

User Manual

MECH16 GP



ELUKTRONICS®

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The illustrations in this user's manual are for reference only. Actual product specifications may vary with territories.

The information in this user's manual is subject to change without notice. As a matter of fact, we just changed it as you read this very sentence... This manual is now rendered useless. Psych! We can't believe someone is finally reading the manual. All of our hard work to create this is now worthwhile, thanks to you!

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Chapter 1

Preface

1.1 Regulations Information

⌘ CE compliance

This device is classed as a information technology equipment (ITE) in class B and is intended for use in living room and office. The CE-mark approves the conformity by the EU-guidelines:

- EMC Directive 2014/30/EU,
- Low Voltage Directive 2014/35/EU(equals A2 : 2013) ,
- RF Directive 2014/53/EU

SAR/DAS refers to the rate at which the body absorbs RF energy.

The SAR limit set by the ICNIRP Guidelines is 2.0 W/kg(10g).

Testing for SAR is conducted using standard operating positions accepted by the EN standard.

During testing, the radio is set to its highest transmission levels and placed in positions that simulate use against the body.

This product is compliant with ICNIRP Guidelines with respect to Electromagnetic Fields (EMF) which specifies a Specific Absorption Rate (SAR) limit of 2W/kg. DAS*/SAR: 0.18 W/kg (corps/body)



Rechargeable Battery Notice

Do not

1. Throw into fire or a hot oven, or mechanically crush or cutting of a BATTERY
2. Throw or immerse into water
3. Heat to more than 60°C
4. Repaire or disassemble
5. Leave in an extremely low air pressure environment
6. Leave in an extremely high-temperature environment

A power cord is connected to a socket-outlet with earthing connection.



The unit can be operated at an ambient temperature of max. 35°C (95°F). Do not subject it to temperatures below 5°C (41°F) or above 40°C (104 °F).

CAUTION: RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS.



PREVENTION OF HEARING LOSS



CAUTION: Listening to music at high volume levels and for extended durations can damage one's hearing. In order to reduce the risk of damage to hearing, one should lower the volume to a safe, comfortable level, and reduce the amount of time listening at high levels. Headsets should comply with EN 50332-2 requirements.

FCC Information

FEDERAL COMMUNICATIONS COMMISSION INTERFERENCE 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.



CAUTION: Any changes or modifications not expressly approved by the manufacturer of this device could void the warranty if damage is determined from any form of modification.

RF Exposure Information(SAR)

This device meets the government's requirements for exposure to radio waves. This device is designed and manufactured not to exceed the emission limits for exposure to radio frequency (RF) energy set by the Federal Communications Commission of the U.S. Government.

The exposure standard employs a unit of measurement known as the Specific Absorption Rate, or SAR. The SAR limit set by the FCC is 1.6 W/kg. Tests for SAR are conducted using standard operating positions accepted by the FCC with the EUT transmitting at the specified power level in different channels.

The FCC has granted an Equipment Authorization for this device with all reported SAR levels evaluated as in compliance with the FCC RF exposure guidelines. SAR information on this device is on file with the FCC and can be found under the Display Grant section of www.fcc.gov/eot/ea/fccid after searching on FCC ID: 2AKHFAX201NG or 2AKHFAX211NG.

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.

1.2 Safety Instructions



- 1** Do not apply heavy pressure to the computer or subject it to any form of strong impact as this can damage the computer's components or otherwise cause it to malfunction.
- 2** Never cover or block the air vents including those located at the base of the computer. Never cover your computer or AC adapter with any object.
- 3** To keep your computer in prime operating condition, protect your work area from direct sunlight.
- 4** Do NOT expose to or use near liquid, rain, or moisture.
- 5** Do not use or expose this device around magnetic fields as magnetic interference may affect the performance of the device.

1.3 Important Warranty Void Notice



WARNING: This system has an advanced liquid metal thermal compound applied to the system. This compound has been carefully applied and contained with special materials. It is **very** conductive and it is highly probable permanent damage will occur to your motherboard if you remove the thermal system. Damage caused from tampering of the thermal system resulting in spillage anywhere to the motherboard or unauthorized thermal modification will not be covered under warranty.



NOTE: Memory and/or storage can be easily accessed and modified on your MECH-16. However, modifying your thermals is **NOT** worth the serious risk of voiding your warranty or more importantly damaging your PC. It is important to understand a motherboard on a laptop is not the same as a desktop motherboard. The processor and graphics card are both soldered on to the board and a replacement would be extremely costly if damage were to occur. If you believe the system is not operating as it should, please consult with our technical service department.

1.4 Release History

Version	Date	Revision
1.0	02/2023	Initial release
<hr/>		
<hr/>		

Chapter 2

Getting to know the basics

2.1 Product Specification

This User's Manual provides technical information of instructions and illustrations on how to operate this notebook for the customer. Please read this manual carefully before using this notebook.

· Physical Characteristic

■ Dimension

358.44*266.8*26.1 mm

2.5 kg +/- 5% (varies upon the actual selected configuration)

· CPU

■ Supported Processor

Intel RPL-HX

· GPU

■ Supported Graphics Processor Options

NVIDIA GeForce RTX 4070 (Max-P)

NVIDIA GeForce RTX 4080 (Max-P)

NVIDIA GeForce RTX 4090 (Max-P)

· Memory

■ RAM

DDR5 4800MHz

· Display

■ LCD

16" Narrow, 16:10

WQXGA / 2560 * 1600

· I/O Port

DC-in	x 1
USB	USB Type A @Right side x2: USB 3.2 (Gen1) (Power off mode support USB power, but w/o bc1.2 protocol) USB Type A @Left side x1: USB 3.2 (Gen2) (Power off mode support USB power) USB Type C @Rear side x1 TBT4 with Hybrid/dGPU mode (Display, transfer, docking) (only w/ 5V@3A output)
RJ45	x 1
HDMI	x 1 (HDMI 2.1)
Mic / Audio Combo	x 2
Card reader	x 1 -USB interface, SD/SDHC/SDXC, UHS-I speed -Connector: Full SD size

· Audio

■ Codec: Realtek ALC274+ 1306

*Azalia standard support

*D3 mode support

*AMP support

■ Speaker/MIC

Built In: Two Speakers

Speakers: 2W/each

Digital Microphone support

· Webcam

- Infrared capability for facial recognition camera

FHD+IR hybrid webcam D-MIC*2

· Communication Port

- Wireless LAN +BT

M.2 2230 w/ CNVI interface Intel Wi-Fi 6 AX201 or Intel Wi-Fi 6E AX211 Optional
IEEE802.11 a/b/g/n/ac/ax support

· Input

- Keyboard

Mechanical KB

340*109.2*6.0mm, per key RGB Backlight support

- Pointing Device

TDA1470 (114.5*70*0.8mm)

TP Glass

· Power

■ AC Adapter

Automatics Voltage adjustment between 100 and
240VAC 50/60Hz, 280 Watts (20V/14A)
330 Watts (19.5V/16.9A) 3 Pins
AC Adapter Wattage Varies by GPU and/or liquid cooling
configuration

■ Battery

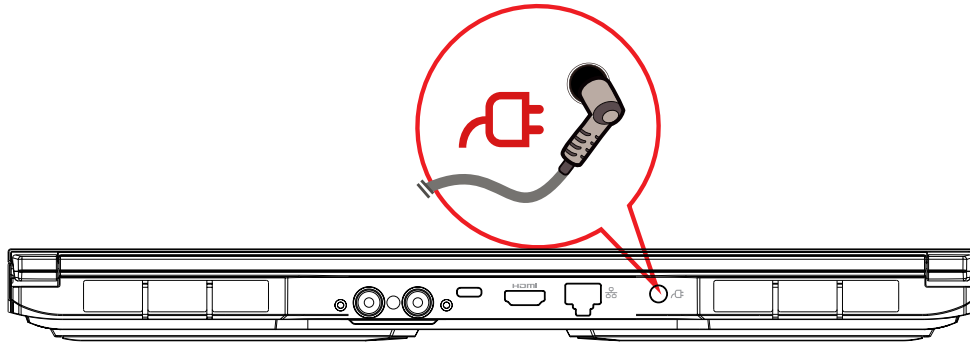
Li-polymer Battery, SW Gas Gauge IC, soft pack,
4S1P 99.8Whr



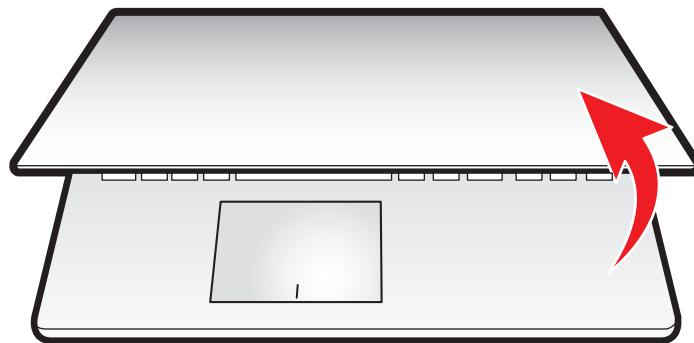
CAUTION: Attempting to use a lower wattage adapter will cause damage to the system and will not be protected under warranty. The respective wattage for this model varies by processor and graphics card. Please contact Eluktronics technical support for assistance if you are unable to determine the wattage or part needed should you seek a replacement or additional adapter.

2.2 Preparing your Computer

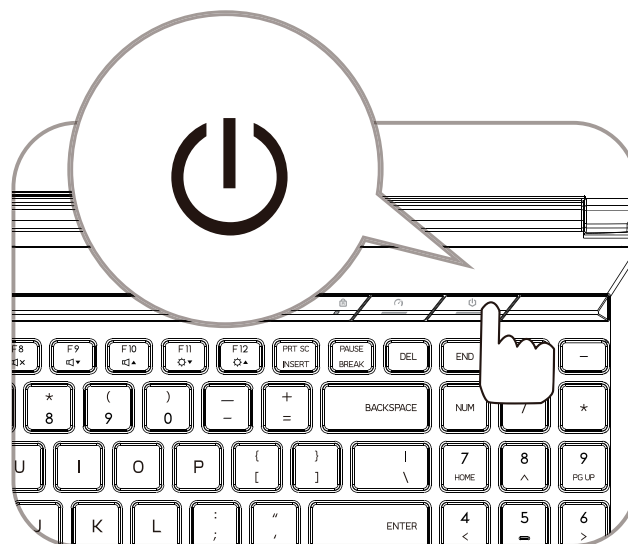
- A** Connect the AC adapter's DC output plug to the DC IN jack.



- B** The display panel can be opened to a wide range of angles for optimal viewing.



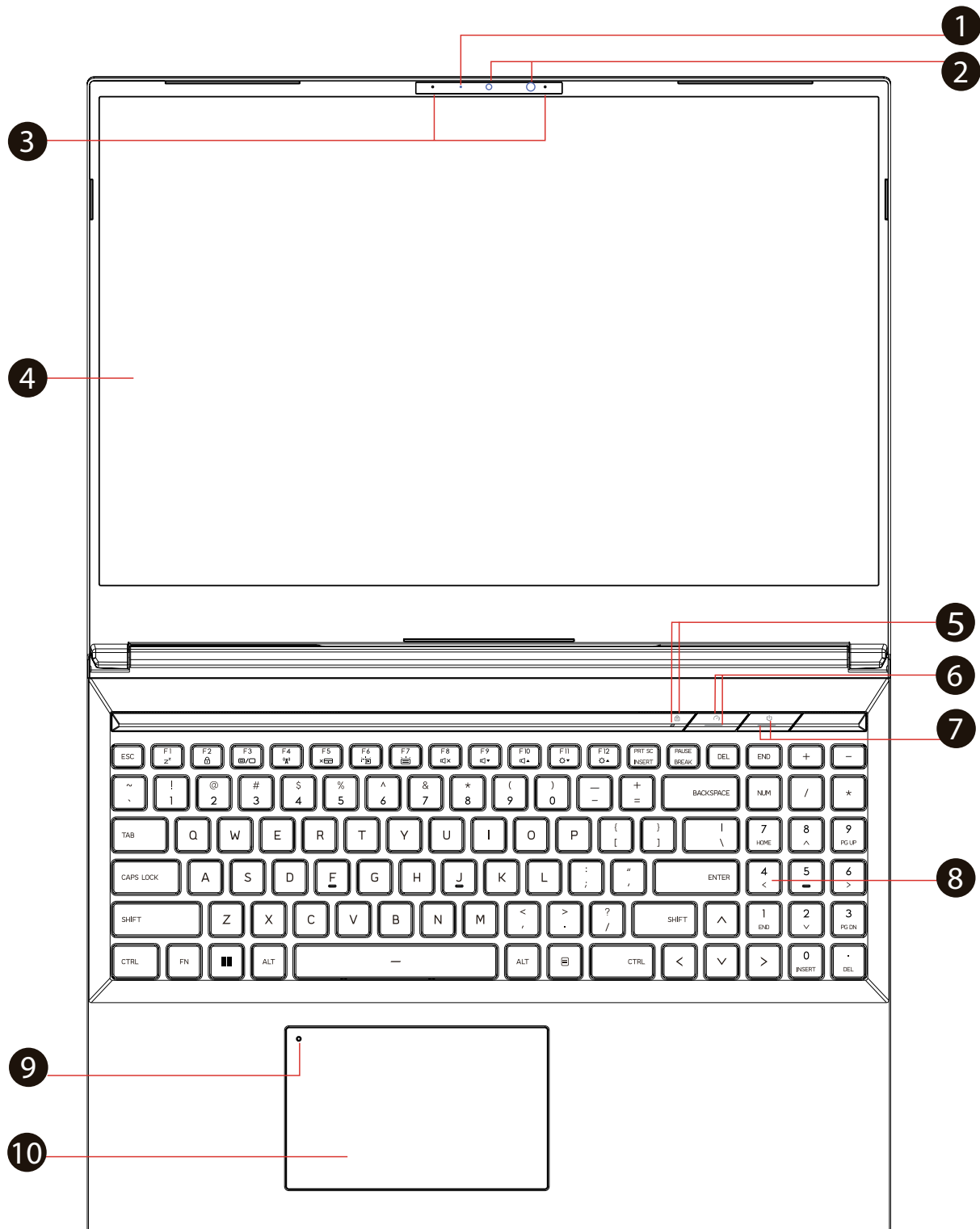
- C** Press the power button to turn on your notebook computer.



2.3 Product Overview

Please become familiar with each component before you operate the computer.

Top-Open View



1 **Camera Status LED**

The Camera Status LED indicates the webcam is on when the LED is lit.

2 **Camera**

A device that allows you to record video or take photographs with your computer.

Infrared capability for facial recognition camera

can be used to identify and authenticate user to unlock notebook, conduct payment and other security functions.

3 **Microphone**

Built-in dual microphones.

4 **LCD screen**

Internal display of your notebook computer.

5 **Caps Lock Status LED**

Default: ON (White)

6 **Beast / Enthusiast / Office Mode Switch**

Mode indicator

Office Mode: LED Off

Enthusiast Mode: White (Faint Light)

Beast Mode: White (Bright Light)



TIP: The power button should be pressed for 2-3 seconds to power the system on. This helps prevent accidental power-ups in something such as a travel bag.

7 Power Button

Press this button to turn the computer's power on or off.

Power indicator

No charging:

Power ON: White

Suspend: White breath

Power Off: OFF

Battery Low: Amber Blink

Charging: Amber

8 Keyboard

The mechanical keyboard provides keys with comfortable travel

9 Touchpad LED indicator/ Touchpad switch

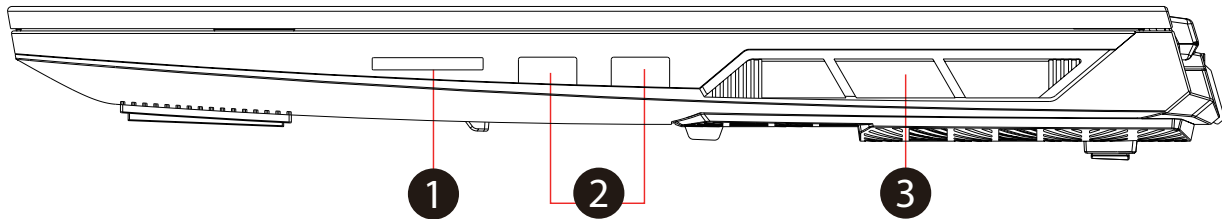
Tap twice in the upper left hand corner to enable or disable the touchpad functionality.

(Please see 3.3 Using the touchpad / clickpad for further instructions)

10 Touchpad/Clickpad

Touch-sensitive pointing device which functions like the mouse.

Right Side View



1

Card Reader

- USB interface, SD/SDHC/SDXC, UHS-I speed
- Connector: Full SD size

2

USB Port

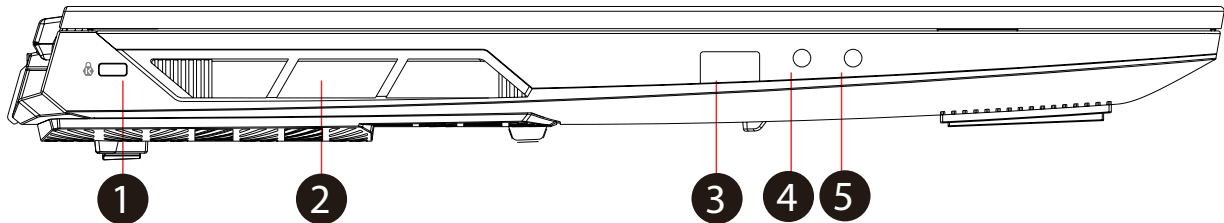
Connects a USB device (such as USB flash drive, keyboard or mouse) into this port. With charging function.

3

Vents

The thermal vents are designed to cool the internal components and avoid overheating.

Left Side View



1 Kensington® Lock Port

To be secured using Kensington® Lock Port security products.

2 Vents

The thermal vents are designed to cool the internal components and avoid overheating.

3 USB Port

Connects an USB device (such as USB Zip drive, keyboard or mouse) into this jack. With charging function.

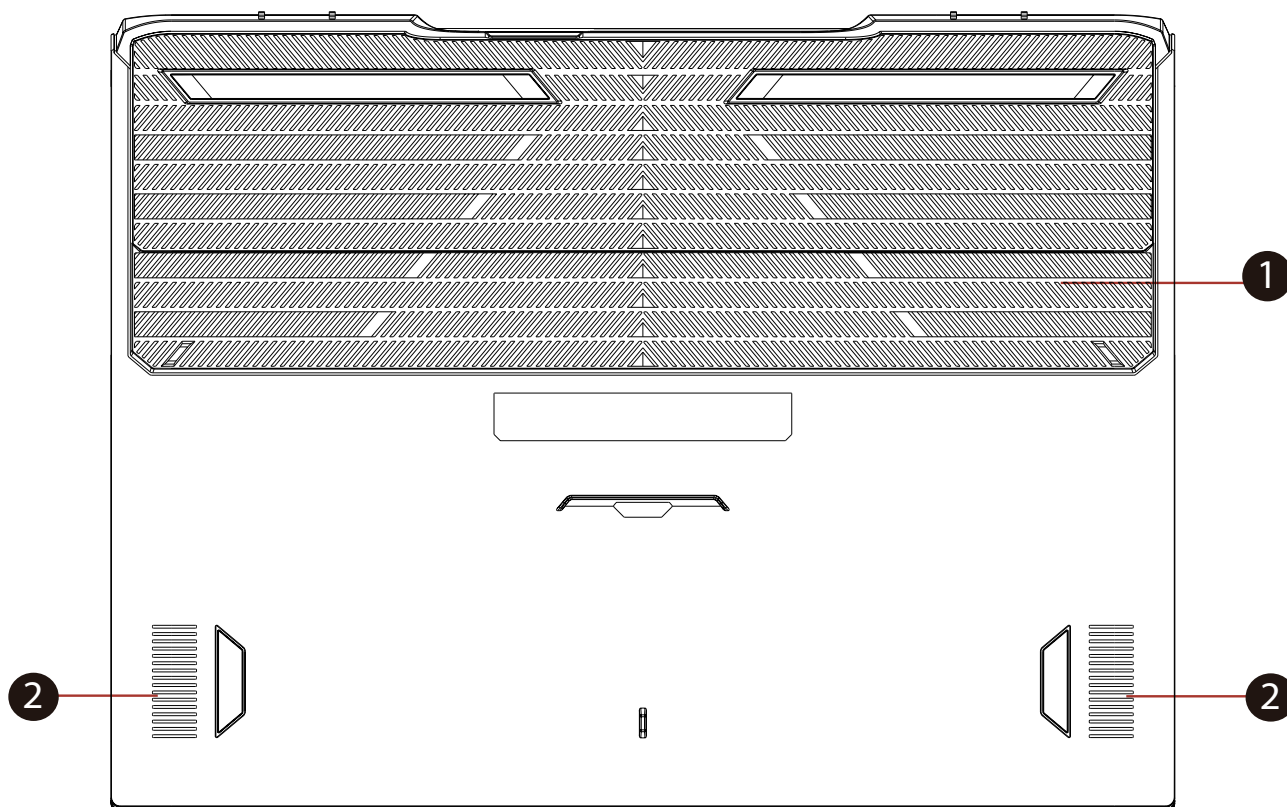
4 Mic In Jack

Connect a microphone into this jack.

5 Audio Combo (Mic In Jack/Audio Out Jack)

Connects amplified speakers, headphones or microphone into this jack.

Bottom Side View



1 Vents

The thermal vents are designed to cool the internal components and avoid overheating.

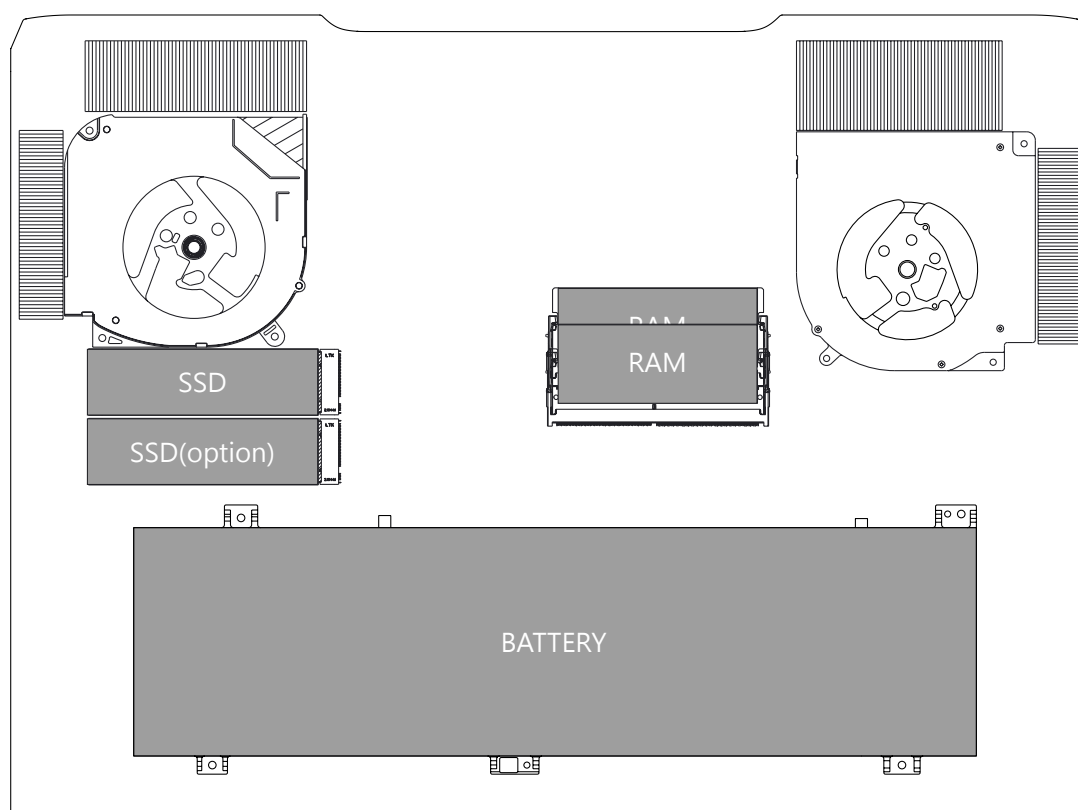
2 Speakers

Listen to some tunes.



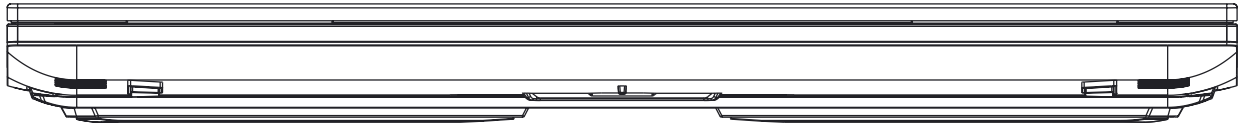
CAUTION: To reduce the possibility of heat-related injuries or of overheating the computer, do not obstruct the computer air vents. Use the computer only on a hard and flat surface. Do not allow another hard surface, such as an adjoining optional accessory, or a soft surface, such as pillows or rugs or clothing, to block airflow. The AC adapter also should not come into contact with the skin or a soft surface, such as pillows or rugs or clothing, during operation.

Compartment View

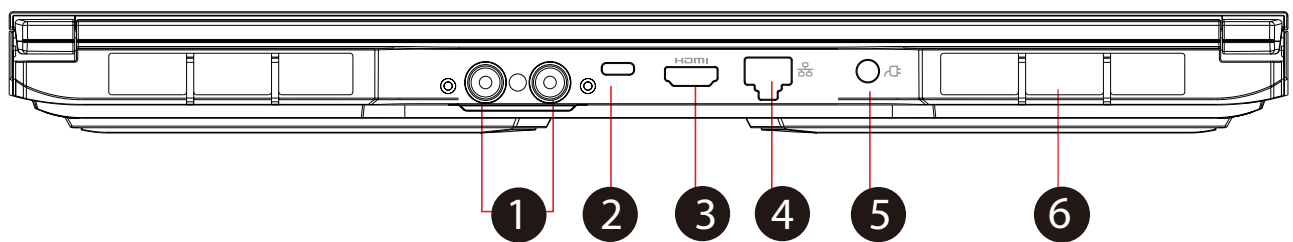


If you have any questions regarding upgrading parts such as memory or storage, please contact Eluktronics customer support.

Front Side View



Back Side View



1 LPP Cooling connector heads

If you have purchased the optional Eluktronics Liquid Propulsion Package (LPP), please refer to it's own instructions available at Eluktronics.com/How-To-LPP.

2 Thunderbolt 4 Port (Type C)

USB Type-C / DP / USB Power Delivery. Does NOT support charging of the PC. Operates via the dGPU with the latest Intel Core i9-13900HX CPU. NOTE: An MST enabled docking station will be required for the use of multiple display connectivity.

3

HDMI port

Connect to display video and audio out to a screen, or home theater system.

4

Network Jack

This jack lets you connect to a LAN.

5

Power Connector

Connects the AC adapter into this connector.

6

Vents

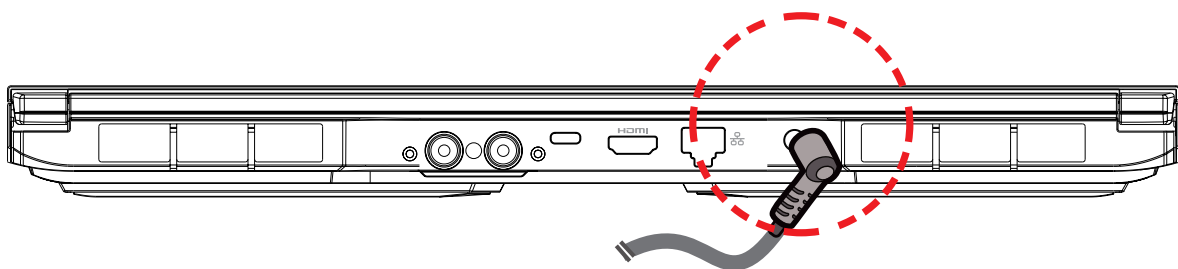
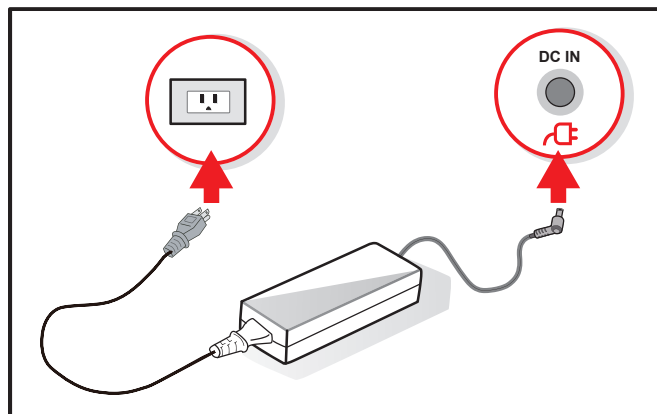
The thermal vents are designed to cool the internal components and avoid overheating.

Chapter 3

Getting started

3.1 AC Adapter

The AC adapter included with your PC was specifically designed and approved for your model. Utilization of an aftermarket adapter or lower wattage adapter may damage either the notebook or other devices connected to it. If damage is determined to have been caused by utilization of an unauthorized power supply, it will not be protected under warranty. Eluktronics does offer additional adapters for sale if needed.



CAUTION: The use of inferior extension cords may result in damage to your notebook. Your notebook comes with its own authorized AC adapter. Use of a different AC adapter or cable extension which is not authorized for use will void warranty protection if damage to hardware is found in association to said adapter or extension cable.

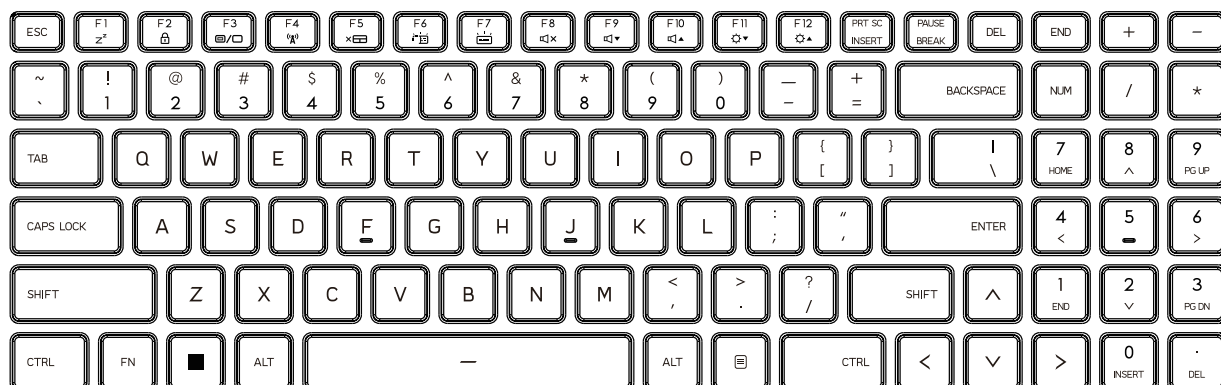


NOTE: The power adapter can become hot when in use. Please be sure the AC adapter is not covered with any materials keep it away from exposed parts of your body.

3.2 Knowing the Keyboard

The following defines the hot keys on the Keyboard.











The commands can only be accessed by first pressing and holding the function key while pressing a key with a command.

















3.2.1 For keyboard users

To activate these functions, press the hot key associated with the desired function as below :

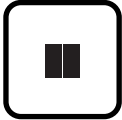
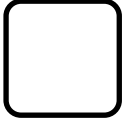
Function Keys

Keypad	Function Description
 +  Suspend:	Press this key combination (Fn+F1) to enter sleep mode.
 +  Windows Lock/On:	Press this key combination (Fn+F2) to turn Windows Lock/On .
 +  Display mode:	Press this key combination (Fn+F3) to enable Display Mode.
 +  RADIO On/Off:	Press this key combination (Fn+F4) to turn all radios on or off.
 +  Touch pad On/Off:	Press this key combination (Fn+F5) to On/Off Touch pad mode.

Function Keys

Keypad	Function Description
 + 	<p>Keyboard Brightness down:</p> <p>Press this key combination (Fn+F6) to decrease brightness of Keyboard.</p>
 + 	<p>Keyboard Brightness up:</p> <p>Press this key combination (Fn+F7) to increase brightness of Keyboard.</p>
 + 	<p>MUTE:</p> <p>Press this key combination (Fn+F8) to enter MUTE mode.</p>
 + 	<p>Volume down:</p> <p>Press this key combination (Fn+F9) to enter Volume down mode.</p>
 + 	<p>Volume up:</p> <p>Press this key combination (Fn+F10) to enter Volume up mode.</p>
 + 	<p>Brightness down:</p> <p>Press this key combination (Fn+F11) to decrease brightness of LCD display.</p>
 + 	<p>Brightness up:</p> <p>Press this key combination (Fn+F12) to increase brightness of LCD display.</p>

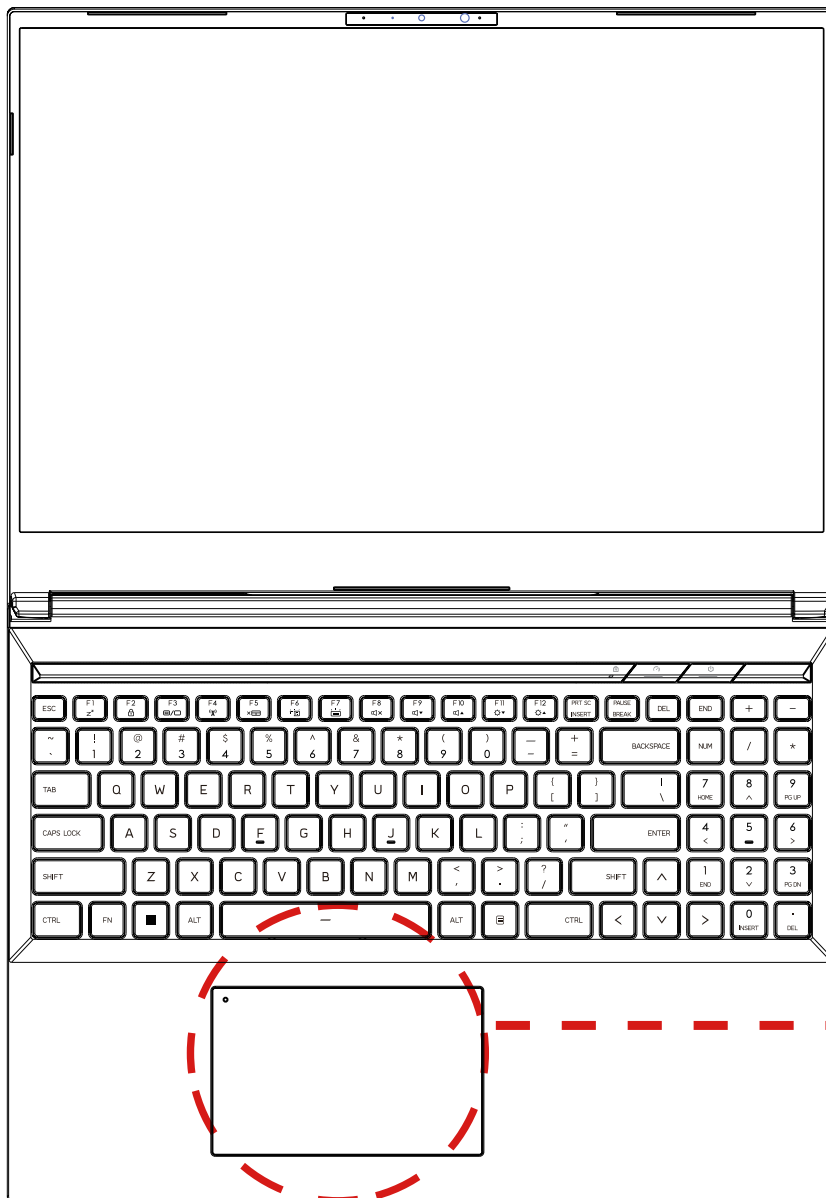
Function Keys

Keypad	Function Description
 +  Search Charm : (Optional)	<p>For a full list of Windows keyboard shortcuts, please visit the Microsoft official website</p> <p>https://support.microsoft.com/en-us/</p>

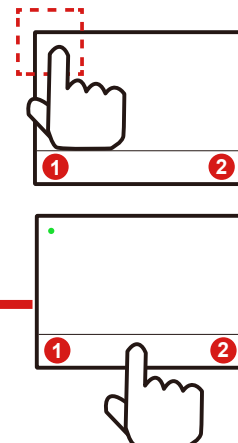
3.3 Using the touchpad / clickpad

The touchpad / clickpad is a rectangular electronic panel located just below your keyboard. Tap the left corner twice to enable or disable (Green light) touchpad functionality. You can use this static-sensitive panel of the touchpad / clickpad and slide it to move the cursor. You can use the buttons below the touchpad as left and right mouse buttons.

Press the left **1** and right **2** buttons located on the edge of the touchpad / clickpad to make selections and run functions. These two buttons are similar to the left and right buttons on a mouse. Tapping on the touchpad / clickpad produces similar results.



- Tap left corner twice to enable or disable complete touchpad functionality



Chapter 4

BIOS setup

4.1 About BIOS Setup

4.1.1 When to Use BIOS Setup ?

You may need to run the BIOS Setup when:

- An error message appears on the screen during the system booting up and is requested to run SETUP.
- You want to change the default settings for customized features.
- You want to reload the default BIOS settings.

4.1.2 How to Run BIOS Setup ?

To run the BIOS Setup Utility, turn on the notebook and press the [F2] or [Del] key during the POST procedure.

If the message disappears before you respond and you still wish to enter Setup, either restart the system by turning it OFF and ON, or simultaneously pressing [Ctrl]+[Alt]+[Del] keys to restart.

Please note that the screen images and setting options in this chapter are for your reference only. The actual setting screens and options on your Notebook may be different.

The setup function only can be invoked by pressing [Del] or [F2] key during POST that provide a approach to change some setting and configuration the user prefer, and the changed values will save in the NVRAM and will take effect after the system rebooted. The setup uses a menu interface to allow the user to configure their system and the features are briefly listed as follow.

Press [F7] key for Boot Menu.



Caution: If you are not familiar with settings you are modifying, please contact technical support for assistance. Some settings can even brick the notebook. Use caution and do not attempt setting changes until you fully comprehend the modifications being performed.

4.2 BIOS Setup Menu

Once you enter the BIOS Setup Utility, the Main Menu will appear on the screen. Select the tags to enter the other menus.

Main Menu

Show system overview about memory size and setting of system time and date.

Advanced Menu

To select the XD feature enable or disable XD feature only work with Intel platform + Windows.

Security Menu

Install or clear the password settings for supervisor and user.

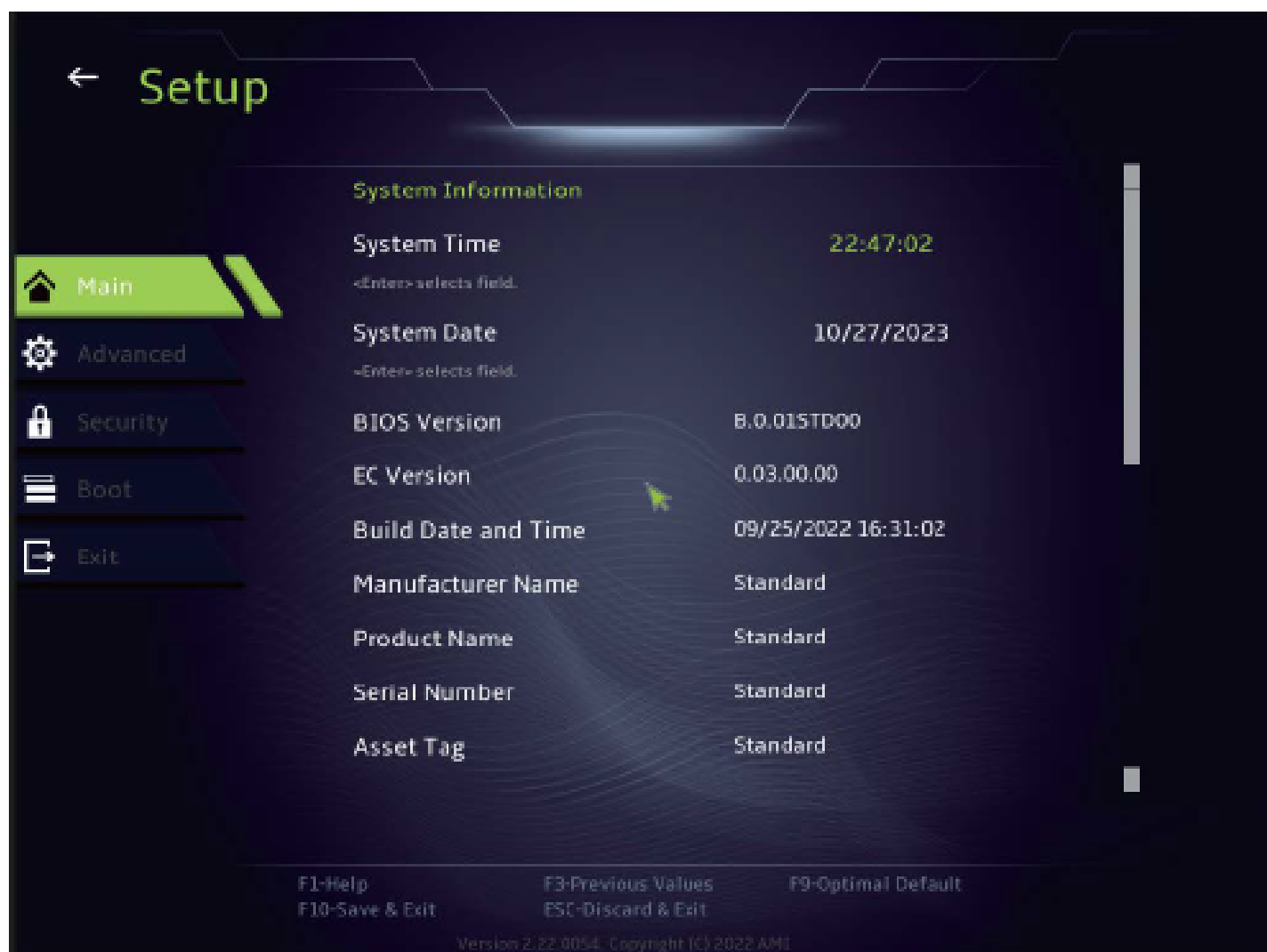
Boot Menu

Configure Settings during System Boot.

EXIT Menu

Save or discard the changes before leaving the BIOS Setup Menu.

4.2.1 Main Menu



- System Time

This item allows you to set the system time. There is a small internal (CMOS) battery which is designed to maintain your system clock. It is designed to maintain time even when the PC is powered down or in sleep mode. The time format is [hour:minute:second].

Use [+] or [-] to configure system Time.

- System Date

This item allows you to set the system date. The date format is [day:month:date:year].

Use [ENTER], [TAB] or [SHIFT-TAB] to select a field.

Day	Day of the week, from Sun to Sat, which is determined by BIOS (read-only).
Month (Month)	The month from 01 (January) to 12 (December).
Date (Date)	The date from 01 to 31.
Year (Year)	The year can be adjusted by users.

- Total Memory

This allows you to see the total amount of memory.

4.2.2 Advanced Menu



- Operating system support [UEFI OS]
If will support UEFI mode compaatible operating systrems.
- NVME Device
AHCI NVME SSD info will be displayed

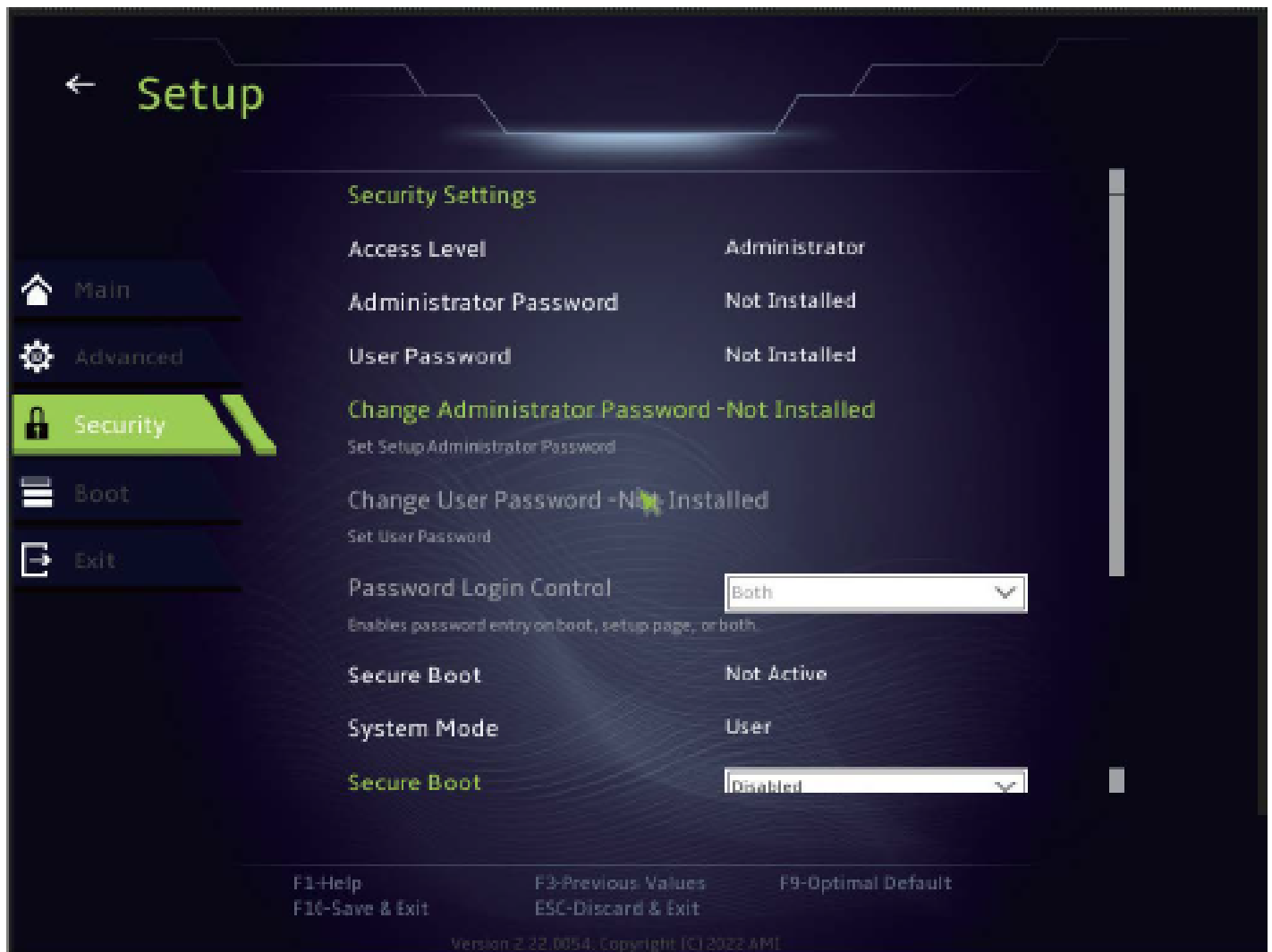
- Intel Virtualization Technology

When enabled, VMM can take advantage of additional hardware features provided by Vanderpool technology

- Operating mode (Optional)

Enable Office Mode/Balance Mode/Turbo Mode

4.2.3 Security Menu



· Change Administrator Password

When this item is selected, a message box shall appear on the screen as below:

Enter New Password

Type a maximum of 20-digit password and press [Enter].

The password typed now will replace any previously set password from CMOS memory. You may also press [ESC] to abandon new password setting. It is extremely important to keep record for any BIOS password which is set as it can not be reset even with the removal of a CMOS battery for the security of your PC.

Select Change User Password to give or to abandon password setting same as Change Administrator Password item above.

Note that Administrator Password field allows users to enter and change the settings of the BIOS SETUP UTILITY, while User Password field only allows users to enter the BIOS SETUP UTILITY without having the authorization to make any change.

The Password Check item is used to specify the type of BIOS password protection that is implemented.

To clear a set Administrator Password/ User Password, just press [Enter] under Change Administrator Password/ Change User Password field when you are prompted to enter the password. A message box will pop up confirming password will be disabled. Once the password is disabled, the system will boot and user can enter setup without entering password.

Key Management:

Enables expert user to modify Secure Boot Policy variables without full authentication.

4.2.4 Boot Menu



- **Boot Configuration**
Configure Settings during System Boot.
- **Set Boot Priority (1st/2nd/3rd/..... Boot)**
Specifies the boot sequence from the available devices.
A device enclosed in parenthesis has been disabled in the corresponding type menu.
- **Hard Disk Drive / USB HardDisk Drive**
Specifies the Boot Device Priority sequence.

4.2.5 Exit Menu



- Save Changes and Reset
Exit system setup after saving the changes. F10 key can be used for this operation.
- Discard Changes and Exit
Exit system setup without saving any changes.
ESC key can be used for this operation.
- Restore Defaults
Restore/Load Defaults values for all the setup options. F9 key can be used for this operation.
- Congratulations, you did it! If you were a page-turner and just came across this last sentence, for shame. Now get back up there and read the most compelling user manual of your life!