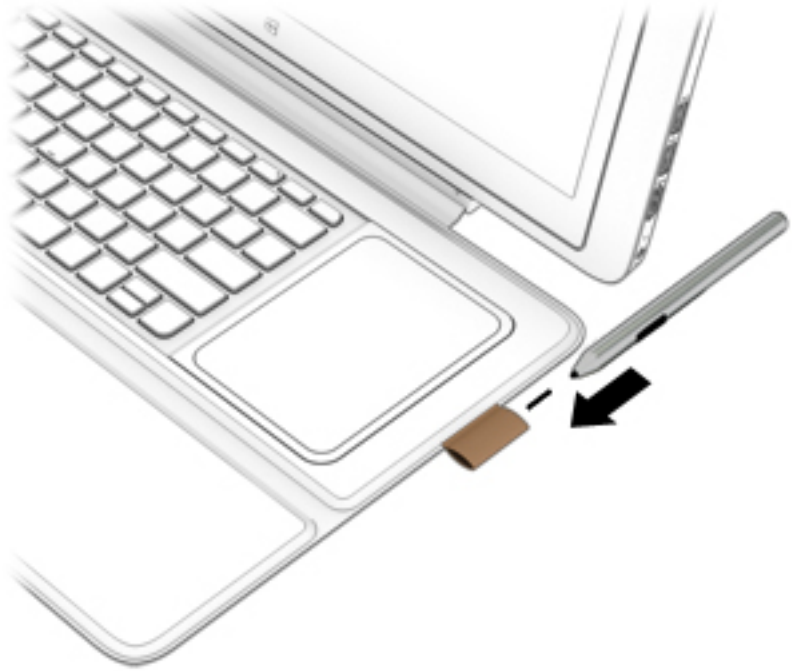
- To store the pen on the tablet for temporary storage, attach the flat, magnetic side of the pen **(1)** to the right side of the tablet. Be sure that the pen does not cover any ports or connectors **(2)** on the tablet.



Storing the pen on the keyboard base

▲ To store the pen on the keyboard base, insert the pen, tip first, into the pen holder on the right side of the keyboard base.

NOTE: If you place the pen on the left side of the keyboard, the magnet in the pen may turn off the display.



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.

1. To display the keyboard, tap in the first data field. Tap the small keyboard icon that is displayed.

   – or –

   Tap the keyboard icon on the right side of the notification area.

2. To enlarge the size of the on-screen keyboard, tap the lower-right corner and drag it to the desired size.

3. Tap each character, continuing until you have spelled out the name or word that you are entering into the data field.

NOTE: Hot keys do not display or function on the on-screen keyboard.

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

4. Tap enter on the keyboard.

7 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

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 initiating and exiting Sleep on page 46.
- 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.

NOTE: You can manually initiate Hibernation. See Manually initiating and exiting Sleep on page 46 and Manually initiating and exiting Hibernation (select models only) on page 46.

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 initiating and exiting Sleep

To initiate Sleep, from the Start screen, point to the upper-right or lower-right corner of the screen to reveal the charms. Click **Settings**, click the **Power** icon, and then click **Sleep**.

To exit Sleep, briefly press the power button.

When the tablet exits Sleep, the power lights turn on and 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 initiating and exiting Hibernation (select models only)

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

1. From the Start screen, type `power options`, then select **Power options**.
2. In the left pane, click **Choose what the power button does**.
3. Click **Change Settings that are currently unavailable**.
4. In the **When I press the power button** area, select **Hibernate**.
5. Click **Save changes**.

When the tablet exits Hibernation, the power lights turn on and 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. From the Start screen, type `power options`, then select **Power options**.
2. In the left pane, click **Require a password on wakeup**.
3. Click **Change Settings that are currently unavailable**.
4. Click **Require a password (recommended)**.

   NOTE: If you need to create a user account password or change your current user account password, click **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. Click **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, click the power meter icon and select an item from the list. From the Start screen, you can also type `power options`, 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. 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, from the Start screen, 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(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.

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.

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, from the Start screen, 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.
- Select the **Power saver** setting in Power Options.

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

– or –

- 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 47.

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 docking or expansion device.
- 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 *Setup Instructions* poster 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 or an optional docking/expansion device.

⚠ **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 running Disk Defragmenter on tablets with internal hard drives
- 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.
- The power lights are off.

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.
    - If the power lights turn *on*, the AC adapter is working properly.
    - If the power lights remain *off*, check the connection from the AC adapter to the 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 power lights remain *off*, the AC adapter is not functioning and should be replaced.

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

Refreshing your software content with Intel Smart Connect Technology (select models only)

When the tablet is in the Sleep state, Intel® Smart Connect Technology periodically causes the tablet to exit Sleep. If a network connection is available, Smart Connect updates open apps such as your email inboxes, social network sites, and news pages and then returns the tablet to the Sleep state. Smart Connect also syncs content that you have created offline, such as emails. When the tablet exits Sleep, you have immediate access to your updated information.

▲ To enable this feature or manually adjust the settings, from the Start screen, type `smart`, and then select Intel® Smart Connect Technology.

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. From the Start screen, point to the upper-right or lower-right corner of the screen to reveal the charms.
3. Click **Settings**, click the **Power** icon, and then click **Shut down**.

   – or –

   Right-click the **Start** button in the lower-left corner of the screen, select **Shut down or sign out**, and then select **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 ctrl+alt+delete, click the **Power** icon, and then select **Shut Down**.
- Press and hold the power button for at least 5 seconds.
- Disconnect the tablet from external power.

8 Maintaining your tablet

It is important to perform regular maintenance to keep your tablet in optimal condition. This chapter explains how to use tools like Disk Cleanup. It also provides instructions for updating programs and drivers, steps to clean the tablet, and tips for traveling with (or shipping) the tablet.

Improving performance

You can improve the performance of your tablet by performing regular maintenance tasks with tools such as Disk Cleanup.

Using Disk Cleanup

Use Disk Cleanup to search the hard drive for unnecessary files that you can safely delete to free up disk space and help the tablet run more efficiently.

To run Disk Cleanup:

1. From the Start screen, type `disk`, and then select one of the following.
   - **Free up disk space on the PC**
   - **Uninstall apps to free up disk space**
   - **Free up disk space by deleting unnecessary files**
2. Follow the on-screen instructions.

Updating programs and drivers

HP recommends that you update your programs and drivers on a regular basis. Updates can resolve issues and bring new features and options to your tablet. 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.

If you would like to update your program and drivers, follow these instructions:

1. From the Start screen, type `support`, and then select the **HP Support Assistant** app.
2. Click **Updates and tune-ups**, and then click **Check for HP updates now**.
3. Follow the on-screen instructions.

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 brands).
- Alcohol-free glass-cleaning fluid

- Solution of water with mild soap
- 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 AC 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. Be sure that the display is dry before closing the display.

Cleaning the sides or cover

To clean the sides 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.

Cleaning the TouchPad, keyboard base, or mouse (select models only)

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

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

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

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 discs and all external media cards, such as memory cards.
  - Turn off and then disconnect all external devices.
  - Shut down the tablet.
  - Turn off the keyboard base.
- 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 aboard 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.

9 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, from the Start screen, 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	• Must be entered each time you access Setup Utility (BIOS). • If you forget your administrator password, you cannot access Setup Utility (BIOS). NOTE: The administrator password can be used in place of the power-on password. 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. NOTE: If you enter the power-on password at the first password check, you must enter the administrator password to access Setup Utility (BIOS).
Power-on password	• 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. NOTE: The administrator password can be used in place of the power-on password. NOTE: A power-on password is not revealed as it is set, entered, changed, or deleted.

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 Windows button on the tablet, and then tap f10.
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 computer 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 computer viruses, from the Start screen, 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 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.

Installing software updates

HP, 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 51.

Installing critical security updates

⚠ **CAUTION:** Microsoft sends out alerts regarding critical updates. To protect the tablet 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 `control panel`, 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/support. 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 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.

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 61.

10 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)

You can open Setup Utility using the tablet only or an optional USB keyboard (purchased separately). The keyboard base that came with your tablet cannot be used to open Setup Utility.

- To start Setup Utility (BIOS) using the tablet only, turn on or restart the tablet, quickly press the Windows button on the tablet, and then tap f10.

–or–

To start Setup Utility (BIOS) using an optional USB keyboard (purchased separately):

1. Connect an optional USB keyboard (purchased separately) to the tablet.
2. Turn on or restart the tablet, quickly press esc, and then press f10.

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 *SoftPaqs*.

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 pressing fn+esc (if you are already in Windows) or by using Setup Utility (BIOS).

1. Start Setup Utility (BIOS) (see Starting Setup Utility (BIOS) on page 58).
2. Tap **Main**, and then make note of your current BIOS version.
3. To exit Setup Utility (BIOS) without saving your changes, tap **Exit**, tap **Exit Discarding Changes**, and then follow the on-screen instructions.

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, 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 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. From the Start screen, type `support`, and then select the **HP Support Assistant** app.
2. Click **Updates and tune-ups**, and then click **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. From the Start screen, type `file`, and then select **File Explorer**.
2. Click 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-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.

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 whether the tablet 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.

To start HP PC Hardware Diagnostics UEFI:

1. Turn on or restart the tablet, quickly press the Windows button on the tablet, and then 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 60.

   b. Hard drive

   c. BIOS

2. When the diagnostic tool opens, select the type of diagnostic test you want to run, and then follow the on-screen instructions.

NOTE: If you need to stop a diagnostic test, press anywhere on the screen.

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

NOTE: Instructions for downloading HP PC Hardware Diagnostics (UEFI) are provided in English only.

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

Option 1: HP PC Diagnostics homepage— Provides access to the latest UEFI version

1. Go to http://hp.com/go/techcenter/pcdiags.
2. Click the **UEFI Download** link, and then select **Run**.

Option 2: Support and Drivers page—Provides downloads for a specific product for earlier and later versions

1. Go to http://www.hp.com.
2. Point to **Support**, located at the top of the page, and then click **Download Drivers**.
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 tablet model, and then select your operating system.
5. In the **Diagnostic** section, click **HP UEFI Support Environment**.

   – or –

   Click **Download**, and then select **Run**.

11 Backing up, restoring, and recovering

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

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

For additional information, refer to the HP Support Assistant.

▲ From the Start screen, type `support`, and then select the **HP Support Assistant** app.

- or -

From the Windows desktop, click the question mark icon in the notification area, at the far right of the taskbar.

Creating recovery media and backups (select models only)

- Use HP Recovery Manager after you successfully set up the tablet, to create HP Recovery media. This step creates a backup of the HP Recovery partition on the tablet. 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 models only) on page 61. For information on the recovery options that are available using the recovery media, see Recovering using HP Recovery Manager (select models only) on page 63

- Use Windows tools to create system restore points and create backups of personal information.

Creating HP Recovery media (select models only)

HP Recovery Manager is a software program that allows you to create recovery media after you successfully set up the tablet. HP Recovery media can be used to perform system recovery if the hard drive becomes corrupted. System recovery reinstalls the original operating system and the software programs 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 HP Recovery media can be created. Handle these recovery tools carefully, and keep them in a safe place.
- HP Recovery Manager examines the tablet and determines the required storage capacity for the blank USB flash drive or the number of blank DVD discs that will be required.
- To create recovery discs, your tablet 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 tablet 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, or you can obtain recovery discs for your tablet from

support. See the *Worldwide Telephone Numbers* booklet included with the tablet. 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. If you use an external optical drive, it must be connected directly to a USB port on the tablet; the drive cannot be connected to a USB port on an external device, such as a USB hub.

- Be sure that the tablet 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, and the remaining discs will be burned.

To create HP Recovery media:

NOTE: For tablets, connect to the keyboard base before beginning these steps.

1. From the Start screen, type `recovery`, and then select **HP Recovery Manager**.
2. Select **Recovery Media Creation**, and then follow the on-screen instructions.

If you ever need to recover the system, see Recovering using HP Recovery Manager (select models only) on page 63.

Using Windows tools

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

▲ From the Start screen, type `help`, and then select **Help and Support**.

– or –

From the Windows desktop, click the question mark icon in the notification area, at the far right of the taskbar.

For more information and steps, see Help and Support.

Restore and recover (select models only)

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

- Windows offers several options for restoring from backup, refreshing the tablet, and resetting the tablet to its original state. For more information and steps, see Help and Support.

  ▲ From the Start screen, type `help`, and then select **Help and Support**.

  – or –

  From the Windows desktop, click the question mark icon in the notification area, at the far right of the taskbar.

- On select models, if you need to correct a problem with a preinstalled application or driver, use the Drivers and Applications Reinstall option of HP Recovery Manager to reinstall the individual application or driver.

  ▲ From the Start screen, type `recovery`, select **HP Recovery Manager**, select **Drivers and Applications Reinstall**, and then follow the on-screen instructions.

- On select models, if you want to reset your tablet using a minimized image, you can choose the HP Minimized Image Recovery option from the HP Recovery partition or HP Recovery media. Minimized Image Recovery installs only drivers and hardware-enabling applications. Other applications included in the image continue to be available for installation through the Drivers and Applications Reinstall option in HP Recovery Manager.

  For more information, see Recovering using HP Recovery Manager (select models only) on page 63.

- On select models, if you want to recover the tablet's original factory partitioning and content, you can choose the System Recovery option from the HP Recovery partition or use the HP Recovery media that you have created. For more information, see Recovering using HP Recovery Manager (select models only) on page 63. If you have not already created recovery media, see Creating HP Recovery media (select models only) on page 61.

- On select models, if you have replaced the hard drive, you can use the Factory Reset option of HP Recovery media to restore the factory image to the replacement drive. For more information, see Recovering using HP Recovery Manager (select models only) on page 63.

Recovering using HP Recovery Manager (select models only)

HP Recovery Manager software allows you to recover the tablet to its original factory state by using the HP Recovery media that you created or by using the HP Recovery partition (select models only). If you have not already created recovery media, see Creating HP Recovery media (select models only) on page 61.

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

- System Recovery—Reinstalls the original operating system, and then configures the settings for the programs that were installed at the factory.
- Minimized Image Recovery (select models only)—Reinstalls the operating system and all hardware-related drivers and software, but not other software applications.
- Factory Reset (select models only)—Restores the tablet 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 models only) allows System Recovery and Minimized Image Recovery.

What you need to know

- HP Recovery Manager recovers only software that was installed at the factory. For software not provided with the tablet, 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 tablet issues.

- HP Recovery media (select models only) must be used if the tablet hard drive fails. If you have not already created recovery media, see Creating HP Recovery media (select models only) on page 61.
- To use the Factory Reset option, you must use HP Recovery media (select models only). If you have not already created recovery media, see Creating HP Recovery media (select models only) on page 61.
- If the HP Recovery media (select models only) does not work, you can obtain recovery media for your system from support. See the *Worldwide Telephone Numbers* booklet included with the

tablet. 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 the HP Recovery partition (select models only)

The HP Recovery partition (select models only) allows you to perform a system recovery or minimized image 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:

NOTE: For tablets, connect to the keyboard base before beginning these steps.

1. From the Start screen, type `recovery`, select **Recovery Manager**, and then select **HP Recovery Environment**.
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 that you created, and then restart the tablet.

   NOTE: If the tablet does not automatically restart in HP Recovery Manager, change the tablet boot order. See Changing the tablet boot order on page 64.
3. Follow the on-screen instructions.

Changing the tablet boot order

If the tablet does not restart in HP Recovery Manager, you can change the tablet boot order, which is the order of devices where the tablet searches for startup information. You can specify that an optical drive or a USB flash drive should be checked first.

To change the boot order:

1. Insert the HP Recovery media you created.
2. Restart the tablet, quickly press the Windows button on the tablet, and then tap f9 for boot options.
3. Select the optical drive or USB flash drive you want to boot from.
4. Follow the on-screen instructions.

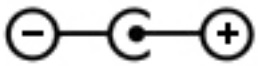
12 Specifications

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. Operating voltage and current varies by platform.

Input power	Rating
Operating voltage and current	19.5 V dc @ 2.31 A – 45 W 19.5 V dc @ 3.33 A – 65 W
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

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 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.

Index

Symbols/Numerics
2-finger pinch zoom TouchPad gesture 34, 40

A
AC adapter 6
AC adapter, testing 49
action keys
  Bluetooth 21
  decrease screen brightness 21
  Help and Support 21
  identifying 14
  increase screen brightness 21
  keyboard backlight 21
  next track 22
  pairing 22
  previous track 21
  switch screen image 21
  volume down 21
  volume mute 21
  volume up 21
antenna, WLAN 10
antivirus software, using 56
audio features, testing 29
audio-out (headphone)/audio-in (microphone) jack 7, 26
autorotate lock
  adjusting 13

B
backing up software and information 57
backups 61
battery
  discharging 47
  low battery levels 48
battery information, finding 47
battery power 47
Beats Audio 28
Beats Audio Control Panel 28
Beats Audio hot key 28
BIOS
  determining version 58
  downloading an update 59
  updating 58
Bluetooth device 24
Bluetooth label 11
boot order
  changing 64
bottom 11
brightness
  adjusting 13
buttons
  left TouchPad button 15
  power 9
  right TouchPad button 15
  volume 7
  Windows 8

C
caps lock light, identifying 16
caring for your tablet 51
cleaning your tablet 51
components
  bottom 10
  display 8
  keyboard base 14
  left side 7
  right side 6
connecting to a WLAN 24
connector, power 6
corporate WLAN connection 24
critical battery level 48
critical security updates, installing 56

D
deleted files, restoring 62
Disk Cleanup software 51
docking connector, identifying 14
docking port, identifying 9

E
edge swipe gestures 41
edge—swipe gestures
  top-edge swipe 37, 42
electrostatic discharge 66
esc key, identifying 14
external AC power, using 48

F
firewall software 56
fn key, identifying 14
fun things to do 2

H
hard drive light 7
HDMI
  configuring audio 31
HDMI port
  connecting 30
  identifying 6, 27
headphones and microphones, connecting 28
Hibernation
  exiting 46
  initiated during critical battery level 48
  initiating 46
high-definition devices, connecting 30, 31
HP and third-party software updates, installing 56
HP Apps Store 1
HP Connected Music 29
HP PC Hardware Diagnostics (UEFI)
  downloading 60
  using 60
HP Recovery Manager
  correcting boot problems 64
  starting 64
HP Recovery media
  creating 61
  recovery 64
HP Recovery partition
  recovery 64

I
input power 65
installing
  critical security updates 56

internal microphones, identifying 8, 27
Internet security software, using 55

J
jacks
audio-out (headphone)/audio-in (microphone) 7, 26

K
keyboard base
battery 20
components 14
connecting 18
folding the cover 20
lights 16
pairing 19
turning on 17
using 14
keyboard base battery light, identifying 16
keyboard base on/off switch, identifying 14
keys
action 14
esc 14
fn 14
Windows 15

L
labels
Bluetooth 11
Microsoft Certificate of Authenticity 11
regulatory 11
serial number 11
service 11
wireless certification 11
WLAN 11
left TouchPad button, identifying 15
left-edge swipe 36, 41
lights
AC adapter 6
Bluetooth 16
caps lock 16
hard drive 7
mute 16
power 7
low battery level 48

M
magnetic pen holder, identifying 6
maintenance
Disk Cleanup 51
memory card reader, identifying 7, 27
memory card, identifying 7
minimized image recovery 64
minimized image, creating 63
Miracast 31
mouse, external
setting preferences 32
mute light, identifying 16

O
operating environment 65
original system recovery 63

P
Pairing light, identifying 16
pairing, keyboard base 19
passwords
Setup Utility (BIOS) 55
Windows 55
pen
holding 43
identifying 42
storing 44
pen holder, identifying 15
ports
HDMI 6, 27, 30
Miracast 31
USB 3.0 6, 27
power
battery 47
power button, identifying 9
power connector, identifying 6
power lights, identifying 7
product name and number, tablet 11
public WLAN connection 24

R
recover
options 62
recovery
discs 61, 64
HP Recovery Manager 63
media 64
starting 64
supported discs 61
system 63
USB flash drive 64
using HP Recovery media 62
recovery media
creating 61
creating using HP Recovery Manager 62
regulatory information
regulatory label 11
wireless certification labels 11
right TouchPad button, identifying 15
right-edge swipe 36, 41

S
scrolling TouchPad gesture 33
serial number 11
serial number, tablet 11
service labels
locating 11
setting password protection on wakeup 46
settings
autorotate lock 13
brightness 13
changing 13
landscape view 13
portrait view 13
tablet orientation 13
Setup Utility (BIOS) passwords 55
shipping the tablet 53
shutdown 50
Sleep
exiting 46
initiating 46
slots
memory card reader 7, 27
software
Disk Cleanup 51
software updates, installing 56
speakers
connecting 28
identifying 27
speakers, identifying 8
supported discs, recovery 61
system recovery 63
system restore point
creating 62

system restore point, creating 61

T
tablet stand, adjusting 12
tablet stand, identifying 10
testing an AC adapter 49
testing audio features 29
Touch screen
using 38
Touch screen gestures 41, 42
edge–swipe gestures 41
one-finger slide 38
rotating 40
tapping 39
TouchPad gestures 37
2-finger pinch zoom 34, 40
edge–swipe gestures 36
scrolling 33
TouchPad zone, identifying 15
traveling with the tablet 11, 53
turning off the tablet 50

U
unresponsive system 50
USB 3.0 port, identifying 6
USB 3.0 ports, identifying 27
using external AC power 48
using passwords 54

V
video 30
volume button, identifying 7
volume buttons, identifying 27

W
webcam
identifying 8, 27
using 27
webcam light, identifying 8, 27
Windows
system restore point 61, 62
Windows button, identifying 8
Windows key, identifying 15
Windows passwords 55
Windows shortcut keys 22
Windows tools
using 62
Wireless Assistant software 23
wireless certification label 11
wireless controls
button 23
operating system 23
Wireless Assistant software 23
wireless network (WLAN)
connecting 24
corporate WLAN connection 24
functional range 24
public WLAN connection 24
wireless network, securing 57
WLAN antenna, identifying 10
WLAN device 11
WLAN label 11