

# VM27 User Manual



## Statement

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## Safety Notice

- Read the user manual carefully before setting up the Giada product.
- Disconnect the power cord before installing the internal components
- Most electronic components are sensitive to static electrical charge, please wear a wrist-grounding strap when installing the internal components.
- Don't disconnect the power cord when the system is running to avoid damage to the sensitive components by instantaneous surge voltage.

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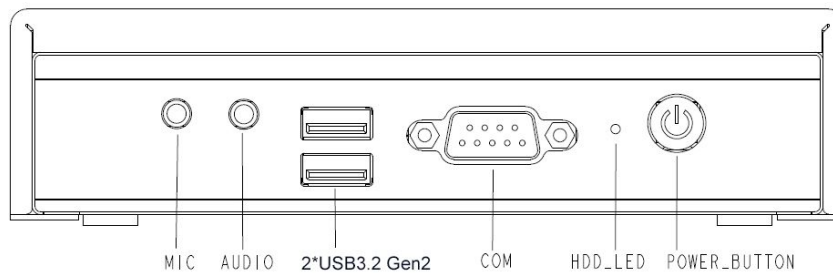
# 1 Product Introduction

Based on Intel® Elkhart Lake, Giada VM27 supports Pentium® quad-core N6415 and Celeron® dual-core N6210 processors, adopts fanless design, onboard 4GB (8GB as option) dual-channel LPDDR4 memory and onboard 64GB (32GB as option) eMMC5.1 storage. It features with vivid dual 1080p video or one 4K video decoding. Its HDMI 2.0a and DisplayPort 1.2 ports can also support resolutions up to 4096 x 2160@60Hz. The player is suitable to be applied in entry-level or middle range digital signage applications.

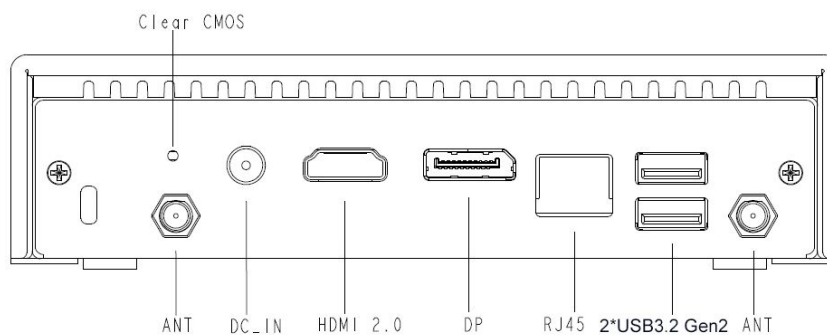
## 2 Interface Description and Specifications

### 2.1 Interface Description

#### Front I/O Port



#### Rear I/O Port



## 2.2 Hardware Specifications

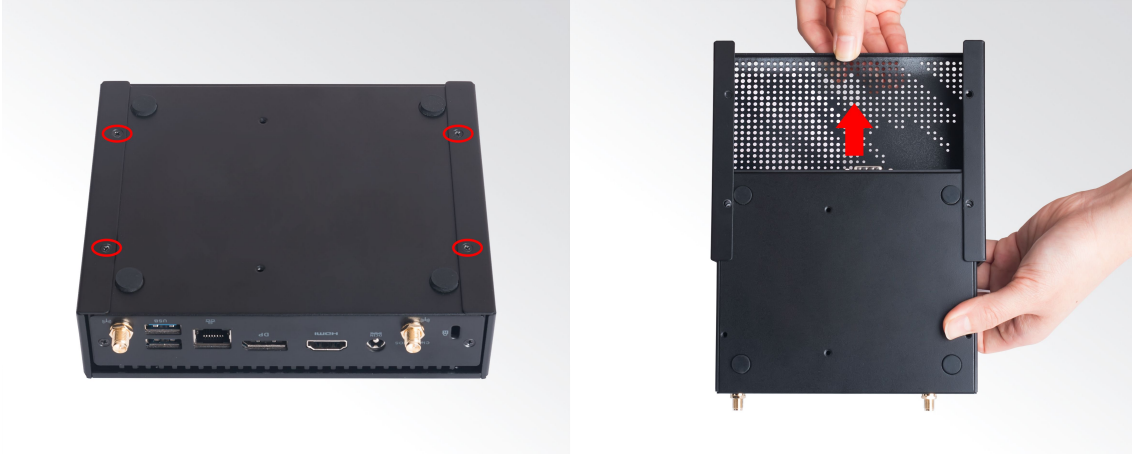
VM27		VM27-N621042E6G-GIA	VM27-N641542E6G-GIA
<b>Processor</b>	<b>CPU</b>	Intel® Celeron® N6210 processor	Intel® Pentium® N6415 processor
	<b>Frequency</b>	2.60 GHz	3.00 GHz
	<b>BIOS</b>	AMI Source Code	
	<b>Chipset</b>	SOC	
<b>Memory</b>	<b>Type</b>	LPDDR4-2666 MHz	
	<b>Socket</b>	Onboard	
	<b>Capacity</b>	4GB onboard, (Optional: 8GB)	
<b>Graphics</b>	<b>GPU</b>	Intel® UHD Graphics	
	<b>Graphic Engine</b>	DirectX 12.1, OpenGL 3.0, OpenCL 1.1, Intel® Quick Sync Video	
	<b>DP</b>	1 x DP (Max.4096 x 2160 @60 Hz)	
	<b>HDMI1.4</b>	1 x HDMI (Max.4096 x 2160 @60 Hz)	
<b>Network</b>	<b>Controller</b>	1 x Realtek RTL 8111H Gigabit Ethernet	
	<b>Interface</b>	1 x RJ45	
<b>I/O Interface</b>	<b>USB</b>	4 x USB3.2 Gen2 (10 Gbps)	
	<b>Serial Port</b>	1 x RS232	
	<b>Audio</b>	1 x MIC-IN, 1 x AUDIO-OUT	
	<b>M.2 (2230)</b>	1 x E-Key (2230) for Wi-Fi/BT Support Wi-Fi 5, Wi-Fi 6	
<b>Storage</b>	<b>mSATA</b>	1 x Full-size Mini-PCIe for mSATA	
	<b>eMMC</b>	64 GB, Onboard eMMC5.1 (Optional: 32 GB)	
<b>JAHC</b>	<b>JAHC</b>	Watchdog / Auto power on/ RTC/Wake On Lan	
<b>Operation System</b>	<b>OS</b>	Windows 10 (64bit) /Windows 11 (64bit)	
		Linux Ubuntu (64bit)	
<b>Power</b>	<b>Power Type</b>	DC-IN	
	<b>Input Voltage</b>	19 V/2.37 A	
<b>Mechanical</b>	<b>Construction</b>	Metal	
	<b>Mounting</b>	VESA Mounting Kit (JC501)	
	<b>Dimension (W x D x H)</b>	154mm x 125.5mm x 40 mm	
	<b>Color</b>	Black	
<b>Environment</b>	<b>Operating Temperature</b>	0°C ~45°C (32°F~113°F) @0.7m/s Air Flow	
	<b>Relative Humidity</b>	95% @ 45°C (non-condensing)	
<b>Certification</b>		CE/FCC	

## 3 Accessories Installation Steps

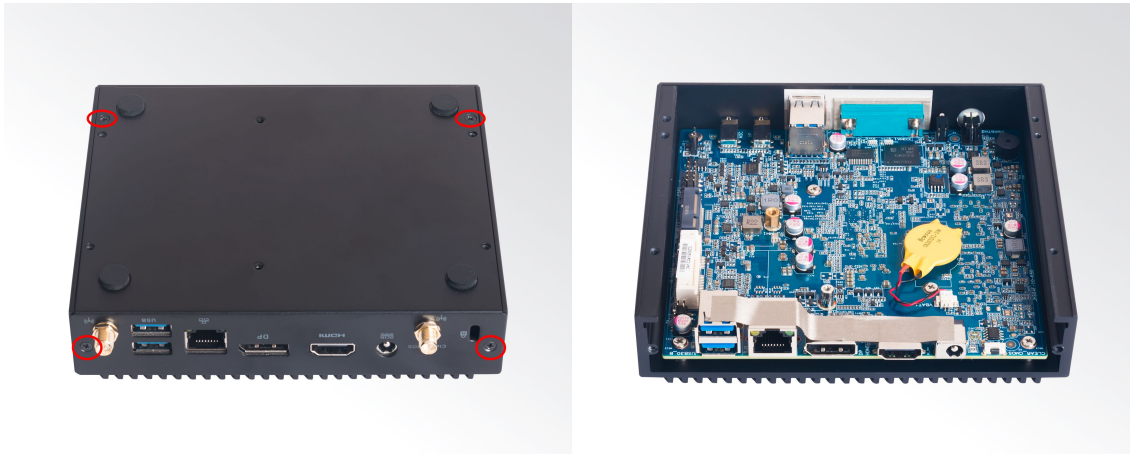
▲ For safety reasons, please ensure that the power cord is disconnected before opening the case.

### 3.1 How to open the top cover and bottom cover

1. Unscrew the four screws from the bottom cover and take off the top cover.

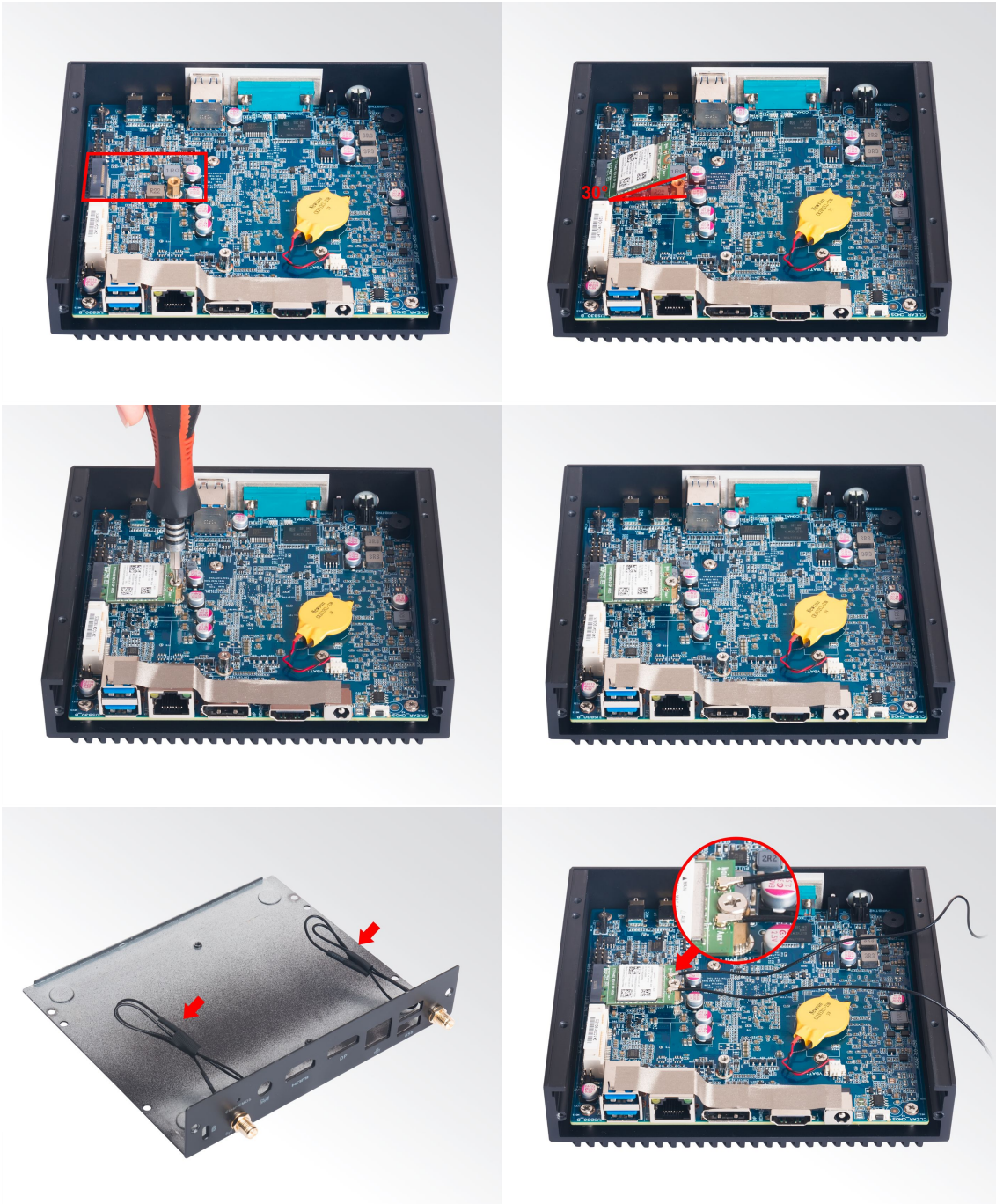


2. Unscrew the four screws and remove the bottom cover.



## 3.2 WIFI (M.2) Installation

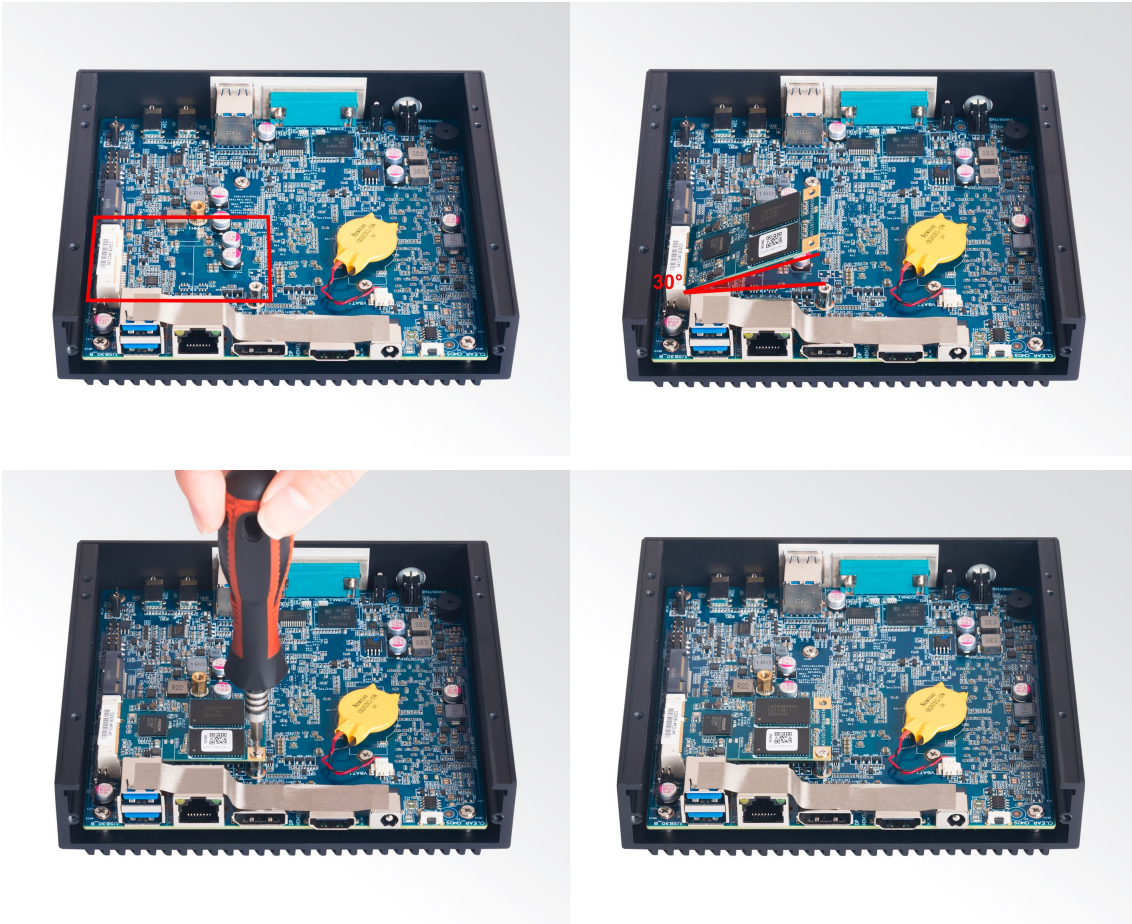
1. Plug the WIFI module into the appropriate slot.
2. Secure the module to the carrier by tightening up the screw.
3. Connect the black cables to the WIFI module.





## 3.3 MSATA Installation

1. Plug the SSD (MSATA) module into the mini PCIE slot.
2. Secure the module to the carrier by tightening up the screw.



## 4 BIOS Setup

### Notice:

The descriptions relating to BIOS setup in this Manual is for reference only since the BIOS version of the product might be upgraded. Giada provides no guarantee that all the contents in this Manual are consistent with the information you acquired.

BIOS is a basic I/O control program saved in the Flash Memory. Bridging the motherboard and the operation system, BIOS is used for managing the setup of the related parameters between them.

When the computer is activated, the system is first controlled by the BIOS program. Firstly, a self-detection called POST is performed to check all hard devices and confirm the parameters of the synchronous hardware.

Once all detections are completed, BIOS will hand over the controlling to the operation system (OS). As BIOS serves as the only channel that connects the hardware and software, whether your computer can run stably and work in optimized state will hinge on how to properly set the parameters in BIOS. Therefore, the correct setup of BIOS plays a key role in stably running the system and optimizing its performance.

The CMOS Setup will save the set parameters in the built-in CMOS SRAM on the motherboard. When the power is shut off, the lithium battery on the motherboard will provide continuously power to CMOS SRAM.

### The BIOS setup program will allow you to configure the following items:

1. HD drive and peripheral devices
2. Video display type and display items
3. Password protection
4. Power management characteristics

### State of BIOS Setup

When the computer is started up, BIOS will run the self-detection (Post) program. This program includes series of diagnosis fixed in BIOS. When this program is executed, the following information will appear if any error is found:

Press [F1] to Run General help

Press [F2] to Load previous values and continue

To enter BIOS, you can press F2; to load the default values and enter the system, you can press DEL to enter the BIOS interface if no error is found. If the indicative information disappears before you operate, you can shut off the computer and turn it on again, or you can press the RESET key on the product case. To restart your computer, you can also simultaneously press < Ctrl > + < Alt > + < Delete >.

## B. Function Keys definitions

Hot Key	Description
↑	(Up key) Move to the previous item
↓	(Down key) Move to the next item
←	(Left key) Move to the left item
→	(Right key) Move to the right item
ESC	Exit the current interface
Page Up	Change the setup state, or add the values
Page Down	Change the setup state, or deduct the values
F1	Display the information of the current function Keys definitions.
F9	Load the optimized values
F10	Save the settings and exit the CMOS SETUP

## C. Auxiliary information Main interface

When the system enters the main interface of Setup, the major selected contents will be displayed at the lower part of the interface with the change of the options.

When you set the value for each column, you can view the preset value of the column and the values that can be set if you press F2, for example, the BIOS default values or CMOS Setup values. To exit the interface for auxiliary information, press [ESC].

### Main menu

When the system enters the CMOS Setup menu, you can see the main menu on the upper part of the screen, as shown in Figure 1.

In this main menu, you can use the left and right direction keys to select the setup items.

Once the item is selected, the lower part of the computer screen will show the details of setting.

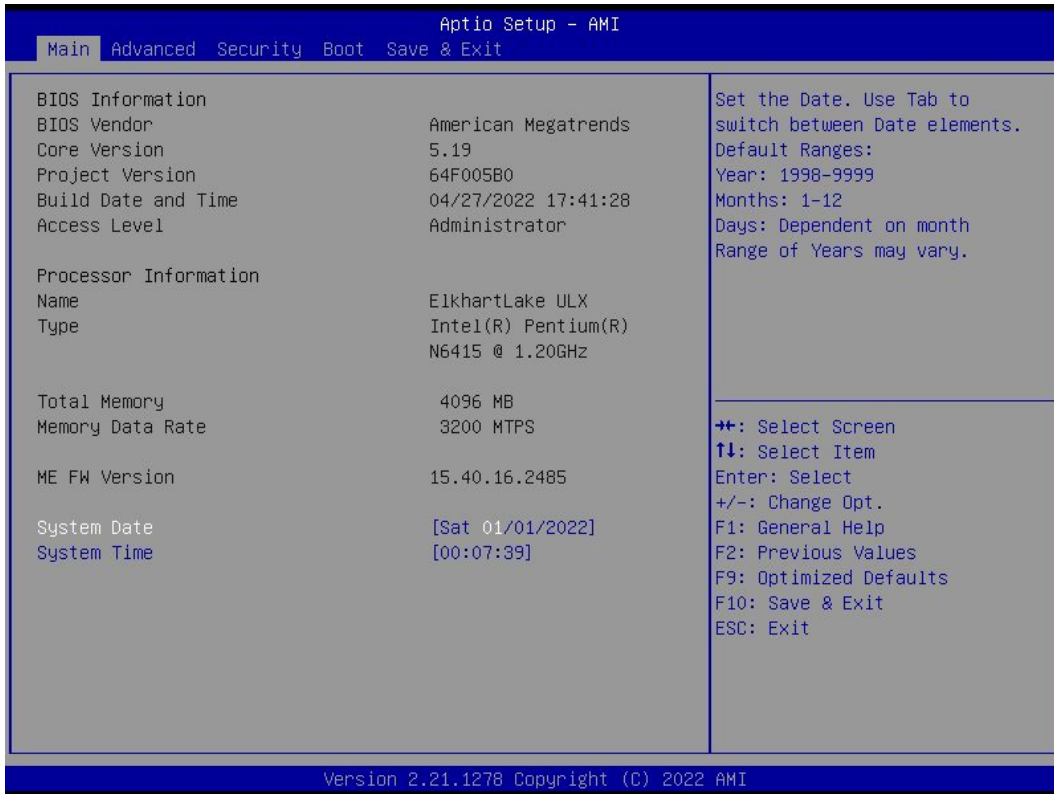


Fig 1

1) Main (standard CMOS setup)

This item is used for setting the date and time.

2) Advanced (advanced BIOS setup)

This item is used for setting the advanced functions provided by BIOS, such as specifications of PCIE facilities, CPU, HDD, etc.

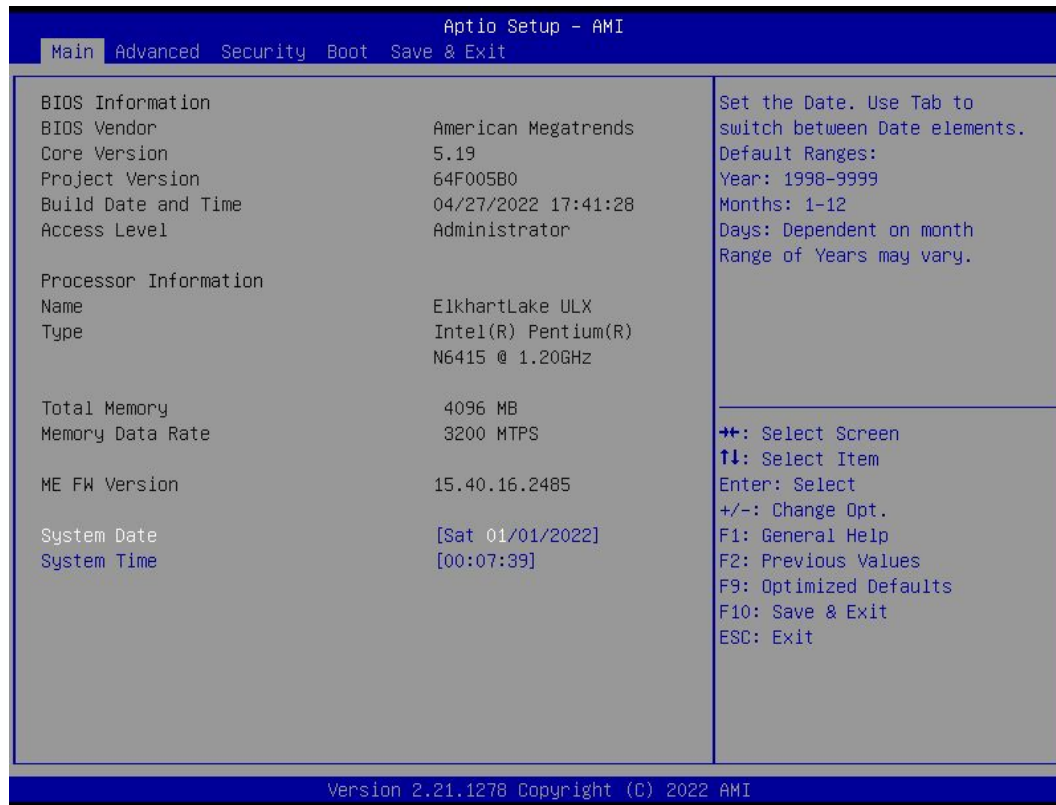
3) Security (set the administrator/user password)

4) Boot (startup configuration characteristics)

5) Save & Exit (option of exit)

This item includes load optimal defaults / load failsafe defaults value / discard changes / discard changes and exit.

## 4.1 Main (Standard CMOS setting)



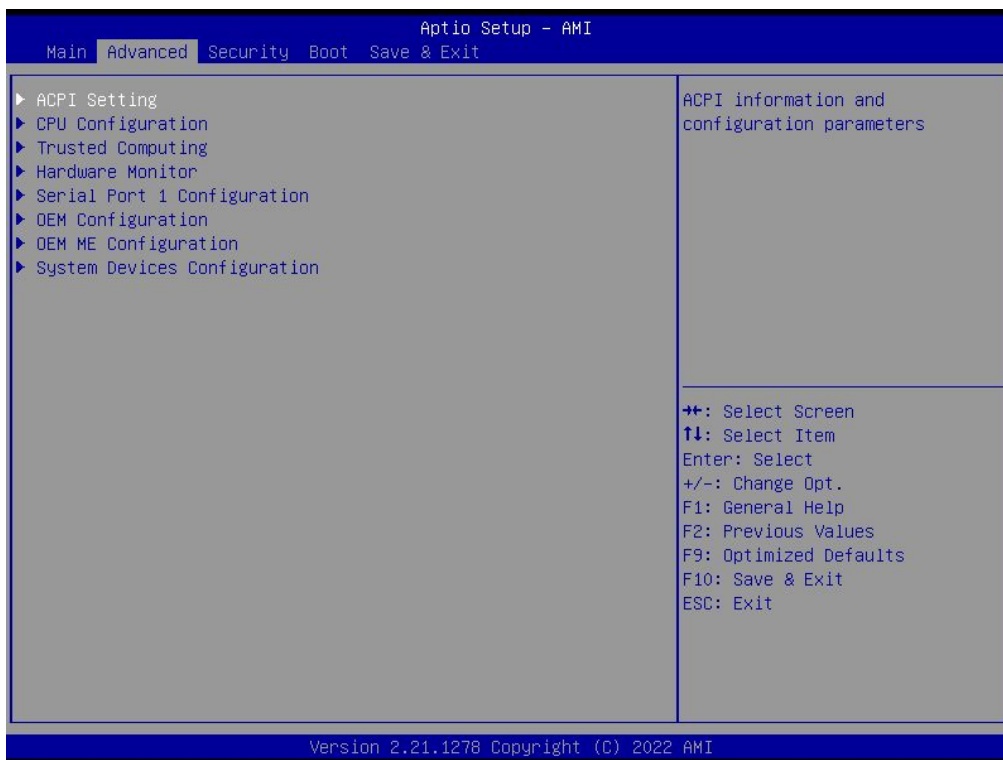
### 1) System time (hh:mm:ss)

Use this item to set the time for the computer, with the format as “HH / MM / SS”.

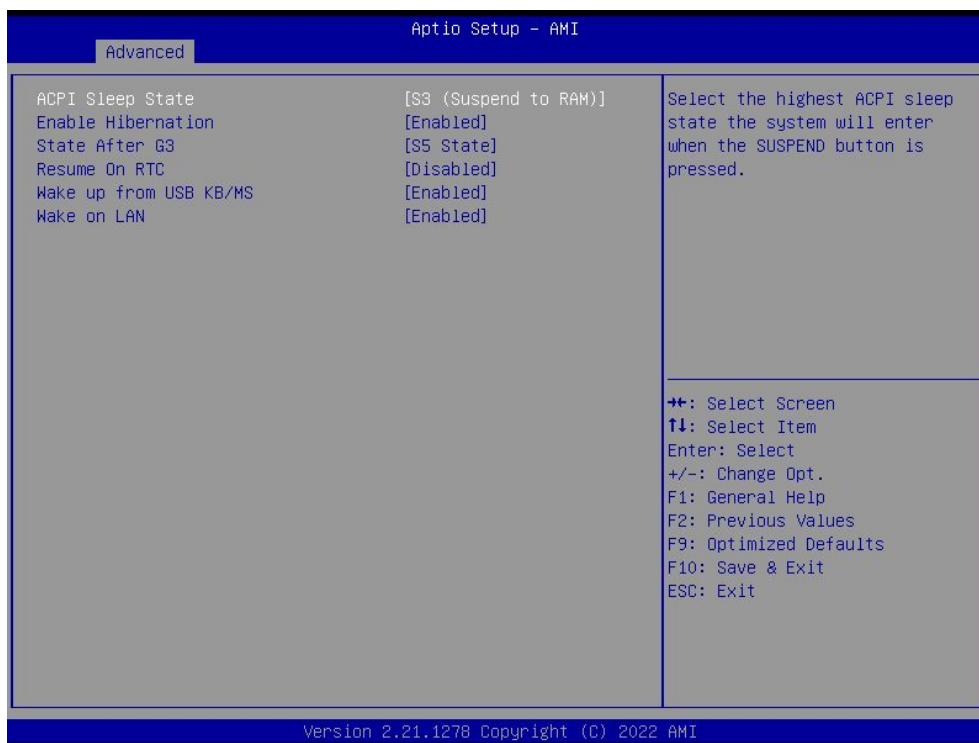
### 2) System date (mm:dd:yy)

Use this item to set the date for the computer, with the format as “week, MM / DD / YY”.

## 4.2 Advanced (Advanced BIOS setup)

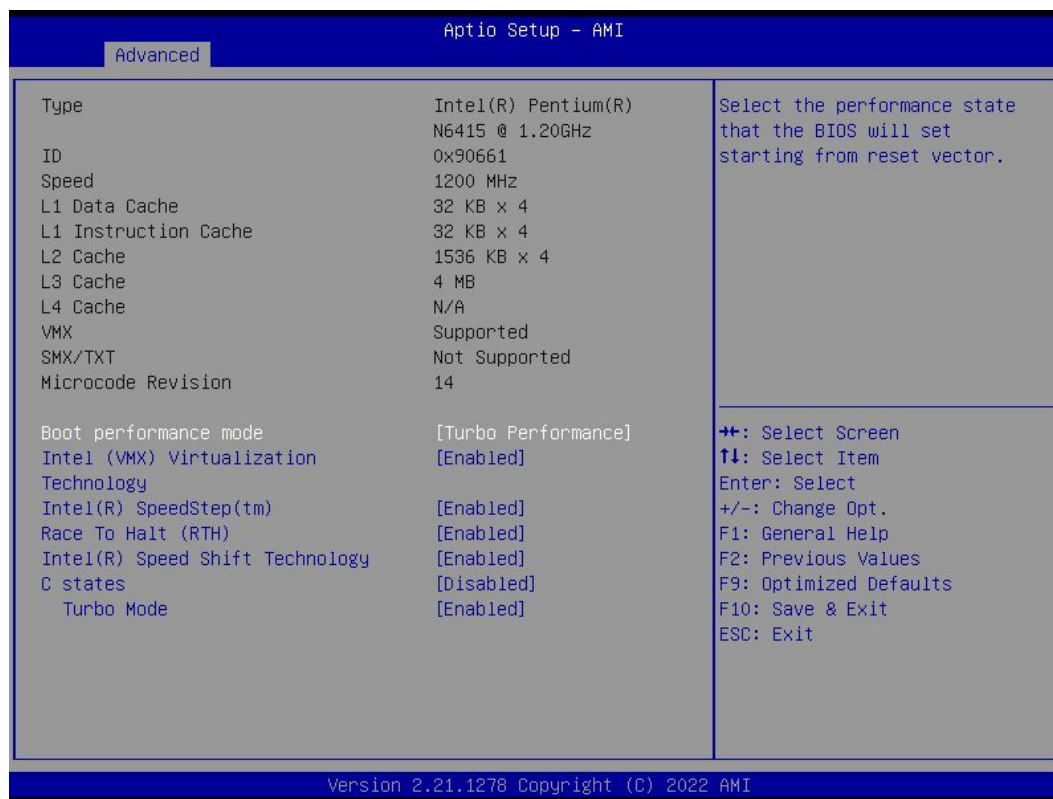


### 4.2.1 ACPI Settings



ACPI Menu	Description
ACPI Sleep State	Select the highest ACPI sleep state the system will enter when the SUSPEND button is pressed..
Enable Hibernation	Enables or disables system ability to Hibernate (OS/S4 Sleep). This option may be not effective with some OS.
State After G3	State After G3 means after restore power supply. S5 State (Default): If set it as S5 State, it means the system will remain shutdown.
Resume On RTC	The user can set up automatic startup by Fixed Time Enabled. Disabled. The RTC function is disabled by default.
Wake up from USB KB/MS	Enabled or Disabled Wake Up by USB KB/MOUSE from S3 Status. Disabled: The wake on USB is disabled by default. Enabled.
Wake on LAN	Wake On LAN Function. Disabled: The WOL is disabled by default. Enabled.

## 4.2.2 CPU Configuration

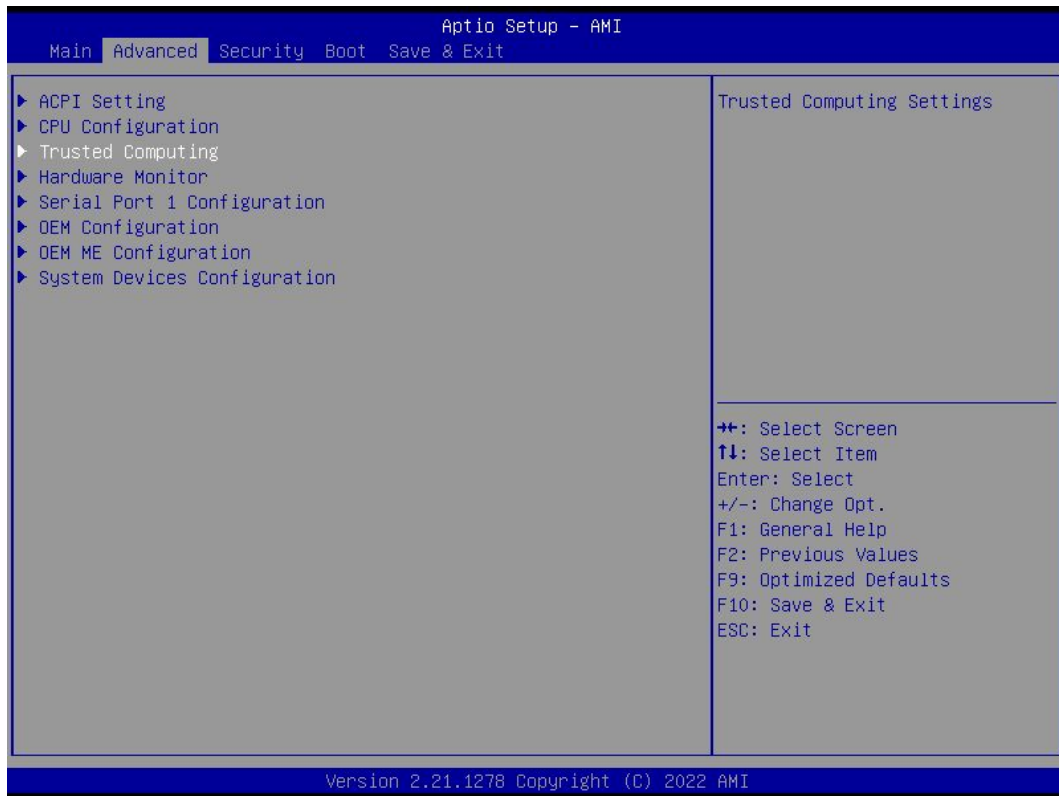


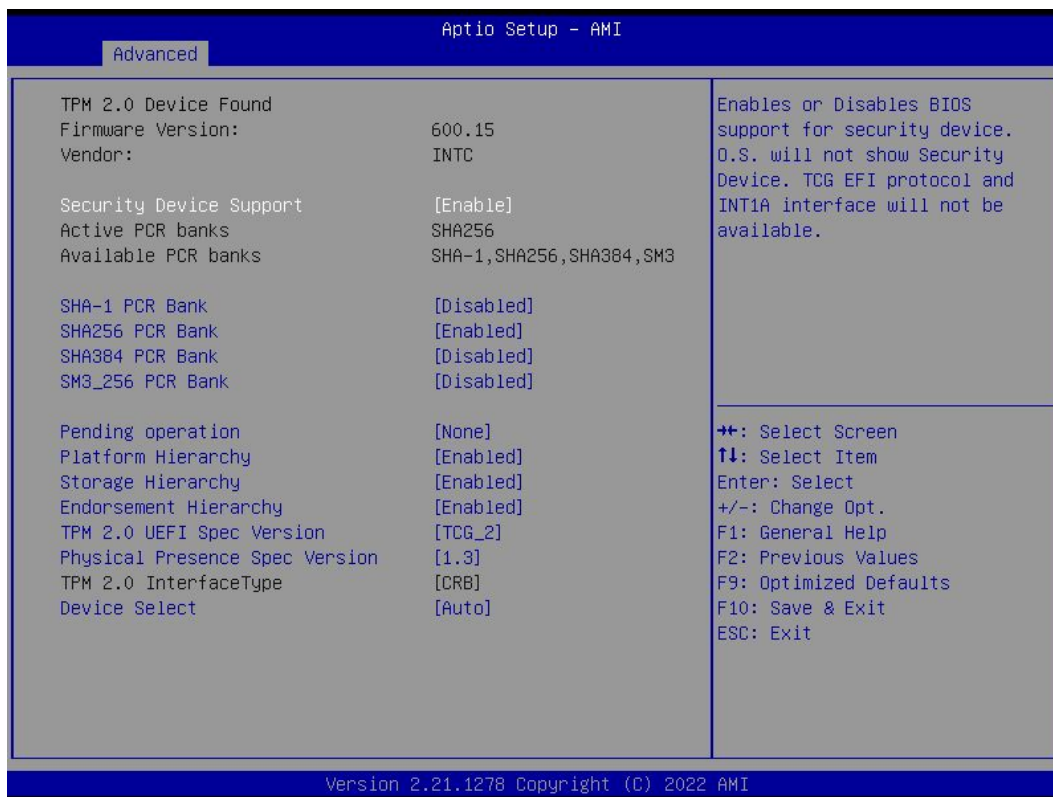
CPU Configuration Menu	Description
<b>CPU Configuration</b>	
<b>Boot performance mode</b>	Max Non-Turbo Performance: the best performance. Max Battery. Turbo performance.
<b>Intel (VMX) Virtualization Technology</b>	Intel Virtualization Technology is enabled by default. User can enable and disable the Intel Virtualization Technology function.
<b>Intel® SpeedStep ( tm )</b>	Intel® SpeedStep Technology dynamically increases the processor's frequency as needed by taking advantage of thermal and power headroom to give you a burst of speed when you need it, or increased energy efficiency. The option is enabled by default. You can disable the function if it's necessary.
<b>Race To Halt ( RTH )</b>	The Race To Halt ( RTH ) function is enable by default. It can adjust the CPU base frequency work in C-state. Optional: C-state.
<b>Intel® Speed Shift Technology</b>	Intel speed shift function is enabled by default. Intel® Speed Shift



	Technology uses hardware-controlled P-states to deliver dramatically quicker responsiveness with single-threaded, transient (short duration) workloads, such as web browsing, by allowing the processor to more quickly select its best operating frequency and voltage for optimal performance and power efficiency.
<b>C states</b>	The C-State function is disabled by default.
<b>Turbo Mode</b>	Disabled. Enabled.

## 4.2.3 Trusted Computing

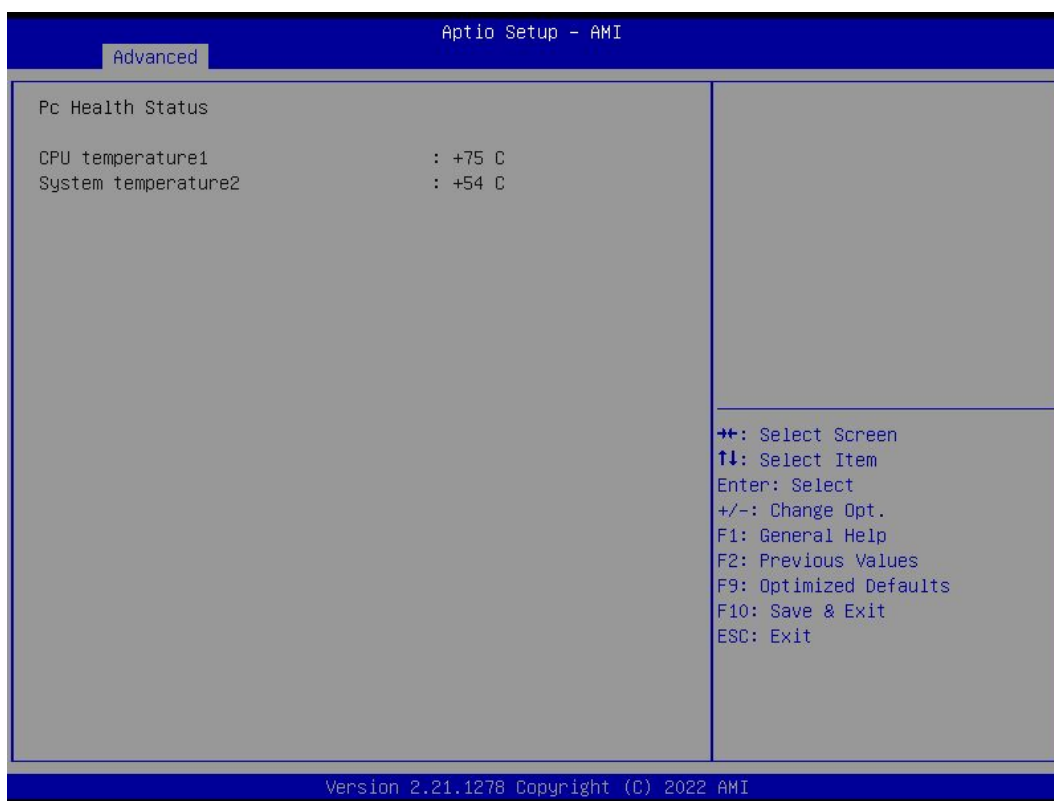




Options	Description
<b>Trusted Computing</b>	
<b>TPM20 Device Found</b>	
<b>Firmware Version:</b>	It shows the information of TPM device.
<b>Vendor:</b>	
<b>SHA-1 PCR Bank</b>	Disable or Enable the SHA-1 PCR Bank. The option is disabled by default.
<b>SHA256 PCR Bank</b>	Disable or Enable the SHA256 PCR Bank. The option is enabled by default.
<b>SHA384 PCR BANK</b>	Disable or Enable the SHA256 PCR Bank. The option is disabled by default.
<b>SM3_256 PCR Bank</b>	Disable or Enable the SM3_256 PCR Bank. The option is disabled by default.
<b>Pending operation</b>	It includes None and TPM Clear function.
<b>Platform Hierarchy</b>	Disable or Enable the Platform Hierarchy.
<b>Storage Hierarchy</b>	Disable or Enable the Storage Hierarchy.

<b>Endorsement Hierarchy</b>	Disable or Enable the Endorsement Hierarchy.
<b>TPM2.0 UEFI spec version</b>	TPM2.0 UEFI Options, TCG_1_2 or TCG_2. The version is TCG_2 by default.
<b>Physical Presence Spec Version</b>	You can choose 1.2 or 1.3. The version is 1.3 by default.
<b>TPM 20 Interface Type</b>	TPM2.0 Interface Type is CRB by default.
<b>Device Select</b>	You can select TPM1.2 or TPM2.0 or Auto. Auto is set up by default.

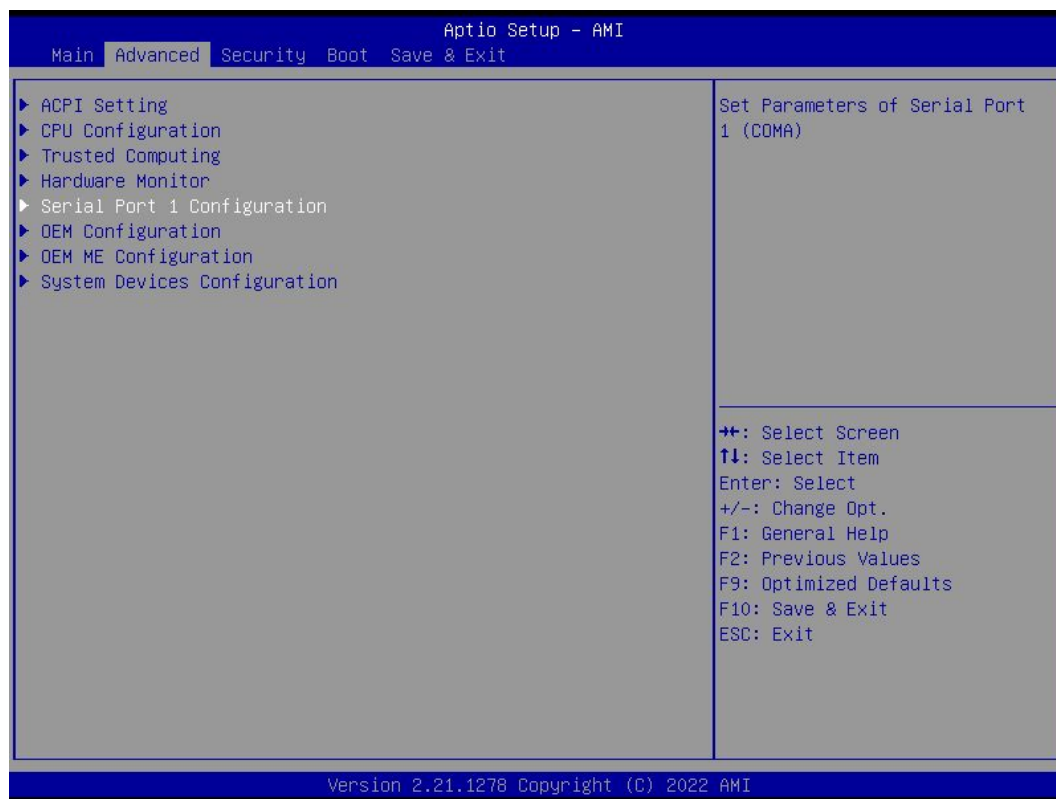
## 4.2.4 Hardware Monitor

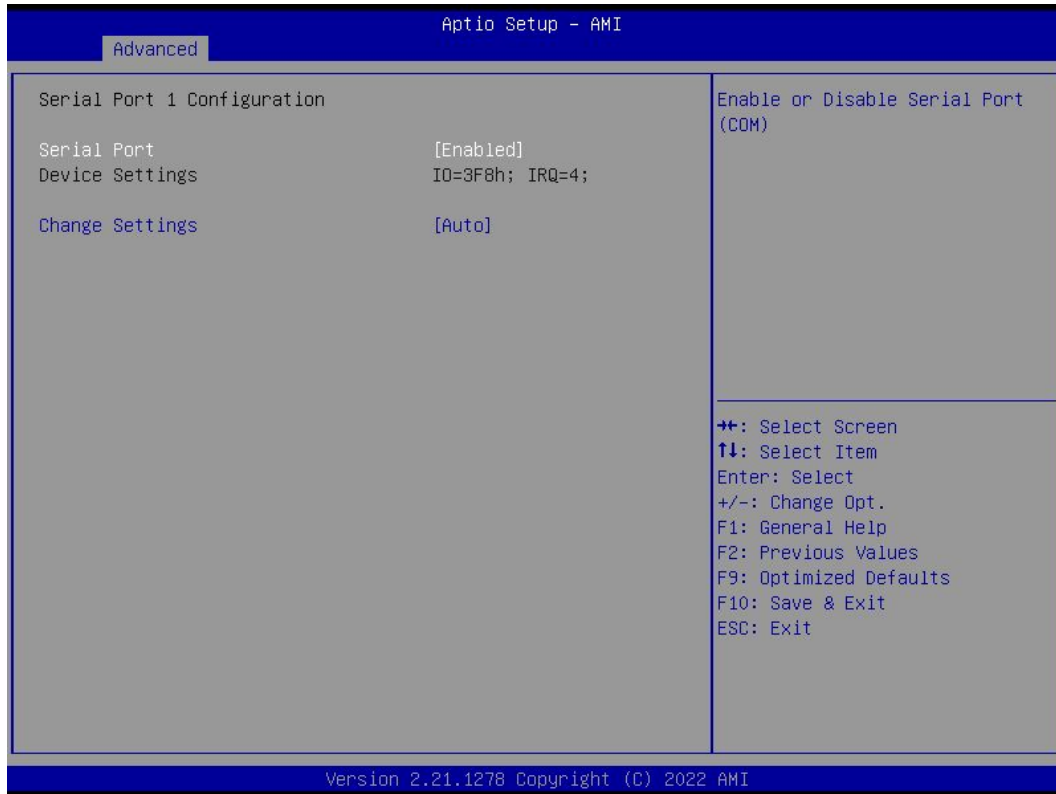


Super IO Hardware Monitor Menu	Description
PC Health Monitor Status	PC Health Monitor Status
CPU temperature1	The Current CPU temperature

Super IO Hardware Monitor Menu	Description
System temperature2	The Current System temperature2.

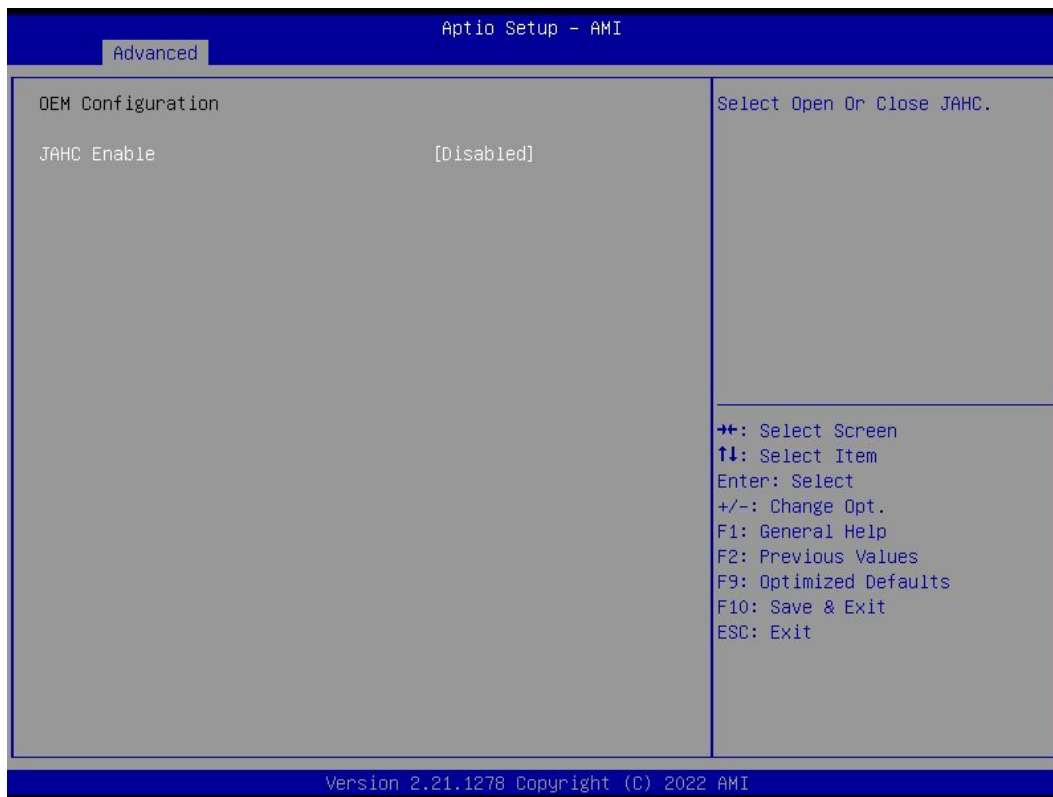
## 4.2.5 Serial Port 1 Configuration





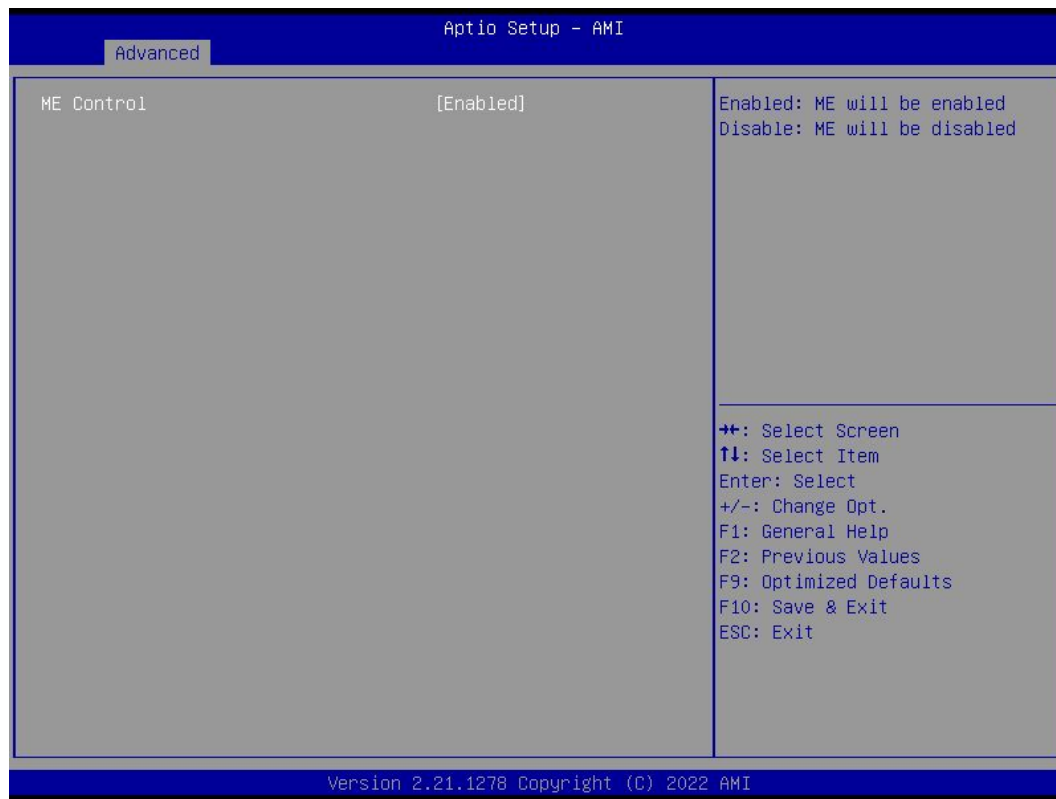
Menu	Description
<b>Serial Port 1 Configuration</b>	
Serial Port	The serial port is enabled by default. Enabled Disabled.
Change settings	User can set the serial port by change settings option. Auto IO=3F8H ; IRQ=4 ; IO=3F8H ; IRQ=3 , 4 , 5 , 6 , 7 , 9 , 10 , 11 , 12 ; IO=2F8H ; IRQ=3 , 4 , 5 , 6 , 7 , 9 , 10 , 11 , 12 ; IO=3E8H ; IRQ=3 , 4 , 5 , 6 , 7 , 9 , 10 , 11 , 12 ; IO=2E8H ; IRQ=3 , 4 , 5 , 6 , 7 , 9 , 10 , 11 , 12.

## 4.2.6 OEM Configuration



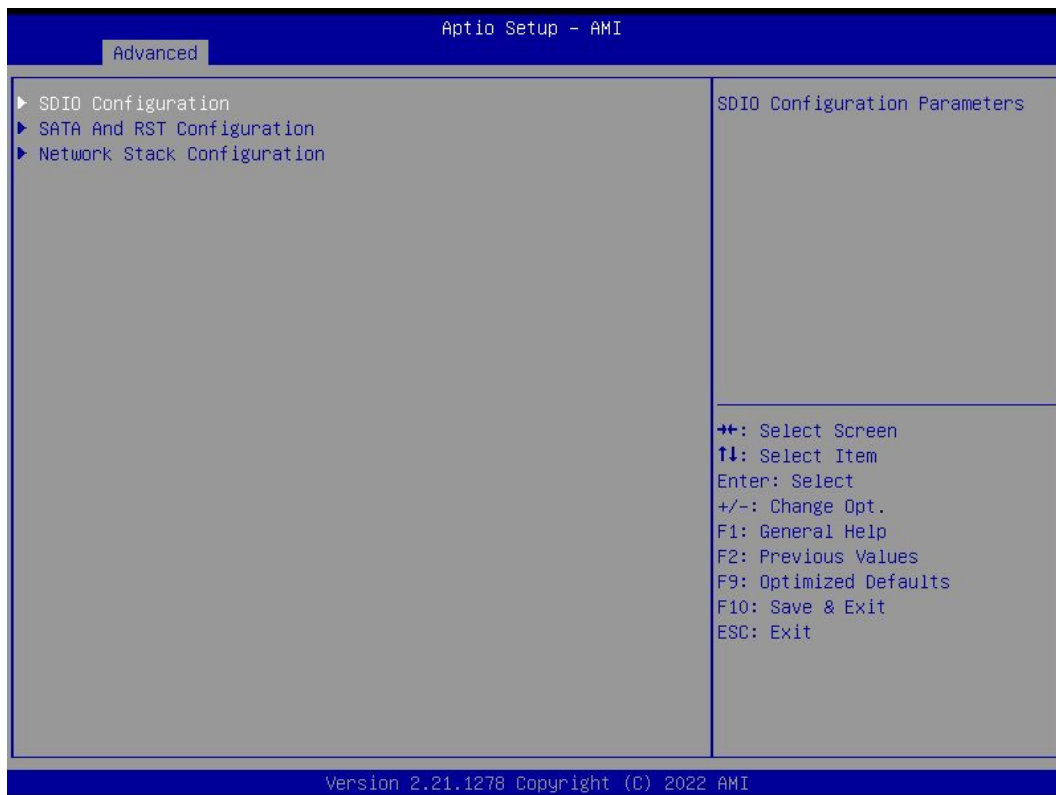
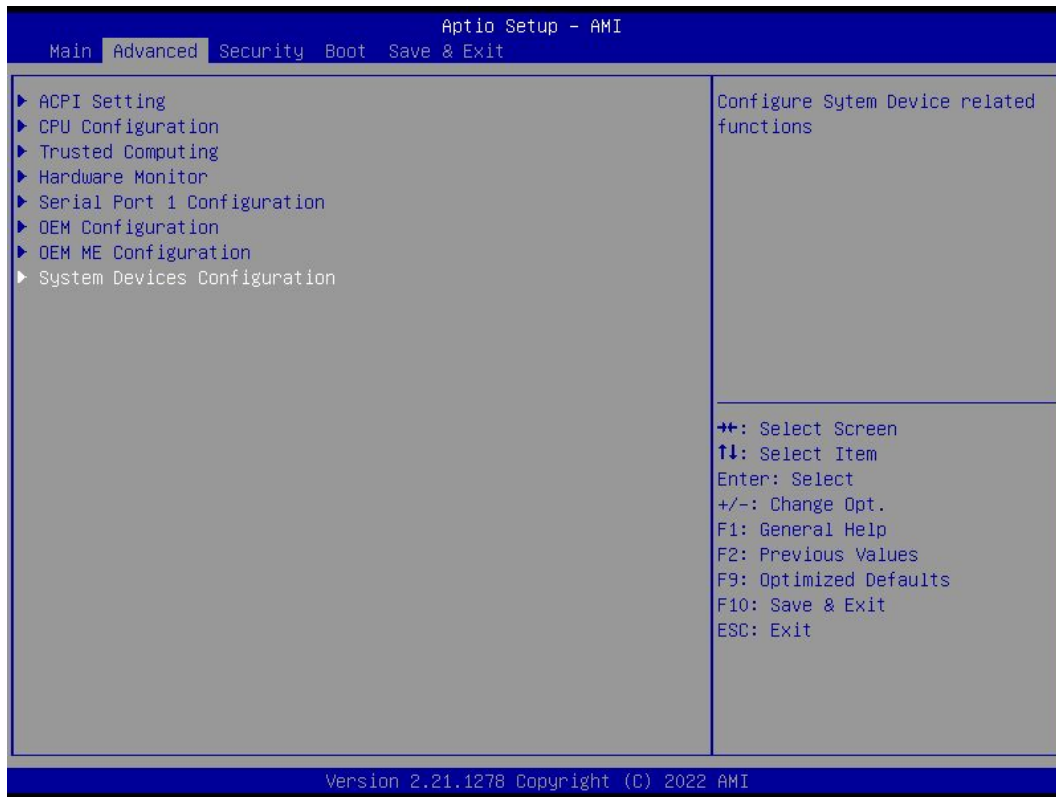
OEM Configuration menu	Description
JAHC Switch	<p>JEHE Active Hardware Control (JAHC) management system includes both hardware Micro Control Unit (MCU) and software (JAHC Technology Manager).</p> <p>Disabled: The JAHC is disable by default.</p> <p>Enabled.</p>

## 4.2.7 OEM Configuration



The OEM ME Configuration Menu	Description
<b>OEM ME Configuration</b>	
<b>ME Control</b>	The user can enable and disable ME control. During the reflash BIOS process, it protects the ME when the ME control is enabled.

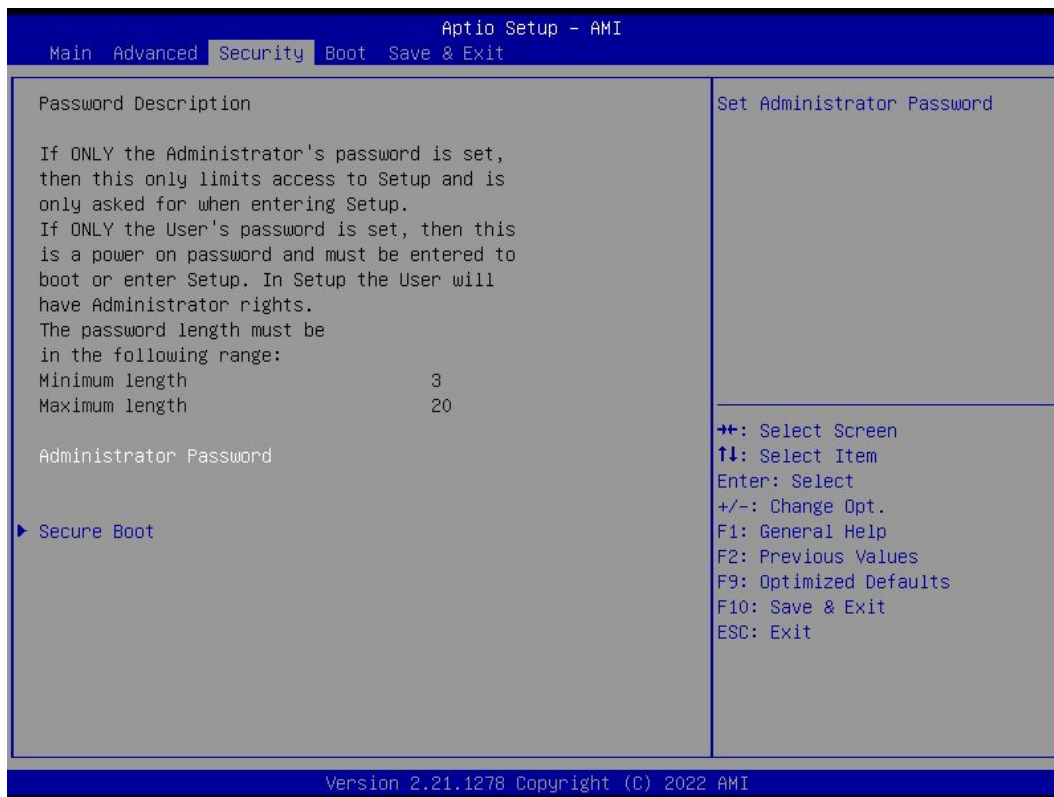
## 4.2.8 System Devices Configuration





System Devices Configuration menu	Description
SDIO Configuration	Mass storage device emulation type. "AUTO" enumerates devices less than 530MB as floppies. Forced FDD option can be used to force HDD formatted drive to boot as FDD.
SATA And RST Configuration	Enable and disable SATA Device.
Network Stack Configuration	
Network Stack Configuration	Select the performance state that the BIOS will set before OS handoff.
PXE Function	<p>Enabled/Disabled UEFI Stack..</p> <p>Disabled: The PXE function is disable by default.</p> <p>Enabled.</p>
Ipv4 PXE Support	<p>Enabled/Disabled IPV4 PXE boot support. If disabled IPV4 boot support will not be available.</p> <p>Enabled.</p> <p>Disabled. This item is disabled by default.</p>
Ipv4 HTTP Support	<p>Enabled/Disabled IPV4 PXE boot support. If disabled IPV4 boot support will not be available.</p> <p>Enabled.</p> <p>Disabled. This item is disabled by default.</p>
Ipv6 PXE Support	<p>Enabled/Disabled IPV6 PXE boot support. If disabled, IPV6 PXE boot support will not be available.</p> <p>Enabled.</p> <p>Disabled. This item is disabled by default.</p>
Ipv6 HTTP Support	<p>Enabled/Disabled IPV6 HTTP boot support. If disabled, IPV6 HTTP boot support will not be available.</p> <p>Enabled.</p> <p>Disabled. This item is disabled by default.</p>
PXE boot wait time	Wait time in seconds to press ESC key to abort the PXE boot. Use either +/- or numeric keys to set the value.
Media detect count	Number of times the presence of media will be checked. Use either +/- or numeric keys to set the value.

## 4.3 Security Boot



If this function is selected, the following information will appear:

Enter New Password hhhhhh

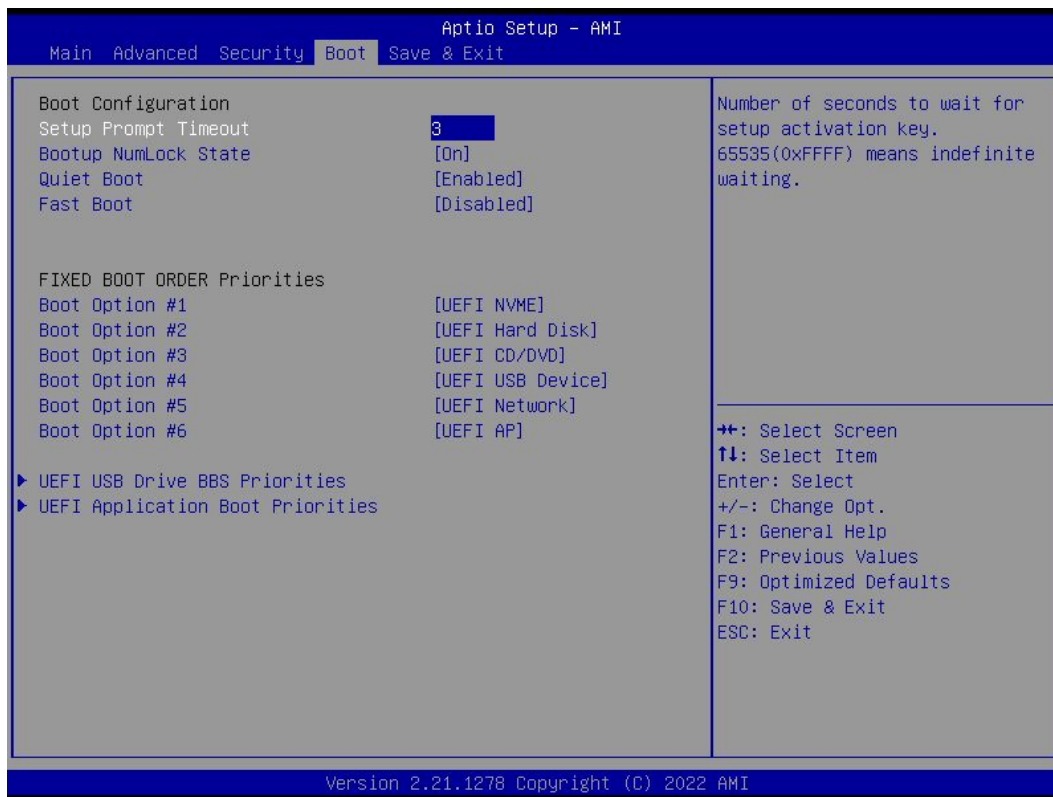
Then enter a password which is no more than eight characters and press <Enter>. BIOS will require to enter the password again.

Once you enter it again, BIOS will save the set password. Once the password item is enabled, you will be required to enter the password every time before the system entering to the setup program of BIOS. The user can set this item through the Security Option in advanced BIOS properties. If the Security Option is set as System, the password will be required to be entered before both the system guides and entering to the setup program of BIOS. If it is set as Setup, the password will be required to be entered only before the system entering to the setup program of BIOS.

To delete the password, press <Enter> in the popped-up window that requires to enter the password. Then information for confirmation will appear on the screen to allow you decide whether the password will be disabled. Once the password is disabled, you can enter the setup program directly without password when the system is restarted.

**Boot Sector Virus Protection.** This item is used for setting the alarm function in case of virus attack in IDE disk sector. If this item is set as Enable and some program writes information in the sector, BIOS will display alarm information on the screen and buzz.

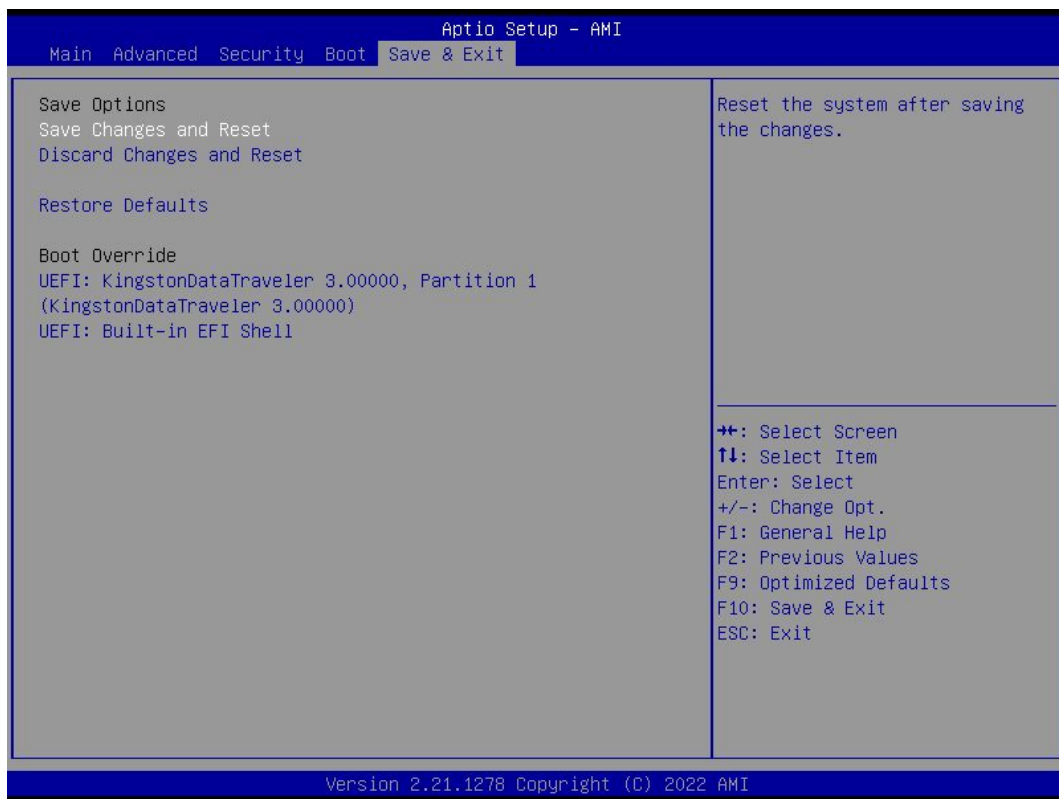
## 4.4 Boot Menu



Boot Item	Description
<b>Boot Configuration</b>	
<b>Setup Prompt Timeout</b>	This item is use to set the wait time of entering the operation system. During the BIOS post, if user doesn't press the keyboard, it won't respond unless you reboot the BIOS. The Setup Prompt Timeout is 3s by default. You can set the time as you want.
<b>Bootup NumLock State</b>	Options are OFF and ON. In other words, this item can be used to set the state of Num Lock after entering the system. It can be set according to user's needs and doesn't affect the performance of the computer.
<b>Quiet Boot</b>	If this item is set as Enabled, the system can be started within five seconds and some detection items will be ignored. The options are [Disabled] and [Enabled].
<b>Fast Boot</b>	Most probes are skipped to reduce time cost during boot.
<b>FIXED BOOT ORDER Priorities</b>	
<b>Boot Option #1</b>	The first boot device. If BIOS doesn't detect the first boot device, it will check the next boot device.

Boot Item	Description
<b>Boot Option #2</b>	The second boot device. If BIOS doesn't detect the second boot device, it will check the next boot device.
<b>Boot Option #3</b>	The third boot device. If BIOS doesn't detect the third boot device, it will check the third next device.
<b>Boot Option #4</b>	The fourth boot device. If BIOS doesn't detect the fourth boot device, it will check the next boot device.
<b>Boot Option #5</b>	The fifth boot device. If BIOS doesn't detect the fifth boot device, it will check the next boot device.
<b>Boot Option #6</b>	The six boot device. If BIOS doesn't detect the six boot device, it will check the next boot device.
<b>UEFI USB Drive BBS Priorities</b>	Specifies the boot Device Priority sequence from available UEFI USB Application.
<b>UEFI Application Boot Priorities</b>	Specifies the boot Device Priority sequence from available UEFI Application.

## 4.5 Save & Exit



Save Exit Item	Description
<b>Save Options</b>	
Save Changes and Reset	Save all changes and exit
Discard Changes and Reset	Give up the settings and exit.
Restore Defaults	Recover it to default.
Boot Override	Whole Boot devices

## 5 JAHC Introduction

JEHE Active Hardware Control (JAHC) management system includes both hardware Micro Control Unit (MCU) and software (JAHC Technology Manager). It can support following functions:

1. Automatically boot up when power on. It is controlled by the Micro Control Unit (MCU) chip.
2. Real Timer Controller (RTC) wake up: user can install the JAHC software to set up automatic startup and shutdown, one week as a circle.
3. Watchdog timer. It is a built-in API interface.
4. Infrared remote control (Optional IR controller).

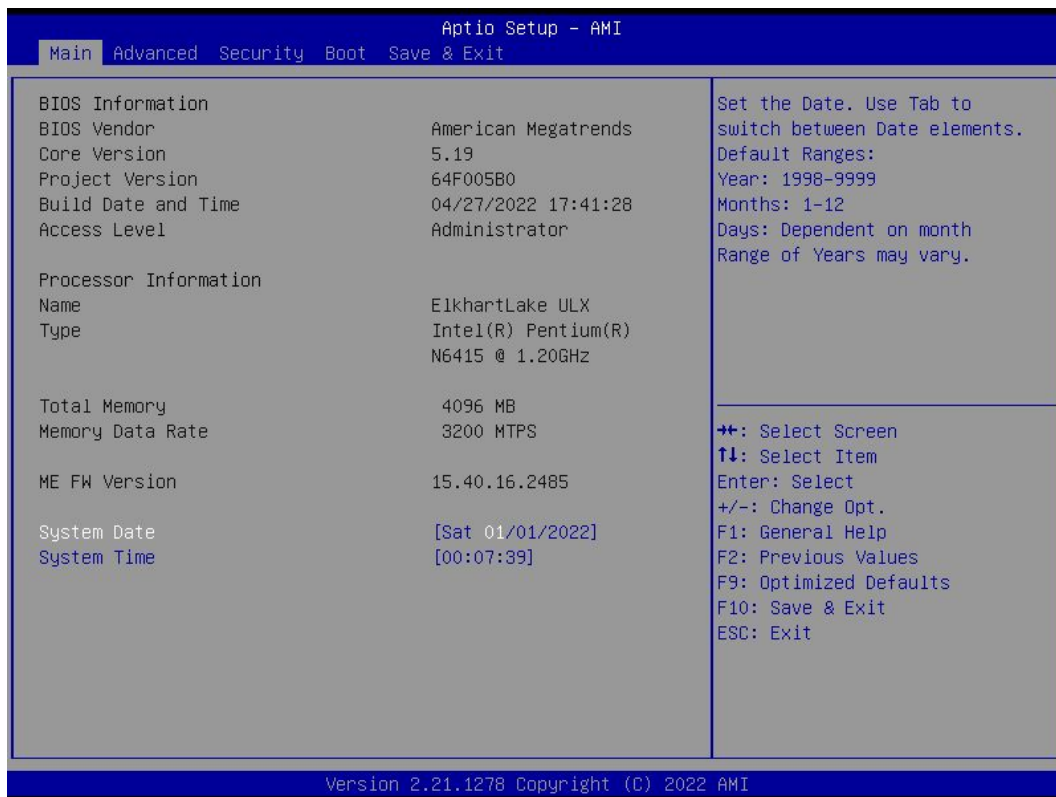
### 5.1 How to set up Auto power on function

#### Automatically reboot when power on

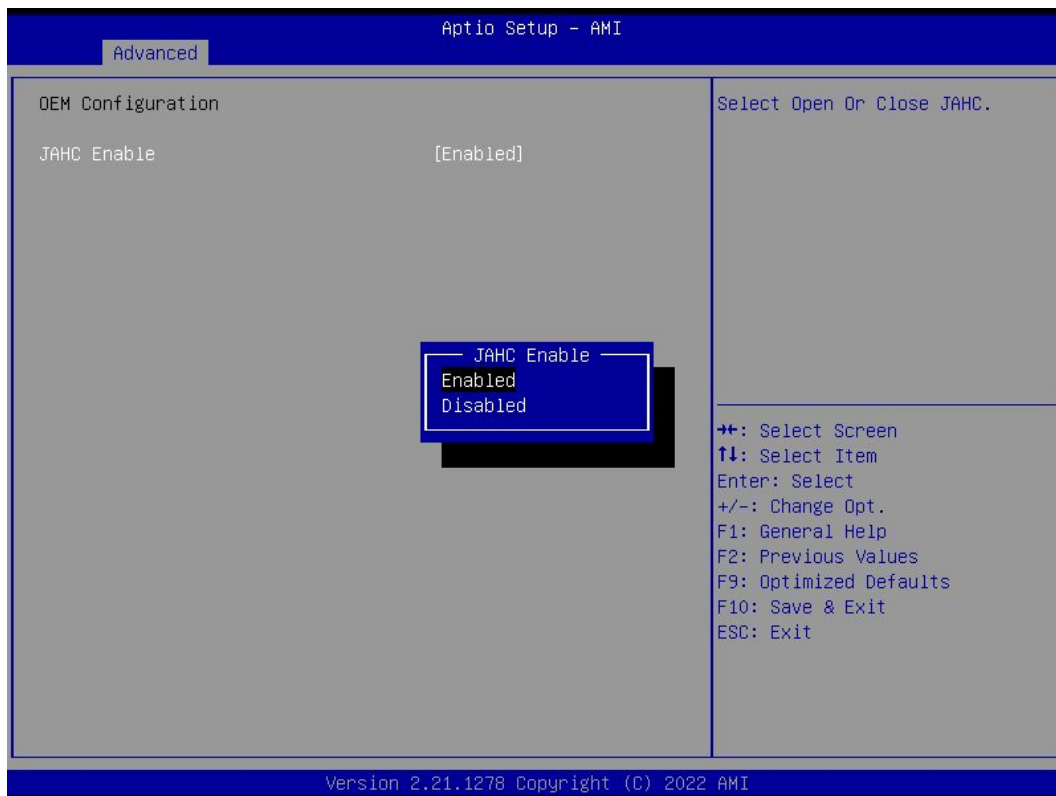
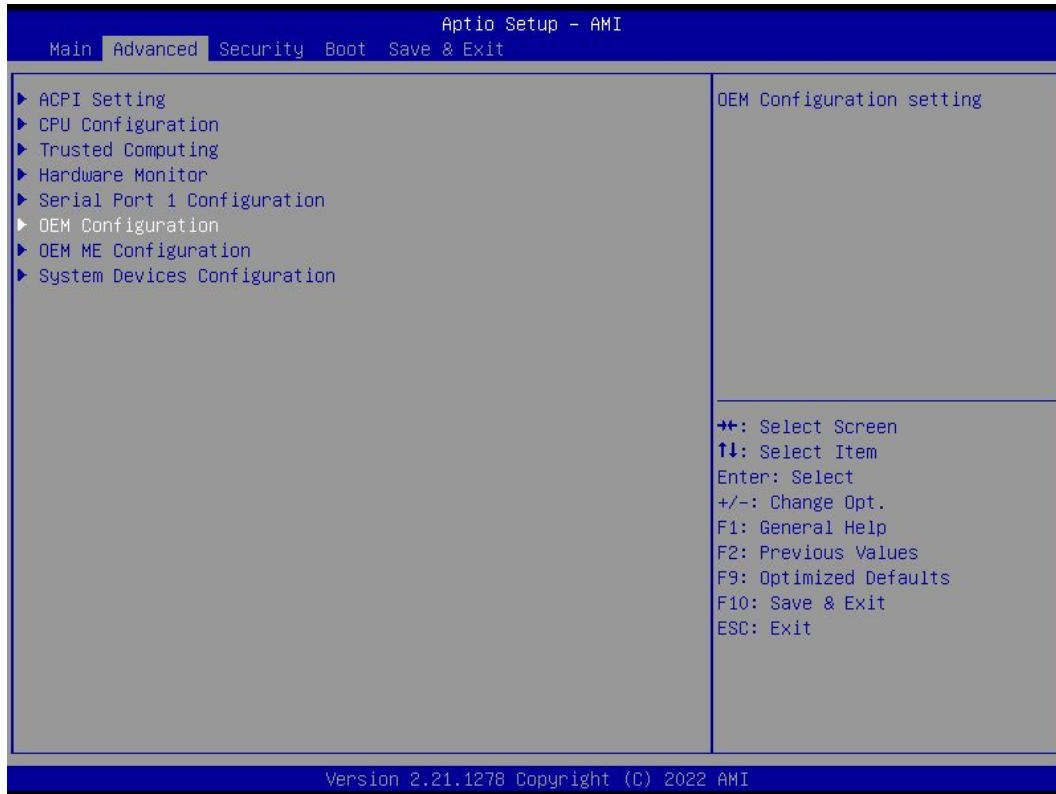
The function of automatically reboot when power on is controlled by hardware. You can enable it by switching the JAHC button to “on”.

If you cannot find the physical switch on the player, then you can go into the BIOS to enable it by following steps:

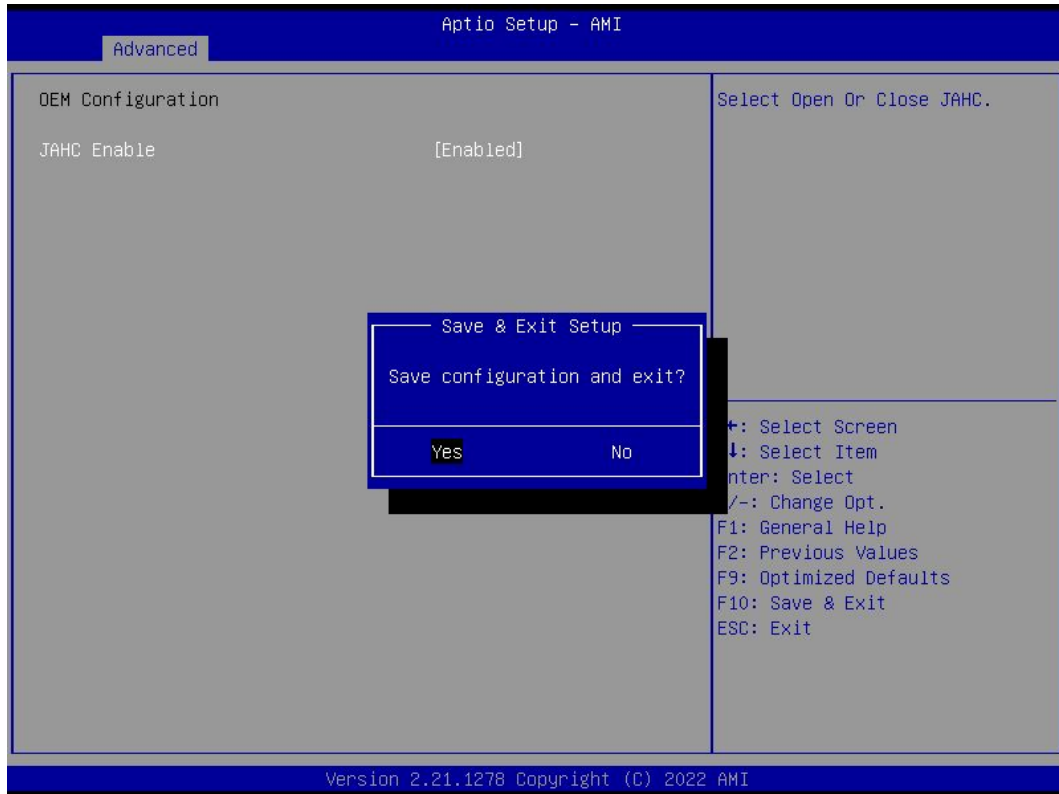
- a. Turn on the player and continually press ‘Del’, then it can enter BIOS setup menu.



- b. Select Advanced- >OEM Configuration- > JAHC Enable- > Enabled.



c. Press 'F10' to save change & exit after select "JAHC enabled" option



## 5.2 JAHC software

### 5.2.1 JAHC software functions

- RTC wake up. The user can set up automatic startup and shutdown, one week as a circle
- Caution message prior to shutdown to remind user to save the data. User can also choose to postpone the shutdown process.
- When JAHC is running, it can support reboot automatically when system is crashed. No additional settings needed.

### 5.2.2 JAHC software installation guide

#### System Requirements:

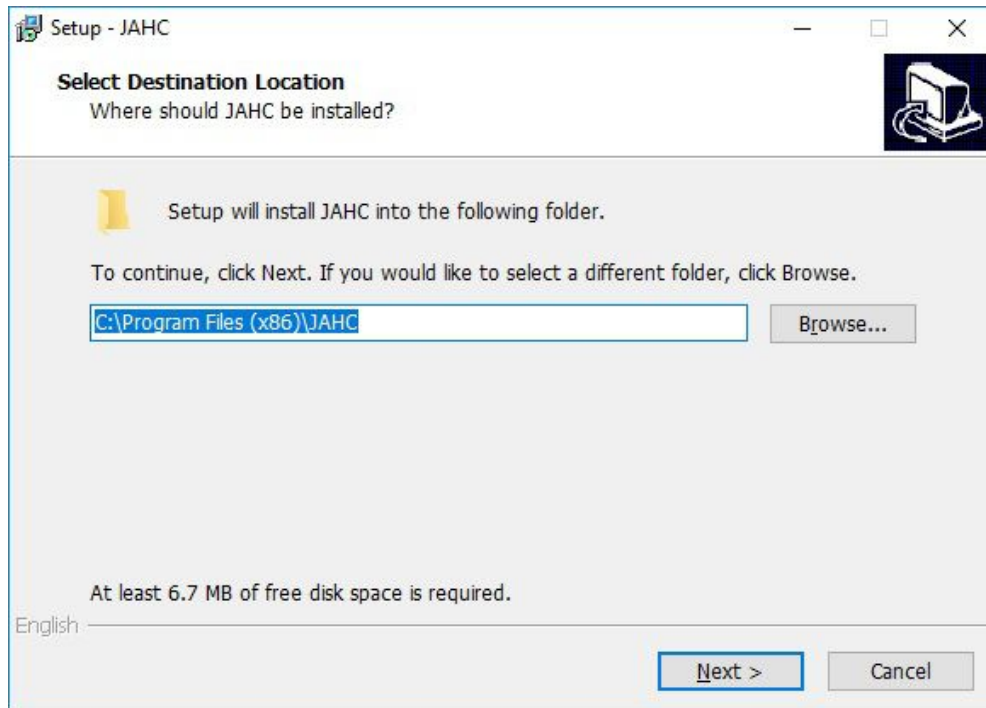
- Giada player with JAHC function.
- Switch the JAHC button to “on” or enable it in BIOS if there is no physical button on the chassis.
- Supported operation system: Windows 10 64bit, Windows 11 64bit, Linux 64bit.



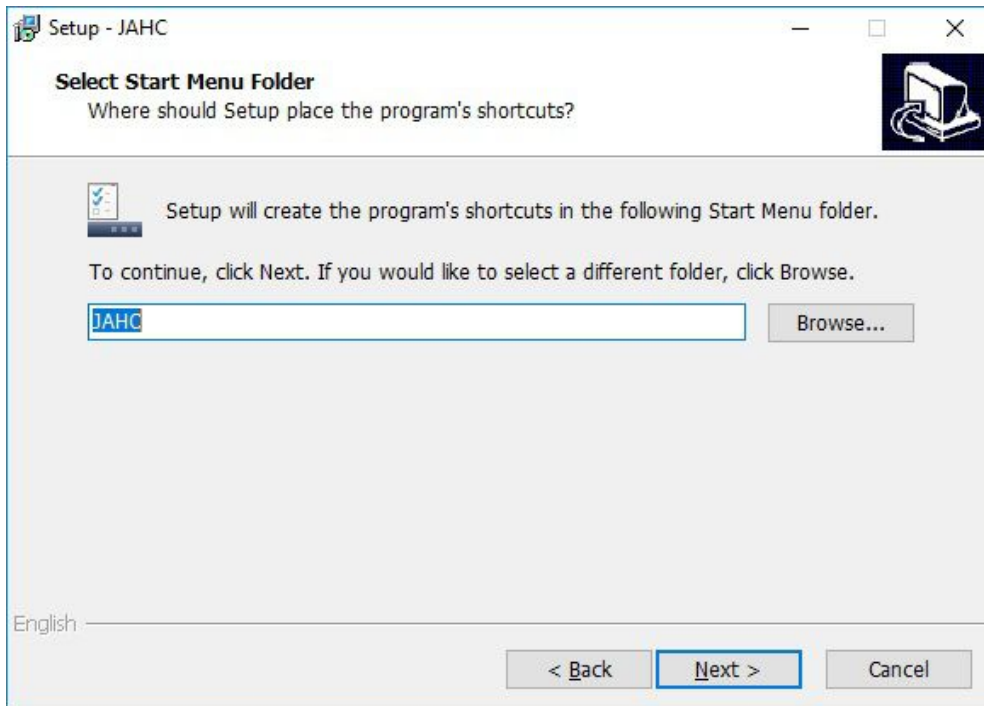
## How to install JAHC software:

Please download the JAHC.EXE from Giada website: [www.giadatech.com](http://www.giadatech.com), then follow up below steps:

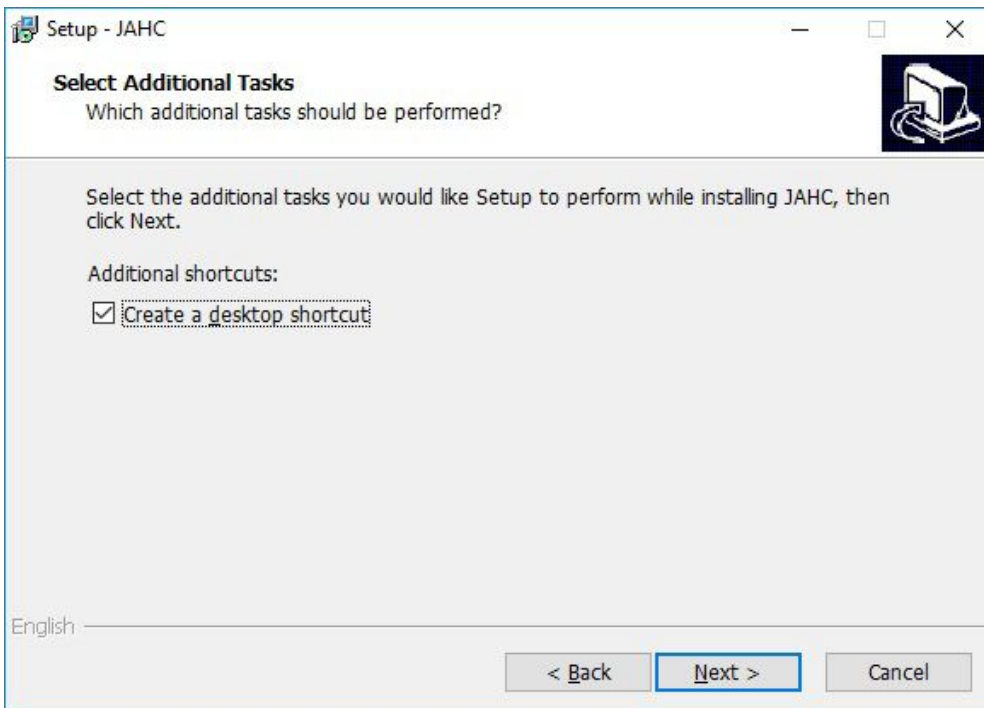
- a. Double-click the JAHC.EXE file, the setup wizard will pop up, select destination location and click [Next] button to continue the installation.



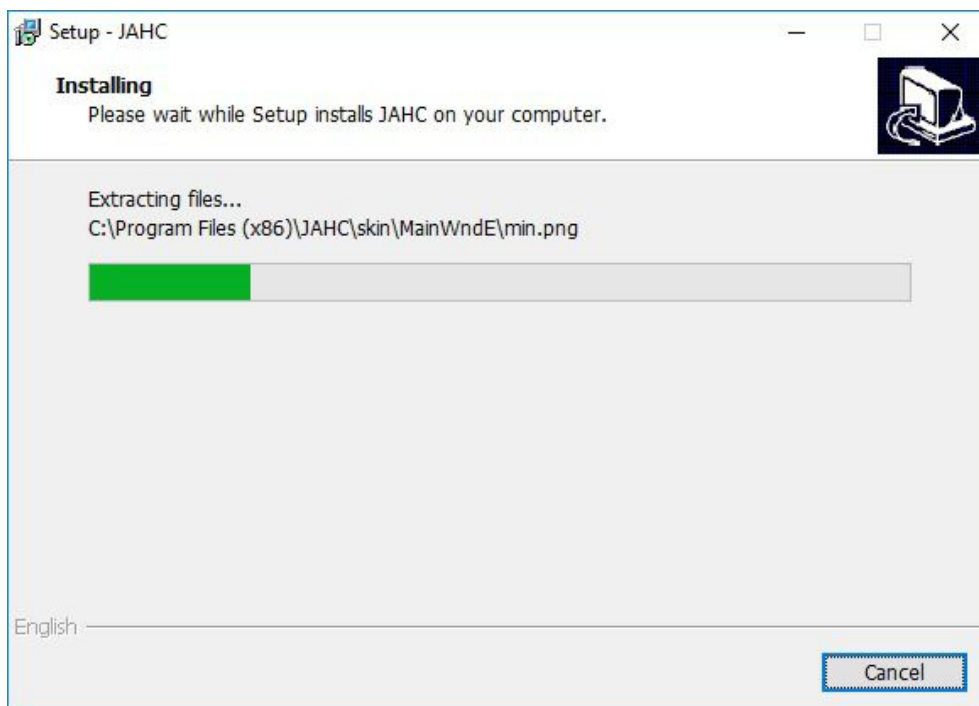
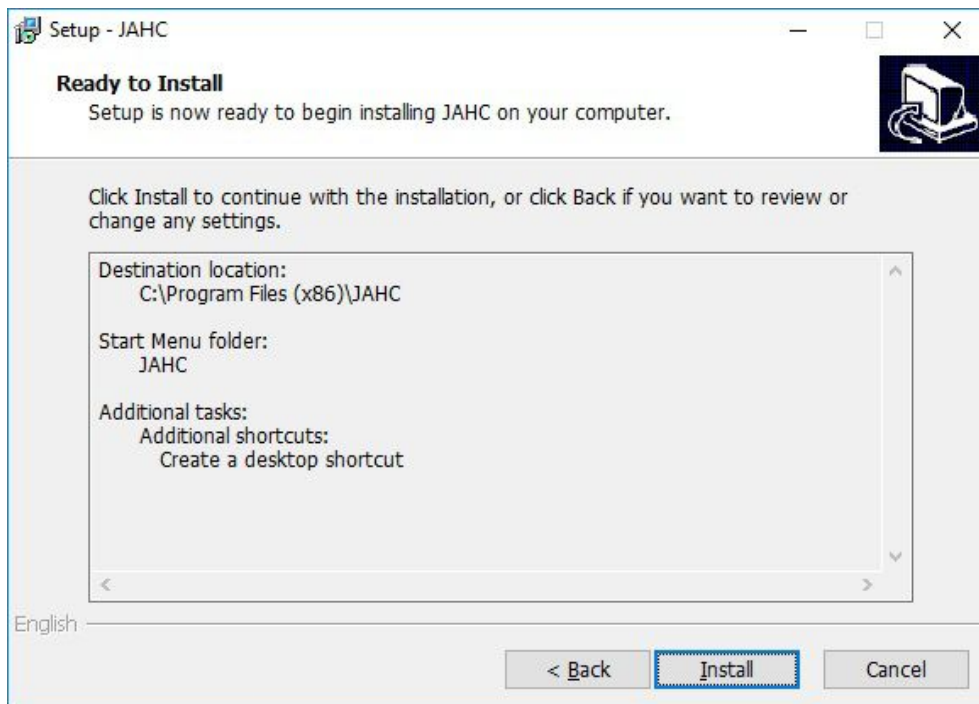
- b. Click [Next] button to continue the installation.



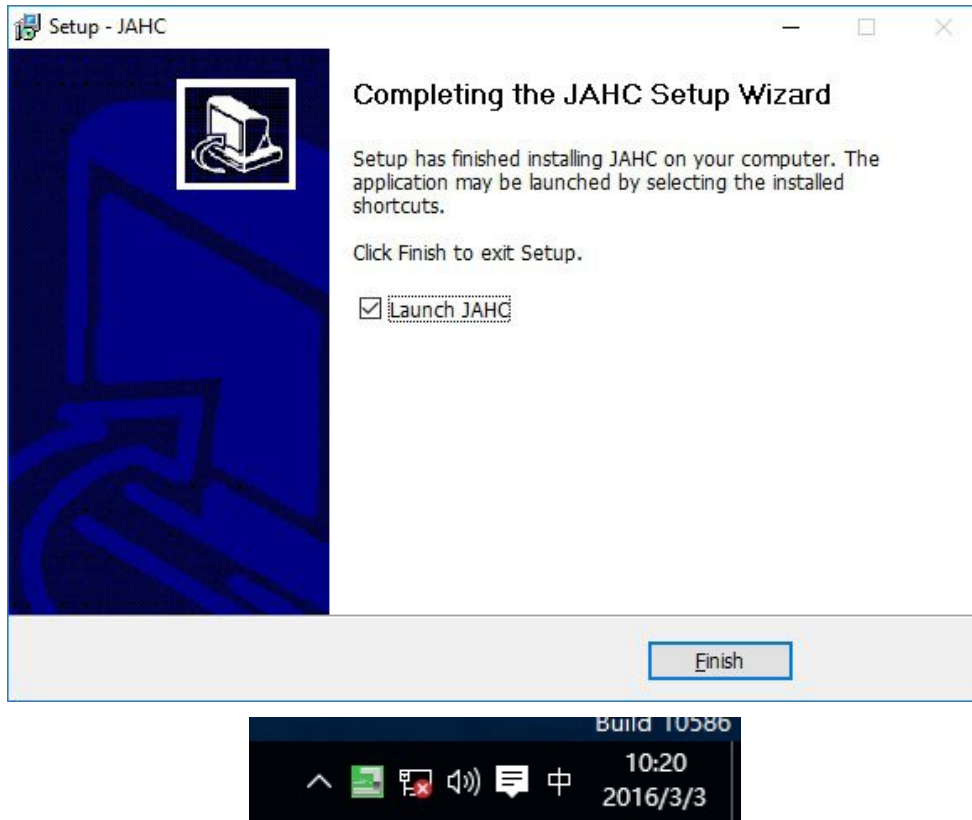
c. Select [Create a desktop shortcut] and click [Next] button.



d. Click [Install] button to continue the installation.



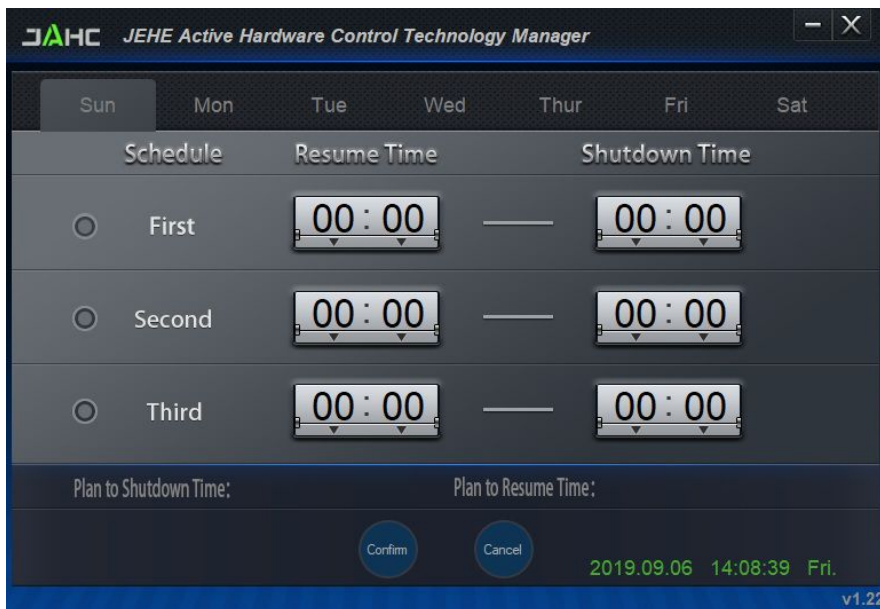
e. Click [Finish] button to finish the installation. You can select [Launch JAHC] to run the software automatically after finishing the installation.



Notice: The JAHC will be added into boot item when it is installed. It will start up when system boot up.

## 5.2.3 Startup & shutdown time setup

After install the JAHC software, double click the JAHC icon on taskbar and the setup menu will pop up.



One week as a circle, maximum 3 schedules per day. Select each schedule to set up the resume time and shutdown time. Click [Confirm] button to launch the schedule.



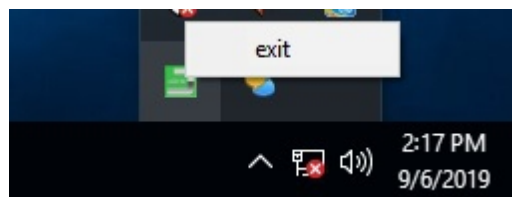
After finishing the setup, the menu window will notice the resume time and shutdown time.

**⚠ Caution:** If the interval from shutdown time to next resume time is less than 3 minutes, the system will not shut down.

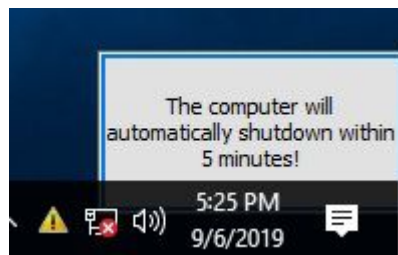
Click [Cancel] button to restore the time settings and cancel the shutdown status.

Click [X] button to hide the menu. You can find it on taskbar.

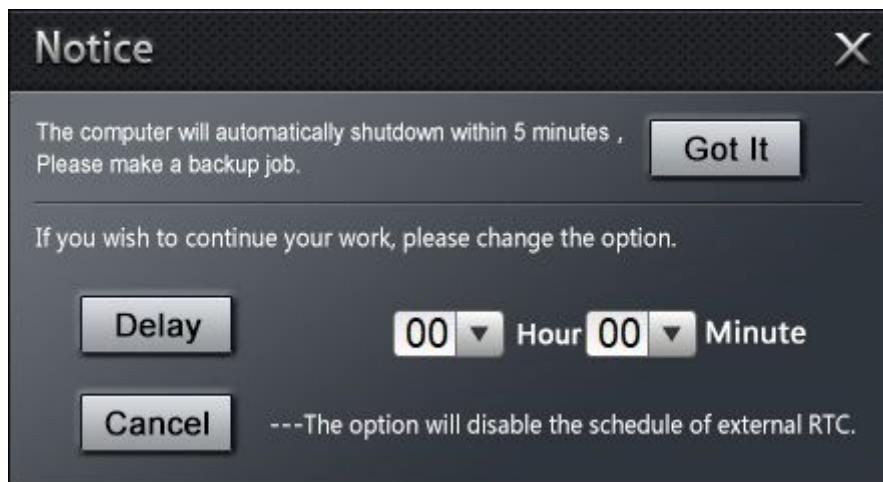
Right click the JAHC icon on taskbar and select [exit] to exit the software.



Shutdown caution: the shutdown caution will pop up before the system shutdown.



You can double click the message window and a new dialog box will pop up.



You can click [Delay] button and set up the time to delay the shutdown or click [Cancel] button to cancel the shutdown.

### 5.3 Watchdog API and instruction

Please contact Giada FAE (email:support@giadatech.com) for watchdog API software and instruction.



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**Address:** 1~3/F, Block A, Tsinghua Information Harbor, North Section,  
Shenzhen Hi-tech Park, Nanshan District, Shenzhen, China



The terms HDMI, HDMI High-Definition Multimedia Interface, and the HDMI Logo