Giada

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DF612 User Manual

Shenzhen JIEHE Technology Development Co., Ltd.

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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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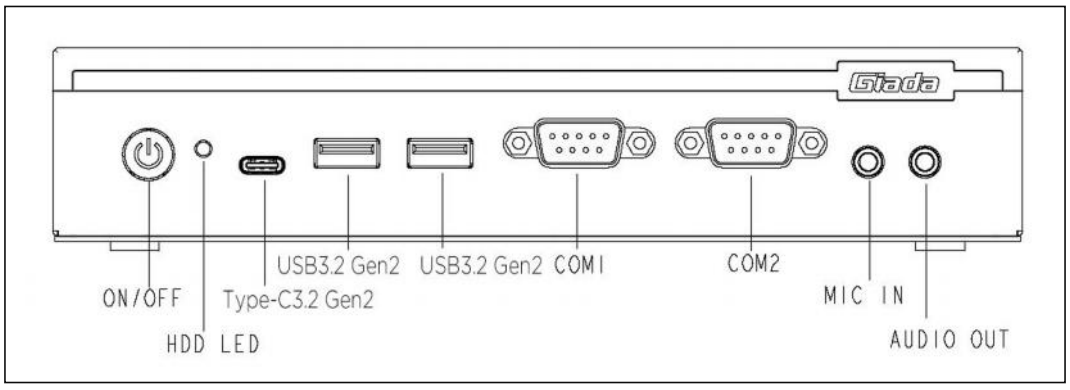
1. Product Introduction

Based on Intel® Alder Lake platform, Giada DF612 is a fanless model featured with Intel® Core processors. With one DP and two HDMI display outputs, the DP port supports max 8K resolution and the two HDMI supports max 4K resolution. The player is suitable to be applied in high-end Digital signage, Kiosk etc. applications.

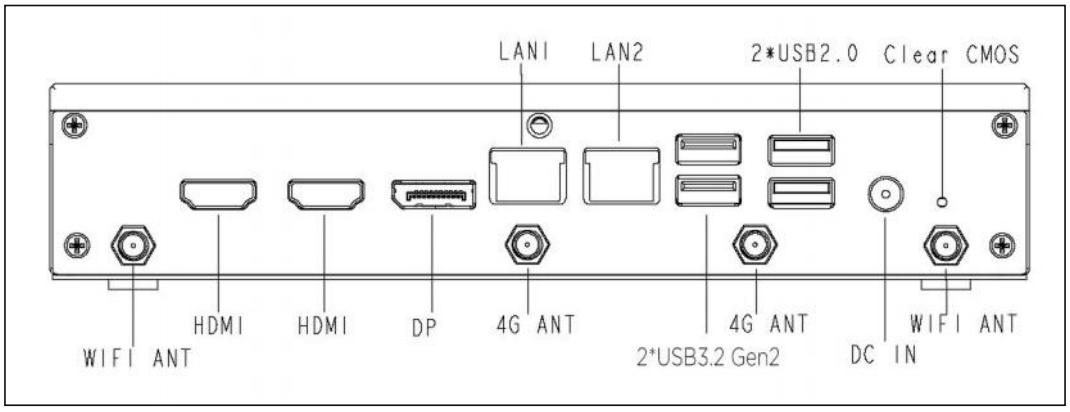
2. Interface Description and Hardware Specifications

2.1 Interface Description

Front I/O Port



Rear I/O port



2.2 Hardware Specifications

DF612		DF612
Processor	CPU	Intel® Core™ i3-1215U/i5-1235U/i7-1255U
	E-Core Frequency	3.30 GHz/3.30 GHz/3.50 GHz
	P-Core Frequency	4.40 GHz/4.40 GHz/4.70 GHz
	BIOS	AMI Source Code
	Chipset	SOC
Memory	Type	DDR4-32400MHz
	Socket	2 x SO-DIMM
	Max Capacity	64 GB
Graphics	GPU	Intel® UHD Graphics (Core™ Core i3)/IRIS® Xe Graphics (Core™ Core i5/i7)
	Graphic Engine	DirectX 12.1, OpenGL 4.6, OpenCL 3.0, 8K 60fps 12b 4:2:0 HEVC/VP9/SCC
	DP 1.4	1 x DP (Max.7680 x 4320@60Hz)
	HDMI 2.0	2 x HDMI (Max.4096 x 2304@60Hz)
Network	Controller	1 x Realtek RTL8111H Gigabit Ethernet/1 x Intel® i219-LM Gigabit Ethernet
	Interface	2 x RJ45
I/O Interface	USB	1 x USB3.2 Gen2 (10 Gbps), 4 x USB3.2 Gen2 (10 Gbps), 2 x USB2.0
	Serial Port	1 x RS232, 1 x RS232/422/485
	Audio	1 x MIC-IN, 1 x AUDIO-OUT
	M.2	1 x M-Key M.2 (2242/2280) for PCIe SSD
		1 x E-Key M.2 (2230) for WiFi/BT, support Wi-F i5, Wi-Fi 6, Wi-Fi 6E(CNVi)
		1 x B-Key M.2 (3042) for 3G/4G
	SIM	1 x SIM Slot
Storage	M.2	1 x M-Key M.2 (2242/2280) for PCIe SSD
Operation System	OS	Windows 10-1909 (64bit) / Windows 11 (64bit) / Linux Ubuntu (64bit)
Power	Power Type	DC-IN
	Input Voltage	19V/3.42A
Mechanical	Construction	Metal
	Mounting	VESA Mounting kit
	Dimension (W x D x H)	200mm x 150mm x 40mm (7.87” x 5.90” x 1.57”)
	Color	Dark Gray
Environment	Operating Temperature	0-45℃(32 ℉ ~ 113 ℉) at 0.7m/s Air Flow
	Relative Humidity	95%@40℃ (non-condensing)
Certification		CE, FCC Class B

3. Accessories Installation Steps

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

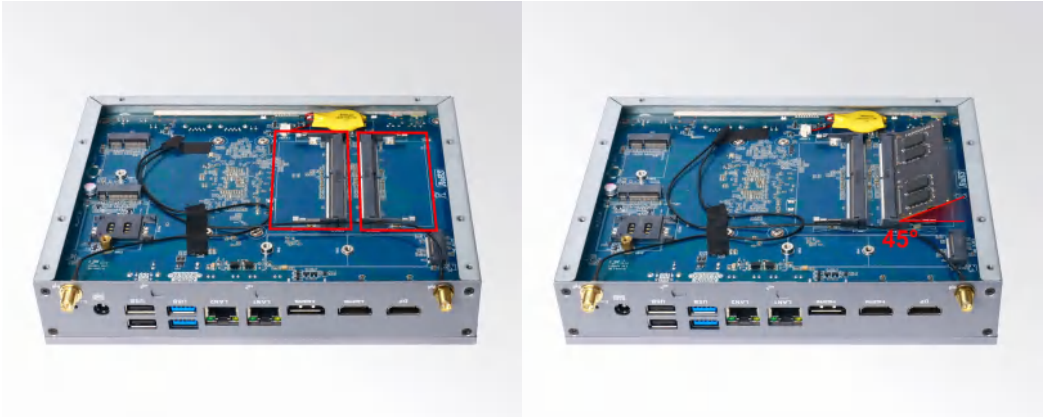
How to open the top cover and bottom cover

Unscrew the four screws and then remove the bottom cover. SO-DIMM #1 and #2, M.2 for SSD slot are at the right side. M.2 slot for 3G/4G, M.2 for Wifi and SIM card slot are at the left side.

3.1 Memory Installation

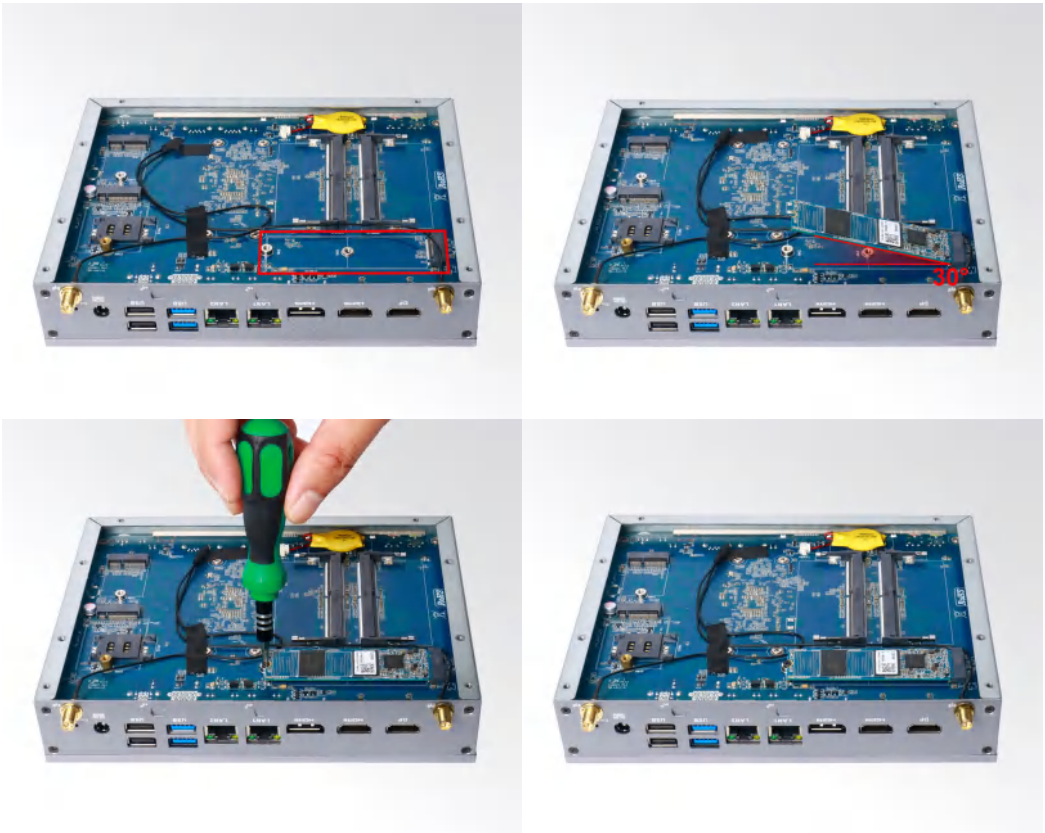
⚠ This product only supports DDR4 SO-DIMM memory modules.

1. Locate the SO-DIMM slot on the board.
2. Gently insert the module into the slot in a 45-degree angle.
3. Carefully push down the memory module until it snaps into the locking mechanism.



3.2 SSD (M.2) Installation

1. Plug the M-Key M.2 (2280) SSD (PCIe protocol) into the appropriate slot.
2. Secure the module to the carrier by tightening up the screw.



3.3 WIFI (M.2) Installation

1. Plug the E-Key (2230) WIFI module into the appropriate slot.
2. Secure the module to the carrier by tightening up the screw.
3. Connect the black cable to Connect the two cables to WIFI module and install the antennas.

3.4 SIM Card Installation

⚠ This product supports standard SIM card with the size of 25mm × 15mm.

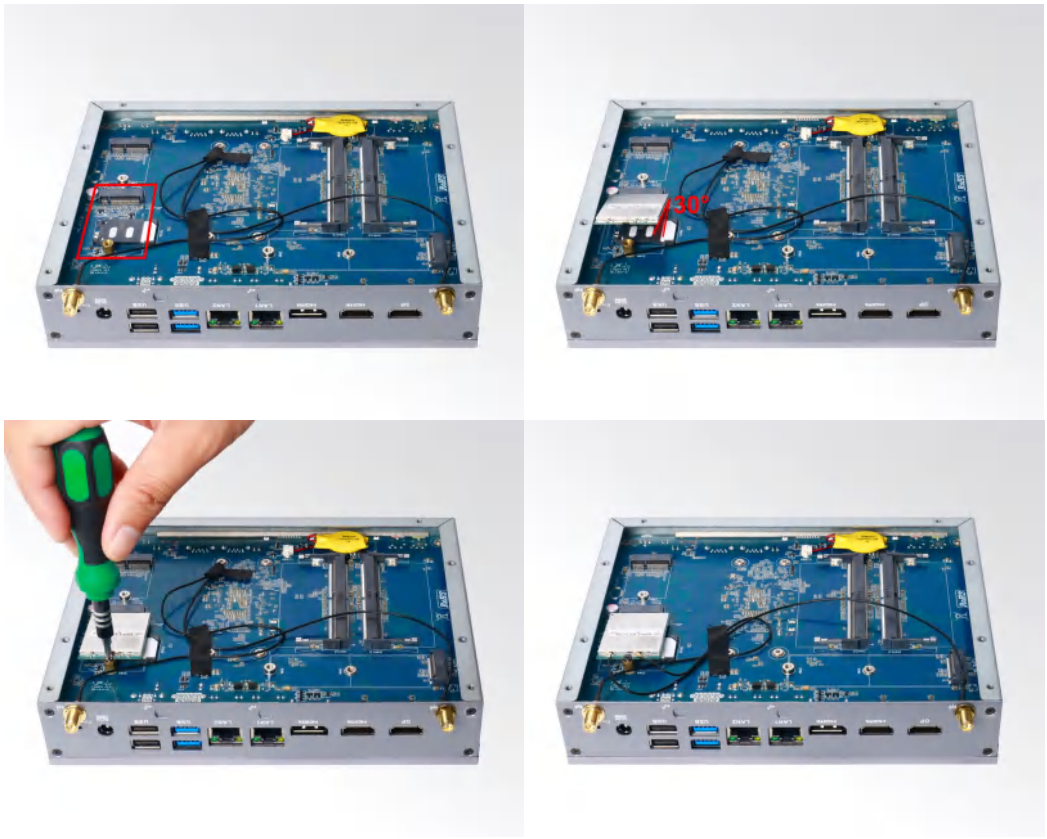
1. [Open] the SIM card holder and pull it up.
2. Insert the SIM card.
3. [Lock] the card holder.

3.5 3G/4G Installation

- **3G/4G Installation**

⚠ Default SMA connector and cable is for WIFI. Please change to 3G/4G SMA connector and cable.

1. Plug the 3G/4G module B-Key M.2 (3042) into the appropriate slot.
2. Secure the module to the carrier by tightening up the screw.
3. Connect the cable to **Main** and install the antenna.



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

A. 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 occurs. If the indicative information disappears before operating, you can shut down 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 press < Ctrl > + < Alt > + < Delete > simultaneously.

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].

1) 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 Figure1.

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.

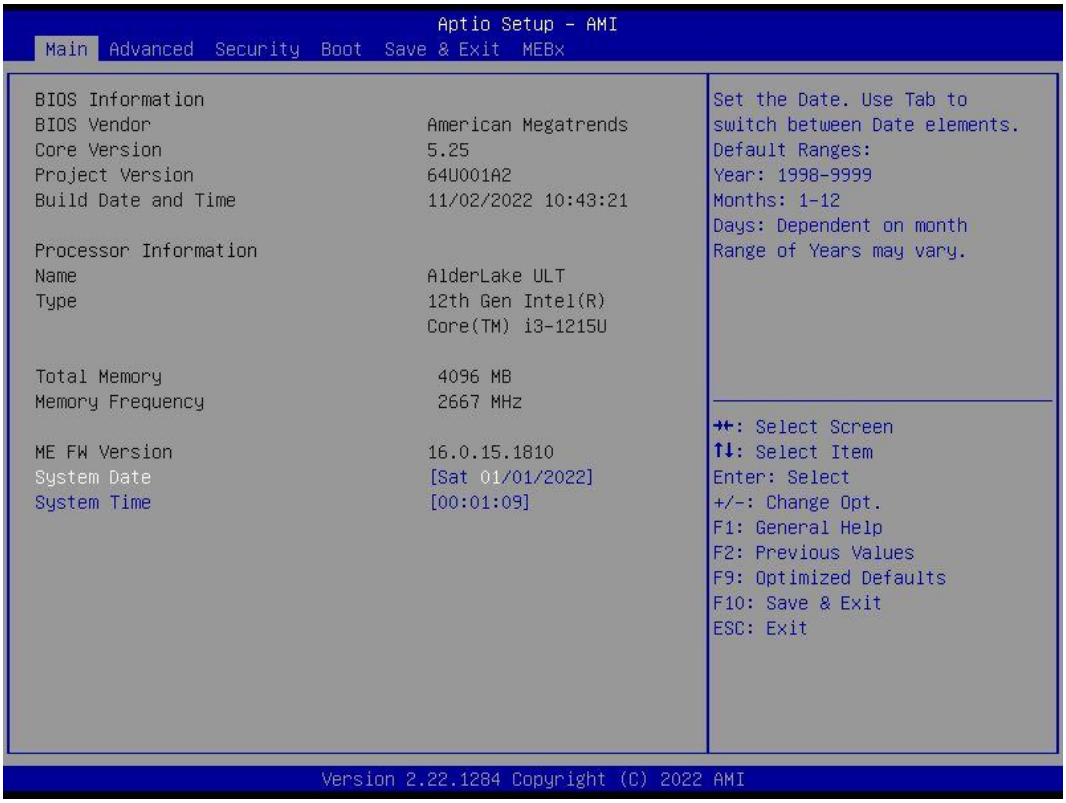


Fig 1

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)

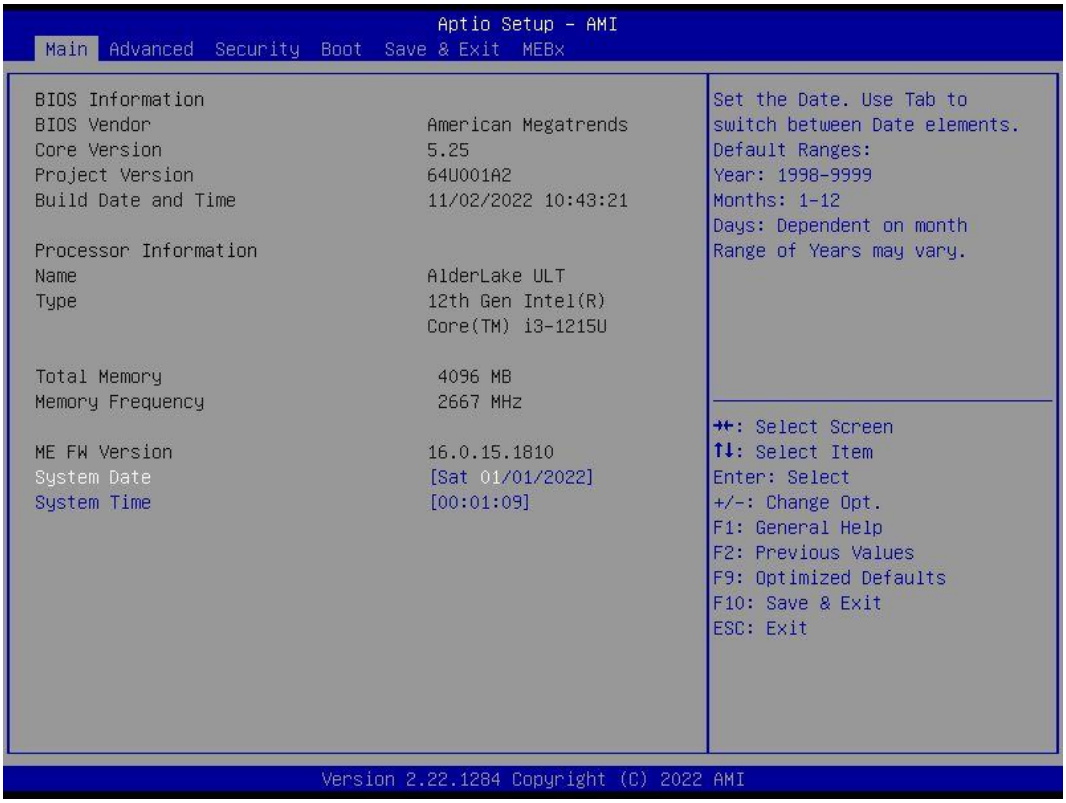
4) Boot (startup configuration characteristics)

5) Save & Exit (option of exit)

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

6) MEBx

4.1 Main (Standard CMOS setting)



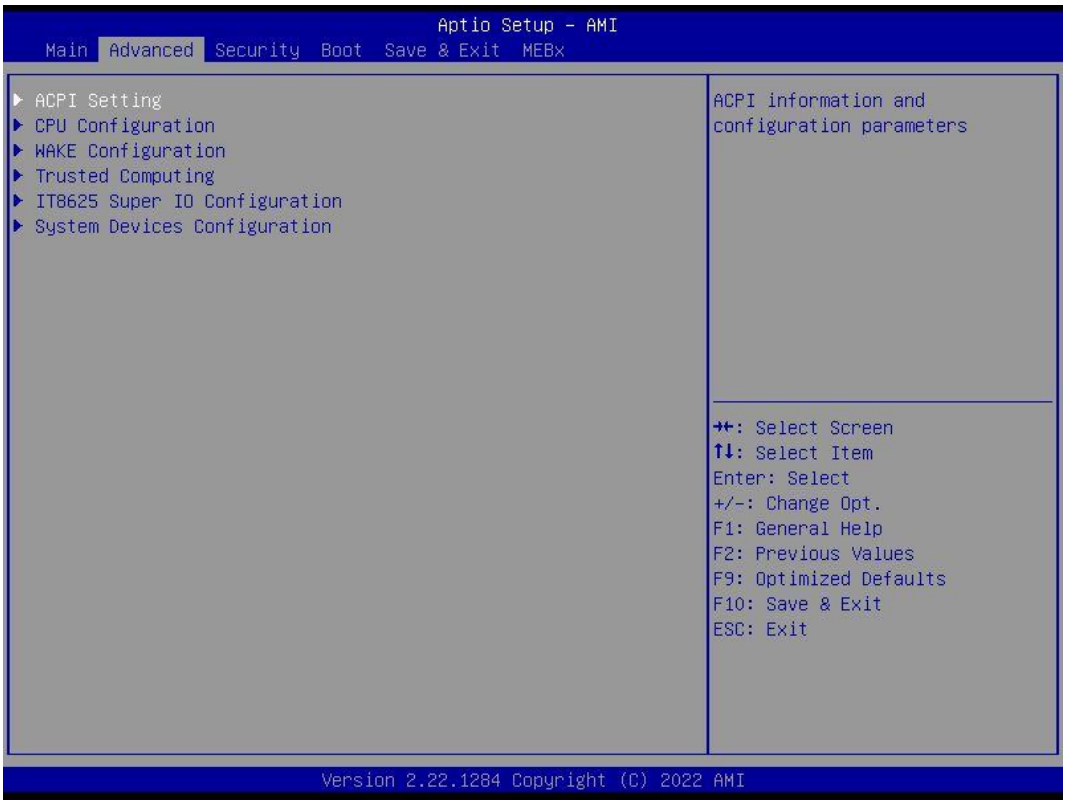
1) System time (hh:mm:ss)

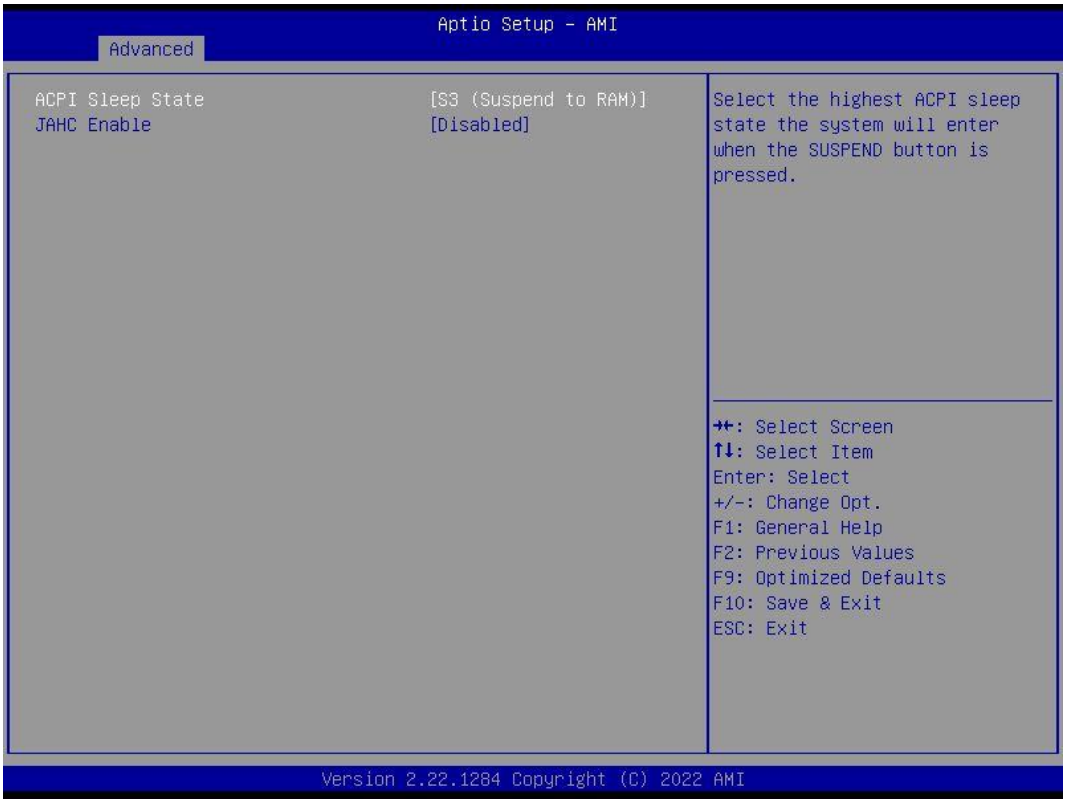
Use this item to set the time for the computer, with the format as "HH / MM / SS".

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)

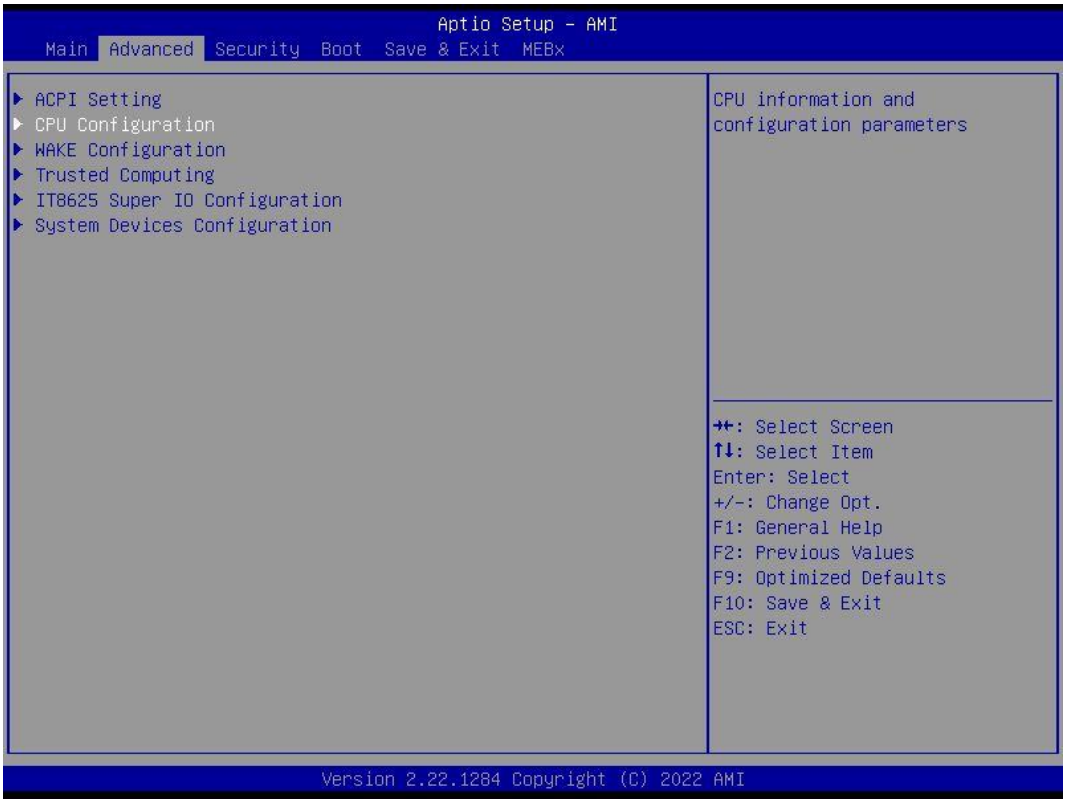


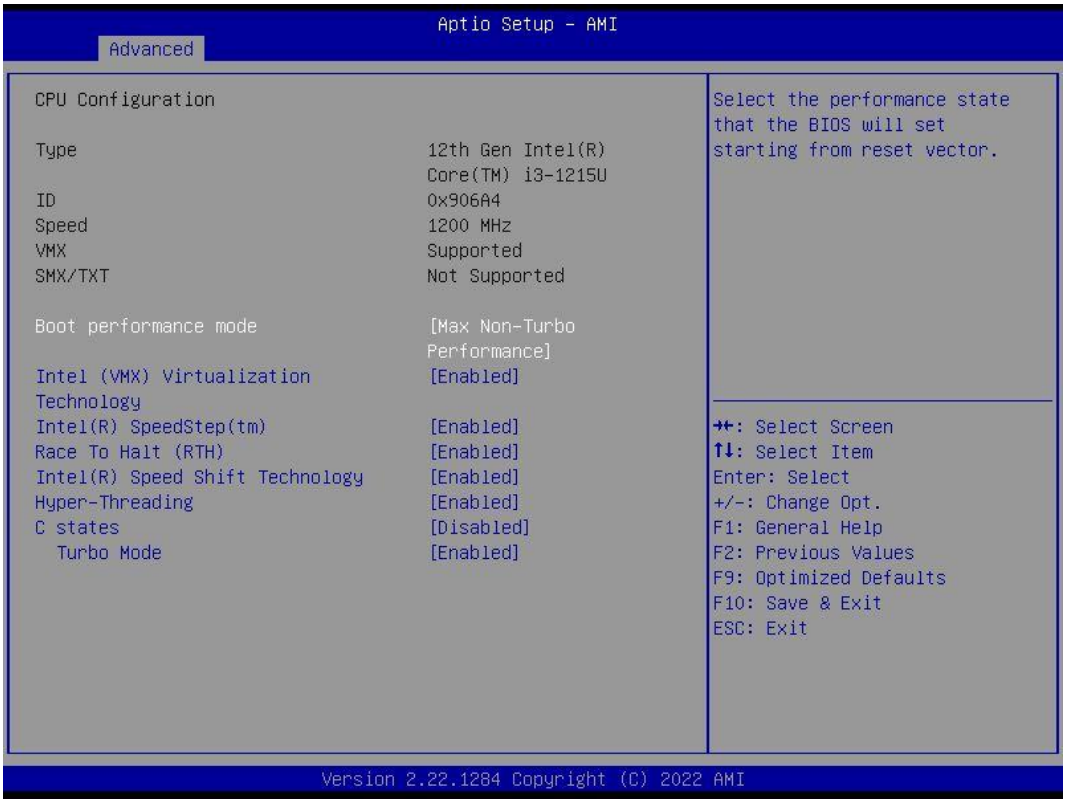


4.2.1 ACPI Settings

ACPI Menu	Description
ACPI Sleep State	● Select the highest ACPI sleep state the system will enter when the SUSPEND button is pressed.
JAHC Enable	JIEHE Active Hardware Control (JAHC) management system includes both hardware Micro Control Unit (MCU) and software (JAHC Technology Manager). ● Disabled: The JAHC is disable by default. ● Enabled.

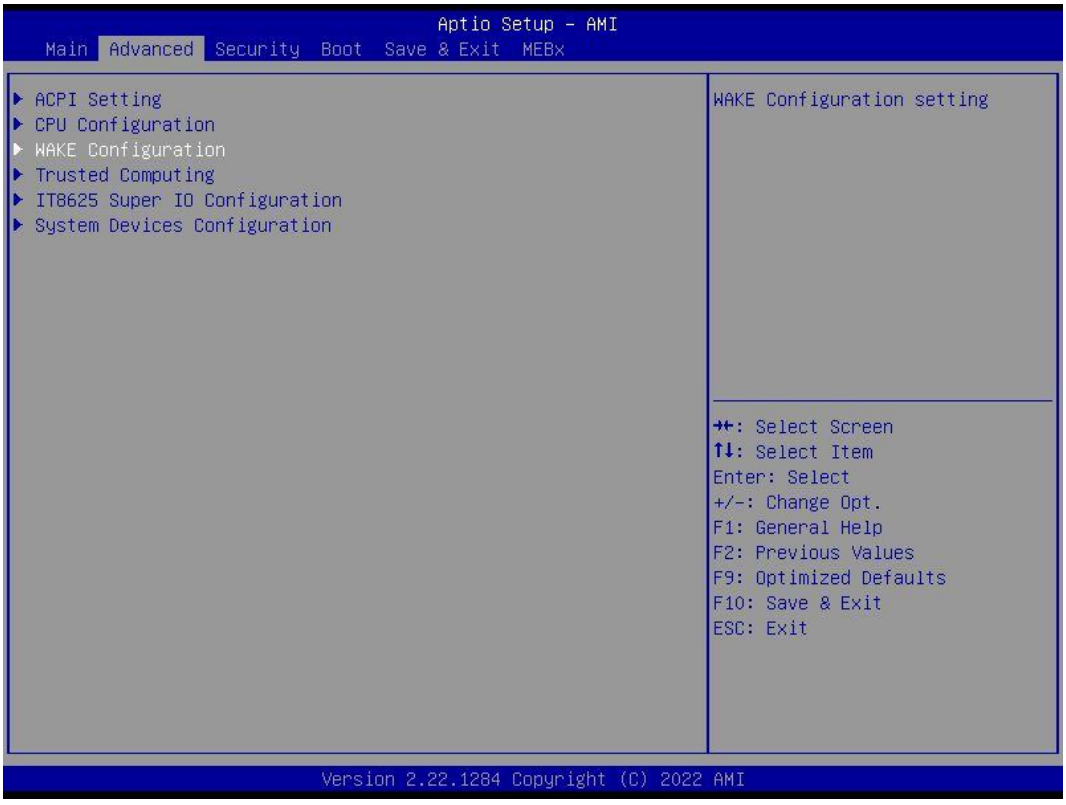
4.2.2 CPU Configuration

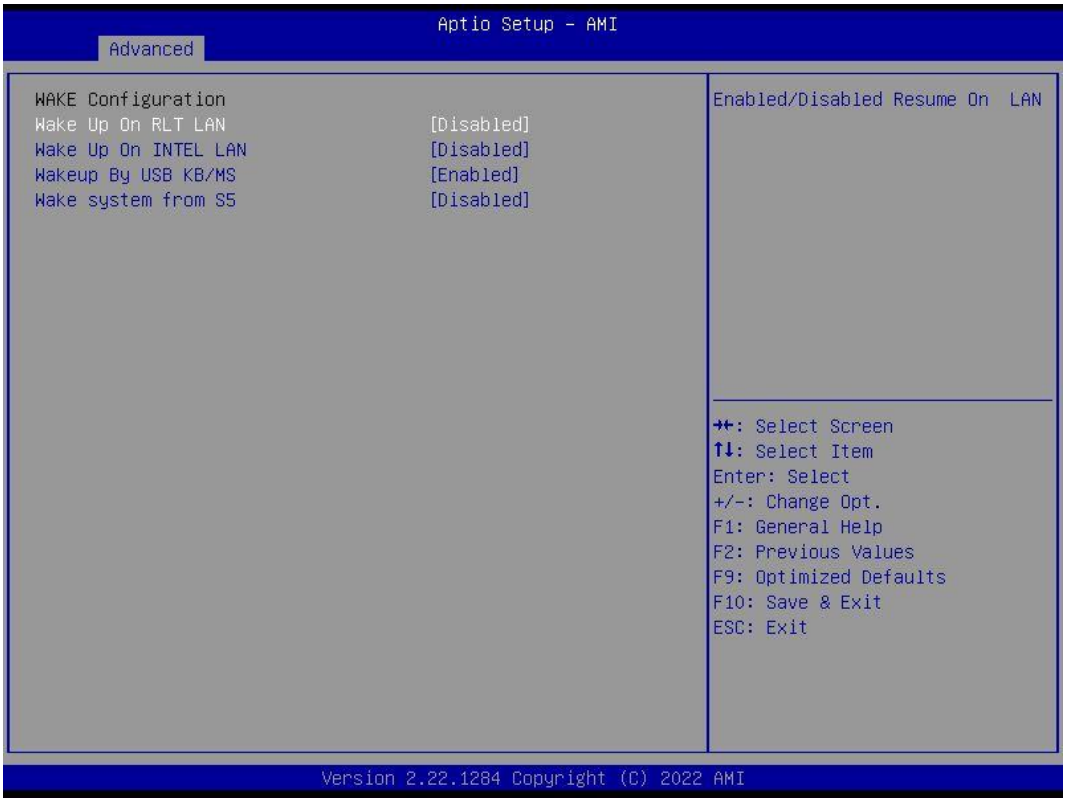




CPU Configuration Menu	Description
Boot performance mode	Select the performance state that the BIOS will set starting from reset vector.
Intel (VMX) Virtualization Technology	Intel Virtualization Technology is enabled by default. User can enable and disable the Intel Virtualization Technology function.
Intel® SpeedStep (tm)	Allows more than two frequency range to be supported.
Race To Halt (RTH)	RTH will dynamically increase CPU frequency in order to enter PKG C-State faster to reduce overall power.
Intel® speed Shift Technology	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.
Hyper-Threading	Enable/Disable Hyper-Threading
C-States	Allows CPU to go to C states when it's not 100% utilized.
Turbo Mode	Enable/Disable processor Turbo Mode (Requires Intel Speed Step or Intel Speed Shift to be available and enabled).

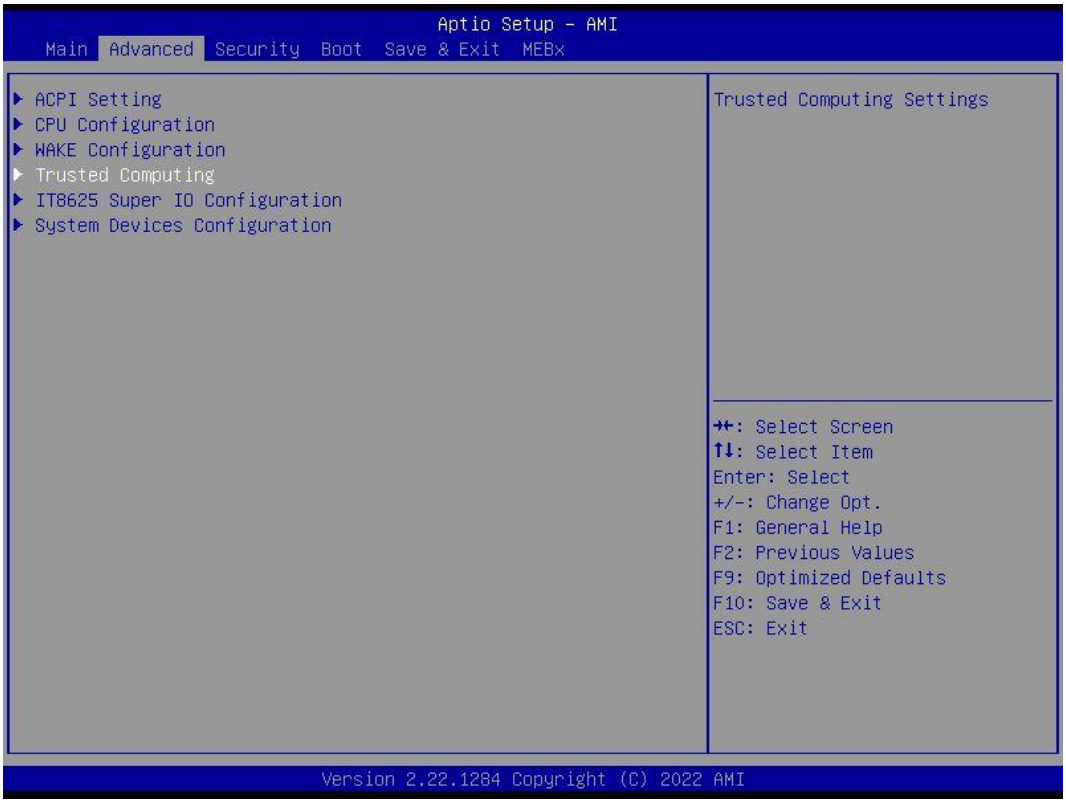
4.2.3 Wake Configuration

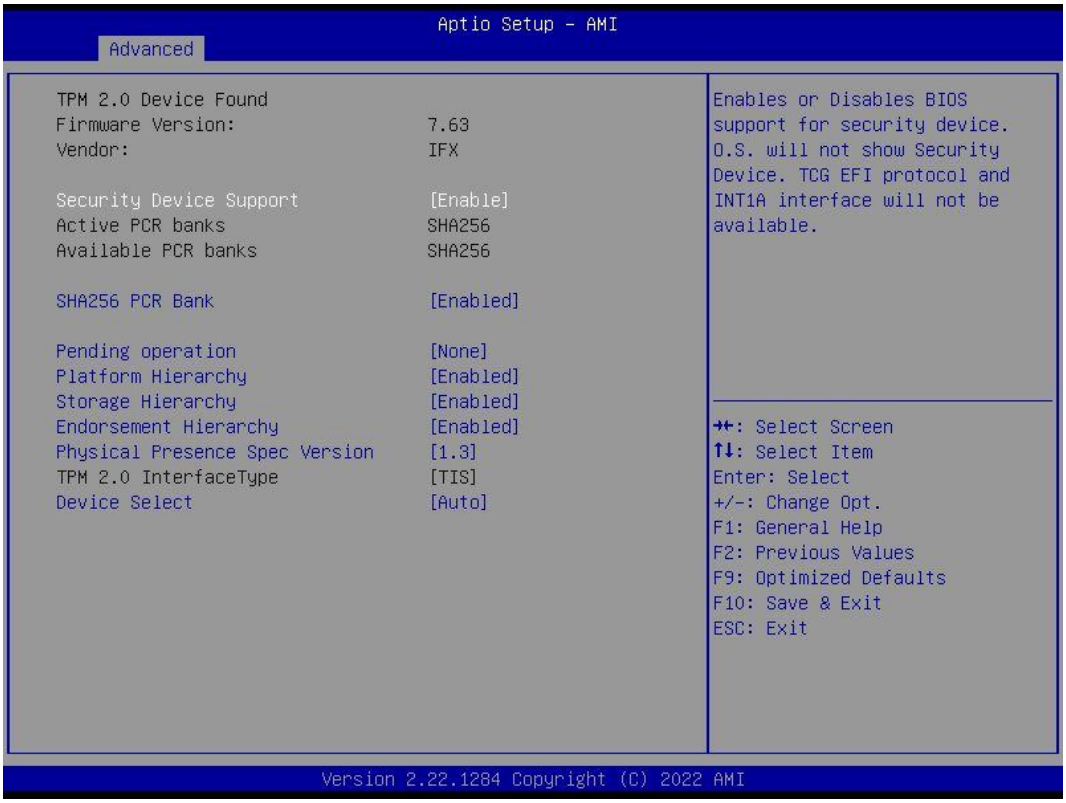




WAKE Configuration Options	Description
WAKE Configuration	
Wake Up On RTL LAN	Wake On LAN Function. ● Disabled: The WOL is disabled by default. ● Enabled.
Wake Up On INTEL LAN	Wake On LAN Function. ● Disabled: The WOL is disabled by default. ● Enabled.
Wakeup By USB KB/MS	● Enabled/Disabled Wake Up by USB KB/Mouse from S3 Status.
Wake system from S5	● Disabled: By default, the functions is disabled. ● Fixed Time: You can use the fixed Time menu to modify the wake time. ● Dynamic Time: You can set multithreaded to wake system from S5 after enabling Dynamic Time.

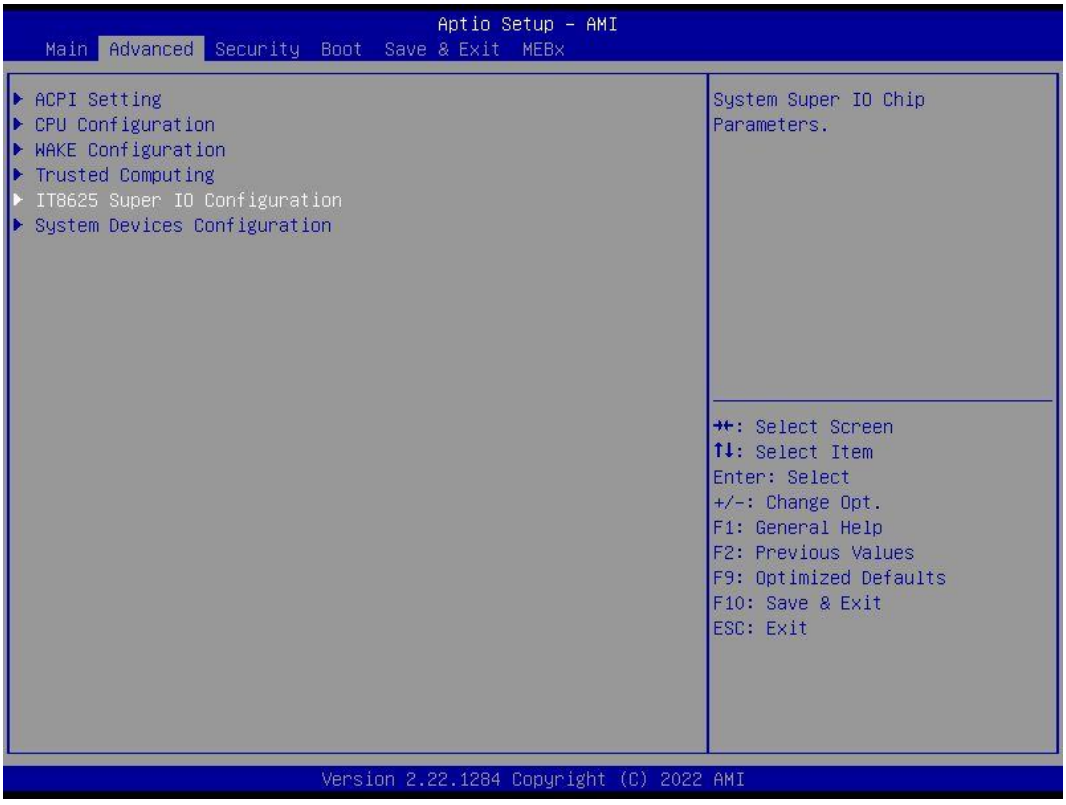
4.2.4 Trusted Computing

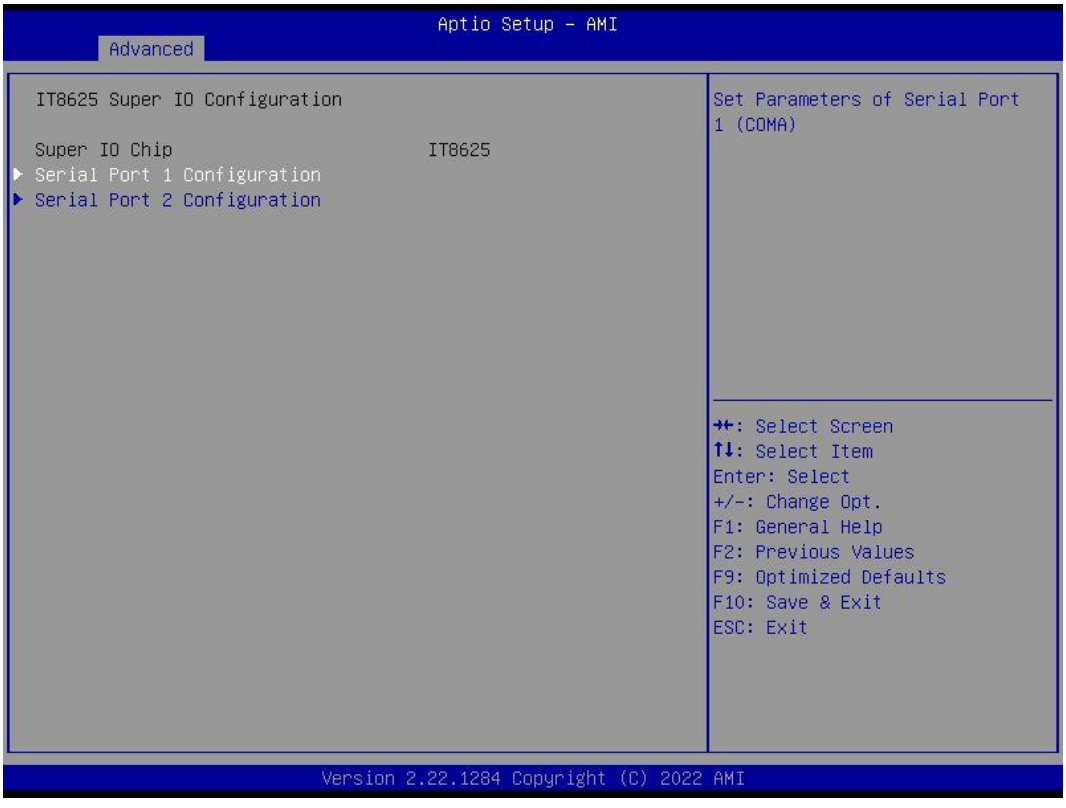




TPM20 Device Found	Description
Firmware Version	● TPM FW version is 7.63
Vendor	● The vendor is IFX
Security Device Support	● Disabled ● Enabled. This item is enabled by default.
SHA256 PCR Bank	● Disabled. This item is Enabled by default ● Enabled.
Pending operation	● It includes None and TPM Clear function.
Platform Hierarchy	● Disable or Enable the Platform Hierarchy.
Storage Hierarchy	● Disable or Enable the Storage Hierarchy.
Endorsement Hierarchy	● Disable or Enable the Endorsement Hierarchy.
Physical Presence Spec Version	● You can choose 1.2 or 1.3. The version is 1.3 by default.
TPM 20 Interface Type	● TPM2.0 Interface Type is TIS by default.
Device Select	● You can select TPM1.2 or TPM2.0 or Auto. Auto is set up by default.

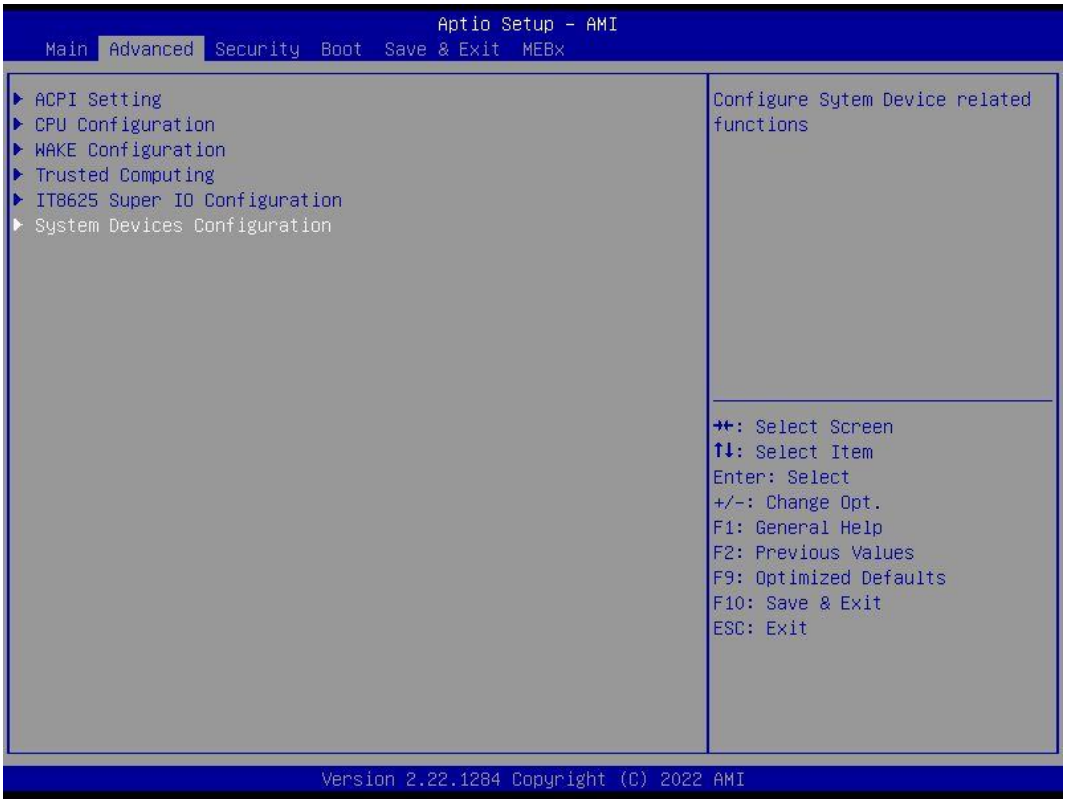
4.2.5 IT8625 Super IO Configuration

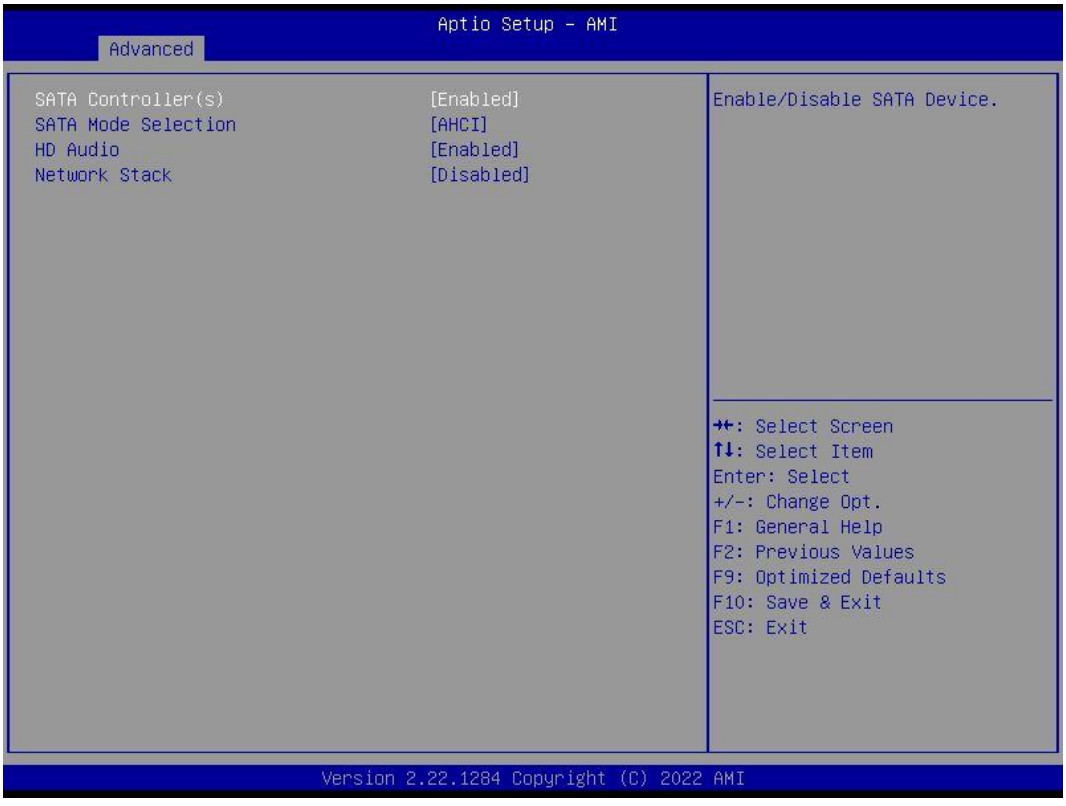




Serial Port	Description
Serial Port 1 Configuration	
Device Settings	Set parameters of serial port
Change Settings	Select an optimal settings for super IO device. Auto IO=3F8h; IRQ=4; IO=3F8h; IRQ=3,4,5,6,7,9,11,12; IO=2F8h; IRQ=3,4,5,6,7,9,11,12; IO=3E8h; IRQ=3,4,5,6,7,9,11,12; IO=2E8h; IRQ=3,4,5,6,7,9,11,12;
Serial Port 2 Configuration	
Change Settings	Select an optimal settings for super IO device. Auto IO=2F8h; IRQ=3; IO=3F8h; IRQ=3,4,5,6,7,9,11,12; IO=2F8h; IRQ=3,4,5,6,7,9,11,12; IO=3E8h; IRQ=3,4,5,6,7,9,11,12; IO=2E8h; IRQ=3,4,5,6,7,9,11,12;
Serial Port 2 Mode Configuration	● The user can set it as RS422 and RS485.The port is RS232 by default.

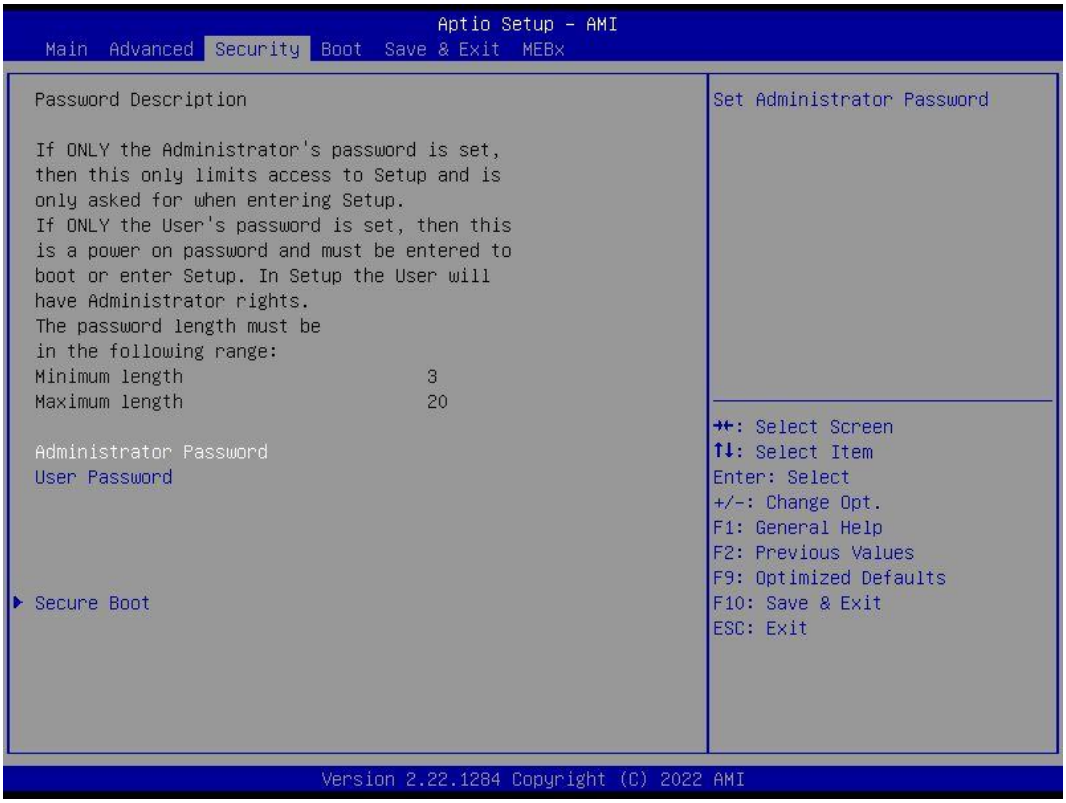
4.2.6 System Devices Configuration

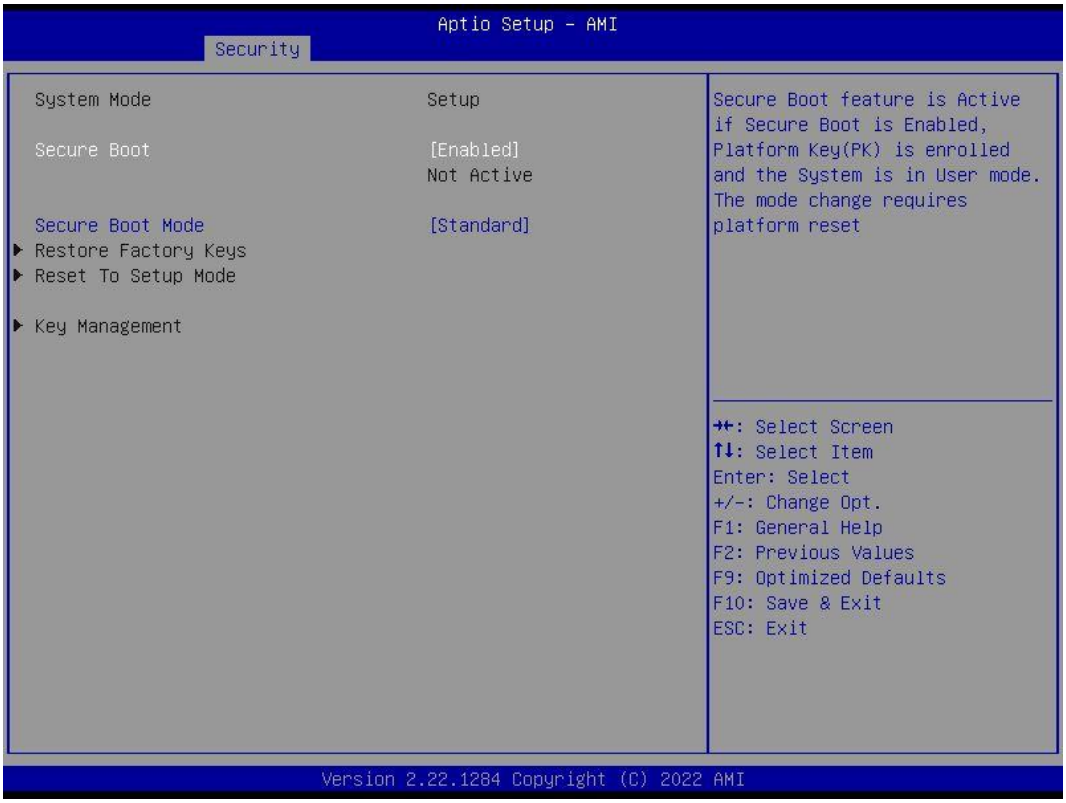




Menu	Description
SATA Controller(s)	The SATA controller is enabled by default. ● Enabled ● Disabled.
SATA Mode Selection	● Determines how SATA controller(s) operate.
HD Audio	● Control Detection of the HD-Audio device. ● HAD will be unconditionally disabled when disabled. ● HAD will be unconditionally Enabled when Enabled.
Network Stack	The Network Stack is disabled by default. ● Enabled ● Disabled.

4.3 Security





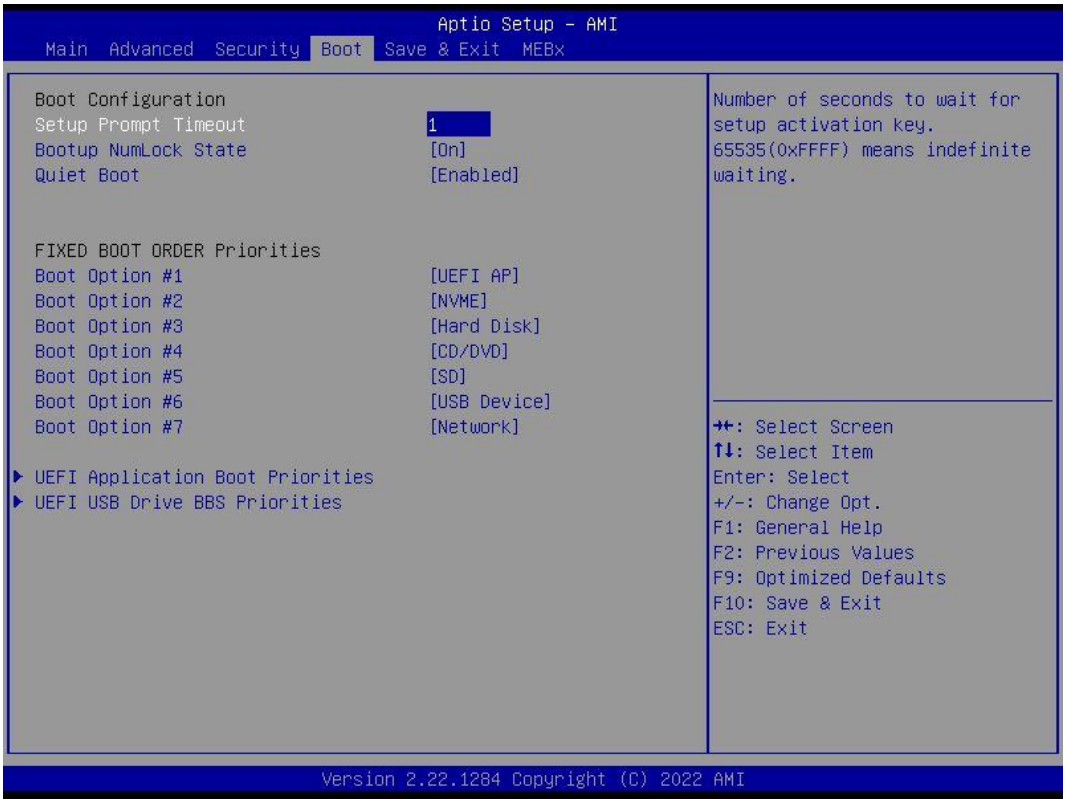
If this function is selected, the following information will appear:
Enter New Password hhhhhh
Then enter a password which is no more than eight characters and press <Enter>. BIOS will require to enter the password again.

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.

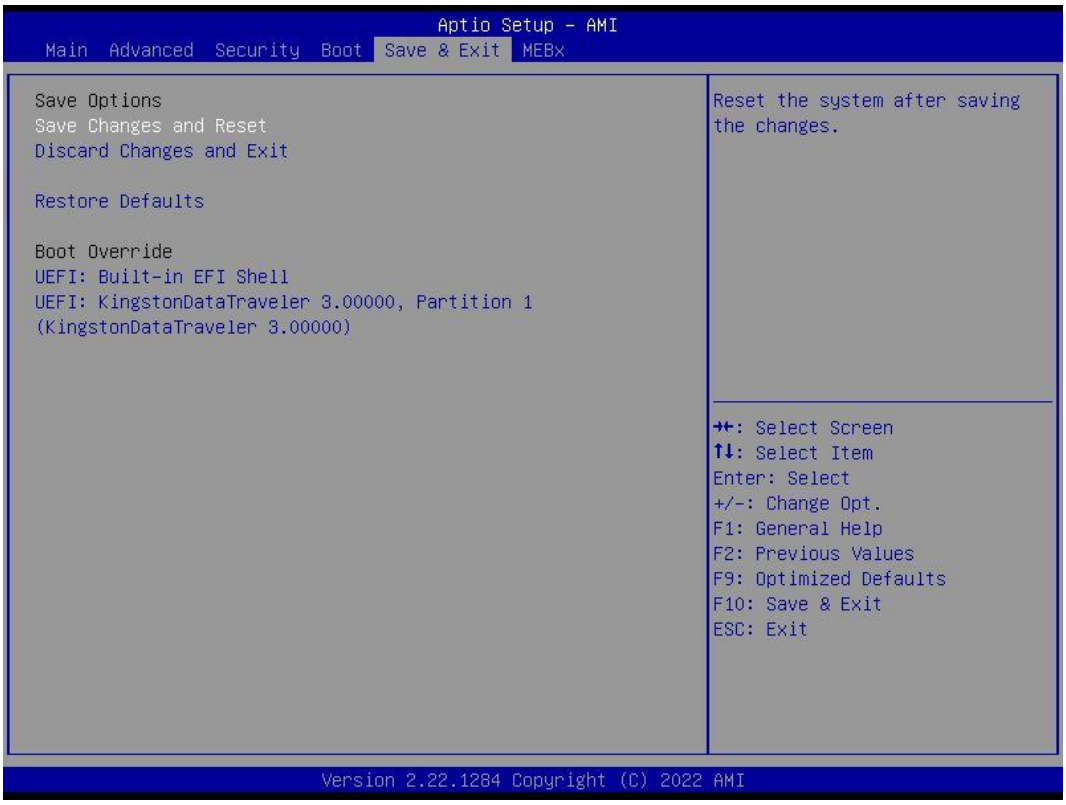
Security Item	Description
System Mode Configuration	
Secure Boot	Secure Boot feature is Active if Secure Boot is Enabled.Platform key (PK) is enrolled and the System is in user mode.The mode change requires platform reset.
Secure Boot Mode	Secure Boot Mode options includes Standard and Custom mode. In Custom mode,Secure Boot Policy variables can be configured by a physically present user without full authentication.

4.4 Boot Menu



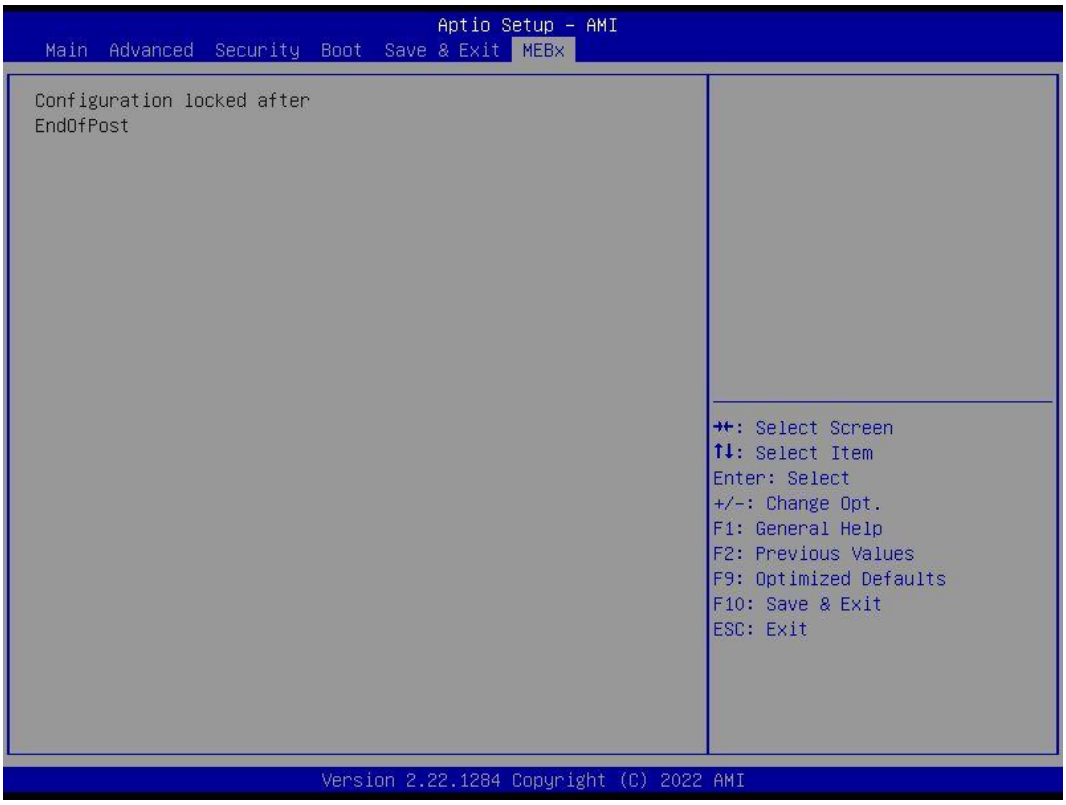
Boot Item	Description
Boot Configuration	
Setup Prompt Timeout	This item is use to set the waiting time of entering the operation system. During the BIOS post, if user doesn't press the keyboard, it won't respond unless you reboot the BIOS. The Setup Prompt Timeout is 3s by default. You can set the time as you want.
Bootup NumLock State	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.
Quiet Boot	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].
FIXED BOOT ORDER Priorities	
Boot Option #1	The first boot device. If BIOS doesn't detect the first boot device, it will check the second boot device.
Boot Option #2	The second boot device.
Boot Option #3	The third boot device.
Boot Option #4	The fourth boot device.
Boot Option #5	The fifth boot device.
Boot Option #6	The sixth boot device.
Boot Option #7	The seventh boot device.
UEFI Application Boot Priorities	You can set and manage UEFI hard disk after enabling this option.
UEFI USB Drive BBS Priorities	You can set and manage UEFI USB device after enabling this option.

4.5 Save & Exit



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

4.6 MEBx



The MEBx option is used for VPRO.The MEBx option can be enable and disable if the CPU supports VPRO.

5. JAHC Introduction

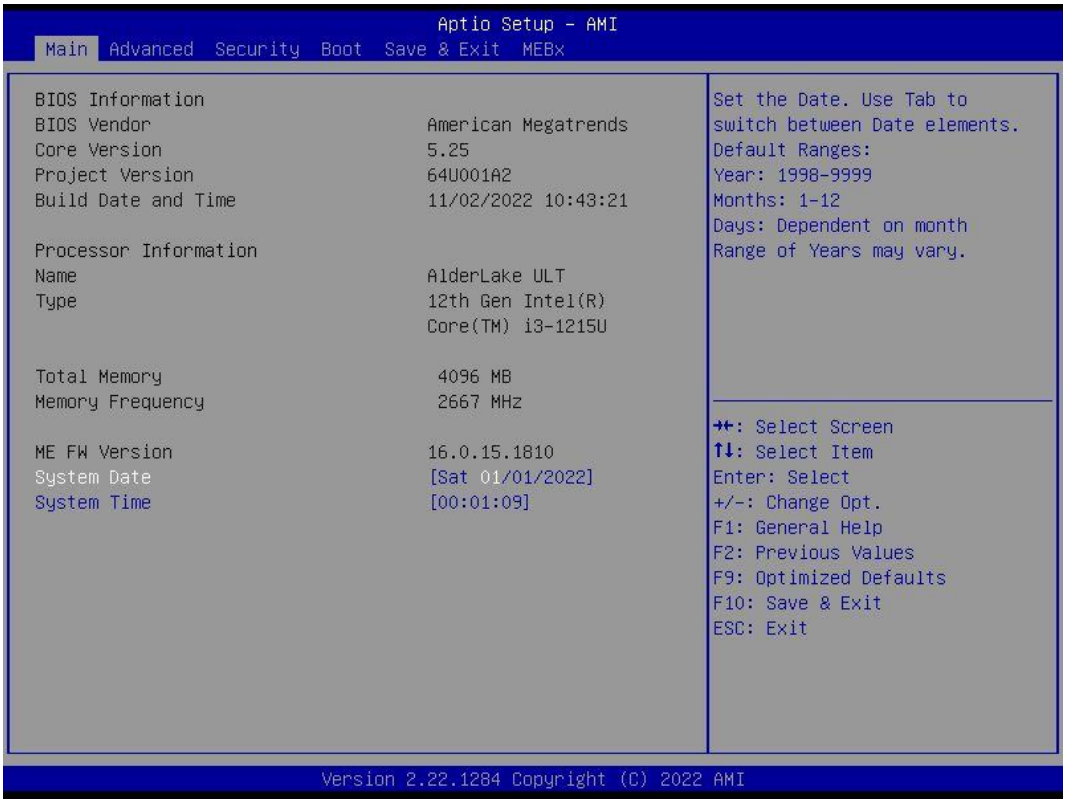
JIEHE Active Hardware Control (JAHC) management system includes both hardware Micro Control Unit (MCU) and software (JAHC Technology Manager). It can support following functions:
1. Automatically boot up when power on. It is controlled by the Micro Control Unit (MCU) chip.
2. Real Timer Controller (RTC) 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

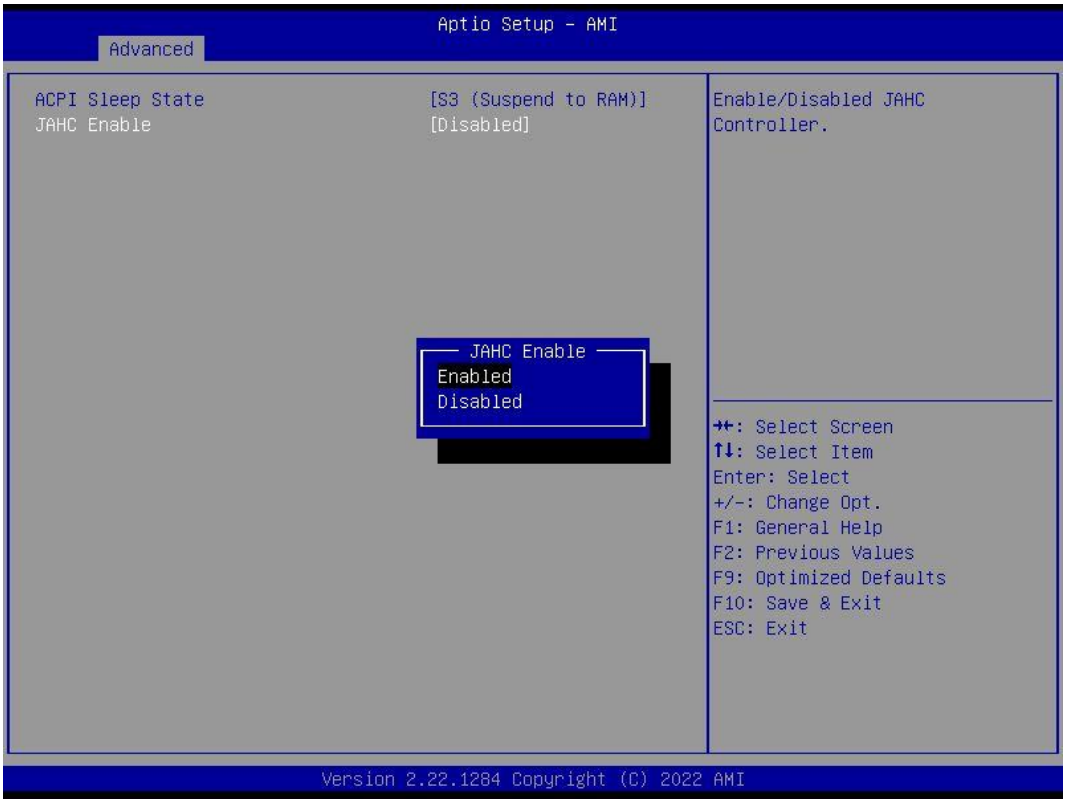
Automatically reboot when power on

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- > ACPI Setting- > JAHC Enable- > Enabled.



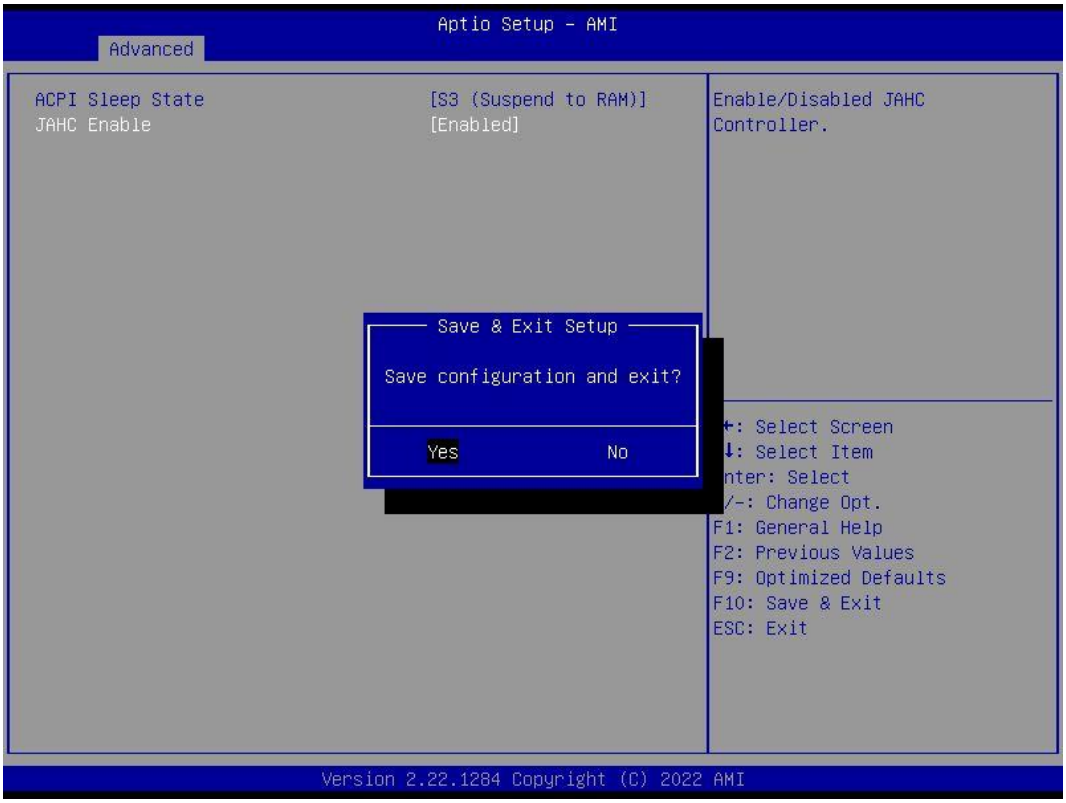
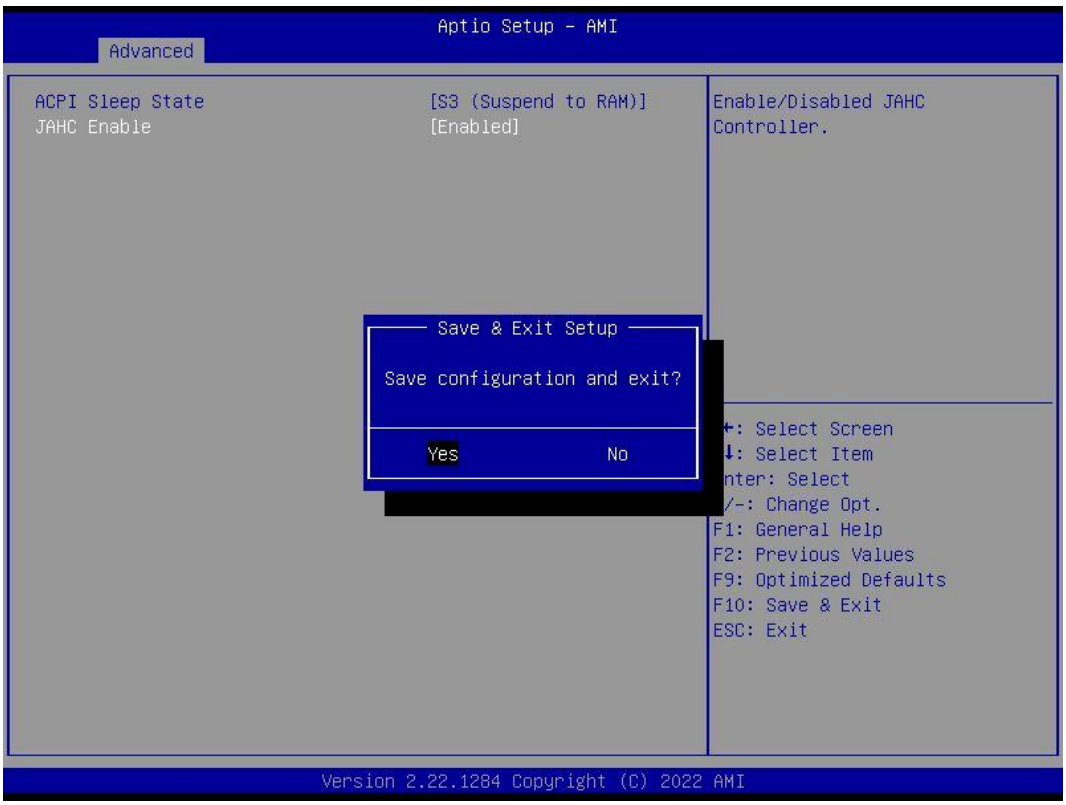


FIG (1)

c. Press ‘F10’ to save change & exit after select “JAHC enabled” option.



5.2 JAHC software

5.2.1 JAHC software functions

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

5.2.2 JAHC software installation guide

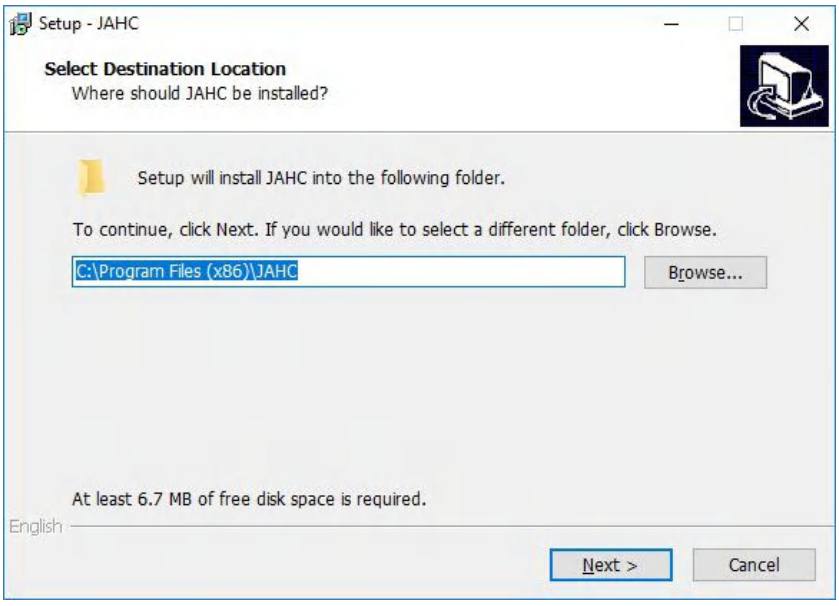
System Requirements:

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

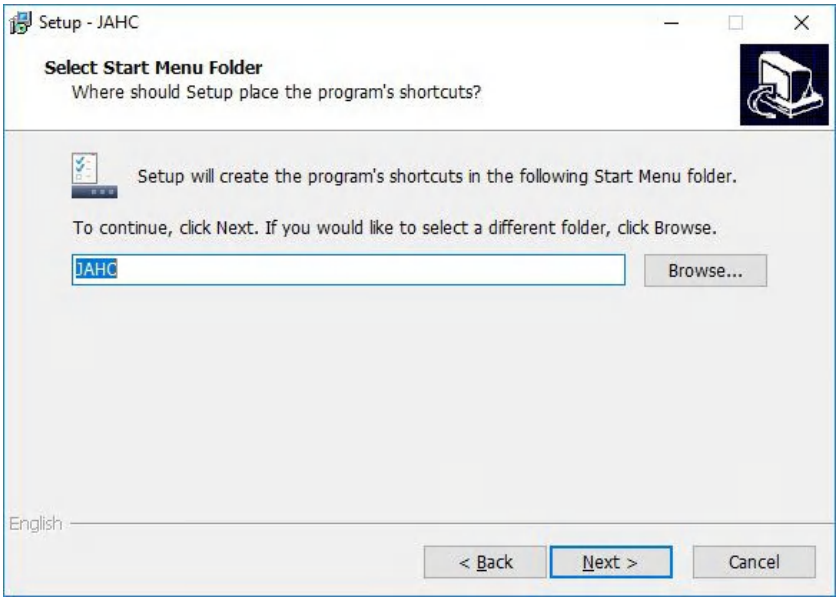
How to install JAHC software:

Please download the JAHC.EXE from Giada website: www.giadatech.com, then follow up below steps:

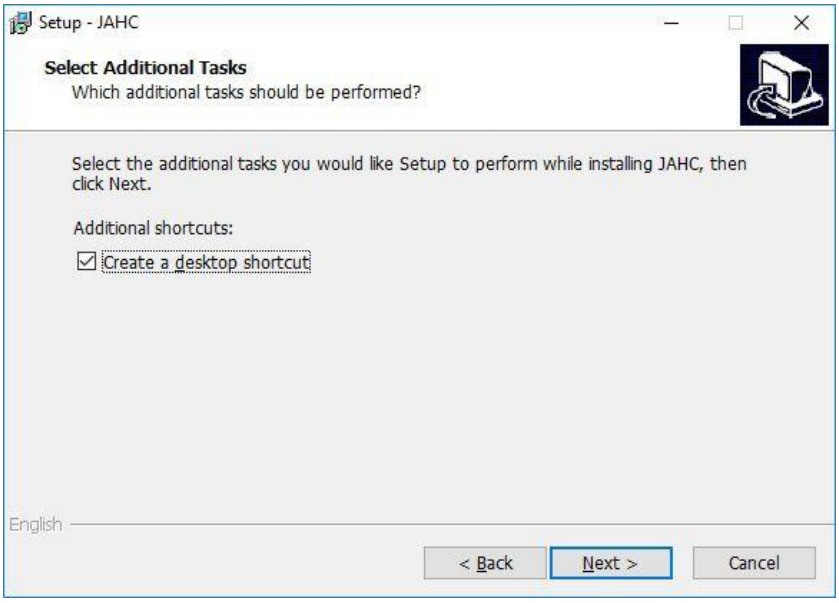
a. Double-click the JAHC.EXE file, the setup wizard will pop up, select destination location and click [Next] button to continue the installation.



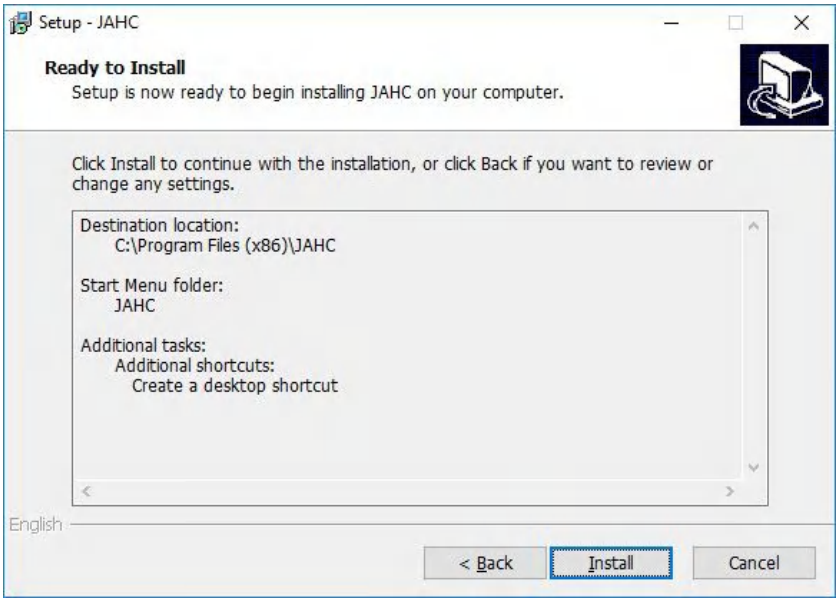
b. Click [Next] button to continue the installation.

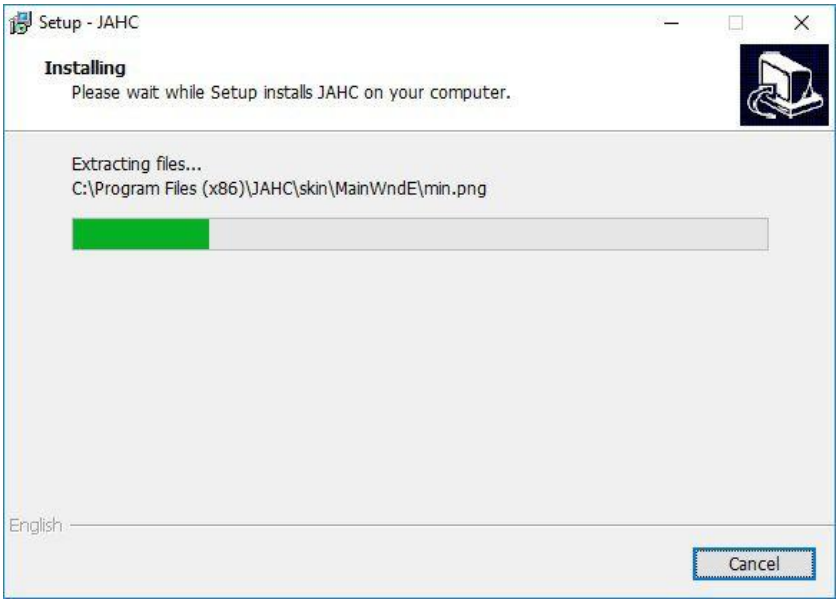


c. Select [Create a desktop shortcut] and click [Next] button.



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



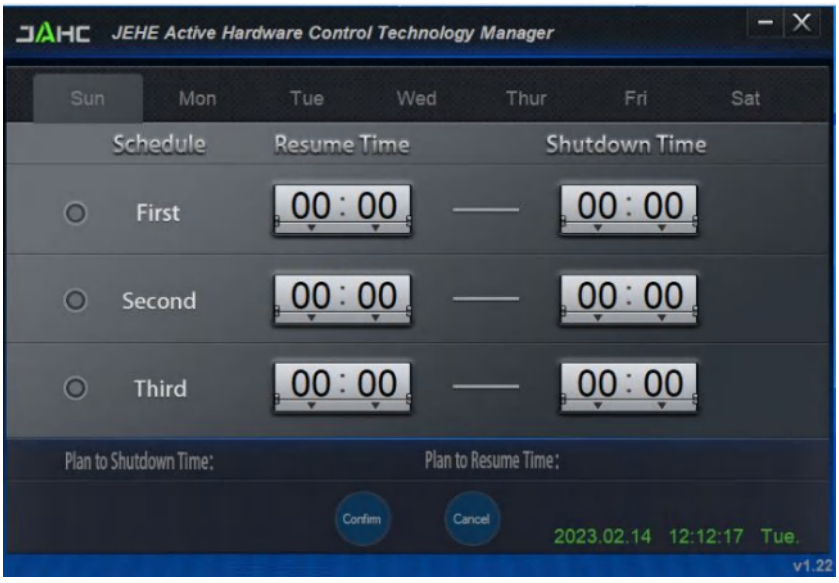


e. Click [Finish] button to finish the installation. You can select [Launch JAHC] to run the software automatically after finishing the installation.

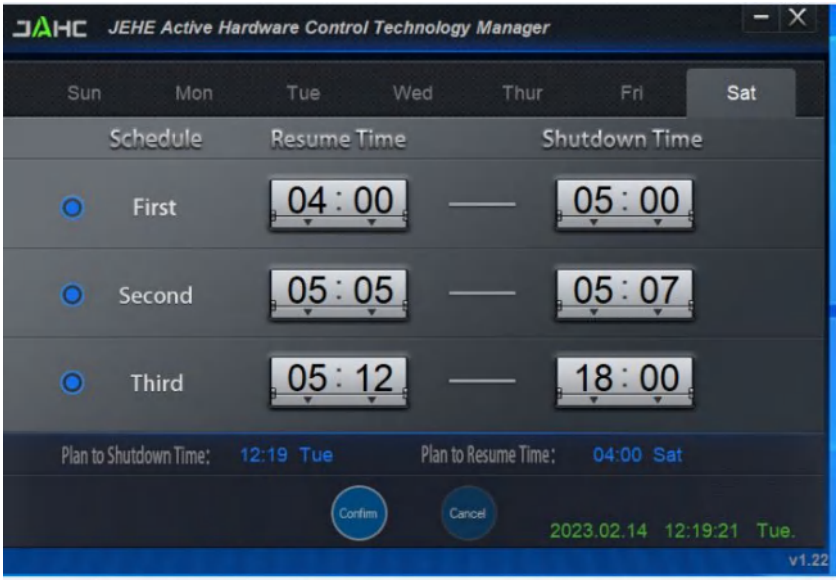
Notice: The JAHC will be added into boot item when it is installed. It will start up when system boot up.

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.



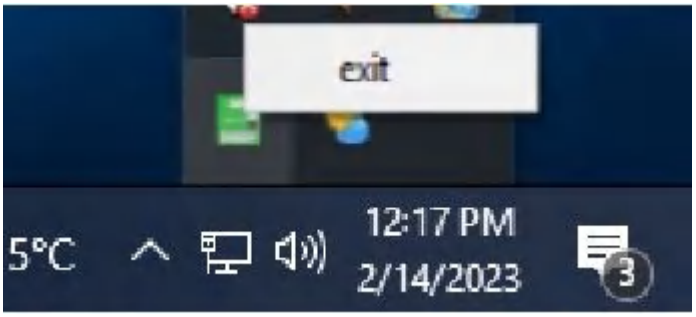
One week as a circle, maximum 3 schedules per day. Select each schedule to set up the resume time and shutdown time. Click [Confirm] button to launch the schedule.



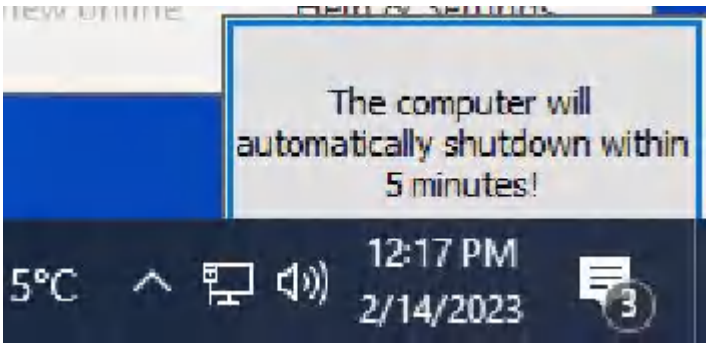
After finishing the setup, the menu window will notice the resume time and shutdown time.

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

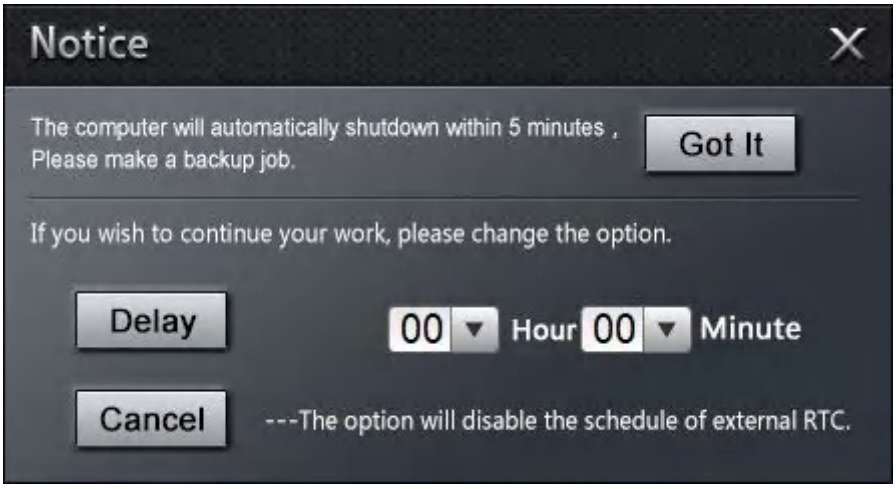
Click [Cancel] button to restore the time settings and cancel the shutdown status.
Click [X] button to hide the menu. You can find it on taskbar.
Right click the JAHC icon on taskbar and select [exit] to exit the software.



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.

Shenzhen JIEHE Technology Development Co., Ltd.

Website: www.giadatech.com

Phone: +86-755-33300336

Email: support@giadatech.com

Address: 1~2/F, Block A, Tsinghua Information Harbor, North Section,
Shenzhen Hi-tech Park, Nanshan District, Shenzhen, China

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