

ALL IN ONE 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.

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 End user License Agreement .

For any further information , please contact your seller.

safety warning notice

Δ WARNING! To reduce the possibility of heat-related injuries or overheating the computer, do not place the computer directly on your lap or obstruct the computer air vents. Use the computer only on a hard, flat surface. Do not allow another hard surface, such as an adjoining optional printer, or a soft surface, such as pillows or rugs or clothing, to block airflow. Also, do not allow the AC adapter to come into contact with the skin or a soft surface, such as pillows or rugs or clothing, during operation. The computer and the AC adapter comply with the user-accessible surface temperature limits defined by the International standard for safety of Information Technology Equipment (IEC 60950).

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1 Getting to know your computer

Locating hardware

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

To find out what hardware is installed on your computer:

- ▲ Type device manager in the taskbar search box, and then select the Device Manager app. A list displays all the devices installed on your computer.

Locating software

To find out what software is installed on your computer:

- ▲ click start button, and then select All programs.

setting up your computer

 **WARNING!** To reduce the risk of electrical shock or damage to your equipment:

- place the computer in a location away from water, dust, moisture, and soot. These environmental factors can increase the temperature inside your computer or cause fire or electrocution.
- Do not disable the power cord grounding pin. The grounding pin is an important safety feature.
- plug the power cord into an AC Outlet that is easily accessible at all times.
- Disconnect power from the equipment by unplugging the power cord from the AC Outlet. To prevent direct exposure to the laser beam, do not try to open the enclosure of the CD or DVD drive.
- The power supply is preset for the country or region in which you purchased your computer. If you move, check the voltage requirements for your new location before plugging the computer into an AC outlet.

To reduce the risk of serious injury read the safety & comfort Guide.

1. place the computers so that all ventilation openings are unobstructed and cabling is not in a walkway or where it can be stepped on or damaged by placing furniture on it.
2. when connecting all power cords from the monitor, computer, and accessories to an uninterruptible power supply (UPS), it is recommended that you use a power surge protection device. If the computer has a television tuner, or a modem or telephone connection, protect the computer by using surge protection with these signal inputs as well. connect the television cable or the telephone line cord to the surge protection device, and then connect the device to the computer.
3. Download and install operating system updates.
4. Look in the computer box for additional printed details or updates.

After you complete the initial computer setup, you might want to install additional hardware devices or software. check the operating system, memory, and other requirements listed for these items before purchasing them for your computer. Follow the software manufacturer's directions to install the new software.

shutting down (turning off) the computer

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

The shutdown command closes all open programs, including the operating system, and then turns off the display and computer.

shutdown the computer under any of the following conditions:

- o when you need to access components inside the computer
- o when you are connecting an external hardware device that does not connect to a USB or video port or to a headphone or microphone jack
- o when the computer will be unused and disconnected from external power for an extended period.

Although you can turn off the computer with the power button, the recommended procedure is to use the Windows shutdown command.

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

1. save your work and close all open programs.
2. select the Start button, select the power icon, and then select shutdown.

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

- o press **ctrl + alt + delete**, select the power icon, and then select shutdown.
- o press and hold the power button for at least 10 seconds.
- o Disconnect the computer from external power.

USB ports

your computer may have four or more of the USB Ports.

2 connecting to a network

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.

using the wireless controls

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

- Airplane mode key (also called wireless button or wireless key) (referred to in this chapter as airplane mode key)
- operating system controls

Airplane mode key

The computer may have an airplane mode key, 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:

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

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. On the taskbar, right-click the network status icon, and then connect to one of the available networks. If the WLAN is a security-enabled WLAN, you are prompted to enter a security code. Enter the code, and then select **Next to complete the connection**.

NOTE: If no WLANs are listed, you 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:

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

- or -

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

2. Under the **Network & Internet status** section, select **Network and sharing center**.

3. 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, right-click 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 signal travels) depends on WLAN implementation, router manufacturer, and interference from other electronic devices or structural barriers such as walls and floors.

using Bluetooth wireless devices (for certain models)

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

- o computers (desktop, notebook)
- o phones (cellular, cordless, smart phone)
- o Imaging devices (printer, camera)
- o Audio devices (headset, speakers)
- o Mouse
- o 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 and other devices settings**.
2. Select **Add Bluetooth or other device**.

3 . select your device from the list, and then follow the on-screen instructions.

含 **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— LAN

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 RJ-45 (network) cable and a network jack or an optional docking device or expansion port, if there is no RJ-45 jack 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 Enjoying entertainment features

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

using the camera(for certain models)

your computer may have one or more cameras that enable you to connect with others for work or play. cameras may be front-facing, rear-facing, or pop-up. see the setup instructions or quick setup poster provided with your product for camera details.

Most cameras allow you to video chat, record video, and record still images. some also provide HD (high-definition), apps for gaming, or facial recognition software like windows Hello.

To use your camera, type camera in the taskbar search box, and then select camera from the list of applications.

using audio

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

connecting speakers

on select products, you can attach wired speakers to your computer by connecting them to a USB Port, to an audio-out (headphone) or to an audio-out (headphone)/audio-in (microphone) combo jack on your computer.

To connect wireless speakers to your computer, follow the device manufacturer's instructions.

connecting headphones

⚠ WARNING! To reduce the risk of personal injury, lower the volume setting before putting on headphones, earbuds, or a headset. For additional safety information, see the Regulatory, safety and Environmental Notices.

on select products, you can connect wired headphones to an audio-out (headphone) jack or to an audio-out (headphone)/audio-in (microphone) combo jack on your computer.

To connect wireless headphones to your computer, follow the device manufacturer's instructions.

connecting a microphone

on select products, connect a microphone to the audio-in (microphone) jack on the computer to record audio. For best results when recording, speak directly into the microphone and record sound in a setting free of background noise.

using sound settings

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

To view or change sound settings:

- ▲ Type control panel in the taskbar search box, select control panel, select Hardware and sound, and then select sound.

your computer may include an enhanced sound system. As a result, your computer may include advanced audio features that can be controlled through an audio control panel specific to your sound system.

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

- ▲ Type control panel in the taskbar search box, select control panel, select Hardware and sound, and then select the audio control panel specific to your system.

using video

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

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

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

Connecting video devices using a USB Type-C cable (for certain models)



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

To see video or high-resolution display output on an external Thunderbolt device, connect the Thunderbolt device according to the following instructions:

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



2. connect the other end of the cable to the external Thunderbolt device.
3. press the switch screen key, for example f4 , to alternate the computer screen image between 4 display states.

- pc screen only: view the screen image on the computer only –
- Duplicate: view the screen images simultaneously on both the computer and the external device.
- Extend: view the screen image extended across both the computer and the external device.
- second screen only: view the screen image on the external device only.

Each time you press the key, the display state changes.

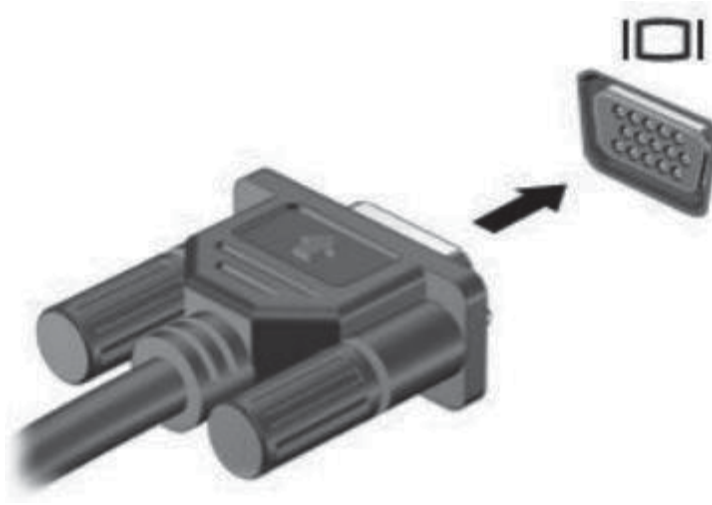
含 **NOTE:** For best results , especially if you choose the "Extend " option , increase the screen resolution of the external device , as follows. select the start button , select the settings icon  , and then select system. under Display, select the appropriate resolution , and then select keep changes.

connecting video devices by using a vGA cable(for certain models)

 **NOTE:**

To see the computer screen image on an external vGA monitor or projected for a presentation , connect a monitor or projector to the computer's VGA port.

- 1 . connect the vGA cable from the monitor or projector to the vGA port on the computer as shown.



- 2 . press the switch screen key, for example f4 , to alternate the screen image between 4 display states:
 - pc screen only: view the screen image on the computer only.
 - Duplicate: view the screen images simultaneously on both the computer and the external device.
 - Extend: view the screen image extended across both the computer and the external device.
 - second screen only: view the screen image on the external device only.

Each time you press the key, the display state changes.

含 **NOTE:** For best results , especially if you choose the " Extend" option , increase the screen resolution of the external device , as follows. select the start button , select the settings icon  , and then select system. under Display, select the appropriate resolution , and then select keep changes.

connecting video devices using an HDMI cable(for certain models)



NOTE:

To see the computer screen image on a high-definition Tvor monitor, connect the high-definition device according to the following instructions:

1. connect one end of the HDMI Cable to the HDMI Port on the computer.



2. connect the other end of the cable to the high-definition Tvor monitor.
3. press the switch screen key, for example f4 , to alternate the computer screen image between 4 display states:
 - pc screen only: view the screen image on the computer only.
 - Duplicate: view the screen images simultaneously on both the computer and the external device.
 - Extend: view the screen image extended across both the computer and the external device.
 - second screen only: view the screen image on the external device only.

Each time you press the key, the display state changes.



NOTE: For best results , especially if you choose the " Extend" option , increase the screen resolution of the external device , as follows. select the start button , select the settings icon  , and then select system. under Display , select the appropriate resolution , and then select keep changes.

connecting digital display devices using a Dual-Mode Display port cable (for certain models)



NOTE: To connect a digital display device to your computer, you need a Dual-Mode Display port (DP-DP) cable, purchased separately .

The Dual-Mode Display port connects a digital display device such as a high-performance monitor or projector. The Dual-Mode Display port delivers higher performance than the VGA external monitor port and improves digital connectivity.

- 1 . connect one end of the Dual-Mode Display port cable to the Dual-Mode Display port on the computer.



- 2 . connect the other end of the cable to the digital display device.
- 3 . press the switch screen key, for example f4 , to alternate the computer screen image between 4 display states:
 - pc screen only: view the screen image on the computer only.
 - Duplicate: view the same screen images simultaneously on both the computer and the external device.
 - Extend: view the screen image extended across both the computer and the external device.
 - second screen only: view the screen image on the external device only.Each time you press the key, the display state changes.

含 **NOTE:** For best results , especially if you choose the " Extend" option , increase the screen resolution of the external device , as follows. select the start button , select the settings icon  , and then select system. under Display, select the appropriate resolution , and then select keep changes.

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

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

To open Miracast:

- ▲ Type project in the taskbar search box , and then click project to a second screen. click connect to a wireless display, and then follow the on-screen instructions.

4 Navigating the screen

You can navigate the computer screen in the following ways:

- using touch gestures(for certain models)
- **Using the keyboard and mouse**

select computer modelshavespecialaction keys or hot keyfunctions on thekeyboard to perform routine tasks.

using touch gestures (for certain models)

you can customizethetouch gesturesbychanging settings , button configurations , clickspeed , and pointer options.

Type control panel in thetaskbarsearchbox , and then select control panel. select Hardware and sound . under Devices and printers , select Mouse.

含 **NOTE:** Touch gestures are not supported in all apps.

using the keyboard and mouse(for certain models)

Thekeyboardand mouseallow you totype , select items , scrolland to performthe same functions as you do usingtouch gestures. Thekeyboard alsoallowsyou to use action keys and hotkeys to perform specific functions.

Tip: The windows key  on thekeyboard allowsyou to quickly returntothestartscreenfrom an open app or the windows desktop. press the key again to return to the previous screen.

 **NOTE:** Depending onthecountryorregion , the keys and keyboardfunctionsofyourkeyboardmaybe differentfrom those discussed in this section .

Using the action keys or hot keys (for certain models)

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

- **Actionkeys**—perform an assignedfunction. Theicons on the functionkeys atthe top of the keyboard illustrate the assigned function forthat key.

To use an action key function , press and hold the key.
- **Hot keys**—A Combination of the **fn** key and the **esc** key, the **spacebar**, or the appropriate actionkey. To use ahotkey, brieflypressthfn key, andthen brieflypressthesecondkeyofthe combination .

Depending on the computer model , your keyboard may support the following keys.

Icon	Description
	opens the " How to get help in windows 10" webpage.

Icon	Description
	Decreases the screen brightness incrementally as long as you hold down the key.
	Increases the screen brightness incrementally as long as you hold down the key.
	switches the screen image between display devices connected to the system. For example, if a monitor is connected to the computer, repeatedly pressing this key alternates the screen image from the computer display to the monitor display to a simultaneous display on both the computer and the monitor.
	Turns the keyboard backlight off or on. NOTE: To conserve battery power, turn off this feature.
	plays the previous track of an audio CD Or the previous section of a DVD Or a Blu-ray Disc (BD) .
	starts , pauses , or resumes playback of an audio CD , a DVD , or a BD .
	plays the next track of an audio CD Or the next section of a DVD Or a BD.
	stops audio or video playback of a CD , a DVD , or a BD.
	Decreases speaker volume incrementally while you hold down the key.
	Increases speaker volume incrementally while you hold down the key.
	Mutes or restores speaker sound.
	Turns the wireless feature on or off. NOTE: A Wireless network must be set up before a wireless connection is possible.
	Turns the airplane mode and wireless feature on or off. NOTE: The airplane mode key is also referred to as the wireless button. NOTE: A Wireless network must be set up before a wireless connection is possible.

5 Maintaining your computer

It is important to perform regular maintenance to keep your computer in optimal condition. It also provides instructions for updating programs and drivers, steps to clean the computer, and tips for traveling with (or shipping) the computer.

Improving performance

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

Using Disk Defragmenter (for certain models)

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.

Using Disk Cleanup (for certain models)

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.

updating programs and drivers

It is recommended 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.

cleaning your computer

use the following products to safely clean your computer:

- Dimethyl benzyl ammonium chloride 0.3 percent maximum concentration (for example, disposable wipes, which come in a variety of brands)
- Alcohol-free glass-cleaning fluid
- solution of water and mild soap
- Dry microfiber cleaning cloth or a chamois (static-free cloth without oil)
- static-free cloth wipes



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

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

cleaning procedures

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

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

- 1 . Turn off the computer.
- 2 . Disconnect AC power.
- 3 . Disconnect all powered external devices.

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

cleaning the display

Gently wipe the display using a soft, lint-free cloth moistened with an alcohol-free glass cleaner. Be sure that a display is dry before you open the computer.

cleaning the sides or cover

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

 **NOTE:** when cleaning the cover of the computer, use a circular motion to aid in removing dirt and debris.

Cleaning the TouchPad, keyboard, or mouse (for certain models)

 **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.

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

Traveling with or shipping your computer

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

- prepare the computer for traveling or shipping:
 - Backup your information to an external drive.
 - Remove all discs and all external media cards, such as memory cards.
 - Turn off and then disconnect all external devices.
 - shutdown the computer.
- Take along a backup of your information. Keep the backup separate from the computer.
- when traveling by air, carry the computer as hand luggage; do not check it in with the rest of your luggage.

 **CAUTION:** Avoid exposing a drive to magnetic fields. Security devices with magnetic fields include airport walk-through devices and security wands. Airport conveyor belts and similar security devices that check carry-on baggage use x-rays instead of magnetism and do not damage drives.

- If you plan to use the computer during a flight, listen for the in-flight announcement that tells you when you are allowed to use your computer. In-flight computer use is at the discretion of the airline.
- If you are shipping the computer or a drive, use suitable protective packaging and label the package "FRAGILE."
- The use of wireless devices may be restricted in some environments. Such restrictions may apply aboard aircraft, in hospitals, near explosives, and in hazardous locations. If you are uncertain of the policy that applies to the use of a wireless device in your computer, ask for authorization to use your computer before you turn it on.
- If you are traveling internationally, follow these suggestions:
 - check the computer-related customs regulations for each country or region on your itinerary.
 - check the power cord and adapter requirements for each location in which you plan to use the computer. Voltage, frequency, and plug configurations vary.

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

6 securing your computer and information

your computer includes features that help protect the integrity of your system and its data from unauthorized access. Review these features to ensure proper use.

computer security features

computer risk	computer feature
unauthorized use of the computer or user account	user password A <i>password</i> is a group of characters that you choose. These characters must be entered to authorize access to your computer information. — or — windows Hello (for certain models) 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 the settings icon , select Accounts, and then select sign-in options. 2. under windows Hello, follow the on-screen instructions to add both a password and a 4-digit PIN, and then enroll your fingerprint or facial ID.
unauthorized access to setup utility, BIOS Settings, and other system identification information	Administrator password
computer viruses	Antivirus software The free trial antivirus software that is preinstalled on your computer can detect most viruses, remove them, and, in most cases, repair damage caused by viruses. For protection against new viruses beyond the trial period, purchase an extended service.
unauthorized access to data and ongoing threats to the computer	Firewall software - o windows includes firewall software preinstalled on the computer. - o The antivirus software, which is preinstalled on the computer, includes firewall software. windows critical security updates updates to the windows operating system

7 Troubleshooting

If you have problems using any peripheral device such as a monitor or a printer with your computer, for more extensive troubleshooting refer to the documentation provided by the product manufacturer. The following tables present some issues you might encounter while installing, starting up, or using your computer and suggest possible solutions.

computer does not start

symptom	possible solution
Error message: hard drive error	- Restart the computer. - press <code>ctrl+alt+delete</code>. - select the power icon, and then select Restart. - OR - - press and hold the power button on the computer for 5 or more seconds to turn off the computer, and then press the button to turn on the computer. - If windows opens, immediately backup all important data to a backup hard drive. - contact support (regardless of whether windows started or not).
computer will not turn on or start	Be sure that the cables connecting the computer to the AC Outlet are plugged in properly. The power supply light on the computer should be on. If it is not, try a different AC Outlet. If you are still having trouble, contact support. Be sure that the operating voltage of the AC Outlet is appropriate for the electrical voltage of the computer. Test the AC Outlet by plugging a different electrical device into it. If possible, remove any outlet filters and stabilizers, and then insert the power plug directly into the AC Outlet. Disconnect all peripheral devices. press and hold the power button down for at least 15 seconds until the computer turns off. Then press the power button again to turn on the computer. If the monitor screen is blank, the monitor might not be properly connected. connect the monitor to the computer, plug the power cord into an AC Outlet, and then turn the monitor on.
computer is not responding	- press <code>ctrl+alt+delete</code>. - select Task Manager. - select any programs that are not responding, and then select End task. If closing programs does not resolve the problem, restart the computer. - press <code>ctrl+alt+delete</code>. - select the power icon, and then select Restart. - OR -

symptom	possible solution
	press and hold the power button on the computer for 5 or more seconds to turn off the computer. Then press the power button again to turn on the computer.
Error message: Invalid system disk or Non-system disk or Disk error	whendrive activitystops , remove the optical disc insidetheoptical drive , and then press the spacebar on the keyboard.

power

symptom	possible solution
computer does not turn off when the power button is pressed	press and hold the power button until the computer turns off. Then turn the computer on again.
computer shuts down automatically	- The computermight be in an exceedingly hot environment. Let it cool down. - Be sure thatcomputerairvents are not blocked. NOTE: If your computer has an internal fan , be sure that the internal fan is running.

Display(monitor) (for certain models)

symptom	possible solution
screen is blank , and monitor power light is off	Reconnect the power cable to the back of the monitor and to the AC Outlet. press the power button on the monitor.
screEn is blank	press the space bar on the keyboard or move the mouse to redisplay the screen image. press the sleep button(for certain models)oresc, to resume from sleep mode. press the power button to turn on the computer. Inspect the monitor cable for bent pins. - Ifany ofthe pins are bent, replace the monitorcable. - Ifno pins are bent, reconnectthe monitorcableto the computer.
Images on the screen are too large or too small , or the images are fuzzy	Adjust the monitor resolution setting in windows. ▲ selectthe start button , selectthe settings icon  , and thenselectsystem. underDisplay, selectthe appropriate resolution , and then select keepchanges.

NOTE: In addition to the information listed here , refer to the documentation that came with your monitor .

keyboard and mouse (with cable)

symptom	possible solution
keyboard commands and typing are not recognized by the computer	use the mouse to turn off the computer. Disconnect and reconnect the keyboard to your computer and then restart your computer.
Mouse (with cable) does not work or is not detected	Disconnect and reconnect the mouse cable to your computer. If the mouse is still not detected turn off the computer disconnect and reconnect the mouse cable and then restart the computer.
cursor does not respond to the arrow keys on the number keypad	press num lock on the keyboard to turn off num lock, So that the arrow keys on the number keypad can be used.
cursor does not respond to mouse movement	- press alt+tab to navigate to an open program . - press ctrl+s to save your changes in the selected program (ctrl+s is the keyboard shortcut for the save command on most—not all—programs) . - Repeat step 1 and step 2 to save changes in all open programs. - press the power button to turn off the computer. - After the shutdown is complete , disconnect and reconnect the mouse cable to your computer, and then restart your computer.

keyboard and mouse (wireless)

symptom	possible solution
wireless keyboard or mouse does not work or is not detected	Be sure that you are using the wireless keyboard or wireless mouse within range of the transceiver, approximately 10 meters (32 feet) for normal use , and within 30 cm (12 inches) during initial setup or for re-synchronization. Be sure that the mouse is not in suspend mode , which occurs after 20 minutes of inactivity. click the left mouse button to reactivate the mouse . Replace the batteries in the keyboard and/or mouse.

speakers and sound

symptom	possible solution
volume is very low or unsatisfactory	Be sure that you connected the speakers to the audio-out jack on the computer. (Additional audio jacks are used for multiple-channel speakers.) Detached nonpowered speakers (speakers without a separate power source, such as batteries or a power cord) do not produce satisfactory sound. Replace the nonpowered speakers with powered speakers.
No sound is produced	- Type control panel in the taskbar search box , and then select control panel. select system and security. - under security and Maintenance , select Troubleshoot computer problems , and then select Troubleshoot audio playback. Be sure that you connected powered speakers and that they are turned on . Turn off your computer, and then disconnect and reconnect the speakers. Be sure that the speakers are connected to an audio jack, not a microphone or headphone jack.

symptom	possible solution
	To resume from sleep mode, press the sleep button(for certain models), or press esc .
	unplug headphones if they are connected to your computer (or speaker system) .

Internet access

symptom	possible solution
cannot connect to the Internet	1. Type control panel in the taskbar search box , and then select control panel. 2. under Network and sharing center, select connect to a network. verify that you are using the proper cables for your Internet connection type. your computer might have a dial-up modem and an Ethernet network adapter (also called a network interface card , or NIC) . A modem uses a standard telephone cable , whereas the network adapter uses a network cable , to connect to a local area network (LAN) . Do not connect a telephone cable to the network adapter, and do not connect a network cable to a telephone line; doing so might damage the network adapter. Run the wireless setup wizard. 1. Type control panel in the taskbar search box , and then select control panel. select Network and Internet , and then select Network and sharing center. 2. In the Network and sharing center window, select setup a new connection or network to open the wizard , and then follow the on-screen instructions. If your system has an external antenna , try moving the antenna to a better position. If the antenna is internal , try moving the computer. Try to connect again later, or contact your ISP for assistance.
cannot connect to the Internet but there is no error message	1. Right-click on a taskbar and hold the network status icon in the notification area , at the far right of the taskbar. 2. select Troubleshoot problems.
No network connection icon in the notification area	1. Type repair in the taskbar search box , and then select Identify and repair network problems. 2. Follow the on-screen instructions.

software troubleshooting

symptom	possible solution
To resolve software problems , try these methods:	• Turn the computer off completely, and then turn it on again. • update the drivers. see "updating device drivers" in this table. • Restore your computer to a configuration that was in use before the software was installed. see "Microsoft system Restore" in this table. • Reinstall the software program or hardware driver. see "software program and hardware driver reinstallation " in this table. • Erase and reformat the hard drive , and then reinstall the operating system , programs , and drivers. This process erases all the data files that you have created.
software programs are slow to respond	• close unnecessary software programs. • Run virus scans and other system tools when the computer is not in use.

symptom	possible solution
	stop startup applications (such as messaging software and multimedia applications) from loading. 1. Type ms config in the taskbar search box, and then select system configuration. NOTE: If you are prompted for an administrator password or confirmation, type the password or provide confirmation. 2. From the General tab, select selective startup. 3. select the startup tab, and then select open TaskManager. 4. select the startup items that you want to prevent from loading, and then select Disable. NOTE: If you are unsure about an item, do not disable it. 5. If prompted, select Restart to restart the computer. NOTE: To enable a program to load at startup, restart the computer and reverse these steps.
	Disable nonessential graphics capabilities. 1. Type file explorer in the taskbar search box, and then select File Explorer. 2. Right-click or tap and hold This PC, and then select properties. 3. select Advanced system settings. NOTE: If you are prompted for an administrator password or confirmation, type the password or provide confirmation. 4. From the Advanced tab under performance, select settings. 5. From the visual Effects tab, select Adjust for best performance, and then select ok.
updating device drivers	complete the following procedure to update a driver, or to revert to an earlier version of the driver if the new one does not solve your problem. 1. Type device manager in the taskbar search box, and then select Device Manager. 2. select the arrow to expand the list of the type of device you want to update or roll back (for example, DVD/CD-ROM drives). 3. Double-click or double-tap the specific item. 4. select the Driver tab. 5. To update a driver, select update Driver, and then follow the on-screen instructions. - or - To revert to an earlier version of a driver, select Roll Back Driver, and then follow the on-screen instructions.
Microsoft system Restore	If you have a problem that might be caused by software that you have installed on your computer, use system Restore to return the computer to a previous restore point. You can also set restore points manually. IMPORTANT: Always use this system Restore procedure before you use the system Recovery program. For more information and steps, see the Get Help app. △ select the start button, and then select the Get Help app.
software program and hardware driver reinstallation	Before you uninstall a program, be sure that you have a way to reinstall it. confirm that it is still available from the original source (for example, discs or the Internet). NOTE: some features might not be available on systems that are shipped without a version of windows.

8 Backing up, restoring, and recovering

This chapter provides information about the following processes, which are standard procedure for most products:

- Backing up your personal information—you can use Windows tools to backup your personal information.
- creating a restore point—you can use Windows tools to create a restore point.
- Restoring and recovery—Windows offers several options for restoring from backup, refreshing the computer, and resetting the computer to its original state.

Backing up information and creating recovery media

using Windows tools

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

You can use Windows tools to backup personal information and create system restore points and recovery media.

 **NOTE:** If computer storage is 32 GB or less, Microsoft System Restore is disabled by default. For more information and steps, see the Get Help app.

 select the Start button, and then select the Get Help app.

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

Restoring and recovery

Restoring, resetting, and refreshing using Windows tools

Windows offers several options for restoring, resetting, and refreshing the computer.

9 specifications

operating specifications

 **NOTE:** To determine the exact electrical ratings of your computer, refer to the computer ratings label, located on the outside of the computer.

Factor	Metric	U.S.
operating temperature	5°C to 35°C	41 °F to 95 °F
storage temperature	-20°C to 60°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 15000 ft

10 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 doorknob.

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.

FCC Statement

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions:

(1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Important Note:

Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Country Code selection feature to be disabled for products marketed to the US/Canada.

ISED Statement

- English: This device complies with Innovation, Science and Economic Development license - exempt RSS standard(s). Operation is subject to the following two conditions: (1) This device may not cause interference, and (2) This device must accept any interference, including interference that may cause undesired operation of the device. The digital apparatus complies with Canadian CAN ICES - 3 (B)/NMB - 3(B).

- French: Le présent appareil est conforme aux CNR d'Innovation, Science et développement économique applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes: (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

This radio transmitter has been approved by Innovation, Science and Economic Development to operate with the antenna types listed with the maximum permissible gain indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device. Le présent émetteur radio a été approuvé par Innovation, Science et développement économique pour fonctionner avec les types d'antenne énumérés ci-dessous et ayant un gain admissible maximal. Les types d'antenne non inclus dans cette liste, et dont le gain est supérieur au gain maximal indiqué, sont strictement interdits pour l'exploitation de l'émetteur.

Avertissement:

les dispositifs fonctionnant dans la bande de 5150 à 5250 MHz sont réservés uniquement pour une utilisation à l'intérieur afin de réduire les risques de brouillage préjudiciable aux systèmes de satellites mobiles utilisant les mêmes canaux;

Caution:

The device for operation in the band 5150–5250 MHz is only for indoor use to reduce the potential for harmful interference to co-channel mobile satellite systems;

Radiation Exposure Statement

This equipment complies with Canada radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

Déclaration d'exposition aux radiations

Cet équipement est conforme Canada limites d'exposition aux radiations dans un environnement non contrôlé. Cet équipement doit être installé et utilisé à distance minimum de 20cm entre le radiateur et votre corps.