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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.
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Chapter 1

Preface
1.1 Regulations Information

- CE compliance

This device is classed as a technical information 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

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 grantee of this device could void the user’s authority to operate the equipment.
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. Do NOT use the modem during electrical storms.

5. Do not use or expose this device around magnetic fields as magnetic interference may affect the performance of the device.
1.3 Conventions for this Manual

**CAUTION :** This message contains important information that must be followed for safe operation.

**NOTE :** This message contains information for special situations.
1.4 Release History

<table>
<thead>
<tr>
<th>Version</th>
<th>Date</th>
<th>Revision</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
<td>04/2019</td>
<td>Initial release</td>
</tr>
</tbody>
</table>
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.

<table>
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<tr>
<th>Physical Characteristic</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dimension</strong></td>
</tr>
<tr>
<td>359.8<em>244.3</em>25.85mm</td>
</tr>
<tr>
<td>2.15kg</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CPU</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Support Processor</strong></td>
</tr>
<tr>
<td>CFL-H Refresh</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>GPU</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Support Processor</strong></td>
</tr>
<tr>
<td>NVIDIA GTX 1650</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Memory</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>RAM</strong></td>
</tr>
<tr>
<td>DDR4 2666 MHz</td>
</tr>
</tbody>
</table>
· I/O Port

- DC-in: x 1
- USB: USB 3.1 x 2 (Gen1)
  - USB type C 3.1 x 1 (Gen1)
  - USB 2.0 x 1
- RJ45: x 1
- Card Reader: x 1, (2 in 1 Card reader-support SD/SDHC/SDXC card)
- HDMI: x 1
- Audio out & Mic in: x 2
- Mini DP: x 2

· Audio

- Audio Codec
  - Azalia standard support, D3 mode support
- Speaker/MIC
  - *Build-in 2 speakers
  - *Speaker: 2W/each
  - *Digital Microphone support
· Input

- Keyboard
  Membrane 4 zone RGB backlight support, Membrane without backlight (Option)

- Pointing Device
  Touch pad 104*72mm

· Display

- LCD
  15.6" FHD, 16:9, (Narrow)

· Communication Port

- LAN
  *Supports 10/100/1000 Mb/Sec  
  *PCI-E interface  
  *DSM (Deep sleep mode) support

- Wireless LAN +BT
  *M.2 2230 w/CNVI interface (Intel 9 series)  
  *IEEE802.11b/g/n support; AC mode support

· Webcam

- Webcam
  4mm HD webcam with D-MIC*1
- **Storage**
  
  **HDD**
  
  7mm height; 2.5"; SATA
  
  **SSD (Optional)**
  
  *2 Slots (NVMe)*
  
  *M.2 2280,*
  
  Slot 1: NVMe/PCIEx4
  
  Slot 2: NVMe/PCIEx4/SATAx1
  
  *RAID 0/1 support

- **Power**

  **AC Adapter**

  Automatics Voltage adjustment between 100 and 240V AC 50/60Hz, 120 Watts (19V/6.32A), 3 Pins

  **Battery**

  Li- polymer Battery, SW Gas Gauge IC, soft pack,

  3 cells (3S1P 4100mAh) 46.74 Wh

---

CAUTION: MODEL IS DESIGNED TO USE WITH THE DC INPUT: 19V/7.89A
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

NOTE: The product’s color/ LED color, I/O port, indicator location, and specification will depend upon the actually shipping product.
1  **Webcam**
   A device that allows you to record video or take photographs with your computer.

2  **Camera Status LED**
   The Camera Status LED shows the Camera status.

3  **Microphone**
   Built-in microphone.

4  **LCD screen**
   Displays of your notebook computer.

5  **Caps Lock Status LED**
   ON (Green)

   **Charging & Battery indicator**
   Charging(Power ON): Orange
   Charging(Power Off): Orange
   Battery Low (<6%): Orange (3 Sec/Cycle)
   Charging finish (w/AC): Green, (w/o AC): Off

   **Power indicator**
   Power ON: Green
   Suspend: Green , Slow / Smooth, Blinking Green (3Sec/Cycle)
   Power Off: OFF

---

**CAUTION:** When you are not using the computer, keep the LCD-screen closed to protect it from dust.
6 Power Button
Press this button to turn the computer's power on or off.

7 Office/Game Mode Switch
On screen display

8 Keyboard
Full 15.6” KB with RGB backlight support.
Full 15.6” KB without RGB backlight support (option).

9 Touchpad/Click pad
Touch-sensitive pointing device which functions like the mouse.

Touchpad LED indicator/ Touchpad switch
(Please refer to P32)
Right Side View

1 2 in 1 Card Reader
Insert Memory Card.

2 USB Ports
Connects an USB device.
(such as USB Zip drive, keyboard or mouse) into this jack.

3 USB Ports
Connects an USB device.
(such as USB Zip drive, keyboard or mouse) into this jack.
Left Side View

1. **Kensington® Lock Port**
   To be secured using Kensington® Lock Port security products.

2. **Network Jack**
   This jack lets you connect to a LAN.

3. **USB Ports**
   Connects an USB device.
   (such as USB Zip drive, keyboard or mouse) into this jack.

4. **Mic In Jack**
   Connects amplified speakers, headphones or microphone into this jack.

5. **Audio Out Jack**
   Connects amplified speakers, headphones or microphone into this jack.
NOTE: The product’s thermal vent will depend upon the actually shipping product.

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

2 Speaker
HDD / RAM / SSD / WLAN Compartment View

If need to upgrade SATA SSD to PCIE SSD,
Please contact technical support and after-sales service.

CAUTION: Do not put the computer on your LAP or other Parts of the body to avoid injury from the heat.
Front Side View

Back Side View

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

2. **Mini Display Port**
   Supports high-definition digital video connections.
3 HDMI port 
**HDMI**
Connected to the screen, or home theater system.

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

5 Power Connector 
**AC**
Connects the AC adapter into this connector.
Chapter 3

Getting started
3.1 AC Adapter

Please be noted that it is strongly recommended to connect the AC adapter and use the AC power while using this notebook for the first time. When the AC adapter is connected, the battery is being charged immediately. Attach the AC adapter when you need to charge the battery or you want to operate from AC power. It is also the fastest way to get started, because the battery pack will need to be charged before you can operate from battery power.

Note that the AC adapter included in the package is approved for your notebook; using other adapter model may damage either the notebook or other devices attached to it.

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. The AC adapter appearance may vary depending on your region.
3.2 Knowing the Keyboard

The following defines the colored hot keys on the Keyboard.

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

NOTE: The number of keys available on your keyboard will depend on the country/region in which the keyboard was designed and built.
### 3.2.1 For keyboard users

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

#### Function Keys

<table>
<thead>
<tr>
<th>Keypad</th>
<th>Function Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Fn + F1" /></td>
<td>Suspend: Press this key combination (Fn+F1) to enter sleep mode.</td>
</tr>
<tr>
<td><img src="image" alt="Fn + F2" /></td>
<td>Windows Lock/On: Press this key combination (Fn+F2) to turn Windows Lock/On.</td>
</tr>
<tr>
<td><img src="image" alt="Fn + F3" /></td>
<td>Display mode: Press this key combination (Fn+F3) to enable Display Mode.</td>
</tr>
<tr>
<td><img src="image" alt="Fn + F4" /></td>
<td>RADIO On/Off: Press this key combination (Fn+F4) to turn all radios on or off.</td>
</tr>
<tr>
<td><img src="image" alt="Fn + F5" /></td>
<td>Touch pad On/Off: Press this key combination (Fn+F5) to On/Off Touch pad mode.</td>
</tr>
</tbody>
</table>
## Function Keys

<table>
<thead>
<tr>
<th>Keypad</th>
<th>Function Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Keypad Image] + ![F6]</td>
<td>Keyboard Brightness down: Press this key combination (Fn+F6) to decrease brightness of Keyboard.</td>
</tr>
<tr>
<td>![Keypad Image] + ![F7]</td>
<td>Keyboard Brightness up: Press this key combination (Fn+F7) to increase brightness of Keyboard.</td>
</tr>
<tr>
<td>![Keypad Image] + ![F8]</td>
<td>MUTE: Press this key combination (Fn+F8) to enter MUTE mode.</td>
</tr>
<tr>
<td>![Keypad Image] + ![F9]</td>
<td>Volume down: Press this key combination (Fn+F9) to enter Volume down mode.</td>
</tr>
<tr>
<td>![Keypad Image] + ![F10]</td>
<td>Volume up: Press this key combination (Fn+F10) to enter Volume up mode.</td>
</tr>
<tr>
<td>![Keypad Image] + ![F11]</td>
<td>Brightness down: Press this key combination (Fn+F11) to decrease brightness of LCD display.</td>
</tr>
<tr>
<td>![Keypad Image] + ![F12]</td>
<td>Brightness up: Press this key combination (Fn+F12) to increase brightness of LCD display.</td>
</tr>
</tbody>
</table>
## Function Keys

<table>
<thead>
<tr>
<th>Keypad</th>
<th>Function Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Search Charm</strong> (Optional)</td>
<td>Press this key combination (Windows logo key+Q) to open the search charm and search apps.</td>
</tr>
<tr>
<td><strong>Settings Charm</strong> (Optional)</td>
<td>Press this key combination (Windows logo key+I) to open the settings charm.</td>
</tr>
<tr>
<td><strong>Share Charm</strong> (Optional)</td>
<td>Press this key combination (Windows logo key+H) to open the share charm.</td>
</tr>
<tr>
<td><strong>Devices Charm</strong> (Optional)</td>
<td>Press this key combination (Windows logo key+K) to open the devices charm.</td>
</tr>
</tbody>
</table>
3.3 Using the touchpad / clickpad

The touchpad / clickpad is a rectangular electronic panel located just below your keyboard. Click twice left corner will open or close (Green light) touchpad functionality. You can use the 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.
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 [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.

Be noted that the screen snaps and setting options in this chapter are for your references only. The actual setting screens and options on your Notebook may be different because of BIOS update.

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.


NOTE : The drivers, BIOS and utilities bundled in the support DVD may vary by models and are subject to change without notice.
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, main HDD or ODD 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.
<table>
<thead>
<tr>
<th>Day</th>
<th>Day of the week, from Sun to Sat, which is determined by BIOS (read-only).</th>
</tr>
</thead>
<tbody>
<tr>
<td>Month (Month)</td>
<td>The month from 01 (January) to 12 (December).</td>
</tr>
<tr>
<td>Date (Date)</td>
<td>The date from 01 to 31.</td>
</tr>
<tr>
<td>Year (Year)</td>
<td>The year can be adjusted by users.</td>
</tr>
</tbody>
</table>

• Total Memory
  This allows you to see the total amount of memory.
4.2.2 Advanced Menu

- Wake on LAN
  Enable/Disable
  integrated LAN to wake the system.

- Serial ATA HDD
  It will show AHCI SATA HDD info.

- NVMe Device
  It will show NVMe Device info.
· Intel Virtualization Technology
When enabled, a VMM can utilize the additional hardware capabilities provided by Vanderpool Technology.

· RAID mode reminder
Please update strip size in BIOS to 128K in order for RAID to optimize performance.

· Keyboard BackLight Features –
Light Effect [Disabled/Breathing/Wave/Rainbow/Marquee/Raindrop] Select keyboard light mode when power on.

· OverClocking Features
Performance Menu for Processor and Memory.

· Core Voltage Offset
Specifies the Offset Voltage applied to the IA Core domain. This voltage is specified in millivolts. Uses Mailbox MSR 0x150, cmd 0x11. Range -500 to 500 mV.
Offset Prefix [+-]
4.2.3 Security Menu

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

![Message Box]

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.
4.2.4 Boot Menu

· Boot Configuration
  Configure Settings during System Boot.

· LAN Remote Boot [Disable]: Boot from LAN or not.

· 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. F4 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. F3 key can be used for this operation.