



User Guide

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Product notice

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

Not all features are available in all editions or versions of Windows. Systems may 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 may apply and additional requirements may apply over time for updates. Go to <http://www.microsoft.com> for details.

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

The projector and desk lamp are intended to be used for image projection and image capture; they are not intended for use in other applications.

Safety notice

LED of projector - Classification of risk groups:
Risk Group 1

Software terms

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

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

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1 Getting to know your Sprout

Your Sprout immersive 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 immersive computer and where to find additional HP resources.

Finding hardware and software information

Locating hardware

To find out what hardware is installed on your Sprout:

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

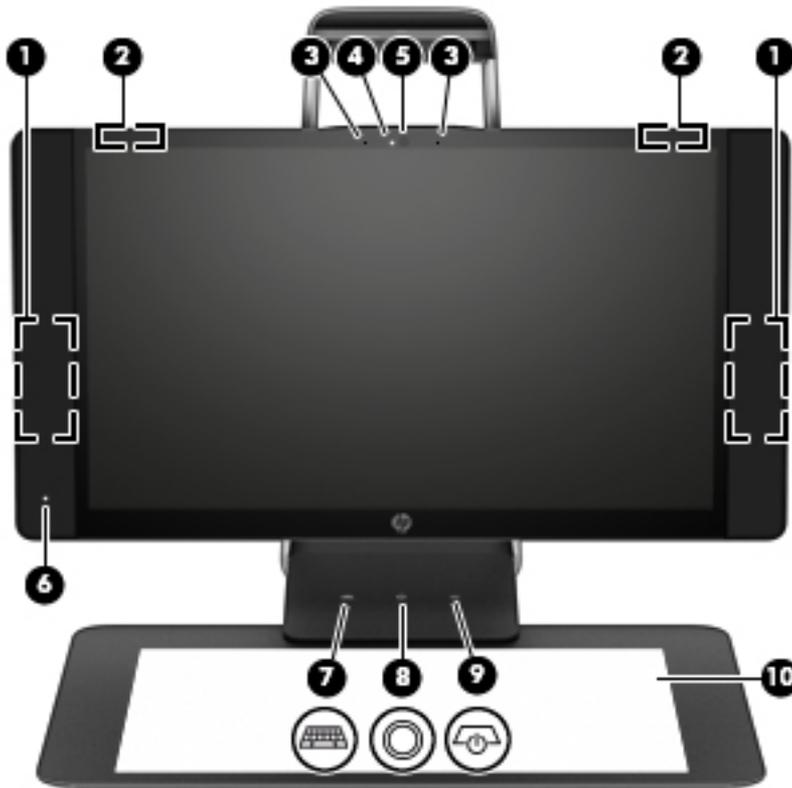
A list displays all the devices installed on your Sprout.

Locating software

To find out what software is installed on your immersive computer:

- ▲ Select the **Start** button, and then select **All apps**.

Front



Component	Description
(1) Speakers (2)	Produce sound.
(2) WLAN antennas (2)*	Send and receive wireless signals.
(3) Internal microphones (2)	Record audio, automatically filtering out the noise around you.
(4) Webcam light	On: The webcam is on.
(5) Webcam	Records video and takes still photographs. To use the webcam: ▲ Type <code>camera</code> in the taskbar search box, and then select Camera .
(6) Power light	<ul style="list-style-type: none"> 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 unneeded components. Off: The computer is off or in Hibernation. Hibernation is a power-saving state that uses the least amount of power.
(7)  Keyboard button/light	Projects the keyboard on the touch mat.
(8)  Home button/light	Displays Sprout Workspace.

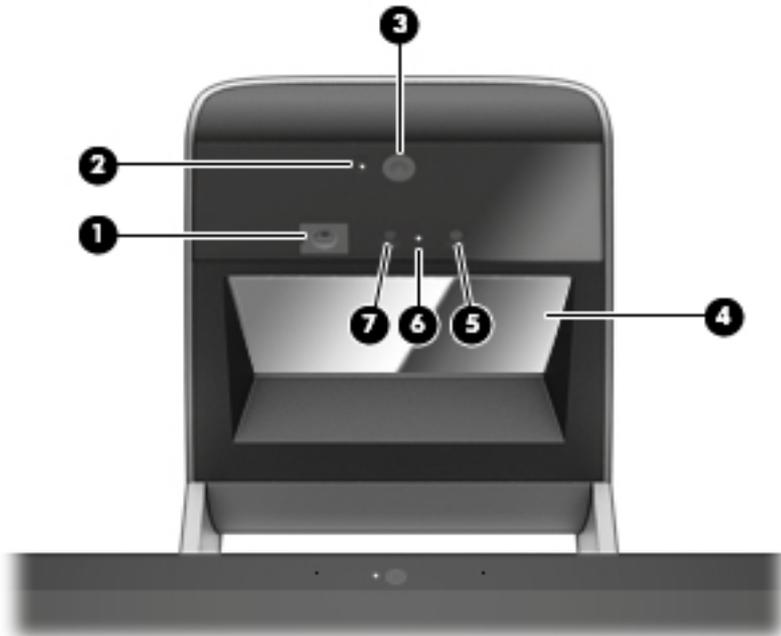
Component	Description
(9)  Projector/touch mat button/light	<ul style="list-style-type: none"> • Tap the button to turn off touch capability on the mat. • Touch-and-hold to turn off the projector. • When the projector is off, tap the button to turn both the projector and the touch mat on.
(10) HP Touch Mat	A touch-sensitive mat on which you can project Sprout Workspace to create a horizontal touch screen.

*The antennas are not visible from the outside of the computer. For optimal transmission, keep the areas immediately around the antennas free from obstructions. For wireless regulatory notices, see the section of the *Regulatory, Safety, and Environmental Notices* that applies to your country or region.

To access this document:

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

Sprout Illuminator

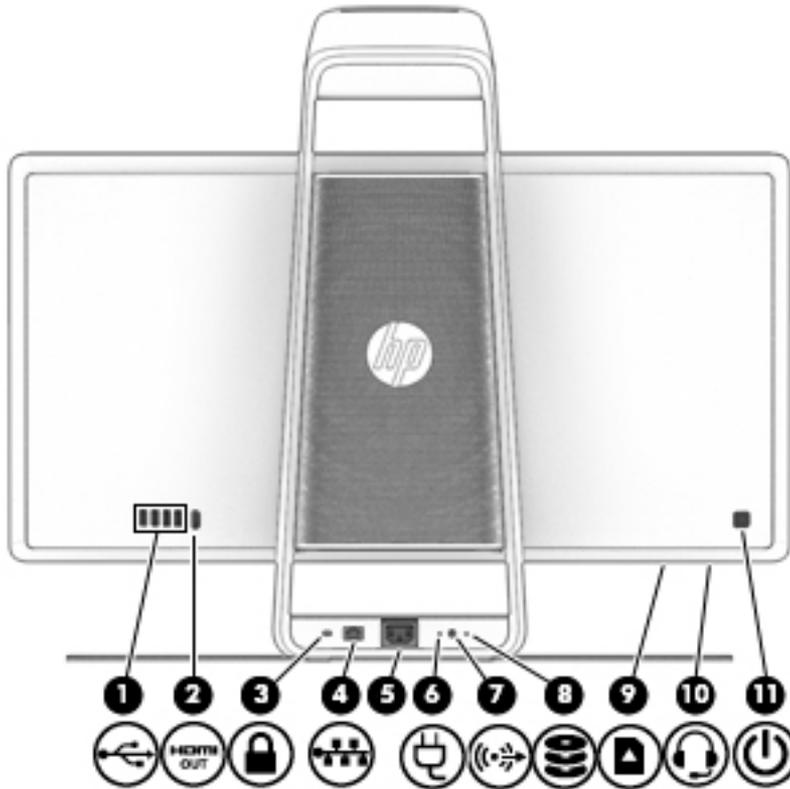


CAUTION: To prevent damage to your vision, avoid staring directly at the lights on Sprout Illuminator.

Component	Description
(1) Desk lamp touch sensor	Touch to turn the desk lamp on, to dim it, or to turn it off.
(2) High-resolution camera light	On: The high-resolution camera is on.
(3) Desk lamp	Illuminates the touch mat.
(4) Projector mirror	Projects Sprout Workspace onto the touch mat.
(5) Depth camera	Captures three-dimensional images.

Component		Description
(6)	Depth camera light	On: The depth camera is on.
(7)	High-resolution camera	Captures high-resolution images from the touch mat.

Rear



Component		Description
(1)		USB 2.0 ports (4) Connect optional USB 2.0 devices.
(2)		HDMI output port Projects the computer screen display to an external monitor. NOTE: The HDMI output port cannot be used as an input from a TV, a game console, or a set top box.
(3)		Security cable slot Attaches an optional security cable to the computer. NOTE: The security cable may not prevent the computer from being mishandled or stolen.
(4)		RJ-45 (network) jack Connects a network cable.
(5)		Power connector Connects a power cord.
(6)		Power supply light On: The power cord is connected.

Component	Description
<p>(7)  Audio-out (headphone) jack</p>	<p>Connects optional powered stereo speakers, headphones, earbuds, a headset, or a television audio cable. Also connects an optional headset microphone. This jack does not support optional microphone-only devices.</p> <p>WARNING! To reduce the risk of personal injury, adjust the volume before putting on headphones, earbuds, or a headset. For additional safety information, see the <i>Regulatory, Safety, and Environmental Notices</i>.</p> <p>To access this guide:</p> <ol style="list-style-type: none"> 1. Type <code>support</code> in the taskbar search box, and then select the HP Support Assistant app. <p>– or –</p> <p>Click the question mark icon in the taskbar.</p> <ol style="list-style-type: none"> 2. Select My PC, select the Specifications tab, and then select User Guides. <p>NOTE: When a device is connected to the jack, the computer speakers are disabled.</p>
<p>(8)  Drive light</p>	<ul style="list-style-type: none"> • Blinking white: The hard drive is being accessed. • Amber: HP 3D DriveGuard has temporarily parked the hard drive. <p>NOTE: For information about HP 3D Driveguard, see Using HP 3D DriveGuard (select products only) on page 15.</p>
<p>(9)  Memory card reader</p>	<p>Reads optional memory cards (SD, SDHC and SDXC) that store, manage, share, or access information.</p> <p>To insert a card:</p> <ol style="list-style-type: none"> 1. Hold the card label-side up, with the connectors facing the computer. 2. Insert the card into the memory card reader, and then press in on the card until it is firmly seated. <p>To remove a card, pull the card out from the memory reader.</p>
<p>(10)  Audio-out (headphone)/Audio-in (microphone) jack</p>	<p>Connects optional powered stereo speakers, headphones, earbuds, a headset, or a television audio cable.</p> <p>WARNING! To reduce the risk of personal injury, adjust the volume before putting on headphones, earbuds, or a headset. For additional safety information, refer to the <i>Regulatory, Safety, and Environmental Notices</i>.</p> <p>To access this guide:</p> <ol style="list-style-type: none"> 1. Type <code>support</code> in the taskbar search box, and then select the HP Support Assistant app. <p>– or –</p> <p>Click the question mark icon in the taskbar.</p> <ol style="list-style-type: none"> 2. Select My PC, select the Specifications tab, and then select User Guides.

Component	Description
(11)  Power button	<p>NOTE: When a device is connected to the headphone jack, the computer speakers are disabled.</p> <ul style="list-style-type: none"> • When the computer is off, press the button 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. • When the computer is in Hibernation, press the button briefly to exit Hibernation. <p>CAUTION: Pressing and holding down the power button will result in the loss of unsaved information.</p> <p>If the computer has stopped responding and shutdown procedures are ineffective, press and hold the power button down for at least 5 seconds to turn off the computer.</p> <p>To learn more about your power settings, see your power options.</p> <ol style="list-style-type: none"> 1. Type <code>power options</code> in the taskbar search box, and then select Power Options <p>– or –</p> <ol style="list-style-type: none"> 2. Right-click the Power Meter icon , and then select Power Options.

Connecting the HP Touch Mat



Set up your Sprout on a flat, level surface.

 **CAUTION:** To prevent damage to the touch mat:

- Do not cut or pierce the touch mat.
- Do not bend or fold the touch mat.
- Do not place any magnetic components on the touch mat.
- Do not use metal objects on or under the touch mat.
- When using a stylus on the touch mat, do not place your hand or palm on the touch mat because your hand or palm may be treated as contact points.

To connect the touch mat, place the touch mat on a flat, level surface in front of the monitor, and slide it toward the monitor. Magnets connect the touch mat to the monitor automatically.

 **NOTE:** If you remove the touch mat, the projector will turn off.

To protect the touch mat from dirt or accidental damage when it is not being used, use the optional HP Touch Mat Cover (purchased separately).

Labels

Identifying the labels

The labels affixed to the computer provide information you may need when you troubleshoot system problems. The labels are located on the bottom of the computer.

- Service label—Provides important information to identify your computer. When contacting support, you will probably be asked for the serial number, and possibly for the product number or the model number. Locate these numbers before you contact support.
- Regulatory label(s)—Provide(s) regulatory information about the 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.

2 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 using your computer and a wired or wireless network connection. This chapter will help you get connected to that world.

Connecting to a wireless network

Your computer may be equipped with one or more of the following 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 meters (approximately 33 feet) 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) (referred to in this chapter as wireless button)
- **Operating system controls**

Wireless button

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

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

Operating system controls

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

To use operating system controls:

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

Connecting to a WLAN

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

To connect to a WLAN, follow these steps:

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

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

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

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

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

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

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

Using HP Mobile Broadband (select products only)

Your HP Mobile Broadband 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 e-mail, or connect to your corporate network without the need for Wi-Fi hotspots.

 **NOTE:** If your computer includes HP Mobile Connect, the instructions in this section do not apply. See [Using HP Mobile Connect Pro \(select products only\) on page 10](#).

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

– or –

You can find the number following these steps:

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

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

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

Using GPS (select products only)

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

To enable GPS, make sure 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 (select products only)

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

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

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 settings**.
2. Turn on Bluetooth, if it is not already turned on.
3. 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 you are adding, follow the on-screen instructions to verify that the code on your device matches the pairing code. For more information, refer to the documentation provided with the device.

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

Connecting to a wired network

Select products may allow wired connections: local area network (LAN) and modem connection. 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.

Connecting to a local area network (LAN) (select products only)

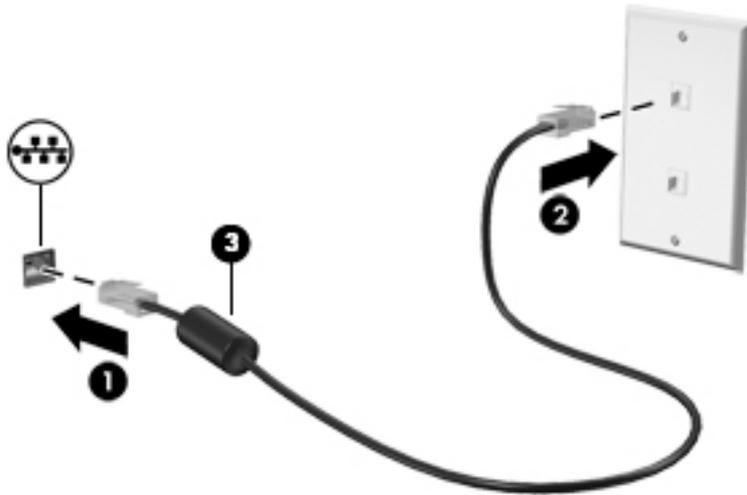
Use a LAN connection if you want to connect the computer directly to a router in your home (instead of working wirelessly), or if you want to connect to an existing network at your office.

Connecting to a LAN requires an 8-pin, RJ-45 network cable or an optional docking device or expansion port, if there is no RJ-45 port on the computer.

To connect the network cable, follow these steps:

1. Plug the network cable into the network jack **(1)** on the computer.
2. Plug the other end of the network cable into a network wall jack **(2)** or router.

📝 NOTE: If the network cable contains noise suppression circuitry **(3)**, which prevents interference from TV and radio reception, orient the circuitry end of the cable toward the computer.



3 Managing power

User-replaceable battery notices

-  **WARNING!** Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to the instructions.
-  **WARNING!** To reduce the risk of fire or burns, do not disassemble, crush, or puncture; do not short external contacts; do not dispose of in fire or water.
-  **WARNING!** Keep the battery away from children.
-  **WARNING!** To reduce potential safety issues, use only the user-replaceable battery provided with the computer, a replacement battery provided by HP, or a compatible battery purchased from HP.

Using power-saving states

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

-  **CAUTION:** To reduce the risk of possible audio and video degradation, loss of audio or video playback functionality, or loss of information, do not initiate Sleep while reading from or writing to a disc or an external memory card.
-  **NOTE:** You cannot initiate any type of networking connection or perform any computer functions while the computer is in the Sleep state.

Initiating and exiting Sleep

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

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

To exit Sleep, briefly press the power button.

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

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

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

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

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

– or –

- Right-click the **Power meter** icon , and then select **Power Options**.
2. In the left pane, select **Choose what the power buttons do**.
 3. Select **Change Settings that are currently unavailable**, and then, in the **When I press the power button** or **When I press the sleep button** area, select **Hibernate**.
- or –
- Under **Shutdown settings**, select the **Hibernate** box to show the Hibernate option in the Power menu.
4. Select **Save changes**.
- To exit Hibernation, briefly press the power button. The power lights turn on and your work returns to the screen where you stopped working.

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

Using the power meter and power settings

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

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

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

Setting password protection on wakeup

After you have set a password for the computer, you can set the computer to prompt for a password when the computer exits Sleep or Hibernation.

To set a password:

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

– or –

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

2. Select **Start**, select **Settings**, select **Accounts**, select **Sign-in Options**, select **Password**, select **Add**, and then follow the on-screen instructions to set a password.
3. Close **Power Options**.

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

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

– or –

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

2. Select **Start**, select **Settings**, select **Accounts**, select **Sign-in Options**.
3. Under **Require sign-in, If you've been away, when should Windows require you to sign in again?**, select **When PC wakes from sleep**.
4. Select **Save changes**.

Shutting down (turning off) Sprout

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

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

Shut down Sprout under any of the following conditions:

- When you need to access components inside Sprout
- When you are connecting an external hardware device to a port other than a USB or video port
- When Sprout will be unused and disconnected from external power for an extended period

Although you can shut down Sprout with the power button, the recommended procedure is to use the turn off command, as follows:

 **NOTE:** If Sprout is in the Sleep state or in Hibernation, you must first exit Sleep or Hibernation before shutdown is possible.

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

If Sprout 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 **Start** button, select the **Power** icon, and then select **Shut down**.
- Press and hold the power button for at least 5 seconds.
- Disconnect Sprout from external power.

4 Maintaining your Sprout

It is important to perform regular maintenance to keep your Sprout 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 and for cleaning.

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.



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

To run Disk Defragmenter:

1. Connect the computer to AC power.
2. Type `defragment` in the taskbar search box, and then select **Defragment and optimize your 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 **Free up disk space by deleting unnecessary files** or **Uninstall apps to free up disk space**.
2. Follow the on-screen instructions.

Using HP 3D DriveGuard (select products only)

HP 3D DriveGuard protects a hard drive by parking the drive and halting data requests under either of the following conditions:

- You drop the computer.
- You move the computer with the display closed while the computer is running on battery power.

A short time after the end of one of these events, HP 3D DriveGuard returns the hard drive to normal operation.



NOTE: Only internal hard drives are protected by HP 3D DriveGuard. A hard drive installed in an optional docking device or connected to a USB port is not protected by HP 3D DriveGuard.



NOTE: Because solid-state drives (SSDs) lack moving parts, HP 3D DriveGuard is unnecessary for these drives.

For more information, see the HP 3D DriveGuard software Help.

Identifying HP 3D DriveGuard status

The hard drive light on the computer changes color to show that the drive in a primary hard drive bay and/or the drive in a secondary hard drive bay (select products only) is parked. To determine whether a drive is currently protected or whether it is parked, view the icon on the Windows desktop in the notification area, at the far right of the taskbar.

Updating programs and drivers

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

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

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

1. Type `support` in the taskbar search box, and then select the **HP Support Assistant** app.
- or -
Click the question mark icon in the taskbar.
2. Select **My PC**, select the **Updates** tab, and then select **Check for updates and messages**.
3. Follow the on-screen instructions.

Cleaning your Sprout

Use the following products to clean your Sprout safely:

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



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

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

Cleaning procedures

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

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

Turn off Sprout.

Disconnect external power.

Disconnect all powered external devices.

⚠ CAUTION: To prevent damage to internal components, do not spray cleaning agents or liquids directly on any Sprout surface. Liquids dripped on the surface can permanently damage internal components.

Cleaning the display

⚠ CAUTION: Do not spray or place the cleaner directly on the screen, projector, or other glass surfaces.

Gently wipe the sides and the surface of the display, projector, and cameras using a soft, lint-free cloth moistened with an alcohol-free glass cleaner.

Cleaning the sides or cover

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

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

Cleaning the touch mat

⚠ CAUTION: Do not spray or place the cleaner directly on the touch mat.

- Gently wipe the surface of the touch mat using a soft, lint-free cloth moistened with an alcohol-free glass cleaner.
- To prevent damage to the touch mat, avoid using strong chemicals.

Cleaning the keyboard or mouse

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

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

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

5 Security

Protecting the computer

Standard security features provided by the Windows operating system and the Windows Computer Setup utility (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:** Some features listed in this chapter may not be available on your computer.
-  **NOTE:** Your computer supports Computrace, which is an online security-based tracking and recovery service available in select regions. If the computer is stolen, Computrace can track the computer if the unauthorized user accesses the Internet. You must purchase the software and subscribe to the service in order to use Computrace. For information about ordering the Computrace software, go to <http://www.hp.com>.

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

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

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

Using passwords

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

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

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

Use the following tips for creating and saving passwords:

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

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

Setting passwords in Windows

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

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

Setting passwords in Computer Setup

Password	Function
BIOS administrator password*	Protects access to Computer Setup. NOTE: If features have been enabled to prevent removing the BIOS administrator password, you may not be able to remove it until those features have been disabled.
Power-on password	<ul style="list-style-type: none">• Must be entered each time you turn on or restart the computer.• If you forget your power-on password, you cannot turn on or restart the computer.
DriveLock master password*	Protects access to the internal hard drive that is protected by DriveLock, and is set under DriveLock Passwords during the enable process. This password is also used to remove DriveLock protection.
DriveLock user password*	Protects access to the internal hard drive that is protected by DriveLock, and is set under DriveLock Passwords during the enable process.

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

Managing a BIOS administrator password

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

Setting a new BIOS administrator password

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

– or –

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

Your changes go into effect when the computer restarts.

Changing a BIOS administrator password

1. Start Computer Setup.

- Computers or tablets with keyboards:
 - ▲ Turn on or restart the computer, and when the HP logo appears, press **f10** to enter Computer Setup.
 - Tablets without keyboards:
 - ▲ Turn off the tablet. Press the power button in combination with the volume down button until the Startup menu is displayed, and then tap **f10** to enter Computer Setup.
2. Enter your current BIOS administrator password.
 3. Select **Security**, select **Change BIOS administrator Password** or **Change Password** (select products only), 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 the **Save** icon, and then follow the on-screen instructions.

– or –

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

Your changes go into effect when the computer restarts.

Deleting a BIOS administrator password

1. Start Computer Setup.
 - Computers or tablets with keyboards:
 - ▲ Turn on or restart the computer, and when the HP logo appears, press **f10** to enter Computer Setup.
 - Tablets without keyboards:
 - ▲ Turn off the tablet. Press the power button in combination with the volume down button until the Startup menu is displayed, and then tap **f10** to enter Computer Setup.
2. Enter your current BIOS administrator password.
3. Select **Security**, select **Change BIOS administrator Password** or **Change Password** (select products only), 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 the **Save** icon, and then follow the on-screen instructions.

– or –

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

Your changes go into effect when the computer restarts.

Entering a BIOS administrator password

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

Using DriveLock Security Options

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

DriveLock Security Options offers the following features:

- **Automatic DriveLock**—See [Selecting Automatic DriveLock \(select products only\) on page 22](#).
- **Set DriveLock Master Password**—See [Selecting manual DriveLock on page 23](#).
- **Enable DriveLock**—See [Enabling DriveLock and setting a DriveLock user password on page 24](#).

Selecting Automatic DriveLock (select products only)

A BIOS administrator password must be set before you can enable Automatic DriveLock. When Automatic DriveLock is enabled, a random DriveLock user password and a DriveLock master password derived from the BIOS administrator password are created. When the computer is turned on, the random user password automatically unlocks the drive. If the drive is moved to another computer, you must enter the BIOS administrator password for the original computer at the DriveLock password prompt to unlock the drive.

Enabling Automatic DriveLock

To enable Automatic DriveLock, follow these steps:

1. Start Computer Setup.
 - Computers or tablets with keyboards:
 1. Turn off the computer.
 2. Press the power button, and when the HP logo appears, press **f10** to enter Computer Setup.
 - Tablets without keyboards:
 1. Turn off the tablet.
 2. Press the power button in combination with the volume down button until the Startup menu is displayed, and then tap **f10** to enter Computer Setup.
2. At the BIOS administrator password prompt, enter the BIOS administrator password, and then press **enter**.
3. Select **Security**, select **Hard Drive Utilities**, select **DriveLock/Automatic DriveLock**, and then press **enter**.
4. Use the **enter** key, left mouse click, or touch screen to select the **Automatic DriveLock** check box.
5. To save your changes and exit Computer Setup, select the **Save** icon and then follow the on-screen instructions.

– or –

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

Disabling Automatic DriveLock

To disable Automatic DriveLock, follow these steps:

1. Start Computer Setup.
 - Computers or tablets with keyboards:
 1. Turn off the computer.
 2. Press the power button, and when the HP logo appears, press **f10** to enter Computer Setup.
 - Tablets without keyboards:
 1. Turn off the tablet.
 2. Press the power button in combination with the volume down button until the Startup menu is displayed, and then tap **f10** to enter Computer Setup.
2. At the BIOS administrator password prompt, enter the BIOS administrator password, and then press **enter**.
3. Select **Security**, select **Hard Drive Utilities**, select **DriveLock/Automatic DriveLock**, and then press **enter**.
4. Select an internal hard drive, and then press **enter**.
5. Use the **enter** key, left mouse click, or touch screen to clear the **Automatic DriveLock** check box.
6. To save your changes and exit Computer Setup, select the **Save** icon, and then follow the on-screen instructions.

– or –

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

Entering an Automatic DriveLock password

While Automatic DriveLock is enabled and the drive remains attached to the original computer, you will not be prompted to enter a DriveLock password to unlock the drive. However, if the drive is moved to another computer, or the system board is replaced on the original computer, you will be prompted to provide the DriveLock password.

If this happens, at the **DriveLock Password** prompt, type the BIOS administrator password for the original computer (using the same kind of keys you used to set the password), and then press **enter** to unlock the drive.

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

Selecting manual DriveLock

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

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

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

Setting a DriveLock master password

To set a DriveLock master password, follow these steps:

1. Start Computer Setup.
 - Computers or tablets with keyboards:
 1. Turn off the computer.
 2. Press the power button, and when the HP logo appears, press **f10** to enter Computer Setup.
 - Tablets without keyboards:
 1. Turn off the tablet.
 2. Press the power button in combination with the volume down button until the Startup menu is displayed, and then tap **f10** to enter Computer Setup.
2. Select **Security**, make the selection for **Hard Drive Utilities**, select **DriveLock/Automatic DriveLock**, and then press **enter**.
3. Select the hard drive you want to protect, and then press **enter**.
4. Select **Set DriveLock Master Password**, and then press **enter**.
5. Carefully read the warning.
6. Follow the on-screen instructions to set a DriveLock master password.



NOTE: You can enable DriveLock and set a DriveLock user password before exiting from Computer Setup. For more information, see [Enabling DriveLock and setting a DriveLock user password on page 24](#).

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

Enabling DriveLock and setting a DriveLock user password

To enable DriveLock, and set a DriveLock user password, follow these steps:

1. Start Computer Setup.
 - Computers or tablets with keyboards:
 1. Turn off the computer.
 2. Press the power button, and when the HP logo appears, press **f10** to enter Computer Setup.
 - Tablets without keyboards:

1. Turn off the tablet.
2. Press the power button in combination with the volume down button until the Startup menu is displayed, and then tap **f10** to enter Computer Setup.
2. Select **Security**, select **Hard Drive Utilities**, select **DriveLock/Automatic DriveLock**, and then press **enter**.
3. Select the hard drive you want to protect, and then press **enter**.
4. Select **Enable DriveLock** and then press **enter**.
5. Carefully read the warning.
6. Follow the on-screen instructions to set a DriveLock user password and enable DriveLock.
7. To exit Computer Setup, select **Main**, select **Save Changes and Exit**, and then select **Yes**.

Disabling DriveLock

1. Start Computer Setup.
 - Computers or tablets with keyboards:
 1. Turn off the computer.
 2. Press the power button, and when the HP logo appears, press **f10** to enter Computer Setup.
 - Tablets without keyboards:
 1. Turn off the tablet.
 2. Press the power button in combination with the volume down button until the Startup menu is displayed, and then tap **f10** to enter Computer Setup.
2. Select **Security**, select **Hard Drive Utilities**, select **DriveLock/Automatic DriveLock**, and then press **enter**.
3. Select the hard drive you want to manage, and then press **enter**.
4. Select **Disable DriveLock**, and then press **enter**.
5. Follow the on-screen instructions to disable DriveLock.
6. To exit Computer Setup, select **Main**, select **Save Changes and Exit**, and then select **Yes**.

Entering a DriveLock password

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

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

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

Changing a DriveLock password

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

1. Turn off the computer.
2. Press the power button.

3. At the **DriveLock Password** prompt, type the current DriveLock user password or master password that you are changing, press **enter**, and then press or tap **f10** to enter Computer Setup.
4. Select **Security**, select **Hard Drive Utilities**, select **DriveLock/Automatic DriveLock**, and then press **enter**.
5. Select the hard drive you want to manage, and then press **enter**.
6. Make the selection for the DriveLock password that you want to change, and then follow the on-screen instructions to enter passwords.



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

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

Using Windows Hello (select products only)

On products equipped with a fingerprint reader or an infrared camera, you can use Windows Hello to sign in by swiping your finger or looking at the camera.

To set up Windows Hello, follow these steps:

1. Select the **Start** button, select **Settings**, select **Accounts**, and then select **Sign-in options**.
2. Under **Windows Hello**, follow the on-screen instructions to add both a password and a numeric PIN, and then enroll your fingerprint or facial ID.



NOTE: The PIN is not limited in length, but it must consist of numbers only. No alphabetic or special characters are allowed.

Using antivirus software

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

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

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

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

Using firewall software

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

There are two types of firewalls to consider:

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

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

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

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

 **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.

To view or change the settings:

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.

Using HP Client Security (select products only)

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

Using HP Touchpoint Manager (select products only)

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

Using an optional security cable (select products only)

A security cable (purchased separately) is designed to act as a deterrent, but it may not prevent the computer from being mishandled or stolen. To connect a security cable to your computer, follow the device manufacturer's instructions.

Using a fingerprint reader (select products only)

Integrated fingerprint readers are available on select products. In order to use the fingerprint reader, you must enroll your fingerprints in HP Client Security's Credential Manager. Refer to the HP Client Security software Help.

After you enroll your fingerprints in Credential Manager, you can use HP Client Security's Password Manager to store and fill in your user names and passwords in supported websites and applications.

Locating the fingerprint reader

The fingerprint reader is a small metallic sensor that is located in one of the following areas of your computer:

- Near the bottom of the TouchPad
- On the right side of the keyboard
- On the upper-right side of the display
- On the left side of the display

Depending on your product, the reader may be oriented horizontally or vertically. Both orientations require that you swipe your finger perpendicular to the metallic sensor.

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

Using Computer Setup

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

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

Starting Computer Setup

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

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

Navigating and selecting in Computer Setup

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

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

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

Your changes go into effect when the computer restarts.

Restoring factory settings in Computer Setup

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

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

1. Start Computer Setup. See [Starting Computer Setup on page 29](#).
2. Select **Main**, and then select **Apply Factory Defaults and Exit**.



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

3. Follow the on-screen instructions.
4. To save your changes and exit, select the **Save** icon in the lower-right corner of the screen, and then follow the on-screen instructions.

– or –

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

Your changes go into effect when the computer restarts.



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

Updating the BIOS

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

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

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

Determining the BIOS version

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

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

1. Start Computer Setup. See [Starting Computer Setup on page 29](#).
2. Select **Main**, and then select **System Information**.
3. To exit Computer Setup without saving your changes, select the **Exit** icon in the lower-right corner of the screen, and then follow the on-screen instructions.

– or –

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

To check for later BIOS versions, see [Downloading a BIOS update on page 31](#).

Downloading a BIOS update

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

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

Do not shut down the computer or initiate Sleep.

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

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

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

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

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

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

The BIOS installation begins.
5. Complete the installation by following the on-screen instructions.

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

Changing the boot order using the f9 prompt

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

1. Access the Boot Device Options menu:

- Turn on or restart the computer, and when the HP logo appears, press **f9** to enter the Boot Device Options menu.
2. Select a boot device, then press **enter**.

TPM BIOS settings (select products only)

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

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

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

To access TPM settings in Computer Setup:

1. Start Computer Setup. See [Starting Computer Setup on page 29](#).
2. Select **Security**, select **TPM Embedded Security**, and then follow the on-screen instructions.

Using HP Sure Start (select products only)

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

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

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

7 Using HP PC Hardware Diagnostics (UEFI)

HP PC Hardware Diagnostics is a Unified Extensible Firmware Interface (UEFI) that allows you to run diagnostic tests to determine whether the 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.

When HP PC Hardware Diagnostics (UEFI) detects a failure that requires hardware replacement, a 24-digit Failure ID code is generated. This ID code can then be provided to support to help determine how to correct the problem.

 **NOTE:** To start diagnostics on a convertible computer, your computer must be in notebook mode and you must use the keyboard attached.

To start HP PC Hardware Diagnostics (UEFI), follow these steps:

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 drive

 **NOTE:** To download the HP PC Hardware Diagnostics (UEFI) tool to a USB drive, see [Downloading HP PC Hardware Diagnostics \(UEFI\) to a USB device on page 33](#).

- b. Hard drive
 - c. BIOS
3. When the diagnostic tool opens, select the type of diagnostic test you want to run, and then follow the on-screen instructions.

 **NOTE:** If you need to stop a diagnostic test, press **esc**.

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

 **NOTE:** The HP PC Hardware Diagnostics (UEFI) download 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 offered.

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

Download the latest UEFI version

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

Download any version of UEFI for a specific product

1. Go to <http://www.hp.com/support>.
2. Select **Get software and drivers**.

3. Enter the product name or number.

– or –

Select **Identify now** to let HP automatically detect your product.

4. Select your computer, and then select your operating system.
5. In the **Diagnostic** section, follow the on-screen instructions to select and download the UEFI version you want.

8 Backing up, restoring, and recovering

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

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

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

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

– or –

Click the question mark icon in the taskbar.

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

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

Creating recovery media and backups

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

- Use HP Recovery Manager to create HP Recovery media after you successfully set up the computer. This step creates a backup of the HP Recovery partition on the computer. The backup can be used to reinstall the original operating system in cases where the hard drive is corrupted or has been replaced. For information on creating recovery media, see [Creating HP Recovery media \(select products only\) on page 35](#). For information on the recovery options that are available using the recovery media, see [Using Windows tools on page 36](#).
- Use Windows tools to create system restore points and create backups of personal information.

For more information, see [Recovering using HP Recovery Manager on page 37](#).

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

Creating HP Recovery media (select products only)

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

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

You can use Windows tools to create system restore points and create backups of personal information, see [Using Windows tools on page 36](#).

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

To create HP Recovery media:



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

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

If you ever need to recover the system, see [Recovering using HP Recovery Manager on page 37](#).

Using Windows tools

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



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

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

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

Restore and recovery

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

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

- Windows offers several options for restoring from backup, refreshing the computer, and resetting the computer to its original state. For more information see the Get started app.
 - ▲ Select the **Start** button, and then select the **Get started** app.
- If you need to correct a problem with a preinstalled application or driver, use the Reinstall drivers and/or applications option (select products only) of HP Recovery Manager to reinstall the individual application or driver.
 - ▲ Type `recovery` in the taskbar search box, select **HP Recovery Manager**, select **Reinstall drivers and/or applications**, and then follow the on-screen instructions.
- If you want to recover the Windows partition to original factory content, you can choose the System Recovery option from the HP Recovery partition (select products only) or use the HP Recovery media. For more information, see [Recovering using HP Recovery Manager on page 37](#). If you have not already created recovery media, see [Creating HP Recovery media \(select products only\) on page 35](#).
- On select products, if you want to recover the computer's original factory partition and content, or if you have replaced the hard drive, you can use the Factory Reset option of HP Recovery media. For more information, see [Recovering using HP Recovery Manager on page 37](#).
- On select products, if you want to remove the recovery partition to reclaim hard drive space, HP Recovery Manager offers the Remove Recovery Partition option.

For more information, see [Removing the HP Recovery partition \(select products only\) on page 40](#).

Recovering using HP Recovery Manager

HP Recovery Manager software allows you to recover the computer to its original factory state by using the HP Recovery media that you either created or that you obtained from HP, or by using the HP Recovery partition (select products only). If you have not already created recovery media, see [Creating HP Recovery media \(select products only\) on page 35](#).

What you need to know before you get started

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

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

- HP Recovery media must be used if the computer hard drive fails. If you have not already created recovery media, see [Creating HP Recovery media \(select products only\) on page 35](#).
- To use the Factory Reset option (select products only), you must use HP Recovery media. If you have not already created recovery media, see [Creating HP Recovery media \(select products only\) on page 35](#).
- If your computer does not allow the creation of HP Recovery media or if the HP Recovery media does not work, you can obtain recovery media for your system from support. See the *Worldwide Telephone Numbers* booklet included with the computer. You can also find contact information from the HP

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

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

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

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

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

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

Using the HP Recovery partition (select products only)

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

To start HP Recovery Manager from the HP Recovery partition:

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

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

- or -

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

For tablets without keyboards:

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

- or -

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

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

Using HP Recovery media to recover

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

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

 **NOTE:** If the computer does not automatically restart in HP Recovery Manager, change the computer boot order. See [Changing the computer boot order on page 39](#).

3. Follow the on-screen instructions.

Changing the computer boot order

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

To change the boot order:



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

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

For computers or tablets with keyboards attached:

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

For tablets without keyboards:

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

- or -

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

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

Removing the HP Recovery partition (select products only)

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



IMPORTANT: After you remove the HP Recovery partition, you will not be able to perform System Recovery or create HP recovery media from the HP Recovery partition. So before you remove the Recovery partition, create HP Recovery media; see [Creating HP Recovery media \(select products only\) on page 35](#).



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

Follow these steps to remove the HP Recovery partition:

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

9 Troubleshooting

Wireless connection problems

Some possible causes for wireless connection problems include the following:

- Wireless device is not turned on.
- Wireless device is not installed correctly or has been disabled.
- Wireless device encountered interference from other devices.
- Wireless device or router hardware has failed.

Cannot connect to a WLAN

If you have a problem connecting to a WLAN, confirm that the integrated WLAN device is turned on and properly installed on your Sprout.

1. Be sure that the wireless device is turned on.
2. Then try connecting to the WLAN again.

If you are still unable to connect, follow the steps below.

1. Type `control panel` in the taskbar search box, and then select **Control Panel**.
2. Select **System and Security**, select **System**, and then select **Device Manager**.
3. Select the arrow next to **Network adapters** to expand the list and show all adapters.
4. Identify the WLAN device from the Network adapters list. The listing for a WLAN device may include the term *wireless*, *wireless LAN*, *WLAN*, or *802.11*.

If no WLAN device is listed, either your Sprout does not have an integrated WLAN device, or the driver for the WLAN device is not properly installed.

For more information about troubleshooting WLANs, see the website links provided in Help and Support.

Cannot connect to a preferred network

You may not be able to connect to a preferred network because it is a security-enabled WLAN. You must have the security code to connect to this type of WLAN. See the next section for additional information.

If entering a security code is not the problem, you may have a corrupted WLAN connection. Windows can often automatically repair a corrupted WLAN connection.

- If there is a network status icon at the far right of the taskbar, right-click the icon, and then select **Troubleshoot problems**.

Windows resets your network device and attempts to reconnect to one of the preferred networks.

- If there is no network status icon at the far right of the taskbar, follow these steps:

1. Type `control panel` in the taskbar search box, and then select **Control Panel**.
2. Select **Network and Internet**, and then select **Network and Sharing Center**.
3. Select **Troubleshoot problems**, and then select the network you want to repair.

Current network security codes are unavailable

If you are prompted for a security code (or network key) or a name (SSID) when connecting to a WLAN, the network is protected by security. The SSID and security code are alphanumeric codes that you enter into your Sprout to identify your Sprout to the network. You must have the current codes to connect to a secure network.

- For a network connected to your personal wireless router, review the router user guide for instructions on setting up the same codes on both the router and the WLAN device.
- For a private network, such as a network in an office or at a public Internet chat room, contact the network administrator to obtain the codes, and then enter the codes when you are prompted to do so.

Some networks change the SSID or network keys used in their routers or access points on a regular basis to improve security. You must change the corresponding code in your Sprout accordingly.

If you are provided with a new wireless network key and SSID for a network, and if you have previously connected to that network, follow the steps below to reconnect to the network:

1. Right-click the network status icon at the far right of the taskbar.

A list showing the available WLANs is displayed. If you are in a hotspot where several WLANs are active, several will be displayed.

2. Right-click the network, and then select **Properties**.



NOTE: If the network you want is not listed, check with the network administrator to be sure that the router or access point is operating.

3. Select the **Security** tab, and then enter the correct wireless encryption data into the **Network security key** box.
4. Select **OK** to save these settings.

Cannot connect to the wireless router

If you are trying to connect to the wireless router and are unsuccessful, reset the wireless router by removing power from the router for 10 to 15 seconds.

If Sprout still cannot connect to a WLAN, restart the wireless router. For details, see the router manufacturer's instructions.

Network status icon is not displayed

If the network status icon is not displayed at the far right of the taskbar after you configure the WLAN, the software driver is either missing or corrupted. A Windows "Device not Found" error message may also be displayed.

To resolve this problem, get the latest version of the WLAN device software and drivers for your Sprout from <http://www.hp.com>.

1. Open your Internet browser.
2. For support, go to <http://www.hp.com/support>.

3. Select the option for software and driver downloads, and then type your computer model number in the search box.
4. Press [enter](#), and then follow the on-screen instructions.



NOTE: If the WLAN device you are using was purchased separately, consult the manufacturer's website for the latest software.

Power problems

Sprout will not turn on or start

1. Test the AC outlet by connecting a different electrical device to it.
2. Reconnect the computer's cables, being sure that the connection from the power cord to the computer and the connection from the power cord to the AC outlet are secure.
3. Try to turn on Sprout.
 - If the power lights turn on, the power cord is working properly.
 - If the connections are secure and the power lights remain off, the power cord is not functioning and should be replaced.

Contact support for information about obtaining a replacement power cord.

Hard drive error

1. Press the [ctrl+alt+delete](#) keys simultaneously.
2. Select the **Power** icon in the lower-right corner of the screen, and then select **Restart**.
– or –
Press and hold the power button on Sprout for 5 or more seconds to turn off Sprout, and then press the power button to turn on Sprout.
3. If Windows opens, immediately back up all important information to an external hard drive.
4. Whether Windows started or not, contact support. Either the hard drive or the system board may need to be replaced.

Sprout is not responding

Use the Windows Task Manager to close any programs that are not responding.

1. Press the [ctrl+alt+delete](#) keys.
2. Select **Task Manager**.
3. Select any program that is not responding, and then select **End Task**.

If closing programs does not work, restart Sprout.

1. Press the [ctrl+alt+delete](#) keys.
2. Select the **Power** icon, and then select **Restart**.

– or –

Press and hold the power button for 5 or more seconds to turn off Sprout, and then press the power button to turn on Sprout.

Sprout shuts down unexpectedly

- Sprout might be in an exceedingly hot environment. Turn it off and let it cool down.
- Be sure that Sprout vents are not blocked and that the internal fan is running. See [Getting to know your Sprout on page 1](#) for the location of the computer vents.

Display problems

The display is blank

- Exit Sleep to redisplay the screen image.
 - Press the power button briefly.
 - Press a key on the external keyboard.
 - Press the space bar.
 - Press the `esc` key.
- Press the power button to turn on Sprout.

Images on the screen are too large or too small, or the images are fuzzy

Adjust the resolution settings.

1. Type `control panel` in the taskbar search box, and then select **Control Panel**.
2. Select **Appearance and Personalization**.
3. Under **Display**, select **Adjust Screen Resolution**.
4. Adjust resolution as necessary, and then select **Apply**.

Keyboard and mouse problems

- Be sure that you are using the keyboard or mouse within range of the receiver.
- Be sure that the mouse is not in Suspend mode, which occurs after 20 minutes of inactivity. Click the left mouse button to reactivate it.
- Replace the batteries in the keyboard and mouse.
- Remove the wireless USB receiver on the bottom of the stand, and then reinsert it. Pair the keyboard and mouse to the receiver.



NOTE: The illustrations below may look slightly different from your keyboard and mouse.



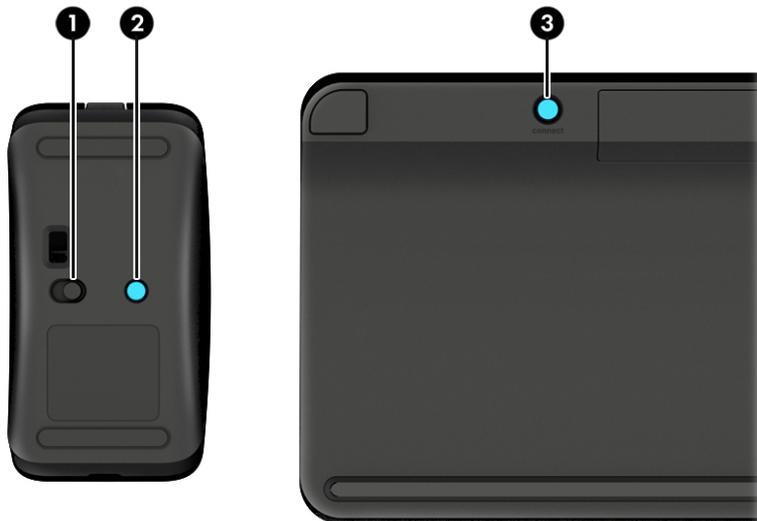
IMPORTANT: During these steps, place the keyboard and mouse on the same level as the receiver.

To pair the keyboard and mouse:

1. Remove the tabs from the keyboard and the mouse.



2. Slide the mouse power button to the right to turn on the mouse **(1)**.



3. On the keyboard, press and hold the **Connect** button **(3)** for 5 to 10 seconds, until the light on the mouse **(2)** lights up or stops flashing. To confirm the connection, move the mouse and check for a response on the screen.

Touch mat problems

Projection remains when the touch mat is removed.

1. Restart **HPPCSERVICE**:

- a. Press **ctrl+alt+delete**.
 - b. Select **Task Manager**, and then select the **Services** tab.
 - c. In the Name column, select **HPPCSERVICE**.
 - d. Right-click **HPPCSERVICE**, and then select **Stop**.
 - e. Right-click **HPPCSERVICE**, and then select **Start**.
2. Select the **Power** icon, and then select **Restart**.

– or –

Press and hold the power button on Sprout for 5 or more seconds to turn off Sprout, and then press the power button to turn on Sprout.

Projection does not come back when the touch mat is connected again.

1. If the touch mat workspace icon is amber, touch the icon to enable the projector. When the projector is on, the icon is white.
2. Remove the touch mat, and remove any debris from the touch mat or the connector that would interrupt the connection.

– or –

Clean the touch mat and the connector with a cloth.

3. Select the Power icon, and then click **Restart**.

– or –

Press and hold the power button on Sprout for 5 or more seconds to turn off Sprout, and then press the power button to turn on Sprout.

The touch mat is not registering touches.

1. If the touch mat workspace icon is amber, touch the icon to enable the projector. When the projector is on, the icon is white.
2. Remove the touch mat, and remove any debris from the touch mat or the connector that would interrupt the connection.

– or –

Clean the touch mat and the connector with a cloth.

3. Select the **Power** icon, and then select **Restart**.

– or –

Press and hold the power button for 5 or more seconds to turn off Sprout, and then press the power button to turn on Sprout.

4. Remove any metal objects from the touch mat.

Audio problems

No sound is produced through external speakers (purchased separately)

- Be sure that you connected powered speakers and that they are turned on.
- Adjust the volume, either on the speakers or through the computer operating system.
- Turn off your Sprout, and then unplug and reconnect the speakers. Be sure that the speakers are properly connected.
- Unplug headphones if they are connected to your Sprout (or speaker system).
- If Sprout is in the Sleep state, exit Sleep by briefly pressing the power button.
- Check the audio functions.

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

1. Type `control panel` in the taskbar search box, and then select **Control Panel**.
2. Select **Hardware and Sound**, and then select **Sound**.
3. When the Sound window opens, select the **Sounds** tab. Under **Program Events**, select any sound event, such as a beep or alarm, and then select **Test**.

You should hear sound through the speakers.

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

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



NOTE: To confirm or change the audio settings on your Sprout, type `control panel` in the taskbar search box, and then select **Control Panel**. Select **Hardware and Sound**, and then select **Sound**.

Software problems

- Shut down Sprout, and then turn it on again.
- Update or reinstall the drivers. See [Updating programs and drivers on page 16](#).
- Refresh or restore your Sprout. See [Backing up, restoring, and recovering on page 35](#).

10 Specifications

Input power

Input power	Rating
Operating voltage and current	100–240 V dc @ 4.5–2.25 A, 50/60Hz

Operating specifications



NOTE: To see the electrical ratings, refer to your computer's ratings label, located on the outside of the computer, to determine the exact electrical rating.

Factor	Metric	U.S.
Operating temperature	5°C to 35°C	41°F to 95°F
Storage temperature	–30°C to 65°C	–22°F to 149°F
Operating humidity	15% to 80% @ 26°C	15% to 80% @ 78°F
Operating altitude	0 m to 2000 m	0 ft to 6561 ft
Storage altitude	0 m to 4572 m	0 ft to 15,000 ft

11 Electrostatic Discharge

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

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

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

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

12 More HP resources

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

Resource	Contents
<p>Sprout website http://sprout.hp.com</p>	<ul style="list-style-type: none">• Current information about learning, inspiration, and troubleshooting.
<p>Help and Support</p> <p>To access Help and Support:</p> <p>▲ Type <code>help</code> in the taskbar search box, and then select Help and Support.</p> <p>– or –</p> <p>Click the question mark icon in the taskbar.</p>	<ul style="list-style-type: none">• A broad range of how-to information and troubleshooting tips
<p>HP Support</p> <p>For support, go to http://www.hp.com/support.</p>	<ul style="list-style-type: none">• Online chat with an HP technician• Support telephone numbers• HP service center locations
<p><i>Safety & Comfort Guide</i></p> <p>To access this guide:</p> <ol style="list-style-type: none">1. Type <code>support</code> in the taskbar search box, and then select the HP Support Assistant app.2. Select My computer, and then select User guides. <p>– or –</p> <p>Go to http://www.hp.com/ergo.</p>	<ul style="list-style-type: none">• Proper workstation setup• Guidelines for posture and work habits that increase your comfort and decrease your risk of injury• Electrical and mechanical safety information
<p><i>Regulatory, Safety and Environmental Notices</i></p> <p>To access this document:</p> <ol style="list-style-type: none">1. Type <code>support</code> in the taskbar search box, and then select the HP Support Assistant app. <p>– or –</p> <p>Click the question mark icon in the taskbar.</p> <ol style="list-style-type: none">2. Select My computer, and then select User guides.	<ul style="list-style-type: none">• Important regulatory notices, including proper battery disposal information
<p><i>Limited Warranty*</i></p> <p>To access this document:</p> <ol style="list-style-type: none">1. Type <code>support</code> in the taskbar search box, and then select the HP Support Assistant app. <p>– or –</p> <p>Click the question mark icon in the taskbar.</p> <ol style="list-style-type: none">2. Select My computer, and then select Warranty and services.	<ul style="list-style-type: none">• Specific warranty information about this computer

Resource**Contents**

– or –

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

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

13 Accessibility

HP designs, produces, and markets products and services that can be used by everyone, including people with disabilities, either on a stand-alone basis or with appropriate assistive devices.

Supported assistive technologies

HP products support a wide variety of operating system assistive technologies and can be configured to work with additional assistive technologies. Use the Search feature on your device to locate more information about assistive features.



NOTE: For additional information about a particular assistive technology product, contact customer support for that product.

Contacting support

We are constantly refining the accessibility of our products and services and welcome feedback from users. If you have an issue with a product or would like to tell us about accessibility features that have helped you, please contact us at +1 (888) 259-5707, Monday through Friday, 6 a.m. to 9 p.m. North American Mountain Time. If you are deaf or hard-of-hearing and use TRS/VRS/WebCapTel, contact us if you require technical support or have accessibility questions by calling +1 (877) 656-7058, Monday through Friday, 6 a.m. to 9 p.m. North American Mountain Time.



NOTE: Support is in English only.

A Scanning safety information

Carefully read all of the following safety precautions before using the Sprout 2D calibration, 3D calibration, and 3D Capture scans.

⚠ WARNING! Photosensitive Epileptic Seizures—A very small percentage of individuals may experience a seizure or other complications when exposed to certain visual images, including flashing lights or patterns that may appear during Sprout 2D and 3D calibration, and/or 3D Capture scans. If you, or any user, have a history of seizures or epilepsy, consult a physician before using Sprout calibration or 3D Capture scan functionality. Even those without a personal family history of epilepsy or stroke may have an undiagnosed condition that can cause photosensitive epileptic seizures.

If you experience any of the following symptoms, immediately stop using Sprout calibration or 3D scanning functionality and consult a physician:

- Altered vision
- Light-headedness
- Dizziness
- Involuntary movements such as eye or muscle twitching
- Nausea
- Convulsions
- Loss of awareness
- Confusion
- Cramps
- Disorientation

Resume Sprout usage only on approval of your physician.

Parents should monitor and ask their children if they have any of the above symptoms. Children and teenagers may be more likely than adults to experience these symptoms.

The vision of young children (especially children under the age of 6) is still under development. Consult your physician (such as a pediatrician or eye doctor) before allowing young children to use Sprout calibration or scanning functionality.

To help reduce the likelihood of adverse physical reactions:

- Use in a well-lit area and do not look directly at the Sprout or the light patterns generated by the Sprout during calibration or 3D scans.
- Avoid prolonged use of the 3D scanning process.
- Take a 15-minute break during each hour of Sprout use. The length and frequency of necessary breaks may vary from person to person. Please take breaks that are long enough to allow any discomfort to subside. If symptoms persist, consult a physician.
- Avoid calibrating Sprout or producing 3D scans when you are tired or need sleep.

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