

User Guide

Lenovo
LEGION

Lenovo

Legion Pro 7i(16",10) and Legion Pro 7(16",10)

Read this first

Before using this documentation and the product it supports, ensure that you read and understand the following:

- [Generic Safety and Compliance Notices](#)
- *Safety and Warranty Guide*
- *Setup Guide*

HEVC Standard

This product may support digital video coding under certain versions of HEVC (High Efficiency Video Coding) standard and, if so, may be covered by patents at patentlist.accessadvance.com.



Third Edition (March 2026)

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About this guide

- This guide applies to Lenovo product model(s) listed below. Illustrations in this guide may look slightly different from your product model.

Model name	Machine type (MT)
– Legion Pro 7 16IAX10H – Lenovo Legion Pro 7 16IAX10H	83F5
Legion Pro 7 16AFR10H	83RU
Legion Pro 7 16ADR10H	83RV

- For further compliance information, refer to the *Generic Safety and Compliance Notices* at https://pcsupport.lenovo.com/docs/generic_notices.
- This guide may contain information about accessories, features, and software that are not available on all models.
- This guide contains instructions that are based on the Windows operating system. These instructions are not applicable if you install and use other operating systems.
- Microsoft® makes periodic feature changes to the Windows® operating system through Windows Update. As a result, the operating system related instructions may become outdated. Refer to Microsoft resources for the latest information.
- The content of the guide is subject to change without notice. To obtain the latest version, go to <https://support.lenovo.com>.

Chapter 1. Meet your computer

Front view

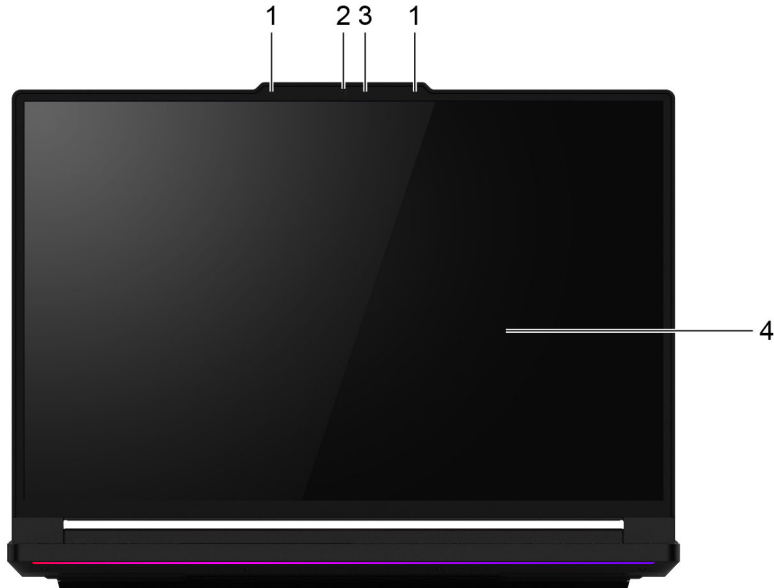


Figure 1. Front view

No.	Description
1	Microphones
2	Camera
3	Camera light
4	Screen

Microphones

The microphones are the PC's built-in sound input devices. They capture your voice and ambient sound and convert them into digital form. Microphones are essential components when you use your PC for video conferencing or voice recording.

Camera

The built-in camera captures visible light and converts it to digital signals. It is used for video recordings and video conferencing.

Camera light

The camera light indicates whether the camera is activated.

Table 1. Camera light status and description

Camera light status	Description
On	The camera is activated.
Off	The camera is not activated.

Screen

The screen of the built-in display is where text, graphics, and videos are displayed.

Top view

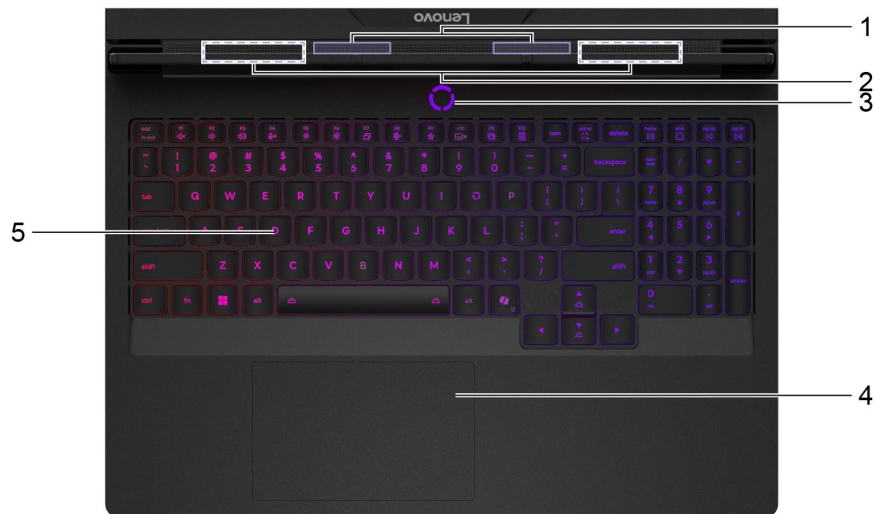


Figure 2. Top view

No.	Description
1	Speakers
2	Antennas (cannot be seen from the outside)
3	Power button and power light
4	Touchpad
5	Keyboard

Speakers

The speakers are the PC's built-in sound output devices.

Antennas

The antennas transmit and receive radio waves to allow data to be transferred between your PC and a Wi-Fi network device or a Bluetooth device.

Note: The antennas are hidden inside the PC.

Power button

Press the power button to turn on your PC.

Note: By default, on a Windows PC, pressing the power button when the PC is turned on will put the PC into sleep mode.

Power light

The power light indicates the current power state of the PC: whether it is powered on, powered off, in sleep mode, or in hibernation mode.

Table 2. Power light status and description

Light status	Power state
Solid on	Powered on
Blinking slowly	In sleep mode
Off	Powered off or in hibernation mode

The color of the power light can indicate the PC's active operation mode.

Table 3. Power light colors and the PC's active operation modes

Light color	Operation mode
White	Balance mode
Blue	Quiet mode
Red	Performance mode
Purple	Custom mode

Touchpad

The touchpad is the PC's built-in pointing device, which provides the basic functionality of an external mouse. Slide your finger on the touchpad to move the pointer on the screen and tap or double-tap to select or execute a screen item.

The touchpad also supports Windows multi-finger gestures, which provide shortcuts to frequently used apps and functions.

Keyboard

The keyboard is the primary input device for a PC, designed for typing characters. A Lenovo keyboard also includes shortcut keys that enhance productivity when interacting with the PC, applications, and the Windows operating system.

Note: Keyboard layouts vary by language and region, so your PC's keyboard may differ from the illustrations in this publication.

Left view



Figure 3. Left view

No.	Description
1	Charging light
2	Power connector
3	HDMI™ connector
4	Multi-purpose USB Type-C® connector
5	USB Standard-A connector (always-on)

Charging light

The charging light indicates whether the PC is plugged into an electrical outlet. When the PC is plugged into an electrical outlet, the color of the light indicates whether the battery is fully charged (or will shortly be fully charged).

Table 4. Charging light status and description

Light status	Plugged in?	Battery charge level
Off	No	/
On, amber	Yes	1%–90%
On, white	Yes	91%–100%

Power connector

Use this connector and the included ac power adapter to connect your PC to an electrical outlet.

HDMI connector

The HDMI connector is used to connect an external display device, such as a television, a projector, or a monitor.

Multi-purpose USB Type-C connector

This multi-purpose USB Type-C connector is used to connect:

- Storage or peripheral devices that follow the universal serial bus (USB) specification for data transfer and device interconnection
- Display devices

Note: When connecting display devices, you need to use appropriate cables and adapters (if needed) according to the connection capabilities of the display device.

- Thunderbolt™-enabled docks or devices (for the connector with ⚡)

USB Standard-A connector

The USB Standard-A connector is used to connect storage or peripheral devices that follow the universal serial bus (USB) specification for data transfer and device interconnection.

Always-on connector

A USB connector with a battery icon (🔋) supports the always-on function. The PC can supply power to a USB device connected to this type of connector even when the PC is powered off, in sleep mode, or in hibernation mode.

The always-on function can be turned on and off in:

- The PC's firmware setup utility, or
- Lenovo Vantage

Right view



Figure 4. Right view

No.	Description
1	Combo audio jack
2	USB Standard-A connector
3	Camera switch
4	Ethernet connector

Combo audio jack

The combo audio jack is used to connect single-plug headsets, headphones, or external speakers.

USB Standard-A connector

The USB Standard-A connector is used to connect storage or peripheral devices that follow the universal serial bus (USB) specification for data transfer and device interconnection.

Camera switch

This toggle switch is used to enable or disable the built-in camera.

Note: This switch is designed for privacy protection. If you don't need to use the camera, slide the switch to the off position to prevent any apps from using the camera.

Ethernet connector

The Ethernet connector connects a cable modem or router to the PC to establish wired Internet access.

Rear view

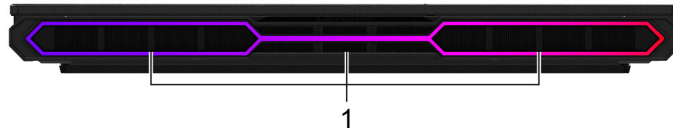


Figure 5. Rear view

No.	Description
1	Air vents (outlet)

Air vents (outlet)

The air vents allow hot air to be discharged out of the PC.

Important: When the PC is operating, do not place it on a bed, sofa, carpet, or other flexible surfaces. Otherwise, the air vents will be blocked and the PC may overheat, reducing performance or causing the PC to be unresponsive or even shut down.

Bottom view



Figure 6. Bottom view

No.	Description
1	Air vents (intake)
2	Speakers

Air vents (intake)

The air vents allow air to be sucked inside of the PC to cool the internal components.

Important: When the PC is operating, do not place it on a bed, sofa, carpet, or other flexible surfaces. Otherwise, the air vents will be blocked and the PC may overheat, reducing performance or causing the PC to be unresponsive or even shut down.

Speakers

The speakers are the PC's built-in sound output devices.

Features and specifications

Dimensions

Item	Value or specification
Width	364.4 mm
Depth	275.9 mm
Thickness	<ul style="list-style-type: none">• 21.9 mm (thinnest part)• 26.7 mm (thickest part)

ac power adapter

Item	Value or specification
Input	100 V ac–240 V ac, 50 Hz–60 Hz
Output voltage	20 V
Maximum output current	<ul style="list-style-type: none">• 15 A (Legion Pro 7 16ADR10H)• 20 A (Legion Pro 7 16IAX10H, Legion Pro 7 16AFR10H)
Maximum output power	<ul style="list-style-type: none">• 300 W (Legion Pro 7 16ADR10H)• 400 W (Legion Pro 7 16IAX10H, Legion Pro 7 16AFR10H)

Rechargeable battery pack

Item	Value or specification
Capacity	<ul style="list-style-type: none">• 80 Wh, or• 99.9 Wh
Cell type	Rechargeable Li-ion Battery
Number of cells	4

Note: The battery capacity is the typical or average capacity as measured in a specific test environment. Capacities measured in other environments may differ but are no lower than the rated capacity (see product label).

Memory

Item	Value or specification
Type	DDR5
Installation	Slot mounted
Number of slots	2

Mass storage device

Item	Value or specification
Type	Solid-state drive (SSD)
Slot type	M.2 (2242 or 2280)
Number of slots	2
Interface	<ul style="list-style-type: none">• PCIe Gen4, or• PCIe Gen5

Display

Item	Value or specification
Screen size (diagonal)	16.0 inches
Resolution	2560 × 1600
Supported refresh rates	<ul style="list-style-type: none">• 60 Hz and 165 Hz• 60 Hz and 240 Hz

Connectors and slots

Item	Value or specification
USB Standard-A connector	<ul style="list-style-type: none">• Quantity: 3• Maximum power output: 5 V, 0.9 A*• Supported signaling protocols:<ul style="list-style-type: none">– USB 2.0 480 Mbps– SuperSpeed USB 5 Gbps– SuperSpeed USB 10 Gbps (only for always-on connector) <p>Note: The always-on connector supports maximum power output of 5 V and 2 A.</p>
Multi-purpose USB Type-C connector (without icon, for Legion Pro 7 16AFR10H, Legion Pro 7 16ADR10H)	<ul style="list-style-type: none">• Quantity: 1• Maximum power output: 5 V, 3 A• Supported signaling protocols:<ul style="list-style-type: none">– USB 2.0 480 Mbps– SuperSpeed USB 5 Gbps– SuperSpeed USB 10 Gbps– DisplayPort 2.1
Multi-purpose USB Type-C connector (marked with USB-PD)	<ul style="list-style-type: none">• Quantity: 1• Maximum power output: 5 V, 3 A• Maximum power input: 20 V, 7 A• Supported signaling protocols:<ul style="list-style-type: none">– USB 2.0 480 Mbps– SuperSpeed USB 5 Gbps– SuperSpeed USB 10 Gbps– DisplayPort 2.1

Item	Value or specification
Multi-purpose USB Type-C connector (marked with ⚡, for Legion Pro 7 16IAX10H)	<ul style="list-style-type: none"> • Quantity: 1 • Maximum power output: 5 V, 3 A • Supported signaling protocols: <ul style="list-style-type: none"> – USB 2.0 480 Mbps – SuperSpeed USB 5 Gbps – SuperSpeed USB 10 Gbps – Thunderbolt 4 40 Gbps – DisplayPort 2.1
HDMI connector	Supported signaling protocols: <ul style="list-style-type: none"> • Fixed-rate link (FRL) • Transition minimized differential signaling (TMDS)
Combo audio jack	<ul style="list-style-type: none"> • Diameter: 3.5 mm • Supported plug: <ul style="list-style-type: none"> – 3-pole, TRS – 4-pole, TRRS (CTIA and OMTP)

Note: Data rates and performance ratings are dependent on connected devices and cables if they are used. USB Type-C connectors that are DisplayPort 2.1 compliant through DisplayPort alternate mode provide maximum output resolution of 7680 x 4320, at 60 Hz frame rate and color depth of 36 bpp (bits per pixel). The actual maximum output resolution is dependent on the connected display device and the cable being used.

Networking

Item	Value or specification
Ethernet	2.5 Gbps
Wi-Fi®	Wi-Fi 7 Note: Different Wi-Fi standards may operate on different frequency bands. In some countries or regions, certain frequency bands may be prohibited for unlicensed use or may require specific conditions. Wi-Fi 7 on this PC are disabled in some countries or regions in accordance with local regulations.
Bluetooth®	Bluetooth 5.4

* for selected models

Statement on USB transfer rate

Depending on many factors such as the processing capability of the host and peripheral devices, file attributes, and other factors related to system configuration and operating environments, the actual transfer rate using the various USB connectors on this device will vary and will be slower than the data rate listed below for each corresponding device.

USB device	Data rate (Gbit/s)
3.2 Gen 1	5
3.2 Gen 2	10

Operating environment

Maximum altitude (without pressurization)

3048 m (10 000 ft)

Temperature

- At altitudes up to 2438 m (8000 ft)
 - Operating: 5°C to 35°C (41°F to 95°F)
 - Storage: 5°C to 43°C (41°F to 109°F)
- At altitudes above 2438 m (8000 ft)
 - Maximum temperature when operating under the unpressurized condition: 31.3°C (88°F)

Note: When you charge the battery, its temperature must be no lower than 10°C (50°F).

Relative humidity

- Operating: 8% to 95% at wet-bulb temperature 23°C (73°F)
- Storage: 5% to 95% at wet-bulb temperature 27°C (81°F)

Avoid constant body contact with specific hot sections

CAUTION:

When the computer is operating, it should be placed on a hard and flat surface with its bottom area not in contact with user's bare skin. Under normal operating conditions, the temperature of the bottom surface will remain within an acceptable range as defined in *IEC 62368-1*, but such temperatures can still be high enough to cause discomfort or harm to the user if directly touched for over 10 seconds at a time. As such, it is recommended that users avoid prolonged direct contact with the bottom of the computer.

Chapter 2. Explore your computer

Your PC and its operating system

The operating system is essential software for a PC. It manages the hardware devices of the PC, provides utility applications and user interfaces, and enables the installation of various applications for a wide range of purposes.

Your PC comes with Windows 11 pre-installed.

Initial setup of the Windows operating system

When you turn on your PC for the first time, the Windows operating system will guide you through the initial setup process. Most importantly, you will:

- Create a user account
- Connect to a wireless network that has Internet access
- Select language-related settings

Note: If you choose to set up Windows for personal use, you must either use an existing Microsoft account or create a new one. You can switch to a local account after the initial setup.

Windows Update

From time to time, your PC receives update notifications. These notifications may include new features, security updates, and device drivers. While security-related updates are typically downloaded and installed automatically, you can manually control the installation of other available updates.

In Windows Update, you can view available updates, manually check for updates, and configure settings related to updates. To navigate to Windows Update, select **Settings → Windows Update**.

Windows recovery options

While using your PC, you may encounter various issues. Windows provides several recovery options to help restore your system to normal functionality. The table below will help you choose the right option for different situations.

Table 5. Windows recovery options

Situations	Recovery options
Windows runs much slower after you install an app.	Restore Windows from a system restore point.
Windows hasn't been functioning properly for some time.	Reset your PC while keeping your personal files.
Your PC won't start.	Utilize Windows startup repair function.
Your PC won't start and cannot be repaired using Windows startup repair function.	Use a recovery drive to restore Windows.

Reset Windows

Resetting Windows allows you to reinstall the operating system while retaining your personal files. This gives the operating system a fresh start and, in some cases, restores the PC's original performance.

- Step 1. Select **Settings → System → Recovery**.
- Step 2. Under recovery options, select **Reset PC**.
When prompted, choose between **Keep my files** and **Remove everything**.
- Step 3. Follow the on-screen instructions to complete the reset process.

Create a recovery drive

It is advisable to create a recovery drive after completing the initial setup of Windows. If you encounter a significant issue that prevents Windows from starting, you can use the recovery drive to restore the operating system on your PC.

- Step 1. Prepare an empty USB drive with a storage capacity of 32 GB or more.
- Step 2. In the search box on the taskbar, type *Create a recovery drive* and select the matched app.
- Step 3. Make sure **Back up system files to the recovery drive** checkbox is selected and select **Next**.
- Step 4. When prompted, connect the USB drive to your PC, select it, and then select **Next**.
- Step 5. Select **Create**.

Restore Windows using a recovery drive

If the Windows operating system fails to start, you can use a previously created recovery drive to restore Windows onto your PC.

- Step 1. Shut down your PC.
- Step 2. Connect the recovery drive to your PC.
- Step 3. Press the power button and press F9 repeatedly to open the Novo Button Menu.
- Step 4. Select **Boot Menu**.
- Step 5. Select the USB drive as the boot device.
The PC will start to the Windows Recovery Environment.
- Step 6. Follow the on-screen instructions to restore Windows onto your PC.

Use power efficiently

Use the power management features in this section to achieve the best balance between performance and power efficiency.

Shut down your PC

When you have finished using your PC and do not plan to resume shortly, shut it down.

- Step 1. Select **Start → Power**.
- Step 2. Select **Shut down**.

Put your PC into sleep mode

If you need to stop using your PC but plan to resume shortly, you can put it into sleep mode. Your PC will wake up more quickly from sleep mode, allowing you to return to where you left off with your work.

- Step 1. Select **Start → Power**.

Step 2. Select **Sleep**.

Rechargeable battery pack

Your computer includes a built-in, rechargeable battery pack that makes mobile computing a reality. When the computer is plugged into an electrical outlet, the battery charges. If you use the computer when you don't have access to an electrical outlet, the battery discharges to supply electricity that the computer system requires for operation.

You can charge the battery any time you want. The battery packs of Lenovo computers support multiple charging modes that are suitable for different power usage habits. You can switch the battery's active charging mode in Lenovo Vantage or Lenovo PC Manager.

Battery charging is also affected by its temperature. The recommended temperature range for charging the battery is between 10°C (50°F) and 35°C (95°F).

Note:

You can check the battery temperature in Lenovo Vantage.

To maximize the life of the battery, once the battery is fully charged, it must discharge to 94% or lower before it will be allowed to recharge again.

Normal mode

Normal mode is the most basic charging mode. In normal mode, it typically takes 2 to 4 hours for the battery to charge from 0% to 100%.

Conservation mode

If your computer is constantly plugged into an electrical outlet, consider switching the battery charging to conservation mode. In conservation mode, the battery will not be fully charged. Instead, the battery's charge will be kept within 75%–80%. This is beneficial to the long-term health of the battery.

Note: If you want the battery to be fully charged before bringing the computer to work, disable conservation mode by switching the battery charging to normal or rapid charge mode.

Overnight battery charging mode

Some people follow a regular pattern when using their computers. They finish their workday with the computer at a low battery charge level. They plug in their computers at night and need the battery to be fully charged the next morning so they can unplug the computer and bring it to work. These activities happen at approximately the same time each day. If this sounds like you, consider enabling overnight battery charging mode for the battery.

Overnight battery charging mode affects battery charging during the night hours, the time when you're usually asleep. When it is enabled, the computer regularly adapts its charging behavior based on observation of when you plug in the computer at night and unplug it in the morning. During the nighttime, the battery is charged to a particular range and is kept within that range for an extended period, before being further charged to 100%. Overnight battery charging mode ensures safe charging during the night and is beneficial to the long-term health of the battery.

Note: With overnight battery charging mode enabled, if you break your routine one day by unplugging the computer much earlier than usual in the morning, you may find that the battery is not fully charged.

If the battery pack of your computer supports overnight battery charging mode, it can be enabled in Lenovo Vantage or Lenovo PC Manager.

Recover full battery capacity

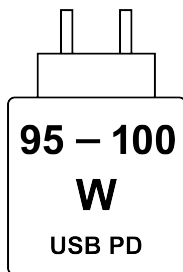
If your computer is constantly plugged in to an electrical outlet and the battery rarely discharges, the battery may not be charged to its full capacity even if the battery meter reports 100% charge. You can recover the battery's full charging potential simply by discharging and re-charging the battery.

Step 1. Unplug the computer and use it until the battery charge drops below 20%.

Step 2. Plug in the computer and charge the battery to 100%.

Using a USB Power Delivery-compliant charger with the PC

The USB Type-C connector located on the left side of the PC with a USB-PD icon complies with the *USB Power Delivery Specification*. It supports USB PD fast charging, in addition to support for Lenovo's proprietary charging protocols. If the included power supply is temporarily unavailable, you can use a compatible USB Type-C charger (not included) to charge the PC while it is powered off, in sleep mode, or in hibernation mode.



The power delivered by the charger must be between min 95 Watts required by the radio equipment and max 100 Watts in order to achieve the maximum charging speed. In other words, it must comply with the *USB Power Delivery Specification* and is able to provide power at one of the following voltage and current levels.

- 20 V, 4.75 A
- 20 V, 5 A

Some Lenovo-branded USB Type-C chargers not only comply with the *USB Power Delivery Specification* but also support Lenovo's private charging protocols. The following voltage and current levels are additionally supported by the PC when using Lenovo's private charging protocols.

- 20 V, 6.75 A
- 20 V, 7 A

Note: The USB Type-C connector with a USB-PD icon is not intended to serve as the primary power input. When the PC is in operation, the power supplied by the USB Type-C charger may be insufficient. As a result, the PC may not operate at its full capacity, and battery charging may be slow or may stop entirely. It is recommended to use the included ac power adapter whenever possible.

Set power button behavior

By default, pressing the power button puts the computer to sleep mode. However, you can change the power button behavior in Windows Control Panel.

Step 1. Type Control Panel in the Windows search box and then press enter. Open the control panel and view by large or small icons.

Step 2. Select the **power options** and then click **choose what the power button does**.

Adjust timeout settings for saving power

Setting appropriate timeouts for your PC to enter sleep mode and for the built-in screen to turn off is an effective method of reducing your PC's power consumption. The Windows operating system comes with default timeout settings for these two items, which you can adjust to better suit your preferences.

Step 1. Select **Start → Settings → System → Power & battery → Screen, sleep, & hibernation timeouts**.

Step 2. Adjust the settings.

For notebook PCs, you can set distinct timeouts for two usage scenarios: when the PC is plugged in and when it is running on battery power.

Default timeout settings for power saving

The operating system on your PC has the following timeouts enabled by default. You can adjust these settings to better suit your preferences.

Note: Setting appropriate timeouts is an effective method of reducing your PC's power consumption. Avoid setting excessively long timeouts to effectively disable this power-saving feature.

Table 6. Default timeout settings for the PC to enter sleep mode and the screen to turn off

Power saving action	Power state	Timeout (minute)
Turn off the screen	Plugged in	5
	On battery	3
Put the PC into sleep mode	Plugged in	5
	On battery	3

Note: To wake the PC from sleep mode, press the power button or any key on the keyboard.




System operation modes

Lenovo has preset several modes in which your computer can operate. The maximum attainable performance, power consumption, and speed limit for the heat sink fan vary between the operation modes. Consider the following conditions when you want to switch operation modes.

- The environment where you use your computer, and
- The tasks running on your computer

You switch the operation mode in the pre-installed app Legion Space or Legion Zone. As a shortcut, you can also use the key combination **fn + Q**. The following table lists the available operation modes on your computer and the recommended conditions for each mode.

Table 7. Operation modes and their recommended usage conditions


Icon	Operation mode	Recommended conditions
	Performance	<ul style="list-style-type: none">Your computer is plugged into an electrical outlet.You want the best performance, andYou don't care if the fan makes a little noise.
	Balance	You plan to frequently switch between different computer tasks over a period time.
	Quiet	<ul style="list-style-type: none">Your computer is operating on battery power, orYou want the computer to be as quiet as possible

Note: When the computer is operating on battery power or is plugged in using an under-rated power adapter, you may not be able to switch it to Performance mode. In Balance mode, the computer dynamically switches between Performance mode and Quiet mode based on the tasks that are running on the computer.

Connect to a network

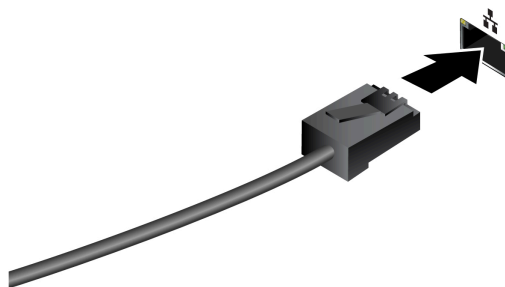
Connect to a Wi-Fi network

Ensure that you have a secure Wi-Fi network account and the required credentials.

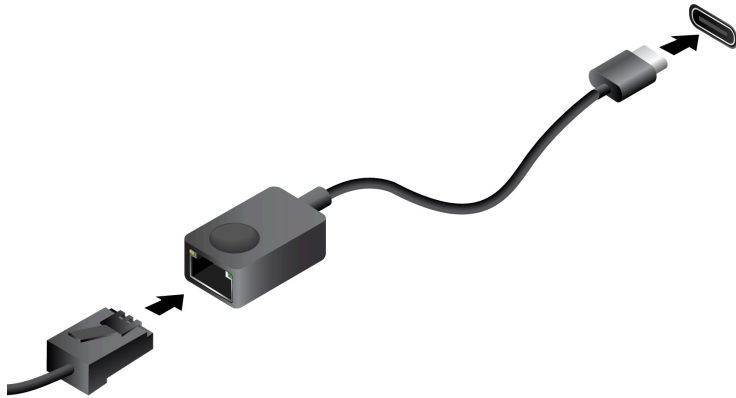
- Step 1. Select the network icon  on the bottom right of your display.
- Step 2. Select an available network, and then select **Connect**.
If you want to be automatically connected to this Wi-Fi network the next time you start your computer, select **Connect automatically** before selecting **Connect**.
- Step 3. Input your credentials if necessary, and then follow the on-screen instructions to connect to the desired Wi-Fi network.

Establish a wired connection

- Step 1. Plug an Ethernet cable into the Ethernet connector on your computer.
- Step 2. Plug the other end of the Ethernet cable into a network wall jack or a router.



Note: If your computer does not include an Ethernet connector, you can purchase a USB-C to Ethernet adapter from Lenovo at <https://www.lenovo.com/accessories>.



Interact with your computer

Shortcut keys

A Lenovo keyboard usually includes the following shortcut keys that you can use to quickly access apps or adjust settings.

- Functions keys (F1–F12)
- Hotkeys
- Combination keys using the fn key
- Combination keys using the Windows logo key
- The Copilot key









Hotkeys

Hotkeys provide quick access to frequently used settings and applications. Typically located in the top row of the keyboard, they often share keys with the function keys (F1–F12) and several other keys. Each hotkey's function is denoted by the icon printed on the key. The keyboard of your computer may only support a subset of the listed hotkeys.

Table 8. Hotkey functions

Hotkey icon	Function description
🔇	Mutes/Unmutes sound.
🔊	Decreases volume.
🔊	Increases volume.
🎤	Enables/Disables the microphone.
☀️	Decreases screen brightness.
☀️	Increases screen brightness.
🖥️	Selects and sets up display devices.
✈️	Enables/Disables airplane mode.
★	Opens an AI experience, an application launch panel, or a pre-installed PC management application.

Table 8. Hotkey functions (continued)

Hotkey icon	Function description
	Enables/Disables the touchpad.
	Opens the Smart Connect app.
	Opens the Calculator app.
	Opens the Snipping tool.
	Starts/Pauses audio or video playback.
	Stops audio or video playback.
	Plays the previous audio or video in the playlist.
	Plays the next audio or video in the playlist.

The fn lock switch

The fn lock is an electronic switch that affects how you use hotkey functions. To turn it on and off, press fn + esc.

Note: The esc key is in the upper left corner of the keyboard. It has an LED that indicates the status of the fn lock switch.

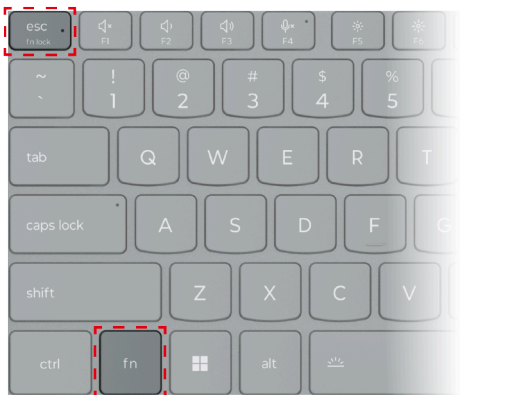


Figure 7. Locations of the fn lock key and the fn key

A Lenovo keyboard usually contains hotkeys in the top row. These hotkeys share keys with the function keys (F1–F12) and other keys. For these dual-function keys, the characters denoting the primary functions are printed on top of the icons and the icons denoting the secondary functions.

- A: an icon or character denoting the primary function
- B: an icon or character denoting the secondary function

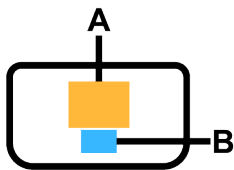


Figure 8. The layout of a dual-function key

Table 9. **fn lock** and dual-function keys

fn lock (Esc) LED	fn lock status	Pressing the hotkey alone	Pressing the hotkey while holding down the fn key
Off	Disabled	Primary function	Secondary function
On	Enabled	Secondary function	Primary function

Combination keys using the fn key

The fn key can be used in combination with specific keys to adjust device settings or activate additional functions.

Table 10. *fn*-based key combinations

Key combination	Function
fn + Q	Switches the PC's active thermal mode
fn + R	Switches the refresh rates of the built-in display
fn + N	Shows key device information
fn + Space	Adjusts keyboard backlight
fn + B	Break
fn + P	Pause
fn + S	SysRq
fn + K	ScrLk
fn + I	Insert
fn + T	PrtScr

Combination keys using the Windows logo key

The Windows logo key is located in the lower-left corner of the keyboard. It can be used alone or in combination with specific keys to quickly change settings and access utilities within the Windows operating system. The table below lists frequently used key combinations. For a complete list of all key combinations that utilize the Windows logo key, please refer to the official Microsoft online documentation.

Table 11. *Windows logo* key combinations



Key or key combination	Function
Windows logo key 	Opens or closes the Start menu
+ A	Opens or closes Quick Settings
+ D	Returns to the desktop
+ E	Opens File Explorer
+ I	Opens Settings
+ L	Locks the screen
+ M	Minimizes all open windows
+ N	Opens or closes the Notification Area
+ P	Switches multi-screen modes

Table 11. Windows logo key combinations (continued)

Key or key combination	Function
+ W	Opens or closes Widgets
+ ; (semicolon)	Opens the emoji panel
+ Tab	Opens or closes Task View
+ PrtSc	Takes a full-screen screenshot and saves it to a file

The Copilot key

The era of AI has arrived, and many Lenovo PCs now include a Copilot key on the keyboard. It is located either in the bottom or the top row of the keyboard and is marked with .

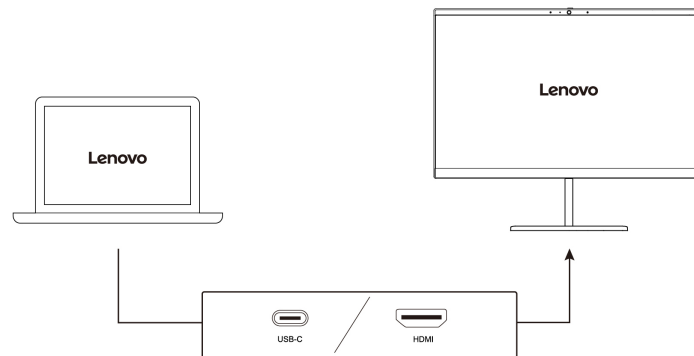
For Windows PCs with Copilot in Windows available and enabled, pressing the Copilot key opens Copilot in Windows. Otherwise, pressing the Copilot key opens Windows Search.

Connect to an external display

Connect to a wired display

Connect your computer to the desired display with an appropriate cable.

- Step 1. Connect one end of the display cable to the HDMI connector or a multi-purpose USB Type-C connector on your computer.
- Step 2. Connect the other end of the cable to the display.



Connect to a wireless display

Ensure that:



- Both your computer and the display support Miracast® technology.
- The display is connected to the same Wi-Fi network as your computer and is discoverable.

- Step 1. Press Windows key + K.
The computer searches for wireless display devices and audio devices and lists the results.
- Step 2. Select the display you want to connect to, and then follow the on-screen instructions.

Change display settings




- Step 1. Right-click on a blank area on the desktop, and then select **Display settings**. Your computer shows the **Display** window.
- Step 2. Select the display for which you want to change the settings.
- Step 3. Change the display settings as necessary.


Set the display mode

- Step 1. Press  or fn + . Your computer shows a list of display modes, with the current mode highlighted.
- Step 2. Select a display mode from the list.

Turn on night light

The night light feature in Windows 11 enables users to switch to warmer color tones, reducing blue light emission to alleviate eye strain or fatigue.

- Step 1. Open the quick settings menu by selecting the network, sound, or battery icons (  ) on the far right of the taskbar or by using the keyboard shortcut **Win + A**.
- Step 2. Select the button for night light to turn it on or off.

Note: Some Windows 11 versions allow users to customize their quick settings. If the night light button is not visible, you can add it to the quick settings menu by selecting the edit button ().

For more tips on reducing eye strain or fatigue, visit <https://www.lenovo.com/us/en/compliance/visual-fatigue>.

Adjust color temperature

If Windows 11 night light mode is turned on, you can adjust the color temperature of the screen.

- Step 1. Select **Start → Settings**.
- Step 2. Select **System → Display → Night light settings**.
- Step 3. Move the slider to adjust the color temperature.

Note: Selected Lenovo PCs are low blue-light certified. These PCs undergo testing with the night light turned on and the color temperature value set at 48 or above.

Adjustable display refresh rate

Your eyes might not notice it but the content displayed on the computer screen refreshes constantly. Display refresh rate refers to the number of times per second the screen content refreshes itself and is measured in hertz (Hz).

A refresh rate of 60 Hz is adequate for most situations and is energy efficient. However, when viewing videos or playing video games, a higher refresh rate usually provides a smoother viewing experience.

The displays of some Lenovo computers support dual refresh rates. For such a computer, you can manually switch its display to work at either the higher or lower refresh rate. For Windows operation systems, the manual settings are usually found in **Settings → System → Display**. As a shortcut, you can also use the key combination fn + R to switch the display refresh rate.

Note: Not all displays support dual refresh rates. If you cannot find settings to change the display refresh rate, the refresh rate of the display might be fixed or cannot be manually changed.

Touchpad gestures

The touchpad is your PC's built-in pointing device. You can tap and swipe on the touchpad to navigate within the operating system and within apps. In addition, the Windows operating system also supports multi-finger gestures on the touchpad to enhance productivity while interacting with the operating system.

Table 12. Multi-finger touchpad gestures

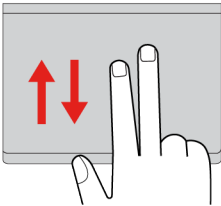
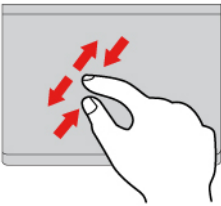
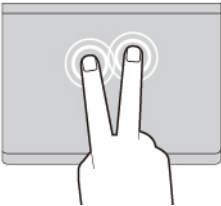
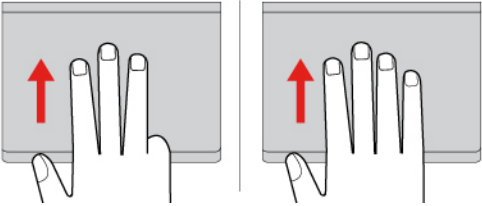
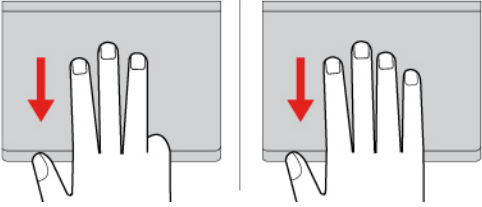
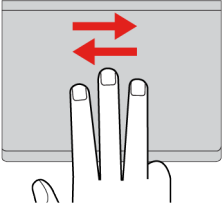
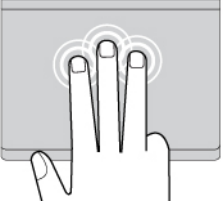
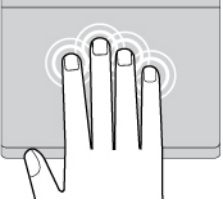
Gesture	Function
<p data-bbox="170 447 509 474">Swipe vertically with two fingers</p> 	<p data-bbox="808 447 951 474">Scrolls pages</p>
<p data-bbox="170 741 776 793">Place two fingers on the touchpad and pinch in or stretch out</p> 	<p data-bbox="808 741 1036 768">Zooms out / zooms in</p>
<p data-bbox="170 1056 513 1083">Tap two fingers on the touchpad</p> 	<p data-bbox="808 1056 1243 1083">Displays the context menu (right-clicking)</p>
<p data-bbox="170 1350 610 1377">Swipe up with three fingers or four fingers</p> 	<p data-bbox="808 1350 1068 1377">Shows all open windows</p>
<p data-bbox="170 1644 643 1671">Swipe down with three fingers or four fingers</p> 	<p data-bbox="808 1644 1049 1671">Returns to the desktop</p>

Table 12. Multi-finger touchpad gestures (continued)


Gesture	Function
<p data-bbox="199 275 574 302">Swipe left or right with three fingers</p> 	<p data-bbox="841 275 1154 302">Switches between open apps</p>
<p data-bbox="199 569 558 596">Tap three fingers on the touchpad</p> 	<p data-bbox="841 569 1094 596">Opens Windows Search</p>
<p data-bbox="199 863 547 890">Tap four fingers on the touchpad</p> 	<p data-bbox="841 863 1115 890">Opens Notification Center</p>


Modify the default functions for touchpad gestures

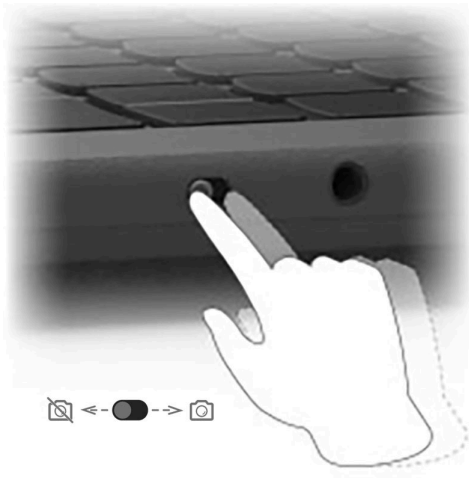
The functions for three-finger and four-finger touchpad gestures can be modified in Windows Settings.



- Step 1. Select **Settings** → **Bluetooth & devices** → **Touchpad**.
- Step 2. Under **Three-finger gestures** or **Four-finger gestures**, use the drop-down lists to modify the functions for the swipe or tap gestures.

Protect your privacy using the camera switch

The camera switch is a mechanical button that prevents any attempt from capturing your image, thus protecting your privacy. To disable the camera, slide the camera switch to the direction with . When you want to use the camera again, slide the camera switch to the other direction.

If you slide the camera switch to  during a video call, people on the video call will not be able to see you. If you slide the camera switch back to the opposite position, they will be able to see you again.



Note: After you slide the camera switch,  or  is displayed on the screen to indicate that the setting is successful.

Intelligent features

Your computer may be pre-installed with Lenovo Vantage or Lenovo PC Manager. Most features described here can be enabled or disabled in one of these apps. Other features may be enabled in a standalone app.

Notes:

- Software features are subject to change. Please refer to your actual product.
- You may need to complete online update to the apps for the features to take effect.

Smart Noise Cancelling

Smart Noise Cancelling is a noise reduction feature available on some Lenovo product models. By filtering out input and output noises, Smart Noise Cancelling enhances your audio experience.



Function	Description	Remarks
Microphone noise cancelling	Voice Recognition: Your computer distinguishes your voice and focuses on it.	<ul style="list-style-type: none"> This function takes effect only when built-in microphones/arrays or 3.5 mm jack wired microphones are used as the input media. To disable this function, select Off.
	Normal: Your computer focuses on the voice of the person facing it and reduces ambient sounds.	
	Multiple Voices: Your computer captures multiple voices from an expanded range in front of the computer.	
Speaker noise cancelling	Your computer filters out other sounds to play only human voices.	This function is not applicable to scenarios like listening to music and watching videos.

Notes:

- Depending on its hardware, your computer may not support all the functions and options described above.
- You can view and customize this feature in Lenovo Vantage or Lenovo PC Manager.

Super Resolution (for selected models)

By utilizing the capabilities and potentials of Intel processors, Super Resolution helps you play videos with a higher resolution than the original. It works especially well in cases where the source video has poor resolution.

For most players, Super Resolution can be enabled or disabled in Lenovo Vantage or Lenovo PC Manager, but for some specific players, you might need to enable this feature manually.

Unique Lenovo apps

Lenovo Vantage

Lenovo Vantage is a one-stop solution to help you update your computer, configure hardware settings, and access personalized support.

If your computer is pre-installed with Lenovo Vantage, type `Vantage` in the Windows search box to launch this app.

Notes:

- Available features may vary depending on your computer model.
- You can download the latest version of this app from Microsoft Store.


Smart Connect

Smart Connect is an app that can easily pair your PC with your Motorola smartphone and Lenovo tablet. With Smart Connect, you can:

- Access mobile apps on your PC
- Quickly share content between connected devices
- Mirror your phone display or create a virtual phone screen on your PC
- Copy and paste across connected devices
- Use your phone or tablet camera as the PC webcam

- Control your phone or tablet using your PC keyboard and mouse
- Extend or mirror your PC display on the tablet

Note: Smart Connect makes periodic updates to keep improving your experience. Features may be added or modified after updates are installed.

To open Smart Connect, you can type **Smart Connect** in the Windows search box and then select the matched result. Alternatively, you can also press the hotkey marked with  (F11) as a shortcut.

Legion Space

Legion Space is an app developed specifically to help you access game resources, adjust the performance, change light effects, and manage devices and peripherals.

To access the app, type **Legion Space** in the Windows search box and select the matched result. You can also find the app from the taskbar.

Note: Periodic updates to the Legion Space app may be available through online updates. Features may be added or modified after updates are installed.

The firmware of your PC

When you turn on the power, a series of instructions are executed inside your PC to initiate devices, locate a boot device, and look for a program called bootloader. The bootloader will then find the operating system installed on your PC and hand over control to it. When the operating system is started, your PC is ready for use.

These instructions are stored on a Flash chip on the PC's system board. The Flash chip and the instructions stored on it are referred to as the PC's firmware (UEFI/BIOS).

Firmware setup utility

Lenovo PCs typically include a setup utility in the firmware that allows you to:

- View information about your PC and its devices
- Change device settings
- Change the order of boot devices
- Set passwords for the firmware or the mass storage device

Note: You should rarely need to use the setup utility for your daily PC usage. To view device information, you can use the utilities provided by the operating system or apps provided by Lenovo (Lenovo Vantage or Lenovo PC Manager). You can use the Novo button menu to temporarily change the order of boot devices.

Open the firmware setup utility

- Step 1. Turn on or restart the computer.
- Step 2. Press F2 repeatedly.
- Step 3. On the welcome screen, select **More Settings**.

Set passwords in the firmware setup utility

This section introduces the types of passwords that you can set in the firmware setup utility.

Password types

You can set various types of passwords in the firmware setup utility.

Password type	Pre-requisite	Usage
Administrator password	No	You must enter it to start the setup utility.
User password	The administrator password must be set.	You can use the user password to start the setup utility.
Master hard disk password	No	You must enter it to start the operating system.
User hard disk password	The master hard disk password must be set.	You can use the user hard disk password to start the operating system.

Notes:

- All passwords set in the setup utility consist of alphanumeric characters only.
- If you start the setup utility using the user password, you can only change a few settings.

Set administrator password

You set the administrator password to prevent unauthorized access to the firmware setup utility.

Attention: If you forget the administrator password, a Lenovo authorized service personnel cannot reset your password. You must take your computer to a Lenovo authorized service personnel to have the system board replaced. Proof of purchase is required and a fee will be charged for parts and service.

- Step 1. Open the firmware setup utility.
- Step 2. Select **Security → Set Administrator Password** and press enter.
- Step 3. Enter a password string that contains only letters and numbers and then press enter.
- Step 4. Enter the password again and press enter.
- Step 5. Select **Exit → Exit Saving Changes**.

Next time you start the computer, you must enter the administrator password to open the setup utility. If **Power on Password** is enabled, you must enter the administrator password or the user password to start the computer.

Change or remove administrator password

Only the administrator can change or remove the administrator password.

- Step 1. Open the firmware setup utility using the administrator password.
- Step 2. Select **Security → Set Administrator Password** and press enter.
- Step 3. Enter the current password.
- Step 4. In the **Enter New Password** text box, enter the new password.
- Step 5. In the **Confirm New Password** text box, enter the new password again.

Note: If you want to remove the password, press enter in both text boxes without entering any character.

- Step 6. Select **Exit → Exit Saving Changes**.

If you remove the administrator password, the user password is also removed.

Set user password

You must set the administrator password before you can set the user password.

The administrator of the setup utility might need to set a user password for use by others.

- Step 1. Open the firmware setup utility using the administrator password.
- Step 2. Select **Security** → **Set User Password** and press enter.
- Step 3. Enter a password string that contains only letters and numbers and then press enter.
The user password must be different from the administrator password.
- Step 4. Enter the password again and press enter.
- Step 5. Select **Exit** → **Exit Saving Changes**.

Enable power-on password

If the administrator password has been set, you can enable power-on password to enforce greater security.

- Step 1. Open the firmware setup utility.
- Step 2. Select **Security** → **Power on Password** and press enter.

Note: The administrator password must be set in advance.

- Step 3. Change the setting to **Enabled**.
- Step 4. Select **Exit** → **Exit Saving Changes**.

If power-on password is enabled, a prompt appears on the screen every time you turn on the computer. You must enter the administrator or user password to start the computer.

Set password for the secondary storage device

Permanent data is stored on secondary storage devices. Your computer may include one or more solid-state drive or hard disk drive as secondary storage device(s). You can set passwords for secondary storage devices in the setup utility to prevent unauthorized access to your data.

Attention: Be extremely careful when setting a hard disk password. If you forget the hard disk password, a Lenovo authorized service personnel cannot reset your password or recover data from the hard disk. You must take your computer to a Lenovo authorized service personnel to have the hard disk drive replaced. Proof of purchase is required and a fee will be charged for parts and service.

- Step 1. Open the firmware setup utility.
- Step 2. Select **Security** → **Set Hard Disk Password** and press enter.

Note: If your computer model includes more than one secondary storage device, you can set separate password for each device. If you start the setup utility using the user password, you cannot set hard disk password.

- Step 3. Follow on-screen instructions to set both master and user passwords.

Note: The master and user hard disk passwords must be set at the same time.

- Step 4. Select **Exit** → **Exit Saving Changes**.

If the hard disk password is set, you must provide the correct password to start the operating system.

Change or remove hard disk password

- Step 1. Open the firmware setup utility.

Step 2. Select **Security**.

Step 3. Change or remove the hard disk password.

To change or remove master password, select **Change Master Password** and press enter.

Note: If you remove the master hard disk password, the user hard disk password is also removed.

To change user password, select **Change User Password** and press enter.

Note: The user hard disk password cannot be removed separately.

Step 4. Select **Exit → Exit Saving Changes**.

Chapter 3. Help and support

Frequently asked questions

How do I partition my storage drive

Refer to <https://support.lenovo.com/solutions/ht503851>.

What should I do if my computer stops responding

Press and hold the power button until the computer turns off. Then restart the computer.

What should I do if I spill liquid on the computer

1. Carefully unplug the ac power adapter and turn off the computer immediately. The more quickly you stop the current from passing through the computer the more likely you will reduce damage from short circuits.

Attention: Although you might lose some data or work by turning off the computer immediately, leaving the computer on might make your computer unusable.

2. Wait until you are certain that all the liquid is dry before turning on your computer.

CAUTION:

Do not try to drain out the liquid by turning over the computer. If your computer has keyboard drainage holes on the bottom, the liquid will be drained out through the holes.

Where can I get the latest device drivers and UEFI/BIOS

- Lenovo Vantage or Lenovo PC Manager
- Lenovo Support Web site at <https://support.lenovo.com>

Why does my computer start automatically when I open the lid

Your computer may have Flip to Start enabled. Many Lenovo notebook computers include a sensor that can detect the angle at which the lid is opened. When you open the lid, the sensor can detect this behavior. If Flip to Start is enabled, the computer will respond by starting up automatically.

If you don't like this feature, you can disable it. Flip to Start can be enabled and disabled in:

- Lenovo Vantage or Lenovo PC Manager
- Firmware Setup Utility

Self-help resources

Use the following self-help resources to learn more about the computer and troubleshoot problems.

Resources	How to access?
Troubleshooting and frequently asked questions	<ul style="list-style-type: none"> • https://www.lenovo.com/tips • https://forums.lenovo.com
Accessibility information	https://www.lenovo.com/accessibility
Reset or restore Windows	<ul style="list-style-type: none"> • Use Lenovo recovery options. <ol style="list-style-type: none"> 1. Go to https://support.lenovo.com/HowToCreateLenovoRecovery. 2. Follow the on-screen instructions. • Use Windows recovery options. <ol style="list-style-type: none"> 1. Go to https://pcsupport.lenovo.com. 2. Detect your computer or manually select your computer model. 3. Select Troubleshoot & Diagnose and follow the on-screen instructions.
Use Lenovo Vantage or Lenovo PC Manager to:	
<ul style="list-style-type: none"> • Download and install the latest drivers and firmware. • Configure hardware settings. • Diagnose computer hardware problems. • Check the computer warranty status. 	Use Windows Search.
Product documentation:	
<ul style="list-style-type: none"> • Generic Safety and Compliance Notices • <i>Safety and Warranty Guide</i> • <i>Setup Guide</i> • <i>This User Guide</i> • <i>Regulatory Notice</i> 	<ol style="list-style-type: none"> 1. Go to https://support.lenovo.com. 2. Detect your computer or select computer model manually. 3. Select Guides & Manuals and filter out the documentation you want.
Lenovo Support Web site with the latest support information of the following:	
<ul style="list-style-type: none"> • Drivers and software • Diagnostic solutions • Product and service warranty • Product and parts details • Knowledge base and frequently asked questions 	Visit https://support.lenovo.com
Windows help information	<ul style="list-style-type: none"> • Use Get Help or Tips. • Use Windows Search. • Microsoft support Web site: https://support.microsoft.com

What is a CRU?

Customer replaceable units (CRUs) are parts that can be upgraded or replaced by the customer. A Lenovo computer may contain the following types of CRUs:

Self-service CRU

Parts that can be installed or replaced easily by customer themselves or by trained service technicians at an additional cost.

Optional-service CRU

Parts that can be installed or replaced by customers with a greater skill level. Trained service technicians can also provide service to install or replace the parts under the type of warranty designated for the customer's machine.

If you intend to install a CRU, Lenovo will ship the CRU to you. You might be required to return the defective part that is replaced by the CRU. When return is required: (1) return instructions, a prepaid shipping label, and a container will be included with the replacement CRU; and (2) you might be charged for the replacement CRU if Lenovo does not receive the defective CRU within thirty (30) days of your receipt of the replacement CRU. For full details, see the *Lenovo Limited Warranty* at https://www.lenovo.com/warranty/llw_02.

CRUs for your product model

The table below lists the CRUs and CRU types that are defined for your product model.

Part	Self-service CRU	Optional-service CRU
Power cord*	X	
ac power adapter*	X	

* for selected models

Notes:

- CRU replacement instruction is provided in one or more of the following publications and are available from Lenovo at any time upon your request.
 - the product *User Guide*
 - the printed publications that came with the product
- Replacement of any parts not listed above, including the built-in rechargeable battery, should be done by a qualified repair technician or by ensuring that you carefully follow all instructions provided by Lenovo. You can also find Lenovo-authorized repair facilities by going to <https://support.lenovo.com/partnerlocator> for more information.

Call Lenovo

If you have tried to correct the problem yourself and still need help, you can call Lenovo Customer Support Center.

Before you contact Lenovo

Record product information and problem details before you contact Lenovo.

Product information	Problem symptoms and details
<ul style="list-style-type: none"> • Product name • Machine type and serial number 	<ul style="list-style-type: none"> • What is the problem? Is it continuous or intermittent? • Any error message or error code? • What operating system are you using? Which version? • Which software applications were running at the time of the problem? • Can the problem be reproduced? If so, how?

Note: The product name and serial number can usually be found on the bottom of the computer, either printed on a label or etched on the cover.

Lenovo Customer Support Center

During the warranty period, you can call Lenovo Customer Support Center for help.

Telephone numbers

For a list of the Lenovo Support phone numbers for your country or region, go to <https://pcsupport.lenovo.com/supportphonenumber>.

Note: Phone numbers are subject to change without notice. If the number for your country or region is not provided, contact your Lenovo reseller or Lenovo marketing representative.

Services available during the warranty period

- Problem determination - Trained personnel are available to assist you with determining if you have a hardware problem and deciding what action is necessary to fix the problem.
- Lenovo hardware repair - If the problem is determined to be caused by Lenovo hardware under warranty, trained service personnel are available to provide the applicable level of service.
- Engineering change management - Occasionally, there might be changes that are required after a product has been sold. Lenovo or your reseller, if authorized by Lenovo, will make selected Engineering Changes (ECs) that apply to your hardware available.

Services not covered

- Replacement or use of parts not manufactured for or by Lenovo or nonwarranted parts
- Identification of software problem sources
- Configuration of UEFI/BIOS as part of an installation or upgrade
- Changes, modifications, or upgrades to device drivers
- Installation and maintenance of network operating systems (NOS)
- Installation and maintenance of programs

For the terms and conditions of the Lenovo Limited Warranty that apply to your Lenovo hardware product, see “Warranty information” in the *Safety and Warranty Guide* that comes with your computer.

Purchase additional services

During and after the warranty period, you can purchase additional services from Lenovo at <https://pcsupport.lenovo.com/warrantyupgrade>.

Service availability and service name might vary by country or region.

Chapter 4. PC and accessibility

PCs are powerful general-purpose computing devices that many individuals rely on for accessing information, connecting with friends, pursuing education, conducting research, and completing work tasks. This reliance extends to individuals with vision, hearing, cognitive, or mobility impairments, as well as to those whose abilities may decline due to illness or aging.

This chapter explores the accessibility features available on your Lenovo PC, including both hardware components and those offered by the pre-installed operating system. By gaining a comprehensive understanding of the available accessibility features and how to activate and configure them, you can enhance your PC's usability for individuals with disabilities.

Accessibility features of the PC hardware

Lenovo PCs are designed with accessibility in mind. Throughout the design process, special considerations are prioritized for individuals with disabilities and best industry practices are implemented in hardware design.

USB connectors for connecting assistive technology devices

Several types of assistive technology devices are available on the market that can be connected to a PC to enhance its accessibility. For example, a refreshable braille display is an assistive technology device that enables individuals who are both deaf and blind to use a PC. When connected to a PC, a refreshable braille display can work in conjunction with a compatible screen reader to provide tactile output in braille characters. Blind individuals who have been trained to read braille can run their fingers over the display to comprehend the information presented on the PC.

Many assistive technology devices utilize USB technology for connectivity. Most Lenovo PCs are equipped with at least one USB connector that adheres to the relevant USB specifications and is backward compatible. A Lenovo PC may feature a USB Standard-A connector, a USB Type-C connector, or both. If the plug type of the assistive technology device does not match the USB connector on your PC, you can easily purchase and use a USB adapter to resolve the issue.

Keyboard accessibility

The keyboard serves as the primary input device for many PC users. Lenovo keyboards, whether integrated or supplied separately with the PC, are designed and manufactured with accessibility in mind. This section highlights the accessibility features of Lenovo keyboards that benefit all users, including those with disabilities.

keyboard layout

The alphabetic keys on a Lenovo keyboard are arranged in a QWERTY layout, which is standard for input devices featuring alphabetic keys. The F and J keys have bumps that make them tactilely distinguishable from other keys. This feature serves as an orientation aid for skilled typists, allowing them to rest their index fingers without looking at the keys. Some Lenovo keyboards include a separate numeric keypad. The numeric keys are organized in four rows and three columns, arranging in ascending order from left to right and bottom to top. Additionally, the 5 key features a bump to make it tactilely distinguishable.

Standard modifier keys

Lenovo keyboards are equipped with standard modifier keys for PCs, including:

- the alt key

- the ctrl key
- the shift key
- the Windows logo key

These keys are extensively used as the modifier key for shortcuts by the operating system and other applications.

The tab key

The tab key is located in the leftmost column of the keyboard. For operating systems, applications, and web documents that are designed with accessibility in mind, users can press the tab key and alt + tab (in reverse order) to cycle through the interactive elements.

Hotkeys

Many Lenovo keyboards feature hotkeys in the top row, offering convenient access to frequently used settings.

The fn key and the fnlock

The fn key is a Lenovo-defined modifier key. It can be used with the top-row dual-function keys to switch their functionalities. It can also be used with several other keys to access Lenovo defined settings.

The fnlock is a switch that can be turned on and off by pressing fn + esc. Instead of holding down the fn key to switch the functionality of dual-functionkeys, you can turn on fnlock. This feature allows users to access both hotkey and function key functionalities without the need to press two keys simultaneously.

Keyboard backlight

Many Lenovo keyboards are equipped with backlights to help you use the keyboard in dark lighting conditions. The backlights can be controlled by pressing fn + Space.

Biometric devices

Some Lenovo PCs are equipped with biometric devices that facilitate easy and secure identity authentication. If your PC includes an IR LED and an IR camera, you can enable facial recognition in Windows 11. Biometric identity authentication can be particularly beneficial for users who find it difficult typing passwords.

Note: When biometric devices are used for device authentication, they are not the only available method for this purpose. If biometric authentication fails, you can use a password or PIN to sign in to Windows.

Accessibility features of Windows 11

An operating system is a crucial piece of software installed on a PC. It plays a vital role in the PC's basic functionality by providing a user interface, various tools for system management, and a foundation upon which additional specialized applications can be installed.

Microsoft's Windows 11 is a modern operating system that comes preinstalled on many Lenovo PCs. It offers a rich set of accessibility features designed for individuals with diverse disabilities. This section outlines the accessibility features available in Windows 11, explains how to activate them, and discusses the benefits they provide.

Notes: The following accessibility features of Windows have been tested and confirmed to deliver their essential functionalities on Lenovo PCs that come pre-installed with Windows 11.

- Narrator

- Magnifier

Configuring accessibility features in the Settings app

Windows 11 provides a centralized location within the Settings app for activating and configuring all accessibility features. You can access this section by selecting **Start → Settings → Accessibility**. Additionally, the keyboard shortcut Windows logo key + U provides quick access to this interface.

Narrator

Narrator is Windows 11's built-in screen-reading application. It can read screen content aloud to users and also accept input from the keyboard, enabling individuals with visual impairments to navigate effectively within Windows 11, use applications, and browse the web.

Start and stop Narrator

You can start and stop Narrator by selecting the toggle button for Narrator in the centralized Accessibility section of the Settings app. Additionally, the keyboard shortcut Windows logo key + ctrl + enter provides quick access to both the start and stop functions.

Customize Narrator

Narrator offers a variety of controls that allow you to customize it to suit your preferences. For example, you can install additional text-to-speech voices and select your preferred voice for Narrator. You also have the option to adjust the verbosity level to choose the type of content to be read. All Narrator settings are conveniently located in the centralized Accessibility section of the Settings app. Additionally, the keyboard shortcut Windows logo key + ctrl + N offers quick access to these settings.

Adjusting text sizes, applying a high-contrast theme, and using Magnifier

For individuals who find it difficult to see text clearly on the screen, Windows offers the options of adjusting text sizes, applying a high-contrast theme, and using Magnifier.

Adjust text sizes

If you find the text on the screen is too small to read, you can scale up the size of text displayed by Windows and other applications.

Step 1. Select **Start → Settings → Accessibility → Text size**.

Step 2. Use the slider and the preview pane to select a size that fits your need and then select **Apply**.

Apply a high-contrast theme

For individuals with low vision, Windows 11 offers contrast themes that enhance text readability by using a background color that sharply contrasts with the text.

Step 1. Select **Start → Settings → Accessibility → Contrast themes**.

Step 2. In the dropdown list for **Contrast themes**, select one option and then select **Apply**.

To exit a contrast theme, select **None** from the dropdown list. The keyboard shortcut for turning on and off contrast theme is left alt + left shift + prt sc.

Enable Magnifier

You can enable Windows 11 Magnifier to enlarge specific areas or the entire screen, making text and images easier to see.

Step 1. Select **Start → Settings → Accessibility → Magnifier**.

Step 2. Select the toggle to enable or disable Magnifier.

The keyboard shortcuts for enabling and disabling Magnifier are Windows logo key + Plus sign (+) and Windows logo key + esc, respectively. When Magnifier is enabled, you can use Windows logo key + plus sign (+) and minus sign (-) to zoom in and zoom out.

Sticky Keys

Microsoft Windows offers numerous keyboard shortcuts that require users to hold down a modifier key (such as shift, ctrl, alt, or the Windows logo key) before pressing one or more additional keys. While these shortcuts provide significant convenience for many users, they can pose accessibility challenges for individuals who have difficulty holding down multiple keys at the same time.

Sticky Keys is an accessibility feature in Windows that, when enabled, allows users to press keys in sequence to activate shortcut functions. For example, instead of holding down the ctrl key and the C key simultaneously, users can press each key individually to copy text to the clipboard.

To enable Sticky Keys, press the shift key five times in quick succession. When the confirmation dialog box appears, select **Yes** to disable Sticky Keys, press the shift key five times again and choose **No** when prompted.

Accessible user documentation

Documentation containing instructions for the use of the product, including its accessibility features, is available in accessible formats (such as HTML and PDF) on the Lenovo Support Website. When creating documentation, a series of industry standards and best practices are followed to ensure that the content is useful to as broad an audience as possible. Additionally, automated testing tools are employed to identify issues that may hinder the accessibility of information. These issues are addressed to the extent permitted by commonly available technologies.

Accessibility features of user documentation

By adhering to industry standards and best practices, Lenovo documentation offers numerous features that facilitate the perception and understanding of the content. Additionally, several of these features are specifically designed to ensure that users of assistive technology devices can access information comparable to that available to those who do not rely on such devices.

Perceivable content

Text content is presented using popular and easy-to-read fonts. Text colors are in high contrast with the background. Non-text elements, such as graphics and videos that convey important information, are accompanied by alternative text descriptions. Users with visual impairments can utilize screen readers to access information comparable to that available to sighted users.

Understandable content

The documentation is presented visually in a well-structured and simple layout. It also includes hidden tags or other markup information that store the content's structure, which can be utilized programmatically by assistive technologies to convey this structure to users.

Operable content

Documentation includes industry-standard tags for sectioning and interactive elements, such as titles, headings, various structural components, links, buttons, and input fields. Screen reader users can utilize standard modifier keys on the keyboard to effectively navigate and interact with the documentation.

Testing documentation accessibility

Before being officially released, Lenovo documentation undergoes testing with automated tools to evaluate its accessibility. HTML documents are assessed for compliance with the success criteria outlined in the *Web Content Accessibility Guidelines (WCAG)*, a widely accepted set of standards designed to enhance web document accessibility. PDF documents are evaluated for accessibility using the accessibility checker in Adobe Acrobat for the same purpose. Automated testing tools help identify elements within a document that may present challenges when rendered by screen readers and other assistive technology devices. Accessibility issues identified by these automated tools are subsequently analyzed manually and corrected as needed.

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