

# Semi-Rugged Notebook PC

## S15 User's Manual



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# Before You Start

Congratulations on your purchase of this laptop.

This semi-rugged laptop is portable and provides users with maximum mobile computing experience in a wide range of working environments. Before you begin using your laptop, read this chapter to familiarize yourself with the main components installed in the system.

## Package Contents

If any of following items is damaged, please contact your retailer.



Laptop



Power cord



DC 19V 90W power adapter



Lithium battery pack



### NOTE

- These pictures are for reference only. Actual items may slightly differ.

# Product Overview

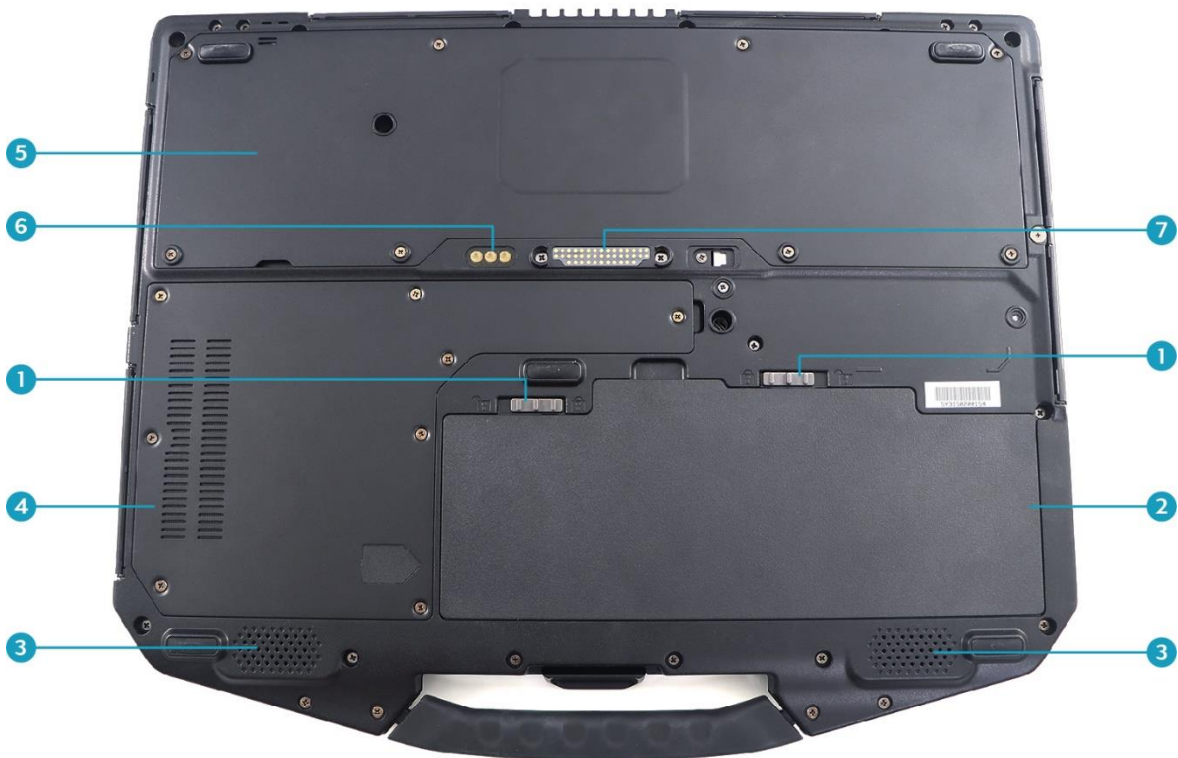
## Front View



No.	Item	Description
1	Microphones	Record the surrounding sound.
2	Web camera	Use for video conference.
3	Display screen	Provide visual output.
4	Programmable buttons	P1: Press to activate the assigned function. <ul style="list-style-type: none"> <li>- Stealth mode button.</li> <li>- Night Vision mode button (optional).</li> <li>- Shortcut key for launching specific application.</li> <li>- Disable (no function).</li> </ul> P2: Press to activate the assigned function. <ul style="list-style-type: none"> <li>- Shortcut key for launching specific application.</li> <li>- Disable (no function).</li> </ul>
5	Power button	Press to turn your laptop on or off.

No.	Item	Description
6	Keyboard	Press the keys to input information.
7	Touch pad	Use to point, select, drag, or scroll objects on the screen.
8	Touch pad button	Press to select objects or display a shortcut menu.
9	Fingerprint scanner (optional)	Scans fingerprints for biometric identification.
10	Device Indicators	Indicate the corresponding function status. (Power, Wireless, SSD, Caps Lock, Num lock, Battery)

## Back View

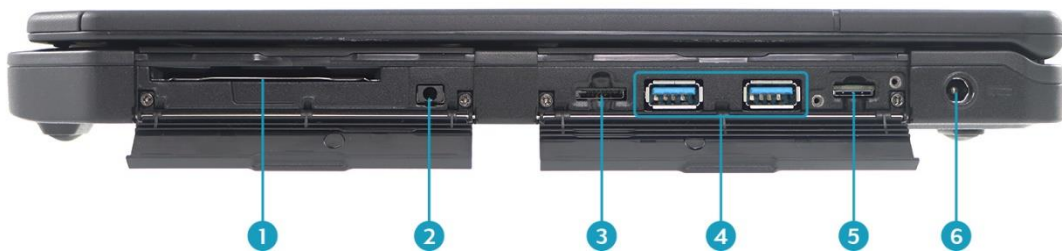


No.	Item	Description
1	Battery latch	Slide to the unlock position to release the battery.
2	Battery compartment	Install the battery.
3	Speakers	Emit sound.
4	Storage and memory compartment door	Remove the door to access storage and system memory.

## Before You Start

No.	Item	Description
5	Bottom cover for expansion box	Remove the cover to access the expansion box.
6	RF Pass-thru connectors (x3) (optional)	Use for the external antenna of WWAN, GPS, and WLAN.
7	Docking connector (optional)	Connects the Laptop to a docking station.

## Right View



No.	Item	Description
1	Smart card reader (optional)	Use to insert smart cards.
2	Earphone jack	Connect headphones or external speakers.
3	Memory card reader	Use to insert memory cards to transfer pictures, music, and data between your laptop and flash compatible devices. The card reader supports microSDXC.
4	USB 3.2 (type A) ports (x2)	Connect USB 3.2 (Gen.2) peripheral devices.
5	SIM card slot	Use to insert a nano SIM card for WWAN module connection.
6	DC-in jack	Connect the power adapter.



# Left View



No.	Item	Description
1	Kensington lock slot	Connect to a Kensington-compatible Laptop security lock.
2	Media bay (optional)	Varies depending on SKU: <ul style="list-style-type: none"><li>• Optical disk drive</li><li>• Third storage option</li></ul>

# Rear View









No.	Item	Description
1	RJ-45 port	Connect to a local area network (LAN) using an ethernet cable.
2	USB 3.2 (type C) port x1	Connect USB 3.2 (Gen2) peripheral devices.
3	Thunderbolt 4 x 1	Connect Thunderbolt 4 peripheral devices.
4	HDMI output port	Connect an HDMI device such as an external HDMI LCD TV.
5	VGA port	Connect to a display device such as an external monitor or a projector.
6	RS-232 port	Connect a serial peripheral device.

# Status Indicators

The status indicators light up when a particular function of the laptop is active. Each indicator is marked with a symbol.



Icon	Item	Description
	<b>Power</b>	The LED always lights on (blue) when the system is running. When the system is in standby mode, the LED blinks. When the system is off or in hibernate mode, the light is off.
	<b>RF</b>	Indicate the status of RF (WLAN, Bluetooth, or WWAN/GPS) communication. The LED always lights on (blue) when the function is enabled.
	<b>Storage</b>	A blinking storage LED indicates SSD activity (data is being read or written).
	<b>Num Lock</b>	Lights on when Num Lock is activated.
	<b>Caps Lock</b>	Lights on when Caps Lock is activated.
	<b>Battery</b>	<p>Indicate the battery status:</p> <ul style="list-style-type: none"> <li>• Green light means the battery is fully charged or the battery capacity higher than 95%.</li> <li>• Orange light means the battery is being charged.</li> <li>• Blinking orange light means the battery cannot be fully charged over 8 hours of charging in regular charging mode.</li> <li>• Blinking red light means the battery power is low (less than 7%).</li> <li>• When the light is off it means the battery is discharging.</li> </ul>

# Getting Started

This chapter will help you get started using the device.

## CAUTION!

***Before any internal installation procedures are carried out on the system, make sure the system is turned off and cooled down for 5 minutes. Failing to turn off the system before opening it can cause permanent damage to the system and serious or fatal injury to the user.***

## Installing the Battery

To install the battery, follow the steps below:

1. Align and insert the battery into the battery compartment.



## Getting Started

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2. Push completely until the battery locks into place.
3. Slide the latch to the lock position (🔒) to secure the battery.



## Charging the Battery

The Lithium-ion battery is not fully-charged upon purchase.

To charge the battery, follow the steps below:

1. Install the battery to your device. See procedures above.
2. Connect the AC adapter to the DC-in jack of your device.
3. Connect the AC adapter to the power cord.
4. Plug the power cord to an electrical outlet.

## Charging Time

It takes approximately 3.5 hours to fully charge the battery.



### NOTE

- The charging time may be longer if you are using your laptop while charging the battery.

### CAUTION!

- **DO NOT charge the battery if the temperature is below 0°C or higher than 50°C.**
- **Use only the supplied AC adapter. Using other AC adapters may damage the battery or your laptop.**

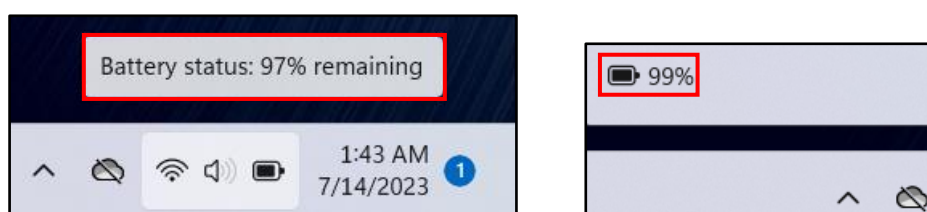
**ATTENTION!**

- **NE PAS charger la batterie si la température est inférieure à 0° C ou supérieures à 50° C.**
- **Utilisez uniquement l'adaptateur secteur fourni. L'utilisation d'autres adaptateurs secteur peut endommager la batterie ou de votre tablette PC.**

## Checking the Battery Level

It is important that you monitor the battery status regularly to ensure you do not run out of power at a critical moment.

To check the remaining battery power, hover the cursor over the battery icon (🔋) in the system tray or click on it to see the battery percentage in the Quick Settings menu.



## When to replace the Battery Pack

The battery performance gradually decreases over time and usage. We recommend you replace your battery pack 18 to 24 months after purchase.

## Removing the Battery

To remove the battery, follow the steps below:

1. Slide the battery latch to the unlock position (🔓).



2. Remove the battery out of the battery compartment.



# Using the Optical Disc Drive (ODD)

You can use the optical disc drive (ODD) to play or record DVD or CD disc.

## Placing a Disk

To place a disk, follow the steps below:

1. Open the ODD cover.



2. Press the **Eject** button to eject the tray.



3. Place the disc on the tray.
4. Close the disc tray.

# Manual Ejection

If the **Eject** button fails to work properly, insert a paper clip into the **Pin Hole Eject** to open the tray.



### NOTE

- Be sure that the laptop is turned off before performing the manual ejection.
- ODD is an optional accessory.

# Using Storage Drives

## Replacing the SSD #1

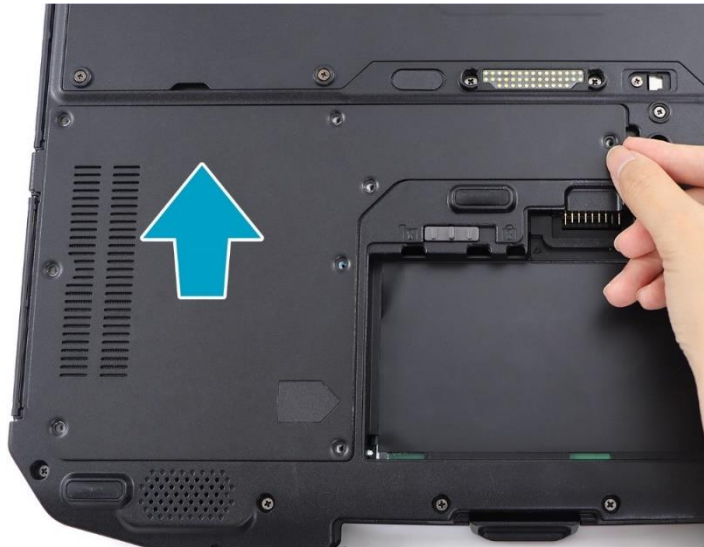
To replace the SSD #1, follow the steps below:

1. Remove the eight (8) screws securing the storage and memory compartment door to the device.





2. Remove the storage and memory compartment door from the system.



3. Remove the screw securing the SSD #1 module to the mainboard.



4. Disconnect the SSD #1 module from the mainboard connector.



## Getting Started

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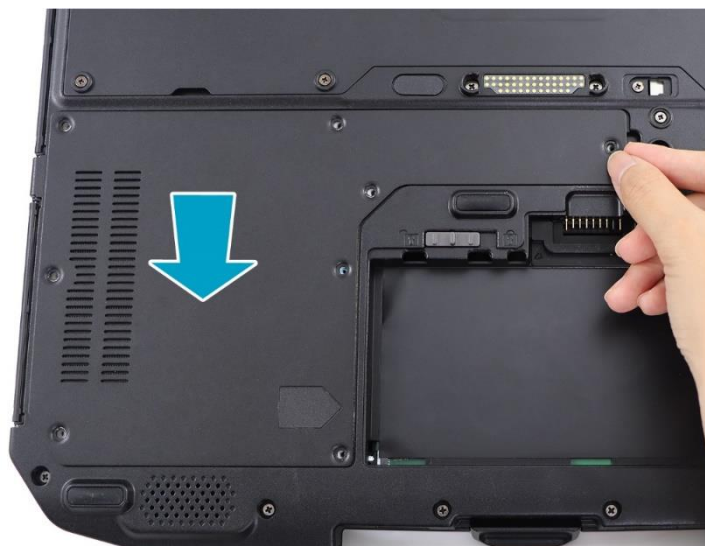
5. Connect the new SSD #1 module to the mainboard connector.



6. Attach the screw to secure the SSD #1 module to the mainboard.



7. Replace the storage and memory compartment door to the system.



8. Attach the eight (8) screws to secure the storage and memory compartment door to the device.



## Replacing the SSD #2

To replace the SSD #2, follow the steps below:

1. Remove the eight (8) screws securing the storage and memory compartment door to the device.



## Getting Started

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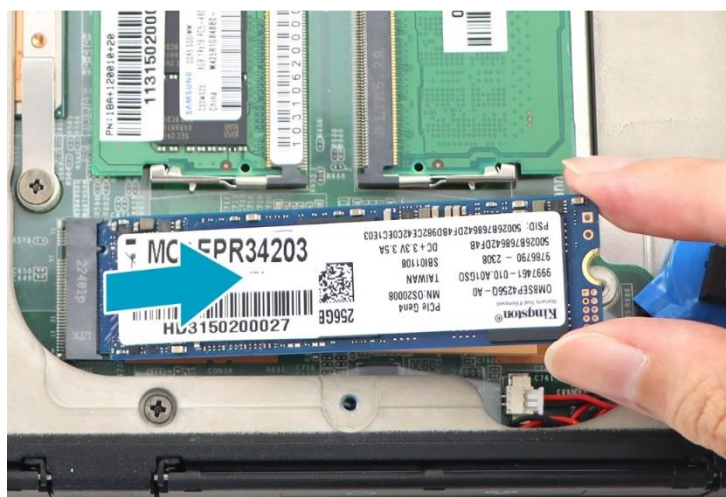
2. Remove the storage and memory compartment door from the system.



3. Remove the screw securing the SSD #2 module to the mainboard.



4. Disconnect the SSD #2 module from the mainboard connector.



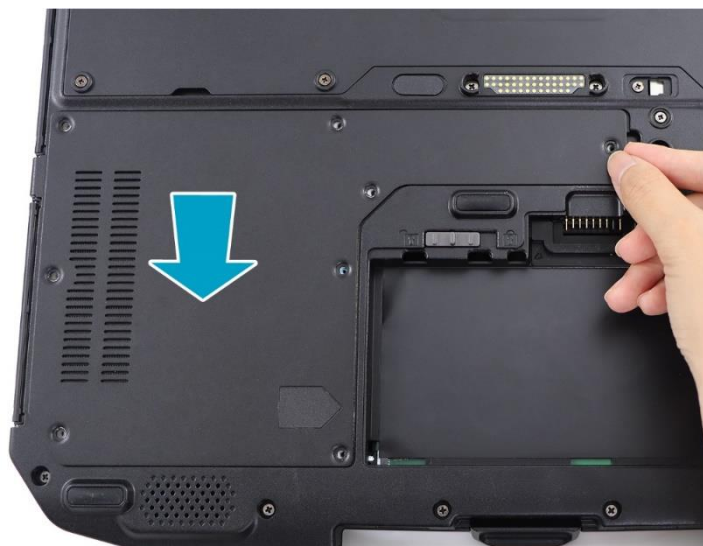
5. Connect the new SSD #2 module to the mainboard connector.



6. Attach the screw to secure the SSD #2 module to the mainboard.



7. Replace the storage and memory compartment door to the system.



## Getting Started

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8. Attach the eight (8) screws to secure the storage and memory compartment door to the device.



- SSD #2 is an optional feature.

# Connecting to Power

Your laptop can be powered up using the AC adapter or the lithium-ion battery.

## Connecting the AC Adapter

The AC adapter powers up your laptop and charges the battery.



1. Connect the AC adapter to the DC-in jack on your laptop.
2. Connect the AC adapter to the power cord.
3. Plug the power cord into an electrical outlet.

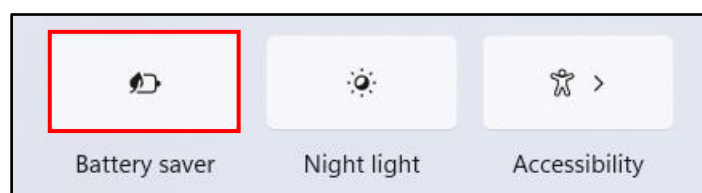
## Using Battery Power

1. Install the charged battery in the battery compartment.
2. Remove the AC adapter (if plugged in). Your laptop will automatically use the battery power.



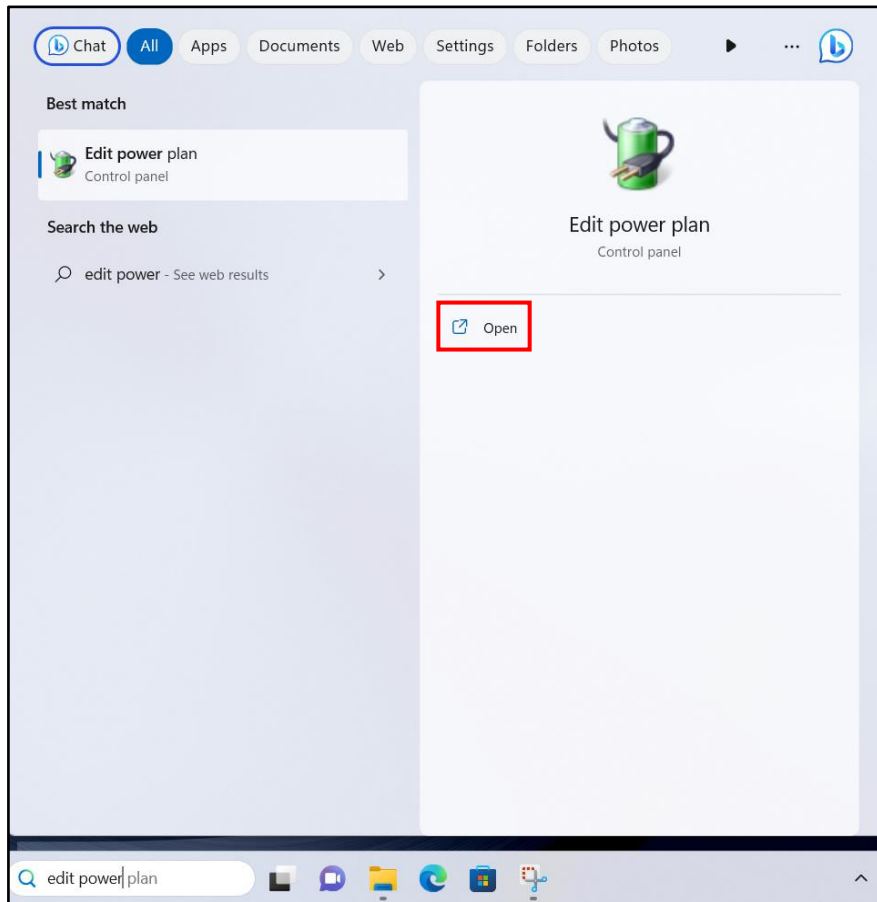
### NOTE

- If you are using the laptop with the battery power for the first time, be sure that the battery is fully charged before you operate the laptop.
- To use the battery power more effectively, enable the Battery saver option in the Quick Settings menu.

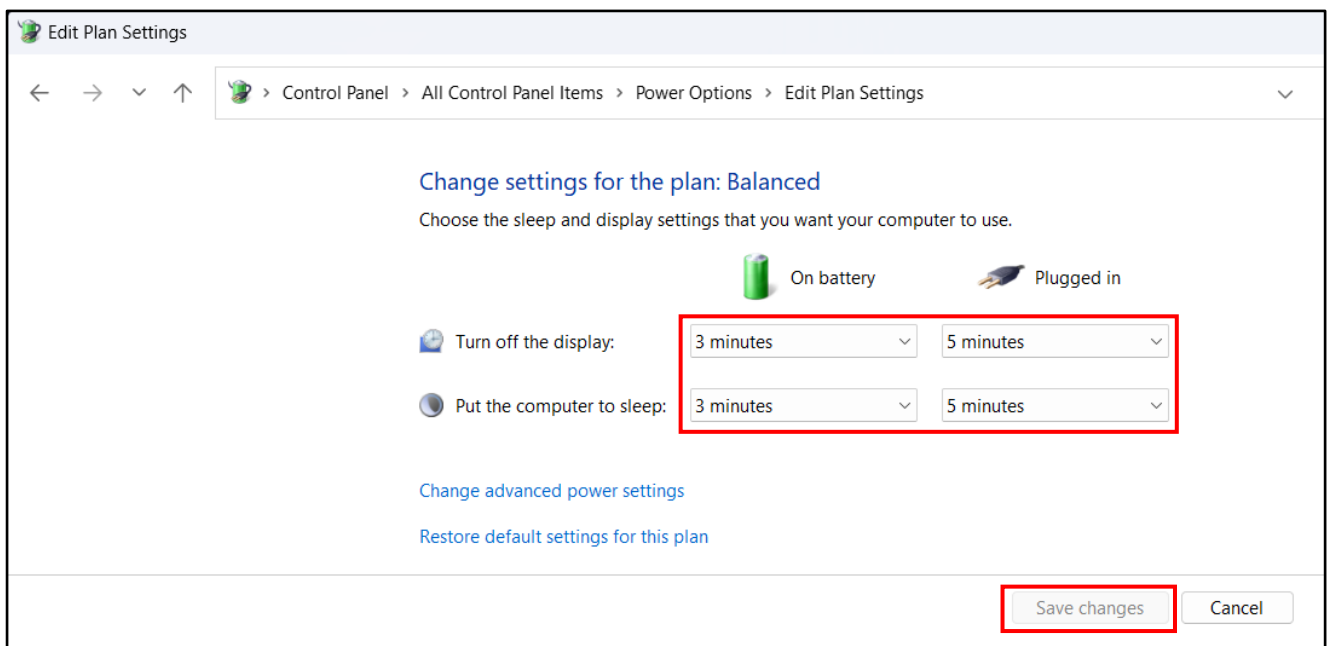


# Configuring the Power Settings

1. Search for "Edit power plan". Then click **Open**.



2. Change the desired sleep and display settings. Then click **Save changes**.






# Starting Your Laptop

## Turning On Your Device



1. To open the display panel, lift the cover lid up to upright position.



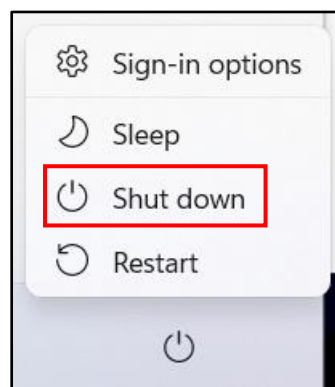
2. Press the  button until the Power LED lights up.

## Turning Off Your Device

It is important to properly shut down your laptop to avoid the loss of unsaved data. To shut down your laptop, do the following:

Click  >  > **Shut down**.

Wait for your laptop to turn off power completely before removing the power source (if necessary).



# Using the Keyboard

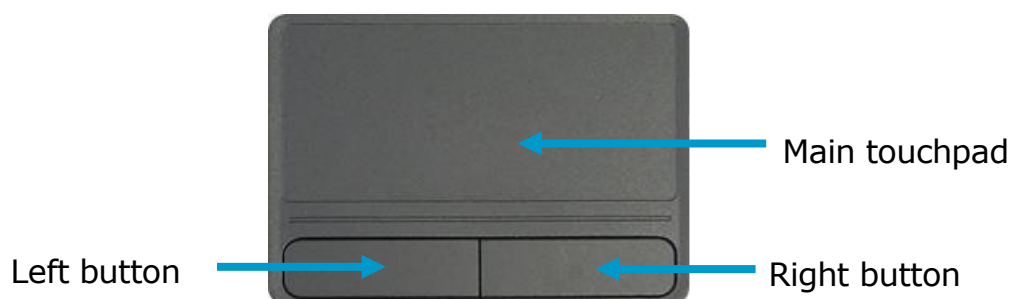


No.	Keys	Description
1	Function keys	These function keys are used to perform designated tasks. The tasks for each key may vary from one application to another.
2	[Fn]	Press the [Fn] key in combination with other keys to execute a command.
	[Fn] + F1	Toggles the screen backlight on/off.
	[Fn] + F2	Toggles between PC screen only, Duplicate, Extend, or Second screen only.
	[Fn] + F3	Switches to suspend mode.
	[Fn] + F6	Decreases the brightness level.
	[Fn] + F7	Increases the brightness level.
	[Fn] + F8	Decreases the volume by one level.
	[Fn] + F9	Increases the volume by one level.
	[Fn] + F10	Turns on or mutes the volume.
	[Fn] + F11	Turns the airplane mode to on/off.
	[Fn] + Alt	Toggles the touch pad to on/off.
[Fn] + (Left) Shift	Toggles keyboard backlight on/off (optional, not available if BIOS setting backlit timer is set to "Off").	

No.	Keys	Description
3	Windows key	Press to display the <b>Start</b> menu. This action is the same as clicking the Start icon.
4	Numeric keypad	Press the <b>Num Lock</b> key to activate the numeric keypad. Press the keys on the numeric keypad to enter numbers or operands as you would on a calculator.

## Using the Touch Pad

The touch pad is a cursor-pointing device that provides all the features of a two-button mouse. Its primary function is to move the cursor around the screen. You can also point, select, or drag items or objects on the screen.



### Point

Slide your finger on the touch pad to point the cursor to an item or object on the screen.

### Click

To left-click, move the cursor to the item or object on the screen, then lightly tap the touch pad or press the left button.

To right-click, move the cursor to the item or object on the screen, then press the right button.

### Double-click

To double-click, move the cursor to the item or object on the screen, then tap the touch pad twice or press the left button twice.

### Drag

To drag an item or object, press and hold the left button then slide your finger on the touch pad to move the item or object.


### Scroll

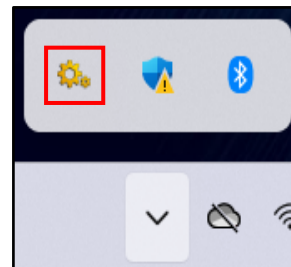
To scroll through a page, press and hold the left button, then slide your finger on the touch pad to scroll.

# Operating Your Laptop

This chapter will guide you through how to use your laptop.

## Using the Quick Menu


To enter the Quick menu, tap the arrow in the system tray to display hidden icons. Then tap the Quick Menu icon (  ).



## Quick Menu Overview

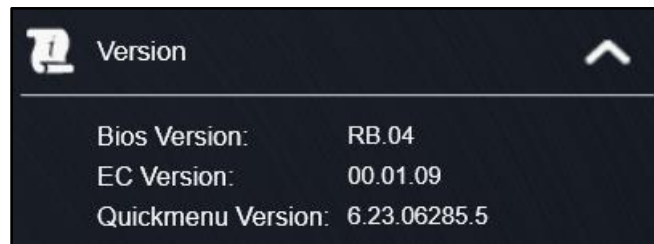


### NOTE

- If the tab is green (i.e.  ), this indicates the current function is activated.

## Viewing the Version Information

On the **Version** section, you can view the Bios version, EC version, and Quick Menu version.



## Viewing the Battery Charge Cycles

On the **Battery Charge Cycles** section, you can view the battery charge cycle and battery status.



## Battery Charging Protection Setting

On the **Battery Charging Protection Setting** section, select the protection setting.

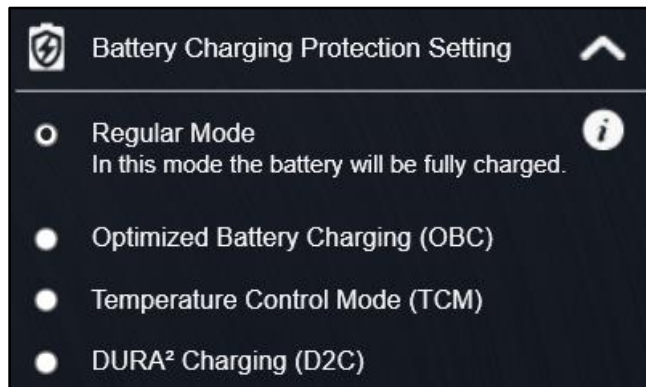


### NOTE

- Tap ⓘ to view a detailed description of each battery charging protection mod.

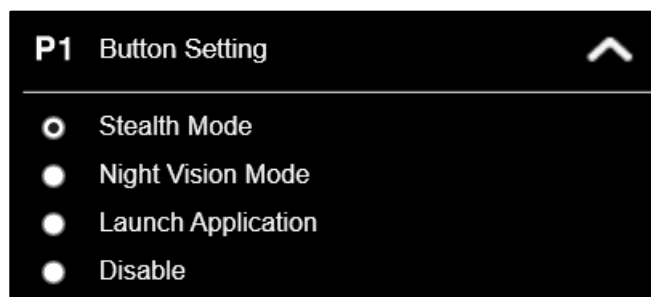
There are four available options:

- **Regular Mode:** In this mode the battery will be fully charged.
- **Optimized Battery Charging (OBC):** Battery charging will stop at 80% to reduce battery aging.
- **Temperature Control Mode (TCM):** To extend the lifetime of the battery, charging is enhanced based on DURABOOK intelligent algorithm and battery temperature.
- **DURA<sup>2</sup> Charging (D2C):** To maximize battery performance and lifespan, charging is enhanced based on DURABOOK intelligent algorithm and battery temperature. Battery charging will stop at 80%.



## Configuring the Programmable Button (P1)

On the **P1 Button Setting** section, you can assign the function for the **P1** button.



There are three available options:

- **Stealth Mode:** Turn off the LCD backlight, LEDs, speakers, camera flash, and RF devices.
- **Night Vision Mode:** Adjusts the brightness of the LCD under 1.7 nits and turns off the LEDs and camera flash.

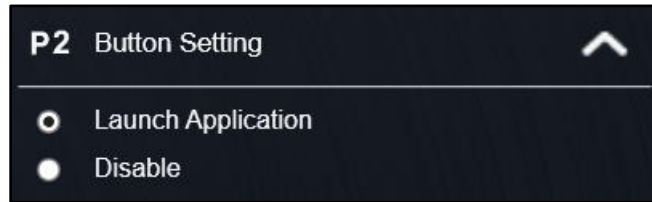


### NOTE

- Night vision mode is available only for sunlight readable display.
- **Launch Application:** Shortcut key for launching a specific application. To assign the application, refer to the "Assigning an Application to the P1/P2 Button" section.
- **Disable:** No function.

## Configuring the Programmable Button (P2)

On the **P2 Button Setting** section, you can assign the function for the **P2** button.

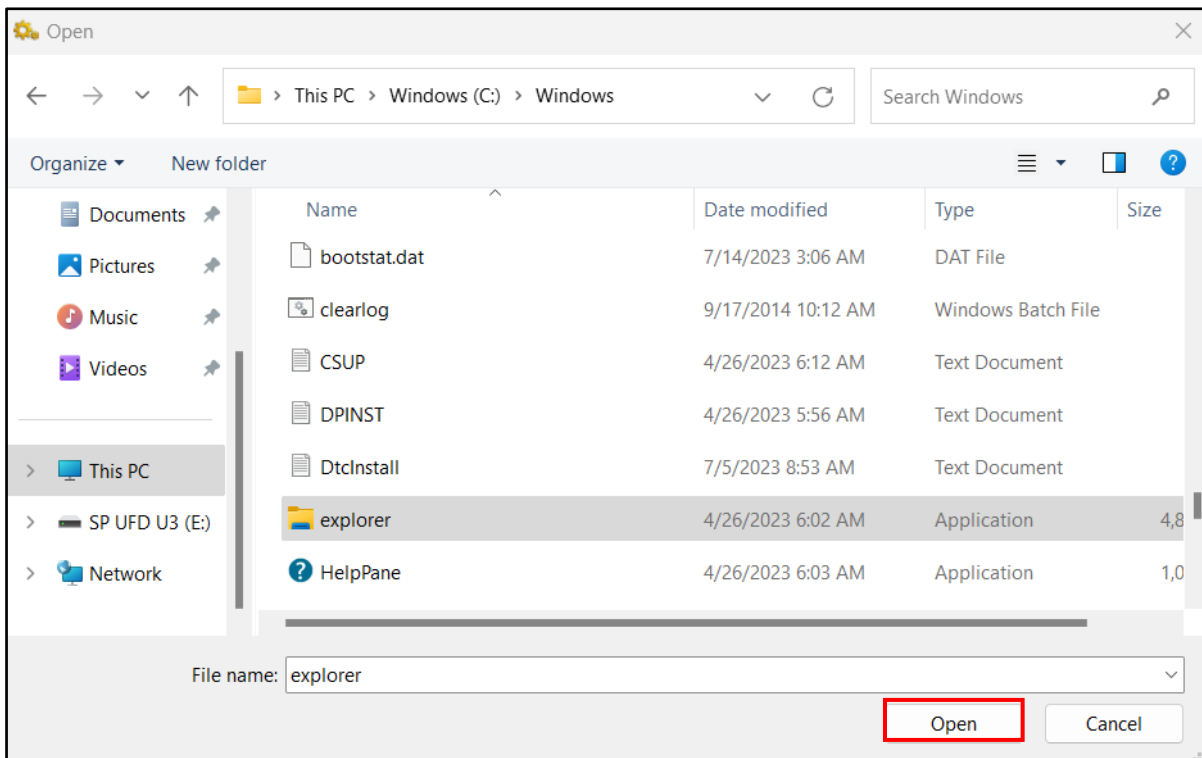


There are three available options:

- **Launch Application:** Shortcut key for launching a specific application. To assign the application, refer to the "Assigning an Application to the P1/P2 Button" section.
- **Disable:** No function.

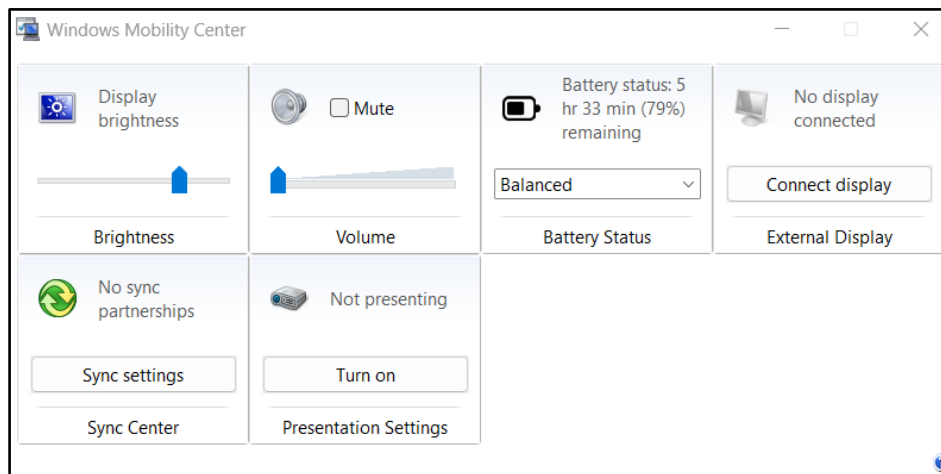
## Assigning an Application to the P1/P2 Button

Tap the **P1-Key** or **P2-Key** tab to assign an application to the **P1** or **P2** button respectively. Select the desired application and click **Open**.



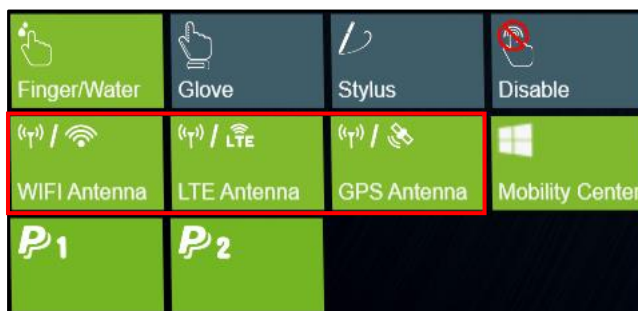
## Accessing the Mobility Center

Tap the **Mobility Center** tab to adjust or configure the brightness, volume level, battery status, external display, sync, and presentation settings.



## Configuring External Antenna Switching Mode

Select the respective external antenna tab to configure the setting.



- Tap the **WIFI Antenna** tab to enable/disable the device to automatically switch to the external WLAN antenna when it is affixed on a docking station.
- Tap the **LTE Antenna** tab to enable/disable the device to automatically switch to the external WWAN antenna when it is affixed on a docking station.
- Tap the **GPS Antenna** tab to enable/disable the device to automatically switch to the external GPS antenna when it is affixed on a docking station.



### NOTE

- If the tab is green, this indicates the current function is activated.

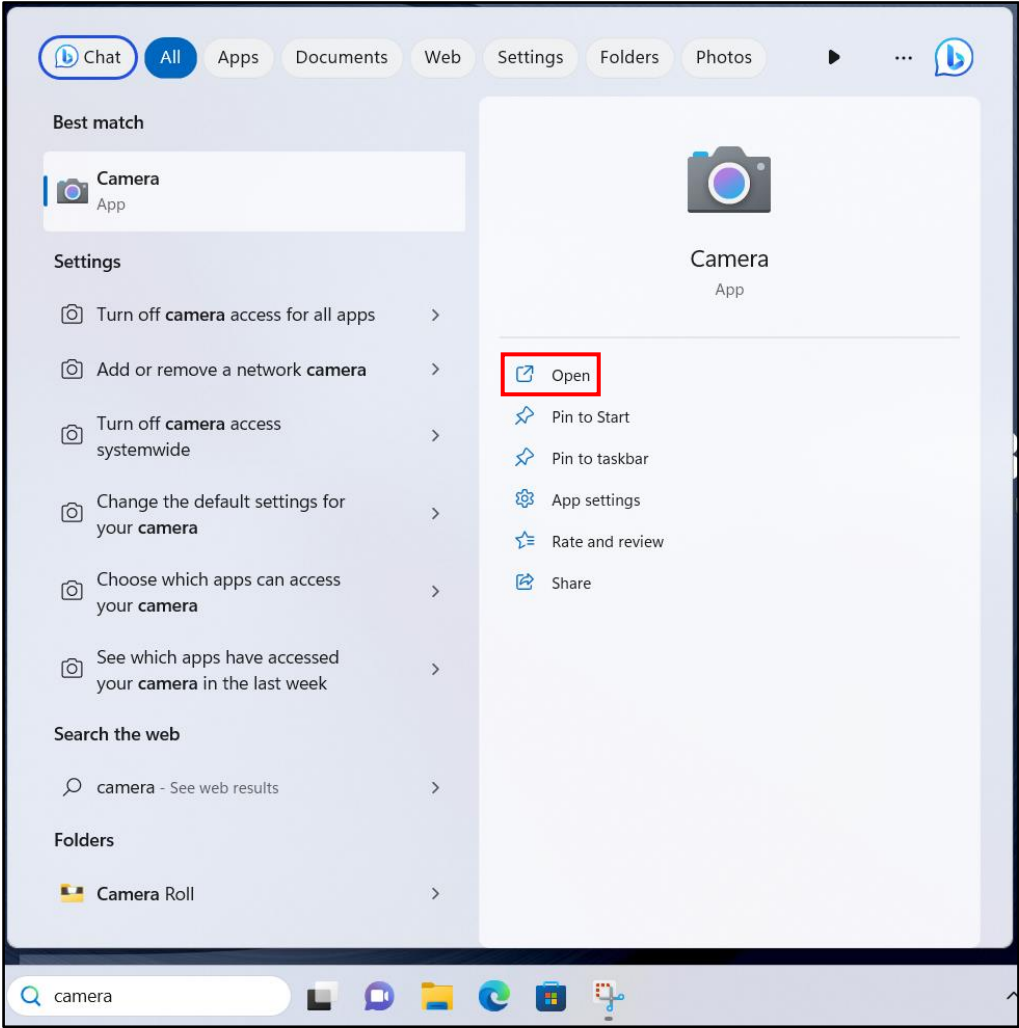


# Using the Camera

Using the camera application, you can use this laptop to take photos or videos.

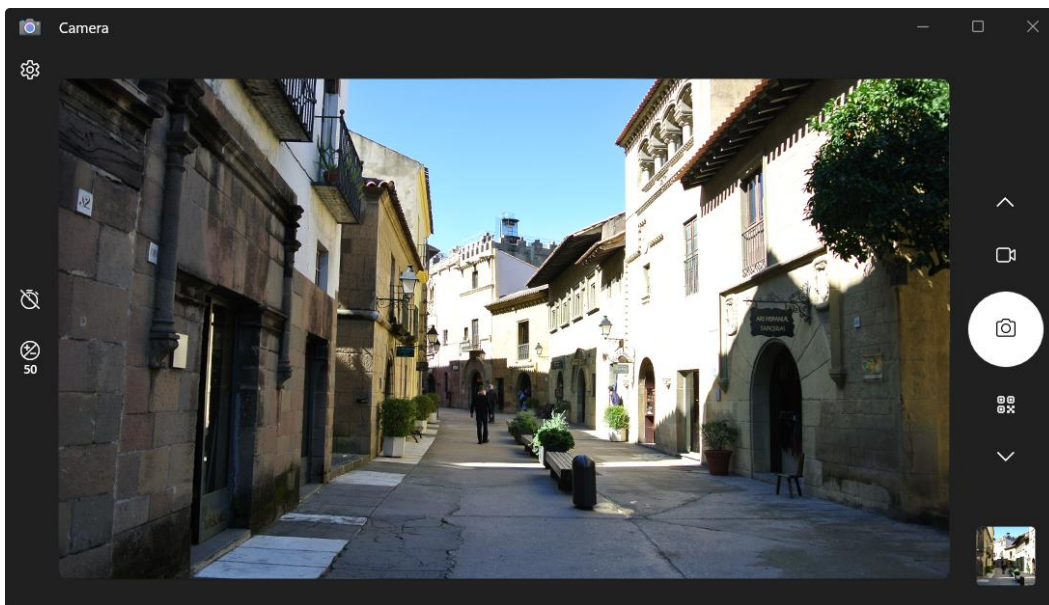
## Opening Camera App

To access the camera application, search for "Camera" and then click **Open**.



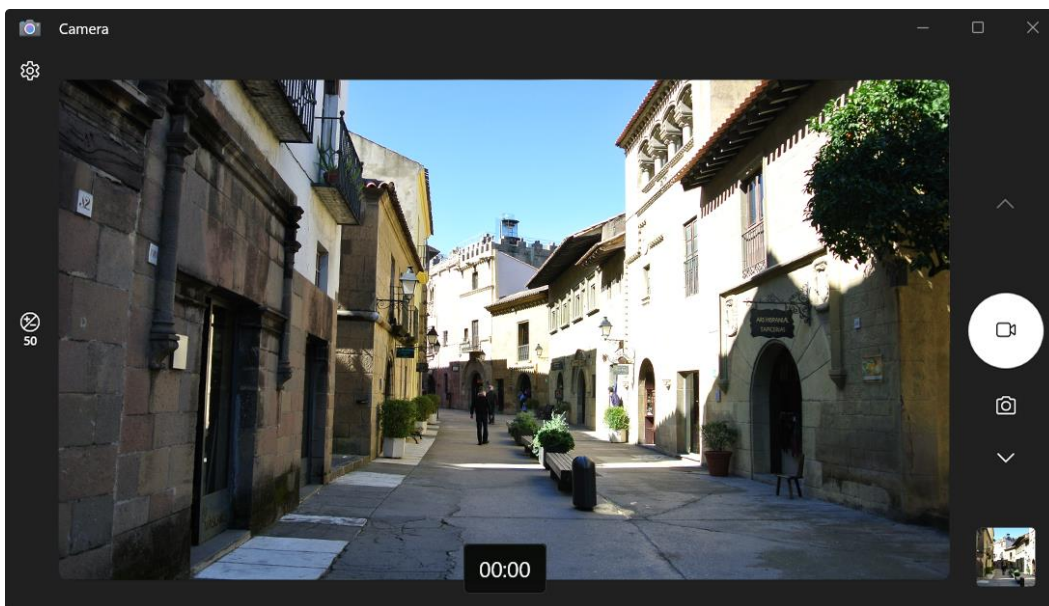
## Taking Photos

Click  to capture a photo.




## Recording Videos

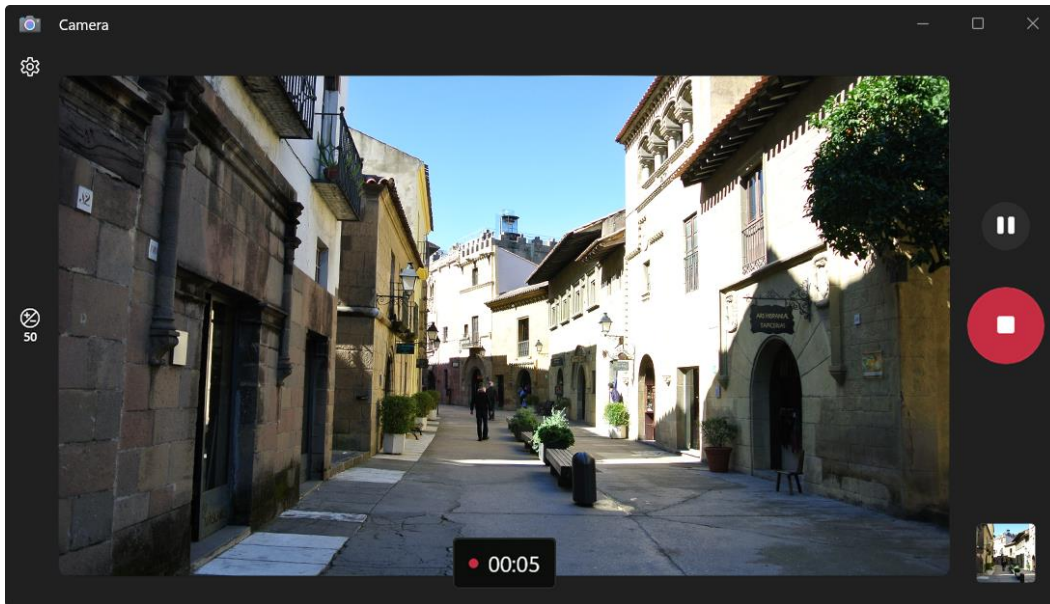
1. Click  to switch to Video mode.






### NOTE



- You can also toggle / to switch to Video mode.

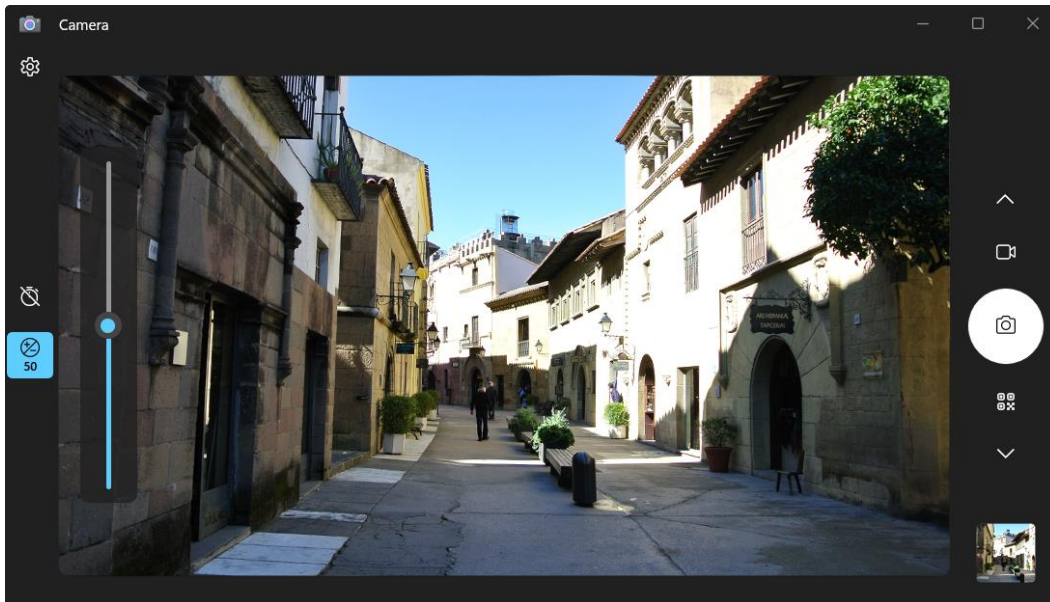
2. Click  to start recording a video, as shown on the previous page. The recording time appears on the bottom of the screen.
3. During the video recording, you can do the following:




- Click  to pause the recording. Then click  to resume.
- Click  to stop recording the video.


## Adjusting Brightness





1. Click  to display the brightness control slider.
2. Do the following:
  - Click and drag  upwards to brighten your photo or video.




- Click and drag  downwards to darken your photo or video.




## Setting Photo Timer

Click  to toggle the desired time delay.

- : Self-timer is off
- : 2-second self-timer
- : 5-second self-timer
- : 10-second self-timer

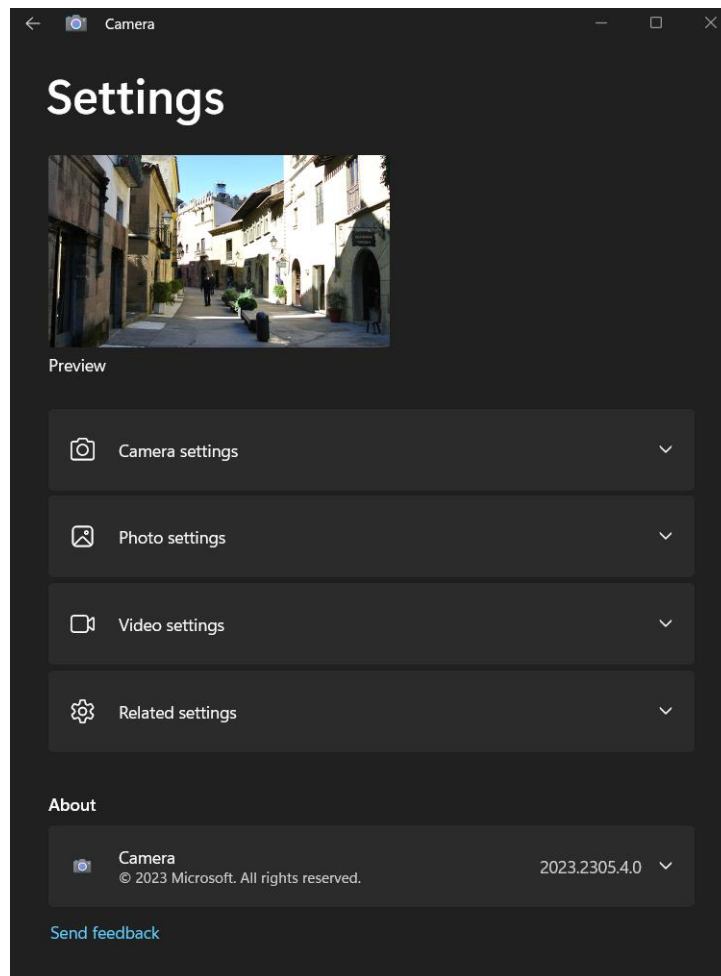
## Switching Between Modes

Tap on your preferred shooting mode. If the mode is not visible, tap  to see more shooting modes:

- : Record a video.
- : Take a photo.
- : Scan a barcode (if supported).

# Configuring Camera Settings

1. Click  to enter the Settings menu.

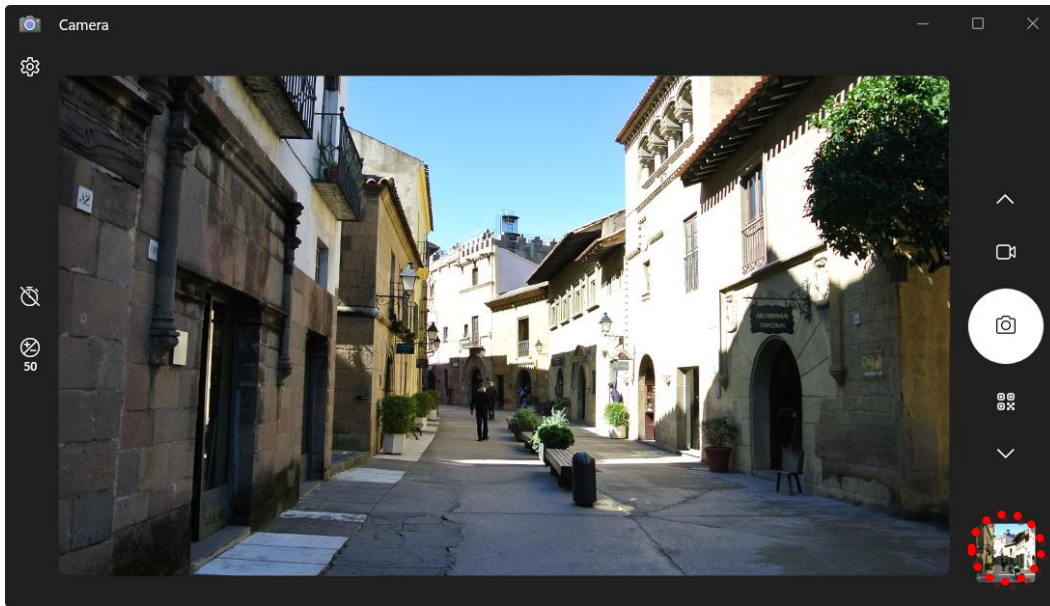


2. Select the desired menu option and setting.

Menu Option	Description
<i>Camera settings</i>	
Show advanced controls for photos and videos	Enable or disable to show advanced controls for photos and videos.
Framing grid	Show or hide the framing grid lines.
Default settings	Select between custom in-app settings and system settings. These settings apply to the Camera app at the start of each session.
Open camera system settings/open audio system settings	Open Windows settings for configuring camera or adjusting audio respectively.
Menu Option	Description
<i>Photo settings</i>	
Photo quality	Select the aspect ratio of the photos.
Time lapse	Enable or disable taking photos continuously until the camera button is pressed again.
<i>Videos settings</i>	
Video quality	Set the video resolution.
Flicker reduction	Select the flicker reduction setting when recording video under fluorescent light.
<i>Related settings</i>	
Choose whether camera can use location info, change privacy settings, or try out experimental features.	
<i>About</i>	
Camera	Check the camera version and read the related regulatory information.
Send feedback	Send feedback about the Camera app.

## Viewing Photos/Videos

After taking a photo or recording a video, click the thumbnail (in the bottom-right corner) to view the most recent photo or video taken.



Swipe right to see other photos or videos in your collection.

# Making Connections

This chapter will guide you through installing peripheral devices to maximize the use of your laptop.

## Installing the Memory Card

Your laptop supports memory card to provide faster data transfer.

Supported types: MicroSDXC.

To insert a MicroSD memory card:

1. Open the I/O port cover.
2. Push the memory card into the memory card slot until it clicks into place.



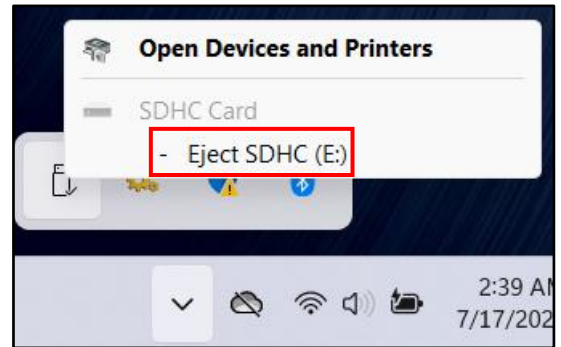
3. Close the I/O port cover.

# Removing the Memory Card

It is important to remove the memory card properly. Improper removal may cause the data in the memory card to be corrupted and your laptop to malfunction.

To properly remove the memory card, follow the steps below:

1. Click the removable disk icon on the system tray.
2. Click **Eject SDHC (E)**. The system confirms that the device can be safely removed.
3. Open the I/O port cover.
4. Push the memory card to eject it.
5. Pull the card out from the slot.
6. Close the I/O port cover.



# Using the SIM Card

You can use nano SIM card for wireless internet access.



## NOTE

- Check the availability of service and data plan rates with your network service provider.

To insert a nano SIM card:

1. Open the I/O port cover.
2. Remove the two (2) screws securing the nano SIM card slot cover to the device.
3. Remove the nano SIM card slot cover.



4. Push a valid nano SIM card into the slot until it clicks into place.



5. Close the I/O port cover.



## Using the Smart Card Reader

Your laptop is equipped with an optional built-in smart card reader that allows you to make secure purchases, store security information, and provide identification and information using a smart card.

1. Open the I/O port cover.
2. Insert a smart card into the smart card reader slot.

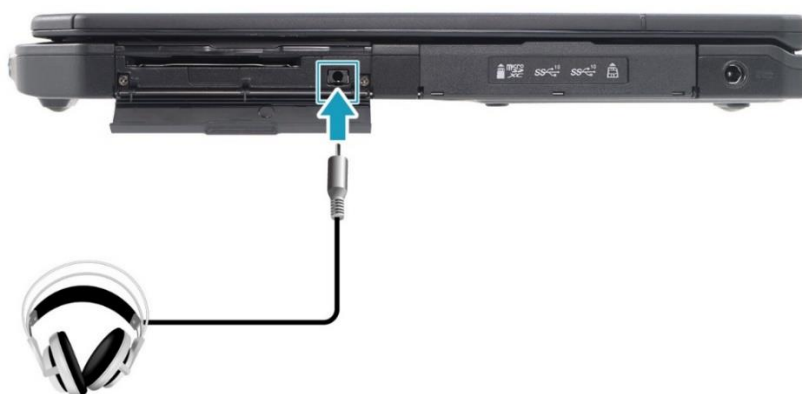


3. Close the I/O port cover.

## Connecting the Microphone/Headset

Your laptop is equipped with an audio combo jack that enables you to use a headset or microphone.

1. Open the I/O port cover.
2. Plug the stereo headphones cable into the audio combo jack of your device.

**DURABOOK****NOTE**

- A headset and microphone are not included in the package for this device. They are sold separately.

# Connecting USB Devices

You can connect your laptop to other USB devices, such as a mouse, keyboard, digital camera, printer, or an external storage drive.

1. Open the I/O port cover.
2. Connect one end of the USB cable to the USB port of your device or connect the device directly to the USB port.



3. Connect the other end of the cable to the USB device (if necessary).



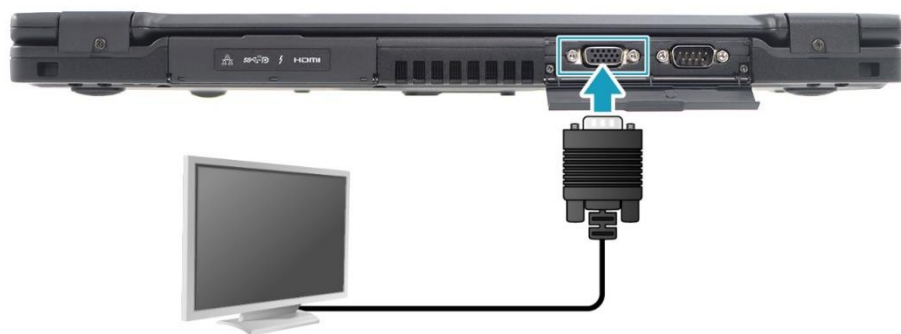
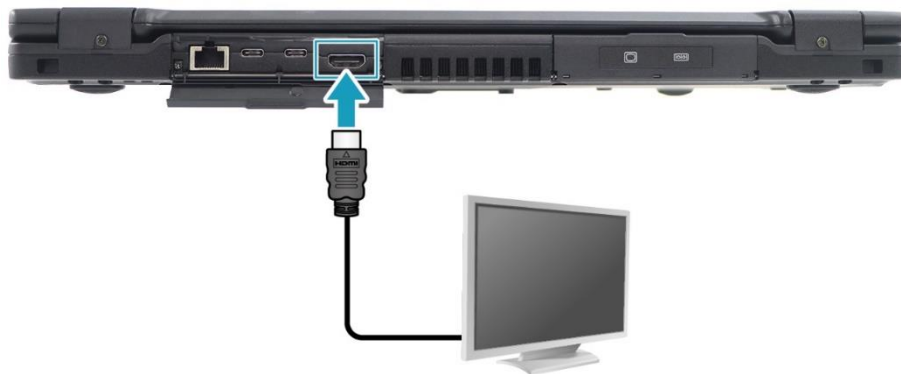
## **NOTE**

- A USB cable is not included in the package. It is sold separately, or it may come with your USB device.

# Connecting to External Displays

You can connect an additional display to your laptop by using the HDMI or VGA cable.

1. Open the I/O port cover.
2. Connect one end of the HDMI, VGA, or USB type-C cable to the HDMI, VGA, or USB type-C port of your device.



3. Connect the other end of the cable to the external display.



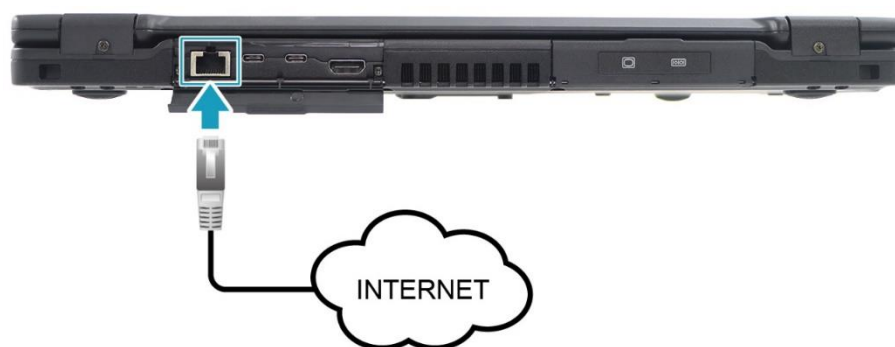
## NOTE

- An HDMI cable, VGA cable, and USB type-C cable is not included in the package for this device. They are sold separately.

# Connecting to a Local Area Network (LAN)

You can connect your laptop to a local area network (LAN) using the ethernet cable.

1. Open the I/O port cover.
2. Connect one end of the ethernet cable to the RJ-45 port on your laptop.



3. Connect the other end of the ethernet cable to the router.

 **NOTE**

- An ethernet cable is not included in the package. It is sold separately.

# Connecting to Wireless Connections

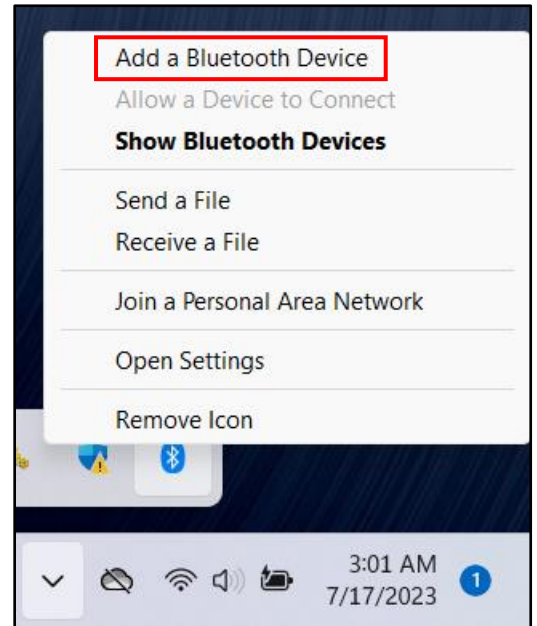
You can connect your laptop to a Bluetooth device, wireless local area network (WLAN), or WWAN.

## Connecting to a Bluetooth Device

Your laptop can connect and communicate with other Bluetooth-enabled devices. By default, the Bluetooth function is enabled.

To add a device, follow the steps below:

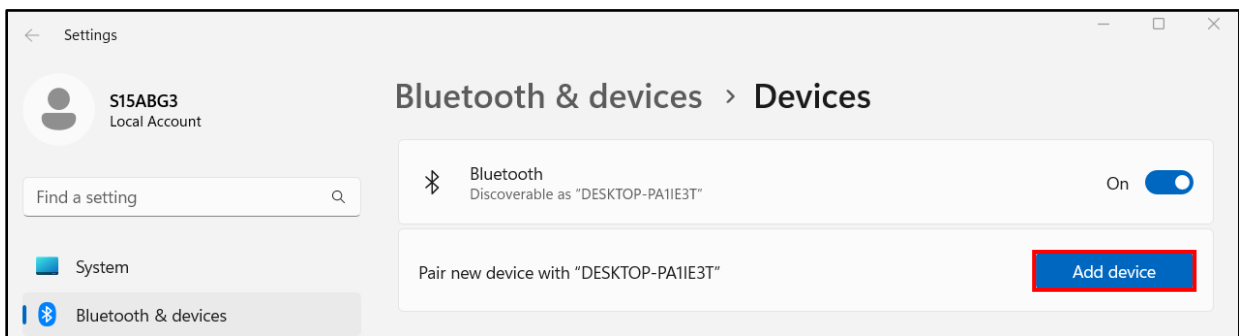
1. Click the arrow in the system tray to display hidden icons. Then tap the Bluetooth icon (🔵).
2. Click **Add a Bluetooth Device**. The system starts scanning for Bluetooth devices and displays the available devices.



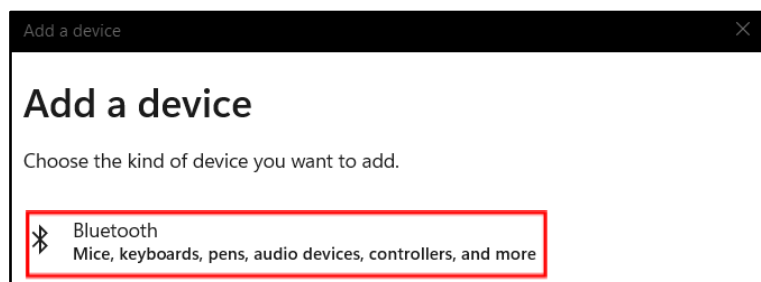
 **NOTE**

- If the device that you want to add does not appear on the screen, please check if the device is turned on and discoverable.

3. The **Bluetooth & devices** screen opens. Click **Add device**.

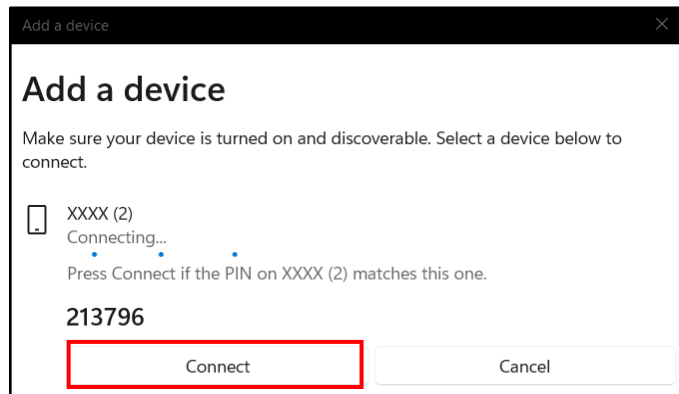


4. The **Add a device** dialog box opens. Click **Bluetooth**.



## Making Connections

5. Select the desired device to pair and then click **Connect** to confirm the pairing code (PIN). Confirm the pairing code also in the other Bluetooth device to establish the connection.



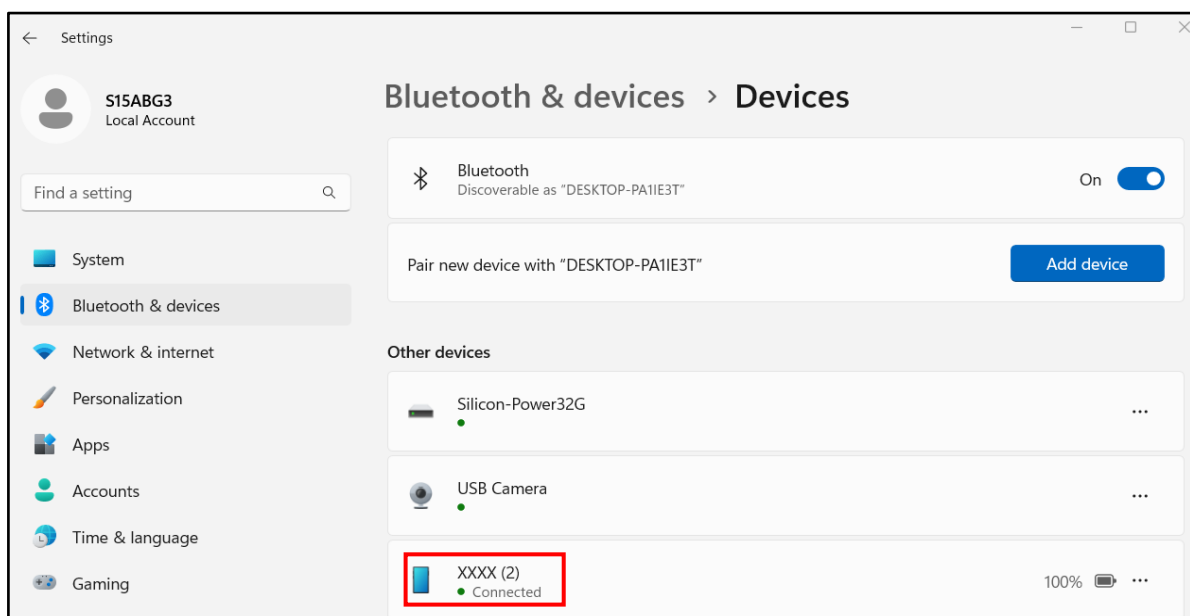
6. After pairing is complete, click **Done**.



### NOTE

- The pairing method varies depending on the type of device you are pairing with. You may be prompted to enter the pairing code, confirm the pairing code, or the device will pair automatically.

7. When the pairing process is complete, the connection status will show "Connected".



### NOTE

- Most Bluetooth-enabled devices need to be paired with your laptop. The PIN you enter on the laptop must be the same PIN to be entered on the other Bluetooth device.
- Once a partnership has been created, connecting to that device again will

no longer require entering the PIN.

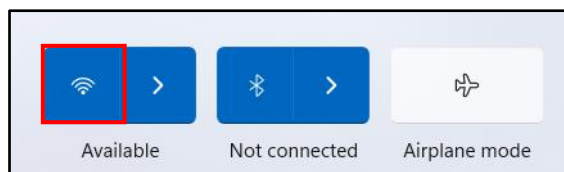
- To disconnect from the Bluetooth-enabled device, select the device in the Bluetooth menu and click **Remove device**.

## Connecting to a Wireless Local Area Network

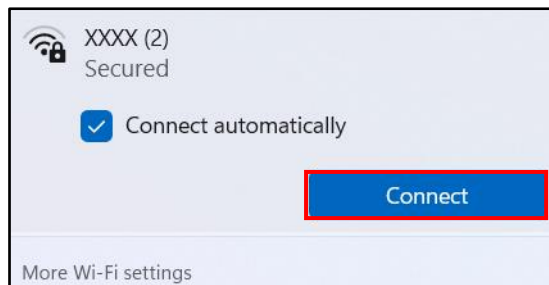
Your laptop comes with a WLAN module. A wireless network can be added either when the network is detected or by manually entering the settings information.

To connect, follow the steps below:

1. Click the wireless network icon (🌐) in the system tray and then click on the wireless tab in the Quick Settings menu to enable the function.



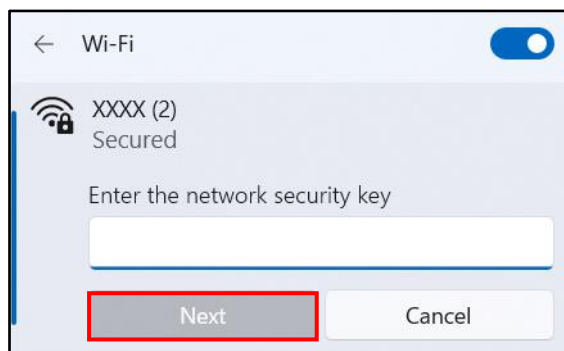
2. Click (▶) in the wireless tab. Available wireless network connections are displayed. Select the desired wireless network.
3. Click **Connect**.  
Some networks require a network security key or a password.



### TIP

- Check **Connect automatically** box to automatically connect to this network when it is available.

4. Enter the network security key and click **Next**.



## Making Connections

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After the connection is established, you can see the wireless icon (📶) in the system tray.



### NOTE

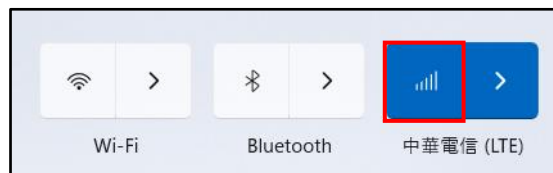
- Wi-Fi access requires service from a wireless service provider. Contact your service provider for more information.
- Actual wireless connectivity will depend on system configuration. Please contact your dealer for more information.
- To disconnect from the wireless network, select the network in the wireless network list and click **Disconnect**.

## Connecting to a Wireless Wide Area Network (WWAN)

The **WWAN** function allows your laptop to connect to the internet using mobile or cellular data networks.

To connect, follow the steps below:

1. Insert a valid SIM card into the SIM card slot.
2. Open the Quick Settings menu. Then tap **Cellular** to enable the function.



3. Tap the arrow icon (➤) next to the Cellular icon.
4. Select the mobile network carrier to establish the connection.



### TIP

- Check **Let Windows keep me connected** box to allow the system to automatically connect to this mobile data network.



# Using the BIOS Setup Utility

Your laptop has a BIOS Setup Utility, which allows you to configure important system settings, including settings for various optional functions on the laptop. This chapter explains how to use the BIOS Setup Utility.

## BIOS Setup Menu

The BIOS Setup Utility allows you to configure your laptop's basic settings. When you turn on your laptop, the system reads this information to initialize the hardware so that it can operate correctly. Use the BIOS Setup Utility to change your laptop start-up configuration. For example, you can change the system's security and power management routines.

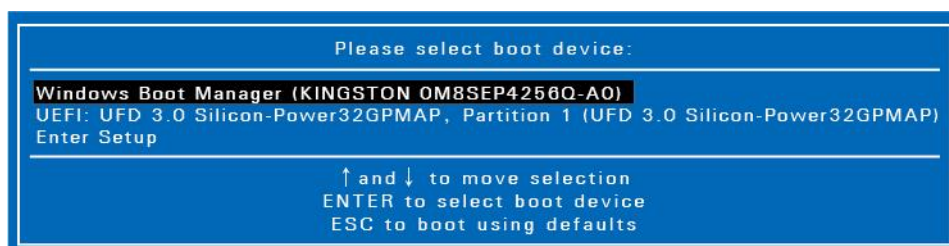
### Starting the BIOS Setup Utility

You can only enter the BIOS Setup Utility as the laptop is booting, i.e., between the time you turn on the laptop and before the Windows interface appears.

If your laptop is already on, shut down your laptop completely (power off), restart it, and then press the **Delete** button on the keyboard to enter the setup utility.

### Selecting the Boot Device

Restart your laptop and press the **F12** button on the keyboard when the DURABOOK logo appears. Then select the boot device.



### Navigating and Entering Information in BIOS

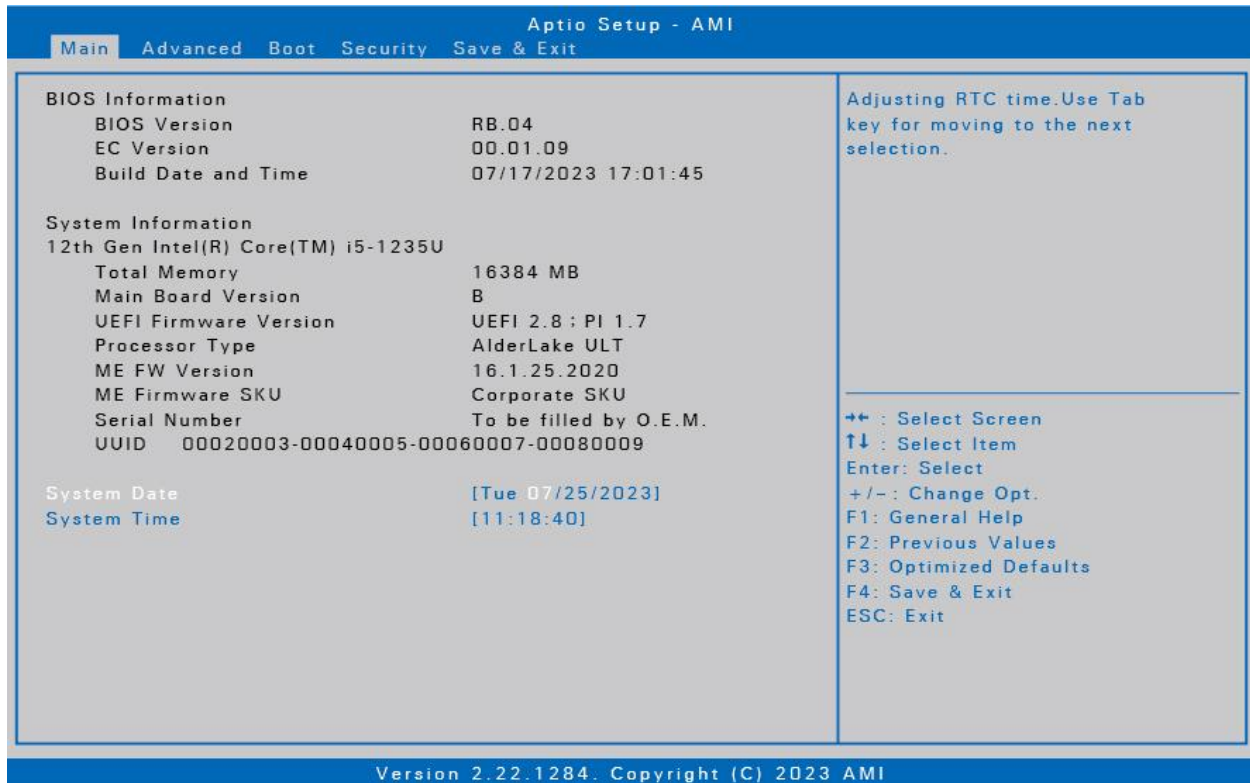
Use the following keys to move between fields and to enter information:

Keyboard	Description
→ ←	Select screen
↑ ↓	Select item
<b>Enter</b>	Select
+ / -	Change Opt.
<b>F1</b>	General Help
<b>F2</b>	Previous Values
<b>F3</b>	Optimized Defaults
<b>F4</b>	Save & Exit
<b>Esc</b>	Exit

Users are allowed to enter new values to replace the default settings in certain fields, and the rest of the fields are specified by system default parameters and cannot be modified by users. Reverse the attribute of the main options and press the **Enter** button to enter into the submenu. Press the **Esc** button to return to the previous configuration page. To display the Help screen at any time, simply press the **F1** button.

# Main Menu

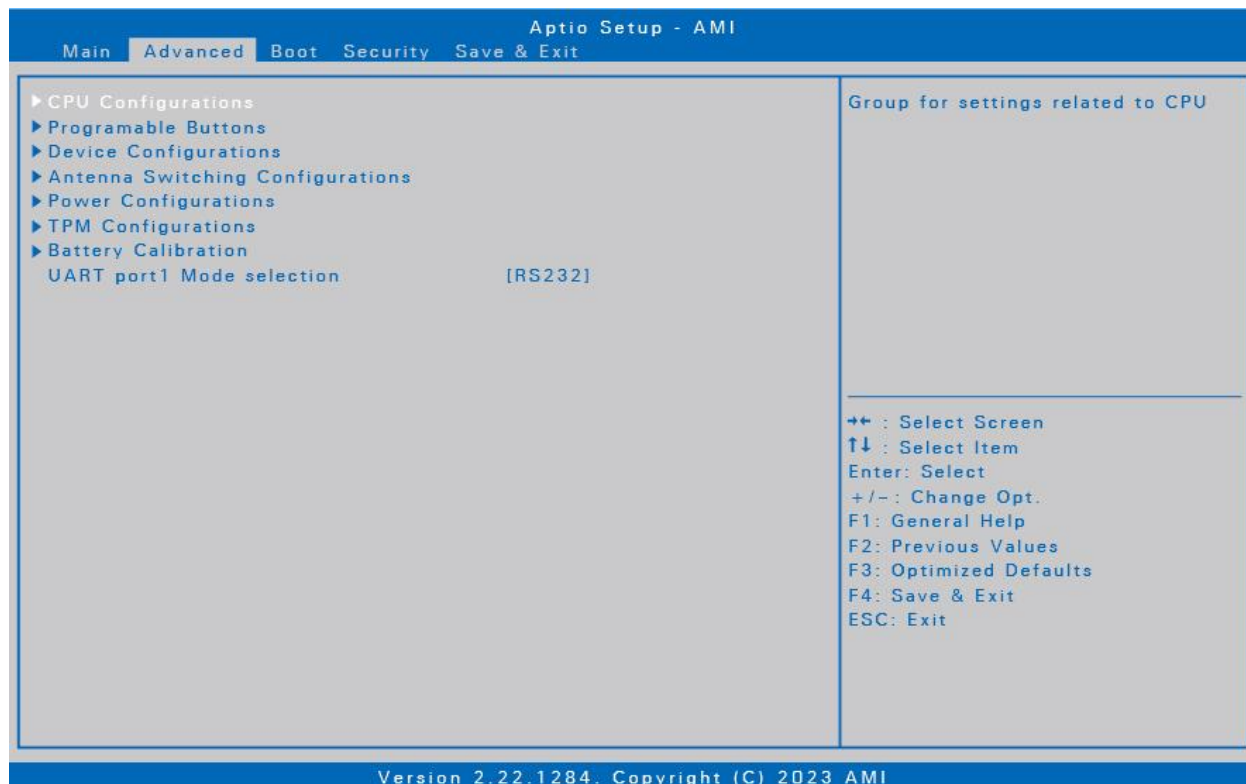
The Main Menu displays the device's system overview information, including the system date and time.



Item	Description
BIOS Information	Display the BIOS version detected during boot up.
System Information	Display the CPU type, total memory, mainboard version, UEFI Firmware version, processor type, ME FW version, ME Firmware SKU, serial number, and UUID.
System Date	Set the system date.
System Time	Set the system time.

# Advanced Menu

The Advanced Menu allows you to configure specific system settings.



Item	Description
CPU Configurations	Configure the CPU parameters. For details, refer to CPU Configurations.
Programmable Buttons	Set the function of the P1 button. For details, refer to Programmable Buttons.
Device Configurations	Configure CPU settings including hardware accelerating technology for supporting VMM software, VT-d, additional hardware capabilities provided by Intel® Trusted Execution Technology, and Intel® Active Management Technology BIOS Extension. For details, refer to Device Configurations.
Antenna Switching Configurations	Enable/disable the external WLAN antenna on the docking station. For details, refer to Antenna Switching Configurations.
Power Configurations	Configure the power management settings including keyboard backlight timer, resume on AC power, wake on RTC from S4/S5, USB3.0 power share, and battery protection function. For details, refer to Power Configurations.

<b>Item</b>	<b>Description</b>
TPM Configurations	Configure Trusted Computing settings. For details, refer to

	<b>Item</b>	<b>State</b>	<b>Description</b>	
	Security Device Support	Enable	Enable BIOS support for security device. default value is [Enabled].	
		Disable	Turn off the function.	

Item	Description		
	SHA256 PCR Bank	Enabled	Enable the SHA256 PCR bank. [Enabled].
		Disabled	Disable the SHA256 PCR bank. [Disabled].
	SHA384 PCR Bank	Enabled	Enable the SHA384 PCR bank. [Enabled].
		Disabled	Disable the SHA384 PCR bank. The default value is [Disabled].
	Pending operation	None/TPM Clear	Schedule an operation for the TPM. The default value is [None].
	Platform Hierarchy	Enabled	Enable platform hierarchy. [Enabled].
		Disabled	Turn off the function. [Disabled].
	Storage Hierarchy	Enabled	Enable storage hierarchy. [Enabled].
		Disabled	Turn off the function. [Disabled].
	Endorsement Hierarchy	Enabled	Enable endorsement hierarchy. The default value is [Enabled].
		Disabled	Turn off the function. [Disabled].
	Physical Presence Spec Version	1.2/1.3	Use this function to select the spec version. [1.2/1.3].
	Device Select	TPM 1.2	Support TPM 1.2 devices only. [TPM 1.2].
		TPM 2.0	Support TPM 2.0 devices only. [TPM 2.0].
		Auto	Support both TPM 1.2 and 2.0 devices. Preference towards TPM 2.0. [Auto].
Disable Block Sid	Enabled	Enable SID authentication. [Enabled].	
	Disabled	Turn off the function. The default value is [Disabled].	
Battery Calibration	Perform the battery calibration.		
UART port 1 Mode	Set the UART port mode between RS232, RS422, or RS485. [RS232].		

## Using the BIOS Setup Utility

Item	Description
selection	RS485.

## CPU Configurations

Select this option to configure the CPU parameters.

Item	State	Description
Intel (VMX) Virtualization Tech.	Enabled	Turn on the function if the VMM software requires it. The default value is [Enabled].
	Disabled	Turn off the function.
VT-d	Enabled	Turn on the function. The default value is [Enabled].
	Disabled	Turn off the function.
Intel Trusted Execution Technology	Enabled	Turn on the function.
	Disabled	Turn off the function. The default value is [Disabled].
Intel AMT	Enabled	Turn on the function.
	Disabled	Turn off the function. The default value is [Enabled].

## Programmable Buttons

Select this option to assign a default function to the P1 button.

Item	State	Description
P1 Button Settings	Disabled	Turn off the function.
	Stealth Mode	Set the Stealth Mode as the default function of the P1 button. The default value is [Stealth Mode].
	Night Vision*	Set the Night Vision as the default function of the P1 button.



### NOTE

- \*Night vision mode is available only for sunlight readable display.



## Device Configurations

Select this option to configure the device settings.

Item	State	Description
USB Type A Port 1	Enabled	Turn on the function.
	Disabled	Turn off the function.
USB Type A Port 2	Enabled	Turn on the function.
	Disabled	Turn off the function.
LAN	Enabled	Turn on the function.
	Disabled	Turn off the function.
SD Card Reader	Enabled	Turn on the function.
	Disabled	Turn off the function.
TPM Device	Enabled	Turn on the function.
	Disabled	Turn off the function.
HD-Audio	Enabled	Turn on the function.
	Disabled	Turn off the function.
Fingerprint Scanner	Enabled	Turn on the function.
	Disabled	Turn off the function.
Smart Card Reader	Enabled	Turn on the function.
	Disabled	Turn off the function.
LF/HF-RFID Reader	Enabled	Turn on the function.
	Disabled	Turn off the function.
Front Camera	Enabled	Turn on the function.
	Disabled	Turn off the function.
Wireless LAN	Enabled	Turn on the function.
	Disabled	Turn off the function.
Bluetooth	Enabled	Turn on the function.
	Disabled	Turn off the function.



### NOTE

- By default, all settings are set to [Enabled].

## Antenna Switching Configurations

Select this option to enable or disable the external WLAN antenna on the docking station.

Item	State	Description
Switch to external WLAN antenna	Disabled	Disable external WLAN antenna on the docking station. The default value is [Disabled].
	Enable	Enable external WLAN antenna on the docking station.

## Power Configurations

Select this option to configure the power management settings.

Item	State	Description
Keyboard Backlight Timer Settings	Keyboard Backlight Off, 5/10/15/20/30/40/50/60/80/100/120/240 Minutes	Configure the length of time the keyboard backlight would remain on. The default value is [30 Minutes].
Resume on AC Power	Enable	Wake this system from standby or hibernation when the lost AC power returns.
	Disable	Turn off the function. The default value is [Disabled].
Wake On RTC from S4/S5	Enable	Wake this system from S4/S5 state.
	Disable	Turn off the function. The default value is [Disabled].
USB 3.0 Power Share	Enable	Enable USB 3.2 port to supply power output 5V@1.5A in S4/S5 modes.
	Disable	Turn off the function. The default value is [Disabled].
Battery-Protection Function	Regular Mode/Optimized Battery Charging (OBC)/Temperature Control Mode (TCM)/Dura <sup>2</sup> Charging (D2C)	<ul style="list-style-type: none"> <li>Regular Mode: Battery will be fully charged. The default value is [Regular Mode].</li> <li>OBC: Battery charging will stop at 80% to reduce battery aging.</li> <li>TCM: To extend the lifetime of the battery, charging is enhanced based on DURABOOK intelligent algorithm and battery temperature.</li> <li>D2C: To extend the lifetime of the battery, charging is enhanced based on DURABOOK intelligent algorithm and battery temperature. Battery charging will stop at 80%.</li> </ul>

## TPM Configurations

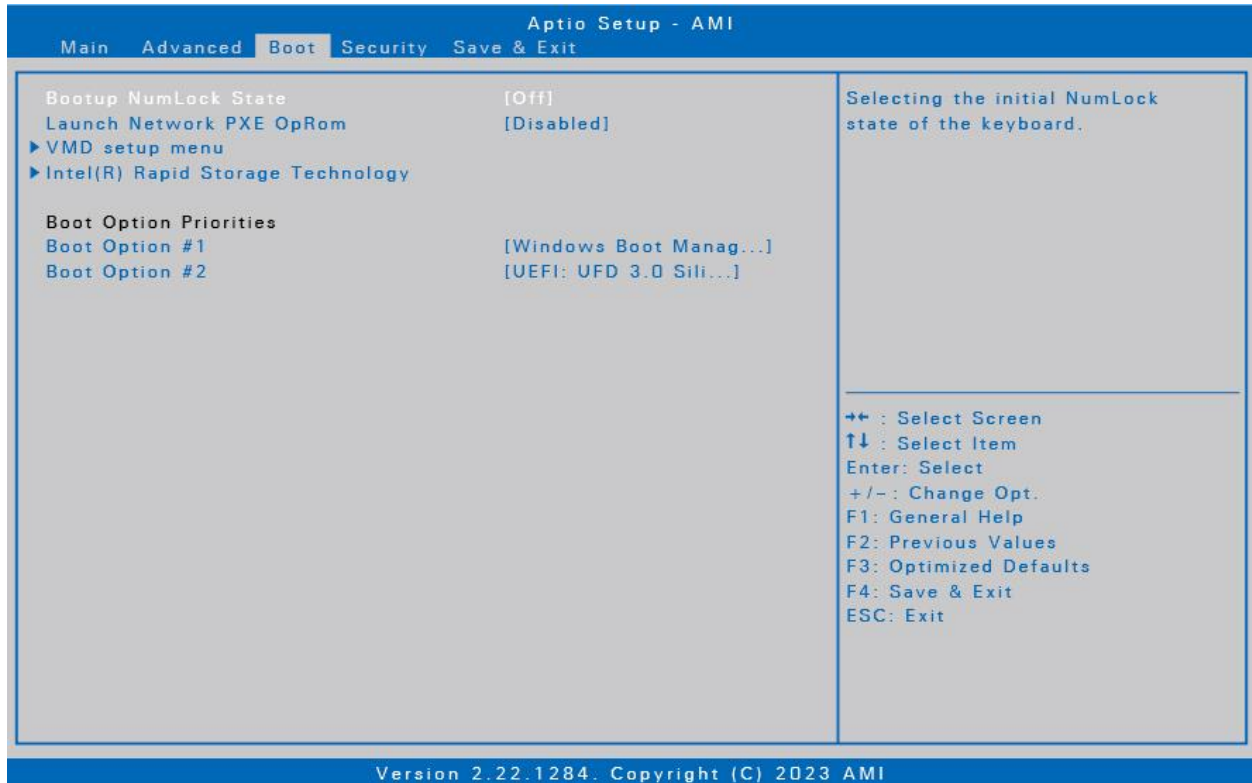
Select this option to configure TPM settings.

## Using the BIOS Setup Utility

Item	State	Description
Security Device Support	Enable	Enable BIOS support for security device. The default value is [Enabled].
	Disable	Turn off the function.
SHA256 PCR Bank	Enabled	Enable the SHA256 PCR bank. The default value is [Enabled].
	Disabled	Disable the SHA256 PCR bank.
SHA384 PCR Bank	Enabled	Enable the SHA384 PCR bank.
	Disabled	Disable the SHA384 PCR bank. The default value is [Disabled].
Pending operation	None/TPM Clear	Schedule an operation for the Security Device. The default value is [None].
Platform Hierarchy	Enabled	Enable platform hierarchy. The default value is [Enabled].
	Disabled	Turn off the function.
Storage Hierarchy	Enabled	Enable storage hierarchy. The default value is [Enabled].
	Disabled	Turn off the function.
Endorsement Hierarchy	Enabled	Enable endorsement hierarchy. The default value is [Enabled].
	Disabled	Turn off the function.
Physical Presence Spec Version	1.2/1.3	Use this function to select the physical presence spec version.
Device Select	TPM 1.2	Support TPM 1.2 devices only.
	TPM 2.0	Support TPM 2.0 devices only.
	Auto	Support both TPM 1.2 and 2.0 devices with the preference towards TPM 2.0.
Disable Block Sid	Enabled	Enable SID authentication in TCG storage device.
	Disabled	Turn off the function. The default value is [Disabled].

# Boot Menu

The Boot Menu allows you to configure the boot settings and boot sequence.



Item	Description
Bootup NumLock State	Select the keyboard NumLock state.
Launch Network PXE OpRom	Select the LAN PXE boot mode.
VMD setup menu	Configure VMD settings. For details, refer to VMD Setup Menu.
Intel(R) Rapid Storage Technology	Manage RAID volumes on the Intel® RAID Controller.
Boot Option Priorities	Set the system boot order.

## VMD Setup Menu

Select this option to configure VMD settings.

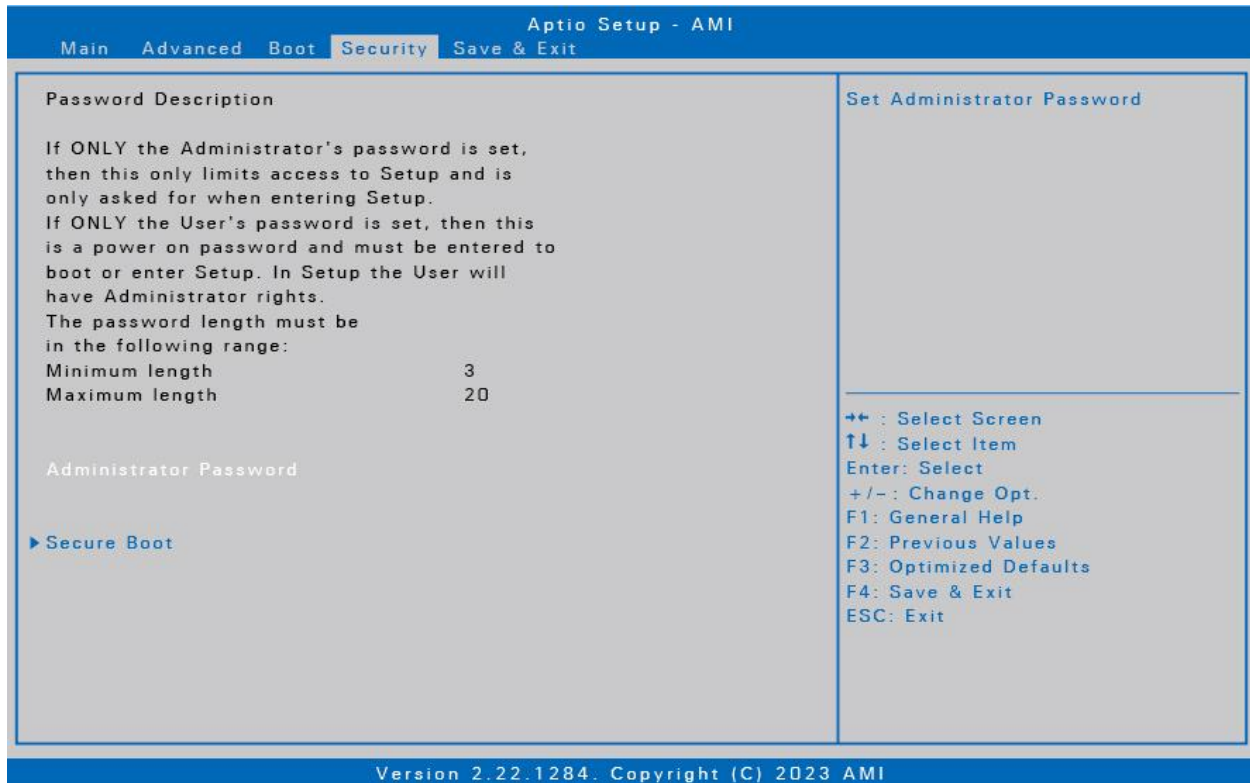
Item	State	Description
Enable VMD Controller	Enabled	Turn on the function. The default value is [Enabled].

## Using the BIOS Setup Utility

Item	State	Description
	Disabled	Turn off the function.
Enable VMD Global Mapping	Enabled	Turn on the function. The default value is [Enabled].
	Disabled	Turn off the function.
RAID0/ RAID1/ RAID5/ RAID10	Enabled	Turn on the function. The default value is [Enabled].
	Disabled	Turn off the function.
Intel Rapid Recovery Technology	Enabled	Turn on the function. The default value is [Enabled].
	Disabled	Turn off the function.
RRT Volumes can span internal and eSATA drives	Enabled	Turn on the function. The default value is [Enabled].
	Disabled	Turn off the function.
Intel(R) Optane(TM) Memory	Enabled	Turn on the function. The default value is [Enabled].
	Disabled	Turn off the function.

# Security Menu

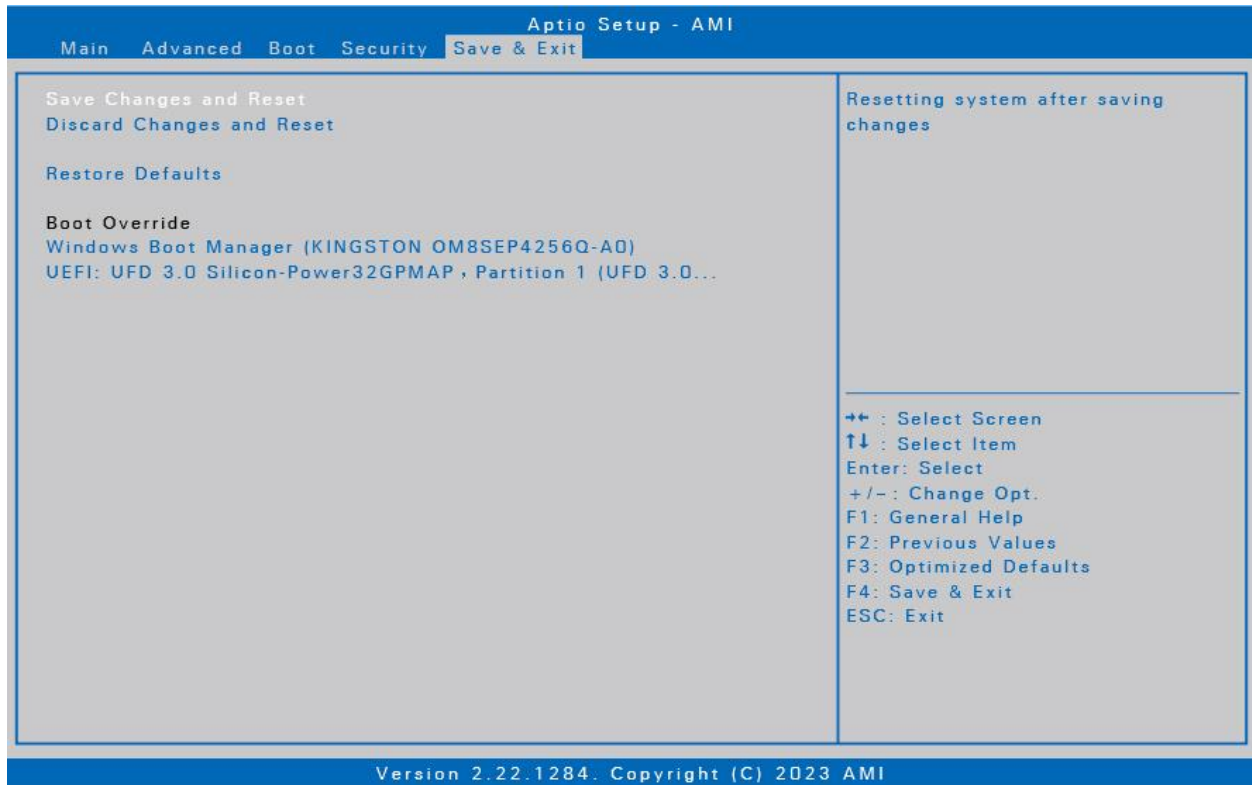
The Security Menu allows you to set the Administrator password and configure the Secure Boot settings.



Item	Description
Administrator Password	Set the administrator password.
Secure Boot	Customize the Secure Boot settings.

# Save & Exit Menu

The Save & Exit Menu allows you to save/discard the changes and restore the default values for all setup options before leaving the BIOS Setup Menu.



Item	Description
Save Changes and Reset	Reset the system after saving any changes.
Discard Changes and Reset	Reset the system setup without saving any changes.
Restore Defaults	Restore the default values for all the Setup options.
Boot Override	Shortcut to the Windows Boot Manager.



# Maintaining and Caring for Your Laptop

Taking care of your laptop will reduce the risk of damage to your device and ensure that it operates properly.

To help you maintain the quality and function of your laptop, this chapter provides guidelines on how to protect, store, clean, and travel with your device.

## Protecting Your Laptop

To safeguard the integrity of the data stored on your laptop as well as the device, please follow the precautions described below:

- Install an anti-virus program to monitor potential viruses that could damage your files.
- Use a Kensington cable lock to protect your laptop against theft. Cable locks are available for purchase from online retailers and in most stores that sell computers.
- To use the lock, loop the lock cable around a stationary object such as a table. Then, insert the lock into the Kensington lock hole and turn the key to secure the lock. Store the key in a safe place.

## Storing and Handling Your Laptop

### General Storage and Handling Guidelines

- Use your laptop at the recommended temperature—between 0°C (32°F) and 55°C (131°F)—to ensure optimal performance (Actual operating temperature depends on product specifications.)
- Avoid placing your laptop in a location subject to high humidity, extreme temperatures, mechanical vibrations, direct sunlight, or heavy dust. Using your device in extreme environments for long periods of time can result in product deterioration and a shortened product life.
- Do not place heavy objects on top of the laptop as this may damage the display.
- Do not operate in an environment with metallic dust.
- Store and use your laptop on a flat and steady surface. Do not stand the laptop on its side or store it in an upside-down position. The impact from dropping or an object hitting the device may cause damage.
- Do not cover or block any ventilation openings on the laptop. For example,

## Maintaining and Caring for Your Laptop

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do not place the laptop on a bed, sofa, rug, or other similar surface. Overheating may occur, which could result in damage to your laptop.

- Keep your laptop away from that are vulnerable to damage from heat, as the device can become very hot during operation.
- Keep your laptop at least 13 cm (5 inches) away from electrical appliances that can generate a strong magnetic field such as a TV, refrigerator, motor, or a large audio speaker.
- Avoid moving your laptop abruptly from a cold to a warm place. A temperature difference of more than 10°C (50°F) may cause condensation inside the unit, which may damage storage media.

## Display Guidelines

- Turn off the laptop power when cleaning the display. Cleaning the display with the power on may cause improper operation.
- Do not use excessive force on the display. Avoid placing objects on top of the display as this may cause the glass to break, thereby damaging the device.
- LCD image sticking occurs when a fixed pattern is displayed on the screen for a prolonged period of time. You can avoid the problem by limiting the amount of static content on the display. It is recommended that you either use a screen saver or turn off the display when it is not in use.
- To maximize the life of the backlight display, allow the backlight to automatically turn off as a result of power management.

## Battery Pack Guidelines

- Do not expose the battery to temperatures below 0°C (32°F) or above 45°C (113°F). This may adversely affect the battery pack.
- While the battery may not provide 100% capacity at temperature extremes, its capacity is restored when the battery temperature return to a normal range, around 20°C (68°F).
- Your battery will last longer during the day if it is used, charged and stored between 50°F and 86°F (10°C and 30°C).
- Charge the battery nightly where the temperature will remain around 68°F (20°C). Your battery may not last as long through the day if you charge it at higher or lower temperatures.
- Allow unrestricted airflow while the device is connected to external power. Make sure that the fan inlet and outlet are unobstructed.
- Avoid exposure to extreme temperatures for long periods as this can shorten battery charge life or damage the battery.
- If your battery is charged in a cold (less than 5°C/41°F) or very warm (greater than 45°C/113°F) environment, it is possible that the Battery LED will indicate that the charge has stopped; However, this does not necessarily mean that your battery is fully charged.
- Read and follow all battery precautions in the Safety section.
- Use only batteries of the same kind as replacements.
- Turn the power off before removing or replacing batteries.
- To avoid malfunction of the tablet PC and losing any unsaved data, do not install or remove the battery pack while the device is in sleep mode.
- Avoid touching the contacts of the battery while installing or removing the battery. Hold the battery by the sides instead to prevent the malfunction of the system.
- Do not tamper with the batteries.
- Keep batteries away from children.
- Before storing your battery, read and follow the recommendations in the Battery Tips section.
- Dispose of used batteries according to local regulations.
- Recycle if at all possible.

## Battery Charging Recommendations

The battery is a consumable item that will eventually wear out and need replacement.



### NOTE

- If the battery pack has deteriorated, ensure it is replaced with a new one.

The lifespan of the battery depends upon its usage. To prolong battery life, follow the recommendations below:

- Keep the number of charges and discharges to a minimum. It is best to charge the device no more than once a day and only when the charge drops to 10% or lower.
- Monitor the temperature inside the battery to prevent it from becoming too high. Charge your device indoors in an open area where the temperature is between 50°F and 86°F (10°C and 30°C).  
To further enhance battery charging and prolong battery life, we advise charging the battery nightly, where the temperature will remain around 68°F (20°C).
- Charging the battery while the system is fully running will take longer. We recommend charging the battery when the system is in hibernation or sleep mode to increase the charging speed.

## Cleaning Your Laptop

### Cleaning the Outside Case

- Disconnect external power and turn off the device.
- Remove the battery.
- Add a small amount of water to a soft cloth and clean the device case. Do not use paper products because they can scratch the surface.
- Wipe off any excess liquid with a soft cloth.
- Reinstall the battery.

### CAUTION!

***Aerosols, solvents, or strong detergents are not recommended cleaning solutions and may void your warranty. For system decontamination recommendations please contact your support representative.***

### Cleaning the Display

Use a soft, dry cloth. In some cases, you can use a small amount of water to remove streaks or smears. For difficult display cleaning tasks, use a 70/30 mixture of isopropyl alcohol and water. Do not use paper products because they can scratch the screen.

### **Cleaning the External Power Connector**

The external power connector may sometimes be exposed to moisture and/or contamination causing an unreliable connection to the external power source. Clean the connector with a cotton swab dipped in electronics grade isopropyl alcohol.

### **Cleaning the RJ-45 / USB Connectors**

If the connector pins get dirty, clean the connector with a cotton swab dipped in electronics grade isopropyl alcohol.

## **Traveling With Your Laptop**

Before traveling with your laptop, make sure you prepare and follow the precautions described below:

- Back up the data on your SSD to a flash drive or other storage device. As an added precaution, bring an extra copy of your important data.
- Make sure that the battery pack is fully charged.
- Ensure that your laptop is turned off.
- Confirm that all the connector covers are closed completely to ensure the device's waterproof integrity.
- Disconnect the AC adapter from your laptop and take it with you. Use the AC adapter to power the device and charge the battery.
- Hand-carry your laptop onto an airplane, train, or bus. Do not check it in as luggage.
- If you need to leave your laptop in a car, store it in the trunk to avoid exposing it to excessive heat.
- When going through airport security, do not carry your laptop through the magnetic detector (the device you walk through) or expose it to a magnetic wand (the handheld device used by security personnel). It is recommended that you send the laptop and any flash drives through the X-ray machine (the device where you set your bags).
- If you plan to travel abroad with your laptop, consult your dealer for the appropriate AC power cord for use in your country of destination.

# Troubleshooting

This chapter advises you on what actions to take when solving common computer problems that may be caused by issues with hardware or software.

## Preliminary Checklist


Here are the initial steps you should follow before taking further action when encountering any problem:

1. Try to identify and isolate which part of the laptop is causing the problem.
2. Make sure that you turn on all peripheral devices before turning on the laptop.
3. If you are having trouble with an external device, make sure that the cable connections are correct and secure.
4. Make sure that the configuration information is properly set in the BIOS Setup program.
5. Ensure that all the device drivers are correctly installed.
6. Make note of your observations. Are there any messages on the screen? Do any indicators light up? Do you hear any beeps? Detailed descriptions are useful to the service personnel when you need to consult someone for assistance.
7. If any problem persists after you follow the instructions in this chapter, contact an authorized dealer for help.

## Solving Common Problems

### Battery Problems

#### The battery does not charge

- To prevent possible damage to the battery, the device does not allow the battery to charge if the internal temperature of the battery gets too low (< 5°C or < 41°F) or too high (> 50°C or > 122°F). If possible, charge the battery in a location with a moderate temperature of around 20°C (68°F).
- If possible, turn off the device while the battery is charging.
- If the battery is new or has been stored for a week or more, follow this procedure:
  1. Make sure the device is turned off.
  2. Remove the battery.
  3. Connect the AC adapter to the device and an AC wall outlet, and then turn on the device by pressing the  button.
  4. Let the device complete the boot process. Then reinstall the battery.
- Allow the system to remain idle for one hour with the AC adapter connected

to the device.

- The Battery Power LED lights when the battery starts charging.
- If the battery still fails to start charging after an hour, remove the battery, wait several seconds, and then install it again.
- If the battery does not begin charging within several minutes, return the unit for service.

**The battery takes longer than seven hours to charge.**

- Under moderate temperatures, about 20°C (68°F), the device’s battery takes approximately 4 to 5 hours to completely charge.
- As the battery temperature approaches the ends of its temperature range (5°C/41°F to 50°C/122°F), it may take longer to charge the battery.

**The battery doesn’t hold charge for very long.**

- Calibrate the battery. If your battery is new or has not been used for several weeks, calibrating the battery accurately sets the gas gauge.
- As your battery ages, its maximum capacity naturally decreases and even the best maintained batteries eventually need to be retired. Consider replacing the battery if you are not getting the usage you need from it.
- To meet ENERGY STAR® requirements, Wake on LAN is enabled by default. If running on battery power this may decrease battery run-time. To change Wake on LAN settings, open the Device Manager, Network Adapters and select the LAN device. Open the device Properties and select Power Management. Disable the Wake on LAN setting by unchecking. Allow this device to wake the computer.

**The gas gauge isn’t full after charging the battery.**

- This may indicate that the charging process terminated prematurely.

**The gas gauge reads “full,” but the charging LED is still lit.**

- If you charge your battery daily, rely on the gas gauge reading to determine battery capacity. The charging process may continue even if the gas gauge reads full. External power can be removed because the battery is virtually full.

**My battery seems to have less and less capacity.**

- If your battery is new, or if you are using it for the first time, you will need to calibrate it (see Battery Calibration) prior to using it.
- As your battery ages, the maximum capacity that it can hold naturally decreases and even the best maintained batteries eventually need to be retired. Consider replacing the battery if you are not getting the usage you need from it.

## Bluetooth Wireless Transmission Problems

### **I cannot connect to another device with BT wireless technology.**

- Ensure that you have activated BT feature on both devices.
- Make sure that the distance between the two devices is within the acceptable limit and that there are no walls or other obstructions between the devices.
- Confirm that the other device is not in "Hidden" mode.
- Verify that both devices are compatible.

## Display Problems

### **The display performance is slow.**

- The temperature may be too cold. Move the device to a warmer operating environment.

### **The underlined, inverse, and hypertext characters are difficult to read on the screen.**


- Right click on the Windows Desktop, select Personalize, then Colors to change the color and style of your Windows.

### **I changed my display resolution, but I see no difference on the screen.**

- Select  >  > **Restart**.

## Solid-State Drive (SSD) Problems

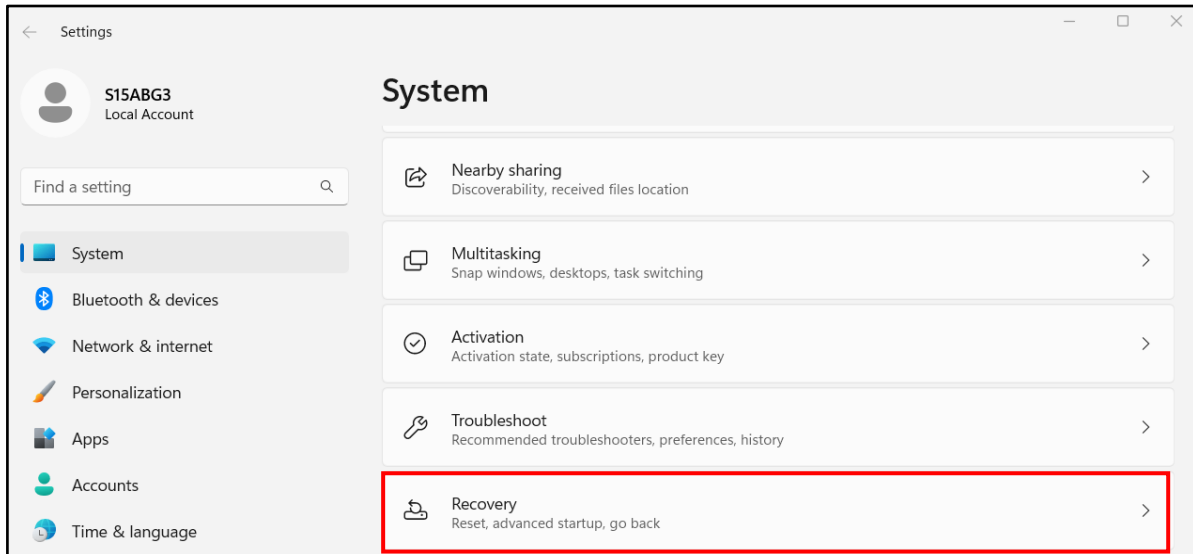
### **The device does not startup properly.**

- Make sure you remove any USB drives from the unit before you start it.
- Connect the AC adapter to charge the battery if it is not charged.
- If the battery does not begin charging, perform the following:
  1. Remove the battery.
  2. Connect the AC adapter.
  3. Turn on the device by pressing the  button.
  4. Reinstall the battery. The battery LED is a steady orange while the battery is charging.

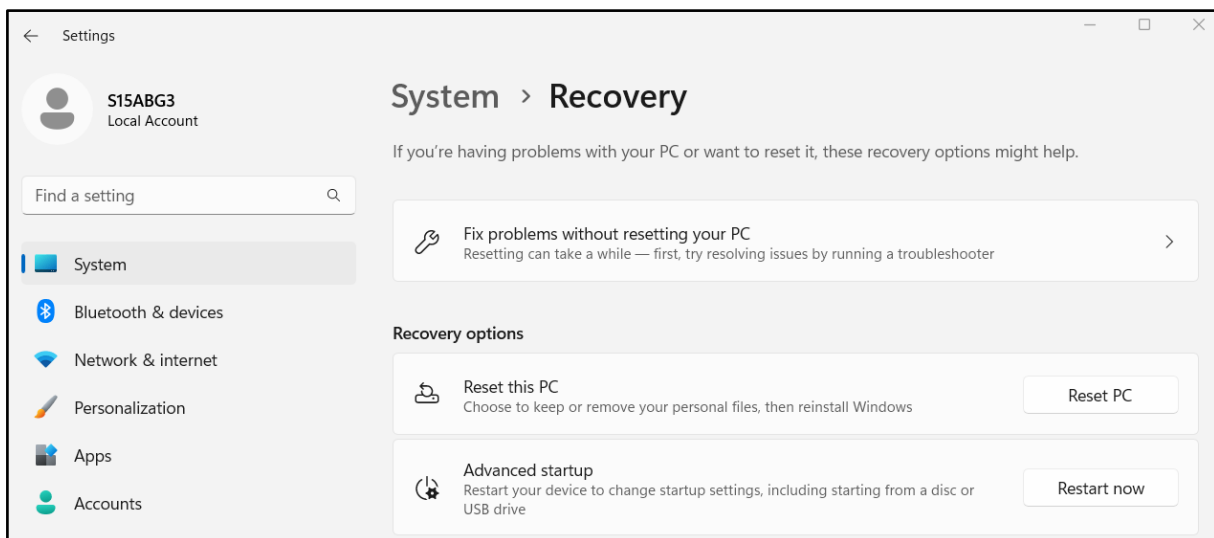


## Storage recovery process in Windows 11

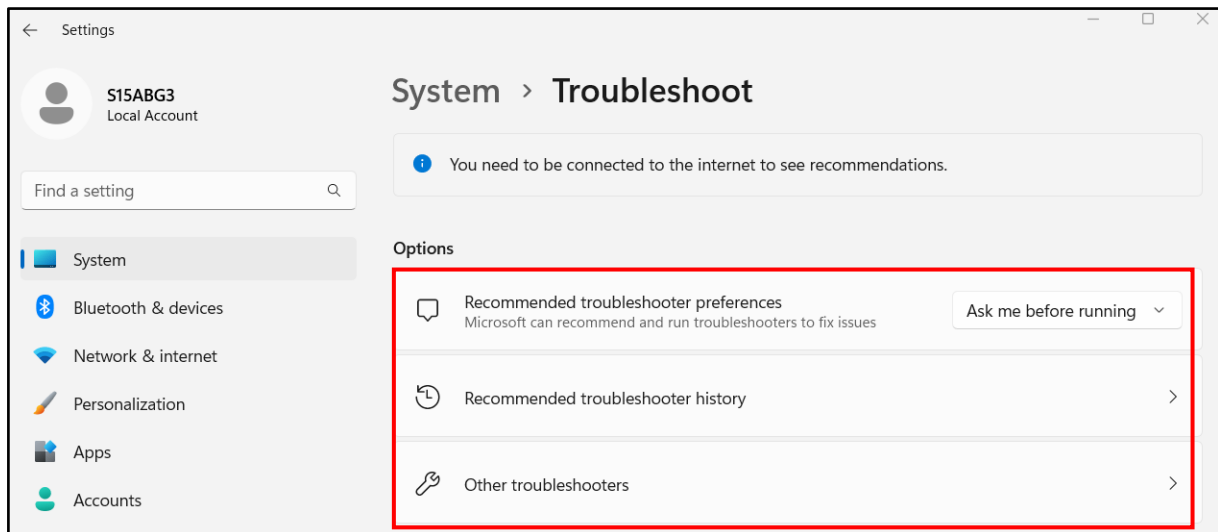
1. Select **Start** > **Setting** > **System** > **Recovery**.



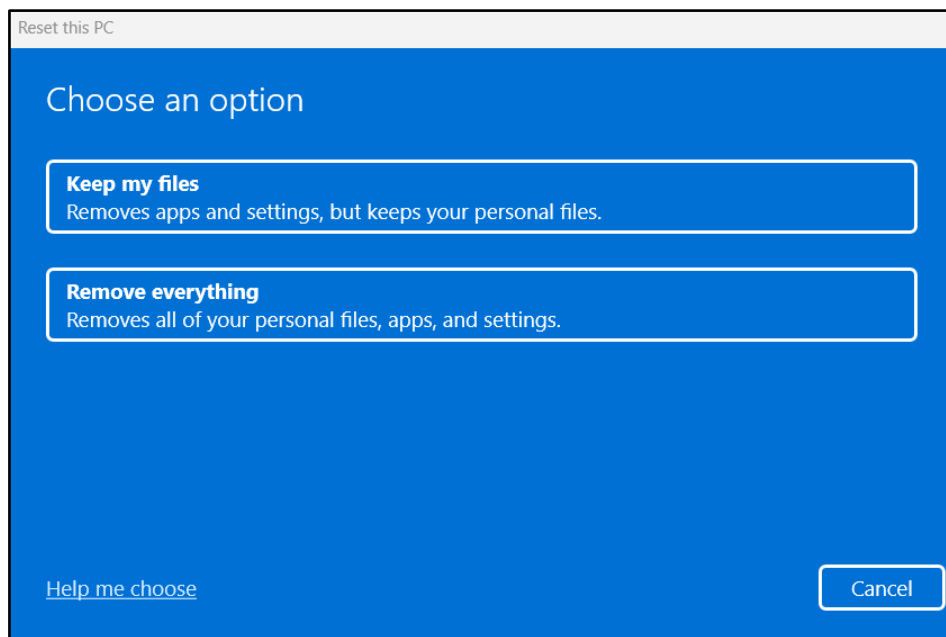
2. Select any of the three recovery methods that suits the best to solve the problem with your laptop.



- **Fix problems without resetting your PC:** Select this option to run a troubleshooter. Make sure your laptop is connected to the network.





- **Reset this PC:** Select this option to reinstall the Windows 11 operating system. To reset your tablet PC, tap **Reset PC**. You are then prompted to keep or remove your personal files. Select either of the options and follow the on-screen instructions to complete the resetting procedure.






- **Advanced startup:** Select this option to restart your laptop with advanced startup features, such as automated startup repair, uninstall recently installed updates, use a restore point to restore your laptop, change settings in your Laptop's UEFI firmware, recover Windows from the system image file, and more. Follow the on-screen instructions to repair the system.

# Other Problems

## The device won't turn on.

- Make sure a fully charged battery is properly installed.
- Connect external power to charge the battery if it is not charged.
- If you are using the AC adapter, check the electrical outlet you are using to make sure it is working properly.
- If the device does not turn on, reset the device by holding down the  button for at least ten seconds, release it, and then press the  button again.

## The device won't turn off.

1. Select  >  > **Shut down**.
2. If that does not work, press **Ctrl + Alt + Del** and then select **Task Manager**.
3. If any programs are open, use your arrow keys to highlight each one and select End task. Repeat this until all programs are closed.
4. If that still does not work, press, and hold the  button for approximately ten seconds and then release it.

## The device doesn't make any sounds, even during boot-up.

- You may have enabled Stealth Mode. Disable Stealth mode.

# Appendix

## Copyright

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No part of this user manual may be transmitted, stored in a retrieval system, or translated into any language or computer language, in any form or by any means, without the prior written permission of the manufacturer. Information is subject to change without prior notice.

## Specifications

Model Name	S15
<b>DURABILITY</b>	<ul style="list-style-type: none"> <li>- MIL-STD-810H certified (Drop, Shock, Vibration, Dust, Altitude, High/Low Temperature, Humidity)</li> <li>- 4 drop 26 faces</li> <li>- IP5X certified</li> <li>- Aluminum-magnesium alloy chassis</li> <li>- Port covers</li> <li>- Removable quick-release battery</li> <li>- Optional sunlight readable display</li> <li>- Optional swappable battery technology</li> </ul>
<b>OPERATING SYSTEM</b>	Windows® 11 Pro 64-bit
<b>PROCESSORS</b>	<ul style="list-style-type: none"> <li>- Intel® Core™ i7-1255U (12th Gen) Processor with vPro™ (12MB Cache, up to 4.7 GHz, 2P+8E cores)</li> <li>- Intel® Core™ i5-1235U (12th Gen) Processor with vPro™ (12MB Cache, up to 4.4 GHz, 2P+8E cores)</li> </ul>
<b>GRAPHICS</b>	<ul style="list-style-type: none"> <li>- Intel® Iris® Xe Graphics</li> <li>- Optional NVIDIA® Quadro T1000<sup>1</sup></li> </ul>
<b>MEMORY</b>	2 slots up to 32GB (4800MHz DDR5)
<b>STORAGE</b>	<ul style="list-style-type: none"> <li>- 256GB NVMe PCIe SSD</li> <li>- Optional 512GB/1TB/2TB PCIe SSD</li> <li>- Optional 2<sup>nd</sup> storage: M.2 SATA or NVMe PCIe SSD<sup>1</sup></li> <li>- Optional 3<sup>rd</sup> storage: M.2 SATA SSD<sup>1</sup></li> </ul>
<b>DISPLAY</b>	15.6" FHD (1920 x1080) - Optional 1000 nits DynaVue® sunlight readable display

<b>AUDIO</b>	<ul style="list-style-type: none"> <li>– Integrated microphone</li> <li>– Intel® High Definition Audio Compliant</li> <li>– Integrated speaker x 2</li> <li>– Keyboard volume and mute controls</li> </ul>
<b>CAMERA</b>	<ul style="list-style-type: none"> <li>– Integrated 2.0 MP web-cam</li> <li>– Optional 5MP IR camera for Windows Hello<sup>1</sup></li> </ul>
<b>KEYBOARD</b>	<ul style="list-style-type: none"> <li>– 2 user-definable keys (P1/P2)</li> <li>– Standard membrane keyboard with numeric keypad and optional LED backlight</li> </ul>
<b>COMMUNICATONS</b>	<ul style="list-style-type: none"> <li>– Integrated 10/100/1000 Ethernet</li> <li>– Intel® Wi-Fi 6E AX211 (802.11ax)</li> <li>– Bluetooth® V5.3</li> <li>– Optional GPS and 4G LTE multi-carrier mobile broadband</li> <li>– Optional 5G<sup>1</sup></li> <li>– Optional RF antenna pass-through for GPS, WWAN and WLAN</li> </ul>
<b>SECURITY</b>	<ul style="list-style-type: none"> <li>– Intel® vPro™ Technology</li> <li>– TPM 2.0</li> <li>– NIST BIOS compliant</li> <li>– Stealth mode</li> <li>– Kensington lock</li> <li>– Optional smart card reader</li> <li>– Optional Windows Hello<sup>1</sup></li> <li>– Optional fingerprint scanner</li> <li>– Optional night vision mode<sup>2</sup></li> <li>– Optional LF/HF-RFID (NFC) reader</li> </ul>
<b>I/O INTERFACES</b>	<ul style="list-style-type: none"> <li>– USB 3.2 Gen2 Type A x 2</li> <li>– USB 3.2 Gen2 Type C x 1 (support DP)</li> <li>– Thunderbolt 4 x 1</li> <li>– Audio in/out (combo jack) x 1</li> <li>– microSD card (microSDXC) x 1</li> <li>– 10/100/1000 Ethernet (RJ-45) x 1</li> <li>– VGA port (D-sub,15-pin) x 1</li> <li>– HDMI port (type A) x 1</li> <li>– Serial port (RS232, RS422 and RS485 : D-sub,9-pin) x 1</li> <li>– Nano SIM card x 1</li> <li>– DC-In jack x 1</li> <li>– Smart card reader x 1 (optional)</li> <li>– 1 x 41-pin Pogo docking connector (optional)</li> <li>– LF/HF-RFID (NFC) reader x 1 (optional)</li> </ul>

## Appendix

<b>MEDIA BAY</b> (One Option Only)	<ul style="list-style-type: none"> <li>- Optional DVD super multi</li> <li>- Optional 3<sup>rd</sup> SSD<sup>1</sup></li> <li>- Optional ExpressCard 54<sup>1,3</sup></li> </ul>
<b>EXPANSION BOX</b>	<ul style="list-style-type: none"> <li>- Optional discrete VGA<sup>1</sup></li> <li>- Optional 2nd RJ45 x 1 + 2nd RS232 x 1<sup>1,3</sup></li> </ul>
<b>POWER</b>	<p>AC adapter: 100-240V, 50Hz-60Hz, 90W</p> <ul style="list-style-type: none"> <li>- Main battery Li-Ion, 7.4V, 7600mAh, 12 hours<sup>4</sup></li> <li>- Optional AC adapter (100-240V, 50Hz-60Hz, 120W), with NVIDIA<sup>®</sup> VGA</li> <li>- Optional bridge battery : 5 minutes swap time<sup>5</sup></li> </ul>
<b>ENVIRONMENT</b>	<ul style="list-style-type: none"> <li>- Temperature Operating: -20°C ~ 60°C Storage: -51°C ~ 71°C / -60°F ~ 160°F</li> <li>- Humidity: 5% ~ 95%</li> </ul>
<b>DIMENSION &amp; WEIGHT</b>	<ul style="list-style-type: none"> <li>- 375 mm (L) x 273 mm (W) x 29.5 mm (H)</li> <li>- 2.6 kg</li> </ul>
<b>WARRANTY</b>	3-year limited warranty standard



### NOTE

- Specifications are subject to change without any prior notice.
- 1. Contact your sales representative for feature availability.
- 2. Night vision mode is available only for sunlight readable display.
- 3. ExpressCard 54 and expansion module (RJ45 & RS232) are mutually exclusive.
- 4. Tested using the MobileMark 2014 battery life benchmark. Results may vary under different situations including hardware configuration, software, operating conditions, power management settings and other factors.
- 5. The system will stay operating (within 300 seconds in standby mode) when user swaps the battery.

# Regulatory Statement

## Federal Communications Commission

### Statement

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

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

### IC Regulations

This device complies with Industry Canada's licence-exempt RSSs. Operation is subject to the following two conditions: (1) This device may not cause interference; and (2) This device must accept any interference, including interference that may cause undesired operation of the device.

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

**This Class B digital apparatus complies with Canadian ICES-003.**

**Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.**

### Declaration of Conformity

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

- This device may not cause harmful interference
- This device must accept any interference received, including interference that may cause undesired operation.

## RF exposure warning

Any changes or modifications not expressly approved by the party responsible for compliance could void the authority to operate equipment. This device and its antenna must not be co-located or operating in conjunction with any other antenna or transmitter.

The SAR limit set by the FCC is 1.6W/kg.

This device is operation in 5.15 – 5.25GHz frequency range, then restricted in indoor use only. Outdoor operations in the 5150~5250MHz is prohibited.

This device is slave equipment, the device is not radar detection and not ad-hoc operation in the DFS band.

Note: Do not disassemble the bumper. Otherwise, the antenna may be damaged, resulting in poor reception.

## Battery Disposal

THIS PRODUCT CONTAINS A LITHIUM-ION OR NICKEL-METAL HYDRIDE BATTERY. IT MUST BE DISPOSED OF PROPERLY. CONTACT LOCAL ENVIRONMENTAL AGENCIES FOR INFORMATION ON RECYCLING AND DISPOSAL PLANS IN YOUR AREA.

## European Union CE Marking and Compliance

### Notices

This product follows the provisions of the European Directive 2014/30/EU

This product follows the provisions of the European Directive 2014/35/EU

This product follows the provisions of the European Directive 2014/53/EU

This product follows the provisions of the European Directive 2009/125/EC

This product follows the provisions of the European Directive 2012/19/EU

This product follows the provisions of the European Directive 2015/863/EU



# CLASS 1 LASER PRODUCT

## LASERSCHUTZKLASSE 1 PRODUKT TO EN60825

**CAUTION** THIS APPLIANCE CONTAINS A LASER SYSTEM AND IS CLASSIFIED AS A "CLASS 1 LASER PRODUCT." TO USE THIS MODEL PROPERLY, READ THE INSTRUCTION MANUAL CAREFULLY AND KEEP THIS MANUAL FOR FUTURE REFERENCE. IN CASE OF ANY TROUBLE WITH THIS MODEL, PLEASE CONTACT YOUR NEAREST "AUTHORIZED SERVICE STATION." TO PREVENT DIRECT EXPOSURE TO THE LASER BEAM, DO NOT TRY TO OPEN THIS ENCLOSURE.

## PRODUIT LASER DE CLASSE 1

### LASERSCHUTZKLASSE 1 PRODUKT TO EN60825

**ATTENTION :** CE PRODUIT CONTIENT UN SYSTÈME LASER ET EST CLASSÉ EN TANT QUE « PRODUIT LASER DE CLASSE 1 ». POUR UTILISER CE MODÈLE CORRECTEMENT, LISEZ LE MANUEL D'INSTRUCTIONS ATTENTIVEMENT ET CONSERVEZ-LE POUR RÉFÉRENCE FUTURE. EN CAS DE PROBLÈMES AVEC CE MODÈLE, VEUILLEZ CONTACTER VOTRE « STATION DE SERVICE AUTORISÉE » LA PLUS PROCHE. POUR ÉVITER UNE EXPOSITION DIRECTE AUX FAISCEAUX LASER, N'ESSAYEZ PAS D'OUVRIER CE BOÎTIER.

### **ANNEX IV**

#### **Symbol for the marking of electrical and electronic equipment**

The symbol indicating separate collection for electrical and electronic equipment consists of the crossed-out wheeled bin, as shown below. The symbol must be printed visibly, legibly and indelibly.



### CAUTION FOR ADAPTER

THIS LAPTOP IS FOR USE WITH DEDICATED AC ADAPTER.

- Ensure you connect the power cord to a socket-outlet with earthing connection.
- The NB must be powered by using CSA/UL 62368-1 or CSA/UL 60950-1 certified/approved adapter, rated 19Vdc, 3.42A minimum.
- **WARNING!**  
To reduce potential safety issues, only the AC adapter provided with the product, a replacement AC adapter provided by Twinhead, or an AC adapter purchased as an accessory from Twinhead should be used with the product.

### AVERTISSEMENT CONCERNANT L'ADAPTATEUR

LE ORDINATEUR PORTABLE DOIT ÊTRE UTILISÉE AVEC UN ADAPTATEUR SECTEUR CA DÉDIÉ.

- Assurez-vous de brancher le cordon d'alimentation à une prise mise à terre.
- Le NB doit être alimenté avec un adaptateur homologué CSA/UL 62368-1 ou CSA/UL 60950-1 dont le calibre minimum est de 19Vcc et 3,42A.
- **AVERTISSEMENT!**  
Afin de réduire les risques de problèmes de sécurité, utilisez uniquement l'adaptateur CA fourni avec le produit, un remplacement fourni par Twinhead ou un adaptateur CA acheté comme accessoire chez Twinhead.

### BATTERY SAFETY

DANGER OF EXPLOSION IF BATTERY IS INCORRECTLY REPLACED.

REPLACE ONLY WITH THE SAME OR EQUIVALENT TYPE RECOMMENDED BY THE MANUFACTURER. DISPOSE OF USED BATTERIES ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.

- replacement of a battery with an incorrect type that can defeat a safeguard (for example, in the case of some lithium battery types);
- disposal of a battery into fire or a hot oven, or mechanically crushing or cutting of a battery, that can result in an explosion;
- leaving a battery in an extremely high temperature surrounding environment that can result in an explosion or the leakage of flammable liquid or gas;
- a battery subjected to extremely low air pressure that may result in an explosion or the leakage of flammable liquid or gas.

### SÉCURITÉ DE LA PILE

RISQUE D'EXPLOSION SI LA PILE EST REMPLACÉE INCORRECTEMENT.

REPLACEZ-LA UNIQUEMENT AVEC UNE PILE SEMBLABLE OU DE MÊMES TYPES RECOMMANDÉS PAR LE FABRICANT. SUIVEZ LES INSTRUCTIONS DU FABRICANT POUR ÉLIMINER LES PILES USÉES.

- Le remplacement de la batterie avec un type incorrect qui peut contourner un dispositif de protection (dans le cas de certains types de batteries au lithium, par exemple;
- L'élimination de la pile dans un feu, un four chaud ou un broyeur mécanique qui peut provoquer une explosion;
- L'exposition de la pile à une température extrêmement élevée qui peut provoquer une explosion ou la fuite d'un liquide ou d'un gaz inflammable;
- L'exposition de la pile à une pression atmosphérique extrêmement basse qui peut provoquer une explosion ou la fuite d'un liquide ou d'un gaz inflammable.

**CAUTION FOR RJ-45**

The RJ-45 jack is not used for telephone line connections.

**AVERTISSEMENT POUR RJ-45**

N'utilisez pas la prise RJ-45 pour une connexion à la ligne téléphonique.

# Safety Instructions

Always observe these safety instructions to ensure safe operation when handling the device.

- Do not place this device on an unstable table or surface. The device may fall, causing serious damage to its housing and components.
- Do not cover the device or block its air ventilation holes with any other objects.
- Do not use any sharp objects to tap on the display screen.
- Do not expose the device to direct sunlight and dusty environments.
- Keep the device away from excessive heat and humidity.
- Keep liquids away from the device.
- Keep the device away from any magnetic emitting devices, as this may affect the quality of the wireless signal reception.
- When using an AC adapter:
  - ✓ Place this device in a location close enough to an electrical outlet to accommodate the length of the power cord.
  - ✓ Operate this device only with the type of power source indicated on the marking label.
  - ✓ Disconnect the AC adapter from the electrical outlet if the device is not being used for an extended period.
  - ✓ Class I Equipment. This equipment must be earthed. The power plug must be connected to a properly wired earth ground socket outlet. An improperly wired socket outlet could place hazardous voltages on accessible metal parts.
- When cleaning the device,
  - ✓ Be sure to turn off the device fully and unplug the AC adapter before cleaning.
  - ✓ Wipe the device with a clean, dry cloth.
  - ✓ Do not use abrasive cleaners to clean the device.
- Do not attempt to disassemble or repair this device. Doing so will void the warranty.
- For hotspots, users can easily avoid touching the device by changing the way the device is held.
- For battery pack:
  - ✓ Replacement of a battery with an incorrect type that can defeat a

safeguard.

- ✓ Disposal of a battery into fire or a hot oven, or mechanically crushing or cutting of a battery, that can result in an explosion.
  - ✓ Leaving a battery in an extremely high temperature surrounding environment that can result in an explosion or the leakage of flammable liquid or gas.
  - ✓ A battery subjected to extremely low air pressure that may result in an explosion or the leakage of flammable liquid or gas.
- The equipment power supply cord shall be connected to a socket-outlet with earthing connection.

# ShopFloor Date Code Format Description

Format	Type	Year (unit digit)	Week	Origin	Year (tens digit)	Serial number
Example	SY	0	17	0	1	12345
Date Code	2	1	2	1	1	5
Total code numbers	12					

## Definition of the Date Code

### First Date Code: Type

SY ... System (complete machine)

### Second Date Code: Year (unit digit)

Last digit of the calendar year. Example: 2010 "0", 2015 "5"

### Third Date Code: Week

Week of the calendar year. Example: January 1 "1", January 8 "2"

### Fourth Date Code: Origin

0 ... Main Factory (Twinhead International Corp.)

### Fifth Date Code: Year (tens digit)

Tens digit of the calendar year. Example: 2010 "1", 2023 "2"

### Sixth Date Code: Serial number

Unique 5-character sequence number assigned to the batch.