

ThinkPad X1 Fold Gen 1

User Guide



Lenovo

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Read this first

Thank you for choosing Lenovo notebook! We are dedicated to delivering best-value solutions to you.

Important information about OLED screen and folio cover



Do not push or rub the screen with glass, tweezers, or any other hard objects that are not recommended to use with the X1 Fold Gen 1.



Wipe off liquids from screen as soon as possible. Any extended contact with computer screen could result in deformations and color fading.



Handle the folio cover gently. The folio cover is made of authentic genuine leather. It is not removable and is intended to protect the computer. Do not pull on folio cover, this will result in permanent damage to the folio cover.



Your foldable PC contains magnets. Keep a safe distance between devices and objects that may be affected by magnets, such as credit cards and implantable medical devices. If you have an implantable medical device, consult your physician before use.

Read before using

- Before beginning your tour with the X1 Gold Gen 1, ensure that you read and understand the Generic Safety and Compliance Notices.
- Illustrations in this documentation might look different from your product.
- Depending on the model, some optional accessories, features, software programs, and user interface instructions might not be applicable to your computer.

- Documentation content is subject to change without notice. To get the latest documentation, go to <https://pcsupport.lenovo.com>.

Chapter 1. Welcome to your ThinkPad X1 Fold Gen 1

Enjoy your tour with ThinkPad X1 Fold Gen 1, the world's first foldable-OLED PC. Your ThinkPad X1 Fold Gen 1 features the following:

- Foldable OLED screen for superior image quality
- Premium leather folio cover with integrated kickstand
- Wireless, magnetic keyboard* with touchpad
- Stylus pen* for easy and effective input
- Always on, always connected, blazing fast 5G*
- Long-lasting durability

* for selected models

Overview



Camera with infrared (IR) function	Power button
Volume buttons	USB-C™ connector (USB 3.2 Gen 2)
USB-C connector (USB 3.2 Gen 2)	Nano-SIM-card tray*

* for selected models

Camera with IR function

- Take pictures or record videos by clicking Camera from the Start menu. The LED indicator next to the camera is on when the camera is in use.
- Log in to your computer with face authentication. See “Log in with your face ID” on page 10.
- If you use other apps that support photographing, video chatting, and video conference, the camera starts automatically when you enable the camera-required feature from the app.

Power button

The LED indicator in the power button shows the system status of your computer.

- **Blinking for three times:** The computer is initially connected to power.
- **On:** The computer is on or the computer is connected to power.
- **Off:**
 - The computer is off.
 - The computer is in hibernation mode while disconnected from power.
- **Blinking slowly:** The computer is in sleep mode.

/ / USB-C connectors (USB 3.2 Gen 2)

- Charge your computer.
- Charge USB-C compatible devices with the output voltage and current of 5 V and 1.5 A.
- Transfer data at USB 3.2 speed, up to 10 Gbps.
- Connect to an external display:
 - USB-C to VGA: 1900 x 1200 pixels, 60 Hz
 - USB-C to DP: 3840 x 2160 pixels, 60 Hz
- Connect to USB-C accessories to help expand your computer functionality. To purchase USB-C accessories, go to <https://www.lenovo.com/accessories>.

Features and specifications



Maximum heat output (depending on the model)	<ul style="list-style-type: none">• 45 W (154 Btu/hr)• 65 W (222 Btu/hr)
Power source (ac power adapter)	<ul style="list-style-type: none">• Sine-wave input at 50 Hz to 60 Hz• Input rating of the ac power adapter: 100 V to 240 V ac, 50 Hz to 60 Hz
Microprocessor	To view the microprocessor information of your computer, right-click the Start button and then click System .
Memory	Lower Power Double data rate 4 (LPDDR4), included in microprocessor package, soldered on the system board, 8 GB
Storage device	<ul style="list-style-type: none">• M.2 solid-state drive
Display	<ul style="list-style-type: none">• Brightness control• Flexible Organic Light-Emitting Diode (OLED)• Color display with Thin Film Transistor (TFT) technology• Display size: 337.82 mm (13.3 inches)• Display resolution: 2048 x 1536 pixels• Multi-touch technology• Integrated graphics
Security features	<ul style="list-style-type: none">• Face authentication• Password• Trusted Platform Module (TPM)*
Wireless features	<ul style="list-style-type: none">• Bluetooth• Global Positioning System (GPS) satellite receiver (available on models with wireless WAN)*• Wireless LAN• Wireless WAN with 5G CAT20*

* 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 / 3.1 Gen 1	5
3.2 Gen 2 / 3.1 Gen 2	10
3.2 Gen 2 x 2	20

Chapter 2. Let's get started

Integrated kickstand

Open the kickstand at an angle up to 85 degrees so that your foldable PC works as a hands-off, full-screen display. The kickstand is not designed to open more than 85 degrees.

Note: The folio cover is designed to protect your foldable PC. Do not try to remove it from your foldable PC.



Do not use the kickstand in portrait mode.



Maintenance tips

- Care for the leather folio cover by regularly wiping the leather folio cover with a soft, clean cloth, or brushing it. If dirt does not come off, use a high quality leather cleaner.
- Do not expose the folio cover to sunshine or moisture for long periods of time. Clean with a soft cloth if the folio cover becomes wet. Dry it by dabbing with an absorbent lint-free cloth and keep it out of direct sunlight.
- Do not clean the folio cover with alcohol-based solvents, such as benzine and thinner, or other strong chemicals.
- The folio cover is made of authentic genuine leather, which ages naturally over time. This is normal. The appearance, color, and texture of the folio cover might vary slightly depending on computer models.
- Take special care when cosmetics, such as foundation or creams, can come in contact with the folio cover. If any such products contact with the folio cover, immediately wipe them off using a dry cloth.

- For better folding experience, the center of the folio cover is made of soft genuine leather. Therefore, the center of the folio cover looks thinner. You may notice a slight bumping or gap after using the foldable PC for a long period of time. This is a normal characteristic of the genuine leather, and it will not affect the folio cover quality.

Work with the foldable screen

Your foldable PC features the following modes. Switch between different modes to experience the most of the 4-in-1 foldable PC.

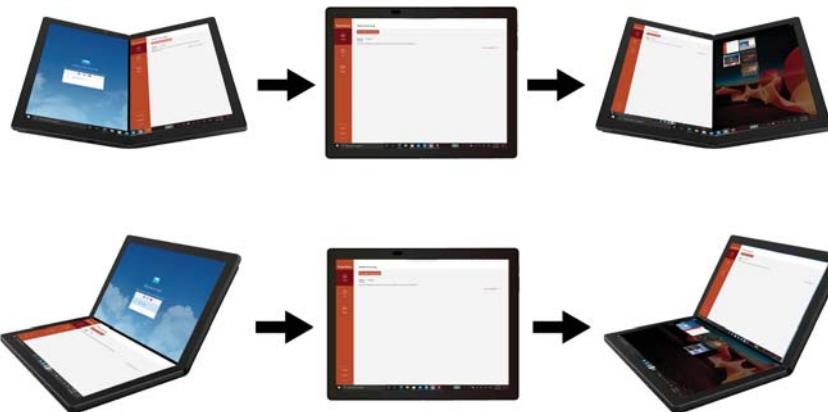


Mode	Recommended scenario(s)
 Landscape mode	<ul style="list-style-type: none">• Giving a presentation• Watching movies
 Mini clamshell mode	<ul style="list-style-type: none">• Multi-tasking• Writing emails
 Book mode	<ul style="list-style-type: none">• Browsing multiple web pages• Reading books on e-reader• Note-taking while reading
 Portrait mode	<ul style="list-style-type: none">• Browsing extra-long documents• Drawing or sketching

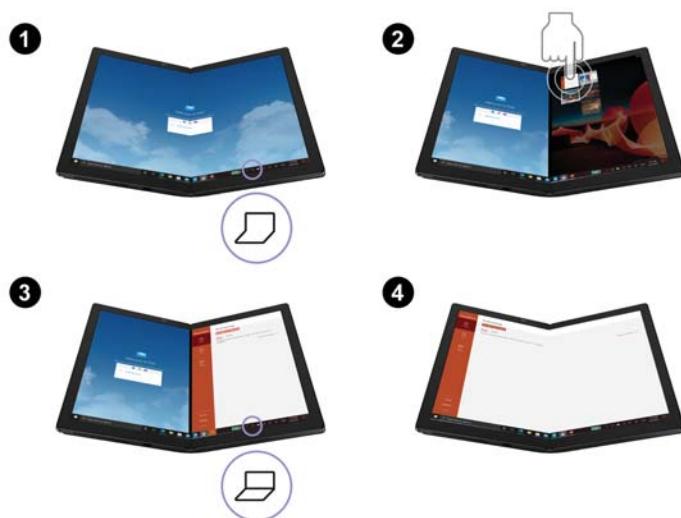
Split-screen function

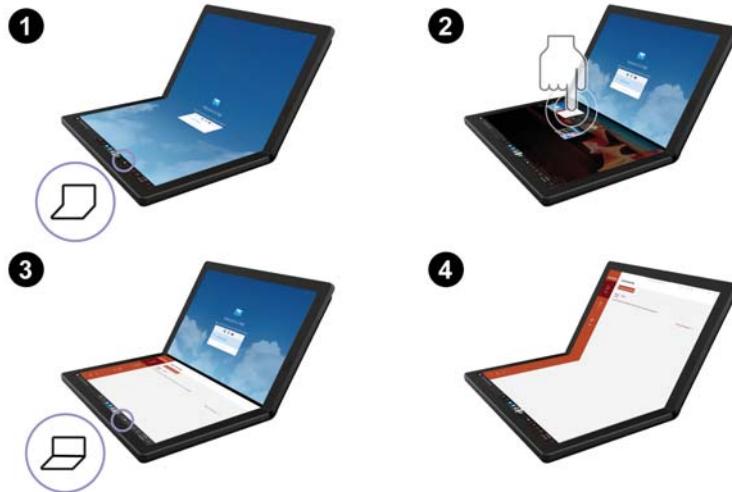
In book mode  and mini clamshell mode , the split-screen function allows you to handle multiple tasks. Select one of below methods of your preference:

- Rotate the screen to switch between split-screen view and full-screen view as shown.



- Tap the desktop splitter icon  or  in the task bar to switch between split-screen view and full-screen view.



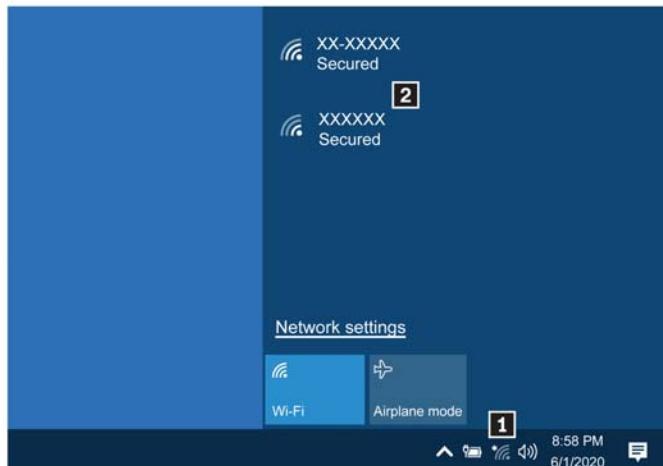


Connect to networks

Your computer helps you connect to the world through a wired or wireless network.

Connect to Wi-Fi networks

Click the network icon in the Windows notification area. Select a network available for connection.



Connect to a cellular network

If your computer has a wireless wide area network (WAN) card and a micro-SIM card installed, you can connect to a cellular data network and get online using the cellular signal.

Note: The cellular service is provided by authorized mobile service carriers in some countries or regions. You must have a cellular plan from a service carrier to connect to the cellular network.

To establish a cellular connection:

1. Turn off the computer. If a nano-SIM card is installed, skip step 1 to 3.

2. Install a nano-SIM card as shown.



3. Turn on the computer.
4. Click the network icon in the Windows notification area, and then select the cellular network icon  from the list.
5. Provide required information, if needed.

Airplane mode

When the Airplane mode is enabled, all wireless features are disabled.

To enable or disable the Airplane mode:

1. Open the **Start** menu.
2. Click **Settings** → **Network & Internet** → **Airplane mode**.
3. Turn on or turn off the **Airplane mode** switch.

Log in with your face ID



Your foldable PC comes with a Windows Hello-compatible infrared camera, you can unlock your foldable PC by scanning your face instead of using a password.

Create face ID

1. Open the **Start** menu and click **Settings** → **Accounts** → **Sign-in options**.
2. Scroll down to the **Password** section and click **Add** to create a password.
3. Follow the on-screen instructions to create a Personal Identification Number (PIN).
4. Locate the **Windows Hello** section and click **Set up** under **Face Recognition**. Then, click **Get Started**.
5. Enter the PIN you have set earlier. The camera preview starts.
6. Follow the on-screen instructions to complete the setup.

7. Click **Improve Recognition** to improve the image so that **Windows Hello** can recognize you in different light conditions or when your appearance changes.

Log in with face authentication

1. On the Windows lock screen, select the smiling face icon 😊 from the sign-in options.
2. Follow the on-screen instructions and ensure that you are centered and looking directly at the camera. When the program recognizes your face, it automatically unlocks the screen and signs you in to the Windows operating system.

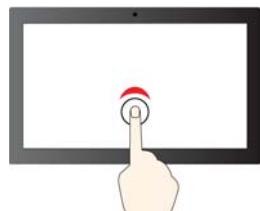
Interact with your foldable PC

Your foldable PC provides you various ways to navigate the screen.

Use the touch screen

You can navigate the foldable screen with following simple touch gestures.

Note: Some gestures might not be available depending on the app you use.



Tap once

- From the **Start** menu: Open an app or item.
- From the desktop: Select an app or item.
- In an open app: Perform an action such as **Copy**, **Save**, and **Delete**, depending on the app.



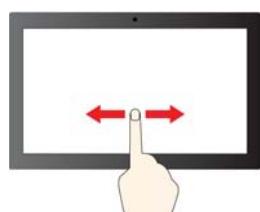
Tap twice quickly

Open an app or item from the desktop.



Tap and hold

Open a shortcut menu.



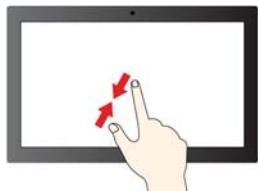
Slide

Scroll through items, such as lists, pages, and photos.



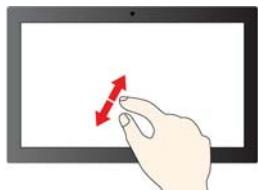
Drag an item to the location you want

Move an object.



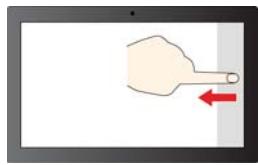
Move two fingers closer together

Zoom out.



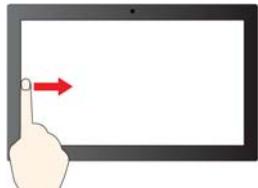
Move two fingers farther apart

Zoom in.



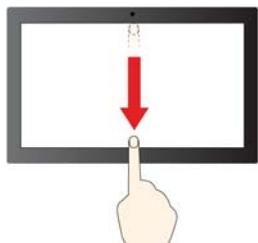
Swipe in from the right edge

Open the action center to see your notifications and quick actions.



Swipe in from the left edge

View all your open windows in task view.



Swipe downwards shortly from the top edge (for full-screened app or when your computer is in the tablet mode)

Show a hidden title bar.

Swipe in from the top edge to the bottom edge (when your computer is in the tablet mode)

Close the current app.

Tips

- Removing the protection film before folding the screen. Do not attach any other adhesives such as sticker to the screen.
- When folding the foldable PC, do not place any objects on the screen except the Lenovo Fold Mini Keyboard.
- The screen is a plastic panel covered with a plastic film. Do not apply pressure or place any metallic object on the screen, which might damage the touch panel or cause it to malfunction.

- Do not press the OLED screen with hard or sharp objects except the Lenovo Mod Pen or Lenovo Pen Pro. Do not apply excessive pressure to it.
- Do not use fingernails, gloved fingers, or incompatible objects for input on the screen.
- Regularly calibrate the accuracy of the finger input to avoid a discrepancy.
- Turn off your foldable PC before cleaning the screen.
- Use a dry, soft, and lint-free cloth or a piece of absorbent cotton to remove fingerprints or dust from the screen. Do not apply solvents to the cloth.
- You may notice a crease at the center of the OLED screen due to the unique display materials. This is a normal characteristic of the foldable OLED display. It will not affect the display's quality, lifespan, or performance and will not hinder the experience when using the foldable PC.



Wireless keyboard (for selected models)

Your foldable PC might come with the Lenovo Fold Mini Keyboard (a wireless, magnetic keyboard with touchpad). Use the keyboard to work more easily and effectively.

The keyboard is available as an option. You can purchase one from Lenovo at <https://www.lenovo.com/accessories>.

Pair the keyboard

To pair the keyboard with your foldable PC, do the following:



1. Enable Bluetooth function on your foldable PC. You can also enable the Swift Pair function for easy connection.
2. Turn on the keyboard and wait until the LED indicator is in solid green.
3. Press and hold the Bluetooth key  for about three seconds until the LED indicator is blinking in blue.
4. Place the keyboard close to your foldable PC to trigger Bluetooth connection.
5. Follow the on-screen instructions.

Use the keyboard in different modes

The keyboard works with your foldable PC in two modes, landscape mode and mini clamshell mode.

Landscape mode



Mini clamshell mode

Your keyboard and foldable PC both come with integrated magnet for automatic attachment. When placing the keyboard on your foldable PC, ensure that the camera side is upward as shown, otherwise the keyboard does not attach properly.



Keyboard overview



1 Special keys

- Press F1–F12 key to invoke the special function printed as an icon on each key.
- Press Fn Key and F1–F12 key simultaneously to invoke the standard function of F1–F12 function keys.

F1	Enable / disable speakers
F2 F3	Decrease / increase volume
F4	Enable / disable microphones
F5 F6	Darken / brighten display
F7	Manage external displays
F8	Open or collapse the notification center
F9	Open Windows Settings
F10	Lock the screen
F11	Enable / disable Bluetooth
F12	Customize function key

2 Power switch: Slide the power switch to turn on or turn off your keyboard. To wake up the keyboard, press any key or tap the touchpad.

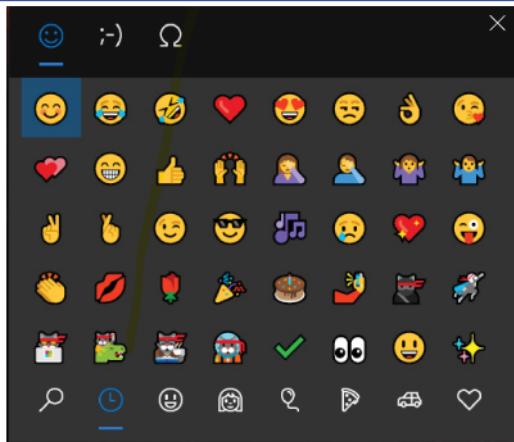
The LED indicator next to power switch shows the following battery power status:

- Solid green for three seconds and then off: the keyboard is initially turned on.
- Blinking green quickly (battery power between 50% and 100%)
- Blinking amber quickly (battery power between 25% and 49%)

-  Blinking red slowly: (battery power lower than 25%)

3 Micro USB connector: On rare occasions, you might need to work with your foldable PC and charge the keyboard at the same time. As an alternative, use a 5V ac power adapter and a Micro USB cable to charge the keyboard. Your keyboard does not come with a 5V ac power adapter or a Micro USB cable, prepare them by yourself.

4  **Expressive Input key:** Press the key and choose punctuations, emojis, or symbols as you like.



5 Touchpad: Performs basic finger touch functions, such as left click, right click, and two-finger scroll.

Charge the keyboard

Wireless charging (recommended)

Place the foldable PC with the camera side upward and put the keyboard on the lower half of the computer screen. Fold the computer screen, the keyboard starts to charge automatically. One four-hour charge enables you to use the keyboard for up to eight hours. Ensure that the remaining battery power of the computer is higher than 50%, otherwise the keyboard does not charge.

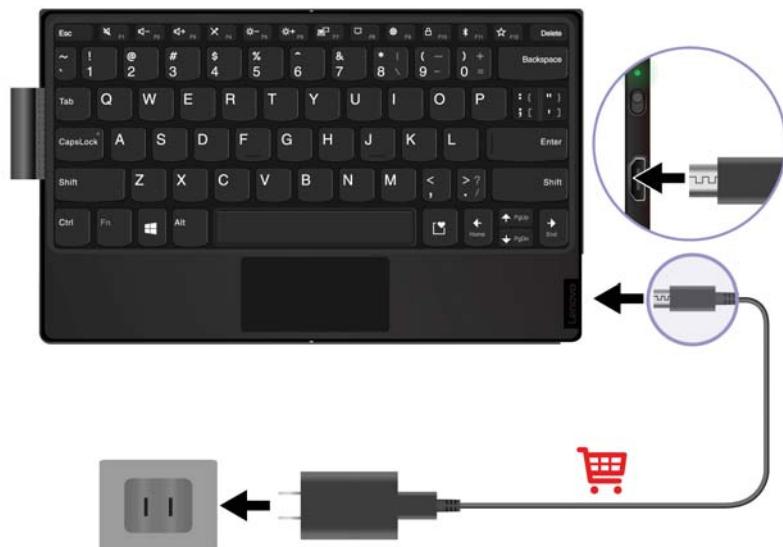


LED indicator behavior

- Blinking amber quickly: charging
- Solid green: fully charged

Wired charging

As an alternative, you can also use a 5V ac power adapter and a Micro USB cable to charge the keyboard. The keyboard is fully charged in about two hours.



LED indicator behavior

- Solid amber: charging
- Solid green: fully charged

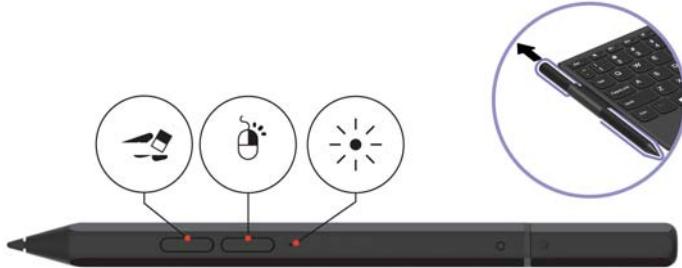
Lenovo Mod Pen (for selected models)

The Lenovo Mod pen (a rechargeable stylus pen) enables you to write and draw in a natural and precise manner. To purchase the pen, go to <https://www.lenovo.com/accessories>.

Notes:

- The default function of each barrel button might vary in different apps.

Overview



Bottom barrel button

To erase text or drawings, hold the button to erase the object in supported apps.



Top barrel button

To right-click, hold the button and tap the screen in supported apps.



LED indicator

Shows the remaining battery power.

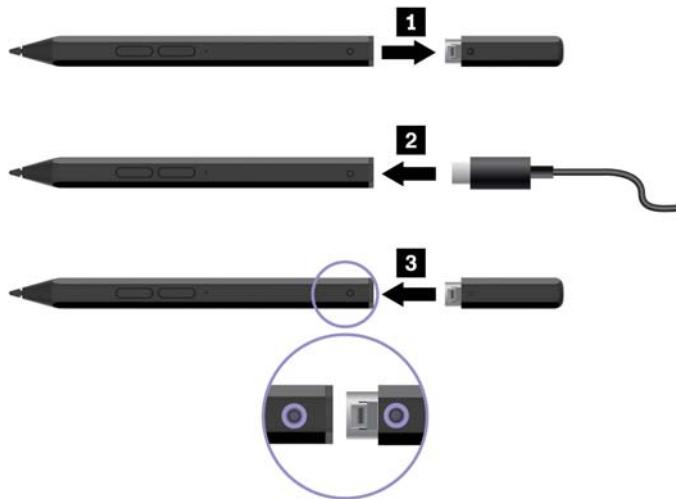


To customize the barrel button functions, use Lenovo Pen Settings. If Lenovo Pen Settings is not installed on your foldable PC, download and install the latest WinTab driver from <https://pcsupport.lenovo.com>.

Charge the pen

When the LED indicator blinks in amber, the pen battery power is low. Use the ac power adapter that come with your foldable PC to charge the pen. The LED indicator is in solid amber during charging and is solid white when the pen is fully charged. The pen is fully charged in about two hours.

When you install the pen cap, ensure that the dome on the pen cap is aligned with the circle icon on the pen compartment.



One full-charge delivers up to 14 days of battery standby time for continuous use. To check the remaining battery power, go to [Lenovo Pen Settings](#) and follow the on-screen instructions.

Maintenance tips

- The pen is not waterproof. Keep the pen away from water and excessive moisture.
- The pen contains pressure sensors. Apply an appropriate amount of pressure when writing on the screen. Do not subject the pen to shock or vibration.
- If possible, place your pen in a well-ventilated and dry area without direct exposure to sunshine.
- Do not use or store the pen in a place where excessive changes in temperature may occur such as in a car.

Use Lenovo Pen Pro (for selected models)

The Lenovo Pen Pro (a rechargeable stylus pen) enables you to write and draw in a natural manner. To purchase the pen, go to <https://www.lenovo.com/accessories>.

Note: The color of the pen might vary by country or region. Depending on the model, the pen might look slightly different from the illustrations in this topic.

Pen overview



1 Top pen button: Hold the top pen button for at least three seconds to enable Bluetooth pairing on the pen.

2 LED indicator: When the LED indicator blinks in amber, the pen battery power is low. The LED indicator is in solid amber during charging and is solid green when the pen is fully charged. The pen is fully charged in about two hours.

3 USB-C connector: Use the ac power adapter that come with your foldable PC to charge the pen.

4 Top barrel button: To right-click, hold the top barrel button and tap the screen in supported applications.

5 Bottom barrel button: To erase texts or drawings, hold the bottom barrel button to erase the object in supported applications.

Notes:

- The default function of each barrel button might vary in different apps.
- To customize the barrel button functions, use Lenovo Pen Settings. If Lenovo Pen Settings is not installed on your computer, download and install the latest WinTab driver from <https://support.lenovo.com>.

6 Pen tip: To click, tap on the screen with the tip. To double-click, tap twice.

Pair the pen

1. Enable Bluetooth pairing on the pen by pressing and holding the top of the pen for at least three seconds until the LED indicator flashes in green.
2. Enable Bluetooth pairing on your computer to discover and pair the pen. See “Connect to a Bluetooth-enabled device” on page 31. The pen is discoverable as Lenovo Pen Pro.

After pairing, press or double-press the top pen button to access more functions. To customize the top pen button functions, use Lenovo Pen Settings or open the Start menu  and tap **Settings** → **Devices** → **Pen & Windows Ink** → **Pen shortcuts**.

Maintenance tips

- The pen is not waterproof. Keep the pen away from water and excessive moisture.

- The pen contains pressure sensors. Apply an appropriate amount of pressure when writing on the screen. Do not subject the pen to shock or vibration.
- If possible, place your pen in a well-ventilated and dry area without direct exposure to sunshine.
- Do not use or store the pen in a place where excessive changes in temperature may occur such as in a car.

Use USB-C connector

The USB-C connector delivers quick and easy connections between your foldable PC and accessories.

On very rare occasions, the USB-C compatible devices connected to the USB-C connector might interfere with wireless features. If your foldable PC cannot establish wireless LAN communications, wireless WAN communications, or if your location cannot be pinpointed through the GPS function, detach the USB-C compatible devices from the USB-C connector.

Lenovo Powered USB-C Travel Hub

The Lenovo Powered USB-C Travel Hub provides quick and easy connections between your computer and computer accessories.

The Lenovo Powered USB-C Travel Hub is available as an option and shipped with some computer models. You can purchase one from Lenovo at <https://www.lenovo.com/accessories>.

Overview



□	VGA connector	HDMI	HDMI connector
Ethernet	Ethernet connector	ss↔	Always On USB connector (USB 3.0)
↔	USB 2.0 connector	□	Power connector

For optimal data transfer, connect a USB 3.0 device to Always On USB connector (USB 3.0) instead of the USB 2.0 connector.

Use the Lenovo Powered USB-C Travel Hub

Before you use the hub with your foldable PC, download and install the latest driver at:
https://support.lenovo.com/accessories/lenovo_powerd_usb-c_travel_hub

Connect the Lenovo Powered USB-C Travel Hub to either USB-C connector on your foldable PC.



If your computer runs on low battery, connect the Lenovo Powered USB-C Travel Hub to the ac power adapter so that ac power adapter supplies power to both the hub and your foldable PC.

For more information, refer to the documentation of the hub.

Connect to an external display

Connect your foldable PC to a projector or a monitor to give presentations or expand your workspace.

Connect to a wired display

Your foldable PC comes with two USB-C connectors (USB 3.2 Gen 2), and you can connect your foldable PC to up to two external displays simultaneously. The supported maximum resolution of the external display is 3840 x 2160 pixels / 60 Hz.



If your foldable PC cannot detect the external display, right-click a blank area on the desktop, and then click **Display settings → Detect**.

Connect to a wireless display

To use a wireless display, ensure that both your foldable PC and the external display support the Miracast® feature. Open the **Start** menu, and then click **Settings → Devices → Bluetooth & other devices**. In the Add a device window, click **Wireless display or dock**. Then, follow the instructions on the screen. If your foldable PC come with a wireless keyboard, press Windows+ K and then select a wireless display to connect with.

Set the display mode

Open the **Start** menu, and then click **Settings → System → Display**. Then, follow the instructions on the

screen. If your foldable PC come with a wireless keyboard, press or + and then select a display mode of your preference.

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.
3. Change display settings of your preference.

You can change the settings for both the computer display and the external display. For example, you can define which one is the main display and which one is the secondary display. You also can change the resolution and orientation.

Note: If you set a higher resolution for the computer display than the external display, only part of the screen can be displayed on the external display.

USB-C to audio

Connect speakers, headphones, or a headset to your foldable PC through a USB-C to audio cable.

The foldable PC does not come with a USB-C to audio cable. To purchase one from Lenovo, go to <https://www.lenovo.com/accessories>.



Connect to the wired Ethernet

To connect your foldable PC to a local network, a USB-C to Ethernet adapter is needed. The Lenovo USB-C to Ethernet Adapter is available as an option and shipped with some computer models. You can purchase one from Lenovo at <https://www.lenovo.com/accessories>.



Chapter 3. Explore more

Learn the basics of Windows 10 and start working with it right away. For more information about Windows 10, see the Windows help information.

Lenovo Voice



The preinstalled Lenovo Voice is a voice assistant which offers a number of voice-based features, such as respond upon voice command, translate voices into on-screen text in a supported foreign language, and convert voice into text. Ensure you sign up and log in to the app before using both translation function and voice-to-text function.

Access Lenovo Voice

To access Lenovo Voice, do one of the following:

- Open the **Start** menu and tap **Lenovo Voice**.
- Type **Lenovo Voice** in the search box.
- Tap Windows key + alt + V on the On-Screen Keyboard, or press Windows key + alt + V on the Lenovo Fold Mini Keyboard if your foldable PC comes with one.

To download the latest version of Lenovo Voice, go to Microsoft Store and search by the app name.

Key features

• Voice assistant function

Before you use the voice assistant, ensure that you follow the on-screen instructions to enable the voice assistant function and wake up the voice assistant. In response to voice command, Lenovo Voice performs a variety of tasks such as:

- Brighten or darken computer screen.
- Adjust the speaker volume.
- Enable or disable airplane mode.
- Put computer into hibernation mode.
- Enable or disable the Bluetooth function.
- Go to the previous or next slide in a PPT file.

• Translation function

Lenovo Voice translates video voices or audio voices into on-screen text in a supported foreign language. During international conference calls and multi-language keynote speeches, Lenovo Voice translates the speech content to on-screen text in your native language, with little or no latency. With Lenovo Voice, intercultural communications are made easier.

• Voice-to-text function

Lenovo Voice converts voice input into text output in real time. If you need to input a message or write an email, open an editable file and say what you want to write, and your voice input is converted into text in the file.

Notes:

- The available features and languages vary depending on the computer model and delivery of countries and regions.
- Lenovo Voice makes periodic updates of the features to keep improving your experience. The description of features might be different from that on your actual user interface.

Lenovo Display Refresh

After your computer is used for more than one or two years, OLED displays may experience image retention if an image is continuously displayed for a long period of time. This phenomenon is normal and it is caused by the characteristics of the material used for OLED displays to achieve high-definition imaging.

To mitigate this phenomenon, the preinstalled Lenovo Display Refresh reminds you to refresh your OLED display. During refreshment, Lenovo Display Refresh automatically adjust the uniformity of the OLED screen.

Use Lenovo Display Refresh

A pop-up window is displayed every one or two years, reminding you to refresh the OLED screen. The actual interval between two prompts depends on how frequently you are using your foldable PC. When you are prompted, follow the on-screen instructions to complete the refreshment.

To download the latest version of Lenovo Display Refresh, go to Microsoft Store and search by the app name.

Notes:

- The available features and languages vary depending on the computer model and delivery of countries and regions.
- Lenovo Display Refresh makes periodic updates of the features to keep improving your experience. The description of features might be different from that on your actual user interface.

Tips on mitigating image retention phenomenon

To mitigate image retention phenomenon, you can also do the following:

- Avoid using one app for an extended period of time
- Turn off your computer when not in use
- Use a screen saver

Use Lenovo Vantage



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

Access Lenovo Vantage

Open the **Start** menu and click **Lenovo Vantage**. You also can type **Lenovo Vantage** in the search box.

To download the latest version of Lenovo Vantage, go to Microsoft Store and search by the app name.

Key features

Lenovo Vantage enables you to:

- Know the device status easily and customize device settings.
- Download and install UEFI BIOS, firmware, and driver updates 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.

Notes:

- The available features vary depending on the computer model.
- Lenovo Vantage 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.

Manage power

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

Check the battery status and temperature

Check the battery status

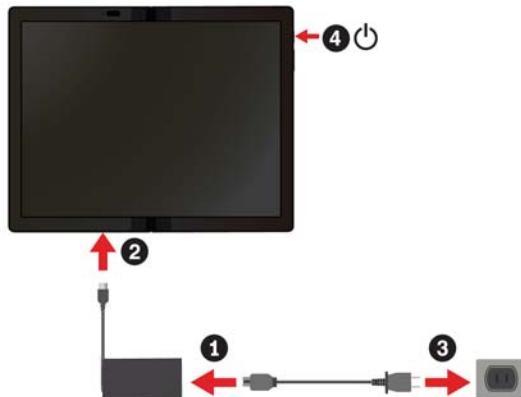
The battery status icon  or  is in the Windows notification area. You can click the icon to check the battery status, view the current power plan, change the power mode, and access battery settings quickly.

Check the battery temperature

Open Lenovo Vantage, and then follow the on-screen instructions to view battery details.

Charge the battery

When the battery power is low, charge your battery by connecting your computer to ac power.



The battery is fully charged in about four to eight hours. If the power adapter shipped with your computer supports the rapid charge function, the battery is 80% charged in about one hour when the computer is turned off. The actual charging time depends on the battery size, the physical environment, and whether you are using the computer.

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

To maximize the life of the battery, observe below tips:

- Recharge the battery completely before using it. Once the battery is fully charged, it must discharge to 94% or lower before it will be allowed to recharge again.
- Use the battery until the charge is depleted. The battery may optimize its full charge capacity based on your usage. After prolonged periods of limited use, full battery capacity may not be available until you discharge to as low as 20% and recharge completely. For more information, refer to the power section of Lenovo Vantage.

Change the power settings

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 10 minutes
- Put the computer to sleep: After 10 minutes

To reset the power plan to achieve the best balance between performance and power saving:

1. Right-click the battery status icon and select **Power Options**.
2. Choose or customize a power plan of your preference.

To reset the power button function:

1. Right-click the battery status icon and select **Power Options** → **Choose what the power buttons do**.
2. Change the settings as you prefer.

Set dark/light theme mode

By default, your computer comes in dark theme mode to help extend battery retention and reduce eye strain.

To switch between dark and light theme mode, do the following:

1. Open the **Start** menu and select **Settings** → **Personalization** → **Colors**.
2. In the Choose your default app mode section, select **Dark** or **Light**.

Use the Intelligent Cooling feature

The Intelligent Cooling feature helps you adjust fan speed, computer temperature and performance by switching between following modes.

- Auto mode: switch between each mode automatically based on the amount of system activity.
- Performance mode: the highest performance and normal fan noise
- Balanced mode: balanced performance and fan noise
- Quiet mode: the least fan noise

Choose a power modes

This feature works in auto mode by default. To choose a power mode:

1. Enter the UEFI BIOS menu. See “Enter the UEFI BIOS menu” on page 35.
2. Select **Config** → **Power** → **Intelligent Cooling Mode**.
3. Choose a power mode as desired.

4. Tap F10 to save the changes and exit.

Connect to a Bluetooth-enabled 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 the connection is successful, place the devices 10 meters (33 feet), at most, from the computer.

1. Turn on Bluetooth on the computer.
 - Click the action center icon  in the Windows notification area. Enable the Bluetooth feature.
 - Open the **Start** menu, and then click **Settings** → **Devices** → **Bluetooth & other devices**. Turn on the **Bluetooth** switch.
2. Click **Add Bluetooth or other device** → **Bluetooth**.
3. Select a Bluetooth device, and then follow the on-screen instructions.

Your Bluetooth-enabled device and computer will automatically connect the next time if the two devices are in range of each other with Bluetooth turned on. You can use Bluetooth for data transfer or remote control and communication.

Chapter 4. Configure advanced settings

This chapter provides information about UEFI BIOS, recovery, operating system installation, and system management.

Secure your computer and information

Use passwords

This section introduces types of passwords in UEFI (Unified Extensible Firmware Interface) BIOS (Basic Input/Output System) and how to set, change, and remove a password.

Password types

You can set a power-on password, supervisor password, system management password, or hard disk password in UEFI BIOS to prevent unauthorized access to your computer. However, you are not prompted to enter any UEFI BIOS password when your computer resumes from sleep mode.

Power-on password

If you set a power-on password, a window is displayed on the screen when you turn on the computer. Enter the correct password to use the computer.

Supervisor password

The supervisor password protects the system information stored in UEFI BIOS. When entering the UEFI BIOS menu, enter the correct supervisor password in the window prompted. You also can tap Enter to skip the password prompt. However, you cannot change most of the system configuration options in UEFI BIOS.

If you have set both the supervisor password and power-on password, you can use the supervisor password to access your computer when you turn it on. The supervisor password overrides the power-on password.

System management password

The system management password can also protect the system information stored in UEFI BIOS like a supervisor password, but it has lower authority by default. The system management password can be set through the UEFI BIOS menu or through Windows Management Instrumentation (WMI) with the Lenovo client-management interface.

You can enable the system management password to have the same authority as the supervisor password to control security related features. To customize the authority of the system management password through the UEFI BIOS menu:

1. Enter the UEFI BIOS menu. See “Enter the UEFI BIOS menu” on page 35.

Note: When you are prompted to enter the password, enter the correct supervisor password if a supervisor password has been set, or enter the correct system management password if no supervisor password has been set. Otherwise, you cannot change the configurations in the following steps.

2. Select **Security** → **Password** → **System Management Password Access Control**.
3. Follow the on-screen instructions.

If you have set both the supervisor password and the system management password, the supervisor password overrides the system management password. If you have set both the system management

password and the power-on password, the system management password overrides the power-on password.

Hard disk passwords

The hard disk password prevents unauthorized access to the data on the storage drive. When a hard disk password is set, you are prompted to type a correct password each time you try to access the storage drive.

To set the hard disk password, select one of the following types:

- **User hard disk password only**

When a user hard disk password is set without a master hard disk password, the user must enter the user hard disk password to access files and applications on the storage drive.

- **Master hard disk password + User hard disk password**

The master hard disk password is set and used by a system administrator. It enables the administrator to access any storage drive in a system or any computer connected in the same network. The administrator can also assign a user hard disk password for each computer in the network. The user of the computer can change the user hard disk password as desired, but only the administrator can remove the user hard disk password.

When prompted to enter a hard disk password, tap F1 to switch between the master hard disk password and user hard disk password.

Note: The hard disk password is not available in the following situations:

- A Trusted Computing Group (TCG) Opal-compliant storage drive and a TCG Opal management software program are installed in the computer, and the TCG Opal management software program is activated.
- An eDrive storage drive is installed in the computer preinstalled with the Windows 10 operating system.

Set, change, and remove a password

Before you start, print these instructions.

1. Enter the UEFI BIOS menu. See “Enter the UEFI BIOS menu” on page 35.
2. Select **Security** → **Password** by using the arrow keys.
3. Select the password type. Then, follow the on-screen instructions to set, change, or remove a password.

You should record all your passwords and store them in a safe place. If you forget any of your passwords, any potential repair actions required are not covered under warranty.

What to do if you forget your power-on password

If you forget your power-on password, do the following to remove the power-on password:

- If you have set a supervisor password and remember it:
 1. Enter the UEFI BIOS menu. See “Enter the UEFI BIOS menu” on page 35. Enter the supervisor password when prompted.
 2. Select **Security** → **Password** → **Power-On Password** by using the arrow keys.
 3. Type the current supervisor password in the **Enter Current Password** field. Then, leave the **Enter New Password** field blank, and tap Enter twice.
 4. In the Changes have been saved window, tap Enter.
 5. Tap F10 to save changes and exit the UEFI BIOS menu.
- If you have not set a supervisor password, contact a Lenovo authorized service provider to have the power-on password removed.

What to do if you forget your hard disk password

If you forget your user hard disk password or both user and master hard disk passwords, Lenovo cannot reset your passwords or recover data from the storage drive. You can contact a Lenovo authorized service provider to have the storage drive replaced. A fee will be charged for parts and service.

What to do if you forget your supervisor password

If you forget your supervisor password, there is no service procedure to remove the password. You have to contact a Lenovo authorized service provider to have the system board replaced. A fee will be charged for parts and service.

What to do if you forget your system management password

If you forget your system management password, do the following to remove the system management password:

- If you have set a supervisor password and remember it:
 1. Enter the UEFI BIOS menu. See “Enter the UEFI BIOS menu” on page 35. Enter the supervisor password when prompted.
 2. Select **Security** → **Password** → **System Management Password** by using the arrow keys.
 3. Type the current supervisor password in the **Enter Current Password** field. Then, leave the **Enter New Password** field blank, and tap Enter twice.
 4. In the Changes have been saved window, tap Enter.
 5. Tap F10 to save changes and exit the UEFI BIOS menu.
- If you have not set a supervisor password, contact a Lenovo authorized service provider to have the system management password removed.

UEFI BIOS

This section introduces what is UEFI BIOS and the operations you can perform in UEFI BIOS.

What is UEFI BIOS

UEFI BIOS is the first program that the computer runs when the computer is turned on. UEFI BIOS initializes the hardware components and loads the operating system and other programs. Your computer comes with a setup program with which you can change UEFI BIOS settings.

Enter the UEFI BIOS menu

To enter the UEFI BIOS menu, do the following:

1. Restart the computer. When the logo screen is displayed, tap the “To interrupt normal startup, press Enter.” message. The **Startup Interrupt Menu** window is displayed.
2. In the **Startup Interrupt Menu** window, tap F1 to enter the UEFI BIOS menu.

Note: If you have set the supervisor password, enter the correct password when prompted. You also can press Enter to skip the password prompt and enter the UEFI BIOS menu. However, you cannot change the system configurations that are protected by the supervisor password.

Navigate in the UEFI BIOS interface

Attention: The default configurations are already optimized for you in **boldface**. Improper change of the configurations might cause unexpected results.

You can navigate in the UEFI BIOS interface by pressing the following keys:

F1	Display the General Help screen.
F9	Restore to the default settings.
F10	Save your configuration and exit.
F5 / -	Change to a lower value.
F6 / +	Change to a higher value.
↑ ↓	Locate an item.
← →	Select a tab.
Esc	Exit the submenu and return to the parent menu.
Enter	Enter the selected tab or submenu.

Change the startup sequence

1. Enter the UEFI BIOS menu. See “Enter the UEFI BIOS menu” on page 35.
2. Select **Startup** → **Boot**. Then, tap Enter. The default device order list is displayed.

Note: No bootable device is displayed if the computer cannot start from any devices or the operating system cannot be found.

3. Set the startup sequence as desired.
4. Tap F10 to save the changes and exit.

To change the startup sequence temporarily:

1. Restart the computer. When the logo screen is displayed, tap the “To interrupt normal startup, press Enter.” message. The **Startup Interrupt Menu** window is displayed.
2. In the **Startup Interrupt Menu** window, tap F12.
3. Select the device that you want the computer to start from and tap Enter.

Set the system date and time

1. Enter the UEFI BIOS menu. See “Enter the UEFI BIOS menu” on page 35.
2. Select **Date/Time** and set the system date and time as desired.
3. Tap F10 to save changes and exit.

Update UEFI BIOS

When you install a new program, device driver, or hardware component, you might need to update UEFI BIOS.

Download and install the latest UEFI BIOS update package by one of the following methods:

- Open Lenovo Vantage to check the available update packages. If the latest UEFI BIOS update package is available, follow the on-screen instructions to download and install the package.
- Go to <https://pcsupport.lenovo.com> and select the entry for your computer. Then, follow the on-screen instructions to download and install the latest UEFI BIOS update package.

Recovery information

This section introduces the recovery information of the Windows 10 operating system. Ensure that you read and follow the on-screen recovery instructions. The data on your computer might be deleted during the recovery process. To avoid data loss, make a backup copy of all the data that you want to keep.

Restore system files and settings to an earlier point

1. Go to **Control Panel** and view by Large icons or Small icons.
2. Click **Recovery** → **Open System Restore**. Then, follow the on-screen instructions.

Restore your files from a backup

Note: If you use the File History tool to restore your files from a backup, ensure that you backed up your data earlier with the tool.

1. Go to **Control Panel** and view by Large icons or Small icons.
2. Click **File History** → **Restore personal files**. Then, follow the on-screen instructions.

Reset your computer

In the resetting process, you can choose to keep your files or remove them when you reinstall the operating system.

Note: The items in the graphical user interface (GUI) might change without notice.

1. Open the **Start** menu, and then click **Settings** → **Update & Security** → **Recovery**.
2. In the **Reset this PC** section, click **Get started**.
3. Follow the on-screen instructions to reset your computer.

Use advanced options

Note: The items in the graphical user interface (GUI) might change without notice.

1. Open the **Start** menu, and then click **Settings** → **Update & security** → **Recovery**.
2. In the **Advanced startup** section, click **Restart now** → **Troubleshoot** → **Advanced options**.
3. Select a preferred option, and then follow the on-screen instructions.

Windows automatic recovery

Note: Ensure that your computer is connected to ac power during the recovery process.

The Windows recovery environment on your computer operates independently from the Windows 10 operating system. It enables you to recover or repair the operating system even if the Windows 10 operating system fails to start.

After two consecutive failed boot attempts, the Windows recovery environment starts automatically. Then you can choose repair and recovery options by following the on-screen instructions.

Create and use a recovery USB device

It is recommended that you create a recovery USB drive as early as possible as a backup for the Windows recovery programs. With the recovery USB drive, you can troubleshoot and fix the problems even if the preinstalled Windows recovery programs are damaged. If you did not create a recovery USB drive as a precautionary measure, you can contact Lenovo Customer Support Center and purchase one from Lenovo. For a list of the Lenovo Support phone numbers for your country or region, go to:

<https://pcsupport.lenovo.com/supportphonelist>

Create a recovery USB drive

Attention: The creation process deletes anything stored on the USB drive. To avoid data loss, make a backup copy of all the data that you want to keep.

1. Ensure that your computer is connected to ac power.
2. Prepare a USB drive with at least 16 GB of storage capacity. The actual USB capacity required depends on the size of the recovery image.
3. Connect the prepared USB drive to the computer.
4. Type **recovery** in the search box. Then, click **Create a recovery drive**.
5. Click **Yes** in the User Account Control window to allow the Recovery Media Creator program to start.
6. In the Recovery Drive window, follow the on-screen instructions to create a recovery USB drive.

Use the recovery USB drive

1. Ensure that your computer is connected to ac power.
2. Connect the recovery USB drive to the computer.
3. Turn on or restart the computer. When the logo screen is displayed, press F12. The Boot Menu window opens.
4. Select the recovery USB drive as the boot device.
5. Click **Troubleshoot** to display optional recovery solutions.
6. Select a recovery solution as desired. Then, follow the on-screen instructions to complete the process.

Install Windows 10 and drivers

This section provides instructions on installing a Windows 10 operating system and device drivers.

Install a Windows 10 operating system

Microsoft constantly makes updates to the Windows 10 operating system. Before installing a particular Windows 10 version, check the compatibility list for the Windows version. For details, go to <https://support.lenovo.com/us/en/solutions/windows-support>.

Attention:

- It is recommended that you update your operating system through official channels. Any unofficial update might cause security risks.
- The process of installing a new operating system deletes all the data on your internal storage drive, including the data stored in a hidden folder.

1. If you are using the Windows BitLocker Drive Encryption feature and your computer has a Trusted Platform Module, ensure that you have disabled the feature.
2. Ensure that the security chip is set to **Active**.
 - a. Restart the computer. When the logo screen is displayed, press F1 to enter the UEFI BIOS menu.
 - b. Select **Security** → **Security Chip** and press Enter. The **Security Chip** submenu opens.
 - c. Ensure that the security chip for TPM 2.0 is set to **Active**.
 - d. Press F10 to save the settings and exit.
3. Connect the drive that contains the operating system installation program to the computer.
4. Restart the computer. When the logo screen is displayed, press F1 to enter the UEFI BIOS menu.

5. Select **Startup** → **Boot** to display the **Boot Priority Order** submenu.
6. Select the drive that contains the operating system installation program, for example, **USB HDD**. Then, press Esc.

Attention: After you change the startup sequence, ensure that you select the correct device during a copy, a save, or a format operation. If you select the wrong device, the data on that device might be erased or overwritten.

7. Select **Restart** and ensure that **OS Optimized Defaults** is enabled. Then, press F10 to save the settings and exit.
8. Follow the on-screen instructions to install the device drivers and necessary programs.
9. After installing the device drivers, apply Windows Update to get the latest updates, for example the security patches.
10. Go to Microsoft Store to download and install the latest version of Lenovo Vantage.

Install device drivers

You should download the latest driver for a component when you notice poor performance from that component or when you added a component. This action might eliminate the driver as the potential cause of a problem. Download and install the latest driver by one of the following methods:

- Open Lenovo Vantage to check the available update packages. Select the update packages you want, and then follow the on-screen instructions to download and install the packages.
- Go to <https://pcsupport.lenovo.com> and select the entry for your computer. Then, follow the on-screen instructions to download and install necessary drivers and software.

Chapter 5. Help and support

Frequently asked questions

How do I access **Control Panel**? • Open the **Start** menu and tap **Windows System** → **Control Panel**.
• Use Windows Search.

How do I turn off my computer? Open the **Start** menu and tap **Power**. Then, tap **Shut down**.

How do I partition my storage drive? <https://support.lenovo.com/solutions/ht503851>

1. Press and hold the power button until the computer turns off. Then, restart the computer.
2. If step 1 does not work, insert a straightened paper clip into the emergency reset hole to cut off power supply temporarily. Then, restart the computer with ac power connected.

What do I do if my computer stops responding.



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.

What do I do if I spill liquid on the computer?

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. Wipe off liquids from screen as soon as possible. Any extended contact with computer screen could result in deformations and color fading.

How do I enter the UEFI BIOS menu?

See “Enter the UEFI BIOS menu” on page 35.

How do I disable my trackpad?

1. Open the **Start** menu, and then tap **Settings** → **Devices** → **Touchpad**.
2. In the Touchpad section, turn off the **Touchpad** control.

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

Download from Lenovo Support Web site at <https://pcsupport.lenovo.com>.

Error messages

If you see a message that is not included in the following table, record the error message first, then shut down the computer and call Lenovo for help. See “Lenovo Customer Support Center” on page 45.

Message	Solution
0190: Critical low-battery error	The computer turned off because the battery power is low. Connect the ac power adapter to the computer and charge the batteries.
0191: System Security - Invalid remote change requested	The system configuration change has failed. Confirm the operation and try again.
0199: System Security - Security password retry count exceeded.	This message is displayed when you enter a wrong supervisor password more than three times. Confirm the supervisor password and try again.
0271: Check Date and Time settings.	The date or the time is not set in the computer. Enter the UEFI BIOS menu and set the date and time.
210x/211x: Detection/Read error on HDDx/SSDx	The storage drive is not working. Reinstall the storage drive. If the problem still exists, replace the storage drive.
<p>Note: This error indicates that the operating system or programs cannot create, modify, or delete data in the non-volatile system UEFI variable storage due to insufficient storage space after POST.</p> <p>The non-volatile system UEFI variable storage is used by the UEFI BIOS and by the operating system or programs. This error occurs when the operating system or programs store large amounts of data in the variable storage. All data needed for POST, such as UEFI BIOS setup settings, chipset, or platform configuration data, are stored in a separate UEFI variable storage. Press F1 after the error message is displayed to enter the UEFI BIOS menu. A dialog asks for confirmation to clean up the storage. If you select “Yes”, all data that were created by the operating system or programs will be deleted except global variables defined by the Unified Extensible Firmware Interface Specification. If you select “No”, all data will be kept, but the operating system or programs will not be able to create, modify, or delete data in the storage.</p> <p>If this error happens at a service center, Lenovo authorized service personnel will clean up the non-volatile system UEFI variable storage using the preceding solution.</p>	
Fan error. Press ESC to startup with limited performance.	The thermal fan might not work correctly. After the error message is displayed, press ESC within five seconds to start up the computer with limited performance. Otherwise, the computer will shut down immediately. If the problem still exists when you starts up next time, have your computer serviced.

Self-help resources

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

Resources	How to access?
Use Lenovo Vantage to:	
<ul style="list-style-type: none">Configure device settings.Download and install UEFI BIOS, drivers, and firmware updates.Secure your computer from outside threats.Diagnose hardware problems.Check the computer warranty status.Access <i>User Guide</i> and helpful articles.	<ul style="list-style-type: none">Open the Start menu and click Lenovo Vantage.Use Windows Search.
Product documentation:	
<ul style="list-style-type: none"><i>Safety and Warranty Guide</i><i>Setup Guide</i><i>This User Guide</i><i>Regulatory Notice</i>	Go to https://pcsupport.lenovo.com . Then, follow the on-screen instructions to 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 softwareDiagnostic solutionsProduct and service warrantyProduct and parts detailsKnowledge base and frequently asked questions	https://pcsupport.lenovo.com
Windows help information	<ul style="list-style-type: none">Open the Start menu and click Get Help or Tips.Use Windows Search or the Cortana® personal assistant.Microsoft support Web site: https://support.microsoft.com

CRU list

The following is a list of CRUs of your computer.

Self-service CRUs

- ac power adapter
- Power cord
- Lenovo Fold Mini Keyboard*
- Lenovo Mod Pen*
- Lenovo Pen Pro*
- Lenovo Powered USB-C Travel Hub*
- Nano-SIM-card tray*

* for selected models

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 following before you contact Lenovo:

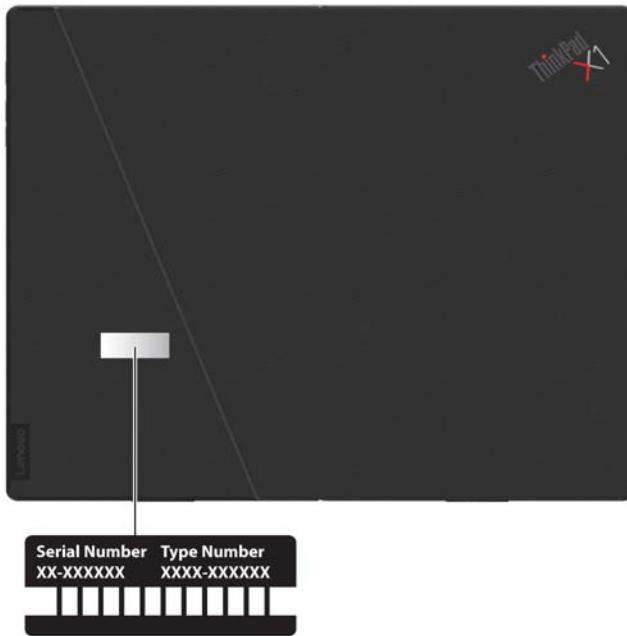
1. Record the problem symptoms and details:

- 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

The following illustration shows where to find the machine type and serial number of your computer.



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/supportphonelist> for the latest phone numbers.

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://www.lenovo.com/services>.

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

Appendix A. Accessibility and ergonomic information

This chapter provides information about accessibility and ergonomics.

Accessibility information

Lenovo is committed to providing users who have hearing, vision, and mobility limitations with greater access to information and technology. This section provides information about the ways these users can get the most out of their computer experience. You also can get the most up-to-date accessibility information from the following Web site:

<https://www.lenovo.com/accessibility>

Keyboard shortcuts

The following list contains keyboard shortcuts that can help make your computer easier to use.

Note: Depending on your keyboard, some of the following keyboard shortcuts might not be available.

- **Windows logo key + U:** Open Ease of Access Center
- **Right Shift for eight seconds:** Turn on or turn off Filter Keys
- **Shift five times:** Turn on or turn off Sticky Keys
- **Num Lock for five seconds:** Turn on or turn off Toggle Keys
- **Left Alt+Left Shift+Num Lock:** Turn on or turn off Mouse Keys
- **Left Alt+Left Shift+PrtScn (or PrtSc):** Turn on or turn off High Contrast

For more information, go to <https://windows.microsoft.com>, and then search using any of the following keywords: keyboard shortcuts, key combinations, shortcut keys.

Ease of Access Center

Ease of Access Center on the Windows operating system enables you to configure your computers to suit their physical and cognitive needs.

To access Ease of Access Center:

1. Go to **Control Panel** and view by Category.
2. Click **Ease of Access → Ease of Access Center**.
3. Choose the appropriate tool by following the on-screen instructions.

Ease of Access Center mainly includes the following tools:

- **Magnifier**
Magnifier is a useful utility that enlarges the entire screen or part of the screen so that you can see the items better.
- **Narrator**
Narrator is a screen reader that reads what is displayed on the screen aloud and describes events such as error messages.
- **On-Screen Keyboard**
If you prefer to type or enter data into your computer using a mouse, joystick, or other pointing device instead of a physical keyboard, you can use On-Screen Keyboard. On-Screen Keyboard displays a visual

keyboard with all the standard keys. You can select keys using the mouse or another pointing device, or you can tap to select the keys if your computer supports multi-touch screen.

- **High Contrast**

High Contrast is a feature that heightens the color contrast of some text and images on your screen. As a result, those items are more distinct and easier to identify.

- **Personalized keyboard**

Adjust keyboard settings to make your keyboard easier to use. For example, you can use your keyboard to control the pointer and make the keyboard easier to type certain key combinations.

- **Personalized mouse**

Adjust mouse settings to make your mouse easier to use. For example, you can change the pointer appearance and make your mouse easier to manage windows.

Speech Recognition

Speech Recognition enables you to control your computer by voice.

You can use verbal instructions to control the keyboard and mouse. With verbal instructions, you can start programs, open menus, click objects on the screen, dictate text into documents, and write and send e-mails.

To use Speech Recognition:

1. Go to **Control Panel** and view by Category.
2. Click **Ease of Access → Speech Recognition**.
3. Follow the on-screen instructions.

Screen-reader technologies

Screen-reader technologies are primarily focused on software program interfaces, help systems, and various online documents. For additional information about screen readers, see the following:

- Use PDFs with screen readers:

<https://www.adobe.com/accessibility.html?promoid=DJGVE>

- Use the JAWS screen reader:

<https://www.freedomscientific.com/Products/Blindness/JAWS>

- Use the NVDA screen reader:

<https://www.nvaccess.org/>

Screen resolution

You can make the text and images on your screen easier to read by adjusting the screen resolution of your computer.

To adjust the screen resolution:

1. Right-click a blank area on the desktop and then click **Display settings → Display**.
2. Follow the on-screen instructions.

Note: Setting a resolution too low might prevent some items from fitting on the screen.

Customizable item size

You can make the items on your screen easier to read by changing the item size.

- To change the item size temporarily, use the Magnifier tool in Ease of Access Center.
- To change the item size permanently:

- Change the size of all the items on your screen.
 1. Right-click a blank area on the desktop and then click **Display settings** → **Display**.
 2. Change the item size by following the on-screen instructions. For some applications, your configuration might not take effect until you sign out and then sign in again.
- Change the size of the items on a Web page.

Press and hold Ctrl, and then press the plus-sign key (+) to enlarge or the minus-sign key (–) to reduce the text size.
- Change the size of the items on the desktop or a window.

Note: This function might not work on some windows.

If your mouse has a wheel, press and hold Ctrl, and then scroll the wheel to change the item size.

Industry-standard connectors

Your computer provides industry-standard connectors that enable you to connect assistive devices.

Documentation in accessible formats

Lenovo provides electronic documentation in accessible formats, such as properly tagged PDF files or HyperText Markup Language (HTML) files. Lenovo electronic documentation is developed to ensure that visually impaired users can read the documentation through a screen reader. Each image in the documentation also includes adequate alternative text so that visually impaired users can understand the image when they use a screen reader.

Ergonomic information

Good ergonomic practice is important to get the most from your personal computer and to avoid discomfort. Arrange your workplace and the equipment you use to suit your individual needs and the kind of work that you perform. In addition, use healthy work habits to maximize your performance and comfort when using your computer.

Working in the virtual office might mean adapting to frequent changes in your environment. Adapting to the surrounding light sources, active seating, and the placement of your computer hardware, can help you improve your performance and achieve greater comfort.

This example shows someone in a conventional setting. Even when not in such a setting, you can follow many of these tips. Develop good habits, and they will serve you well.



General posture: Make minor modifications in your working posture to deter the onset of discomfort caused by long periods of working in the same position. Frequent short breaks from your work also help to prevent minor discomfort associated with your working posture.

Display: Position the display to maintain a comfortable viewing distance of 510 mm to 760 mm (20 inches to 30 inches). Avoid glare or reflections on the display from overhead lighting or outside sources of light. Keep the display screen clean and set the brightness to levels that enable you to see the screen clearly. Press the brightness control keys to adjust display brightness.

Head position: Keep your head and neck in a comfortable and neutral (vertical, or upright) position.

Chair: Use a chair that gives you good back support and seat height adjustment. Use chair adjustments to best suit your comfort posture.

Arm and hand position: If available, use chair arm rests or an area on your working surface to provide weight support for your arms. Keep your forearms, wrists, and hands in a relaxed and neutral (horizontal) position. Type with a soft touch without pounding the keys.

Leg position: Keep your thighs parallel to the floor and your feet flat on the floor or on a footrest.

What if you are traveling?

It might not be possible to observe the best ergonomic practices when you are using your computer while on the move or in a casual setting. Regardless of the setting, try to observe as many of the tips as possible. Sitting properly and using adequate lighting, for example, helps you maintain desirable levels of comfort and performance. If your work area is not in an office setting, ensure to take special note of employing active sitting and taking work breaks. Many product solutions are available to help you modify and expand your computer to best suit your needs. You can find some of these options at <https://www.lenovo.com/accessories>. Explore your options for docking solutions and external products that provide the adjustability and features that you want.

Questions about vision?

The visual display screens of notebook computers are designed to meet the highest standards. These visual display screens provide you with clear, crisp images and large, bright displays that are easy to see, yet easy on the eyes. Any concentrated and sustained visual activity can be tiring. If you have questions on eye fatigue or visual discomfort, consult a vision-care specialist for advice.

Appendix B. Compliance and TCO Certified information

This chapter provides regulatory, environmental, RoHS, and ENERGY STAR information about Lenovo products.

Certification-related information

Product name	Compliance ID	Machine types
• ThinkPad X1 Fold Gen 1 • ThinkPad X1 Fold Gen 1 5G	TP00122A	20RK and 20RL

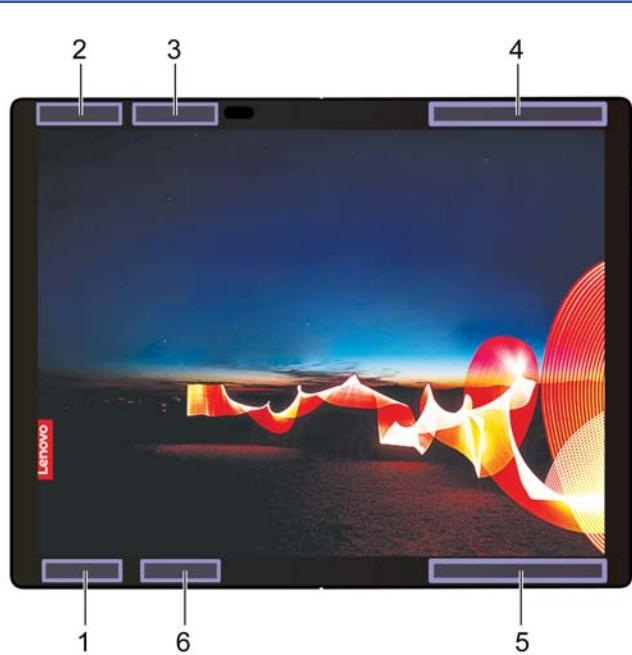
The latest compliance information is available at:

<https://www.lenovo.com/compliance>

Locate the UltraConnect wireless antennas

Your computer has an UltraConnect™ wireless antenna system. You can enable wireless communication wherever you are.

The following illustration shows the antenna locations on your computer:



- 1 Wireless LAN antenna (main)
- 2 Wireless LAN antenna (auxiliary)
- 3 Wireless WAN antenna (MIMO 1, for selected models)
- 4 Wireless WAN antenna (main, for selected models)
- 5 Wireless WAN antenna (auxiliary, for selected models)
- 6 Wireless WAN antenna (MIMO 2, for selected models)

Federal Communications Commission (FCC) Supplier's Declaration of Conformity

The following information refers to ThinkPad X1 Fold Gen 1, machine types: 20RK and 20RL.

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

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

Lenovo is not responsible for any radio or television interference caused by using other than recommended cables and connectors or by unauthorized changes or modifications to this equipment. Unauthorized changes or modifications could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Responsible Party:

Lenovo (United States) Incorporated
7001 Development Drive
Morrisville, NC 27560
Email: FCC@lenovo.com



FCC ID and IC Certification information

You can find the FCC and IC Certification information through one of the following methods:

- Through an electronic-label screen (E-label screen) preinstalled on your computer. To view the E-label screen, see "Regulatory labels" on page 53.
- On a physical label attached to the outside of your computer shipping carton.

Korea SAR statement

무선설비 전파 혼신 (사용주파수 2400~2483.5, 5725~5825 무선제품해당)

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Operating environment

Maximum altitude (without pressurization)

3048 m (10 000 ft)

Temperature

- Operating: 5°C to 35°C (41°F to 95°F)
- Storage and transportation in original shipping package: -20°C to 60°C (-4°F to 140°F)
- Storage without package: 5°C to 43°C (41°F to 109°F)

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

Relative humidity

- Operating: 10% to 90% at wet-bulb temperature 23°C (73°F)
- Storage and transportation: 10% to 90% at wet-bulb temperature 27°C (81°F)

Regulatory labels

Depending on your country or region, you can find the government-required regulatory information through one of the following methods:

- On a physical label attached to the outside of your computer shipping carton
- On a physical label attached to your computer
- Through an electronic-label screen (E-label screen) preinstalled on your computer

To access the E-label screen, restart the computer. When the logo screen is displayed, tap the prompt to enter the Startup Interrupt menu. In the **Startup Interrupt Menu** window, tap F9 to enter the Regulatory Information option.

Korean E-label notice

이 제품은 전자적표시(e-labelling)가 되어있습니다.

Appendix C. Notices and trademarks

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