User Guide

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).

Processor configuration setting (select models only)

WARNING!   Select tablet models are configured with an Intel® Bay Trail-T processor and a Windows® operating system. Do not change the processor configuration setting in msconfig.exe from 4 or 2 processors to 1 processor. If you do so, your tablet will not restart. You will have to perform a factory reset to restore the original settings.

Table of contents

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.

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.

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

To view and download an app:

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

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.

Best practices

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

- Back up your hard drive by creating recovery discs or a recovery flash drive. See Backing up, restoring, and recovering on page 46.

- If you haven't already done so, connect to a wired or wireless network. See details in Connecting to a network on page 14.

- Become familiar with the tablet hardware and software. For more information, see Getting to know your tablet on page 4 and Enjoying entertainment features on page 18.

- Update or purchase antivirus software. See Using antivirus software on page 41.

More HP resources

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. – or – From the Windows desktop, click the question mark icon in the notification area, at the far right of the taskbar. 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 document: 1. 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. 2. Select **My computer**, and then select **User guides**.	● Important regulatory notices, including information about proper battery disposal
Limited Warranty* To access this document: 1. From the Start screen, type `support`, and then select the **HP Support Assistant** app. – or –	● Specific warranty information about this tablet

Resource	Contents
From the Windows desktop, click the question mark icon in the notification area, at the far right of the taskbar. **2.** Select **My computer**, and then select **Warranty and services**. – or – Go to http://www.hp.com/go/orderdocuments.	

*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

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**.

    – or –

    From the Windows desktop, right-click the **Start** button, 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.

    For information about system hardware components and the system BIOS version number, press fn +esc (select models only).

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.

    – or –

    From the Windows desktop, right-click the **Start** button, and then select **Programs and Features**.

Right edge

Component		Description
(1)	Power connector	Connects an AC adapter.
(2)	USB 3.0 port	Connects an optional USB device, 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)	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 until it pops out.
(5)	Windows key	Returns you to the Start screen from an open app or the Windows desktop.
		NOTE: Pressing the Windows key again will return you to the previous screen.
(6)	Volume down button	Decreases speaker volume.
(7)	Volume up button	Increases speaker volume.

Left edge

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).

Display
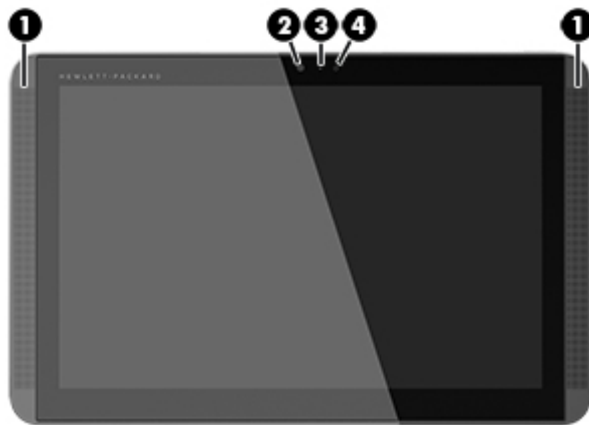
Component		Description
(1)	Speakers (2)	Produce sound.
(2)	Webcam	Records video and captures photographs. Some models allow you to video conference and chat online using streaming video.
		To use the webcam, from the Start screen, type `camera`, and then select **Camera** from the list of applications.
(3)	Webcam light	On: The webcam is in use.
(4)	Ambient light sensor	Automatically adjusts the display brightness based on the lighting conditions in your environment.

Top edge

Component		Description
(1)	Internal microphones (2)	Record sound.
(2)	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 10 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.

Bottom edge
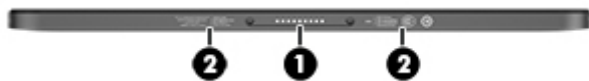
Component		Description
(1)	Docking port	Connects the tablet to the keyboard base.
(2)	Product and regulatory information	Provides product and regulatory information (select models only).

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 edge, the rear, or the keyboard base of the tablet.

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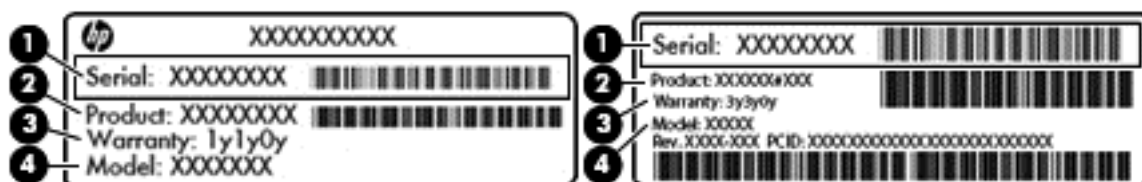
	Component
(1)	Serial number
(2)	Product number
(3)	Warranty period
(4)	Model number (select models only)

- 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.

Changing your tablet's settings

You can adjust your tablet's view, autorotate lock, and screen brightness.

Changing your tablet's view

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

1. To change the view of your tablet from landscape view to portrait view:

    Hold the tablet vertically, and then turn it 90 degrees to the right (in a clockwise direction).

2. To change the view of your tablet from portrait view to landscape view:

    Hold the tablet vertically, and then turn it 90 degrees to the left (in a counter-clockwise direction).

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 keyboard base for easy navigation.

Keyboard base components

Keys
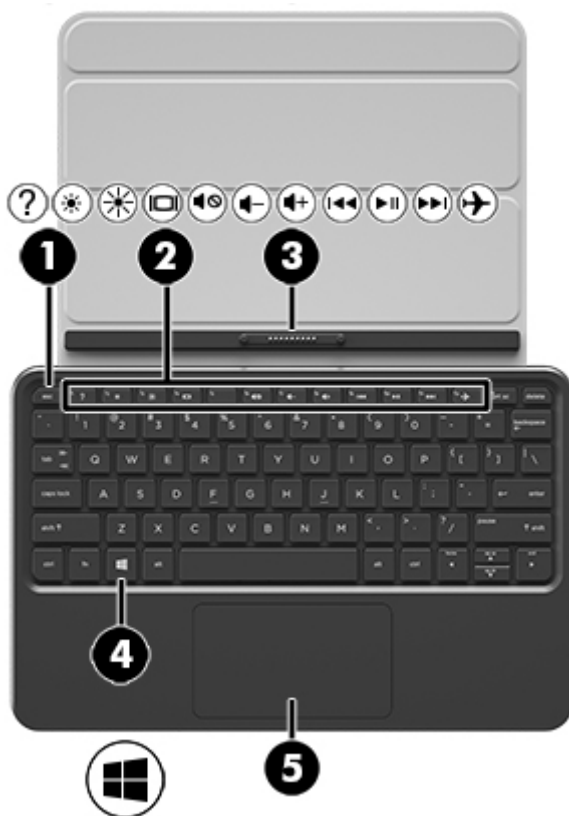
Component		Description
(1)	esc key	Displays system information when pressed in combination with the fn key.
(2)	Action keys	Execute frequently used system functions.
		NOTE: On select models, the f5 action key turns the keyboard base backlight feature off or on.
(3)	Docking connector	Connects the tablet to the keyboard base.
(4)	Windows key	Returns you to the Start screen from an open app or the Windows desktop.

Component		Description
		NOTE: Pressing the Windows key again returns you to the previous screen.
(5)	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 Navigating the screen on page 24.

Lights

Component		Description
(1)	Mute light	• Amber: Tablet sound is off. • Off: Tablet sound is on.
(2)	Caps lock light	On: Caps lock is on, which switches the keys to all capital letters.

Connecting the tablet to the keyboard base

Your keyboard base can be used either attached to the tablet, or once the keyboard base is paired, it can be used detached from the tablet.

▲ 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.

Folding the keyboard base into a stand

You can fold the keyboard base into a stand with an angle of either 120 degrees or 135 degrees.

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

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

- Wireless local area network (WLAN) device—Connects the tablet to wireless local area networks (commonly referred to as Wi-Fi networks, wireless LANs, or WLANs) in corporate offices, your home, and public places such as airports, restaurants, coffee shops, hotels, and universities. In a WLAN, the mobile wireless device in your tablet communicates with a wireless router or a wireless access point.

- Bluetooth device (select models only)—Creates a personal area network (PAN) to connect to other Bluetooth-enabled devices such as tablets, phones, printers, headsets, speakers, and cameras. In a PAN, each device communicates directly with other devices, and devices must be relatively close together—typically within 10 meters (approximately 33 feet) of each other.

For more information about wireless technology, 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**.

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**.
2. Select **Network and Internet**, and then select **Network and Sharing Center**.

For more information, from the Start screen, type `help`, and then select **Help** and Support.

Sharing data and drives and accessing software

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

▲ 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.

Using a WLAN

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

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

- A large-scale WLAN, such as a corporate or public WLAN, typically uses wireless access points that can accommodate a large number of tablets and accessories and can separate critical network functions.

- A home or small office WLAN typically uses a wireless router, which allows several wireless and wired tablets to share an Internet connection, a printer, and files without requiring additional pieces of hardware or software.

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

Using an Internet service provider

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

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

Setting up a WLAN

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

- A broadband modem (either DSL or cable) **(1)** and high-speed Internet service purchased from an Internet service provider

- A wireless router **(2)** (purchased separately)

- A wireless computer **(3)**

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

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

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

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

Configuring a wireless router

For help in configuring a wireless router, see the information provided by your router manufacturer or your ISP.

> **NOTE:** It is recommended that you initially connect your new wireless tablet to the router by using the network cable provided with the router. When the tablet successfully connects to the Internet, disconnect the cable, and access the Internet through your wireless network.

Protecting your WLAN

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

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

- Use a firewall.

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

- Use wireless encryption.

  Wireless encryption uses security settings to encrypt and decrypt data that is transmitted over the network. For more information, from the Start screen, type `help`, and then select **Help and Support**.

Connecting to a WLAN

To connect to the WLAN, follow these steps:

1. Be sure that the WLAN device is on. If the device is on, the wireless light is white. If the wireless light is off, press the wireless button.

   > **NOTE:** On some models, the wireless light is amber when all wireless devices are off.

2. From the Start screen, point to the far-right upper or lower corner of the screen to display 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 (select models only)

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

● Computers (desktop, notebook, PDA)

● Phones (cellular, cordless, smart phone)

● Imaging devices (printer, camera)

● Audio devices (headset, speakers)

● Mouse

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

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.
		NOTE: Be sure that the device cable has a 4-conductor connector that supports both audio-out (headphone) and audio-in (microphone).
(2)	Speakers	Produce sound.
(3)	Webcam	Records video and captures photographs. Some models allow you to video conference and chat online using streaming video.

Component		Description
		From the Start screen, type `camera`, and then select **Camera** from the list of applications.
(4)	Webcam light	On: The webcam is in use.
(5)	Internal microphones (2)	Record sound.
(6)	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 10 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.
(7)	Volume up/down button	Increases or decreases speaker volume.
(8)	Windows button	Returns you to the Start screen from an open app or the Windows desktop. **NOTE:** Pressing the Windows key again will return you to the previous screen.
(9)	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 until it pops out.
(10)	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.
(11)	USB 2.0 port	Connects an optional USB device, such as a keyboard, mouse, external drive, printer, scanner or USB hub.

Component		Description
	⟶←⟋	
(12)	🔌 Power connector	Connects an AC adapter.

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 22. 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.

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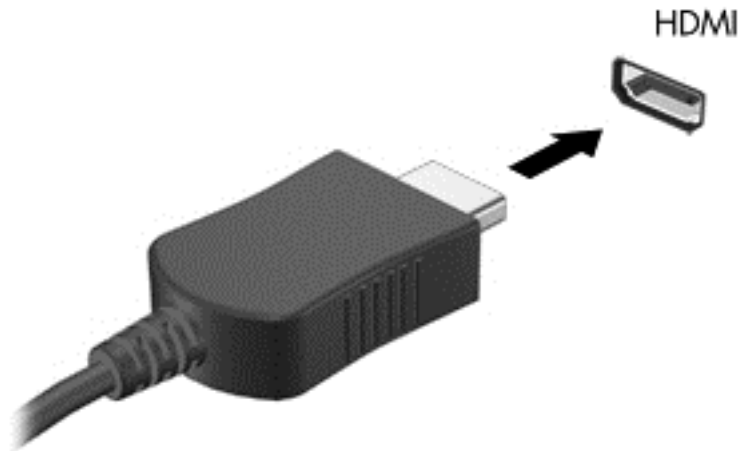
NOTE: To connect an HDMI device to your tablet, you need an HDMI cable, sold separately.

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**.

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.

– or –

On select tablet models, from the Start screen, click the **HP Quick Access to Miracast** icon, and then follow the on-screen instructions.

6 Navigating the screen

To quickly return to the Start screen, press the Windows key on a keyboard or the Windows

button on a tablet.

You can navigate the tablet screen in the following ways:

- Touch gestures

- Keyboard and optional mouse (purchased separately)

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

Using the TouchPad and touch screen gestures

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

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

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

Tap

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

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

Two-finger scroll

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

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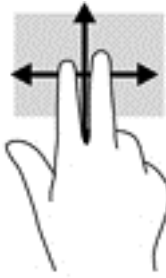
Two-finger pinch zoom

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

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

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

Two-finger click

Use the two-finger click gesture to open the menu for an object on the screen.

NOTE: The two-finger click performs the same function as right-clicking with the mouse.

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

Right-edge swipe

Use the right-edge swipe to reveal 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 TouchPad to reveal the charms.
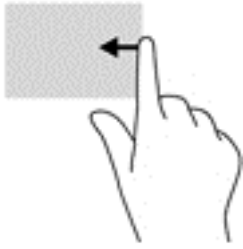
Left-edge swipe

Use the left-edge swipe to reveal your open apps so that you can access them quickly.

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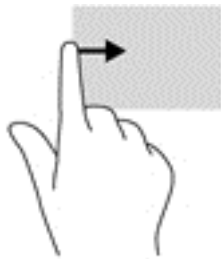
Top-edge swipe and bottom-edge swipe

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

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

- Gently swipe your finger from the top edge or the bottom edge to reveal the app command options.
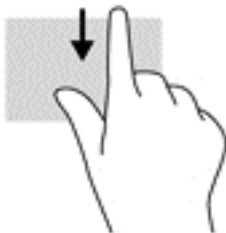
One-finger slide (touch screen only)

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

- To scroll across the screen, lightly slide one finger across the screen in the direction you want to move.

- To drag, press and hold an object, and then drag the object to move it.
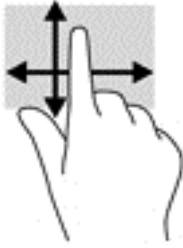
Using the keyboard base and mouse

The keyboard base and mouse allow you to type, select items, scroll and to perform the same functions as you do using touch gestures. The keyboard base also allows you to use action keys and hot keys to perform specific functions.

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 keys

You can quickly access information or perform functions by using certain keys and key combinations.

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.

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 backlight feature off or on. **NOTE:** To conserve battery power, turn off this feature.

Icon	Key	Description
🔇	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.
⏭	f11	Plays the next track of an audio CD or the next section of a DVD or a BD.
✈	f12	Turns the Airplane mode and wireless feature on or off. **NOTE:** A wireless network must be set up before a wireless connection is possible.

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.

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.
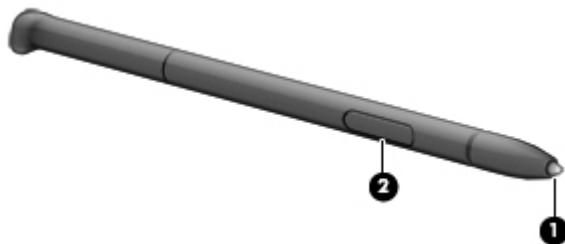
Holding the pen

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

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 31.

- 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 31 and Manually initiating and exiting Hibernation (select models only) on page 31.

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

You can initiate Sleep in any of the following ways:

- Close the display.

- 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.

- If the display is closed, open the display.

- Press a key on the keyboard.

- Tap or swipe the TouchPad.

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 (select models only)

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.

- 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 32.

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 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.

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 10 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 by using tools like Disk Cleanup. This chapter also includes ways to update 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 Defragmenter and Disk Cleanup.

Using Disk Cleanup

Disk Cleanup searches 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, select **disk**, and then select **Manage your apps to free up disk space**.

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

- Water with mild soap solution

- Dry microfiber cleaning cloth or a chamois (static-free cloth without oil)

- Static-free cloth wipes

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

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

Cleaning procedures

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

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

- Turn off the tablet.

- Disconnect 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 (All-in-Ones or Notebooks)

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, or mouse

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

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

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

- To prevent keys from sticking and to remove dust, lint, and particles from the keyboard, use a can of compressed air with a straw extension.

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.
- 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.

Computer 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

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 tablet viruses, spyware, and other online threats. To help protect your tablet, Internet security software that includes antivirus and firewall features may be preinstalled on your tablet as a trial offer. To provide ongoing protection against newly discovered viruses and other security risks, security

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

Using antivirus software

Computer viruses can disable programs, utilities, or the operating system, or cause them to function abnormally. Antivirus software can detect most viruses, destroy them, and in most cases, repair any damage they have caused.

To provide ongoing protection against newly discovered viruses, antivirus software must be kept up to date.

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

For more information about tablet viruses, 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 tablets on the network.

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

Installing software updates

HP, 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 .

Installing critical security updates

⚠ **CAUTION:** Microsoft sends out alerts regarding critical updates. To protect the tablet from security breaches and tablet 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 your wireless network, always enable security features. For more information, see Protecting your WLAN on page 16.

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 46.

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 .

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.

– 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.

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 press 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 45.

    b. Hard drive

    c. BIOS

2. When the diagnostic tool opens, use the keyboard arrow keys to 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 esc.

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:

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

Creating recovery media and backups

1. After you successfully set up the tablet, 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.

   HP Recovery media you create will provide the following recovery options:

   - System Recovery—Reinstalls the original operating system and the programs that were installed at the factory.
   - Factory Reset—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.

   See Creating HP Recovery media on page 46.

2. Use the Windows tools to create system restore points and create backups of personal information. For more information and steps, see Help and Support. From the Start screen, type `help`, and then select **Help and Support**.

Creating HP Recovery media

HP Recovery Manager is a software program that offers a way 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.
- 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. If you create your own recovery discs, 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.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.

- You can also use a high-quality blank USB flash drive to create recovery media.

- Be sure that the tablet is connected to AC power before you begin creating the recovery media.

- The creation process can take up to 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:

> **IMPORTANT:** For tablets, connect to the keyboard dock before beginning these steps (select models only).

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 <u>Recovering using HP Recovery Manager on page 47</u>.

Restore and recovery

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**.

- 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.

- 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 (select models only) or use the HP Recovery media that you have created. For more information, see <u>Recovering using HP Recovery Manager on page 47</u>. If you have not already created recovery media, see <u>Creating HP Recovery media on page 46</u>.

- 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 <u>Recovering using HP Recovery Manager on page 47</u>.

Recovering using HP Recovery Manager

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 <u>Creating HP Recovery media on page 46</u>.

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.

- Factory Reset—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 this tablet, you must either download the software from the manufacturer's website or reinstall the software from the media provided by the manufacturer.

- Recovery through HP Recovery Manager should be used as a final attempt to correct tablet issues.

- HP Recovery media must be used if the tablet hard drive fails. If you have not already created recovery media, see Creating HP Recovery media on page 46.

- To use the Factory Reset option, you must use HP Recovery media. If you have not already created recovery media, see Creating HP Recovery media on page 46.

- If the HP Recovery media does not work, you can obtain recovery media for your system from support. See the *Worldwide Telephone Numbers* booklet included with the 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 wish 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 only be used if the hard drive is still working.

To start HP Recovery Manager from the HP Recovery partition:

IMPORTANT: For tablets, connect to the keyboard dock before beginning these steps (select models only).

1. Press f11 while the tablet boots.

    – or –

    Press and hold f11 as you press the power button.

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 49.

3. Follow the on-screen instructions.

Changing the tablet boot order

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

To change the boot order:

1. Insert the HP Recovery media you created.

2. Restart the tablet, quickly press the Windows button on your tablet, and then press 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	5 V dc @ 3A - 15W

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.

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