User Guide

SUMMARY

This guide provides information about components, network connection, power management, security, backing up, and more.

Product notice

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

Not all features are available in all editions or versions of Windows. Systems might require upgraded and/or separately purchased hardware, drivers, software or BIOS update to take full advantage of Windows functionality. Windows 10 is automatically updated, which is always enabled. ISP fees might apply and additional requirements might apply over time for updates. See http://www.microsoft.com.

To access the latest user guides, go to http://www.hp.com/support, and follow the instructions to find your product. Then select **Manuals**.

Safety warning notice

Reduce the possibility of heat-related injuries or of overheating the computer by following the practices described.

⚠ **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 applicable safety standards.

Table of contents

1 Getting started

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

TIP: To quickly return to the computer Start screen from an open app or the Windows desktop, press the Windows key on your keyboard. Pressing the Windows key again returns you to the previous screen.

After you set up and register the computer, HP recommends the following steps to get the most out of your smart investment:

- **Connect to the internet**—Set up your wired or wireless network so that you can connect to the internet. For more information, see .

- **Update your antivirus software**—Protect your computer from damage caused by viruses. The software is preinstalled on the computer. For more information, see .

- **Get to know your computer**—Learn about your computer features. See and for additional information.

- **Find installed software**—Access a list of the software preinstalled on the computer:

  Select the **Start** button.

  – or –

  Right-click the **Start** button, and then select **Apps and Features**.

- **Back up your hard drive**—Create recovery discs or a recovery USB flash drive to back up your hard drive. See .

Finding information

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

Table 1-1 Additional information

Resource	Contents
Setup Instructions	• Overview of computer setup and features
HP support For HP support, go to http://www.hp.com/support, and follow the instructions to find your product. – or – Select the question mark icon in the taskbar search box. Then select **Support**.	• Online chat with an HP technician • Support telephone numbers • Replacement parts videos (select products only) • Maintenance and service guides • HP service center locations
Safety & Comfort Guide To access this guide: ▲ Type `HP Documentation` in the taskbar search box, and then select **HP Documentation**.	• Proper workstation setup • Guidelines for posture and work habits that increase your comfort and decrease your risk of injury • Electrical and mechanical safety information

Table 1-1 Additional information (continued)

Resource	Contents
– or – ▲ Go to http://www.hp.com/ergo. **IMPORTANT:** You must be connected to the internet to access the latest version of the user guide.	
Regulatory, Safety, and Environmental Notices To access this document: ▲ Type `HP Documentation` in the taskbar search box, and then select **HP Documentation**.	● Important regulatory notices, including information about proper battery disposal, if needed.
Limited Warranty* To access this document: ▲ Type `HP Documentation` in the taskbar search box, and then select **HP Documentation**. – or – ▲ Go to http://www.hp.com/go/orderdocuments. **IMPORTANT:** You must be connected to the internet to access the latest version of the user guide.	● Specific warranty information about this computer

*You can find your HP Limited Warranty located with the user guides on your product and/or on the CD or DVD provided in the box. In some countries or regions, HP might provide a printed warranty in the box. For countries or regions where the warranty is not provided in printed format, you can request a copy from http://www.hp.com/go/orderdocuments. For products purchased in Asia Pacific, you can write to HP at POD, PO Box 161, Kitchener Road Post Office, Singapore 912006. Include your product name, and your name, phone number, and postal address.

2   Components

Your computer features top-rated components. This chapter provides details about your components, where they are located, and how they work.

Locating hardware

Use these instructions to find out what hardware is installed on your computer.

▲   Type `device manager` in the taskbar search box, and then select the **Device Manager** app.

A list displays all the devices installed on your computer.

Locating software

Use these instructions to find out what software is installed on your computer:

▲   Right-click the **Start** button, and then select **Apps and Features**.

Right

Use the illustration and table to identify the components on the right side of the computer.

Table 2-1 Right-side components and their descriptions

Component		Description
(1)	Speaker	Produces sound.
(2)	Battery light	When AC power is connected:
		● White: The battery charge is greater than 90 percent.
		● Amber: The battery charge is from 0 to 90 percent.
		● Off: The battery is not charging.
		When AC power is disconnected (battery not charging):
		● Off: The battery is not charging.
(3)	USB Type-C® port	Connects a USB device, provides data transfer, and charges small devices when the computer is on or in Sleep mode.

Table 2-1 Right-side components and their descriptions (continued)

Component		Description
		NOTE: Cables, adapters, or both (purchased separately) might be required.
(4)	Audio-out (headphone)/Audio-in (microphone) combo 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 standalone microphones.
		WARNING! To reduce the risk of personal injury, adjust the volume before putting on headphones, earbuds, or a headset. For additional safety information, see the *Regulatory, Safety, and Environmental Notices.*
		To access this guide:
		▲ Type `HP Documentation` in the taskbar search box, and then select **HP Documentation**.
		NOTE: When a device is connected to the jack, the computer speakers are disabled.

Left

Use the illustration and table to identify the components on the left side of the computer.
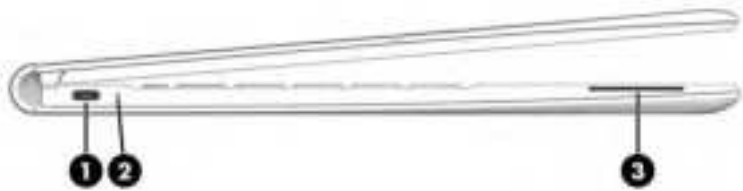
Table 2-2 Left-side components and their descriptions

Component		Description
(1)	USB Type-C port	Connects a USB device, provides data transfer, and charges small devices when the computer is on or in Sleep mode.
		NOTE: Cables, adapters, or both (purchased separately) might be required.
(2)	Battery light	When AC power is connected:
		● White: The battery charge is greater than 90 percent.
		● Off: The battery is not charging.
		When AC power is disconnected (battery not charging):
		● Blinking amber: The battery has reached a low battery level. When the battery has reached a critical battery level, the battery light begins blinking rapidly.
		● Off: The battery is not charging.
(3)	Speaker	Produces sound.

Display

Use the illustration and table to identify the display components.
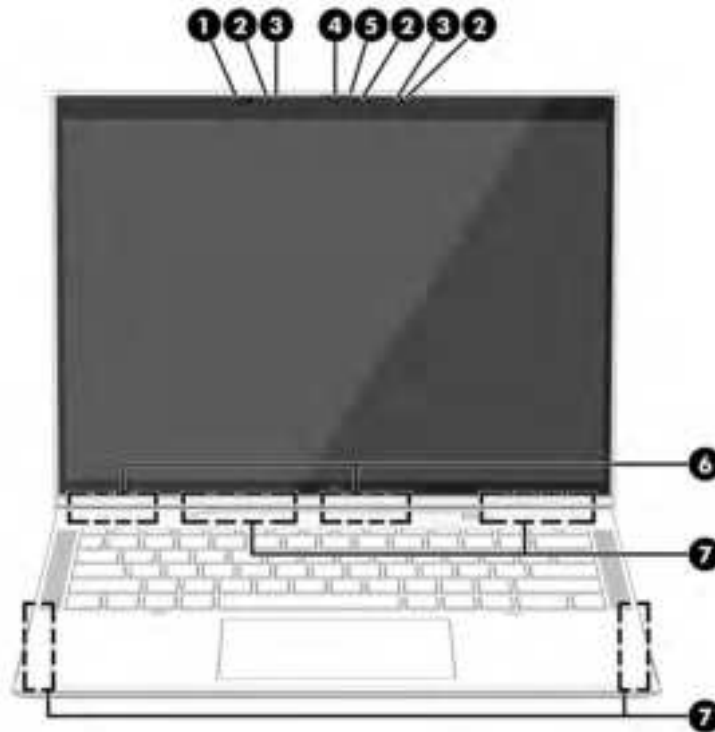
Table 2-3 Display components and their descriptions

Component		Description
(1)	Ambient light sensor*	Detects ambient light in the environment.
(2)	Camera lights	On: The camera is in use.
		NOTE: The infrared camera lights are used only during the Windows Hello login procedure.
(3)	Internal microphones	Record sound.
(4)	Camera	Allows you to video chat, record video, and record still images. To use your camera, see Using a camera on page 24. Some cameras also allow a facial recognition logon to Windows®, instead of a password logon. For more information, see Windows Hello on page 34.
		NOTE: Camera functions vary depending on the camera hardware and software installed on your product.
(5)	Camera privacy cover	By default, the camera lens is uncovered, but you can slide the camera privacy cover to block the camera's view. To use the camera, slide the camera privacy cover in the opposite direction to reveal the lens.
(6)	WLAN antennas*	Send and receive wireless signals to communicate with wireless local area networks (WLANs).
(7)	WWAN antennas (select products only)*	Send and receive wireless signals to communicate with wireless wide area networks (WWANs).

*The ambient light sensor and antennas are not visible from the outside of the computer. For optimal WLAN and WWAN transmission, keep the areas immediately around the antennas free from obstructions.

Component	Description

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:

▲   Type `HP Documentation` in the taskbar search box, and then select **HP Documentation**.

Keyboard area

Keyboards can vary by language.

Touchpad

The touchpad settings and components are described here.

Touchpad settings

You learn how to adjust the touchpad settings and components here.

Adjusting touchpad settings

Use these steps to adjust touchpad settings and gestures.

1.   Type `touchpad settings` in the taskbar search box, and then press enter.

2.   Choose a setting.

Turning on the touchpad

Follow these steps to turn on the touchpad.

1.   Type `touchpad settings` in the taskbar search box, and then press enter.

2.   Using an external mouse, click the **Touchpad** button.

     If you are not using an external mouse, press the Tab key repeatedly until the pointer rests on the **touchpad** button. Then press the spacebar to select the button.

Touchpad components

Use the illustration and table to identify the touchpad components.
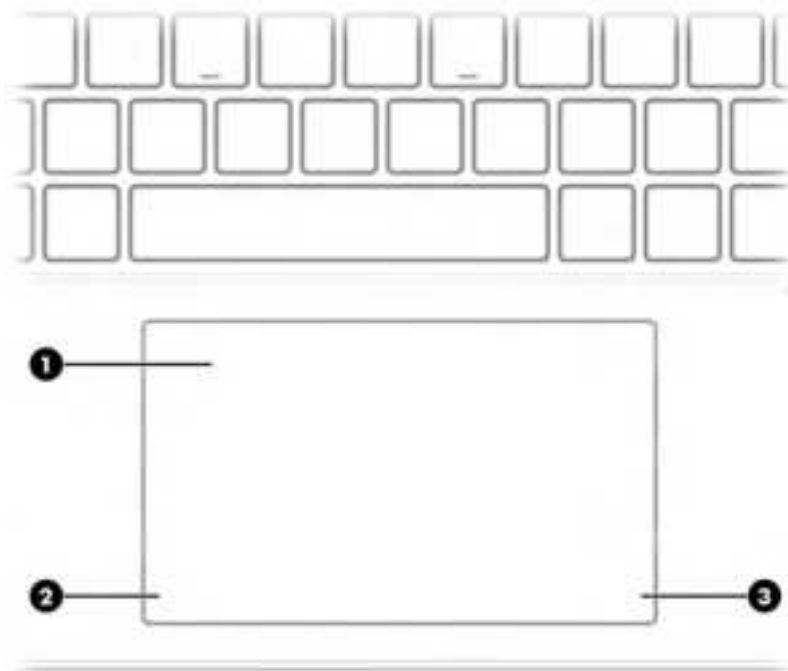
Table 2-4 Touchpad components and their descriptions

Component		Description
(1)	Touchpad zone	Reads your finger gestures to move the pointer or activate items on the screen.
		NOTE: For more information, see Using touchpad and touch screen gestures on page 20.
(2)	Left touchpad button	Functions like the left button on an external mouse.
(3)	Right touchpad button	Functions like the right button on an external mouse.

Lights

Use the illustration and table to identify the lights on the computer.
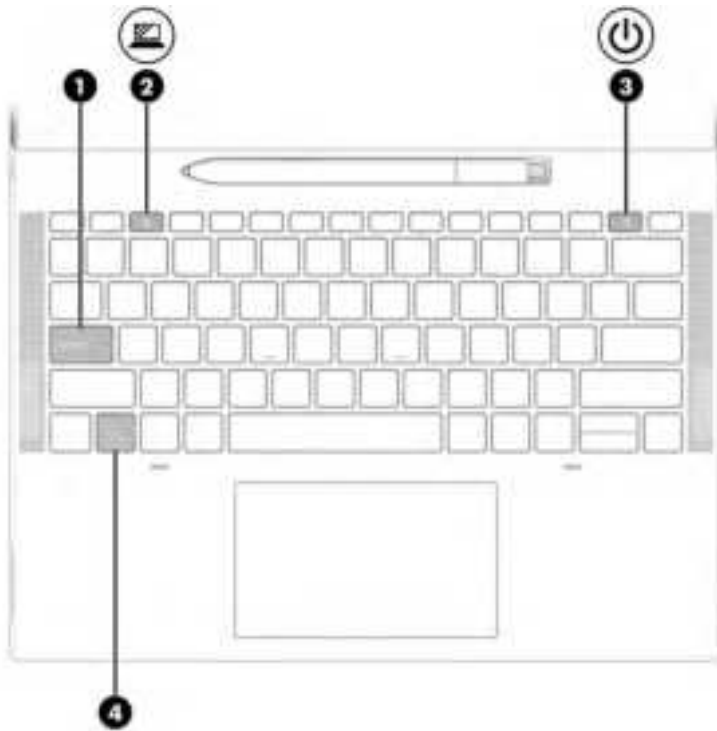
Table 2-5 Lights and their descriptions

Component		Description
(1)	Caps lock light	On: Caps lock is on, which switches the key input to all capital letters.
(2)	Privacy key light (select products only)	On: Privacy screen is on, which helps prevent side-angle viewing.
(3)	Power light	• On: The computer is on.
		• Blinking: The computer is in the Sleep state, a power-saving state. The computer shuts off power to the display and other unnecessary components.
		• Off: The computer is off or in Sleep.
(4)	Fn lock light	On: The fn key is locked. For more information, see Hot keys on page 13.

Button, speakers, and SIM card tray

Use the illustration and table to identify the button, speakers, and SIM card tray on the computer.
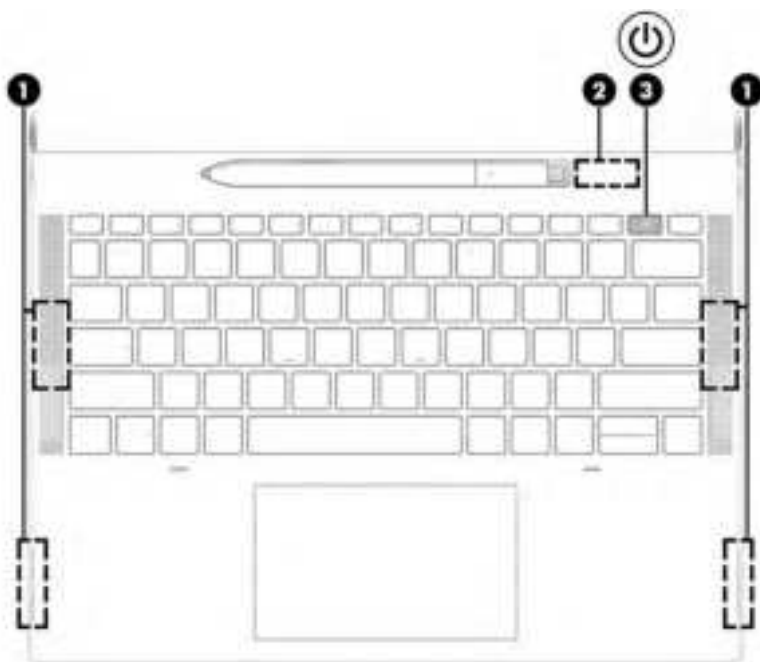
Table 2-6 Button, speakers, and SIM card tray and their descriptions

Component		Description
(1)	Speakers	Produce sound.
(2)	SIM card tray (select products only)	You can insert a SIM card in the SIM tray located inside the pen pocket. For more information, see Using a SIM card on page 14.
(3)	Power button	• When the computer is off, press the button briefly to turn on the computer. • When the computer is on, press the button briefly to initiate Sleep. • When the computer is in the Sleep state, press the button briefly to exit Sleep. **IMPORTANT:** Pressing and holding down the power button results in the loss of unsaved information. If the computer has stopped responding and shutdown procedures are ineffective, press and hold the power button for at least 4 seconds to turn off the computer. To learn more about your power settings, see your power options. ▲ Right-click the **Power meter** icon ⬛ and then select **Power Options**.

Using your HP Elite Slim Active Pen

Use the illustration and table to identify the digital pen and its features.
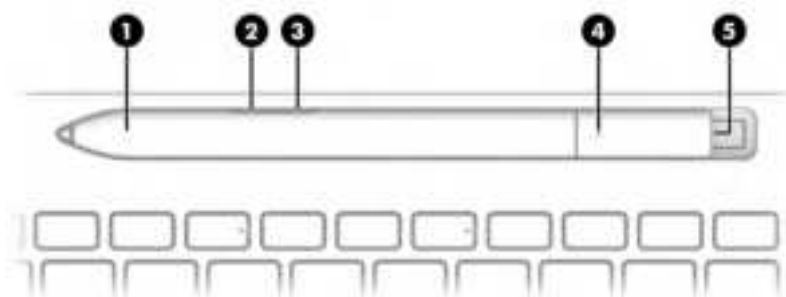
Table 2-7 Digital pen features and their descriptions

	Component	Description
(1)	Digital pen pocket	A recessed area for storing and charging the digital pen.
(2)	Bottom button	Erases content on the screen. **NOTE:** You can configure the action of this button in the pen software that is installed on your computer.
(3)	Top button	Press and hold the button and tap the screen to imitate the action of a right-click of your mouse. **NOTE:** You can configure the action of this button in the pen software that is installed on your computer.
(4)	Digital pen light	● Blinking blue (slowly): The pen is in pairing mode. ● Blinking blue (fast): The pen has paired successfully. ● Blinking red: The battery charge level is low. ● Blinking white: The pen is charging. ● White: The pen is fully charged.
(5)	Pairing button	To connect your digital pen to your computer, press and hold the pairing button for 5 seconds. For more information, see Connecting Bluetooth devices on page 18. **NOTE:** You can configure the action of this button in the pen software that is installed on your computer.

*The Regulatory Model Number (RMN) for this equipment is STA-WP01.

Turn on your digital pen by tapping the tip on any surface.

Special keys

Use the illustration and table to identify the special keys.
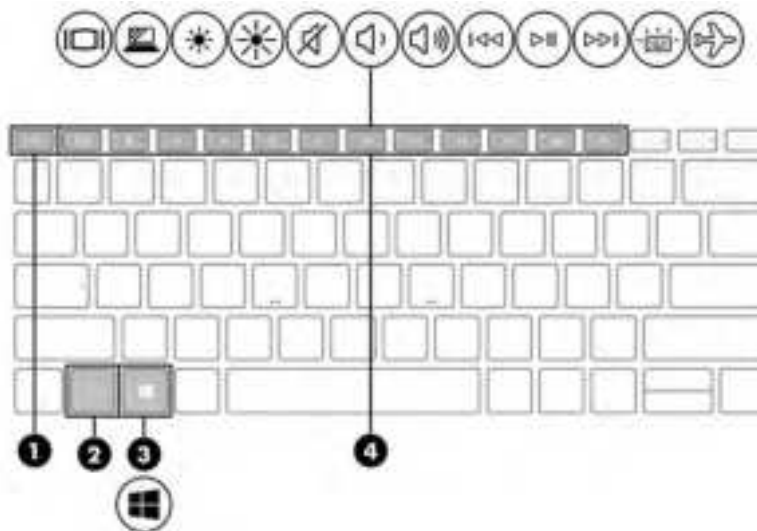
Table 2-8 Special keys and their descriptions

Component		Description
(1)	esc key	Displays system information when pressed in combination with the fn key.
(2)	fn key	Executes frequently used system functions when pressed in conjunction with another key.
(3)	Windows key	Opens the Start menu. **NOTE:** Pressing the Windows key again will close the Start menu.
(4)	Action keys	Execute frequently used system functions. See Action keys on page 11.

Action keys

Action keys perform specific functions and vary by computer. To determine which keys are on your computer, look at the icons on your keyboard and match them to the descriptions in this table.

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

Table 2-9 Action keys and their descriptions

Icon	Description
	Helps prevent side-angle viewing from onlookers. If needed, decrease or increase brightness for well-lit or darker environments. Press the key again to turn off the privacy screen. **NOTE:** To quickly turn on the highest privacy setting, press fn+p.

Table 2-9 Action keys and their descriptions (continued)

Icon	Description
☀	Decreases the screen brightness incrementally as long as you hold down the key.
☀	Increases the screen brightness incrementally as long as you hold down the key.
⌨	Turns the keyboard backlight off or on. Press the key repeatedly to adjust the brightness from high (when you first start up the computer), to low, to off. After you adjust the keyboard backlight setting, the backlight will revert to your previous setting each time you turn on the computer. The keyboard backlight will turn off after 30 seconds of inactivity. To turn the keyboard backlight back on, press any key or tap the touchpad (select products only). To conserve battery power, turn off this feature.
⏮	Plays the previous track of an audio CD or the previous section of a DVD or a Blu-ray Disc (BD).
⏯	Starts, pauses, or resumes playback of an audio CD, a DVD, or a BD.
⏭	Plays the next track of an audio CD or the next section of a DVD or a BD.
🔉	Decreases speaker volume incrementally while you hold down the key.
🔊	Increases speaker volume incrementally while you hold down the key.
🔇	Mutes or restores speaker sound.
📶	Turns the wireless feature on or off. **NOTE:** A wireless network must be set up before a wireless connection is possible.
🖥	Switches the screen image among display devices connected to the system. For example, if a monitor is connected to the computer, repeatedly pressing the key alternates the screen image from computer display to monitor display to simultaneous display on both the computer and the monitor.

NOTE: The action key feature is enabled at the factory. You can disable this feature by pressing and holding the fn key and the left shift key. The fn lock light will turn on. 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.

Hot keys

A hot key is the combination of the fn key and another key. Use the table to identify the hot keys.

To use a hot key:

▲ Press and hold the fn key, and then press one of the keys listed in the following table.

Table 2-10 Hot keys and their descriptions

Key	Description
R	Breaks the operation.
S	Sends a programing query.
W	Pauses the operation.

Labels

The labels affixed to the computer provide information you might need when you troubleshoot system problems or travel internationally with the computer. Labels might be in paper form or imprinted on the product.

IMPORTANT: Check the following locations for the labels described in this section: the bottom of the computer, inside the battery bay, under the service door, on the back of the display, or on the bottom of a tablet kickstand.

● Service label—Provides important information to identify your computer. When contacting support, you might be asked for the serial number, the product number, or the model number. Locate this information before you contact support.

Your service label will resemble one of these examples. Refer to the illustration that most closely matches the service label on your computer.
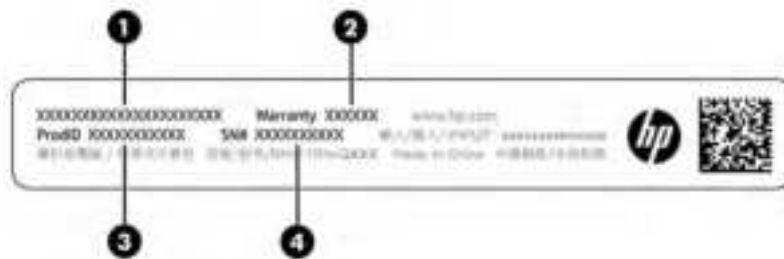
Table 2-11 Service label components

	Component
(1)	HP product name
(2)	Warranty period
(3)	Product ID
(4)	Serial number
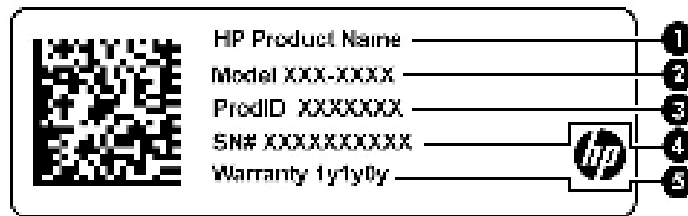
Table 2-12 Service label components

Component	
(1)	HP product name
(2)	Model number
(3)	Product ID
(4)	Serial number
(5)	Warranty period
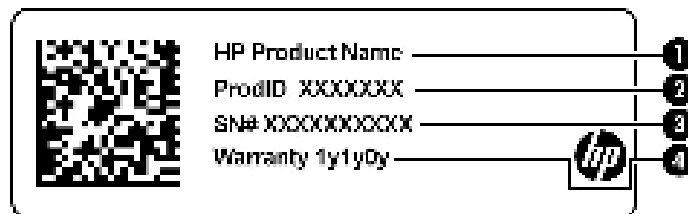
Table 2-13 Service label components

Component	
(1)	HP product name
(2)	Product ID
(3)	Serial number
(4)	Warranty period

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

● 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.

Using a SIM card

Use these instructions to insert a SIM card.

📝 **IMPORTANT:** You can damage the SIM card if you insert the wrong size card or insert it or the SIM card tray in the wrong direction. The card might also become stuck in the slot. Do not use SIM card adapters. To prevent damage to the SIM card or connectors, use minimal force when inserting or removing a SIM card.

Determining the correct SIM card size for your computer

Before purchasing a SIM card, follow these instructions to determine the correct SIM card size for your computer.

1. Go to http://www.hp.com/support, and then search for your computer by product name or number.

2. Select **Product Information**.

3. Refer to the listed options to determine which card to purchase.

Inserting a SIM card in the digital pen pocket

To insert a SIM card, follow these steps.

1. Turn off the computer by using the Shut down command.

2. Disconnect all external devices connected to the computer.

3. Unplug the power cord from the AC outlet.

4. If the digital pen is present, remove it from the pocket.

5. Insert the SIM card into the SIM card tray, and then insert the tray into the slot, and then press in on the SIM card tray until it is firmly seated.

 IMPORTANT: Do not use the digital pen to insert or remove the SIM card tray from the slot.

 NOTE: Your SIM card, SIM card tray, or the SIM card slot in your computer might look different from the illustration in this section.

 NOTE: Your SIM card slot might have an icon to show which way the card should be inserted into the computer.

3 Network connections

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

Connecting to a wireless network

Your computer is equipped with multiple wireless devices.

- WLAN device—Connects the computer 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 computer communicates with a wireless router or a wireless access point.

- HP Mobile Broadband Module (select products only)—A wireless wide area network (WWAN) device that gives you wireless connectivity over a much larger area. Mobile network operators install base stations (similar to cell phone towers) throughout large geographic areas, effectively providing coverage across entire states, regions, or even countries.

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

Using the wireless controls

You can control the wireless devices in your computer using one or more of these features.

- Wireless button (also called *airplane mode key* or *wireless key*)
- Operating system controls

Wireless button

The computer has a wireless button and two wireless devices. All the wireless devices on your computer are enabled at the factory.

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:

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

– or –

On the taskbar, select the network status icon, and then select **Network & Internet settings**.

Connecting to a WLAN

Before you can connect to a WLAN with this procedure, you must first set up internet access.

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

1. Be sure that the WLAN device is on.

2. On the taskbar, select the network status icon, and then connect to one of the available networks.

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

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

   NOTE: If you do not see the WLAN that you want to connect to:

   On the taskbar, right-click the network status icon, and then select **Open Network & Internet settings**.

   – or –

   On the taskbar, select the network status icon, and then select **Network & Internet settings**.

   Under the **Change your network settings** section, select **Network and Sharing Center**.

   Select **Set up a new connection or network**.

   A list of options is displayed, which allows you to manually search for and connect to a network or to create a new network connection.

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

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

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

Using HP Mobile Broadband

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

You might need the HP Mobile Broadband Module IMEI number, MEID number, or both to activate mobile broadband service. The number is printed on a label located on the back of the display.

– or –

1. On the taskbar, select the network status icon.

2. Select **Network & Internet settings**.

3. Under the **Network & Internet** section, select **Cellular**, and then select **Advanced Options**.

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

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

Using eSIM

Your computer supports the use of an eSIM. An eSIM is a programmable version of the commonly used SIM that you can use to download different profiles from selected carriers.

An eSIM lets you connect to the internet over a cellular data connection. With an eSIM, you do not need to get a SIM card from your mobile operator, and you can quickly switch between mobile operators and data plans. For example, you might have one cellular data plan for work and a different plan with another mobile operator for personal use. If you travel, you can connect in more places by finding mobile operators with plans in that area.

You can implement eSIMs in two ways:

- The eSIM chip can be embedded (eUICC). The notebook then operates as a dual SIM, one as eUICC and the second as standard micro or nano SIM card on a SIM card tray. Only one SIM can be active at a time.

- A removable physical eSIM is placed on a SIM card tray like a standard micro or nano SIM card, but the eSIM is not limited to a single carrier (physical blank eSIM).

You must add an eSIM profile to connect to the internet using cellular data. To add a profile, manage SIM profiles, and learn how to use an eSIM, go to https://www.support.microsoft.com , and type `Use an eSIM` in the search bar.

Using GPS

Your computer is equipped with a Global Positioning System (GPS) device. GPS satellites deliver location, speed, and direction information to GPS-equipped systems. To enable GPS, be sure that location is enabled under the Windows privacy setting.

1. Type `location` in the taskbar search box, and then select **Location privacy settings**.

2. Follow the on-screen instructions for using location settings.

Using Bluetooth wireless devices

A Bluetooth device provides short-range wireless communications that replace the physical cable connections that traditionally link electronic devices.

- Computers (desktop, notebook)
- Phones (cellular, cordless, smartphone)
- Imaging devices (printer, camera)
- Audio devices (headset, speakers)
- Mouse
- External keyboard
- Digital pen

Connecting Bluetooth devices

Before you can use a Bluetooth device, you must establish a Bluetooth connection.

1. Type `bluetooth` in the taskbar search box, and then select **Bluetooth and other devices settings**.

2. Turn on Bluetooth, if it is not already turned on.

3. Select **Add Bluetooth or other device**, and then in the **Add a device** dialog box, select **Bluetooth**.

4. Select your device from the list, and then follow the on-screen instructions.

NOTE: If the device requires verification, a pairing code is displayed. On the device that you are adding, follow the on-screen instructions to verify that the code on your device matches the pairing code. For more information, see the documentation provided with the device.

NOTE: If your device does not appear in the list, be sure that Bluetooth is turned on for that device. Some devices might have additional requirements; see the documentation provided with the device.

NOTE: The digital pen included with your computer does not automatically pair during the intial setup of your computer.

- Removing the digital pen from the digital pen pocket prompts Windows to initiate a swift pairing of the pen and show a notification on your display.

- Using the digital pen on the display when the pen has not been stored in the pen pocket and has previously powered down prompts Windows to initiate a swift pairing of the pen and show a notification on your display.

Connecting to a wired network

Your computer requires a dock or a USB adapter (sold separately) to connect to wired connections: local area network (LAN) and modem connections. A LAN connection uses a network cable and is much faster than a modem, which uses a telephone cable. Both cables are sold separately.

WARNING! To reduce the risk of electric shock, fire, or damage to the equipment, do not plug a modem cable or telephone cable into an RJ-45 (network) jack.

NOTE: Although you can connect your computer to a wired network through a docking station or external adapter, your computer does not support S4/S5 WOL (Wake on LAN) or UEFI PXE boot via LAN functionality.

4 Navigating the screen

Depending on your computer model, you can navigate the computer screen using one or more methods.

- Use touch gestures directly on the computer screen.
- Use touch gestures on the touchpad.
- Use an optional mouse or keyboard (purchased separately).
- Use an on-screen keyboard.
- Use a pointing stick.

Using touchpad and touch screen gestures

The touchpad helps you navigate the computer screen and control the pointer using simple touch gestures. You can also use the left and right touchpad buttons as you would use the corresponding buttons on an external mouse.

To navigate the touch screen, touch the screen directly using gestures described in this chapter. To customize gestures and see videos of how they work, type `control panel` in the taskbar search box, select **Control Panel**, and then select **Hardware and Sound**. Under **Devices and Printers**, select **Mouse**.

Some products include a precision touchpad, which provides enhanced gesture functionality. To determine if you have a precision touchpad and find additional information, select **Start**, select **Settings**, select **Devices**, and then select **Touchpad**.

NOTE: Unless noted, gestures can be used on both the touchpad and a touch screen.

Tap

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

Two-finger pinch zoom

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

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

Two-finger slide (touchpad and precision touchpad)

Place two fingers slightly apart on the touchpad zone and then drag them up, down, left, or right to move up, down, or sideways on a page or image.
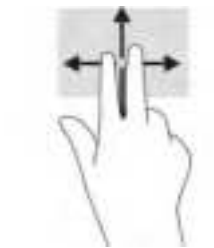
Two-finger tap (touchpad and precision touchpad)

Tap two fingers on the touchpad zone to open the options menu for the selected object.

📝 **NOTE:** The two-finger tap performs the same function as right-clicking with a mouse.
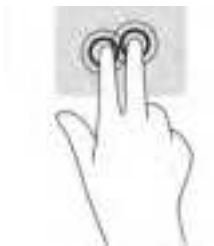
Three-finger tap (touchpad and precision touchpad)

By default, the three-finger tap opens the taskbar search box. Tap three fingers on the touchpad zone to perform the gesture.
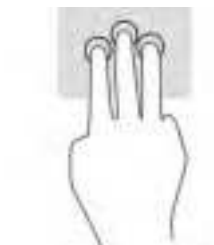
To change the function of this gesture on a precision touchpad, select **Start**, select **Settings**, select **Devices**, and then select **Touchpad**. Under **Three-finger gestures**, in the **Taps** box, select a gesture setting.

Four-finger tap (touchpad and precision touchpad)

By default, the four-finger tap opens the Action Center. Tap four fingers on the touchpad zone to perform the gesture.

To change the function of this gesture on a precision touchpad, select **Start**, select **Settings**, select **Devices**, and then select **Touchpad**. Under **Four-finger gestures**, in the **Taps** box, select a gesture setting.

Three-finger swipe (touchpad and precision touchpad)

By default, the three-finger swipe switches between open apps and the desktop.

- Swipe three fingers away from you to see all open windows.

- Swipe three fingers toward you to show the desktop.

- Swipe three fingers left or right to switch between open windows.

To change the function of this gesture on a precision touchpad, select **Start**, select **Settings**, select **Devices**, and then select **Touchpad**. Under **Three-finger gestures**, in the **Swipes** box, select a gesture setting.

Four-finger swipe (precision touchpad)

By default, the four-finger swipe switches between open desktops.

- Swipe four fingers away from you to see all open windows.

- Swipe four fingers toward you to show the desktop.

- Swipe four fingers left or right to switch between desktops.

To change the function of this gesture, select **Start**, select **Settings**, select **Devices**, and then select **Touchpad**. Under **Four-finger gestures**, in the **Swipes** box, select a gesture setting.

One-finger slide (touch screen)

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 move an object, press and hold your finger on an object, and then drag your finger to move the object.
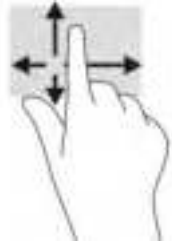
Using an optional keyboard or mouse

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

Using an on-screen keyboard

These instructions help you learn to use the on-screen keyboard.

1. To display an on-screen keyboard, tap the keyboard icon in the notification area, at the far right of the taskbar.

2. Begin typing.

   NOTE: Suggested words might be displayed above the on-screen keyboard. Tap a word to select it.

   NOTE: Action keys and hot keys do not display or function on the on-screen keyboard.

5 Entertainment features

Use your HP computer for business or pleasure to meet with others via the camera, mix audio and video, or connect external devices like a projector, monitor, TV, or speakers.

See Components on page 3 to locate the audio, video and camera features on your computer.

Using a camera

Your computer has one camera that enables you to connect with others for work or play. Your camera allows you to video chat, record video, and record still images.

To determine which camera is on your product, see Components on page 3. To use your camera, type `camera` in the taskbar search box, and then select **Camera** from the list of applications. Some cameras also feature HD (high-definition) capability, apps for gaming, or facial recognition software like Windows Hello. See Security on page 31 for details about using Windows Hello.

You can enhance your computer privacy by covering the lens with the camera privacy cover. By default, the camera lens is uncovered, but you can slide the camera privacy cover to block the camera's view. To use the camera, slide the camera privacy cover in the opposite direction to reveal the lens.

Using audio

You can download and listen to music, stream audio content (including radio) from the web, record audio, or mix audio and video to create multimedia. You can also play music CDs on an attached external optical drive.

To enhance your listening enjoyment, attach headphones or speakers.

Using sound settings

Use sound settings to adjust system volume, change system sounds, or manage audio devices.

Viewing or changing sound settings

Use these instructions to view or change sound settings.

▲ Type `control panel` in the taskbar search box, select **Control Panel**, select **Hardware and Sound**, and then select **Sound**.

Using the control panel to view and control audio settings

You can view or change sound settings using the audio control panel.

Your computer might include an enhanced sound system by Bang & Olufsen, DTS, Beats audio, or another provider. As a result, your computer might include advanced audio features that can be controlled through an audio control panel specific to your audio system.

Use the audio control panel to view and control audio settings.

▲ Type `control panel` in the taskbar search box, select **Control Panel**, select **Hardware and Sound**, and then select the audio control panel specific to your system.

Using video

Your computer 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 computer when you are not connected to a network.

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

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

NOTE: Your computer supports a maximum of two external displays.

Discovering and connecting to Miracast-compatible wireless displays

Follow these steps to discover and connect to Miracast®-compatible wireless displays without leaving your current apps.

NOTE: To learn what type of display you have (Miracast-compatible or Intel® WiDi), refer to the documentation that came with your TV or secondary display.

To discover and connect to Miracast-compatible wireless displays without leaving your current apps, follow these steps.

▲ Type `project` in the taskbar search box, and then select **Project to a second screen**. Select **Connect to a wireless display**, and then follow the on-screen instructions.

Using data transfer

Your computer is a powerful entertainment device that enables you to transfer photos, videos, and movies from your USB devices to view on your computer.

To enhance your viewing enjoyment, use one of the USB Type-C ports on the computer to connect a USB device, such as a cell phone, camera, activity tracker, or smartwatch, and transfer the files to your computer.

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

Connecting devices to a USB Type-C port

To connect devices to a USB Type-C port, follow these steps.

NOTE: To connect a USB Type-C device to your computer, you need a USB Type-C cable, purchased separately.

1. Connect one end of the USB Type-C cable to the USB Type-C port on the computer.

2. Connect the other end of the cable to the external device.

6 Managing power

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

Some power management features described in this chapter might not be available on your computer.

Using Sleep

Windows has two power-saving states, Sleep and Hibernation. Your computer does not support the use of the Hibernation state.

- Sleep—The Sleep state automatically initiates after a period of inactivity. Your work is available in memory, allowing you to resume your work quickly. You can also initiate Sleep manually. Depending on your computer model, the Sleep state might also support Modern Standby mode. This mode keeps some internal operations awake and enables your computer to receive web notifications, such as emails, while in Sleep. For more information, see Initiating and exiting Sleep on page 27.

IMPORTANT: Several well-known vulnerabilities exist when a computer is in the Sleep state. To prevent an unauthorized user from accessing data on your computer, even encrypted data, HP recommends that you always turn off your computer instead of using the Sleep state anytime the computer will be out of your physical possession. This practice is particularly important when you travel with your computer.

IMPORTANT: 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.

Initiating and exiting Sleep

You can initiate Sleep in several ways.

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

You can exit Sleep in any of the following ways:

- Briefly press the power button.
- If the computer is closed, raise the display.
- Press a key on the keyboard.
- Tap the touchpad.

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

IMPORTANT: If you have set a password to be required on exiting Sleep, you must enter your Windows password before your work returns to the screen.

Shutting down (turning off) the computer

The Shut down command closes all open programs, including the operating system, and then turns off the display and the computer. Shut down the computer when it will be unused and disconnected from external power for an extended period.

IMPORTANT: Unsaved information is lost when the computer shuts down. Be sure to save your work before shutting down the computer.

The recommended procedure is to use the Windows Shut down command.

NOTE: If the computer is in the Sleep state or in Hibernation, first exit Sleep or Hibernation by briefly pressing the power button.

1. Save your work and close all open programs.

2. Select the **Start** button, select the **Power** icon, and then select **Shut down**.

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

●   Press ctrl+alt+delete, select the **Power** icon, and then select **Shut down**.

●   Press and hold the power button for at least 4 seconds.

Using the Power icon and Power Options

The Power icon is located on the Windows taskbar. The Power icon allows you to quickly access power settings and view the remaining battery charge.

●   To view the percentage of remaining battery charge, place the mouse pointer over the **Power** icon [icon].

●   To use Power Options, right–click the **Power** icon [icon], and then select **Power Options**.

Different Power icons indicate whether the computer is running on battery or external power. Placing the mouse pointer over the icon reveals a message if the battery has reached a low or critical battery level.

Running on battery power

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

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

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

NOTE: Select computer products can switch between graphic controllers to conserve battery charge.

Using HP Fast Charge

The HP Fast Charge feature allows you to quickly charge your computer battery. Charging time might vary by ±10%. When the remaining battery charge is between 0 and 50%, the battery charges to 90% of full capacity in no more than 90 minutes.

To use HP Fast Charge, shut down your computer, and then connect the AC adapter to your computer and to external power.

Displaying battery charge

To view the percentage of remaining battery charge, place the mouse pointer over the **Power** icon.

Conserving battery power

Follow these steps to conserve battery power and maximize battery life.

- Lower the brightness of 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 computer.

Identifying low battery levels

When a battery that is the sole power source for the computer reaches a low or critical battery level, the computer warns you in one of several ways.

- The battery light indicates a low or critical battery level.

– or –

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

📝 **NOTE:** For additional information about the Power icon, see Using the Power icon and Power Options on page 28.

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

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

Resolving a low battery level

You can quickly resolve low battery level conditions.

Resolving a low battery level when external power is available

Connect one of the following to the computer and to external power.

- AC adapter

- Optional docking device or expansion product

- 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 computer.

Resolving a low battery level when the computer cannot exit Hibernation

When the battery level is low and you cannot bring the computer out of Hibernation, connect the AC adapter.

1. Connect the AC adapter to the computer and to external power.

2. Exit Hibernation by pressing the power button.

Factory-sealed battery

The battery 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.

Running on external power

For information about connecting to external power, see the *Setup Instructions* poster provided in the computer box. The computer does not use battery power when the computer is connected to external power with an approved AC adapter or an optional docking device or expansion product.

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

⚠ **WARNING!** Do not charge the computer battery while you are aboard aircraft.

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

- When charging or calibrating a battery
- When installing or updating system software
- When updating the system BIOS
- When running Disk Defragmenter on computers with internal hard drives
- When performing a backup or recovery

When you connect the computer to external power:

- The battery begins to charge.
- The Power icon ▬ changes appearance.

When you disconnect external power:

- The computer switches to battery power.
- The Power icon ▬ changes appearance.

7 Security

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

NOTE: Some security features listed in this chapter might not be available on your computer.

Protecting the computer

Standard security features provided by the Windows operating system and Computer Setup (BIOS, which runs under any operating system) can protect your personal settings and data from a variety of risks.

NOTE: Security solutions are designed to act as deterrents. These deterrents may not prevent a product from being mishandled or stolen.

NOTE: Before you send your computer for service, back up and delete confidential files, and remove all password settings.

NOTE: Your computer supports Computrace, which is an online security-based tracking and recovery service available in select regions. If the computer is stolen, Computrace can track the computer if the unauthorized user accesses the Internet. You must purchase the software and subscribe to the service to use Computrace. For information about ordering the Computrace software, go to http://www.hp.com.

Table 7-1 Security solutions

Computer risk	Security feature
Unauthorized access to Computer Setup (BIOS)	BIOS administrator password in Computer Setup
Unauthorized access to a Windows user account	Windows user password
Unauthorized access to data	Windows BitLocker

Using passwords

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

- BIOS administrator passwords are set in Computer Setup and are managed by the system BIOS.

- Windows passwords are set only in the Windows operating system.

You can use the same password for a Computer Setup feature and for a Windows security feature.

Use the following tips for creating and saving passwords:

- When creating passwords, follow requirements set by the program.

- Do not use the same password for multiple applications or websites, and do not reuse your Windows password for any other application or website.

- Do not store passwords in a file on the computer.

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

Factory-sealed battery

The battery 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.

Setting passwords in Windows

Windows passwords can help protect your computer from unauthorized access.

Table 7-2 Types of Windows passwords and their functions

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

Setting passwords in Computer Setup

Computer Setup passwords provide additional layers of security for your computer.

Table 7-3 Types of Computer Setup passwords and their functions

Password	Function
BIOS administrator password*	Protects access to Computer Setup.
	NOTE: If features have been enabled to prevent removing the BIOS administrator password, you may not be able to remove it until those features have been disabled.

*For details, see the following topics.

Managing a BIOS administrator password

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

Setting a new BIOS administrator password

A BIOS administrator password helps prevent unauthorized access to Computer Setup. Use these instructions to set a new BIOS administrator password.

1. Start Computer Setup.

    - Computers with keyboards:

        ▲ Turn on or restart the computer, and when the HP logo appears, press f10 to enter Computer Setup.

2. Select **Security**, select **Create BIOS administrator password** or **Set Up BIOS administrator Password**, and then press enter.

3. When prompted, type a password.

4. When prompted, type the new password again to confirm.

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

📝 **NOTE:** If you are using arrow keys to highlight your choice, you must then press enter.

Your changes go into effect when the computer restarts.

Changing a BIOS administrator password

Use these instructions to change a BIOS administrator password.

1. Start Computer Setup.

   ● Computers with keyboards:

      ▲ Turn on or restart the computer, and when the HP logo appears, press f10 to enter Computer Setup.

2. Enter your current BIOS administrator password.

3. Select **Security**, select **Change BIOS administrator Password** or **Change Password**, and then press enter.

4. When prompted, type your current password.

5. When prompted, type your new password.

6. When prompted, type your new password again to confirm.

7. To save your changes and exit Computer Setup, select **Main**, select **Save Changes and Exit**, and then select **Yes**.

📝 **NOTE:** If you are using arrow keys to highlight your choice, you must then press enter.

Your changes go into effect when the computer restarts.

Deleting a BIOS administrator password

Use these instructions to delete a BIOS administrator password.

1. Start Computer Setup.

   ● Computers with keyboards:

      ▲ Turn on or restart the computer, and when the HP logo appears, press f10 to enter Computer Setup.

2. Enter your current BIOS administrator password.

3. Select **Security**, select **Change BIOS administrator Password** or **Change Password**, and then press enter.

4. When prompted, type your current password.

5. When prompted for the new password, leave the field empty, and then press enter.

6. When prompted to type your new password again, leave the field empty, and then press enter.

7. To save your changes and exit Computer Setup, select **Main**, select **Save Changes and Exit**, and then select **Yes**.

NOTE: If you are using arrow keys to highlight your choice, you must then press enter.

Your changes go into effect when the computer restarts.

Entering a BIOS administrator password

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

Windows Hello

Windows Hello allows you to enroll your facial ID and set up a PIN. After enrollment, you can use your facial ID or PIN to sign in to Windows.

To set up Windows Hello:

1. Select the **Start** button, select **Settings**, select **Accounts**, and then select **Sign-in options**.

2. To add a password, select **Password**, and then select **Add**.

3. Under **Windows Hello Face**, select **Set up**.

4. Select **Get Started**, and then follow the on-screen instructions to enroll your facial ID and set up a PIN.

NOTE: The PIN is not limited in length. The default setting is for numbers only. To include alphabetic or special characters, select the **include letters and symbols** check box.

Using antivirus software

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

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

Windows Defender is preinstalled on your computer. HP strongly recommends that you continue to use an antivirus program to fully protect your computer.

Using firewall software

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

There are two types of firewalls to consider:

● Host-based firewalls—Software that protects only the computer it is installed on.

● Network-based firewalls—Installed between your DSL or cable modem and your home network to protect all the computers on the network.

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

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

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

Installing software updates

HP, Windows, and third-party software installed on your computer should be regularly updated to correct security problems and improve software performance.

To view or change the settings:

IMPORTANT: Microsoft sends out alerts regarding Windows updates, which may include security updates. To protect the computer from security breaches and computer viruses, install all updates from Microsoft as soon as you receive an alert.

You can install these updates automatically.

1. Select the **Start** button, select **Settings**, and then select **Update & Security**.

2. Select **Windows Update**, and then follow the on-screen instructions.

3. To schedule a time for installing updates, select **Advanced Options**, and then follow the on-screen instructions.

8 Maintenance

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

Improving performance

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

Using Disk Defragmenter

HP recommends using Disk Defragmenter to defragment your hard drive at least once a month.

To run Disk Defragmenter:

NOTE: It is not necessary to run Disk Defragmenter on solid-state drives.

1. Connect the computer to AC power.

2. Type defragment in the taskbar search box, and then select **Defragment and Optimize Drives**.

3. Follow the on-screen instructions.

For additional information, access the Disk Defragmenter software Help.

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 computer run more efficiently.

To run Disk Cleanup:

1. Type disk in the taskbar search box, and then select **Disk Cleanup**.

2. Follow the on-screen instructions.

Updating programs and drivers

HP recommends that you update your programs and drivers regularly. Updates can resolve issues and provide new features and options. For example, older graphics components might not work well with the most recent gaming software. Without the latest driver, you do not get 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 notifications when updates become available.

Cleaning your computer

Cleaning your computer regularly removes dirt and debris so that your device continues to operate at its best. Use the following information to safely clean the external surfaces of your computer.

Removing dirt and debris from your computer

Here are the recommended steps to clean dirt and debris from your computer.

1. Wear disposable gloves made of latex (or nitrile gloves, if you are latex-sensitive) when cleaning the surfaces.

2. Turn off your device and unplug the power cord and other connected external devices. Remove any installed batteries from items such as wireless keyboards.

   ⚠ **CAUTION:** To prevent electric shock or damage to components, never clean a product while it is turned on or plugged in.

3. Moisten a microfiber cloth with diluted mild detergent or household cleaner. The cloth should be moist, but not dripping wet.

   📝 **IMPORTANT:** To avoid damaging the surface, avoid abrasive cloths, towels, and paper towels.

4. Wipe the exterior of the product gently with the moistened cloth.

   📝 **IMPORTANT:** Keep liquids away from the product. Avoid getting moisture in any openings. If liquid makes its way inside your HP product, it can cause damage to the product. Do not spray liquids directly on the product. Do not use aerosol sprays, solvents, abrasives, or cleaners containing hydrogen peroxide or bleach that might damage the finish.

5. Start with the display (if applicable). Wipe carefully in one direction, and move from the top of the display to the bottom. Finish with any flexible cables, like power cord, keyboard cable, and USB cables.

6. Be sure that surfaces have completely air-dried before turning the device on after cleaning.

7. Discard the gloves after each cleaning. Clean your hands immediately after you remove the gloves.

See for recommended steps to clean the high-touch, external surfaces on your computer to help prevent the spread of harmful bacteria and viruses.

Cleaning your computer with a disinfectant

The World Health Organization (WHO) recommends cleaning surfaces, followed by disinfection, as a best practice for preventing the spread of viral respiratory illnesses and harmful bacteria.

After cleaning the external surfaces of your computer using the steps in , you might also choose to clean the surfaces with a disinfectant. A disinfectant that is within HP's cleaning guidelines is an alcohol solution consisting of 70% isopropyl alcohol and 30% water. This solution is also known as rubbing alcohol and is sold in most stores.

Follow these steps when disinfecting high-touch, external surfaces on your computer:

1. Wear disposable gloves made of latex (or nitrile gloves, if you are latex-sensitive) when cleaning the surfaces.

2. Turn off your device and unplug the power cord and other connected external devices. Remove any installed batteries from items such as wireless keyboards.

   ⚠ **CAUTION:** To prevent electric shock or damage to components, never clean a product while it is turned on or plugged in.

3. Moisten a microfiber cloth with a mixture of 70% isopropyl alcohol and 30% water. The cloth should be moist, but not dripping wet.

> **CAUTION:** Do not use any of the following chemicals or any solutions that contain them, including spray-based surface cleaners: bleach, peroxides (including hydrogen peroxide), acetone, ammonia, ethyl alcohol, methylene chloride, or any petroleum-based materials, such as gasoline, paint thinner, benzene, or toluene.

> **IMPORTANT:** To avoid damaging the surface, avoid abrasive cloths, towels, and paper towels.

4. Wipe the exterior of the product gently with the moistened cloth.

> **IMPORTANT:** Keep liquids away from the product. Avoid getting moisture in any openings. If liquid makes its way inside your HP product, it can cause damage to the product. Do not spray liquids directly on the product. Do not use aerosol sprays, solvents, abrasives, or cleaners containing hydrogen peroxide or bleach that might damage the finish.

5. Start with the display (if applicable). Wipe carefully in one direction, and move from the top of the display to the bottom. Finish with any flexible cables, like power cord, keyboard cable, and USB cables.

6. Be sure that surfaces have completely air-dried before turning the device on after cleaning.

7. Discard the gloves after each cleaning. Clean your hands immediately after you remove the gloves.

Traveling with or shipping your computer

If you must travel with or ship your computer, follow these tips to keep your equipment safe.

- Prepare the computer 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 computer.
- Take a backup of your information. Keep the backup separate from the computer.
- When traveling by air, carry the computer as hand luggage; do not check it in with the rest of your luggage.

> **IMPORTANT:** 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 computer during a flight, listen for the in-flight announcement that tells you when you can use your computer. In-flight computer use is at the discretion of the airline.
- If you are shipping the computer or a drive, use suitable protective packaging and label the package "FRAGILE."
- The use of wireless devices might be restricted in some environments. Such restrictions might 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 wireless device in your computer, ask for authorization to use your computer before you turn it on.
- If you are traveling internationally, follow these suggestions:
    - Check the computer-related customs regulations for each country or region on your itinerary.
    - Check the power cord and adapter requirements for each location in which you plan to use the computer. Voltage, frequency, and plug configurations vary.

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

9   Backing up, restoring, and recovering

You can use Windows tools to back up your information, create a restore point, reset your computer, create recovery media, or restore your computer to its factory state. Performing these standard procedures can return your computer to a working state faster.

Backing up information and creating recovery media

You can use Windows tools for backing up your information.

Using Windows tools for backing up

HP recommends that you back up your information immediately after initial setup. You can do this task either using Windows Backup locally with an external USB drive or using online tools.

> **IMPORTANT:**   Windows is the only option that allows you to back up your personal information. Schedule regular backups to avoid information loss.

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

Restoring and recovering your system

You have several tools available to recover your system both within and outside of Windows if the desktop cannot load.

HP recommends that you attempt to restore your system using the .

Creating a system restore

System Restore is available in Windows. The System Restore software can automatically or manually create restore points, or snapshots, of the system files and settings on the computer at a particular point.

When you use System Restore, it returns your computer to its state at the time you made the restore point. Your personal files and documents should not be affected.

Restoring and recovery methods

After you run the first method, test to see whether the issue still exists before you proceed to the next method, which might now be unnecessary.

1.   Run a Microsoft System Restore.

2.   Run Reset this PC.

For more information about the first two methods, see the Get Help app:

Select the **Start** button, select the **Get Help** app, and then enter the task you want to perform.

> **NOTE:**   You must be connected to the internet to access the Get Help app.

10   Computer Setup (BIOS)

HP provides several tools to help set up and protect your computer.

Using Computer Setup

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

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

To start Computer Setup, turn on or restart the computer, and when the HP logo appears, press f10 to enter Computer Setup.

Navigating and selecting in Computer Setup

You can navigate and select in Computer Setup using one or more methods.

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

- To scroll up and down, select the up arrow or the down arrow in the upper-right corner of the screen, or use the up arrow key or the down arrow key on the keyboard.

- To close open dialog boxes and return to the main Computer Setup screen, press esc, and then follow the on-screen instructions.

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

- To exit Computer Setup menus without saving your changes, select **Main**, select **Ignore Changes and Exit**, and then select **Yes**.

  NOTE: If you are using arrow keys to highlight your choice, you must then press enter.

- To save your changes and exit Computer Setup menus, select **Main**, select **Save Changes and Exit**, and then select **Yes**.

  NOTE: If you are using arrow keys to highlight your choice, you must then press enter.

Your changes go into effect when the computer restarts.

Updating the BIOS

Updated versions of the BIOS will be available on through Windows Update. If Windows Update is enabled to automatically download and install BIOS updates on your computer, the BIOS will update the next time you restart your computer.

11 Using HP PC Hardware Diagnostics UEFI

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

> **NOTE:** For Windows 10 S computers, you must use a Windows computer and a USB flash drive to download and create the HP UEFI support environment because only .exe files are provided. For more information, see Downloading HP PC Hardware Diagnostics UEFI to a USB flash drive on page 42.

If your PC does not start in Windows, you can use HP PC Hardware Diagnostics UEFI to diagnose hardware issues.

Using an HP PC Hardware Diagnostics Windows hardware failure ID code

When HP PC Hardware Diagnostics Windows detects a failure that requires hardware replacement, a 24-digit Failure ID code is generated.

▲ Depending on the instructions on the screen, choose one of these options:

- If failure ID link is displayed, select the link and follow the on-screen instructions.

- If instructions for calling support are displayed. Follow those instructions.

Starting HP PC Hardware Diagnostics UEFI

To start HP PC Hardware Diagnostics UEFI, follow this procedure.

1. Turn on or restart the computer, and quickly press esc.

2. Press f2.

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

    a. Connected USB flash drive

    > **NOTE:** To download the HP PC Hardware Diagnostics UEFI tool to a USB flash drive, see Downloading the latest HP PC Hardware Diagnostics UEFI version on page 43.

    b. Hard drive

    c. BIOS

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

Downloading HP PC Hardware Diagnostics UEFI to a USB flash drive

Downloading HP PC Hardware Diagnostics UEFI to a USB flash drive can be useful in some situations.

- HP PC Hardware Diagnostics UEFI is not included in the preinstallation image.

- HP PC Hardware Diagnostics UEFI is not included in the HP Tool partition.

- The hard drive is damaged.

NOTE: The HP PC Hardware Diagnostics UEFI downloading instructions are provided in English only, and you must use a Windows computer to download and create the HP UEFI support environment because only .exe files are provided.

Downloading the latest HP PC Hardware Diagnostics UEFI version

To download the latest HP PC Hardware Diagnostics UEFI version to a USB flash drive, follow this procedure.

1. Go to http://www.hp.com/go/techcenter/pcdiags. The HP PC Diagnostics home page is displayed.

2. Select **Download HP Diagnostics UEFI**, and then select **Run**.

Downloading HP PC Hardware Diagnostics UEFI by product name or number

You can download HP PC Hardware Diagnostics UEFI by product name or number to a USB flash drive.

NOTE: For some products, you might have to download the software to a USB flash drive by using the product name or number.

1. Go to http://www.hp.com/support.

2. Enter the product name or number, select your computer, and then select your operating system.

3. In the **Diagnostics** section, follow the on-screen instructions to select and download the specific UEFI Diagnostics version for your computer.

12 Specifications

When you travel with or store your computer, the input power ratings and operating specifications provide helpful information.

Input power

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

The computer 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 V–240 V, 50 Hz–60 Hz. Although the computer 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 computer.

The computer can operate on DC power within one or more of the following specifications. The voltage and current for your computer is located on the regulatory label.

Table 12-1 DC power specifications

Input Power	Rating
Operating voltage and current	5 V dc @ 2 A / 12 V dc @ 3 A /15 V dc @ 3 A – 45 W USB-C®
	5 V dc @ 3 A / 9 V dc @ 3 A / 12 V dc @ 3.75 A /15 V dc @ 3 A – 45 W USB-C
	5 V dc @ 3 A / 9 V dc @ 3 A / 10 V dc @ 3.75 A / 12 V dc @ 3.75 A / 15 V dc @ 3 A / 20 V dc @ 2.25 A – 45 W USB-C
	5 V dc @ 3 A / 9 V dc @ 3 A / 12 V dc @ 5 A / 15 V dc @ 4.33 A / 20 V dc @ 3.25 A – 65 W USB-C
	5 V dc @ 3 A / 9 V dc @ 3 A / 10 V dc @ 5 A / 12 V dc @ 5 A / 15 V dc @ 4.33 A / 20 V dc @ 3.25 A – 65 W USB-C
	5 V dc @ 3 A / 9 V dc @ 3 A / 10 V dc @ 5 A / 12 V dc @ 5 A / 15 V dc @ 5 A / 20 V dc @ 4.5 A – 90 W USB-C

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

Operating environment

Use the operating specifications for helpful information when you travel with or store your computer.

Table 12-2 Operating environment specifications

Factor	Metric	U.S.
Temperature		
Operating (writing to optical disc)	**5°C to 35°C**	41°F to 95°F
Nonoperating	**−20°C to 60°C**	−4°F to 140°F
Relative humidity (noncondensing)		

Table 12-2 Operating environment specifications (continued)

Factor	Metric	U.S.
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.

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

- If removal or installation instructions direct you to unplug the computer, first be sure that it is properly grounded.

- Keep components in their electrostatic-safe containers until you are ready to install them.

- Avoid touching pins, leads, and circuitry. Handle electronic components as little as possible.

- Use nonmagnetic tools.

- Before handling components, discharge static electricity by touching an unpainted metal surface.

- If you remove a component, place it in an electrostatic-safe container.

14   Accessibility

HP's goal is to design, produce, and market products, services, and information that everyone everywhere can use, either on a stand-alone basis or with appropriate third-party assistive technology (AT) devices or applications.

HP and accessibility

Because HP works to weave diversity, inclusion, and work/life into the fabric of the company, it is reflected in everything HP does. HP strives to create an inclusive environment focused on connecting people to the power of technology throughout the world.

Finding the technology tools you need

Technology can unleash your human potential. Assistive technology removes barriers and helps you create independence at home, at work, and in the community. Assistive technology helps increase, maintain, and improve the functional capabilities of electronic and information technology.

For more information, see .

The HP commitment

HP is committed to providing products and services that are accessible for people with disabilities. This commitment supports the company's diversity objectives and helps ensure that the benefits of technology are available to all.

The HP accessibility goal is to design, produce, and market products and services that can be effectively used by everyone, including people with disabilities, either on a stand-alone basis or with appropriate assistive devices.

To achieve that goal, this Accessibility Policy establishes seven key objectives to guide HP actions. All HP managers and employees are expected to support these objectives and their implementation in accordance with their roles and responsibilities:

- Raise the level of awareness of accessibility issues within HP, and provide employees with the training they need to design, produce, market, and deliver accessible products and services.

- Develop accessibility guidelines for products and services, and hold product development groups accountable for implementing these guidelines where competitively, technically, and economically feasible.

- Involve people with disabilities in the development of accessibility guidelines and in the design and testing of products and services.

- Document accessibility features, and make information about HP products and services publicly available in an accessible form.

- Establish relationships with leading assistive technology and solution providers.

- Support internal and external research and development that improves assistive technology relevant to HP products and services.

- Support and contribute to industry standards and guidelines for accessibility.

International Association of Accessibility Professionals (IAAP)

IAAP is a not-for-profit association focused on advancing the accessibility profession through networking, education, and certification. The objective is to help accessibility professionals develop and advance their careers and to better enable organizations to integrate accessibility into their products and infrastructure.

As a founding member, HP joined to participate with other organizations to advance the field of accessibility. This commitment supports HP's accessibility goal of designing, producing, and marketing products and services that people with disabilities can effectively use.

IAAP will make the profession strong by globally connecting individuals, students, and organizations to learn from one another. If you are interested in learning more, go to http://www.accessibilityassociation.org to join the online community, sign up for newsletters, and learn about membership options.

Finding the best assistive technology

Everyone, including people with disabilities or age-related limitations, should be able to communicate, express themselves, and connect with the world using technology. HP is committed to increasing accessibility awareness within HP and with our customers and partners.

Whether it's large fonts that are easy on the eyes, voice recognition that lets you give your hands a rest, or any other assistive technology to help with your specific situation—a variety of assistive technologies make HP products easier to use. How do you choose?

Assessing your needs

Technology can unleash your potential. Assistive technology removes barriers and helps you create independence at home, at work, and in the community. Assistive technology (AT) helps increase, maintain, and improve the functional capabilities of electronic and information technology.

You can choose from many AT products. Your AT assessment should allow you to evaluate several products, answer your questions, and facilitate your selection of the best solution for your situation. You will find that professionals qualified to do AT assessments come from many fields, including those licensed or certified in physical therapy, occupational therapy, speech/language pathology, and other areas of expertise. Others, while not certified or licensed, can also provide evaluation information. You will want to ask about the individual's experience, expertise, and fees to determine if they are appropriate for your needs.

Accessibility for HP products

These links provide information about accessibility features and assistive technology, if applicable, included in various HP products. These resources will help you select the specific assistive technology features and products most appropriate for your situation.

- HP Elite x3–Accessibility Options (Windows 10 Mobile)
- HP PCs–Windows 7 Accessibility Options
- HP PCs–Windows 8 Accessibility Options
- HP PC's–Windows 10 Accessibility Options
- HP Slate 7 Tablets–Enabling Accessibility Features on Your HP Tablet (Android 4.1/Jelly Bean)
- HP SlateBook PCs–Enabling Accessibility Features (Android 4.3,4.2/Jelly Bean)
- HP Chromebook PCs–Enabling Accessibility Features on Your HP Chromebook or Chromebox (Chrome OS)
- HP Shopping–peripherals for HP products

If you need additional support with the accessibility features on your HP product, see Contacting support on page 51.

Additional links to external partners and suppliers that may provide additional assistance:

- Microsoft Accessibility information (Windows 7, Windows 8, Windows 10, Microsoft Office)

- Google Products accessibility information (Android, Chrome, Google Apps)

- Assistive Technologies sorted by impairment type

- Assistive Technology Industry Association (ATIA)

Standards and legislation

Countries worldwide are enacting regulations to improve access to products and services for persons with disabilities. These regulations are historically applicable to telecommunications products and services, PCs and printers with certain communications and video playback features, their associated user documentation, and their customer support.

Standards

The US Access Board created Section 508 of the Federal Acquisition Regulation (FAR) standards to address access to information and communication technology (ICT) for people with physical, sensory, or cognitive disabilities.

The standards contain technical criteria specific to various types of technologies, as well as performance-based requirements which focus on functional capabilities of covered products. Specific criteria cover software applications and operating systems, web-based information and applications, computers, telecommunications products, video and multimedia, and self-contained closed products.

Mandate 376 – EN 301 549

The European Union created the EN 301 549 standard within Mandate 376 as an online toolkit for public procurement of ICT products. The standard specifies the accessibility requirements applicable to ICT products and services, with a description of the test procedures and evaluation methodology for each requirement.

Web Content Accessibility Guidelines (WCAG)

Web Content Accessibility Guidelines (WCAG) from the W3C's Web Accessibility Initiative (WAI) helps web designers and developers create sites that better meet the needs of people with disabilities or age-related limitations.

WCAG advances accessibility across the full range of web content (text, images, audio, and video) and web applications. WCAG can be precisely tested, is easy to understand and use, and allows web developers flexibility for innovation. WCAG 2.0 has also been approved as ISO/IEC 40500:2012.

WCAG specifically addresses barriers to accessing the web experienced by people with visual, auditory, physical, cognitive, and neurological disabilities, and by older web users with accessibility needs. WCAG 2.0 provides characteristics of accessible content:

- **Perceivable** (for instance, by addressing text alternatives for images, captions for audio, adaptability of presentation, and color contrast)

- **Operable** (by addressing keyboard access, color contrast, timing of input, seizure avoidance, and navigability)

- **Understandable** (by addressing readability, predictability, and input assistance)

- **Robust** (for instance, by addressing compatibility with assistive technologies)

Legislation and regulations

Accessibility of IT and information has become an area of increasing legislative importance. These links provide information about key legislation, regulations, and standards.

- United States

- Canada

- Europe

- Australia

- Worldwide

Useful accessibility resources and links

These organizations, institutions, and resources might be good sources of information about disabilities and age-related limitations.

NOTE: This is not an exhaustive list. These organizations are provided for informational purposes only. HP assumes no responsibility for information or contacts you encounter on the Internet. Listing on this page does not imply endorsement by HP.

Organizations

These organizations are a few of the many that provide information about disabilities and age-related limitations.

- American Association of People with Disabilities (AAPD)

- The Association of Assistive Technology Act Programs (ATAP)

- Hearing Loss Association of America (HLAA)

- Information Technology Technical Assistance and Training Center (ITTATC)

- Lighthouse International

- National Association of the Deaf

- National Federation of the Blind

- Rehabilitation Engineering & Assistive Technology Society of North America (RESNA)

- Telecommunications for the Deaf and Hard of Hearing, Inc. (TDI)

- W3C Web Accessibility Initiative (WAI)

Educational institutions

Many educational institutions, including these examples, provide information about disabilities and age-related limitations.

- California State University, Northridge, Center on Disabilities (CSUN)

- University of Wisconsin - Madison, Trace Center

- University of Minnesota computer accommodations program

Other disability resources

Many resources, including these examples, provide information about disabilities and age-related limitations.

- ADA (Americans with Disabilities Act) Technical Assistance Program

- ILO Global Business and Disability network

- EnableMart

- European Disability Forum

- Job Accommodation Network

- Microsoft Enable

HP links

These HP-specific links provide information that relates to disabilities and age-related limitations.

Our contact webform

HP comfort and safety guide

HP public sector sales

Contacting support

HP offers technical support and assistance with accessibility options for customers with disabilities.

> **NOTE:** Support is in English only.

- Customers who are deaf or hard of hearing who have questions about technical support or accessibility of HP products:

    - Use TRS/VRS/WebCapTel to call (877) 656-7058 Monday through Friday, 6 a.m. to 9 p.m. Mountain Time.

- Customers with other disabilities or age-related limitations who have questions about technical support or accessibility of HP products, choose one of the following options:

    - Call (888) 259-5707 Monday through Friday, 6 a.m. to 9 p.m. Mountain Time.

    - Complete the Contact form for people with disabilities or age-related limitations.

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