

PC68 User Manual



Statement

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Safety Notice

- Read the user manual carefully before setting up the Giada product.
- Disconnect the power 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.
- Do not disconnect the power when the system is running to avoid damage to the sensitive components by instantaneous surge voltage.

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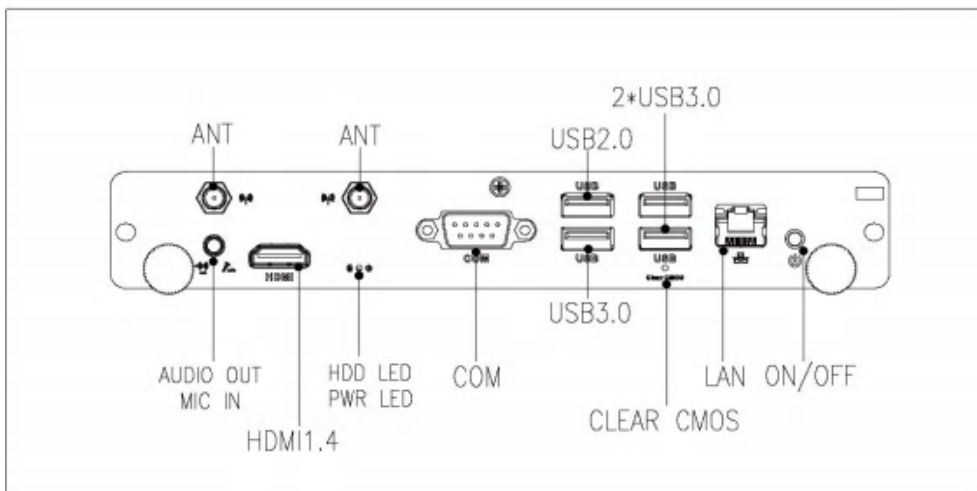
1. Product Introduction

Complies with Intel OPS standards and based on Intel® Coffee Lake platform, Giada PC68 adopts DDR4 dual-channel memory (Max 32GB) as well as M.2 storage interface design. With selectable desktop processors, it provides high computing and graphics performance. The player is suitable to be applied in interactive white board, video conference and other high-end digital signage applications.

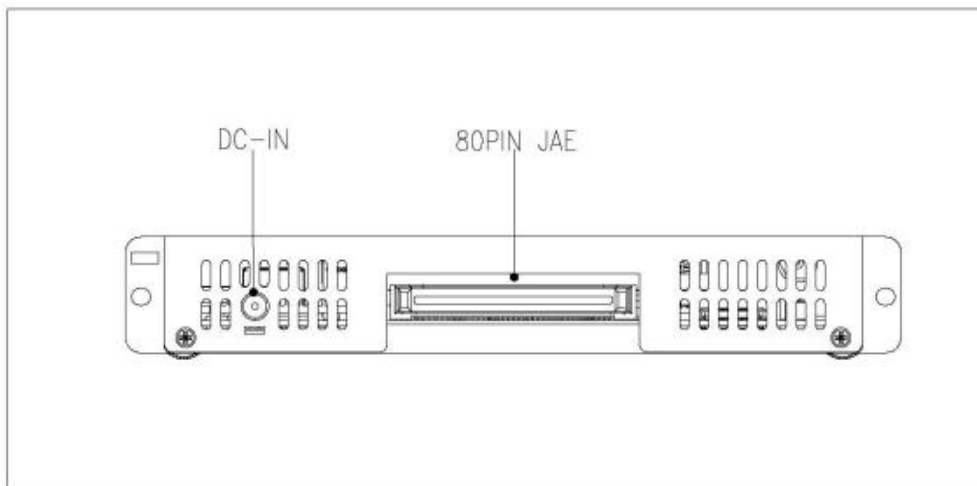
2. Interface Description and Hardware Specifications

2.1 Interface Description

Front I/O Port



Rear I/O Port



2.2 Hardware Specifications

PC68		
Processor	CPU	Intel® LGA1151 Socket 8 th / 9 th Gen. Processor
	BIOS	AMI Source Code
	Chipset	Intel® H310C/Q370/B360
Memory	Type	DDR4-2400MHz
	Socket	2 x SO-DIMM
	Max Capacity	32 GB
Graphics	JAE	1 x DP (JAE) (Max.4096 x 2304@60Hz) 1 x HDMI (JAE) (Max.4096 x 2304@60Hz(H310C) (Max.4096 x 2304@24Hz(Q370/B360))
	HDMI	1 x HDMI (Max.4096 x 2304@24Hz)
Network	Controller	Realtek I219LM Gigabit Ethernet
	Interface	1 x RJ45
I/O Interface	USB	3 x USB 3.0, 1 x USB 2.0
	Serial Port	1 x RS232
	Audio	1 x 2-in-1 Headset (MIC-IN & AUDIO-OUT)
	M.2 1#	1 x M.2(2230) for WIFI/BT
	M.2 2#	1 x M.2(2242/2280) for SSD
Storage	M.2	1 x M.2 (2242/2280) for SSD
Operation System	OS	Windows 10 (64-bit) / Linux
Power	Power Type	DC-IN
	Input Voltage	19V
Mechanical	Construction	Metal
	Dimension (W x D x H)	200mm x 119mm x 30mm
	Color	Black
Environment	Operating Temperature	0°C ~ 40°C (32 °F ~ 104 °F) at 0.7m/s Air Flow
	Relative Humidity	95%@40°C (non-condensing)
Certification		CE, FCC

3. Accessories Installation Steps

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

How to open the top cover and bottom cover

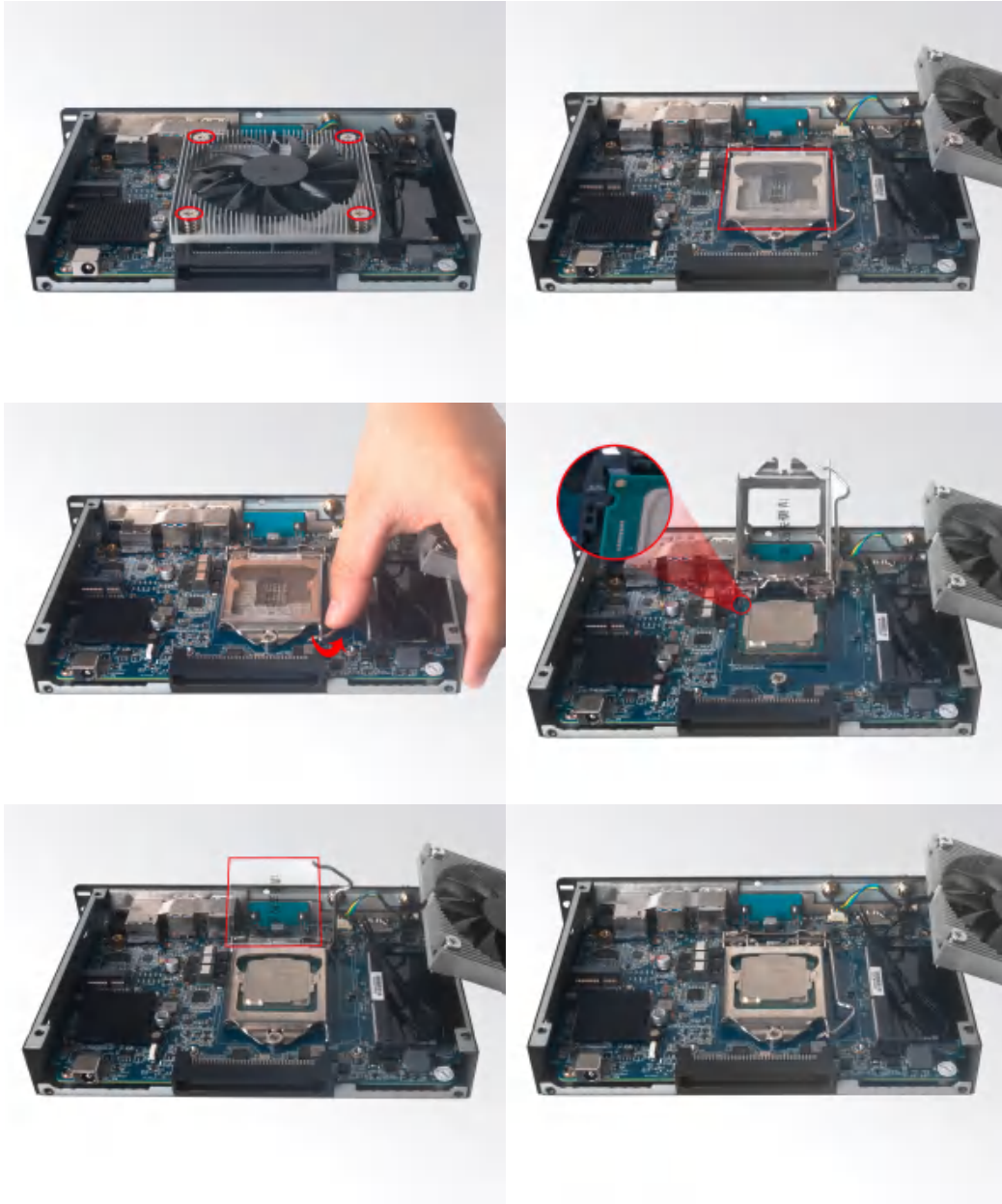
Unscrew the seven screws and remove the top cover. (CPU, SO-DIMM #1 and M.2 for WIFI are on top side)

Unscrew the three screws and remove the two covers. (SO-DIMM#2 and M.2 for SSD are on bottom side)



3.1 CPU Installation

1. Unscrew the 4 screws and remove the CPU cooler.
2. Remove the hook to open the closure.
3. Put the CPU on the board and paint the top side with heat conduction grease.
4. Remove the closure and put the hook back.
5. Tighten up the four screws.



3.2 Memory Installation

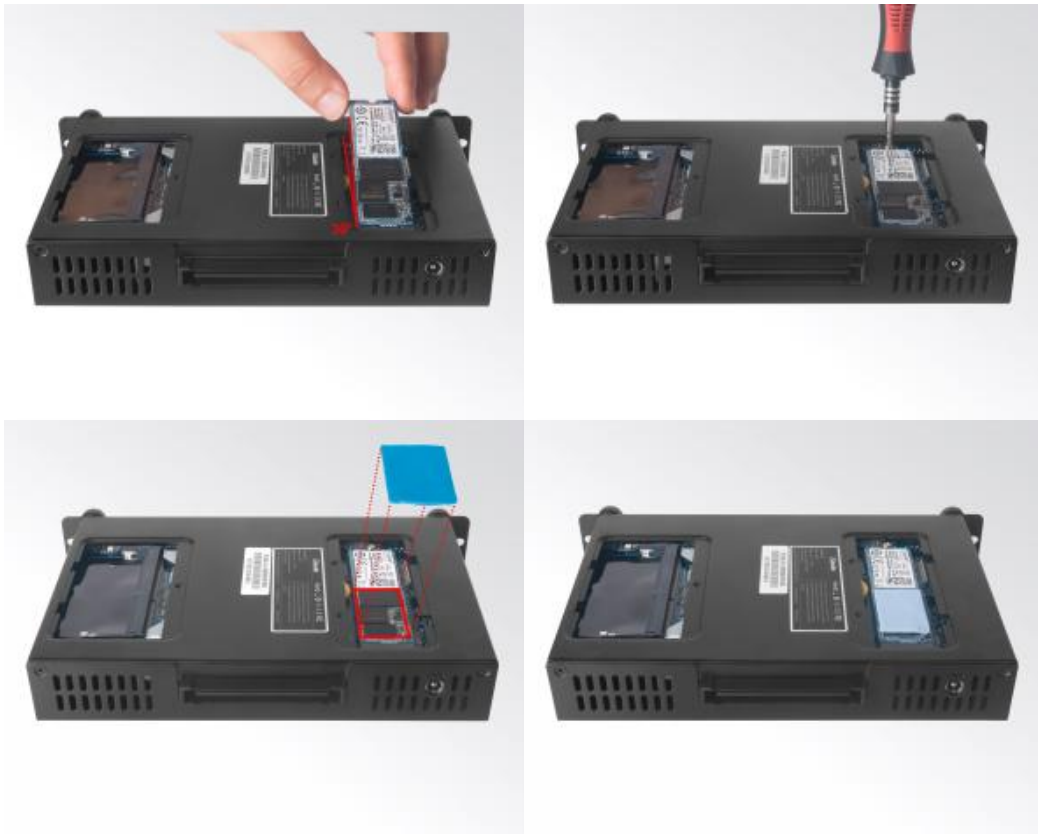
▲ This product only supports DDR4 SO-DIMM memory modules.

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.



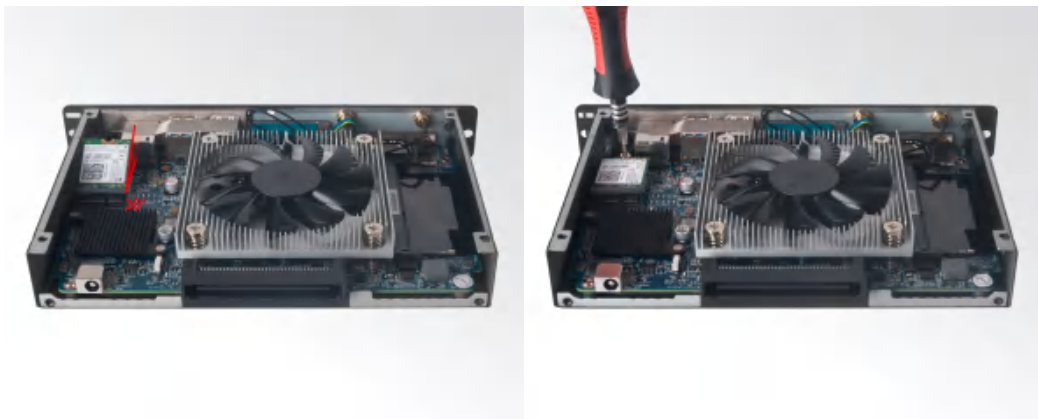
3.3 SSD (M.2) Installation

1. Plug the SSD (M.2) into the appropriate slot.
2. Secure the module to the carrier by tightening up the screw.
3. Remove the clear membrane of the thermal pad and paste the pad on the SSD.
4. Remove the blue membrane of the thermal pad.



3.4 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 two black cables to **Main** and **AUX**. Install antennas.



▲ Hot-plugging may cause damage to the OPS PC. Please disconnect the power of the monitor before installing the OPS PC into the slot.

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 housing. 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 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.

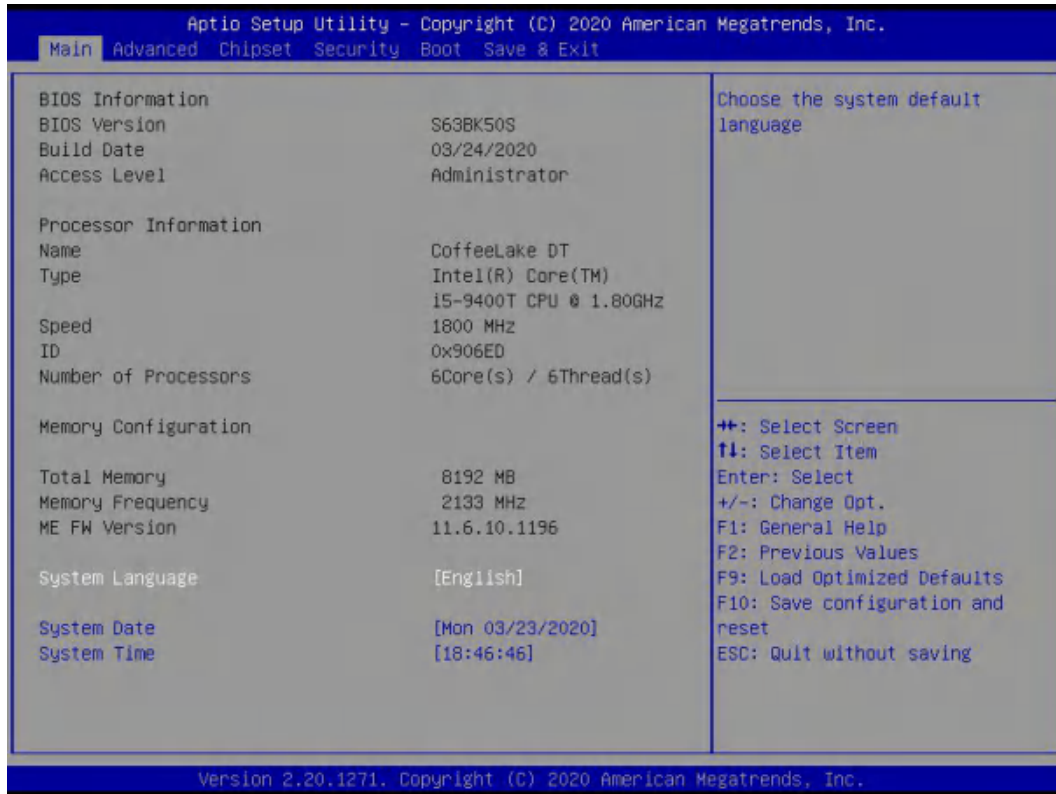


Fig 1

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) Chipset

4) Security (set the administrator/user password)

5) Boot (startup configuration characteristics)

6) 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 Setup)



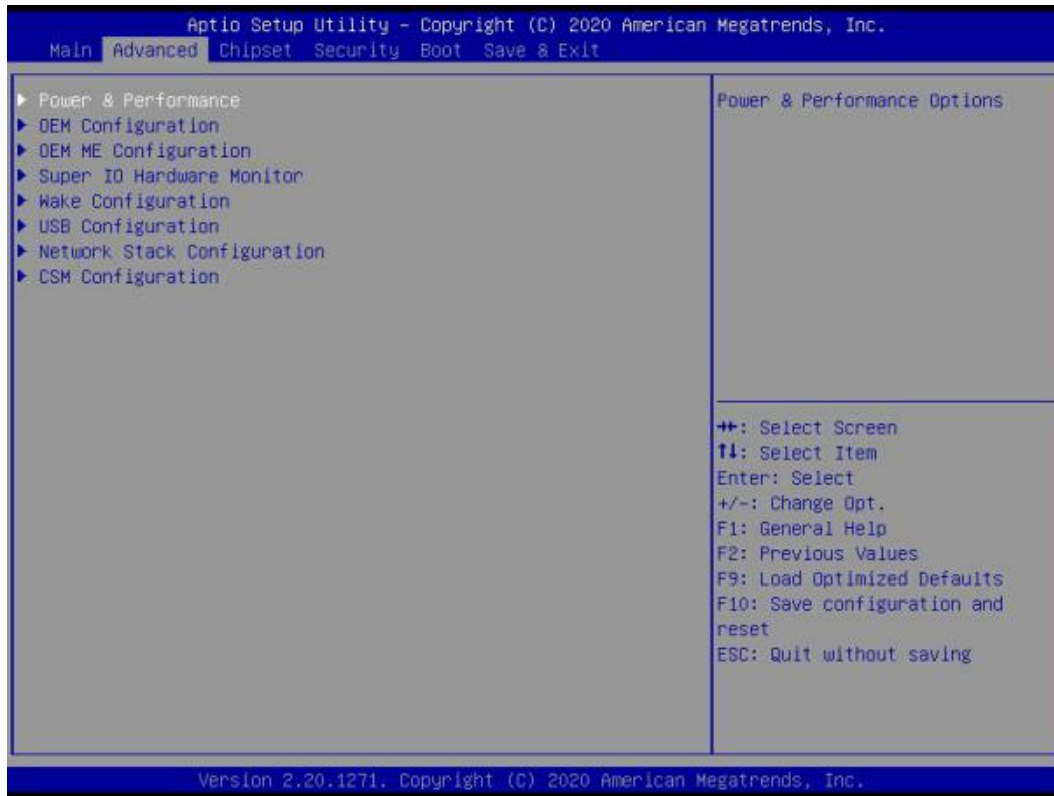
1) System time (hh:mm:ss)

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

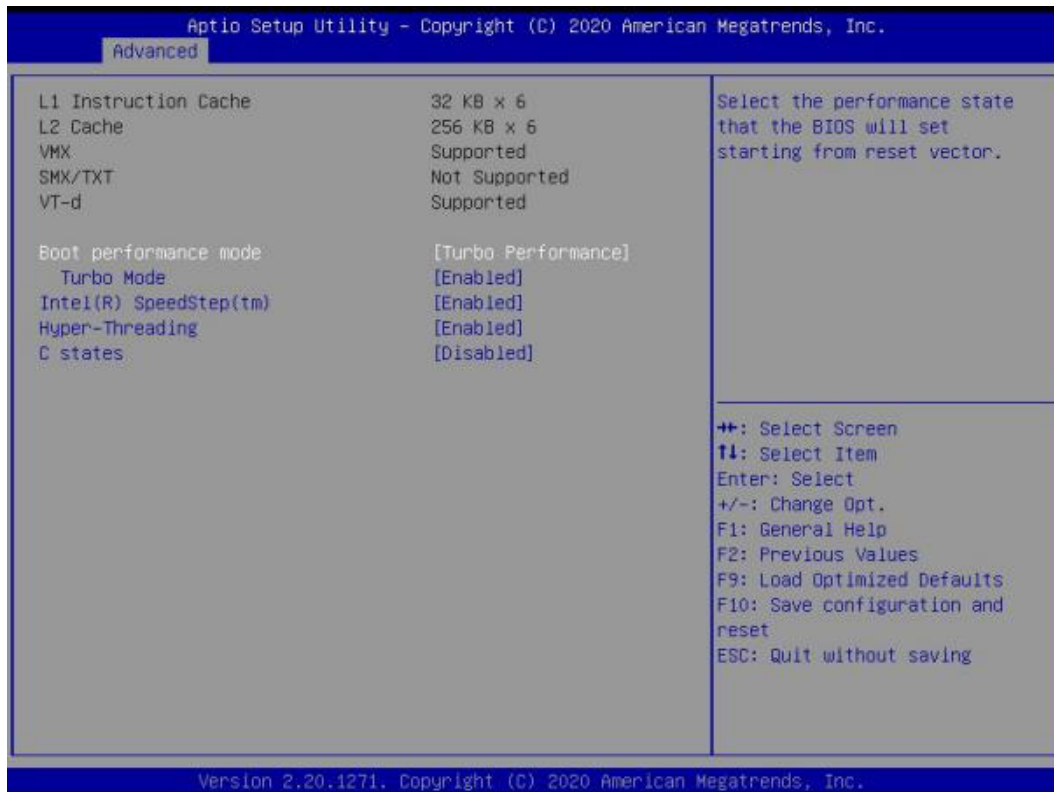
2) System date (mm:dd:yy)

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 Power & Performance



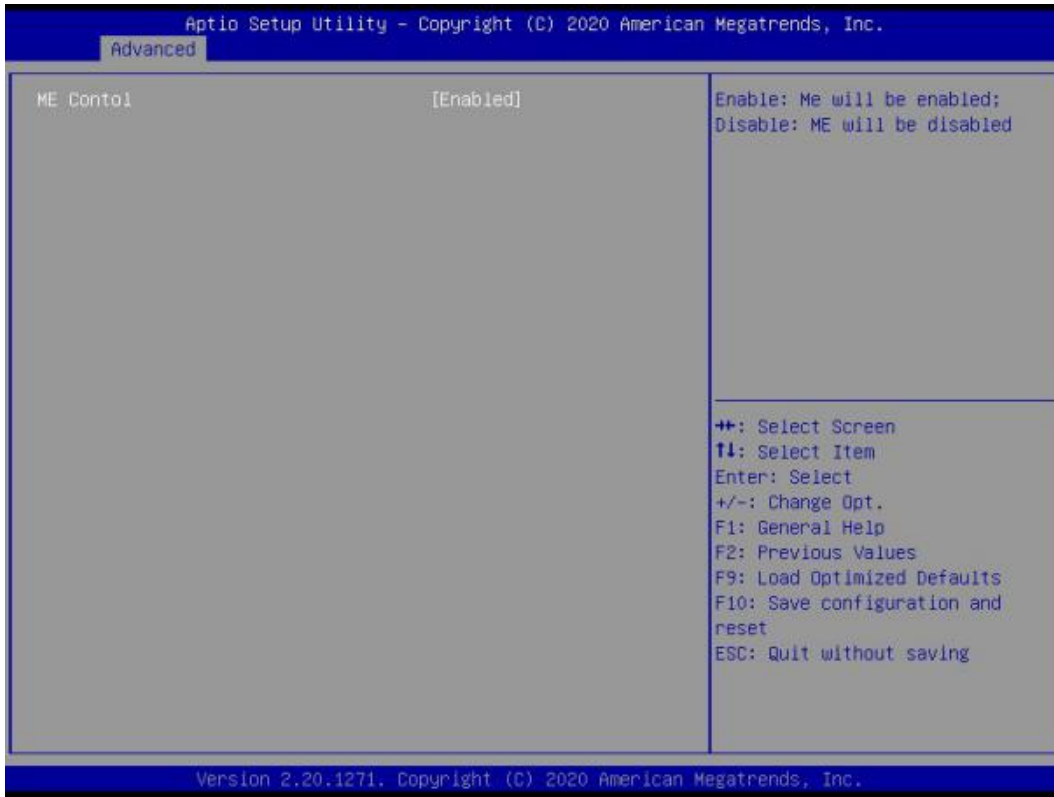
Power & Performance	Description
L1 Instruction Cache	L1 Instruction Cache.
L2 Cache	L2 Instruction Cache.
VMX	VirtualMachineExtension.
SMX/TXT	Intel trusted execution.
VT-d	Intel® Virtualization Technology for Directed I/O.
Boot performance mode	<ul style="list-style-type: none"> ● Max Non-Turbo Performance: the best performance. ● Max Battery. ● Turbo performance.
Turbo Mode	<ul style="list-style-type: none"> ● Disabled. ● Enabled.
Intel(R) SpeedStep(tm)	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.
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.
C states	The C-State function is disabled by default.

4.2.2 OEM Configuration



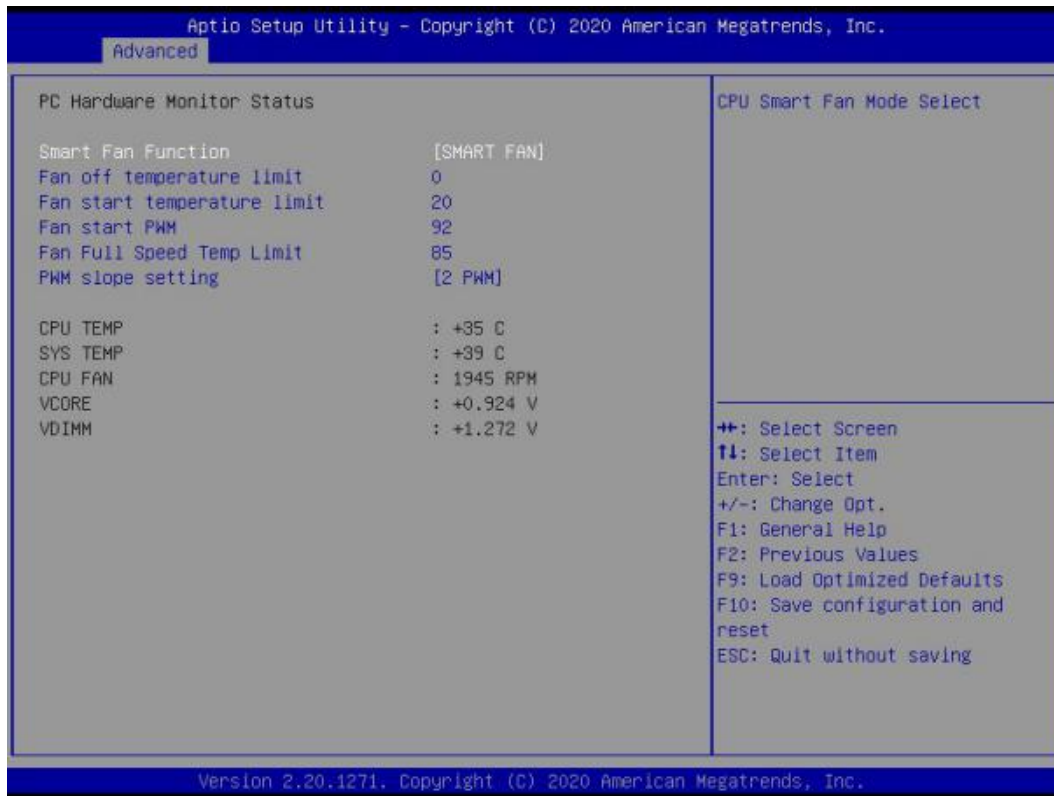
The menu	Description
OEM Configuration	
Watchdog Time Support	<p>The user can enable or disable WDT function.</p> <ul style="list-style-type: none"> ● Disabled: WDT item is disabled by default ● Minute: ● second:
OPS Output Select	<p>The user can set output signal as DP or HDMI.</p> <p>DP is set by default. You need to change to HDMI if the docking board of your OPS monitor supports HDMI signal only, otherwise it may cause audio output problem.</p>
ACPI Sleep state	<p>You can use the ACPI Sleep state option to control system hibernation.</p> <ul style="list-style-type: none"> ● Suspend Disabled: Disable system Suspend. ● S3 (Suspend to RAM): Enable S3(Suspend to RAM)

4.2.3 OEM ME Configuration



Advanced Options	Description
ME Configuration	
ME Control	This item can enable or disable ME function <ul style="list-style-type: none"> ● Disabled ● Enabled. The ME control is enabled by default.

4.2.4 PC Hardware Monitor Status



Advanced Options	Description
PC Hardware Monitor Status	
Smart Fan Function	It includes "Full on mode", "Smart Fan" and "manual mode". <ul style="list-style-type: none"> ● Full on mode. ● Smart Fan: Smart Fan is enabled by default. ● Manual 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 start PWM	If the temperature is higher than the FAN start PWM value, the 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.

PWM slope setting	<ul style="list-style-type: none"> ● 1 PWM ● 2 PWM ● 4 PWM
CPU TEMP	Current CPU Temperature.
SYS TEMP	Current System Temperature.
CPU FAN	Current FAN Speed.
VCORE	VCORE Voltage.
VDIMM	VDIMM Voltage.

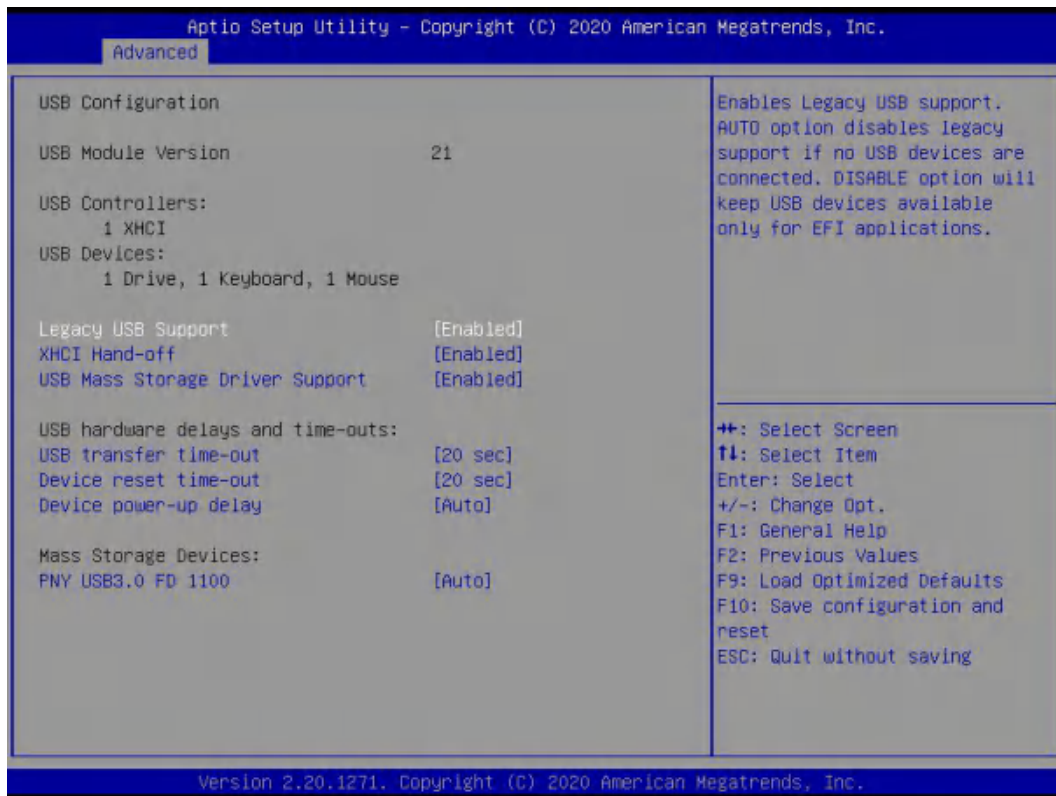
4.2.5 Wake Configuration



Advanced Options	Description
Wake Configuration	

<p>Resume On RTC</p>	<p>Enable or disable System wake on alarm event.</p> <p>Select FixedTime, system will wake on the hr::min::sec specified.</p> <p>Select DynamicTime, System will wake on the current time + Increase minute(s).</p>
<p>Wakeup By USB KB/MS</p>	<p>Enabled or Disabled Wake Up by USB KB/MOUSE from S3 Status.</p> <ul style="list-style-type: none"> ● Disabled: The wake by USB is disabled by default. ● Enabled.
<p>Wake Up On LAN</p>	<p>Wake on LAN Function.</p> <ul style="list-style-type: none"> ● Disabled: The WOL is disabled by default. ● Enabled.

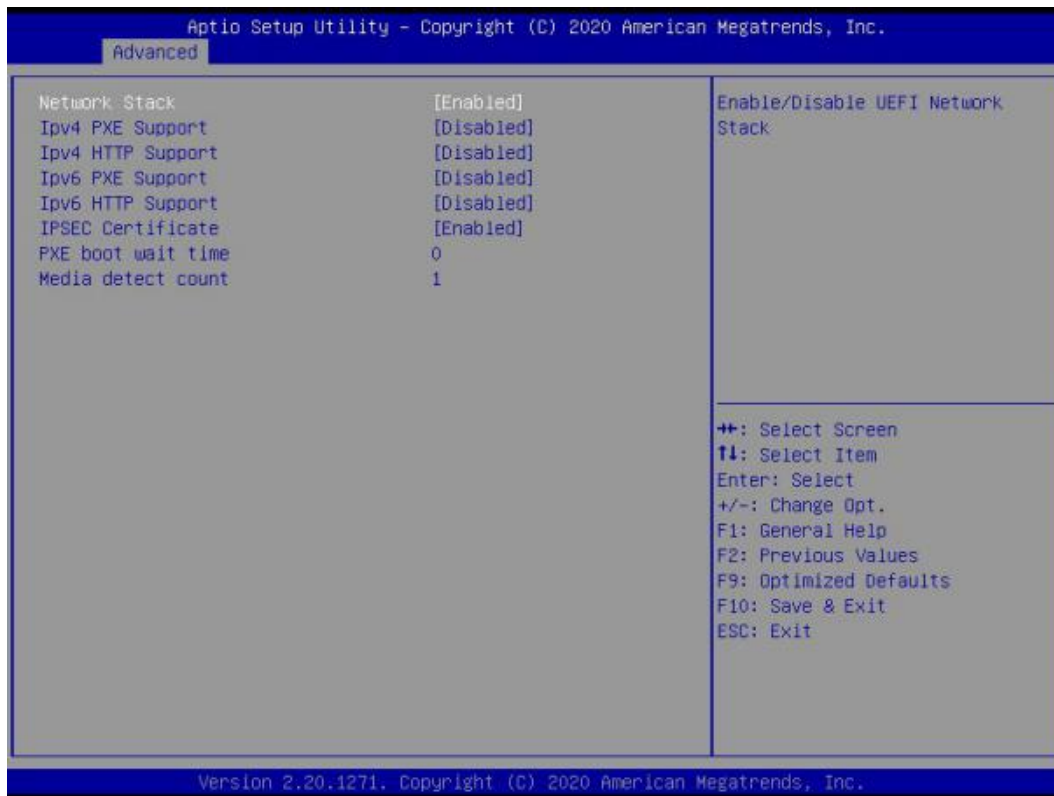
4.2.6 USB Configuration



USB Configuration	Description
USB Configuration	
USB Module Version	This item can show USB module version.
USB Controllers	The current USB Controllers.
USB Devices	The current USB devices.
Legacy USB Support	You can set and manage legacy USB device after enabling this option. <ul style="list-style-type: none"> ● Disabled. Disabled option will keep USB devices available only for EFI application. ● Enabled. ● Auto. Auto option disables legacy support if no USB devices are connected.
XHCI Hand-off	This is a workaround for Oses without XHCI hand-off support. The XHCI ownership change should be claimed by XHCI driver <ul style="list-style-type: none"> ● Disabled. ● Enabled. This item is enabled by default.
USB Mass Storage Driver Support	Enabled/Disabled USB mass storage Driver support <ul style="list-style-type: none"> ● Disabled. ● Enabled.
USB hardware delays and time-outs	
USB transfer time-out	The time-out value for controlling, blocking and interrupting transfers. <ul style="list-style-type: none"> ● 1 sec:1 sec ● 5 sec:5 sec ● 10 sec:10 sec ● 20 sec:20 sec. This value is set by default.
Device reset time-out	USB mass storage device start unit command time-out. <ul style="list-style-type: none"> ● 10 sec:10 sec ● 20 sec:20 sec. This value is set by default ● 30 sec:30 sec ● 40 sec:40 sec

USB Configuration	Description
Device power-up delay	<p>Maximum time the device will take before it properly reports itself to the Host Controller.</p> <p>Auto uses default value: for a root port, it is 100ms; for a Hub port, the delay is taken from Hub descriptor.</p> <ul style="list-style-type: none"> ● Auto. This item is enabled by default ● Manual.

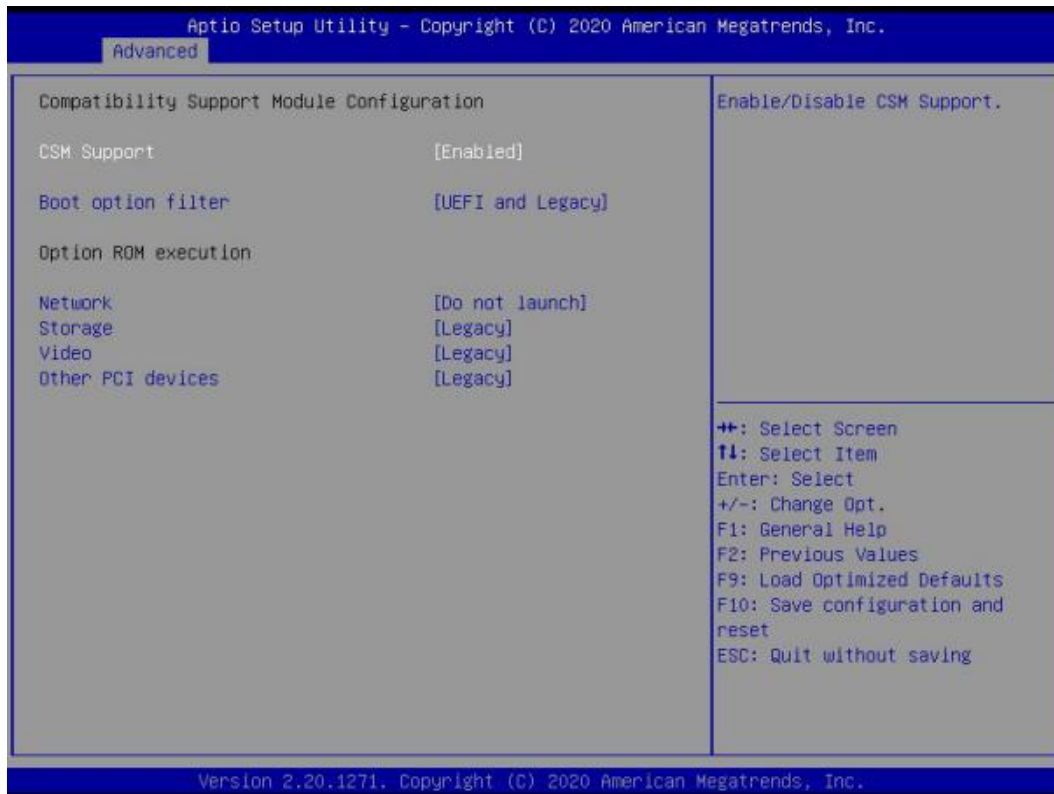
4.2.7 Network Stack Configuration



Advanced options	Functions Description
Network Stack Configuration	
Ipv4 PXE Support	<p>Enabled/Disabled IPV4 PXE boot support.</p> <ul style="list-style-type: none"> ● Enabled. ● Disabled. This item is disabled by default.
Ipv4 HTTP Support	Enabled/Disabled IPV4 PXE boot support.

Advanced options	Functions Description
	<ul style="list-style-type: none">● Enabled.● Disabled. This item is disabled by default.
Ipv6 PXE Support	Enabled/Disabled IPV6 PXE boot support. <ul style="list-style-type: none">● Enabled.● Disabled. This item is disabled by default.
Ipv6 HTTP Support	Enabled/Disabled IPV6 HTTP boot support. <ul style="list-style-type: none">● Enabled.● Disabled. This item is disabled by default.
IPSEC Certificate	Support to enabled/disabled IPSEC certificate for Ikev <ul style="list-style-type: none">● Disabled.● Enabled. This item is enabled by default.
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.

4.2.8 CSM Configuration



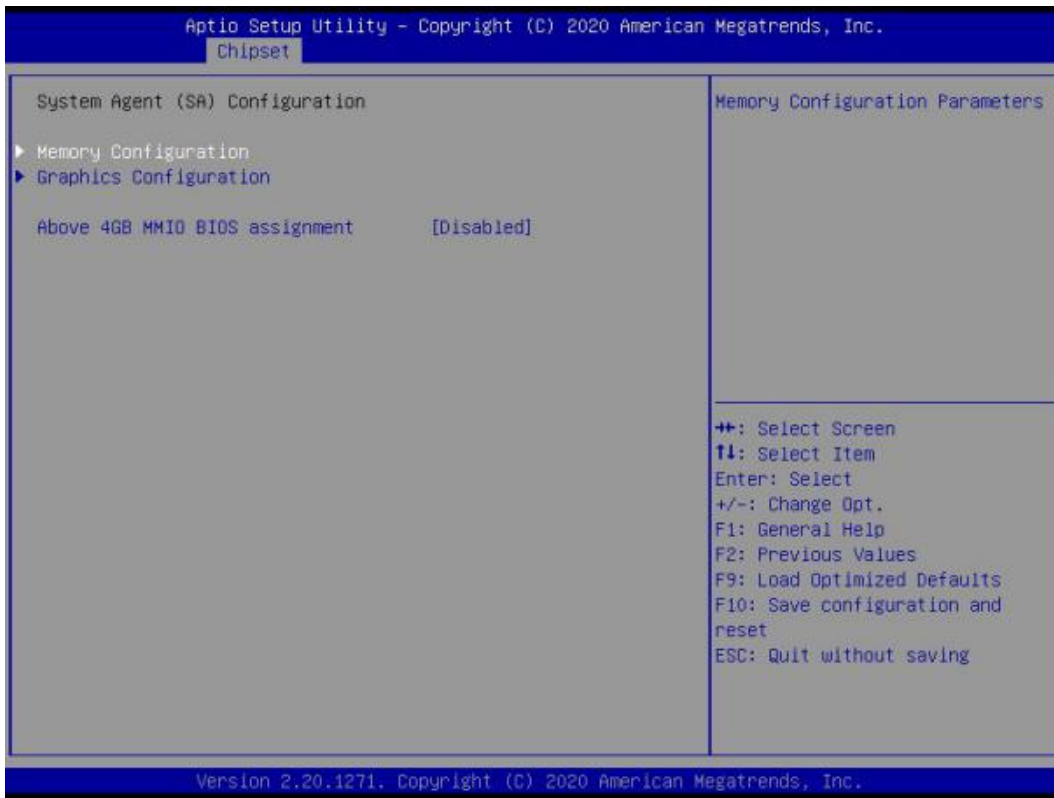
Advanced Options	Description
Compatibility Support Module Configuration	
CSM Support	<ul style="list-style-type: none"> ● Enabled: The CSM support function is enable by default. ● Disabled.
Boot option filter	<ul style="list-style-type: none"> ● UFEI and Legacy: It will support both UEFI and legacy mode. ● Legacy only: It only supports legacy mode. ● UEFI only: It only supports UEFI mode.
Option ROM execution	
Network	Network ROM Boot. <ul style="list-style-type: none"> ● Do not launch: Do not Boot. ● UEFI: It will support UEFI mode network ROM. ● Legacy: It will support legacy mode network ROM.
Storage	Storage ROM Boot. <ul style="list-style-type: none"> ● Do not launch: Do not Boot. ● UEFI: It will support UEFI mode storage ROM. ● Legacy: It will support legacy mode storage ROM.

Advanced Options	Description
Video	Video ROM Boot. <ul style="list-style-type: none"> ● UEFI: It will support UEFI mode Video ROM. ● Legacy: It will support Legacy mode Video ROM.
Other PCI devices	<ul style="list-style-type: none"> ● Do not launch: Do not Boot. ● UEFI: It will support UEFI mode PCI ROM. ● Legacy: It will support Legacy mode PCI ROM.

4.3 Chipset

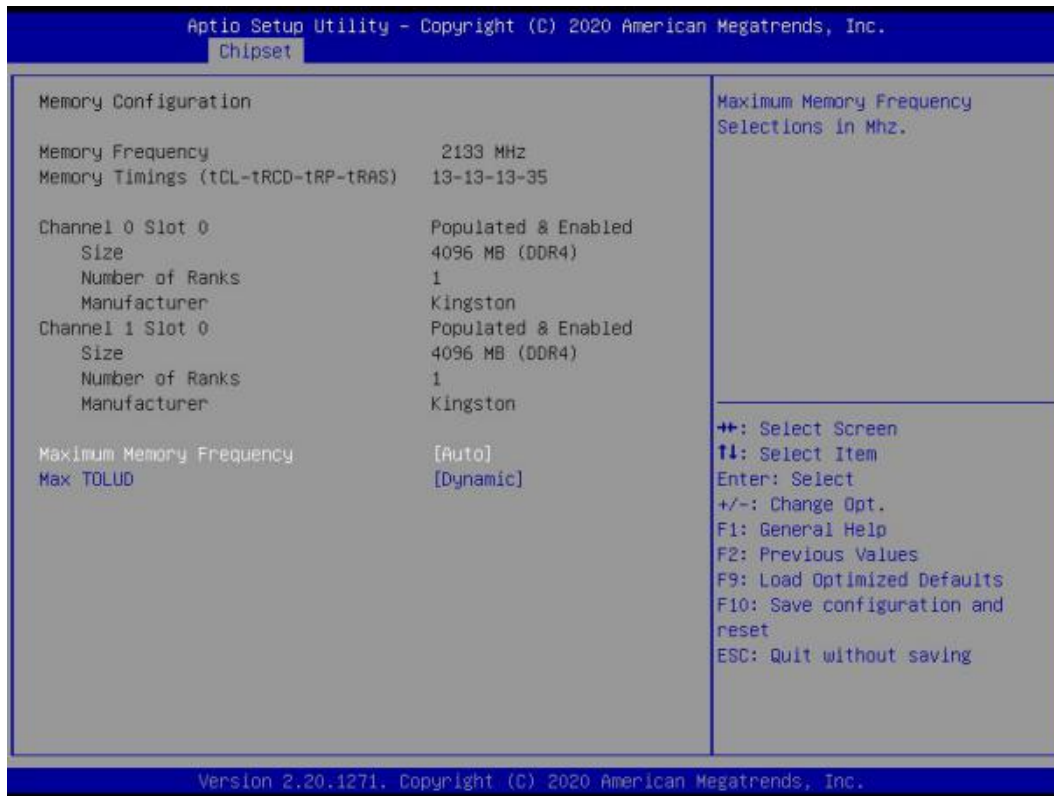


4.3.1 System Agent (SA) Configuration



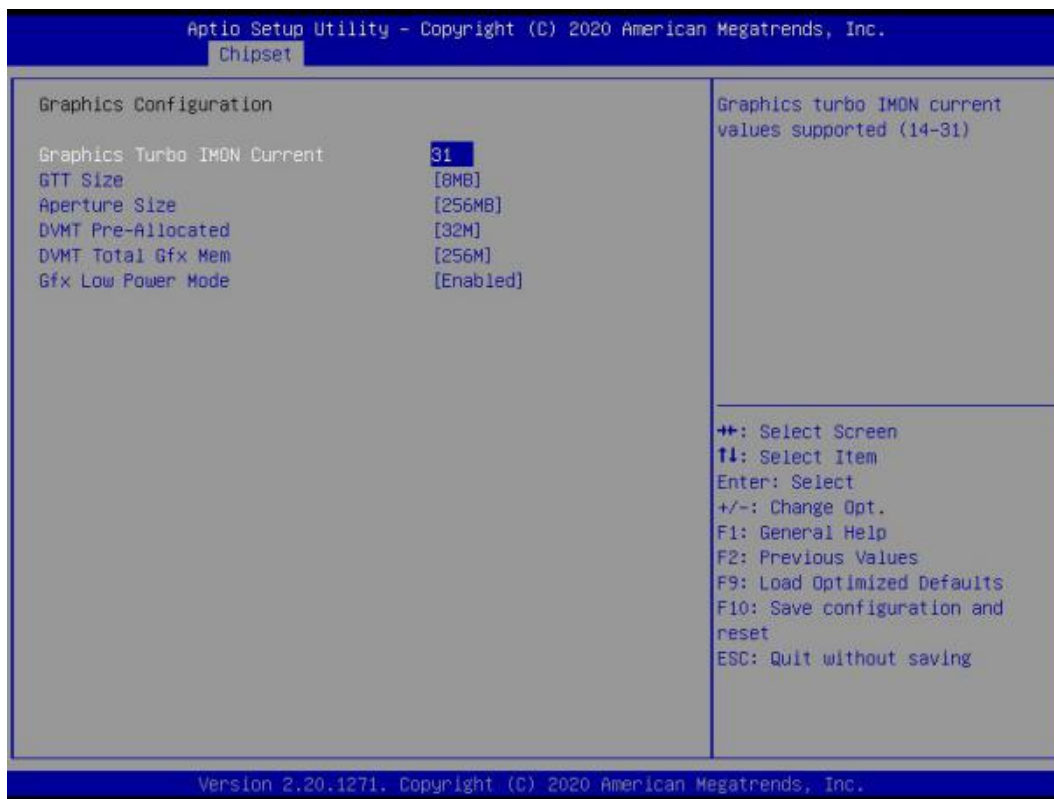
Chipset Option	Description
System Agent (SA) Configuration	
Above 4G MMIO BIOS assignment	<p>Enabled/Disabled above 4GB memoryMappedIO BIOS assignment. This is enabled automatically when Aperture size is set to 2048MB.</p> <ul style="list-style-type: none"> ● Disabled. ● Enabled. This item is enabled by default.

4.3.1.1 Memory Configuration



Chipset Options	Description
Memory Configuration	
Memory Frequency	● Memory Frequency
Memory Timings(tCL-tRCD-tRP-tRAS)	● Memory Timings
Channel 0 slot 0	● Channel 0 slot 0
Channel 1 slot 0	● Channel 1 slot 0
Maximum Memory Frequency	● The user can set the maximum memory frequency. This item is auto by default.
Max TOLUD	● The user can set the MAX TOLUD. This item is Dynamic by default.

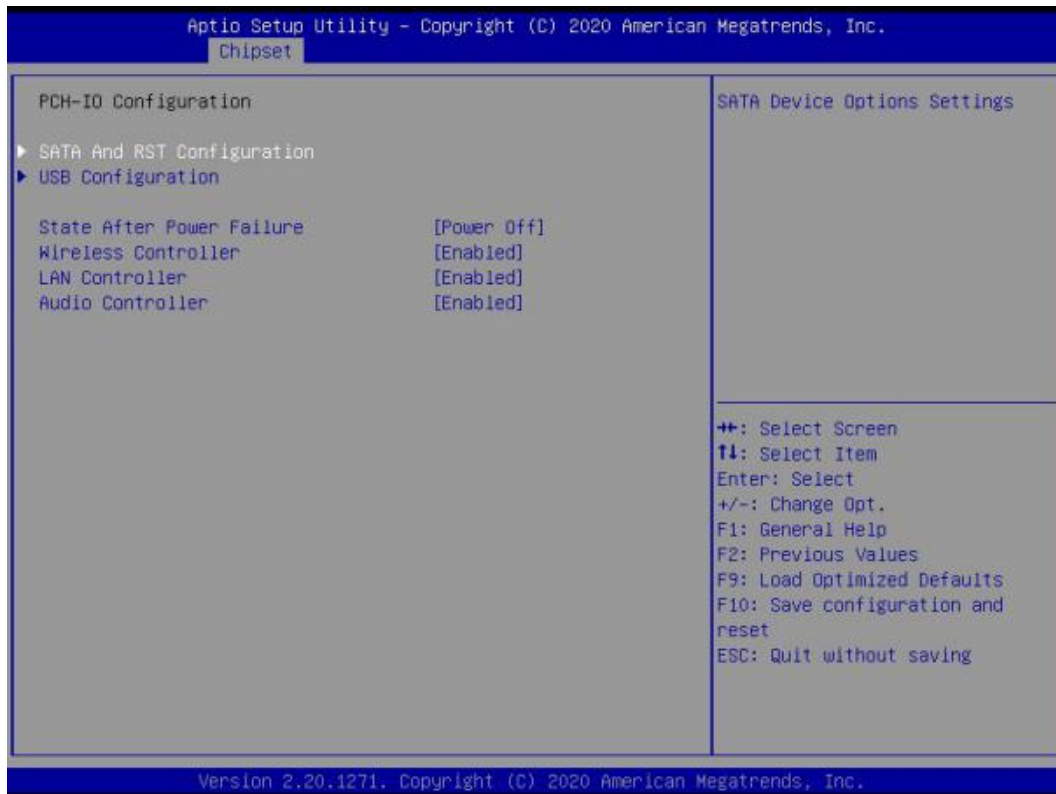
4.3.1.2 Graphics Configuration



Chipset Options	Description
Graphics Configuration	
Graphics Turbo IMON Current	Graphics turbo IMON current value supported (14-31).
GTT Size	<ul style="list-style-type: none"> ● 2M ● 4M ● 8M. This item is 8M by default.
Aperture Size	<p>Note: Above 4GB MMIO BIOS assignment is automatically enabled when selecting 2048MB aperture. To use this feature. Please disable CMS Support</p> <ul style="list-style-type: none"> ● 128MB ● 256MB. The aperture size is 256MB by default. ● 512MB ● 1024MB ● 2048MB

Chipset Options	Description
DVMT Pre-Allocated	Select DVMT 5.0 Pre-Allocated (Fixed) Graphics Memory size used by the internal graphics device.
DVMT Total Gfx Mem	Select DVMT5.0 total graphics size used by the internal graphics device <ul style="list-style-type: none"> ● 256M.This item is 256M by default. ● 128M ● MAX
Gfx Low Power Mode	This option is applicable for SFF only. <ul style="list-style-type: none"> ● Disabled ● Enabled. This item is enabled by default

4.3.2 PCH-IO Configuration



Chipset Options	Description
PCH-IO Configuration	
State After Power Failure	Specify what state to go to when power is re-applied after a power failure (G3 state) State after G3 means after restore power supply. <ul style="list-style-type: none"> ● Power off: If set it as power off, it means the system will remain shutdown state. ● Power on: If set it as power on, 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.
Wireless Controller	Control the PCI Express Root Port. <ul style="list-style-type: none"> ● Disabled. ● Enabled. This item is enabled by default.
LAN Controller	Control the PCI Express Root Port. <ul style="list-style-type: none"> ● Disabled. ● Enabled. This item is enabled by default.
Audio Controller	Control detection of the HD-Audio device. If it's disabled, HAD will be unconditionally disabled <ul style="list-style-type: none"> ● Disabled. ● Enabled. This item is enabled by default.

4.3.3 SATA and RST Configuration



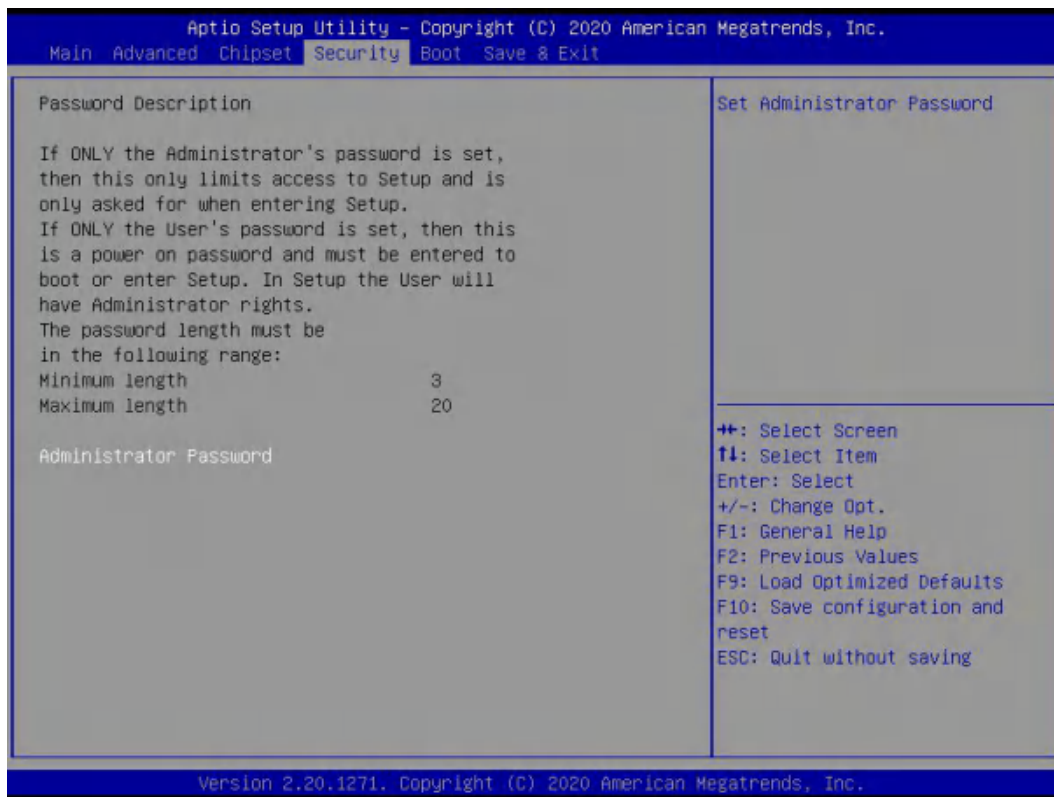
Chipset Options	Description
SATA And RST Configuration	
SATA Controller(s)	<p>Enabled/disabled SATA Controller.</p> <ul style="list-style-type: none"> ● Disabled. ● Enabled: The SATA controller is enabled by default.
SATA Mode Selection	<ul style="list-style-type: none"> ● AHCI: AHCI mode. ● Intel RST Premium With Intel Optane System Acceleration: IRST mode.
SATA Controller Speed	<p>Indicates the maximum speed the SATA controller can support.</p> <ul style="list-style-type: none"> ● Default: This item is default by default. ● GEN1:GEN1 ● GEN2:GEN2 ● GEN3:GEN3

Chipset Options	Description
M.2 Device	M.2 interface information.

4.3.4 USB Configuration

Chipset Options	Description
USB Configuration	
XHCI Disable Compliance Mode	Options to disable compliance mode. Default is FALSE to not disable compliance Mode. Set TRUE to disable Compliance Mode. <ul style="list-style-type: none">● TRUE.● FALSE. This item is set by default.
xDCI Support	Enabled/Disabled Xdci (USB OTG Device) <ul style="list-style-type: none">● Disabled: This item is disabled by default.● Enabled:
USB Port Disable Override	Selectively Enable/Disable the corresponding USB port from reporting a Device Connection to the controller. <ul style="list-style-type: none">● Disabled. This item is disabled by default.● Enabled.

4.4 Security



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

Enter New Password hhhhhh

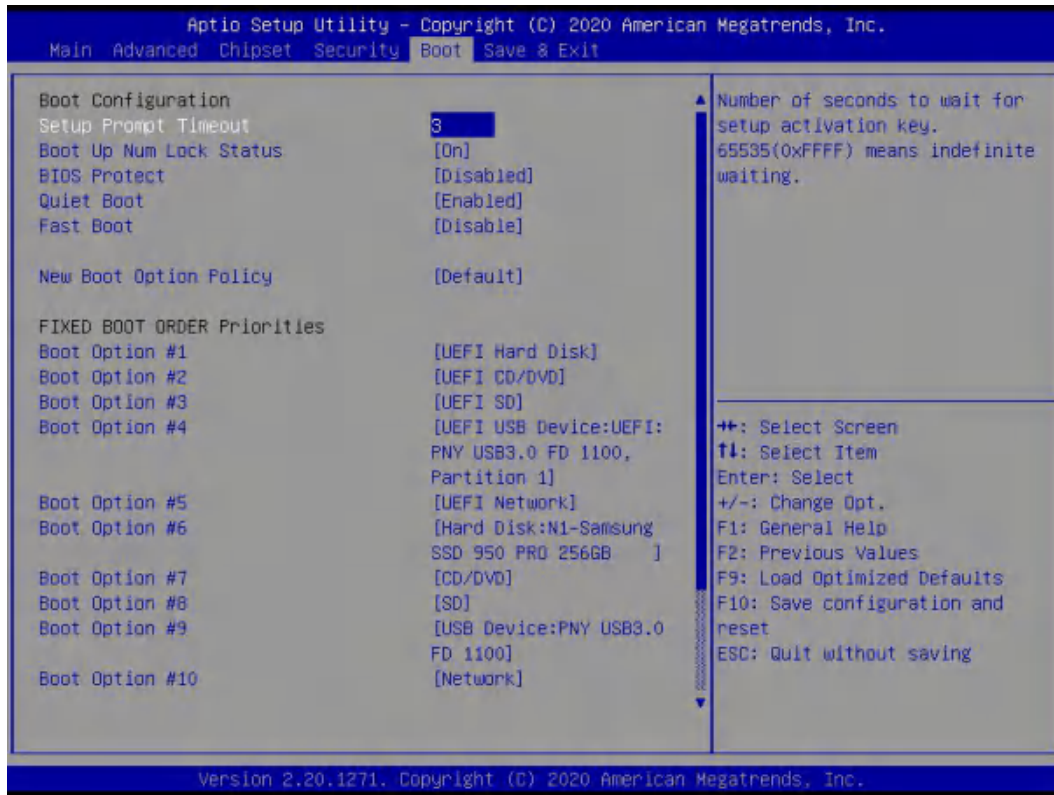
Then enter a password which is no more than eight characters and press <Enter>. BIOS will require to enter the password again.

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.

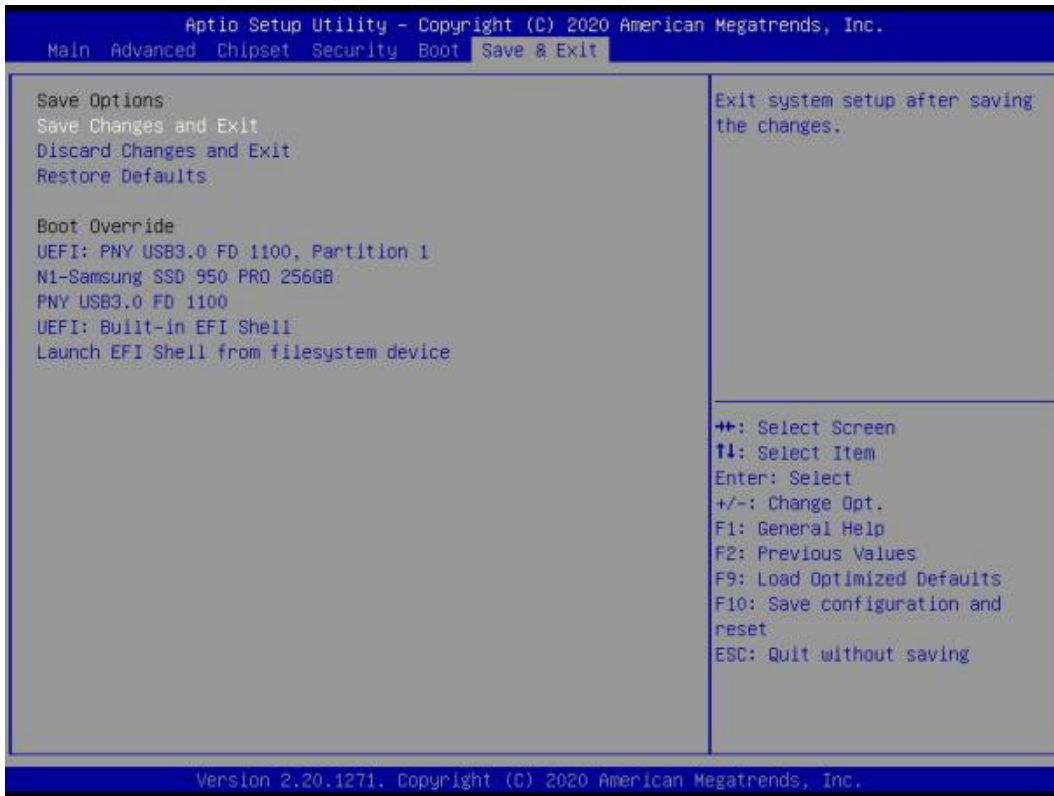
4.5 Boot Menu



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.
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 Item	Description
Hard Drive BBS Priorities	You can set and manage legacy Hard disk device after enabling this option.

4.6 Save & Exit



Save Exit Item	Description
Save Options	
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



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