Giada

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SDM-L613 User Manual

intel.
smart display
module

Shenzhen JIEHE Technology Development Co., Ltd.

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.

Contact Information

Shenzhen JIEHE Technology Development Co., Ltd.

Website: www.giadatech.com

Phone: +86-755-3330 0336

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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1. Product Introduction

1.1 Brief Introduction

Complying with Intel Smart Display Module (SDM) standards and based on Raptor Lake-U platform, Giada SDM-L613 is powered by Intel 13th-Gen i3, i5, i7 processors and adopts dual-channel SO-DIMM DDR5-5200MHz memory (Max 64GB). The player supports max. 8K display via the HDMI 2.1 video output. It’s an ideal choice for large-format displays and modern interactive whiteboards in 24/7 use.

1.2 Motherboard Picture

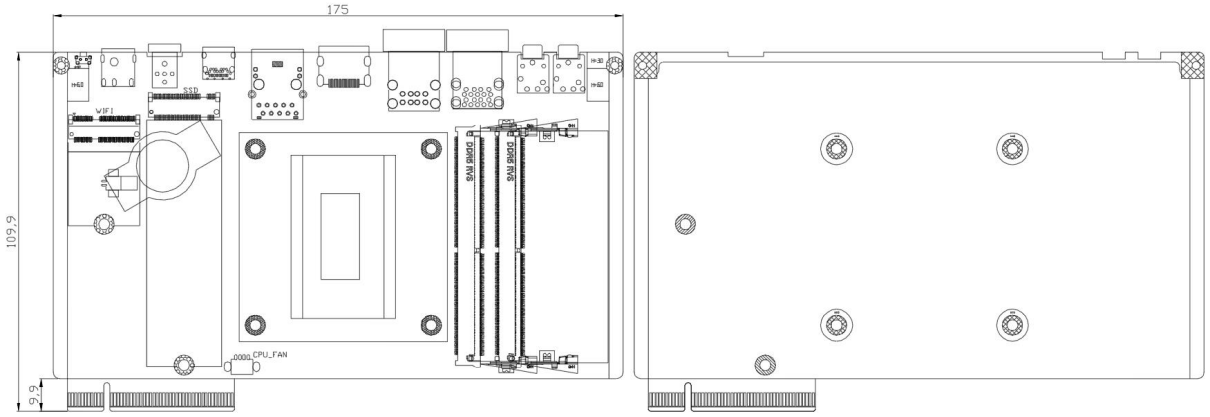
1.3 Spec

Processor	**CPU**	Intel® Core™ i3-1315U processor Intel® Core™ i5-1335U / i5-1345U processor Intel® Core™ i7-1355U processor
	Frequency	By CPU
	BIOS	AMI Source Code
	Chipset	SoC
Memory	**Capacity**	Up to 64GB
	Socket	2 × SO-DIMM DDR5-5200 MHz

Graphics	**GPU**	Intel® UHD Graphics (Core i3) Intel® IRIS® Xe Graphics (Core i5, Core i7)
	Graphic Engine	DirectX 12.1, OpenGL 4.6, OpenCL 3.0, 8K60fps 12b 4:2:0 HEVC / VP9 / SCC
Display	**Display Interface**	1 x HDMI (Max.7680 x 4320 @60 Hz)
Network	**Controller**	1 x Intel® Ethernet Controller I225-LM
	Interface	1 x 2.5 GbE RJ45
	WiFi+BT	1 x E-Key M.2 (2230) for Wi-Fi/BT, Support Wi-Fi 5, Wi-Fi 6 (CNVi)
Storage	**M.2**	1 x M-Key M.2 (2280) PCIe4.0 X4 for SSD
I/O Interface	**USB**	1 x USB Type-C3.2 Gen1, 2 x USB3.2 Gen2, 2 x USB2.0
	Serial Port	NA
	Audio	1 × MIC-IN, 1 × AUDIO-OUT
	Button	1 x Power on, 1 x CLR-CMOS
	Antenna	2 x Connector for Wi-Fi/BT
	SDM I/O **PCIe X8 Edge Connector**	HDMI (4096 x 2304 @60 Hz), DP (4096 x 2304 @60 Hz), USB3.2 Gen1, UART, GSPI, I2C, PCIe, SYS_FAN
TPM	Optional: TPM2.0	
JAHC	Watchdog Timer / Auto power on / RTC	
Power Requirement	DC-IN, 12 V SDM IO: 12 V	
Mechanical	**Construction**	Metal
	Dimensions	175mm x 110mm (6.89” x 4.33”)
Operation System	Windows 11 (64bit) / Linux Ubuntu (64bit)	
Environment	**Operating Temperature**	0°C ~ 60°C (32°F ~ 113°F) @0.7m/s Air Flow
	Storage Temperature	-20°C ~ 75°C (-4 ~ 167°F)
	Humidity	95% @ 60°C (non-condensing)

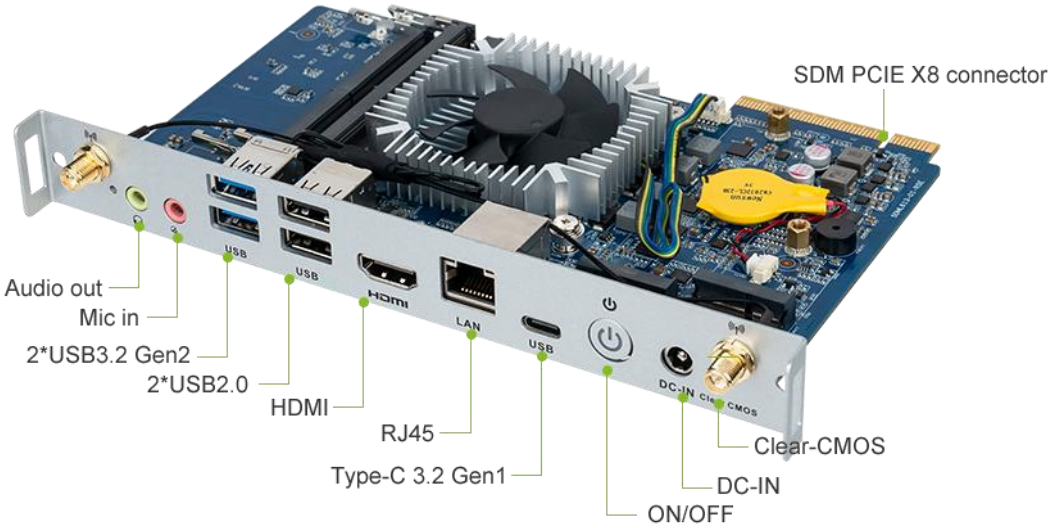
2. Hardware Usage Instruction

2.1 Dimension Chart



2.2 Interface Definition

2.2.1 Board Jumper, Header And Interface Diagram



3. Accessories Installation Steps

⚠ For safety reasons, please ensure that the board is disconnected from power before installation.

3.1 Memory Installation

⚠ This product only supports DDR5 SO-DIMM memory modules.

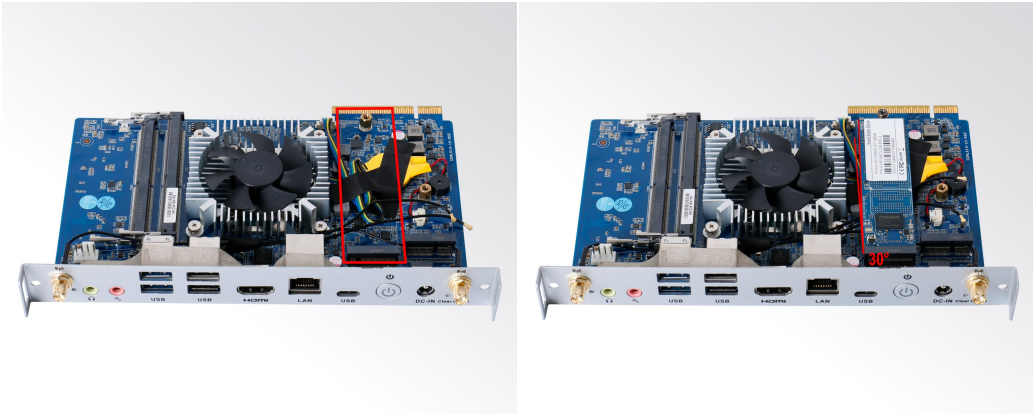
1. Locate the SO-DIMM slot on the board, open the slot latch.
2. Gently insert the module into the slot at a 45-degree angle.
3. Carefully push down the memory module until it snaps into the locking mechanism.

3.2 WIFI Installation

1. Plug the WIFI module into the M.2 slot.
2. Secure the module to the carrier by tightening up the screw.
3. Connect the black cable to the module. Install the antenna.

3.3 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.



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 DEL; to load the default values and enter the system, you can press DEL to enter the BIOS interface if 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	E×it 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 e×it 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 e×ample, 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.

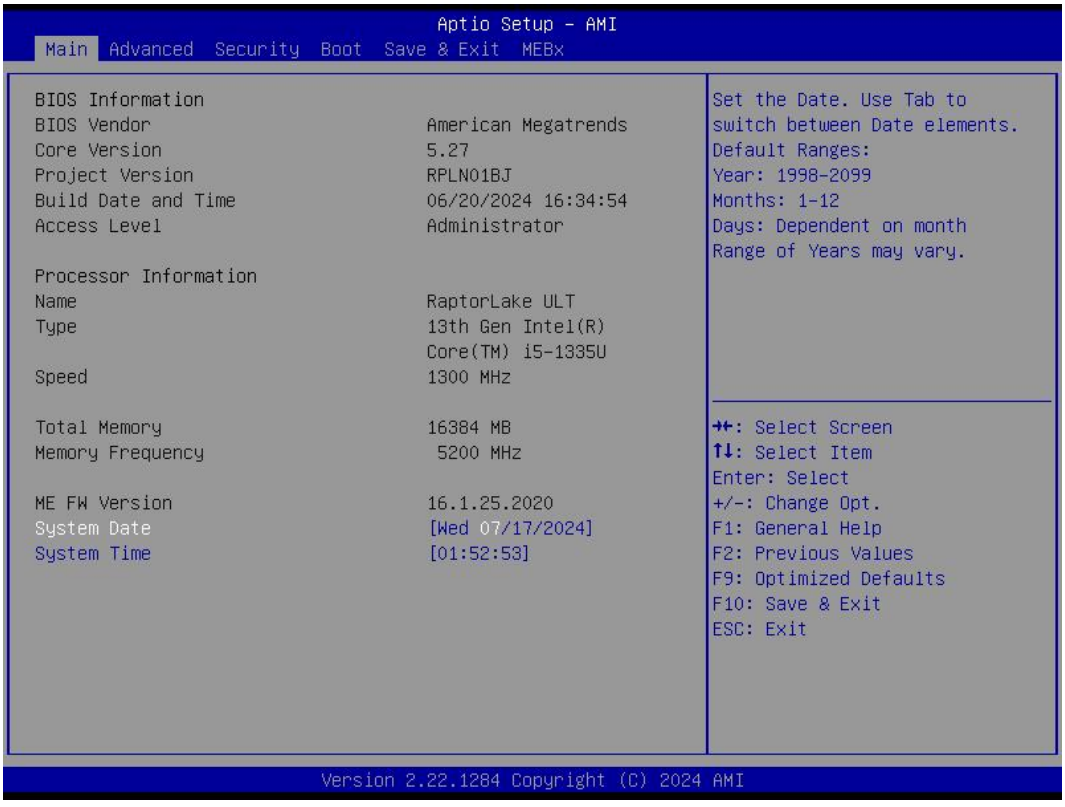


Fig 1

2) Main (standard CMOS setup)

This item is used for setting the date and time.

3) 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.

4) Chipset

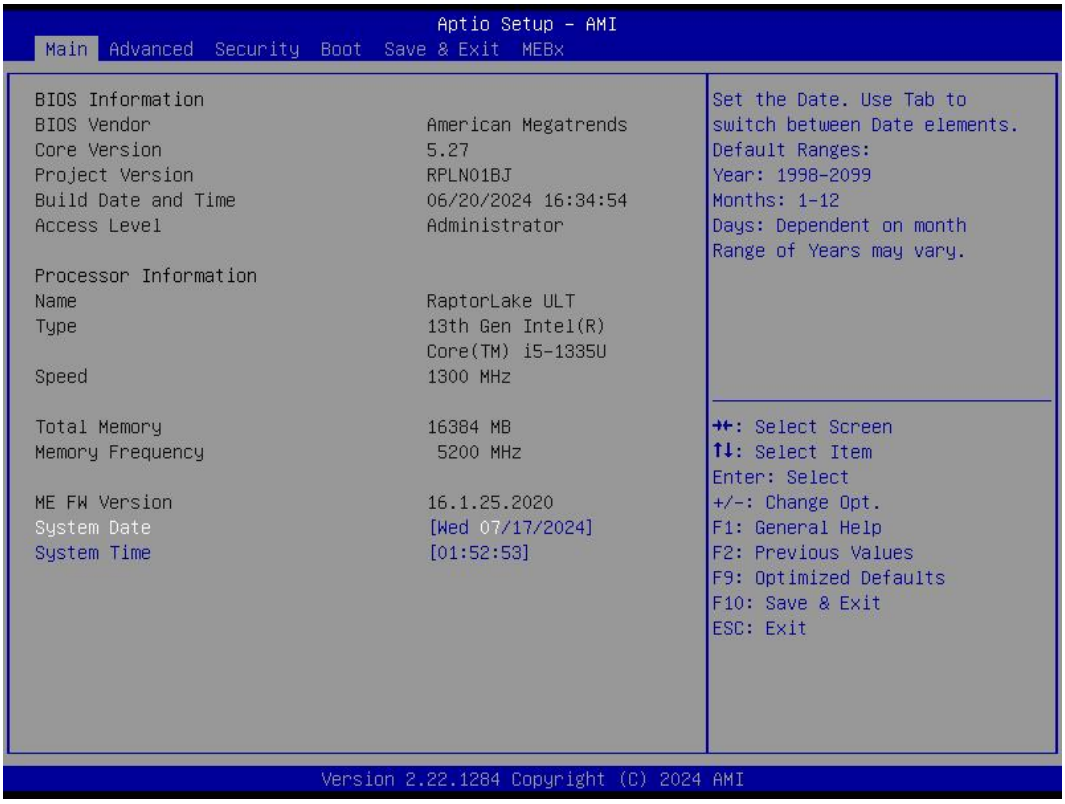
5) Security (set the administrator/user password)

6) Boot (startup configuration characteristics)

7) 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)



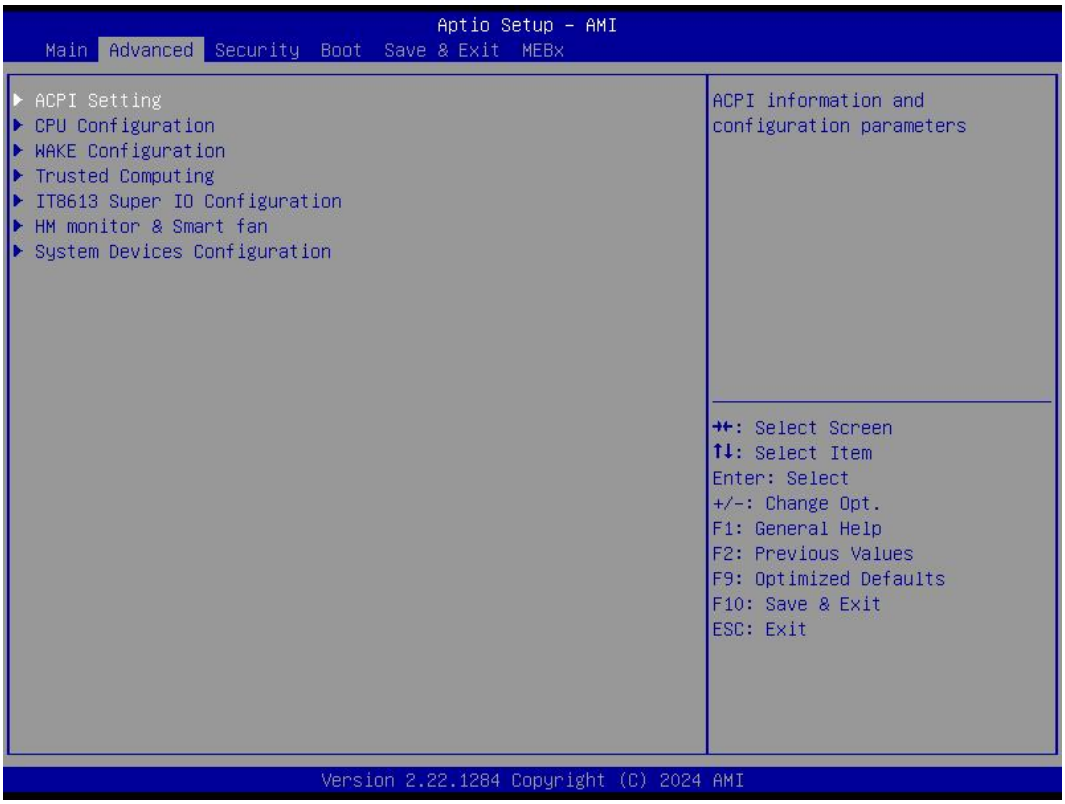
1) System time (hh:mm:ss)

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

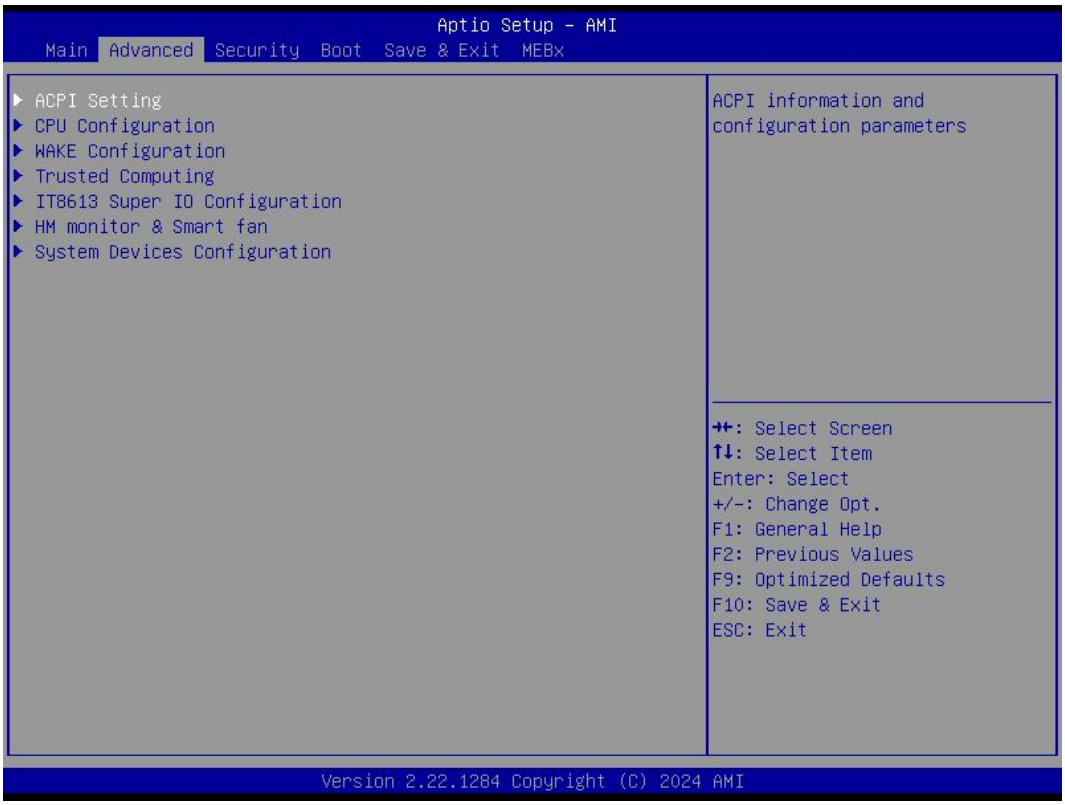
2) System date (mm:dd:yy)

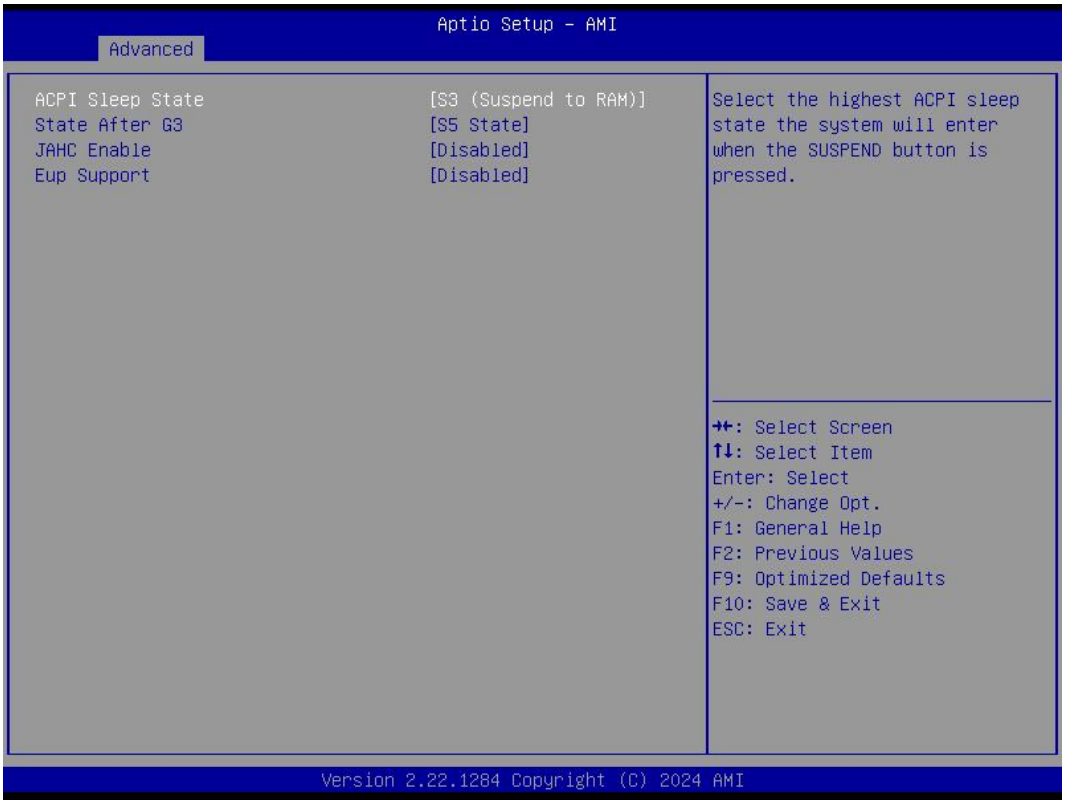
Use this item to set the date for the computer, with the format as “week, MM / DD / YY”.

4.2 Advanced (Advanced BIOS setup)



4.2.1 ACPI Setting





ACPI Configuration menu	Description
ACPI Sleep State	● Select the highest ACPI sleep state the system will enter when SUSPEND button is pressed.
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 state ● S0 State: If set it as S0 State, it means the system will be power on automatically. Last State: If set it as Last State, it means the system will keep State of last setup.
JAHC Enabled	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

```
Aptio Setup - AMI
Main  Advanced  Security  Boot  Save & Exit  MEBx

▶ ACPI Setting
▶ CPU Configuration
▶ WAKE Configuration
▶ Trusted Computing
▶ IT8613 Super IO Configuration
▶ HM monitor & Smart fan
▶ System Devices Configuration

CPU information and
configuration parameters

→←: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F9: Optimized Defaults
F10: Save & Exit
ESC: Exit

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```
Aptio Setup - AMI
Advanced

CPU Configuration

Type                                13th Gen Intel(R)
                                    Core(TM) i5-1335U
ID                                  0xB06A3
Speed                               1300 MHz
Efficient-core Information

L1 Data Cache                       32 KB x 8
L1 Instruction Cache                64 KB x 8
L2 Cache                            2048 KB x 2
L3 Cache                            12 MB
Performance-core Information

L1 Data Cache                       48 KB x 2
L1 Instruction Cache                32 KB x 2
L2 Cache                            1280 KB x 2
L3 Cache                            12 MB
VMX                                 Supported
SMX/TXT                             Supported

Boot performance mode               [Turbo Performance]
Intel (VMX) Virtualization          [Enabled]
Technology
Intel(R) SpeedStep(tm)              [Enabled]

Select the performance state
that the BIOS will set
starting from reset vector.

→←: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F9: Optimized Defaults
F10: Save & Exit
ESC: Exit

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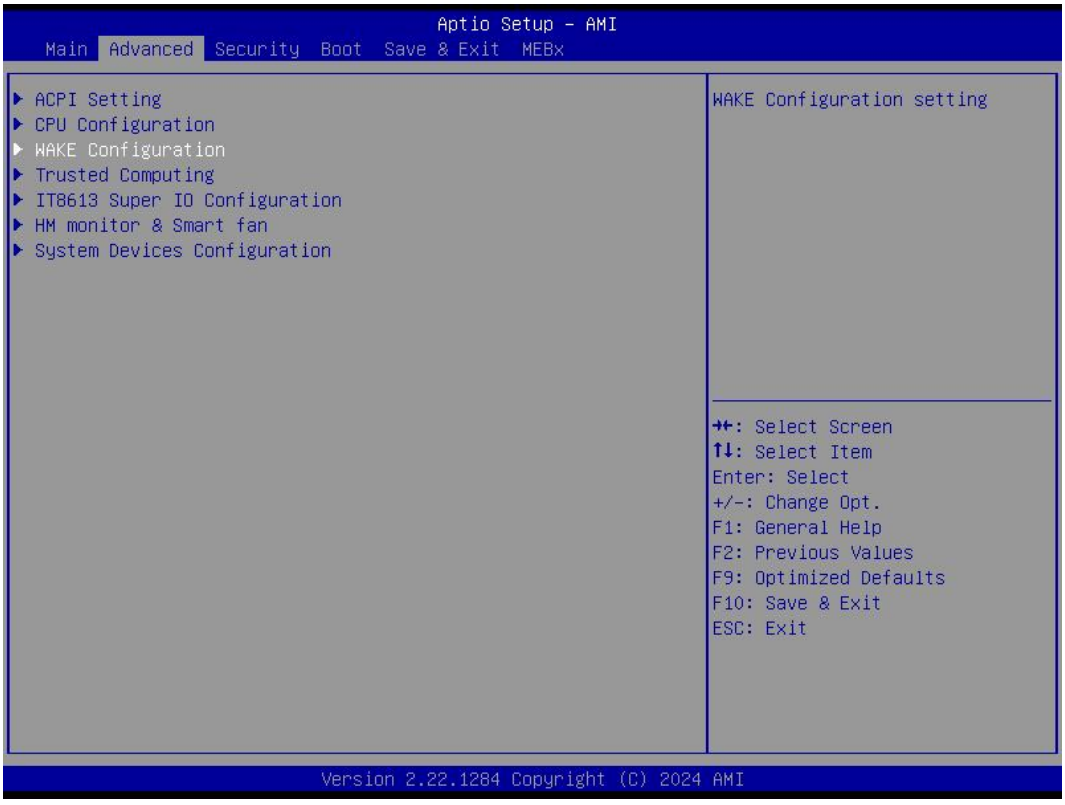
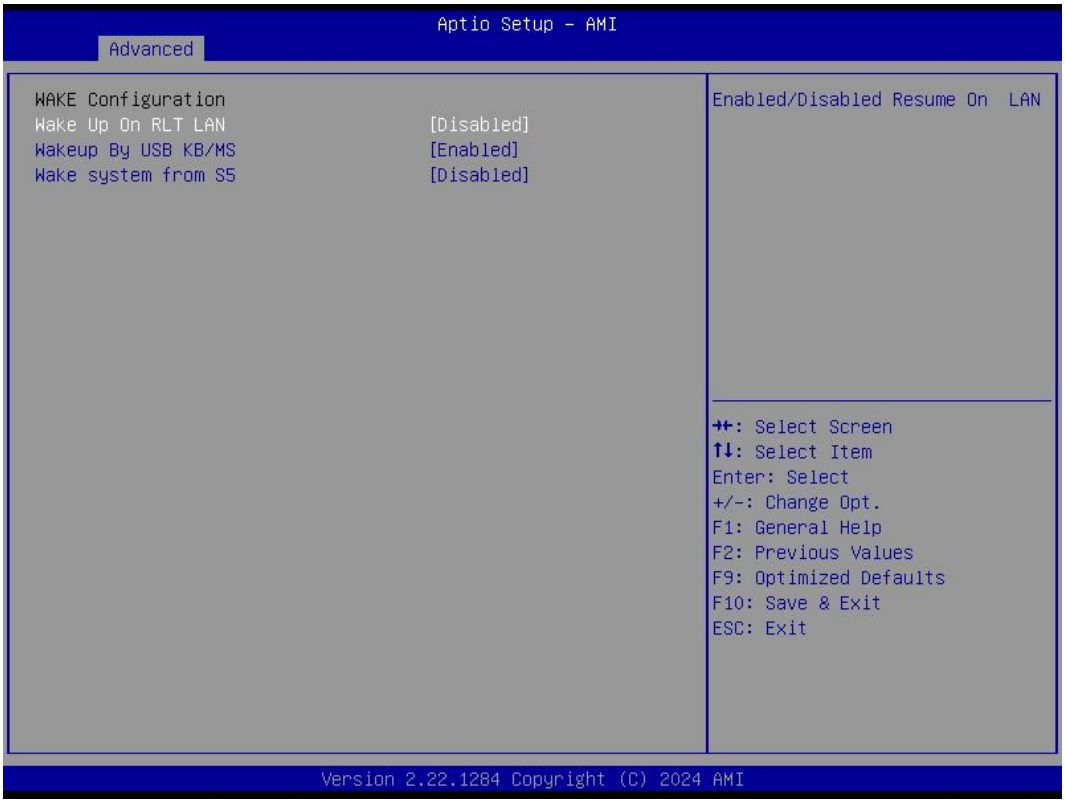
```

The menu	Description
CPU Configuration	
Boot performance mode	● Ma× Non-Turbo Performance: the best performance. ● Ma× Battery. ● Turbo performance.
Intel (VMX) Virtualization Technology	Intel Virtualization Technology is enabled by default. User can enable and disable the Intel Virtualization Technology function.
Intel（R） Speed Step（tm）	Intel（R）Speed Step 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.
Race To Halt（RTH）	The Race To Halt（RTH） function is enable by default. It can adjust the CPU base frequency work in C-state. Optional: C-state.
Intel（R）Speed Shift Technology	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.
Hyper-Threading	Intel Hyper-Threading technology is enabled by default. Intel® Hyper-Threading Technology (Intel® HT Technology) delivers two processing threads per physical core. Highly threaded applications can get more work done in parallel, completing tasks sooner.
Turbo Mode	● Disabled. ● Enabled.

4.2.3 WAKE Configuration

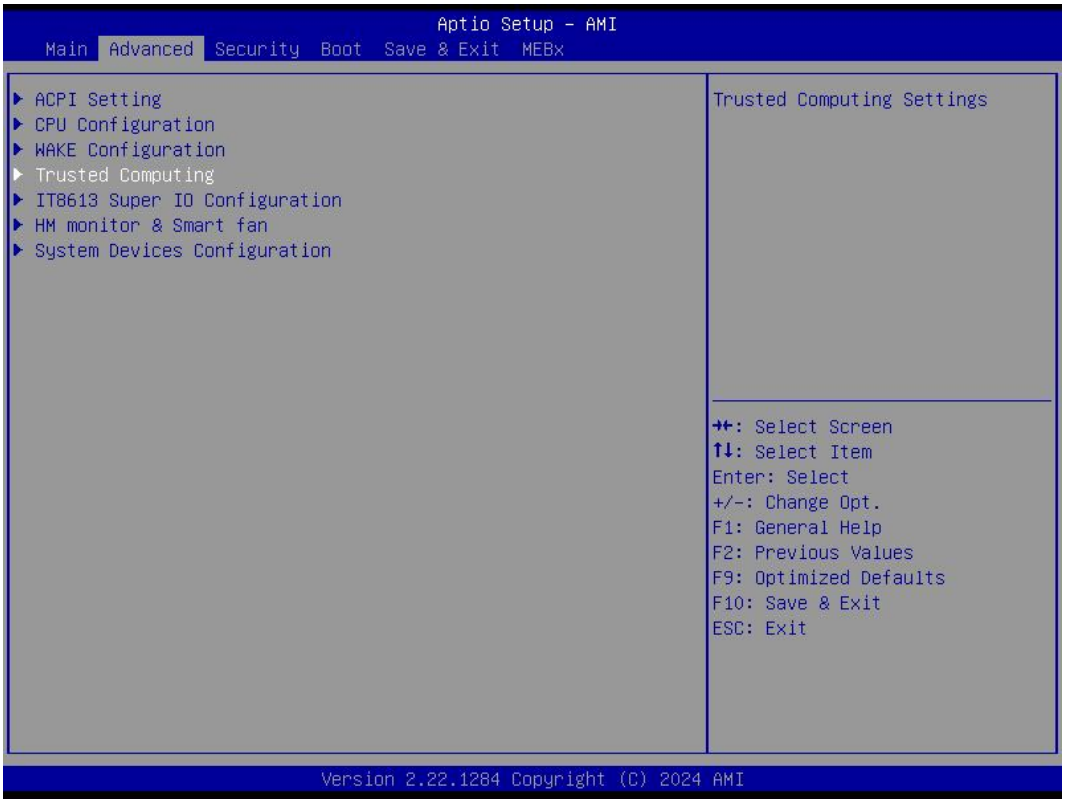


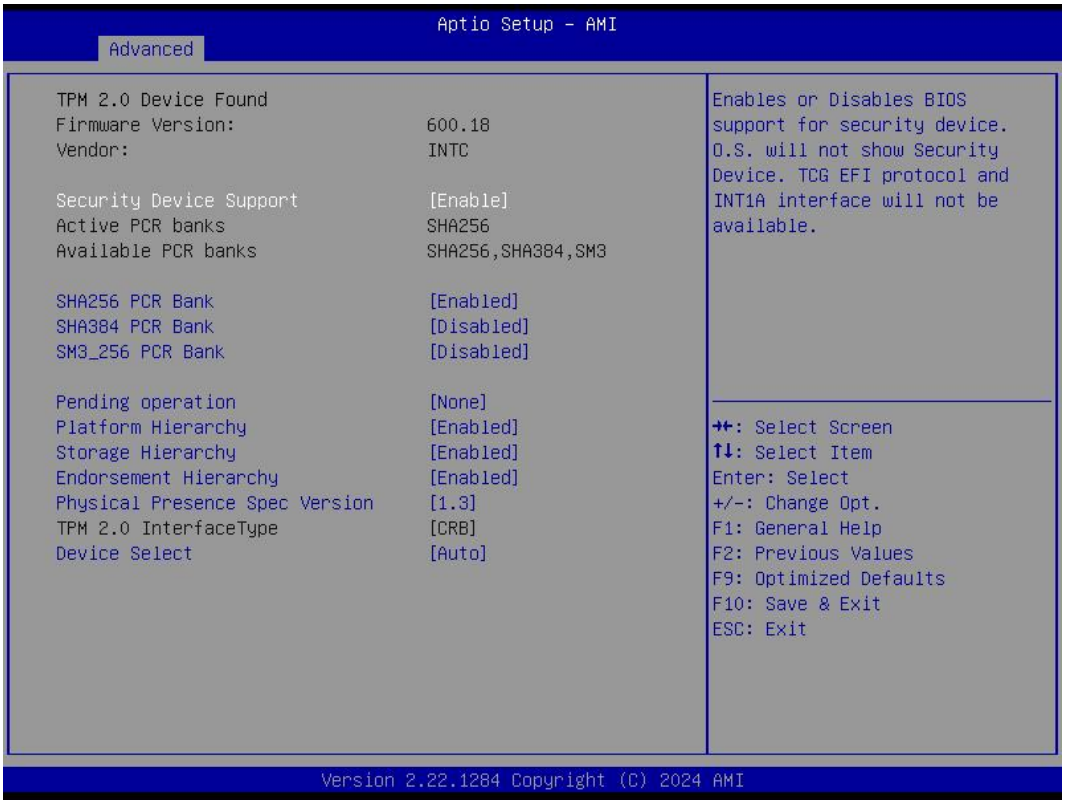


WAKE Configuration	Description
Wake Up On RLT LAN	Wake On LAN Function.

WAKE Configuration	Description
	● Disabled: The WOL is disabled by default. ● Enabled.
Wake up from USB KB/MS	● Enabled/Disabled Wake Up by USB KB/Mouse from S3 Status.
Wake System from S5	The user can set up automatic startup by Fi×ed Time ● Enabled. ● Disabled. The RTC function is disabled by default.

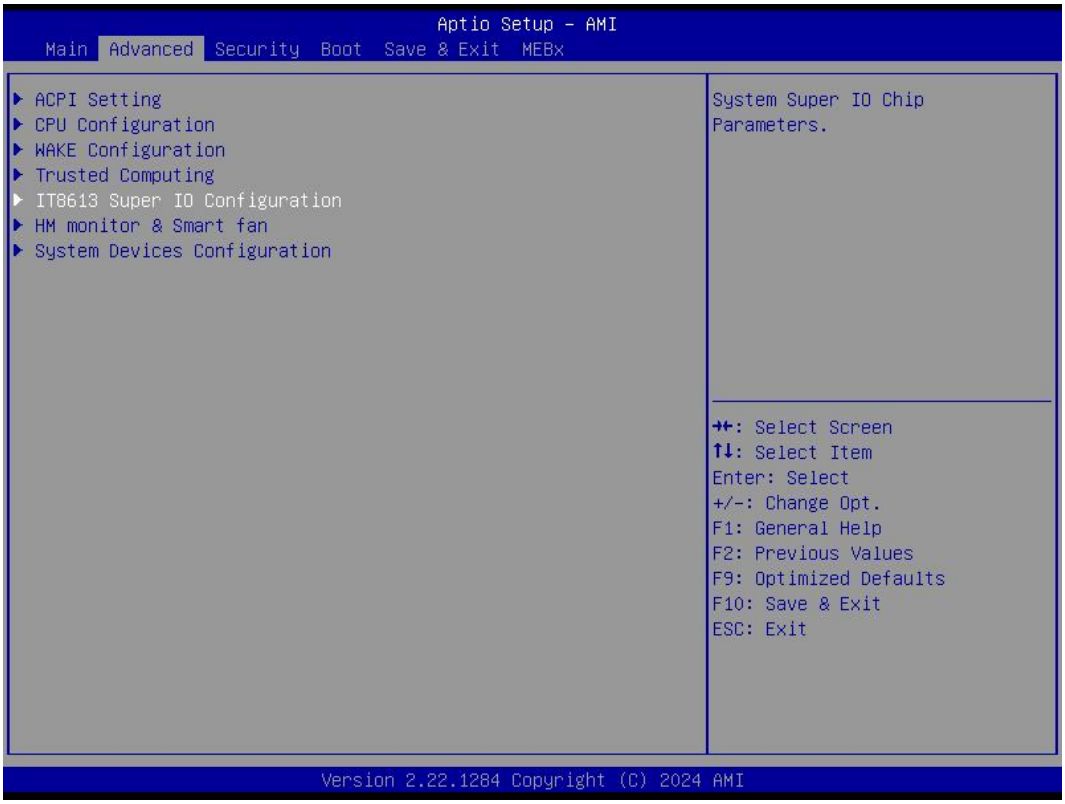
4.2.4 Trusted Computing

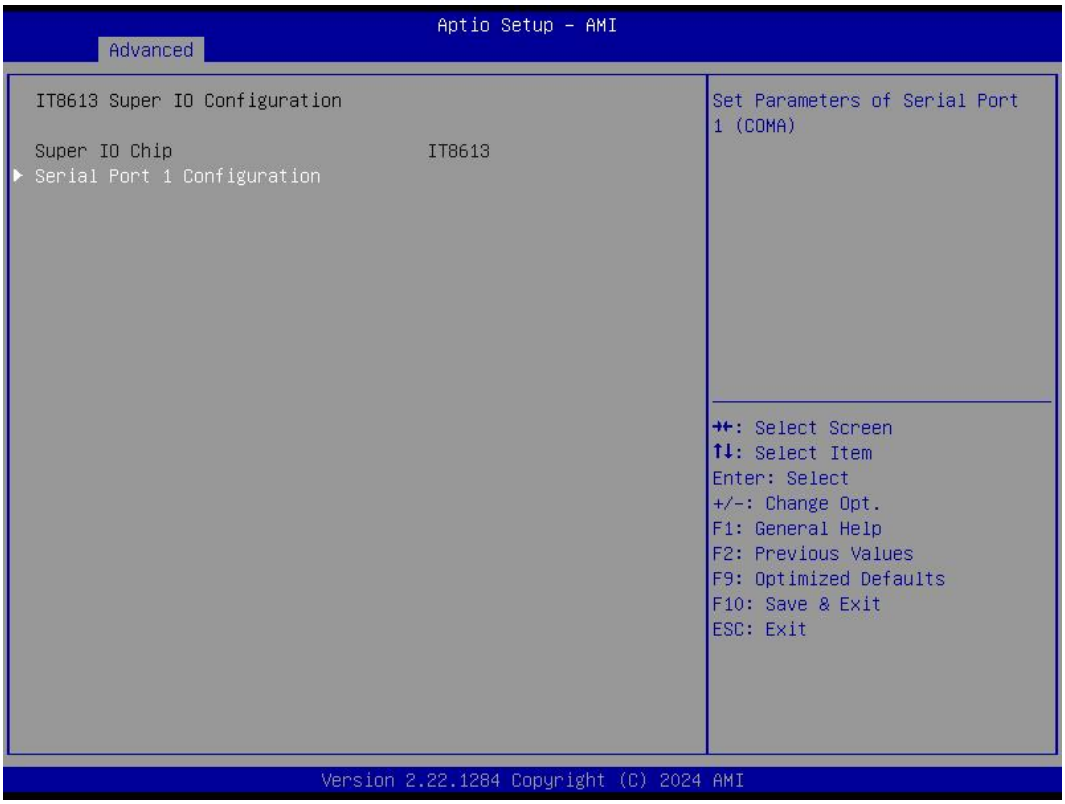




TPM20 Device Found	Description
Firmware Version	● TPM FW version is 600.18
Vendor	● The vendor is INTC
Security Device Support	● Disabled ● Enabled. This item is enabled by default.
SHA256 PCR Bank	● Disabled. ● Enabled. This item is Enabled by default
SHA384 PCR Bank	● Disabled This item is Disabled by default. ● Enabled.
SM3_256 PCR Bank	● Disabled This item is Disabled 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 CRB by default.
Device Select	● You can select TPM1.2 or TPM2.0 or Auto. Auto is set up by default.

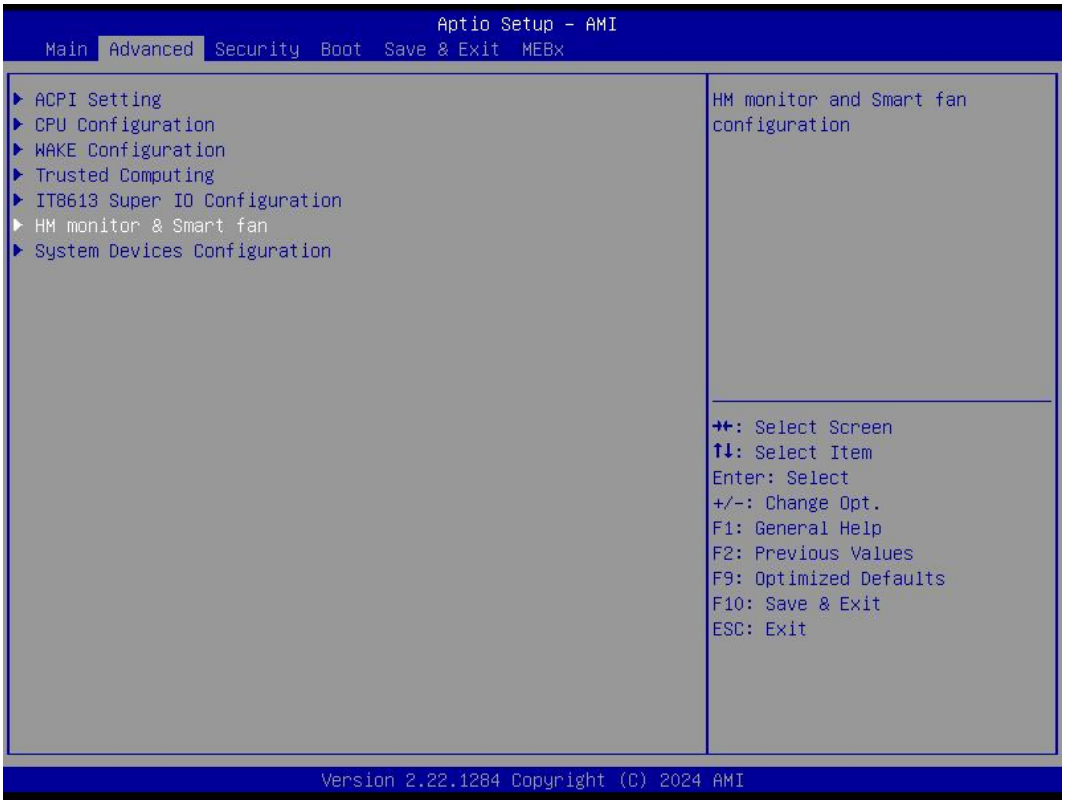
4.2.5 IT8786 Super IO Configuration

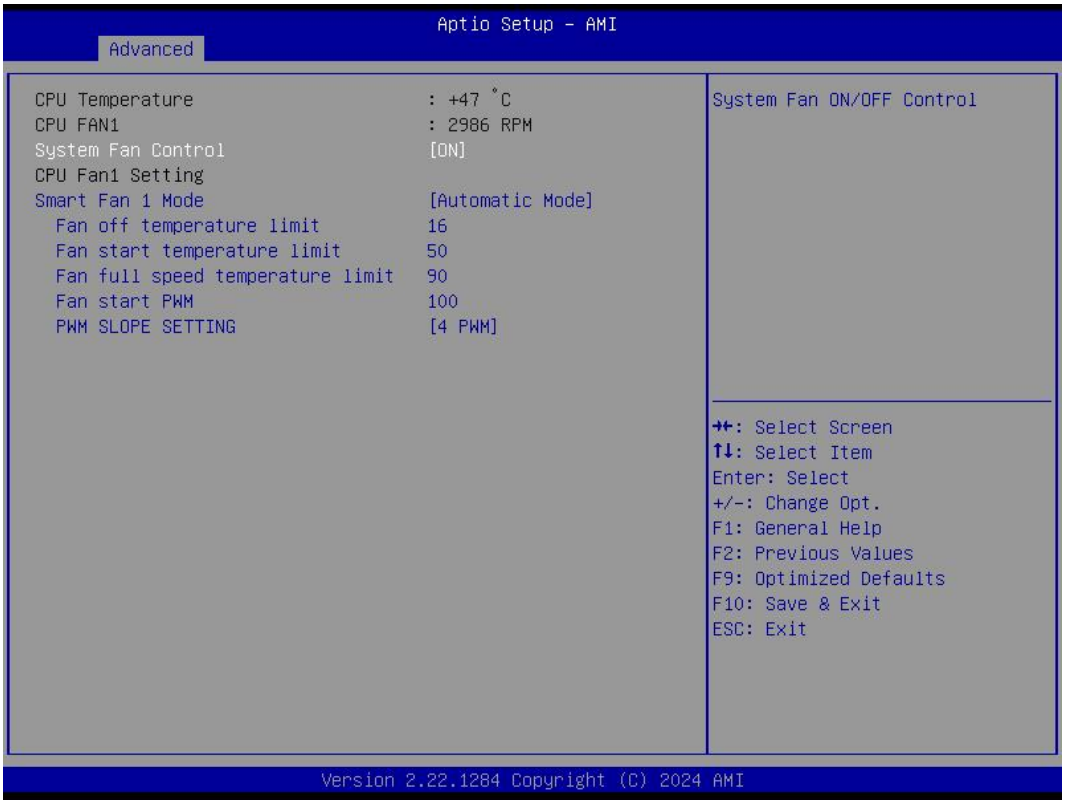




Serial Port	Description
Serial Port 1 Configuration	
Device Settings	Set parameters of serial port.IO=3F8H;IRQ=4
Change Settings	Select an optimal settings for super IO device. Auto IO=3F8h; IRQ=4; IO=3F8h; IRQ=3,4,5,6,7,9,10,11,12; IO=2F8h; IRQ=3,4,5,6,7,9,10,11,12; IO=3E8h; IRQ=3,4,5,6,7,9,10,11,12; IO=2E8h; IRQ=3,4,5,6,7,9,10,11,12;

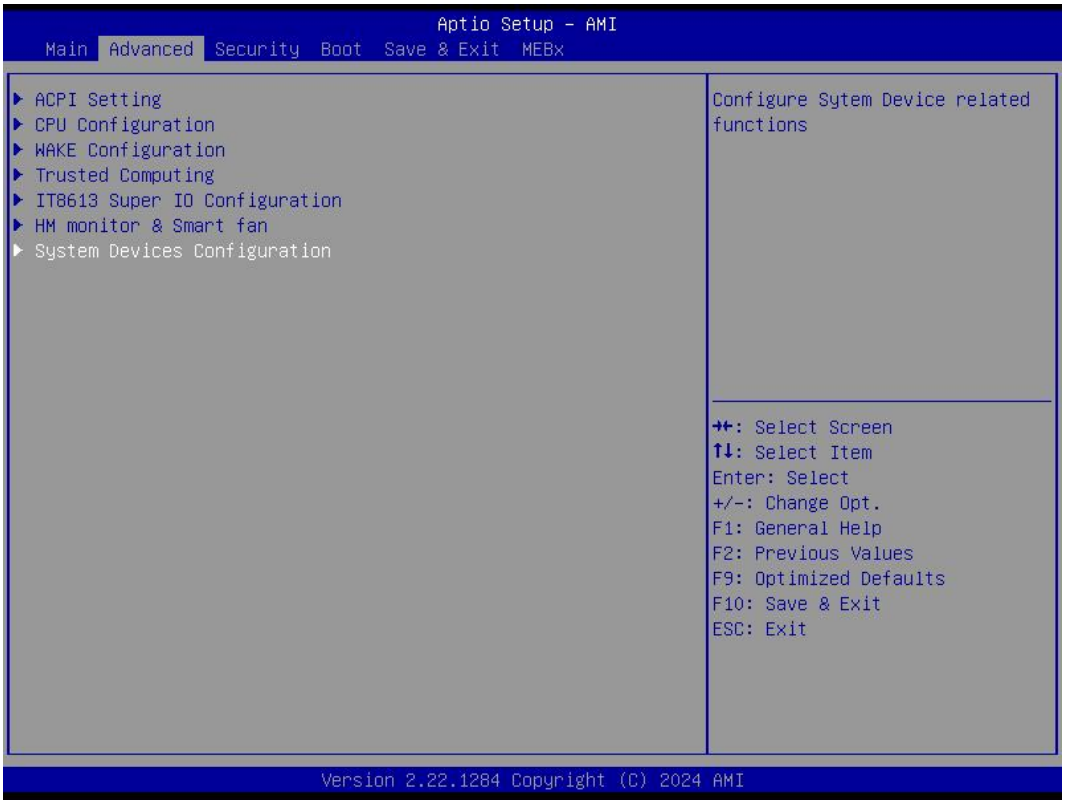
4.2.6 HM monitor & Smart Fan

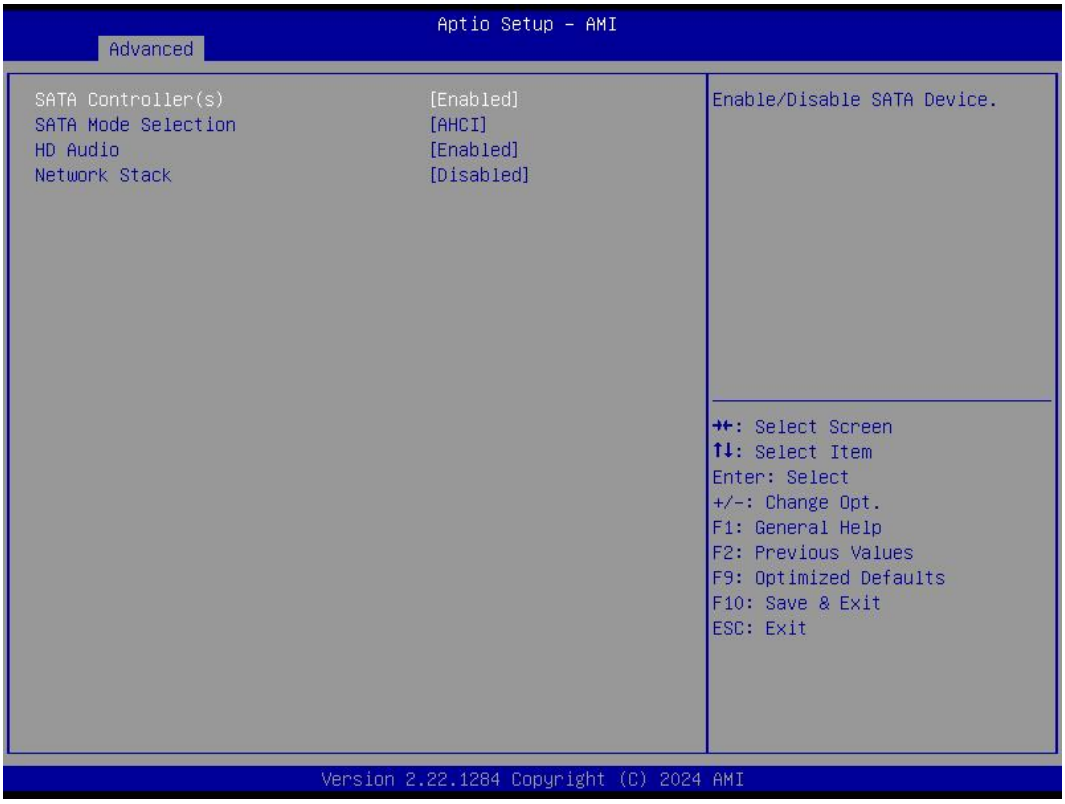




Fan 1 Setting	Description
The Fan1 is used for CPU.	
Smart Fan 1 Mode	It includes "Automatic mode" and "software mode". ● Automatic mode. Automatic mode is enabled by default. ● Software mode.
Fan off temperature limit	● FAN will stop work If temperature is lower than the Fan off temperature limit value.
Fan start temperature limit	● If the temperature is higher than fan off temperature limit, FAN will start work.
Fan Full Speed Temp limit	● If the temperature is higher than the FAN Full Speed temp limit value, the FAN will work at full speed.
Fan start PWM	● If the temperature is higher than the FAN start PWM value, the FAN will start work.
PWM slope setting	● NA

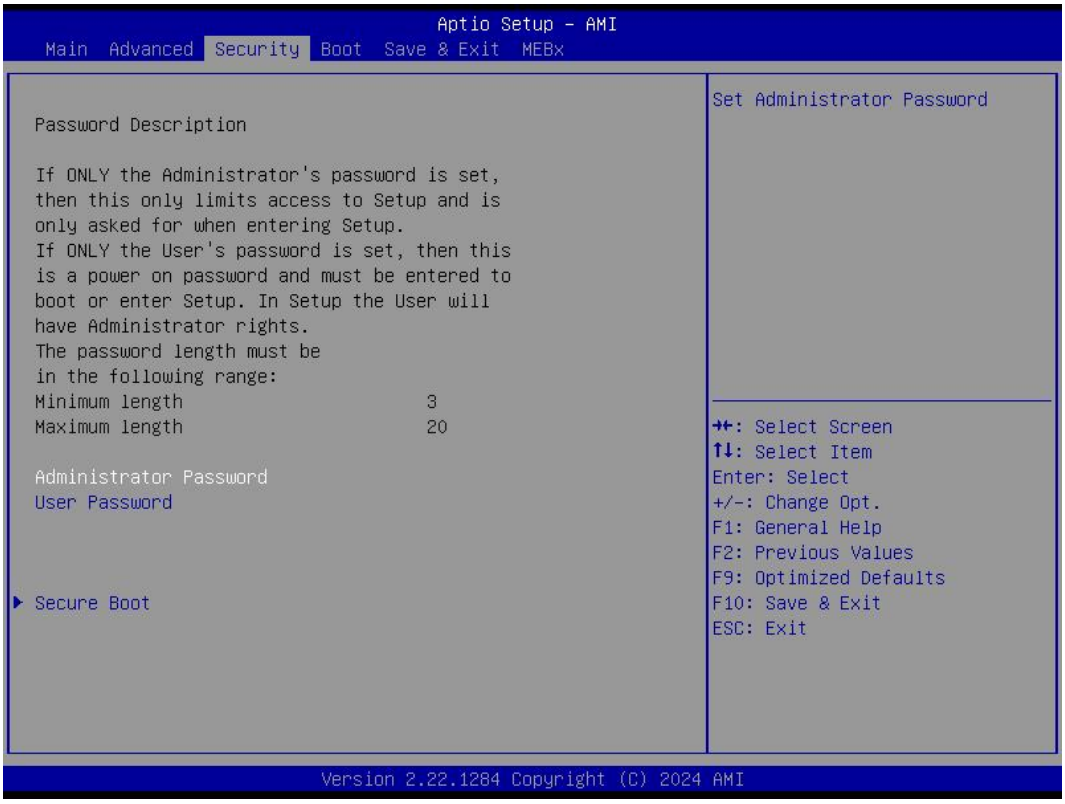
4.2.7 System Devices Configuration





IDE Configuration menu	Description
Serial ATA(SATA)	SATA Controller. ● Disabled. ● Enabled: The SATA controller is enabled by default.
SATA Mode Selection	● Determines how SATA controller(s) operate.
HD Audio	Control Detection of the HD Audio device. Disabled = HAD will be unconditionally disabled; Enabled = HAD will be unconditionally enabled. ● Enabled ● Disabled
Network Stack	Enabled/Disabled UEFI P×E ROM ● Enabled ● Disabled

4.3 Security



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

Enter New Password hhhhhh

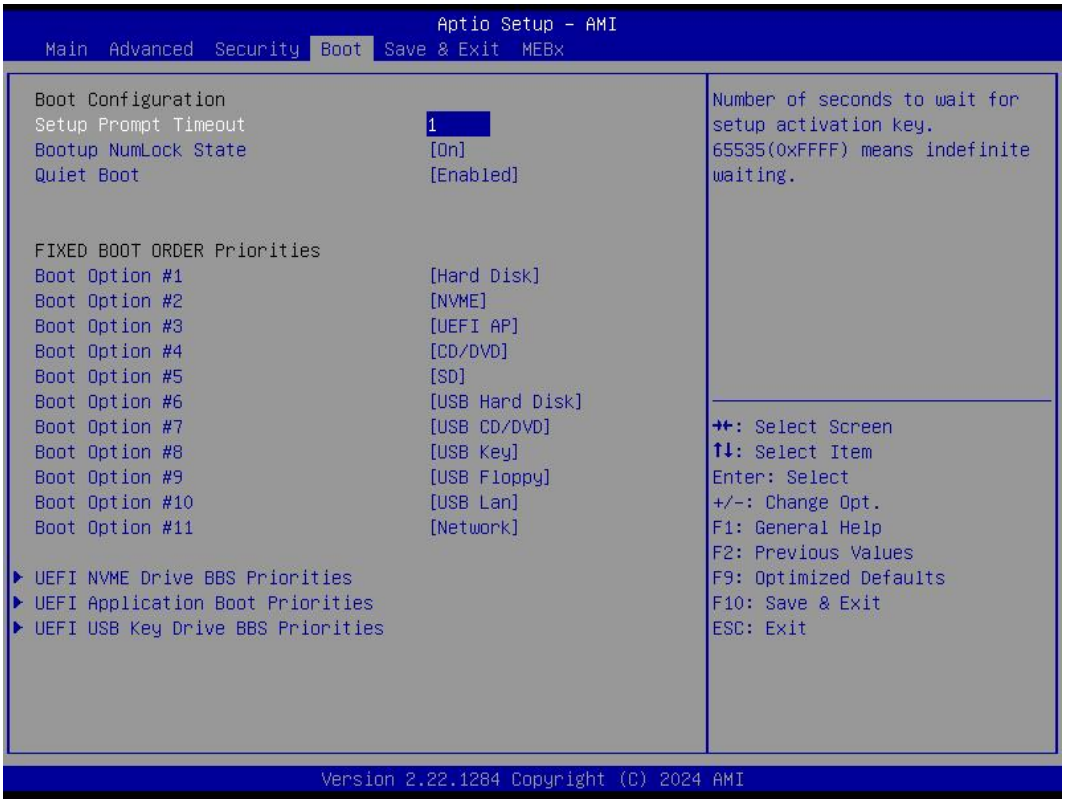
Then enter a password which is no more than eight characters and press <Enter>. BIOS will require to enter the password again.

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.

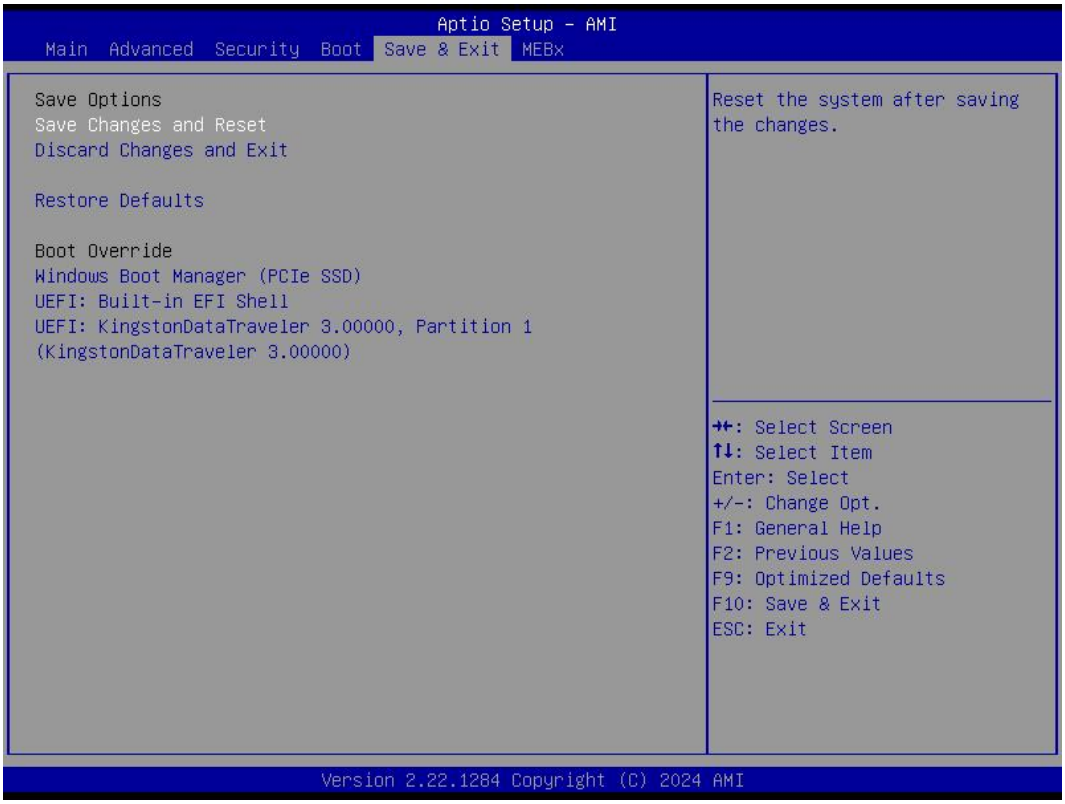
4.4 Boot Menu



Boot Item	Description
Boot Configuration	
Setup Prompt Timeout	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.

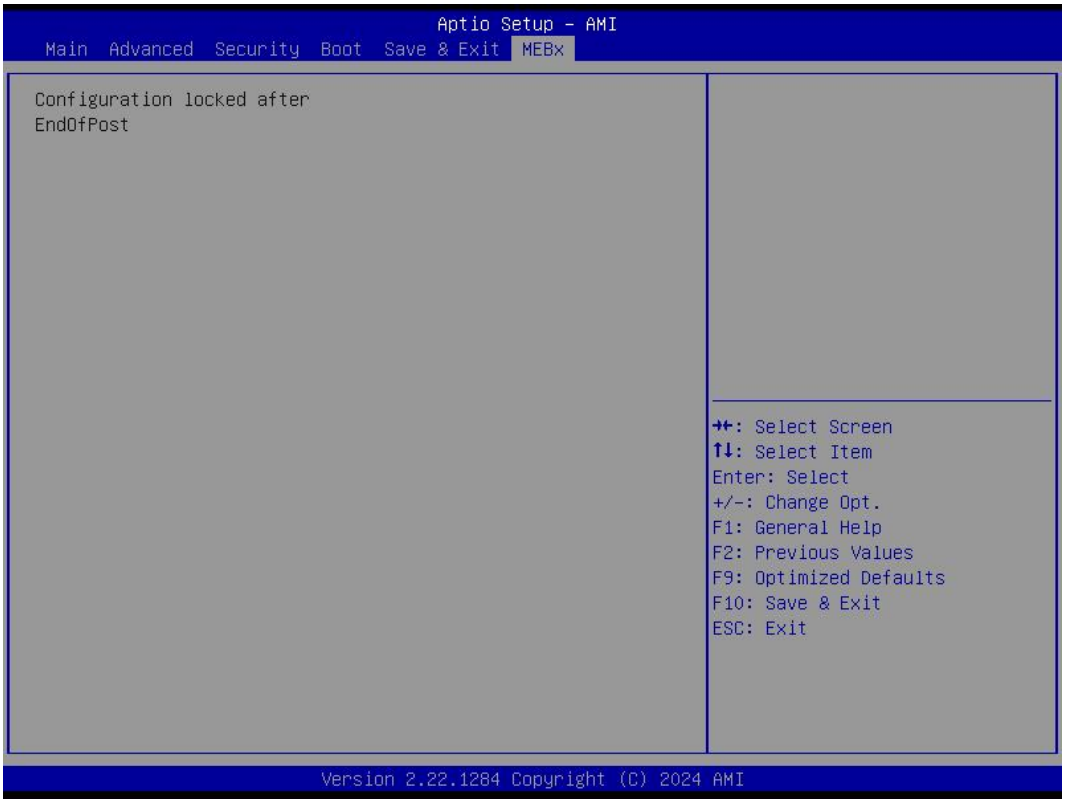
Boot Item	Description
Boot up Num Lock State	Options are OFF and ON. In other words, this item can be used to set the state of Num Lock after entering the system. It can be set according to user's needs and doesn't affect the performance of the computer.
Quiet Boot	If this item is set as Enabled, the system can be started within five seconds and some detection items will be ignored. The options are [Disabled] and [Enabled].
FI×ED 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.

4.5 Save & Exit



Save Exit Item	Description
Save Options	
Save Changes and E×it	Save all changes and e×it
Discard Changes and E×it	Give up the settings and e×it.
Boot Override	Whole Boot devices

4.6 MEBx



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.

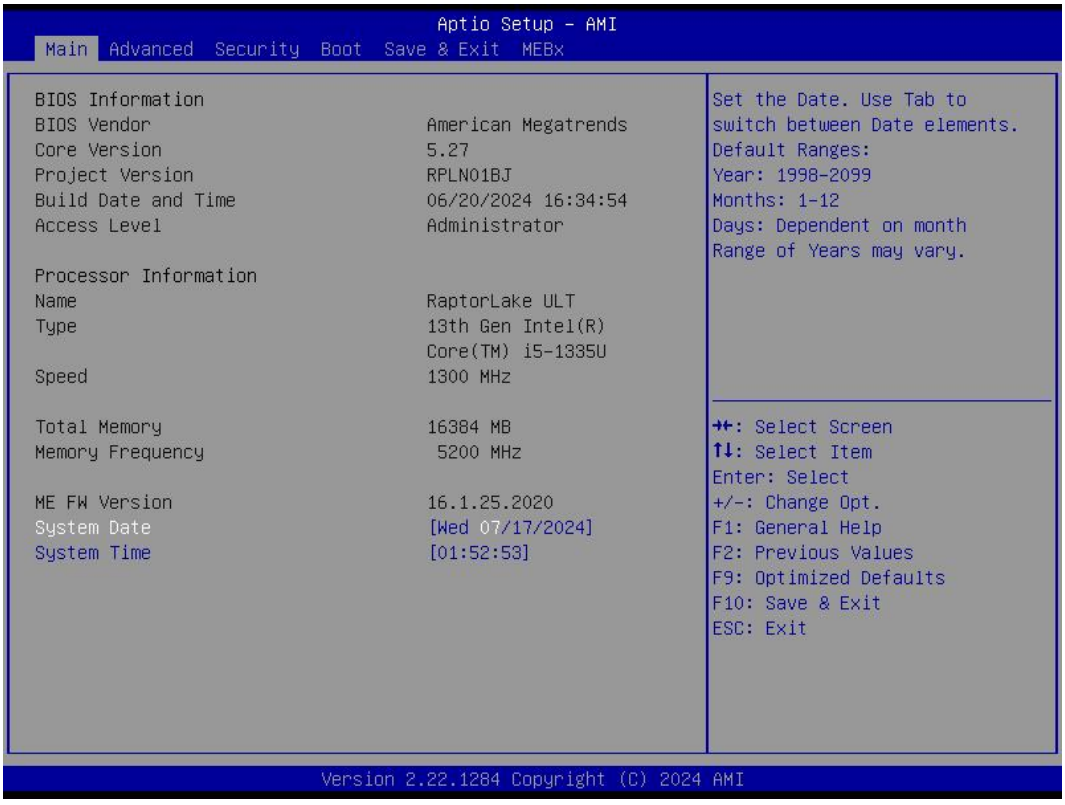
5.1 How to set up Auto power on function

Automatically reboot when power on

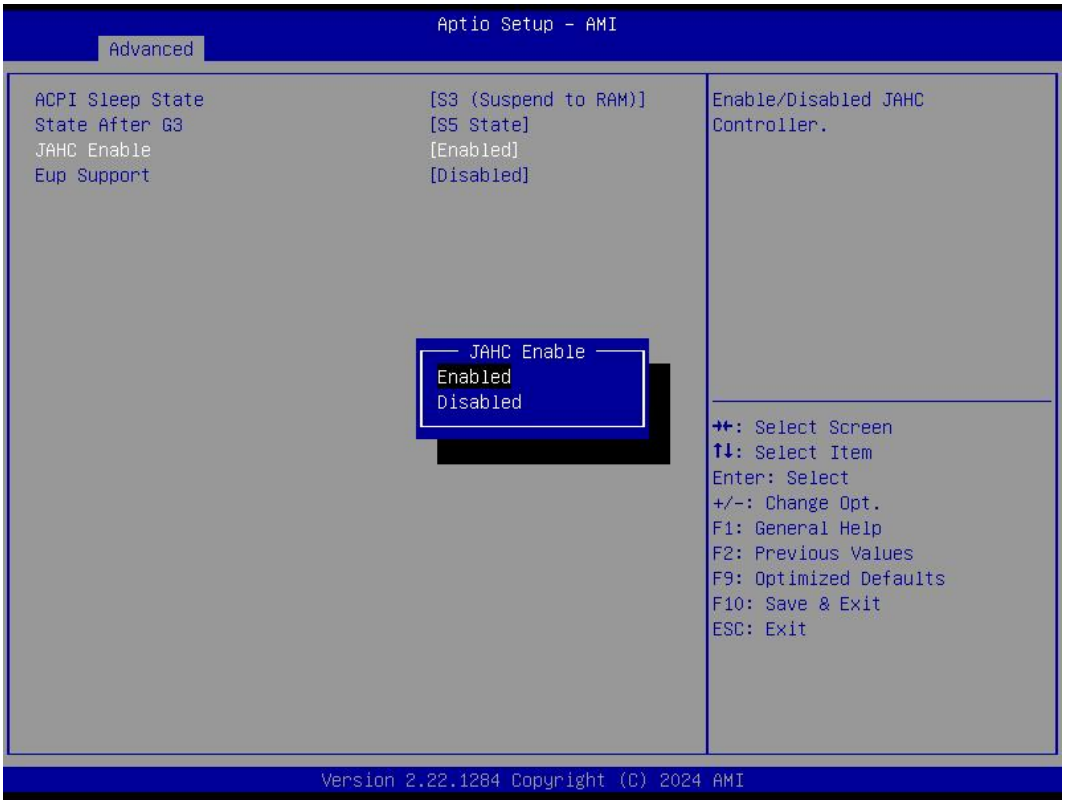
The function of automatically reboot when power on is controlled by hardware. You can enable it by switching the JAHC button to “on”.

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

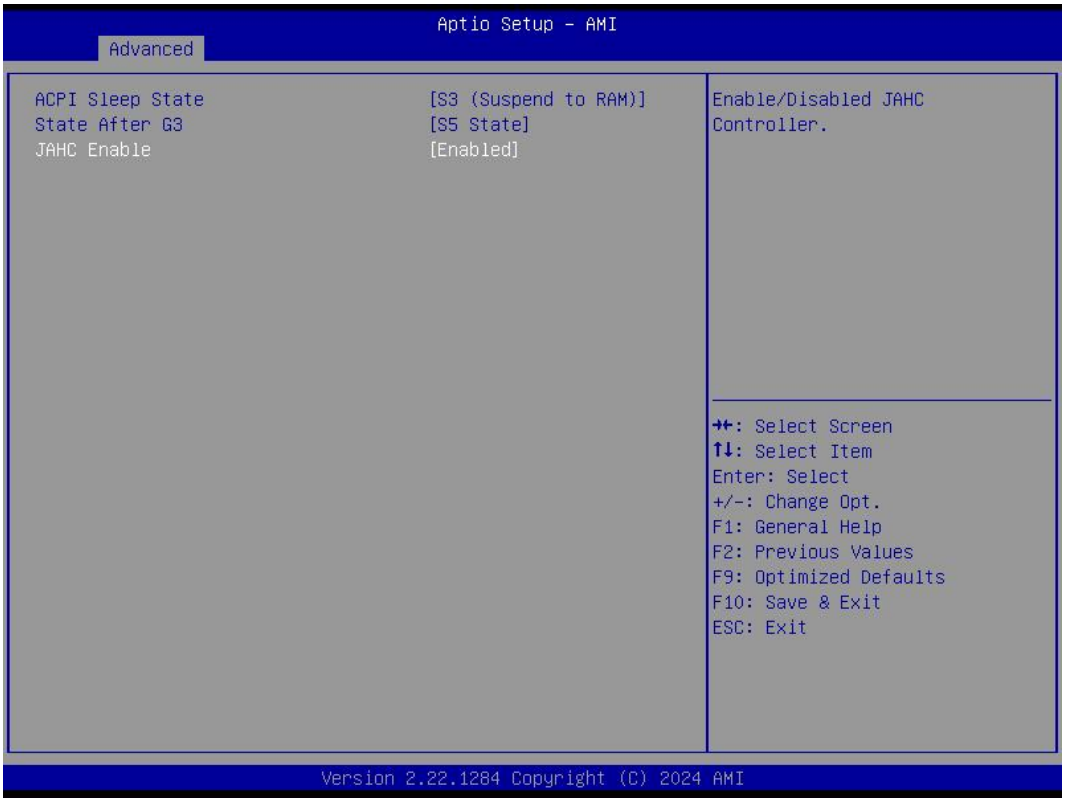
a. Turn on the player and continually press ‘Del’, then it can enter BIOS setup menu.

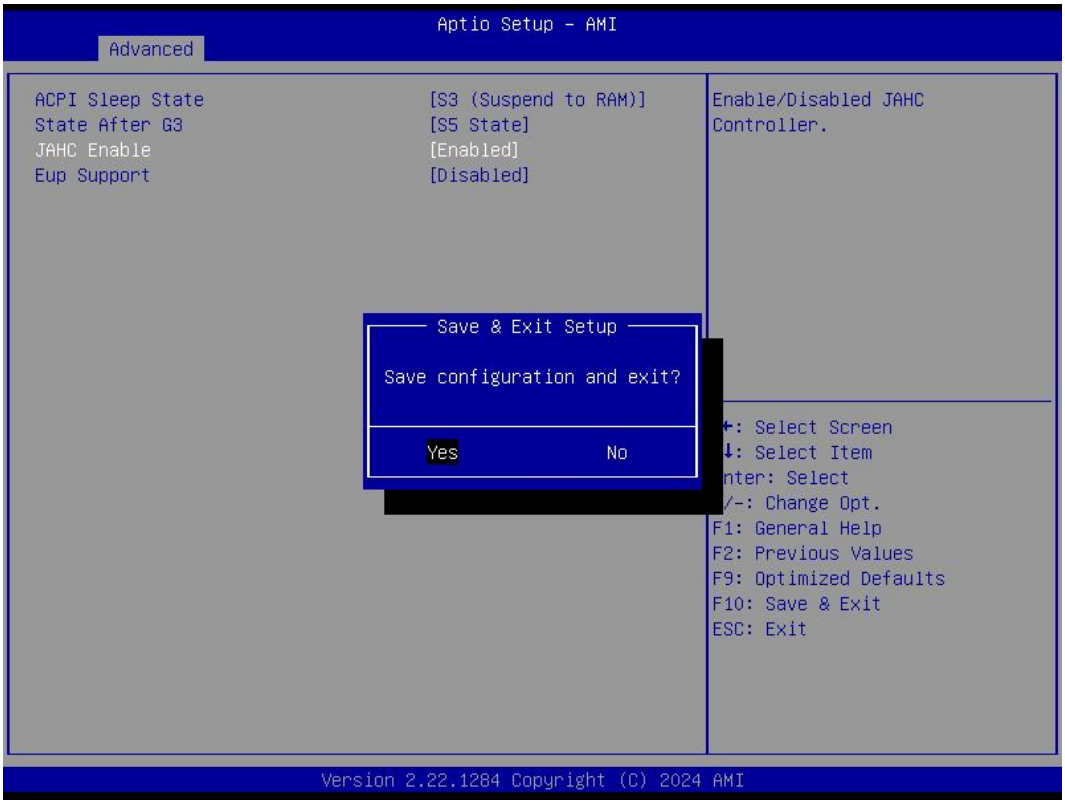


b. Select Advanced- > ACPI Setting- > JAHC Enable- > Enabled.



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.

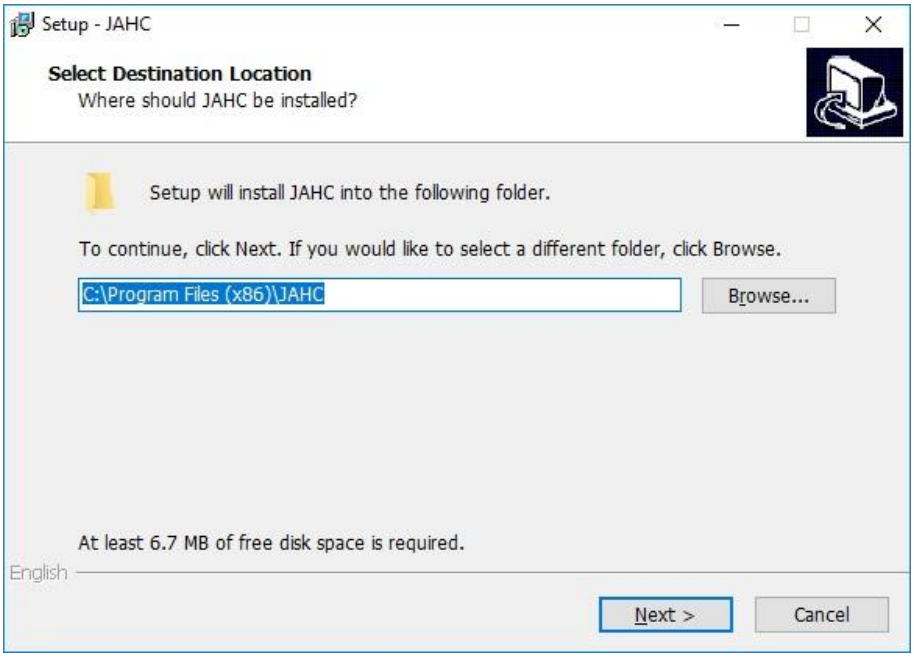
b. Switch the JAHC button to “on” or enable it in BIOS if there is no physical button on the chassis.

c. Supported operation system: Windows 10 64bit, Linux 64bit.

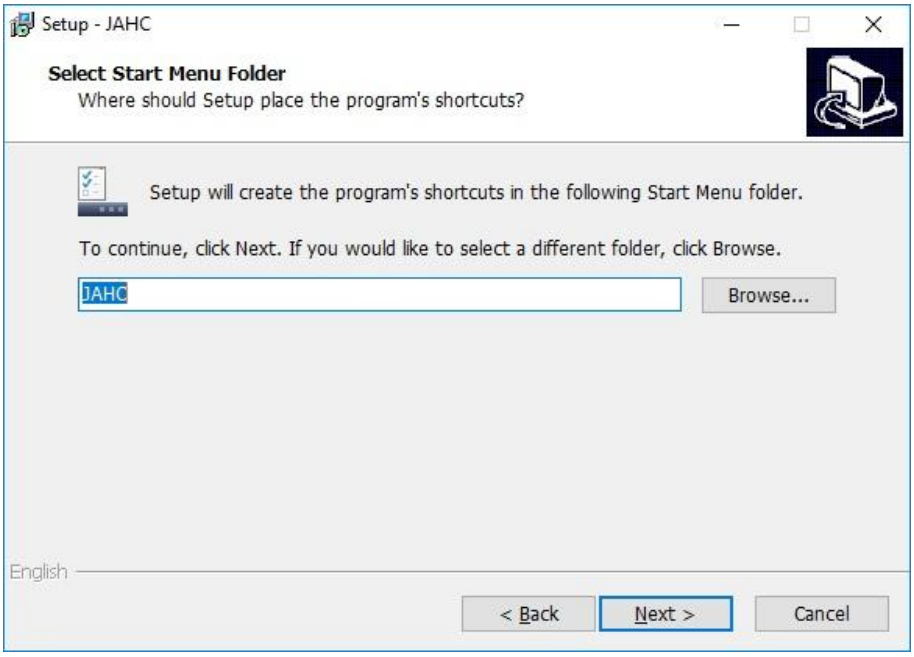
How to install JAHC software:

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

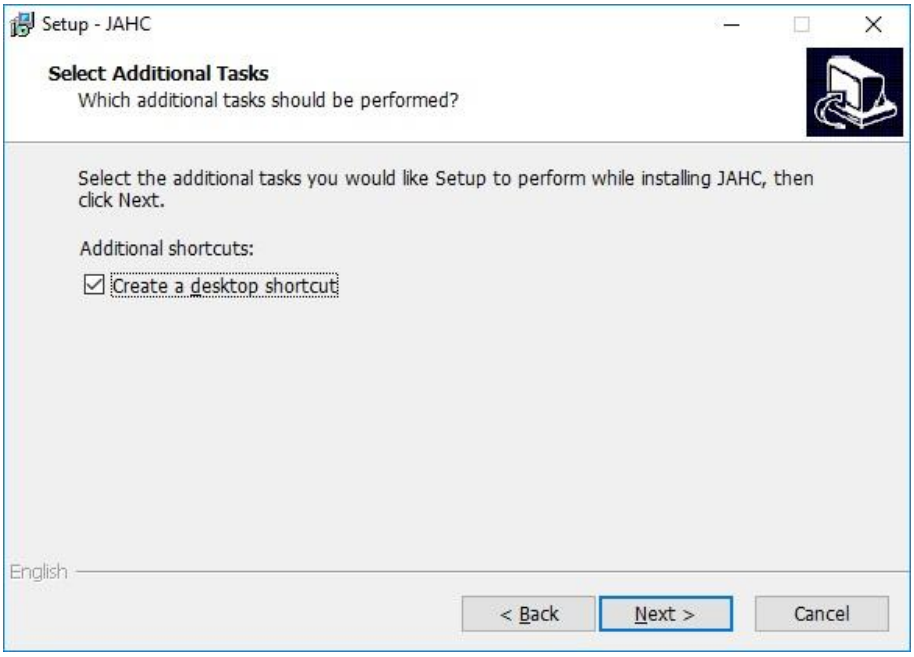
a. Double-click the JAHC.EXE file, the setup wizard will pop up, select destination location and click [Next] button to continue the installation.



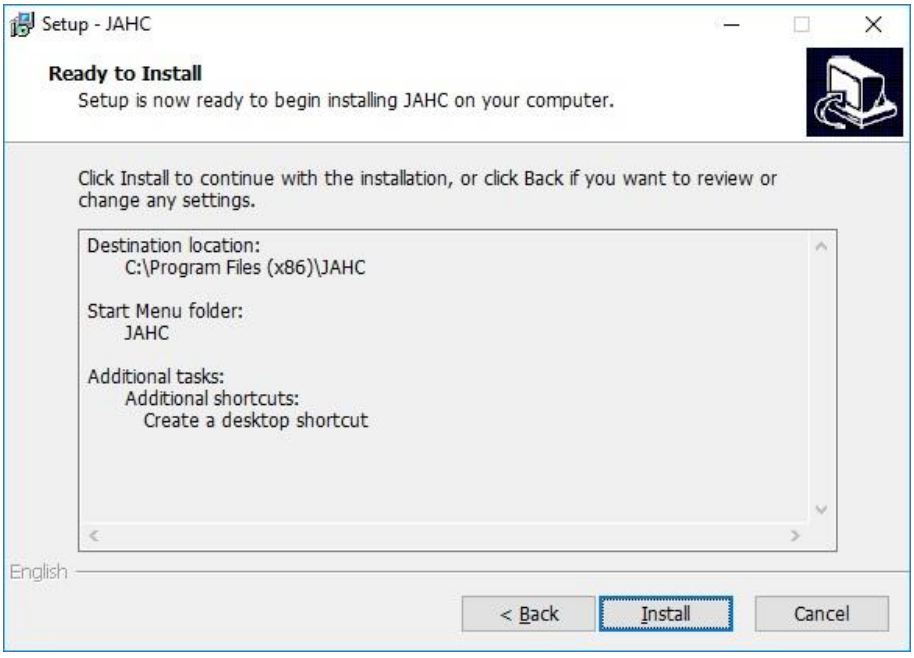
b. Click [Next] button to continue the installation.

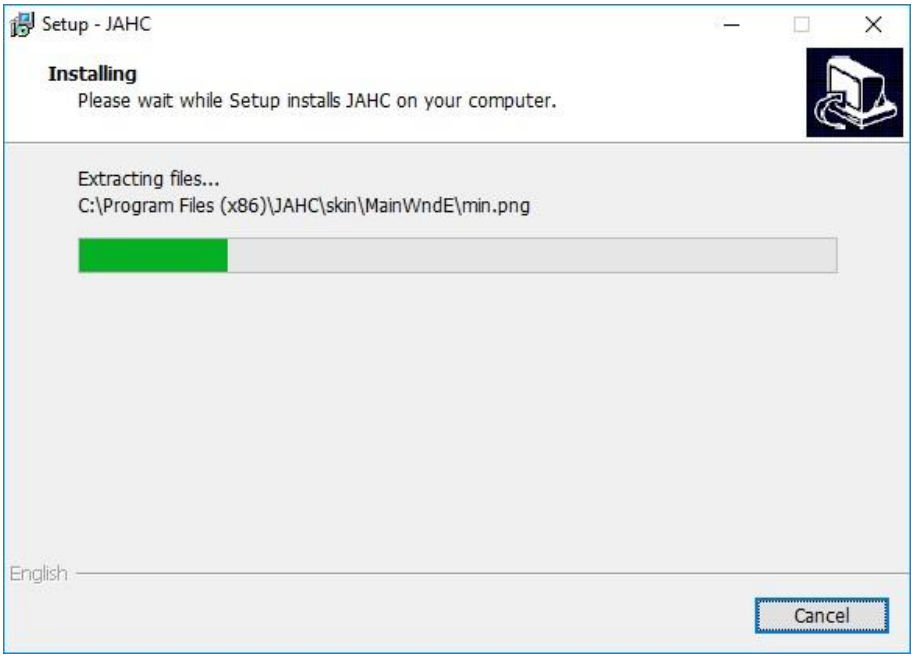


c. Select [Create a desktop shortcut] and click [Next] button.

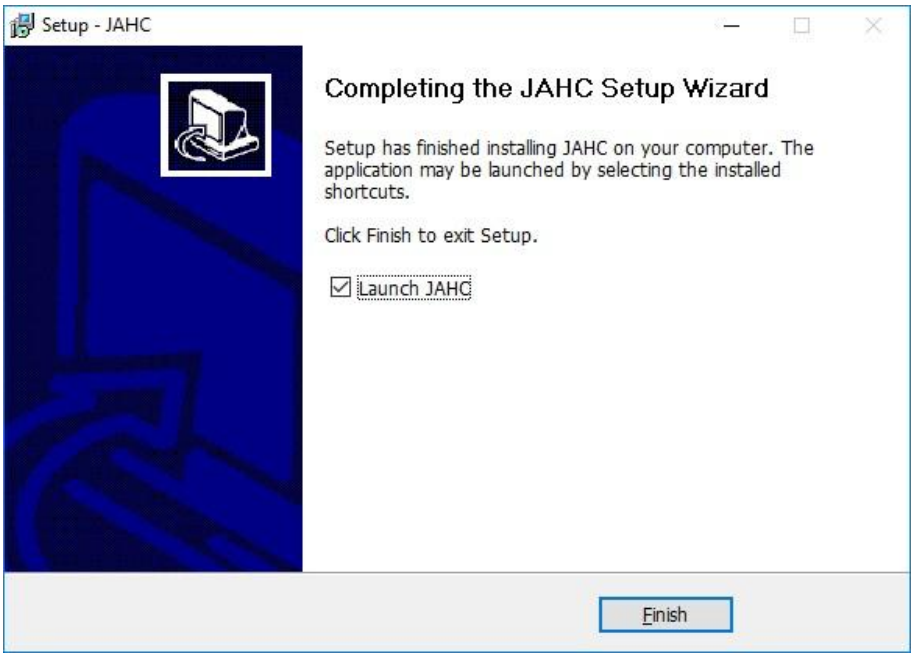


d. Click [Install] button to continue the installation.





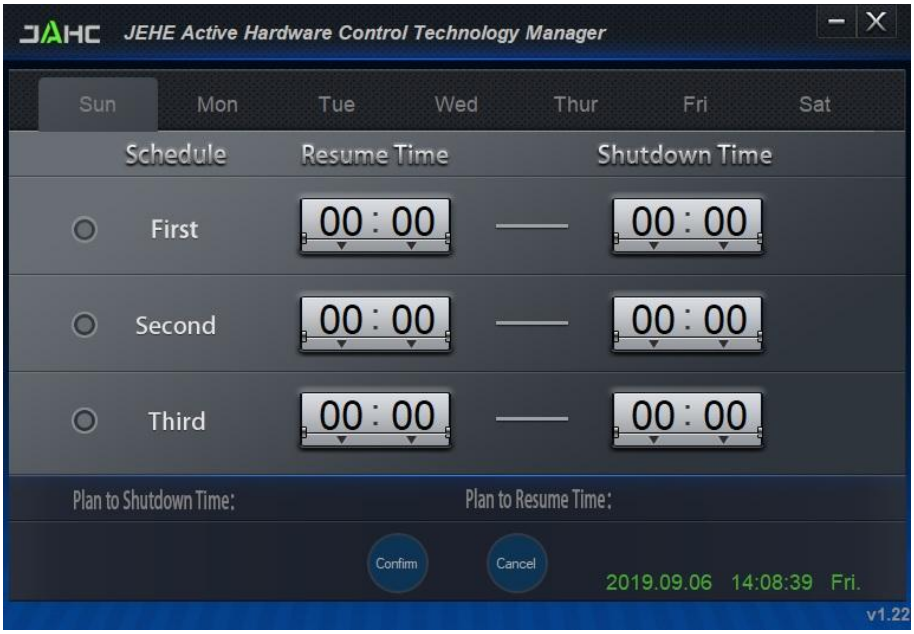
e. Click [Finish] button to finish the installation. You can select [Launch JAHC] to run the software automatically after finishing the installation.



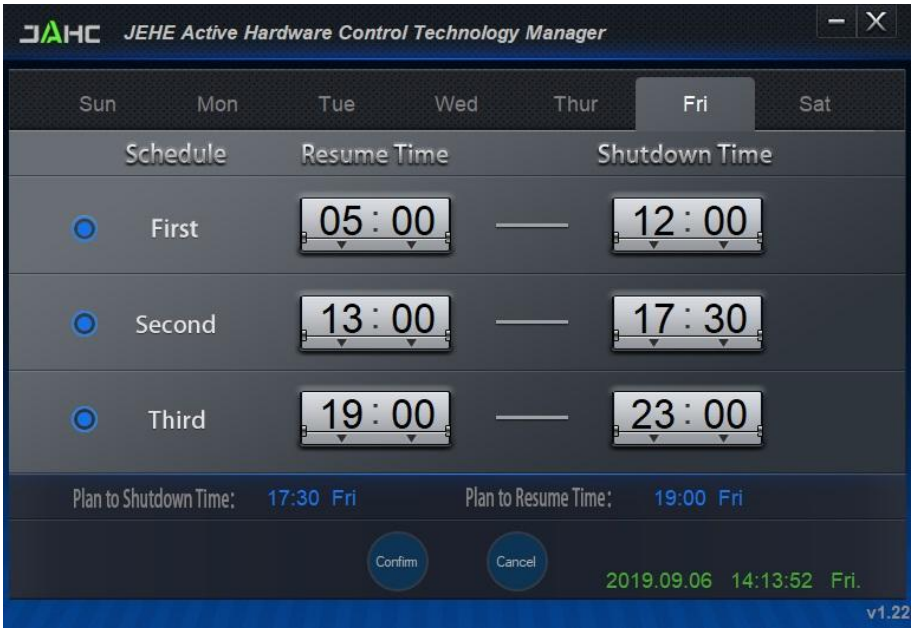
Notice: The JAHC will be added into boot item when it is installed. It will start up when system boot up.

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.



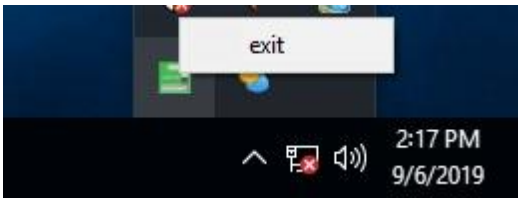
After finishing the setup, the menu window will notice the resume time and shutdown time.

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

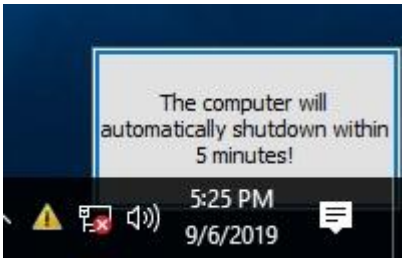
Click [Cancel] button to restore the time settings and cancel the shutdown status.

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

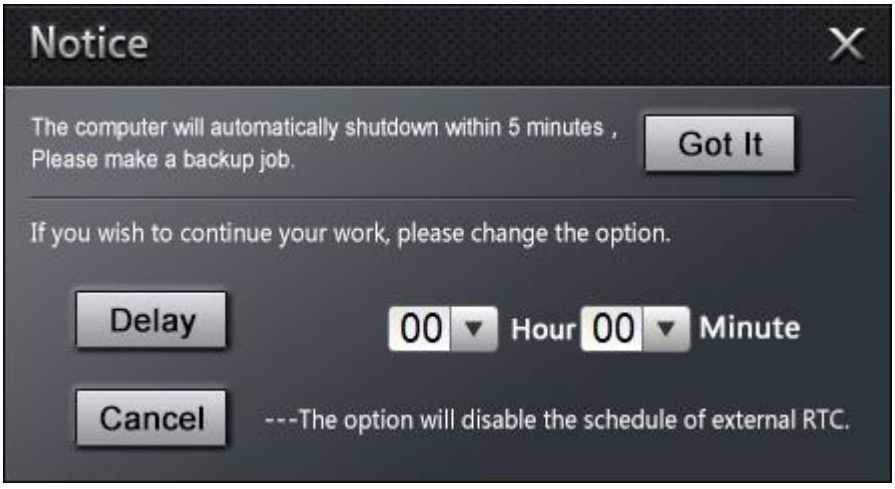
Right click the JAHC icon on taskbar and select [e×it] to exit the software.



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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