

User Guide

Lenovo
LOQ

Lenovo

LOQ Tower 26ADR10

About this documentation

This documentation applies to the Lenovo product models listed below. Illustrations in this documentation may look slightly different from your product model.

| Model name | Machine types (MT) |
|-------------------|--------------------|
| LOQ Tower 26ADR10 | 91DE, 91DF |

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

- *Safety and Warranty Guide*
- *Generic Safety and Compliance Notices*
 - For computers purchased in mainland China: https://iknow.lenovo.com.cn/detail/dc_191404.html
 - For computers purchased outside mainland China: https://pcsupport.lenovo.com/docs/generic_notices
- *Setup Guide (if provided with your computer)*

Notes:

- Illustrations in this documentation may look slightly different from your product model.
- For more compliance information, refer to:
 - For computers purchased in mainland China
Generic Safety and Compliance Notices at https://iknow.lenovo.com.cn/detail/dc_191404.html
 - For computers purchased outside mainland China
Regulatory Notice at https://support.lenovo.com/docs/common_consumer_dt_rn and *Generic Safety and Compliance Notices* at <https://www.lenovo.com/compliance>
- Depending on the model, some optional accessories, features, and software programs might not be available on your computer.
- Depending on the version of the operating systems and programs, some user interface instructions might not be applicable to your computer.
- Documentation content is subject to change without notice. Lenovo makes constant improvements to the documentation of your computer, including this *User Guide*. To get the latest documentation, go to:
 - For computers purchased in mainland China: <https://newsupport.lenovo.com.cn>
 - For computers purchased outside mainland China: <https://pcsupport.lenovo.com>
- Microsoft® makes periodic feature changes to the Windows® operating system through Windows Update. As a result, some information in this documentation might become outdated. Refer to Microsoft resources for the latest information.

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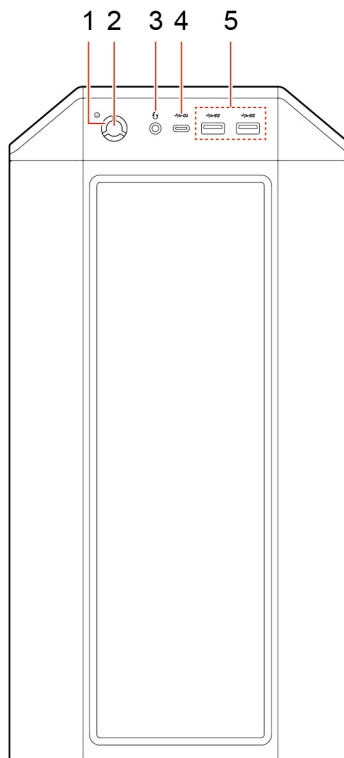
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Chapter 1. Meet your computer

This computer is equipped with an extensive selection of ports, providing convenient connectivity options for multiple devices.

Top



| Item | Description | Item | Description |
|------|------------------------------|------|-------------------------------|
| 1 | Power indicator | 2 | Power button |
| 3 | Headset connector | 4 | USB-C® connector (USB 10Gbps) |
| 5 | USB-A connectors (USB 5Gbps) | | |

Note: For more information about the USB connector name update, see Appendix A “Supplementary information” on page 39.

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 in the connector name or below for each corresponding device.

| USB device | Data rate (Gbit/s) |
|---------------|--------------------|
| Thunderbolt 3 | 40 |
| Thunderbolt 4 | 40 |

Power indicator

Show the system status of your computer.

- **On:** The computer is starting up, working, or in hibernation mode.
- **Off:** The computer is off.

Headset connector

The headset connector is compatible with:

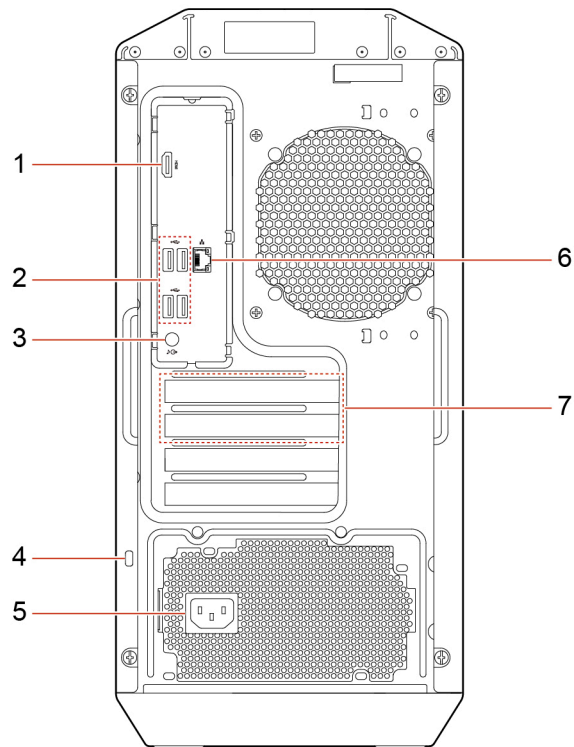
- Headphones or earphones with a 3.5mm (0.14 inch), TRS (3-pole) plug
- Headsets with a 3.5mm (0.14 inch), CTIA-compliant TRRS (4-pole) plug

Note: This headset connector does not support standalone external microphones with a TRS (3-pole) plug or headsets with an OMTP-compliant TRRS (4-pole) plug.

Related topics

- “USB specifications” on page 4.

Rear



| Item | Description | Item | Description |
|------|--------------------------|------|---------------------------------|
| 1 | HDMI™ out connector | 2 | USB-A connectors (Hi-Speed USB) |
| 3 | Audio line-out connector | 4 | Security-lock slot |
| 5 | Power cord connector | 6 | Ethernet connector |
| 7 | PCI-Express card area | | |

Related topics

- “Lock the computer” on page 8.
- “Change display settings” on page 7.
- “USB specifications” on page 4.

Specifications

| Specification | Description |
|-------------------------------|--|
| Hardware configuration | Type Device Manager in the Windows search box and then press Enter. Type the administrator password or provide confirmation, if prompted. |
| Power supply | <ul style="list-style-type: none">• 500-watt automatic voltage-sensing power supply• 850-watt automatic voltage-sensing power supply |
| Memory | Double data rate 5 (DDR5) small outline dual in-line memory module (SODIMM) |
| Storage device | <ul style="list-style-type: none">• 3.5-inch hard disk drive• M.2 solid-state drive <p>To view the storage drive capacity of your computer, type Disk Management in the Windows search box and then press Enter.</p> <p>Note: The storage drive capacity indicated by the system is less than the nominal capacity.</p> |
| Video features | <ul style="list-style-type: none">• The integrated graphics card supports the HDMI out connector.• The optional discrete graphics card provides an enhanced video experience and extended capabilities. |
| Expansion | <ul style="list-style-type: none">• Memory slots• M.2 solid-state drive slot• Storage drive bay• PCI Express slots |
| Network features | <ul style="list-style-type: none">• Bluetooth• Ethernet LAN• Wireless LAN |

Operating environment

Maximum altitude (without pressurization)

- Operating: From -15.2 m (-50 ft) to 3048 m (10 000 ft)
- Storage: From -15.2 m (-50 ft) to 12192 m (40 000 ft)

Temperature

- Operating: From 10°C (50°F) to 35°C (95°F)
- Storage: From -40°C (-40°F) to 60°C (140°F)

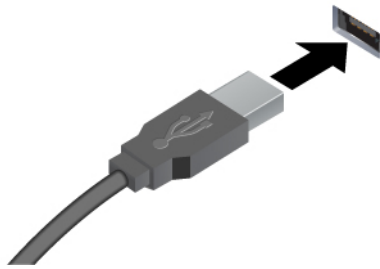
Relative humidity

- Operating: 20%-80% (non-condensing)
 - Storage: 10%-90% (non-condensing)
-



USB specifications

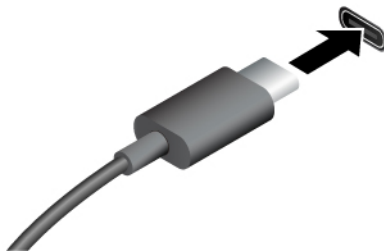
Note: Depending on the model, some USB connectors might not be available on your computer.

| Connector name | Description |
|----------------|-------------|
|----------------|-------------|




Connect USB-A compatible devices, such as a USB-A keyboard, USB-A mouse, USB-A storage device, or USB-A printer.

-  USB-A connector (Hi-Speed USB)
-  USB-A connector (USB 5Gbps)



- Charge USB-C compatible devices with the output voltage and current of 5 V and 3 A.
- Connect to USB-C accessories to help expand your computer functionality. To purchase USB-C accessories, go to <https://www.lenovo.com/accessories>.

-  USB-C connector (USB 10Gbps)

The Vantage app

The Vantage app is a customized one-stop solution to help you maintain your computer with automated updates and fixes, configure hardware settings, and get personalized support.

To access the Vantage app, type **Vantage** in the Windows search box.

Notes:

- The available features vary depending on the computer model.
- The Vantage app makes periodic updates of the features to keep improving your experience with your computer. The description of features might be different from that on your actual user interface. You can download the latest version of Vantage app from Microsoft Store.

The Vantage app enables you to:

- Know the device status easily and customize device settings.
- Download and install UEFI BIOS, firmware, and driver to keep your computer up-to-date.
- Monitor your computer health, and secure your computer against outside threats.
- Scan your computer hardware and diagnose hardware problems.
- Look up warranty status (online).
- Access *User Guide* and helpful articles.

Chapter 2. Get started with your computer

Set up the computer

Step 1. Connect wired or wireless external displays on the computer.

- **Wired external displays:** Connect the cables of wired external displays to the HDMI out connector on the computer.
- **Wireless external displays:** Press Windows logo key + K and then select a wireless display to connect. Ensure that both your computer and the wireless display support Miracast®.

To change display settings, refer to “Change display settings” on page 7.

Step 2. Connect the following peripheral devices on the computer if any.

- Keyboard and mouse
- Dust shield
- Air deflector
- Vertical stand

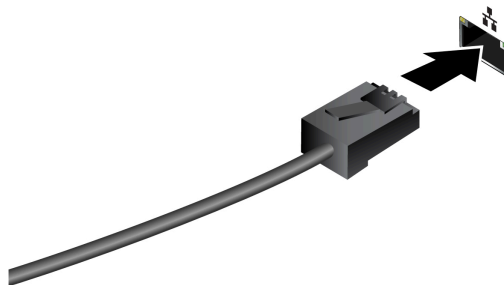
Step 3. Connect the power cord to the power cord connector on the computer and then connect it to a properly-grounded electrical outlet.


Step 4. Press the power button to turn on the computer.

Step 5. Follow the on-screen instructions to complete the setup procedures.

Step 6. Connect to a wired or wireless network.

- **Wired network:** Connect Ethernet cable of local network to the Ethernet connector on the computer.






- **Wireless network:** Click  on the bottom right of your display to connect to an available network. Provide required information if needed.

Note: The wireless LAN module on your computer may support different standards. For some countries or regions, use of 802.11ax may be disabled according to local regulations.

Shut down the computer

To prevent damage to hardware/software systems or loss of data, do not arbitrarily use the power button to shut down the computer. Instead, shut down the computer as follows.

1. Click  →  →  **Shut down.**
2. Wait for the computer to shut down and then turn off the monitor and other peripheral devices.

Note: After you turn off the system, please wait at least 20 seconds before turning the computer back on to avoid hardware faults.

Change display settings

1. Right-click a blank area on the desktop and select display settings.
 2. Select the display that you want to configure and change display settings of your preference.
-

Connect to a Bluetooth device

You can connect all types of Bluetooth-enabled devices to your computer, such as a keyboard, a mouse, a smartphone, or speakers. To ensure successful connection, place the devices at most 10 meters (33 feet) from the computer.

Conventional pair

This topic helps you connect to a Bluetooth device by conventional pair.

- Step 1. Type **Bluetooth** in the Windows search box and then press Enter.
- Step 2. Turn on both the Bluetooth on your computer and the Bluetooth device. Make sure the device is discoverable.
- Step 3. Select the device when it is displayed on the **Add a device** list, and then follow the on-screen instructions.

Notes: If the Bluetooth connection failed, do the following:

1. Type **Device Manager** in the Windows search box and then press Enter.
2. Locate the Bluetooth adapter. Right-click and select **Update driver**.
3. Select **Search automatically for drivers**, and then follow the on-screen instructions.

Swift pair

This topic helps you connect to a Bluetooth device by swift pair.

If your Bluetooth device supports swift pair, do the following:

- Step 1. Enable swift pair notification on Bluetooth settings page.
- Step 2. Turn on both the Bluetooth on your computer and the Bluetooth device. Make sure the device is discoverable.
- Step 3. Click **Connect** when a swift pair notification appears on your computer.

Notes: If the Bluetooth connection failed, do the following:

1. Type **Device Manager** in the Windows search box and then press Enter.
 2. Locate the Bluetooth adapter. Right-click and select **Update driver**.
 3. Select **Search automatically for drivers**, and then follow the on-screen instructions.
-

Set the power plan

For ENERGY STAR® compliant computers, the following power plan takes effect when your computers have been idle for a specified duration:

- Turn off the display: After 5 minutes

- Put the computer to sleep: After 5 minutes

To awaken the computer from Sleep mode, press any key on your keyboard.

To set the power plan:

1. Type **Power Options** in the Windows search box and then press Enter.
2. Choose or customize a power plan of your preference.

Security

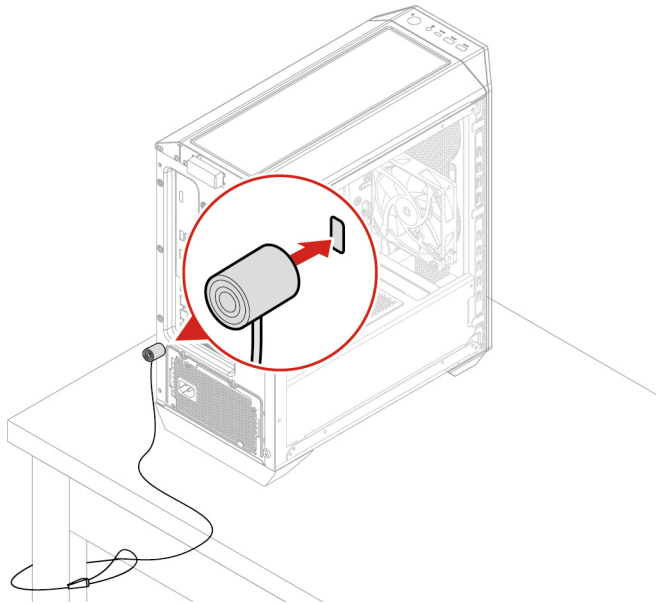
This computer offers a wealth of security measures to protect both the device and data safety.

Lock the computer

Note: Lenovo makes no comments, judgments, or warranties about the function, quality, or performance of the locking device and security feature. You can purchase computer locks from Lenovo.

Security lock

Lock your computer to a desk, table, or other fixtures through a security lock.



Use software security solutions

The following software solutions help secure your computer and information.

- **Windows Security**

Windows Security is a software built-in to the operating system. It continually scans for malicious software, viruses, and other security threats. Besides, Windows updates are downloaded automatically to help keep your computer safe. Windows Security also enables you to manage tools including firewall, account protection, application and browser control, and so on.

- **Antivirus programs**

Lenovo preinstalls a full-version antivirus software on selected models of computer. It helps defend the computer against viruses, safeguard your identity, and keep your personal information secured.

Note: For more information about how to use these software solutions, refer to their help systems respectively.


Chapter 3. Intelligent features

Lenovo PCs continuously develops convenient and intelligent features to enhance users' computing experiences. This part explores the intelligent features or software that may be available on your computer.

Lenovo AI Now

Lenovo AI Now is a personal and private AI assistant to help with inspiration, writing, summarizing, and quick settings for your computer. Depending on the country or region, it might be available.

Access the apps

- Use the Lenovo AI Now icon  if present on the taskbar.
- Or type the app name in the Windows search box and press Enter.

Explore key features

- Import files to create your personal knowledge base and start searching, Q&A, summarization, and generation based on it.
- Set up your computer or find service information. For example, you can ask it to help turn on the Eye Care mode or find the nearest service center.


Notes:

- For more information about Lenovo AI Now, see the User Guide in the apps' Help Center.
- Software features may vary by computer model and be subject to change. Explore the apps based on your actual user interface.

Lenovo AI Turbo Engine

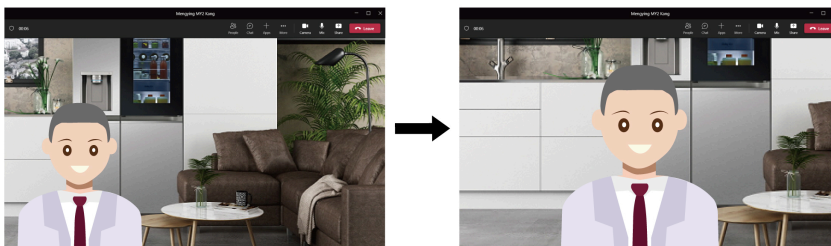
Lenovo AI Turbo Engine is a smart audio and video enhancement software. Powered by plentiful sensing and computing adaption technologies, it can optimize your experience in video and audio capture and playback.

Access the app

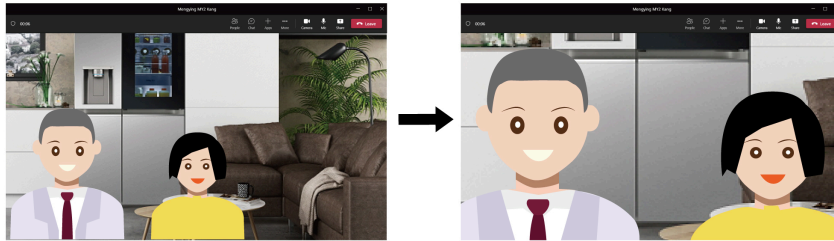
- Use the Lenovo AI Turbo Engine icon  if present on the taskbar.
- Or type the app name in the Windows search box and press Enter.

Explore key features

- **Video enhancement**
 - **Auto framing mode** (for a single person): Automatically track and keep your face centered in the video.



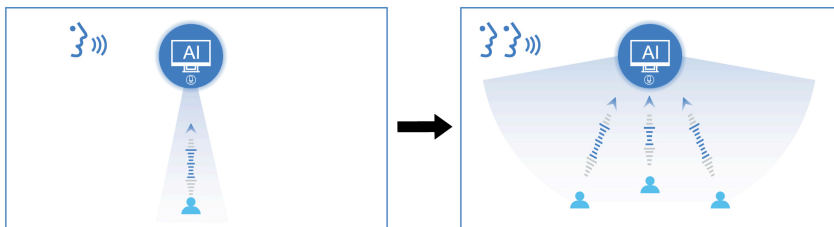
- **Auto framing mode** (for multiple persons): Automatically crop the video to capture all persons' faces.



- **Single-person tracking mode:** You can manually select this mode to track only one person's face even if others are present.

- **Audio enhancement**

- **Microphone capture effect auto adaption:** The microphone capture scope can change based on the number of persons captured by the camera.

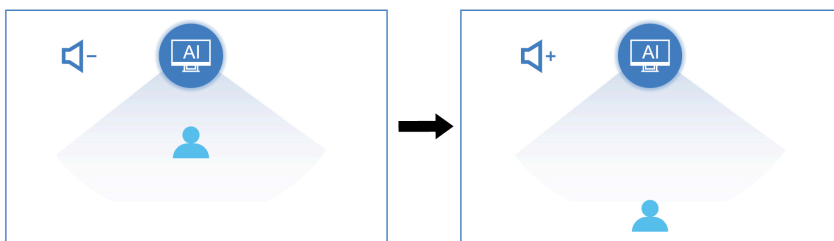


Note: You can also manually switch between personal, shared, or music modes based on your needs.

- **Speaker playback effect auto adaption:** The speaker playback effect can change depending on the audio type.



- **Speaker playback volume auto adaption** (for models with a radar card): System volume can change according to the user's distance from the speaker.



Notes:

- The available features vary depending on computer models.
- This app might not be available in your country or region.
- This app makes periodic updates of the features. Explore this app on your actual user interface.

Chapter 4. CRU replacement

Important: For users in mainland China, the information provided in this chapter is for reference by professional maintenance service providers or technicians authorized by Lenovo only. Users shall not perform maintenance on their own. Any faults or damage due to improper operation, modification, or failure to use parts provided by Lenovo are not covered by the warranty for this product. For product warranty information, refer to the warranty document provided with the product or go to the official Lenovo website at <https://newsupport.lenovo.com.cn>.

Customer Replaceable Units (CRUs) are parts that can be replaced by the customer. Lenovo computers contain the following types of CRUs:

- **Self-service CRUs:** Refer to parts that can be replaced easily by customer themselves or by trained service technicians at an additional cost.
- **Optional-service CRUs:** Refer to parts that can be replaced by customers with a greater skill level. Trained service technicians can also provide service to replace the parts under the type of warranty designated for the customer's machine.

If you intend on installing the CRU, Lenovo will ship the CRU to you. CRU information and replacement instructions are shipped with your product and are available from Lenovo at any time upon request. 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 documentation at:

https://www.lenovo.com/warranty/llw_02

CRU list

The following is the CRU list of your computer.

Self-service CRUs

- Hard disk drive tray
- HDMI connector cover
- Keyboard
- Left computer cover
- Memory module
- Mouse
- Power cord
- PCI-Express bracket
- Right computer cover
- Top dust cover

Optional-service CRUs

- Front fan
- Heat sink and fan assembly
- M.2 solid-state drive
- M.2 solid-state drive heat sink

- PCI-Express card
- PCI-Express card holder
- Power supply assembly
- Rear fan
- Top fan

Power cord

Prerequisite

Before you start, read *Generic Safety and Compliance Notices*, and print the following instructions.

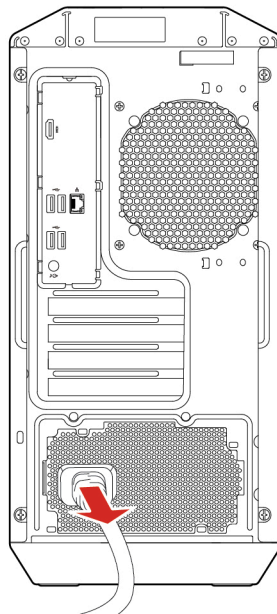


Before you remove the power cord, turn off the computer and wait several minutes until the computer is cool.

For access, turn off the computer and remove all connected devices and cables.

Removal step

Place the computer on a flat surface and remove the power cord.



HDMI connector cover

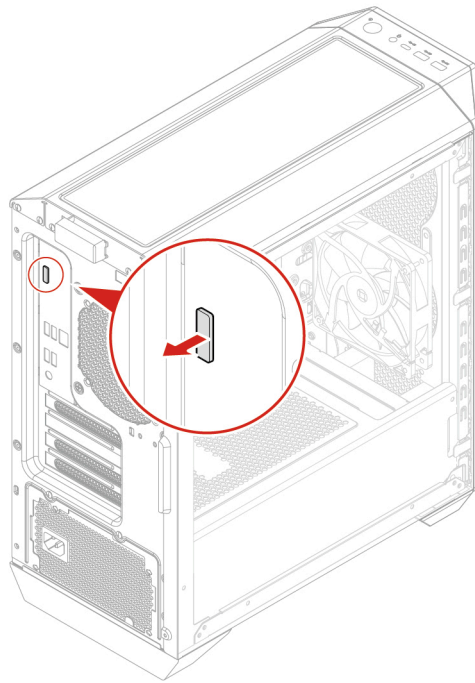
Prerequisite

Before you start, read *Generic Safety and Compliance Notices*, and print the following instructions.

For access, remove the power cord. See “Power cord” on page 14.

Removal step

Place the computer on the surface and remove the HDMI connector cover.



Right computer cover

Prerequisite

Before you start, read *Generic Safety and Compliance Notices*, and print the following instructions.



Before you open the right computer cover, turn off the computer and wait several minutes until the computer is cool.

For access, do the following:

1. Turn off the computer and remove all connected devices and cables.
2. Unlock any locking device that secures the computer cover.
3. Remove the power cord. See “Power cord” on page 14.

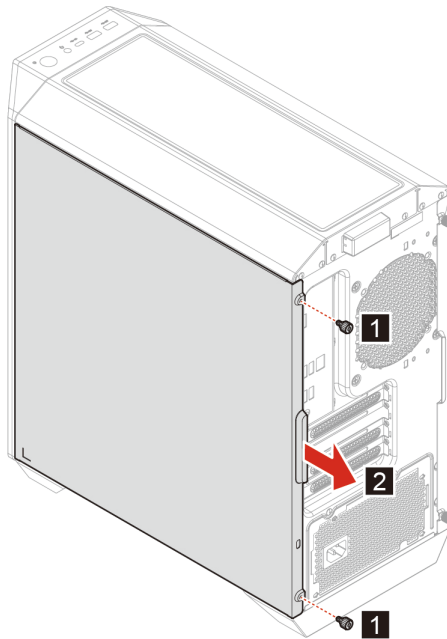
Removal steps

1. Remove the two screws which secure the right computer cover to the chassis, one screw at each edge of the chassis. Find screw specification like torque in the following screw table.

| Screw (quantity) | Color | Torque |
|-------------------------------------|-------|-----------------|
| Screw, #6-32 x L16.5, Zn coated (2) | Black | 5.0 ± 0.5 lb/in |

Note: The screws can be conveniently removed by hand without the need for any special tools.

2. Pull the right computer cover to remove it.



Left computer cover

Prerequisite

Before you start, read *Generic Safety and Compliance Notices*, and print the following instructions.



Before you open the left computer cover, turn off the computer and wait several minutes until the computer is cool.

For access, do the following:

1. Turn off the computer and remove all connected devices and cables.
2. Unlock any locking device that secures the computer cover.
3. Remove the power cord. See “Power cord” on page 14.

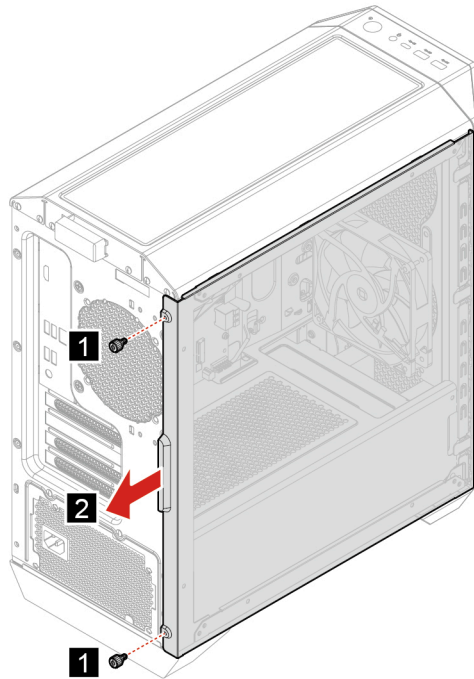
Removal steps

1. Remove the two screws which secure the left computer cover to the chassis, one screw at each edge of the chassis. Find screw specification like torque in the following screw table.

| Screw (quantity) | Color | Torque |
|-------------------------------------|-------|-----------------|
| Screw, #6-32 x L16.5, Zn coated (2) | Black | 5.0 ± 0.5 lb/in |

Note: The screws can be conveniently removed by hand without the need for any special tools.

2. Pull the left computer cover to remove it.



Memory module

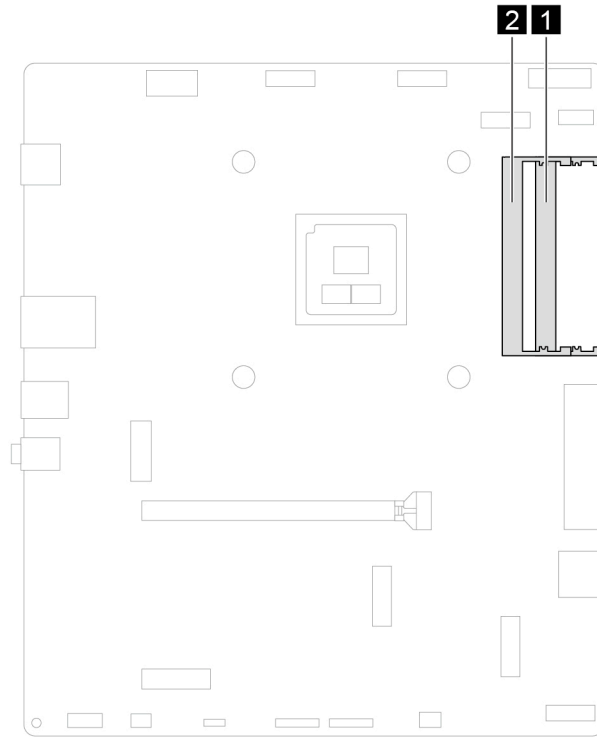
Prerequisite

Before you start, read *Generic Safety and Compliance Notices*, and print the following instructions.



The memory module might be very hot. Before you open the computer cover, turn off the computer and wait several minutes until the computer is cool.

Ensure that you follow the installation order for memory modules shown in the following illustration.

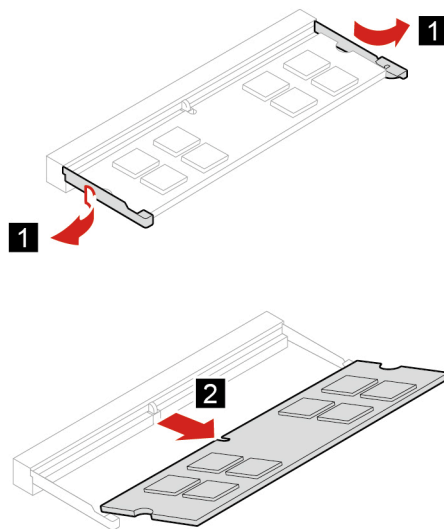


For access, remove the following parts in order:

- “Power cord” on page 14.
- “Left computer cover” on page 16.

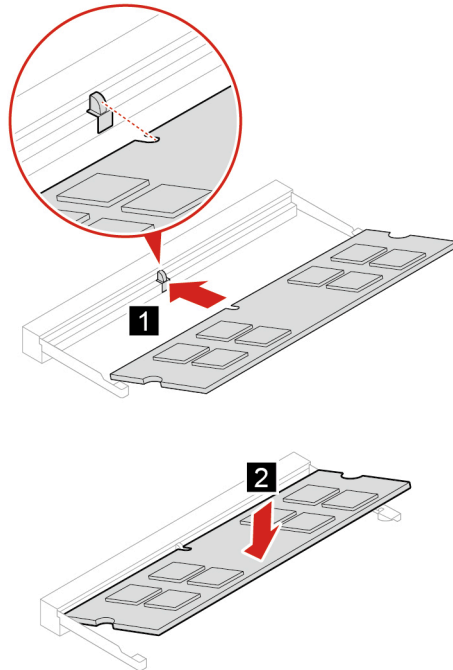
Removal steps

1. Open the two retaining clips.
2. Gently pull the memory module out of the memory slot.



Installation steps

1. Align the memory module with the slot and insert it diagonally.
2. Press down on both ends until the latches are fully engaged with a click.



M.2 solid-state drive with heat sink

Prerequisite

Before you start, read *Generic Safety and Compliance Notices*, and print the following instructions.



The heat sink might be very hot. Before you open the computer cover, turn off the computer and wait several minutes until the computer is cool.

Attention: The internal storage drive is sensitive. Inappropriate handling might cause damage and permanent loss of data. When handling the internal storage drive, observe the following guidelines:

- Replace the internal storage drive only for repair. The internal storage drive is not designed for frequent changes or replacement.
- Before replacing the internal storage drive, make a backup copy of all the data that you want to keep.
- Do not touch the contact edge of the internal storage drive. Otherwise, the internal storage drive might get damaged.
- Do not apply pressure to the internal storage drive.
- Do not make the internal storage drive subject to physical shocks or vibration. Put the internal storage drive on a soft material, such as cloth, to absorb physical shocks.

For access, remove the following parts in order:

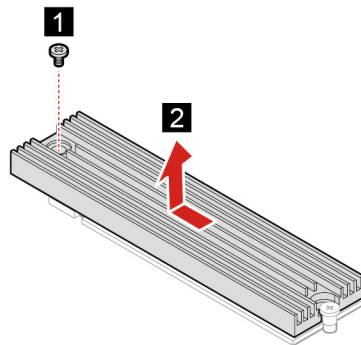
- “Power cord” on page 14.
- “Left computer cover” on page 16.

Removal steps

1. Remove the screw which secures the heat sink to the M.2 solid-state drive. Find screw specification like torque in the following screw table.

| Screw (quantity) | Color | Torque |
|-----------------------------|-------|-----------------|
| M2 x L6.5 mm, Zn coated (1) | Black | 1.5 ± 0.5 lb/in |

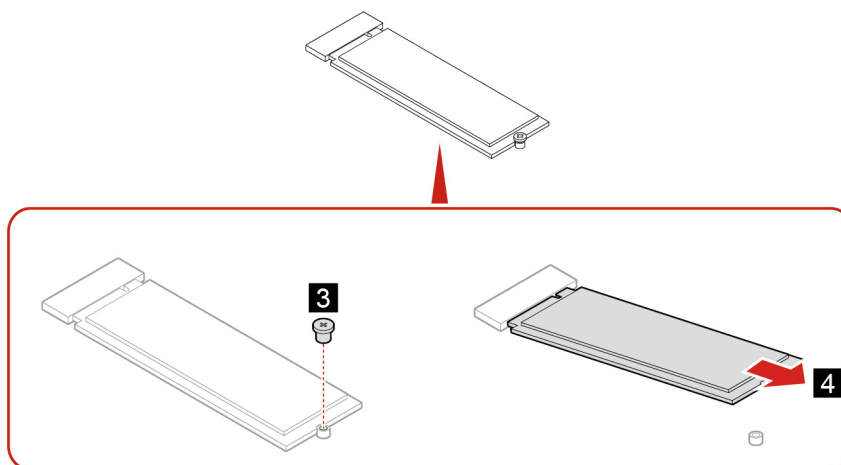
2. Remove the heat sink by lifting it from the M.2 solid-state drive.



3. Remove the screw which secures the M.2 solid-state drive to the system board. Find screw specification like torque in the following screw table.

| Screw (quantity) | Color | Torque |
|---------------------------|-------|-----------------|
| M2 x L4 mm, Zn coated (1) | Black | 1.5 ± 0.5 lb/in |

4. Remove the M.2 solid-state drive by pulling it away from the slot.



Heat sink and fan assembly

Prerequisite

Before you start, read *Generic Safety and Compliance Notices*, and print the following instructions.



The heat sink might be very hot. Before you open the computer cover, turn off the computer and wait several minutes until the computer is cool.

For access, remove the following parts in order:

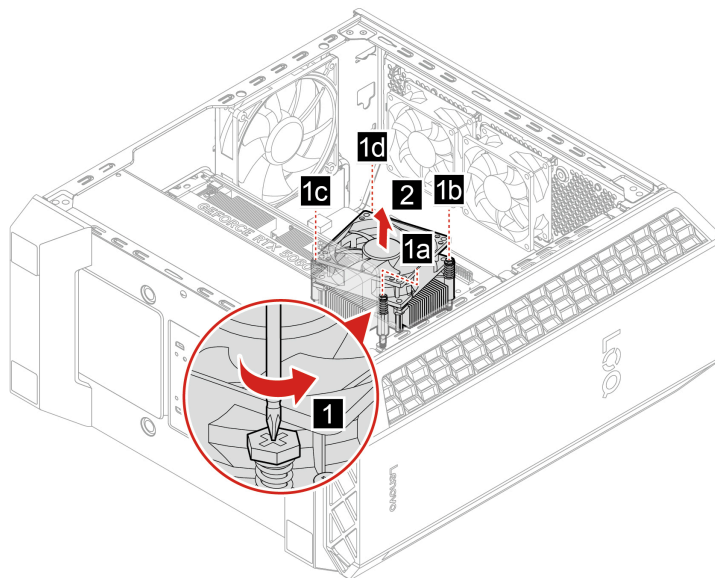
- “Power cord” on page 14.
- “Left computer cover” on page 16.

Notes:

- Carefully remove the screws from the system board to avoid any possible damage to the system board. The screws cannot be removed from the heat sink.
- You might have to gently twist the heat sink to free it from the CPU.
- Do not touch the thermal grease while handling the heat sink.

Removal steps

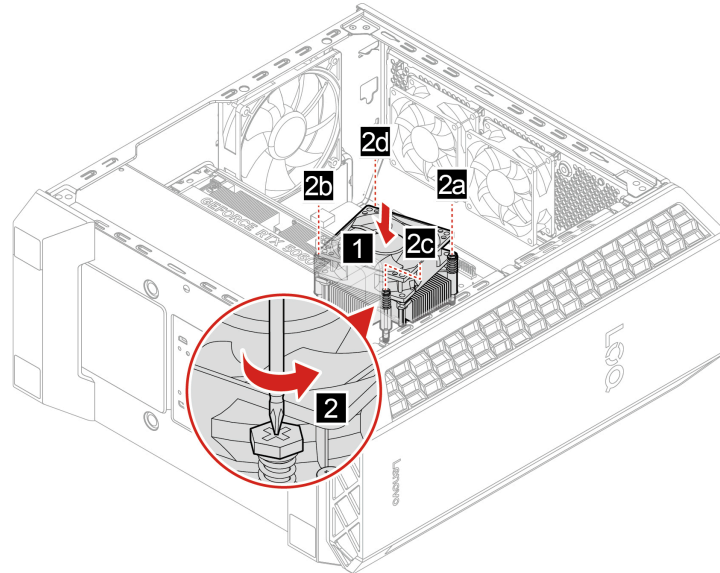
1. Loosen the four screws which secure the heat sink and fan assembly to the system board, two screws at each side of the heat sink and fan assembly. Loosen the four screws in this order: from bottom right, top right, bottom left, to top left.
2. Remove the heat sink and fan assembly.



Installation steps

1. Gently install the heat sink and fan assembly on the CPU.

- Secure the four screws in this order: from top right, bottom left, bottom right, to top left.



Front fan

Prerequisite

Before you start, read *Generic Safety and Compliance Notices*, and print the following instructions.

For access, do the following:

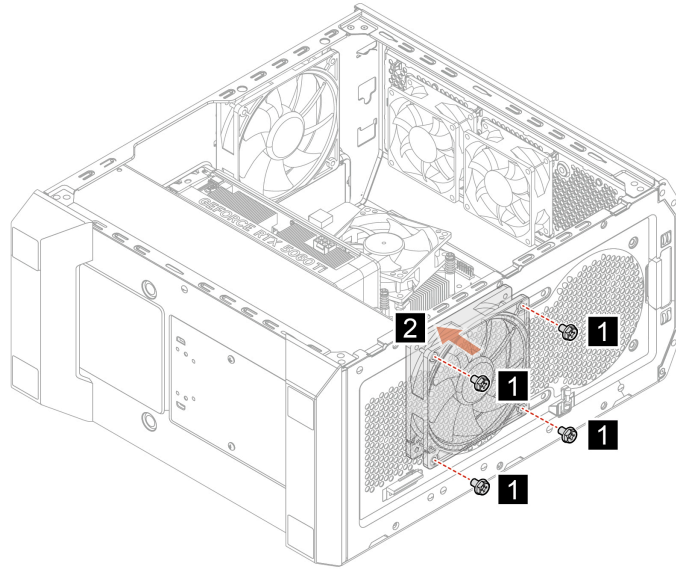
- Remove the power cord. See “Power cord” on page 14.
- Remove the left computer cover. See “Left computer cover” on page 16.
- Remove the right computer cover and front bezel.
- Disconnect the fan cable from the system board.

Removal steps

- Remove the four screws which secure the front fan to the chassis, one screw at each corner of the front fan. Find screw specification like torque in the following screw table.

| Screw (quantity) | Color | Torque |
|----------------------------|-------|-----------------|
| T5 x L10 mm, Zn coated (4) | Black | 5.0 ± 0.5 lb/in |

- Remove the front fan.



Rear fan

Prerequisite

Before you start, read *Generic Safety and Compliance Notices*, and print the following instructions.

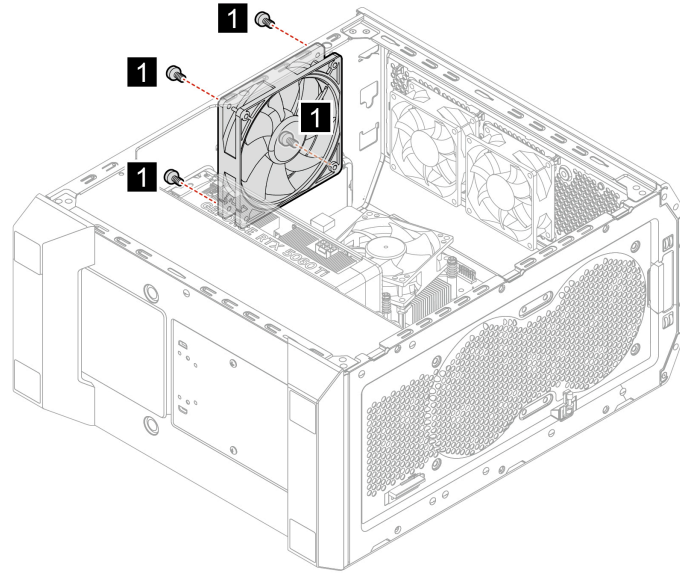
For access, do the following:

1. Remove the power cord. See “Power cord” on page 14.
2. Remove the left computer cover. See “Left computer cover” on page 16.
3. Disconnect the fan cable from the system board.

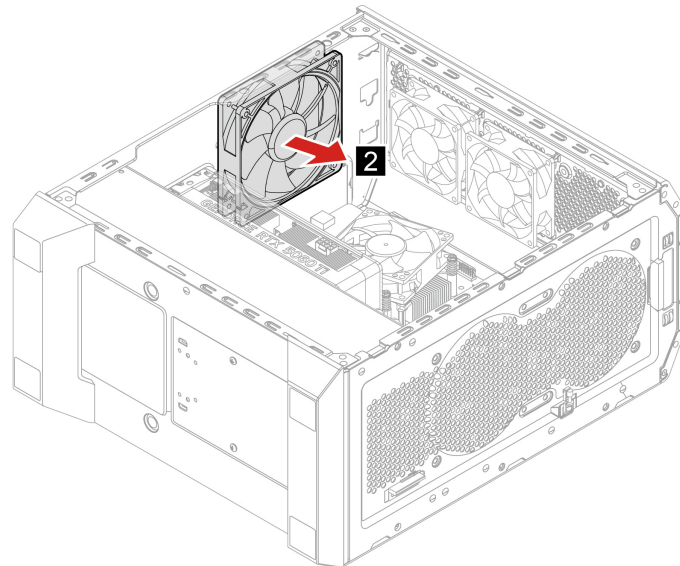
Removal steps

1. Remove the four screws which secure the rear fan to the chassis. Find screw specification like torque in the following screw table.

| Screw (quantity) | Color | Torque |
|----------------------------|-------|-----------------|
| T5 x L10 mm, Zn coated (4) | Black | 5.0 ± 0.5 lb/in |



2. Remove the rear fan.



PCI-Express card and PCI-Express card holder

Prerequisite

Before you start, read *Generic Safety and Compliance Notices*, and print the following instructions.



Before you open the computer cover, turn off the computer and wait several minutes until the computer is cool.

For access, do the followings:

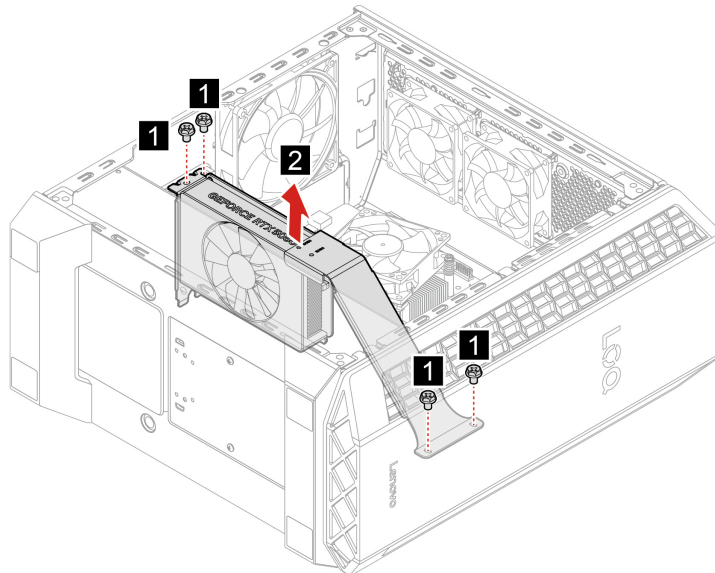
1. Remove the power cord. See “Power cord” on page 14.
2. Remove the left computer cover. See “Left computer cover” on page 16.
3. Disconnect the PCI-Express cables from the system board if any.

Removal steps for type-1 PCI-Express card and PCI-Express card holder

1. Remove the four screws which secure the PCI-Express card and PCI-Express card holder to the chassis and system board. Find screw specification like torque in the following screw table.

| Screw (quantity) | Color | Torque |
|----------------------------------|-------|-----------------|
| Screw, #6-32 x L5, Zn coated (4) | Black | 5.0 ± 0.5 lb/in |

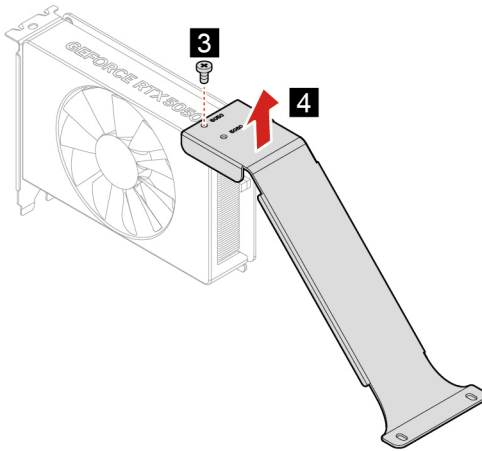
2. Gently lift the PCI-Express card and PCI-Express card holder to remove it.



3. Remove the screw which secure the PCI-Express card holder to the PCI-Express card. Find screw specification like torque in the following screw table.

| Screw (quantity) | Color | Torque |
|---------------------------|-------|-----------------|
| M3 x L5 mm, Ni coated (1) | Black | 5.0 ± 0.5 lb/in |

4. Remove the PCI-Express card holder.

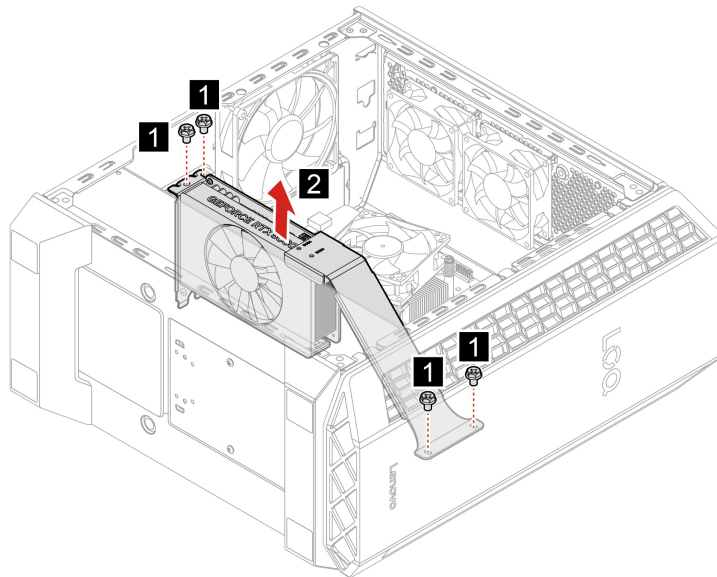


Removal steps for type-2 PCI-Express card and PCI-Express card holder

1. Remove the four screws which secure the PCI-Express card and PCI-Express card holder to the chassis and system board. Find screw specification like torque in the following screw table.

| Screw (quantity) | Color | Torque |
|----------------------------------|-------|-----------------|
| Screw, #6-32 x L5, Zn coated (4) | Black | 5.0 ± 0.5 lb/in |

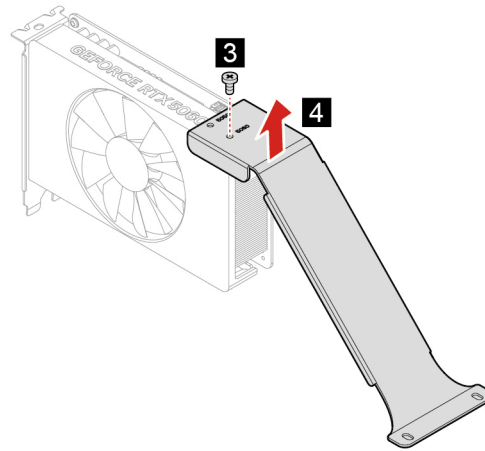
2. Gently lift the PCI-Express card and PCI-Express card holder to remove it.



3. Remove the screw which secure the PCI-Express card holder to the PCI-Express card. Find screw specification like torque in the following screw table.

| Screw (quantity) | Color | Torque |
|---------------------------|-------|-----------------|
| M3 x L5 mm, Ni coated (1) | Black | 5.0 ± 0.5 lb/in |

4. Remove the PCI-Express card holder.

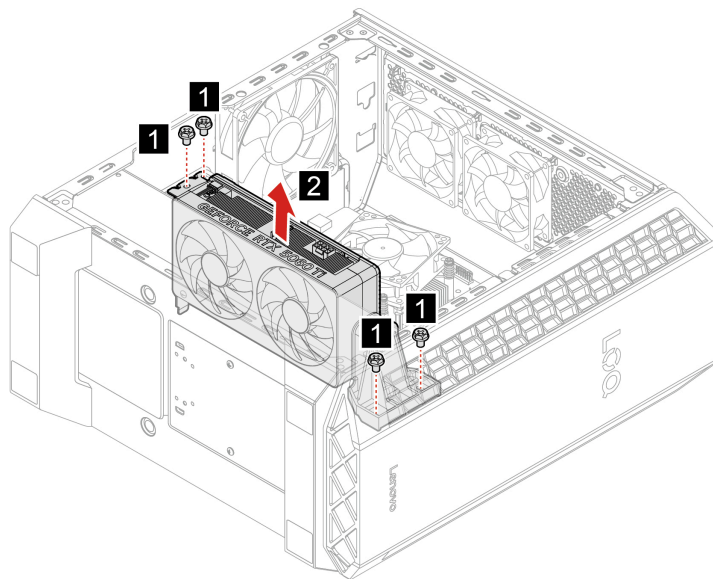


Removal steps for type-3 PCI-Express card and PCI-Express card holder

1. Remove the four screws which secure the PCI-Express card and PCI-Express card holder to the chassis and system board. Find screw specification like torque in the following screw table.

| Screw (quantity) | Color | Torque |
|----------------------------------|-------|-----------------|
| Screw, #6-32 x L5, Zn coated (4) | Black | 5.0 ± 0.5 lb/in |

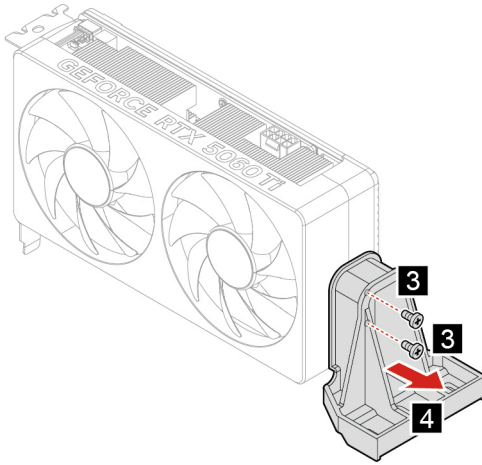
2. Gently lift the PCI-Express card and PCI-Express card holder to remove it.



3. Remove the two screws which secure the PCI-Express card holder to the PCI-Express card. Find screw specification like torque in the following screw table.

| Screw (quantity) | Color | Torque |
|---------------------------|-------|-----------------|
| M3 x L5 mm, Ni coated (2) | Black | 5.0 ± 0.5 lb/in |

4. Remove the PCI-Express card holder.

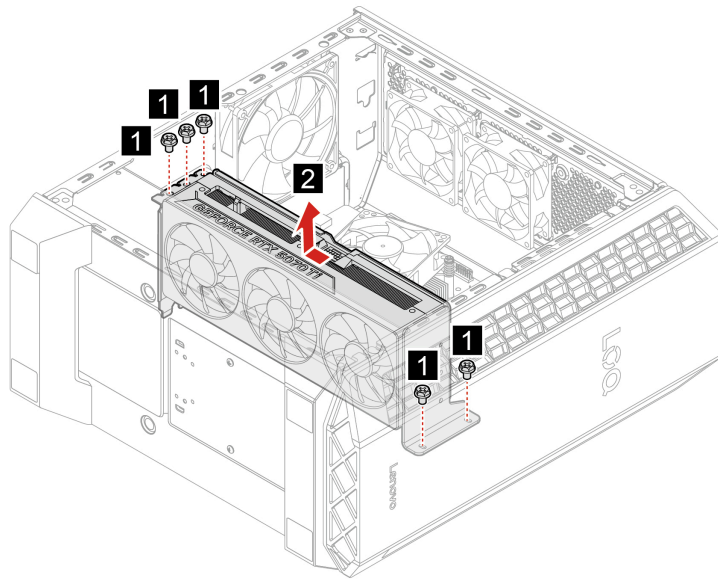


Removal steps for type-4 PCI-Express card and PCI-Express card holder

1. Remove the five screws which secure the PCI-Express card and PCI-Express card holder to the chassis and system board. Find screw specification like torque in the following screw table.

| Screw (quantity) | Color | Torque |
|----------------------------------|-------|-----------------|
| Screw, #6-32 x L5, Zn coated (5) | Black | 5.0 ± 0.5 lb/in |

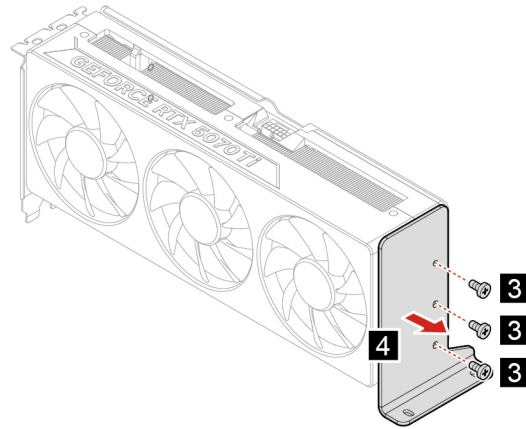
2. Gently lift the PCI-Express card and PCI-Express card holder to remove it.



3. Remove the three screws which secure the PCI-Express card holder to the PCI-Express card. Find screw specification like torque in the following screw table.

| Screw (quantity) | Color | Torque |
|---------------------------|-------|-----------------|
| M3 x L5 mm, Ni coated (3) | Black | 5.0 ± 0.5 lb/in |

4. Remove the PCI-Express card holder.



PCI-Express bracket

Prerequisite

Before you start, read *Generic Safety and Compliance Notices*, and print the following instructions.

For access, remove the following parts in order:

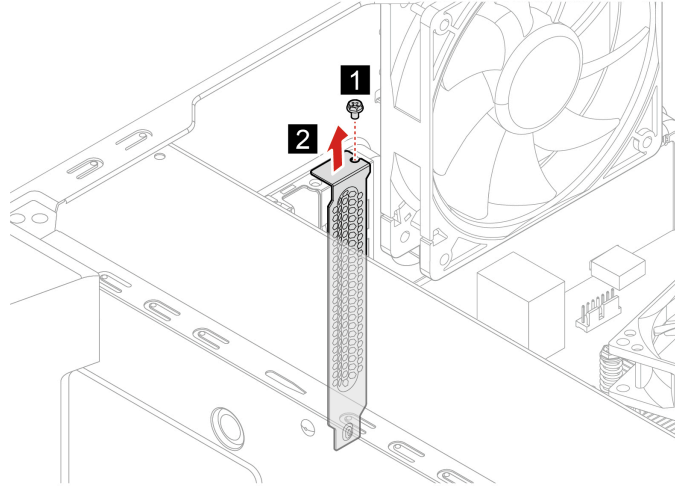
- “Power cord” on page 14.
- “Left computer cover” on page 16.
- “PCI-Express card and PCI-Express card holder” on page 24.

Removal steps

1. Remove the screw which secures the PCI-Express bracket to the chassis. Find screw specification like torque in the following screw table.

| Screw (quantity) | Color | Torque |
|----------------------------------|-------|-----------------|
| Screw, #6-32 x L5, Zn coated (1) | Black | 5.0 ± 0.5 lb/in |

2. Remove the PCI-Express bracket.



Hard disk drive tray

Prerequisite

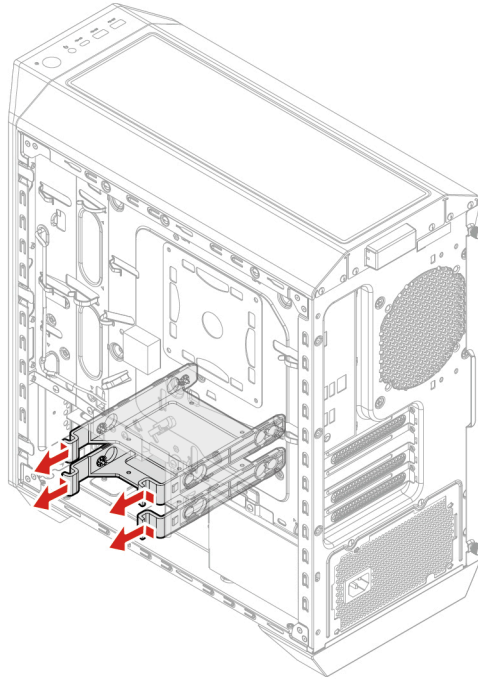
Before you start, read *Generic Safety and Compliance Notices*, and print the following instructions.

For access, do the following:

1. Remove the power cord. See “Power cord” on page 14.
2. Remove the right computer cover. See “Right computer cover” on page 15.
3. Disconnect the signal cable and the power cable from the hard disk drive.

Removal step

Pull out the hard disk drive tray from the chassis.



Power supply assembly

Prerequisite

Before you start, read *Generic Safety and Compliance Notices*, and print the following instructions.

Although there are no moving parts in the computer after the power cord has been disconnected, the following warnings are required for your safety.



Keep fingers and other parts of your body away from hazardous, moving parts. If you suffer an injury, seek medical care immediately. Never remove the cover on a power supply or any part that has the following label attached.



Hazardous voltage, current, and energy levels are present inside any component that has this label attached. There are no serviceable parts inside these components. If you suspect a problem with one of these parts, contact a service technician.

For access, do the following:

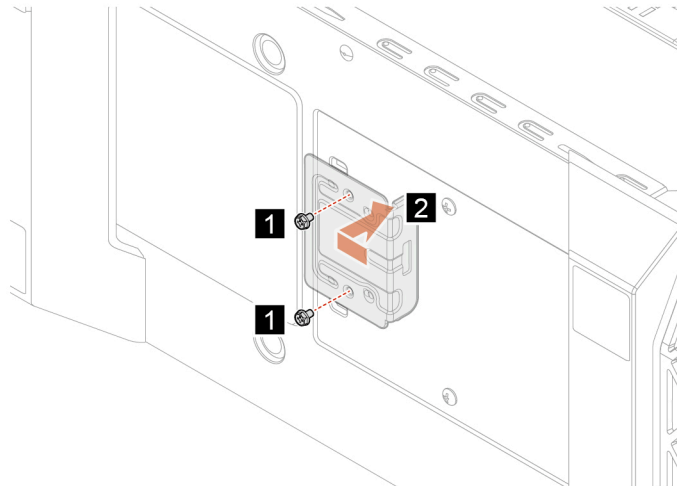
1. Remove the power cord. See “Power cord” on page 14.
2. Remove the right computer cover. See “Right computer cover” on page 15.
3. Disconnect the power supply assembly cables from the system board.

Removal steps

1. Remove the two screws which secure the power supply assembly bracket to the chassis, one screw at each side of the power supply assembly bracket. Find screw specification like torque in the following screw table.

| Screw (quantity) | Color | Torque |
|----------------------------------|-------|-----------------|
| Screw, #6-32 x L5, Zn coated (2) | Black | 5.0 ± 0.5 lb/in |

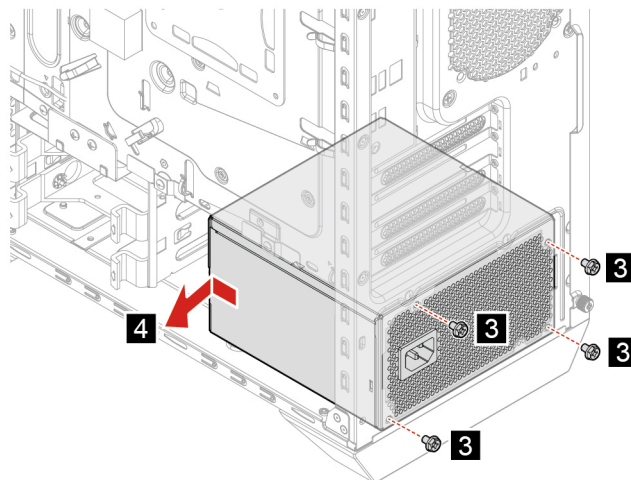
2. Remove the power supply assembly bracket.



3. Remove the four screws which secure the power supply assembly to the chassis, one screw at each corner of the power supply assembly. Find screw specification like torque in the following screw table.

| Screw (quantity) | Color | Torque |
|----------------------------------|-------|-----------------|
| Screw, #6-32 x L5, Zn coated (4) | Black | 5.0 ± 0.5 lb/in |

4. Pull the side near the front panel outward to remove the power supply assembly.



Top dust cover

Prerequisite

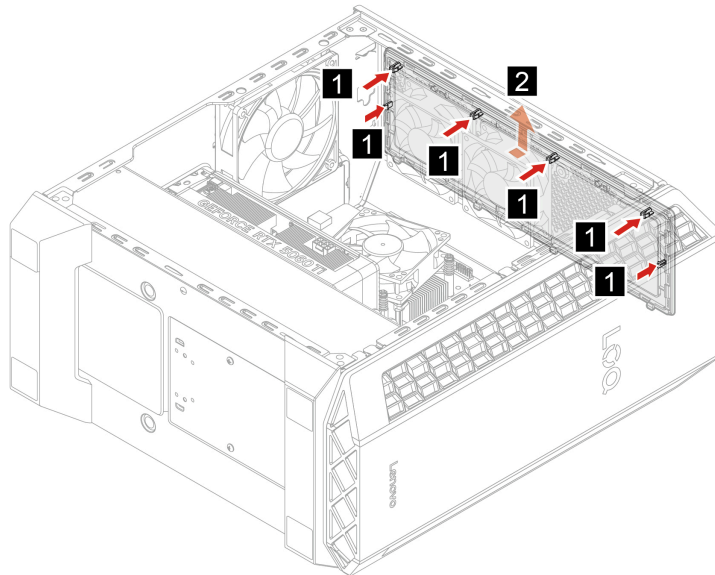
Before you start, read *Generic Safety and Compliance Notices*, and print the following instructions.

For access, remove the following parts in order:

- “Power cord” on page 14.
- “Left computer cover” on page 16.

Removal steps

1. Push the top dust cover latches toward the top panel of the computer.
2. Pull the top dust cover upward to remove it.



Top fan

Prerequisite

Before you start, read *Generic Safety and Compliance Notices*, and print the following instructions.

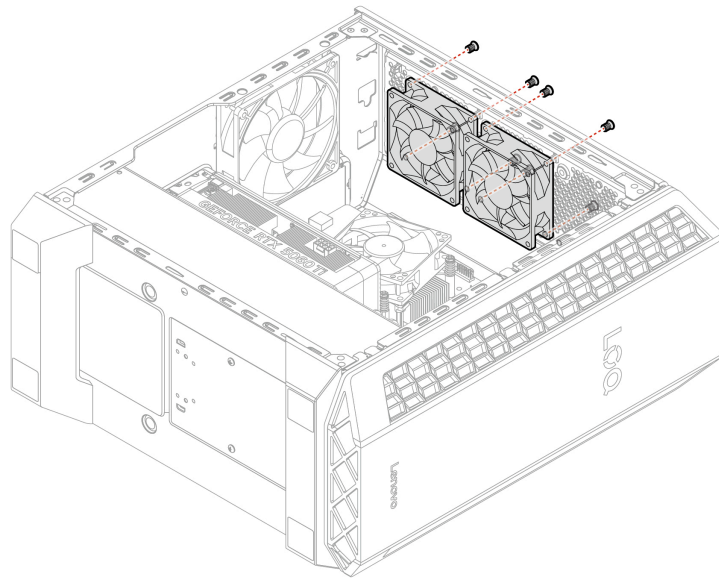
For access, do the following:

1. Remove the power cord. See “Power cord” on page 14.
2. Remove the left computer cover. See “Left computer cover” on page 16.
3. Remove the top frame. See “Top dust cover” on page 33.
4. Disconnect the fan cable from the system board.

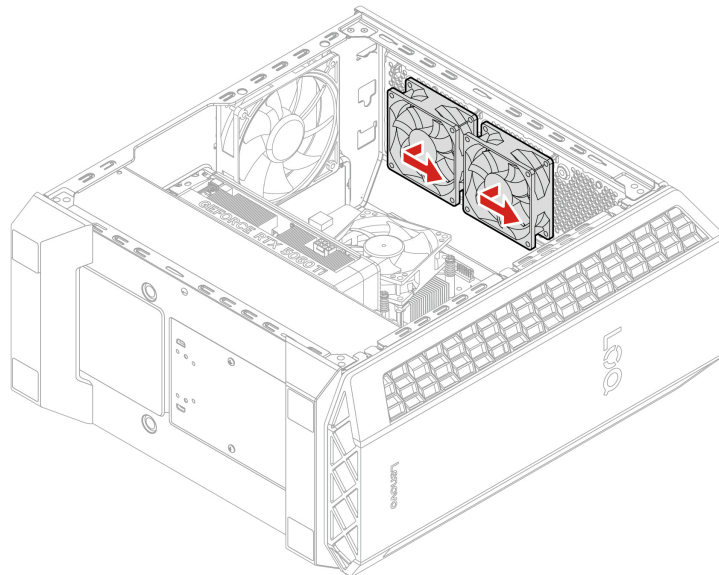
Removal steps

1. Remove the eight screws which secure the top fans to the chassis. Find screw specification like torque in the following screw table.

| Screw (quantity) | Color | Torque |
|----------------------------|-------|---------------|
| T5 x L10 mm, Zn coated (8) | Black | 5 ± 0.5 lb/in |



2. Remove the top fans.



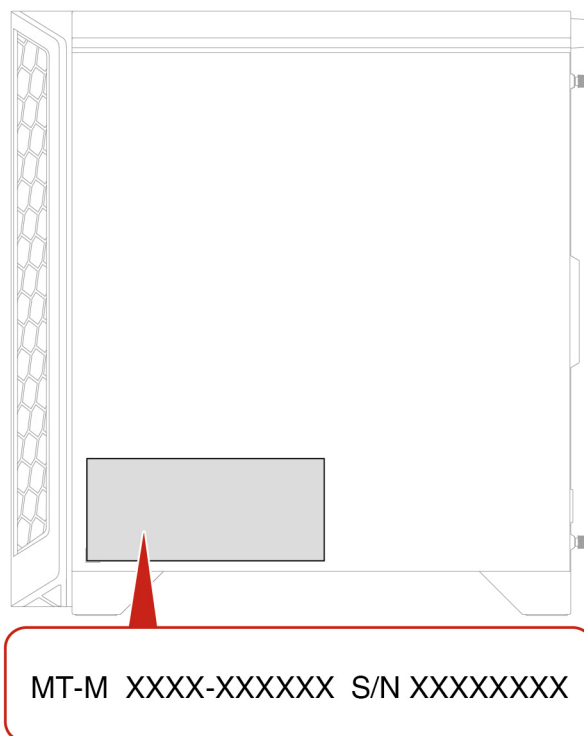
Chapter 5. Help and support

Find your serial number

This topic helps you find computer serial number.

You can find your serial number via:

- **Dashboard** or **Device** in the **Vantage** app
- The bottom side of your computer (shown as below illustration)



Diagnose and troubleshoot your computer

This section provides introduction to a set of diagnostics and troubleshooting tools at Lenovo Support Web site and the Vantage app. They can help you diagnose common software and hardware issues.

The following table lists these diagnostics tools and the recommended conditions for each tool.

| Diagnostics tool | Recommended scenario |
|--|---|
| Troubleshoot and diagnose at Lenovo Support Web site | You want to have an online troubleshooting or scan of hardware and drivers on your computer. |
| Hardware scan | <ul style="list-style-type: none">• Your computer is installed with the Vantage app.• You want to perform basic examinations of the hardware components. |

Troubleshoot and diagnose at Lenovo Support Web site

Lenovo provides two different diagnosing solutions to help you identify and resolve problems on your computer.

For computers purchased in mainland China

1. Go to <https://newsupport.lenovo.com.cn/>.
2. Enter the troubleshooting section and find the question you are encountering.

For computers purchased outside mainland China

1. Go to <https://www.pcsupport.lenovo.com/> and enter your product name in the search box.
2. Click **Troubleshoot & Diagnose** and select the option that fits your need.

Notes:

- Before launching any automatic diagnosing process, a pop-up window will be prompted to install Lenovo Service Bridge. Lenovo Service Bridge helps to connect your computer with Lenovo diagnosing tools.
- Lenovo Support Web site makes periodic updates of the sections to keep improving your experience with your computer. The Web site interface and descriptions of sections might be different from that on your actual interface.
- If you are unaware of what problem your computer goes with, it is recommended that you select **Easy** and follow on-screen instructions to get your firmware updated and obtain the hardware status.
- If you have identified the problem on your computer, you can select **Custom** and follow on-screen instructions to resolve the problem.

If solutions can not resolve problems on your computer, you can follow on-screen instructions to submit an e-ticket or contact Lenovo for professional assistance.

Hardware scan

Hardware scan is an effective hardware testing tool to help you identify existing hardware issues.

To run the Hardware scan:

- Step 1. Type **Vantage** in the Windows search box and then press Enter.
- Step 2. Click **Hardware scan** or **Support → Hardware scan**.
- Step 3. Select **QUICK SCAN** or **CUSTOMIZE** and then follow the on-screen instructions to run the hardware scan.

Notes:

- The Quick Scan tool contains a pre-selected suite of tests that performs basic examinations of the hardware components found in the system. The Customize tool enables you to select one or several hardware components to perform the examinations.
 - Before selecting **QUICK SCAN**, click **Refresh Modules** to ensure that the list of hardware components is the components currently available for the computer.
- Step 4. If any hardware failure is detected, the result varies depending on the warranty status and varies by country or region. Follow the on-screen instructions to resolve the issue.

Recover your Windows operating system

When you encounter some unexpected issues with your operating system, you can choose to recover your operating system by yourself or call Lenovo Customer Support Center.

Note: Microsoft constantly makes updates to the Windows operating system. Before installing a particular Windows version, check the compatibility list for the Windows version. For details, go to <https://support.lenovo.com/us/en/solutions/ht512575>.

For computers purchased in mainland China

Go to https://iknow.lenovo.com.cn/detail/199198_1.html.

For computers purchased outside mainland China

| To recover your operating system to... | See. |
|--|--|
| Factory defaults | Refer to the instructions in https://support.lenovo.com/HowToCreateLenovoRecovery |
| A previous system point | Refer to the instructions in Popular Topics: https://support.lenovo.com/solutions/ht118590 |

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

Prepare the needed information before you contact Lenovo.

1. Record the problem symptoms and details:
 - 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?
2. Record the system information:
 - Product name
 - Machine type and serial number.

Self-help resources

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

| Resources | How to access? |
|-------------------------|--|
| Lenovo Support Web Site | <ul style="list-style-type: none">• For computers purchased in mainland China https://www.lenovo.com.cn• For computers purchased outside mainland China https://pcsupport.lenovo.com |
| Tips | <ul style="list-style-type: none">• For computers purchased in mainland China https://iknow.lenovo.com.cn• For computers purchased outside mainland China https://www.lenovo.com/tips |

| Resources | How to access? |
|---|---|
| Lenovo Community | <ul style="list-style-type: none"> For computers purchased in mainland China https://iknow.lenovo.com.cn For computers purchased outside mainland China https://forums.lenovo.com |
| Accessibility information (for computers purchased outside China) | https://www.lenovo.com/accessibility |
| Windows help information | <ul style="list-style-type: none"> Open the Start menu and click Get Help or Tips. Use Windows Search. Microsoft support Web site: https://support.microsoft.com |

Purchase accessories or additional services

This topic provides instructions on how to purchase accessories or additional services.

Accessories

Lenovo has a number of hardware accessories and upgrades to help expand the functionalities of your computer. Accessories include memory modules, storage devices, network cards, power adapters, keyboards, mice, and so on.

To shop at Lenovo, go to:

- For computers purchased in mainland China
<https://www.lenovo.com.cn>
- For computers purchased outside mainland China
<https://www.lenovo.com/accessories>

Additional services

During and after the warranty period, you can purchase additional services from Lenovo at:

- For computers purchased in mainland China
<https://newsupport.lenovo.com.cn>
- For computers purchased outside mainland China
<https://pcsupport.lenovo.com/warrantyupgrade>

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

Accessibility features

Lenovo is committed to making information technology accessible to everyone, including individuals with hearing, vision, mobility, cognitive, or speech disabilities. To get the most up-to-date and detailed accessibility features information for the product, go to https://support.lenovo.com/docs/product_accessibility_features.

Appendix A. Supplementary information

This section contains the notice for USB connector name update. The USB Implementers Forum published a revision of the guideline for USB connector names in September, 2022. Lenovo follows the revised guideline and updates USB connector names accordingly. You can refer to the table below for naming update details.

Notice for USB connector name update

| Current name | Previous name |
|---|-------------------------------------|
| USB-A connector (Hi-Speed USB) | USB-A 2.0 connector |
| USB-A connector (USB 5Gbps) | USB-A 3.2 Gen 1 connector |
| USB-A connector (USB 10Gbps) | USB-A 3.2 Gen 2 connector |
| USB-A connector (USB 5Gbps, Always On USB) | Always on USB-A 3.2 Gen 1 connector |
| USB-A connector (USB 10Gbps, Always On USB) | Always on USB-A 3.2 Gen 2 connector |
| USB-C connector (USB 5Gbps) | USB-C (3.2 Gen 1) connector |
| USB-C connector (USB 10Gbps) | USB-C (3.2 Gen 2) connector |
| USB-C connector (USB 20Gbps) | USB 3.2 Gen 2x2 |
| USB-C connector (USB4 20Gbps) | USB 4 Gen 2x2 |
| USB-C connector (USB4 40Gbps) | USB-C (USB 4) connector |
| USB-C connector (Thunderbolt 3) | USB-C (Thunderbolt 3) connector |
| USB-C connector (Thunderbolt 4) | USB-C (Thunderbolt 4) connector |

Appendix B. Notices and trademarks

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<https://newsupport.lenovo.com.cn>
- For computers purchased outside mainland China
<https://pcsupport.lenovo.com>

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