User Manual

T0-FP750 Ultra-Compact Mini PC

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T0-FP750

User Manual

(Version V2.0)

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Chapter 1 Product Introduction

1.1 Brief Introduction

The T0-FP750 compact mini pc is a 4x4 small form factor pc based on AMD Ryzen ™ 6000/7000/8000 series processor, built with innovative technology and optimized high performance.

1.2 Parameters

AMD Ryzen Mobile Processors Processor:

- Ryzen 5 6600H --- 6 Cores/12 Threads, Base Clock 3.3 GHz, Max Boost Clock 4.5GHz, TDP: 45W
- Ryzen 9 6900HX --- 8 Cores/16 Threads, Base Clock 3.3 GHz, Max Boost Clock 4.9GHz, TDP: 45W
- Ryzen 7 7735HS --- 8 Cores/16 Threads, Base Clock 3.2 GHz, Max Boost Clock 4.75GHz, TDP: 45W
- Ryzen 7 7840HS --- 8 Cores/16 Threads, Base Clock 3.8 GHz, Max Boost Clock 5.1GHz, TDP: 35W-54W.
- Ryzen 7 8845HS --- 8 Cores/16 Threads, Base Clock 3.8 GHz, Max Boost Clock 5.1GHz, TDP: 35W-54W.

Memory: 2x SO-DIMM DDR5-4800MHz Slots, support dual-channel, maximum capacity 64GB.

GPU: Integrated Graphics based on CPU, displays via 1x HDMI2.0 interface and 1xDP1.4a interface.

Storage: 2x M.2 Key M 2280 slot for NVMe SSD.

USB: 2x USB3.2 Gen 2 interfaces, 1x USB2.0 interface, 1xUSB-C interface, 1x all functioned USB4. The USB4 supports high data transfer speeds up to 40Gbps, which is twice as fast as USB 3.2 Gen 2x2. It also supports DisplayPort 1.4 and can accommodate Type-C power inputs up to 100W.)

Expansion: 1x M.2_Key E Slot type 2230 for Wi-Fi and Bluetooth

Ethernet: One onboard Intel i226-V Network Controller RJ45 interface. Data Rate Per Port: 2.5Gbps.

Audio: High-Definition Audio Codec,1xCTIA Audio Jack, supports Line-out+Mic-in.

Other I/O: 1x Power button (PWON), 1xRST, 1xCPUFAN Socket.

Power: 19V/20V DC-in. (Note: For the adopter power consumption, please use 90W or above.)

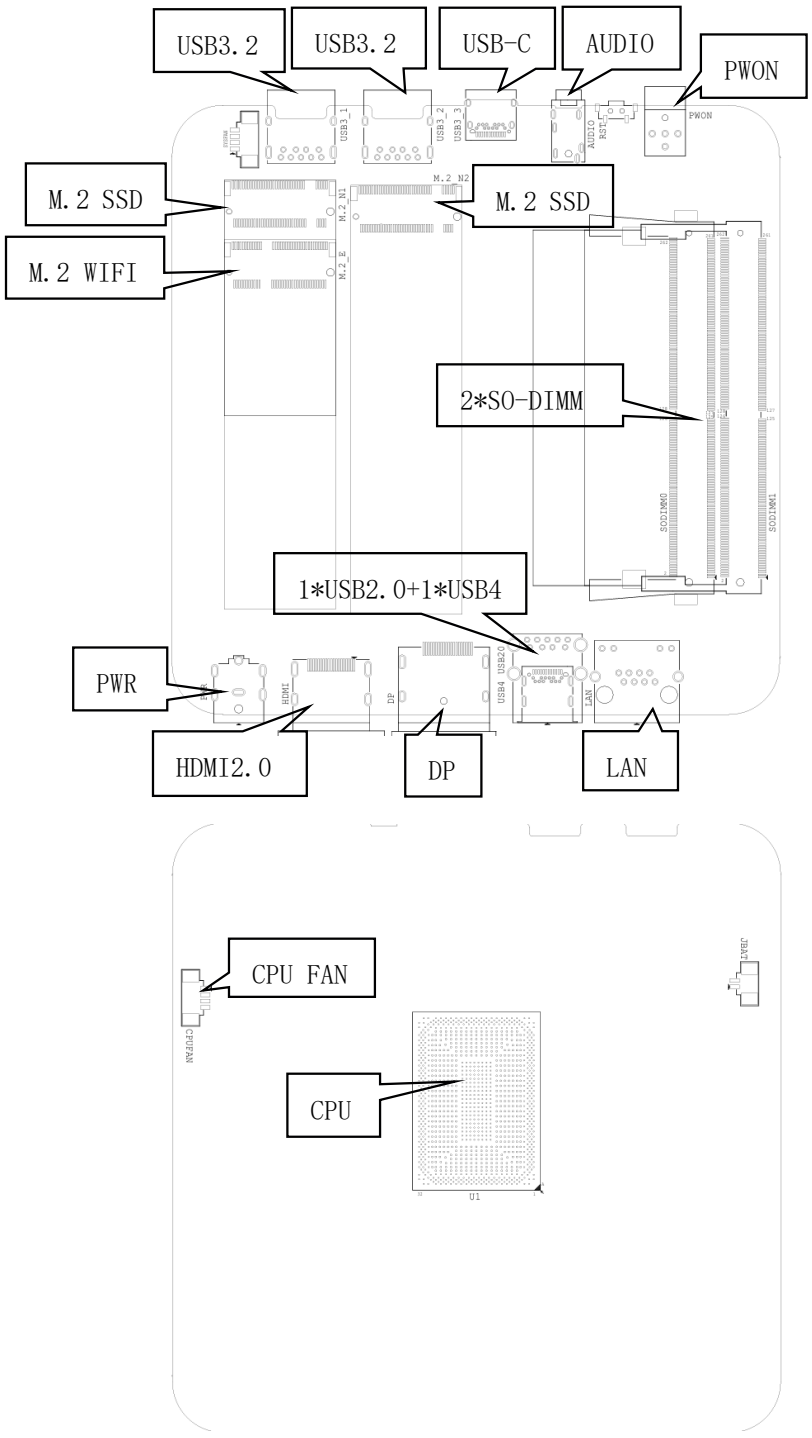
Board Dimension: 120mm x 120 mm

Chassis Dimension: 127mm x 135mm x 55mm

Working Temperature: 0℃~50℃

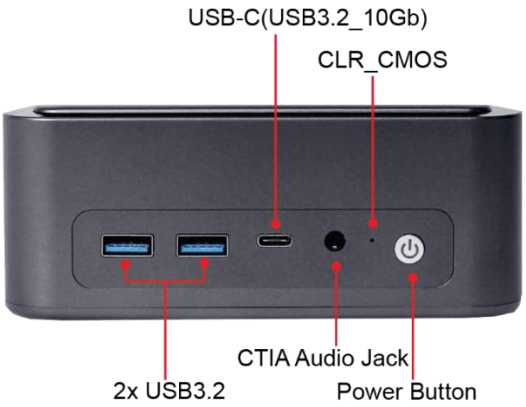
1.3 Connector Diagram

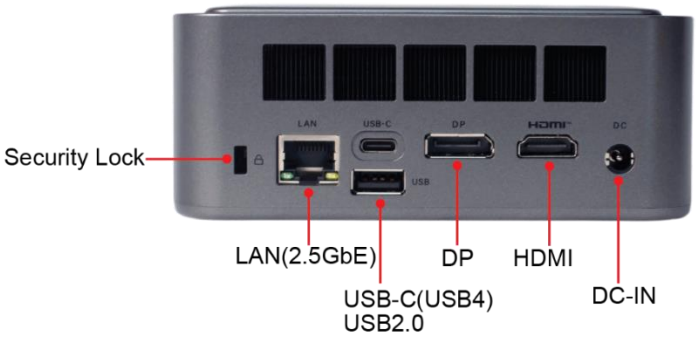
FP750V2.0 Motherboard



1.4 I/O Interface

T0-FP750 Ultra Compact Mini PC





1.5 Dimension

T0-FP750 Ultra Compact Mini PC



Chapter 2 Hardware

2.1 Installations

Please refer to the following steps for installations:

1. Read the user manual carefully to make sure all the adjustments on the T0-FP750 are correct.
2. Installing the Memory:
   - Press the ejector tab of the memory slot outwards with your fingertips.
   - Hold the memory module and align the key to the module with that on the memory slot.
   - Gently push the module into the slot until the ejector levers return completely to the closed position, holding the module in place when the module touches the bottom of the slot. To remove the module, press the ejector levers outwards to unseat the module.
3. Installing the expansion cards:
   - Locate the expansion slots and remove the screw, insert the cards into the slot at a 45-degree angle then attach the screw to the expansion cards, gently press down on it then install the screw back.
4. Connect all signal wires, cables, panel control wiring, and power supplies.
5. Start the computer and complete the setup of the BIOS program.

The board's components are integrated circuits and can easily be damaged by Electrostatic Discharge or ESD; therefore, please follow the instructions:

- Hold the board's edge when handing, and do not touch onboard pins, components, or plug sockets.
- When touching integrated circuit components (such as CPU, RAM, etc.), please wear an anti-static wrist strap/glove to avoid electrostatic discharge damage to th e board or other sensitive components.
- Before installing the integrated circuits/sensitive components, place the sensitive components in anti-static bags to keep them safe from ESD.
- Please make sure the power switch is OFF before plugging the power plug.

2.2 Jumper Setting

Please configure the jumpers according to your requirements before installing the hardware.

How to identify the first header of jumpers and pins: Observe the mark beside the jumper or pins and find the header marked by “1” or bold line or triangular symbol. Or observe the rear panel and the header with a square solder pad is the first header.

2.3 Memory Slots

The board provides 2x SO-DIMM DDR5-4800 slots for memory up to 64GB and supports dual channels.

Notes: Make sure to hold the memory module and align the key to the module with that on the memory slot. While choosing a memory module, please make sure the module matches the board’s specifications.

2.4 Display Interfaces

The board features 1xHDMI2.0 standard interface, 1xDP1.4a interface for dual displays.

2.5 Storage/Expansion Interfaces (Screen Printing: M.2_N1, M.2_N2, M.2_E)

The board provides 2 x M.2 Key M slots for 2280 NVMe SSD, 1x M.2 Key E Slot for Wi-Fi and Bluetooth Module.

2.6 LAN interface

The board features a 1xRJ45 LAN interface with a high-speed Intel i226-V network controller, providing a data rate of 2.5Gbps per port. It supports network wake-up via Magic Packet and UEFI PXE network boot.

LED Status Indicators:

LI_LED Status (Green)	Function	ACT_LED Status (Orange)	Function
Always on	Network Connected	Flashing	Data transmission

2.7 Audio Interface

The board features a CONEXANT HD CX20632 High-Definition Audio Codec, 1xCTIA Audio Jack, supports Line-out + Mic-in in one.

2.8 CPU Fan

The board features a CPU cooling fan socket and a system fan socket for better heat dissipation.

FAN Socket Definitions (Screen Printing: CPUFAN, SYSFAN)

Pin	Signal
1	GND
2	+5V
3	TAC
4	CTL

2.9 USB Interfaces

The board provides 2x USB3.2 Gen 2 interfaces, 1x USB2.0 interface, 1xUSB-C interface, 1x all functioned USB4. The USB4 supports high data transfer speeds up to 40Gbps, which is twice as fast as USB 3.2 Gen 2x2. It also supports DisplayPort 1.4 and can accommodate Type-C power inputs up to 100W.)

2.12 Power Button/Reset Button (Screen printing: PWON, RST)

The board is equipped with a power (on/off) button, a power light indicator (blue light), and a reset (RST) button. The RST button functions as a reset during power-on and as a CLR_CMOS during power-off.

2.13 CMOS Clearance/Retention (Screen printing: CLR_CMOS)

CMOS is powered by onboard button batteries. Clearing CMOS will permanently remove the previous system settings and restore the board system to original settings (factory settings).

Step 1: Turn off the computer and disconnect the power supply

Step 2: Press and hold the RST button for about 10 seconds

Step 3: Restart the device, press the <DEL> button to enter the BIOS, load the optimal default value.

Step 4: Save, and exit the settings.

⚠ Please do not clear the CMOS while the computer is powered on to avoid damaging the motherboard.

Chapter 3 BIOS Setup

3.1 Entering the BIOS

1. Turn on the computer and press <Delete> entering the BIOS
2. After the computer is turned on, keep pressing F11, select enter Setup
3. BIOS Hotkeys:

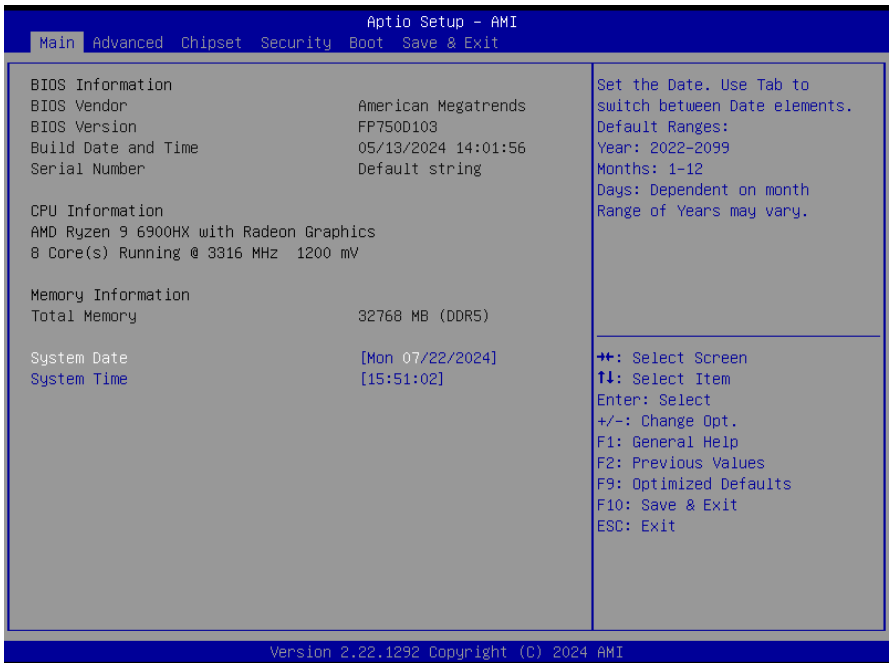
   F9: Restore to Factory setting.

   F10: Save and Exit.

   ESC: Exit

3.2 Main Setup (BIOS info, Date, Time)

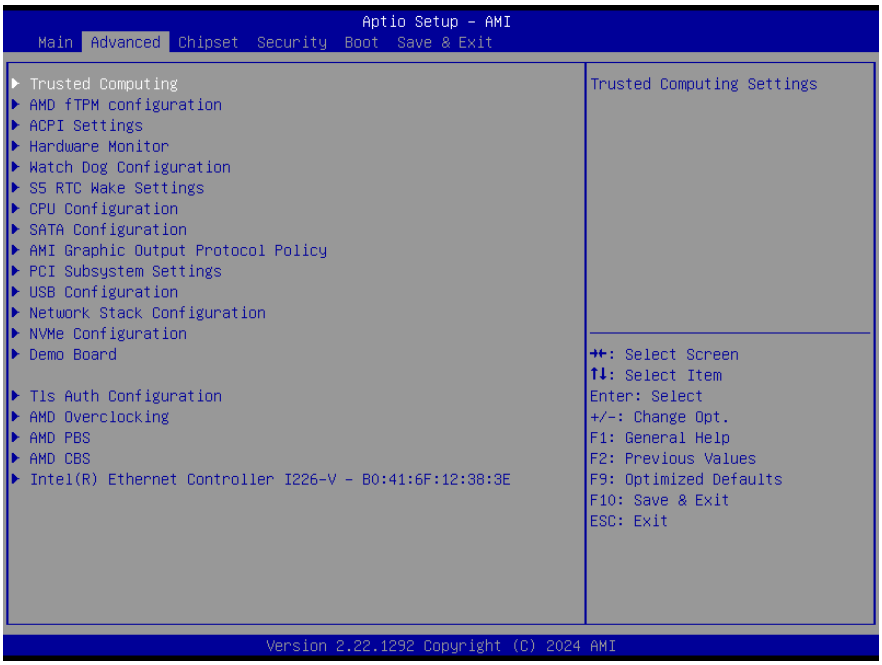
When you enter the BIOS Setup utility the first things you will encounter is the Main Setup screen. Shown below is the Main BIOS Setup screen. You can always return to the Main setup by selecting the Main tab.



System Date: Set the date. MM/DD/YY format.

System Time: Set the time. HH:MM: SS format.

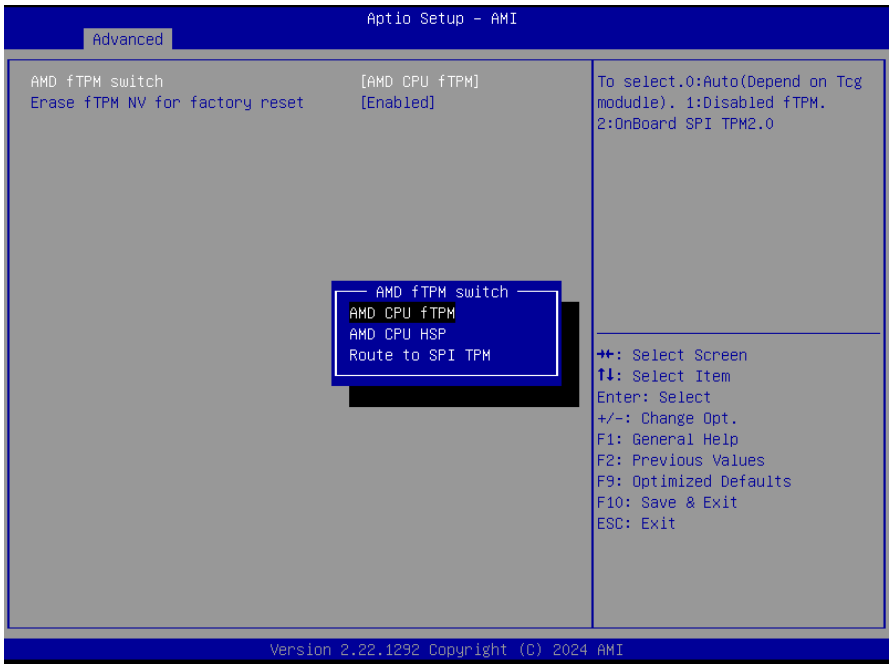
3.3 Advanced Settings



Select any of the items in the left frame of the screen. The advanced sections allow you to configure, improve and set up system features according to the preference of the CPU Configuration. All Advanced BIOS Setup options are described as follows:

1. Trusted Computing
2. AMD fTPM Configuration
3. ACPI Settings
4. Hardware Monitor
5. Watch Dog Configuration
6. S5 RTC Wake Settings
7. CPU Configuration
8. SATA Configuration
9. AMI Graphic Output Protocol Policy
10. Option ROM Dispatch Policy
11. USB Configuration
12. Network Stack Configuration
13. NVME Configuration
14. Demo Board
15. T1s Auth Configuration
16. AMD Overclocking
17. AMD PBS
18. AMD CBS
19. Intel(R) Ethernet Controller I226-V

3.3.1 AMD fTPM Configuration

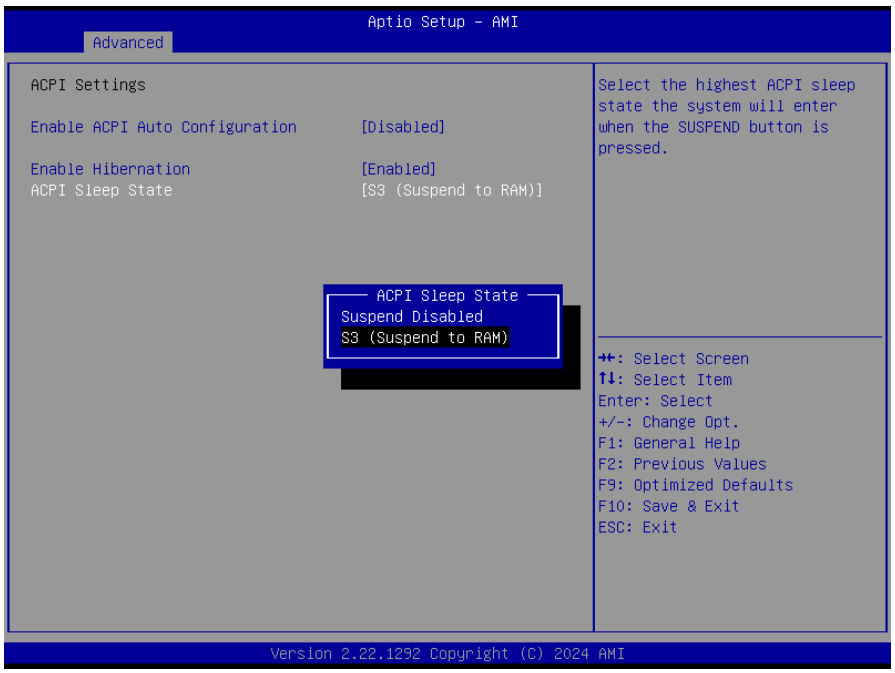


AMD fTPM Switch:

The TPM (Trusted Plat-form Module) is a secure key generator and key cache management component that enables protected storage of encryption keys and authentication credentials for enhanced security.

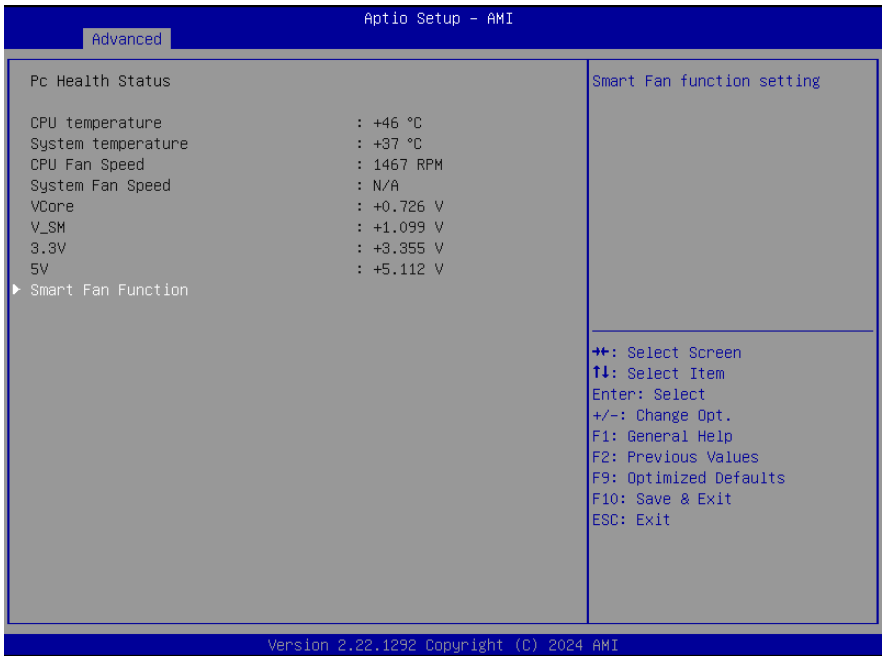
This option allows you to choose from internal CPU TPM or external TPM. Select AMD CPU fTPM for CPU internal TPM, and select Route to LPC TPM for external TPM2.0.

3.3.2 ACPI Settings



1. **Enable ACPI Auto Configuration**: Disabled by Default
2. **Enable Hibernation**
3. **ACPI Sleep State**

3.3.3 Hardware Monitor

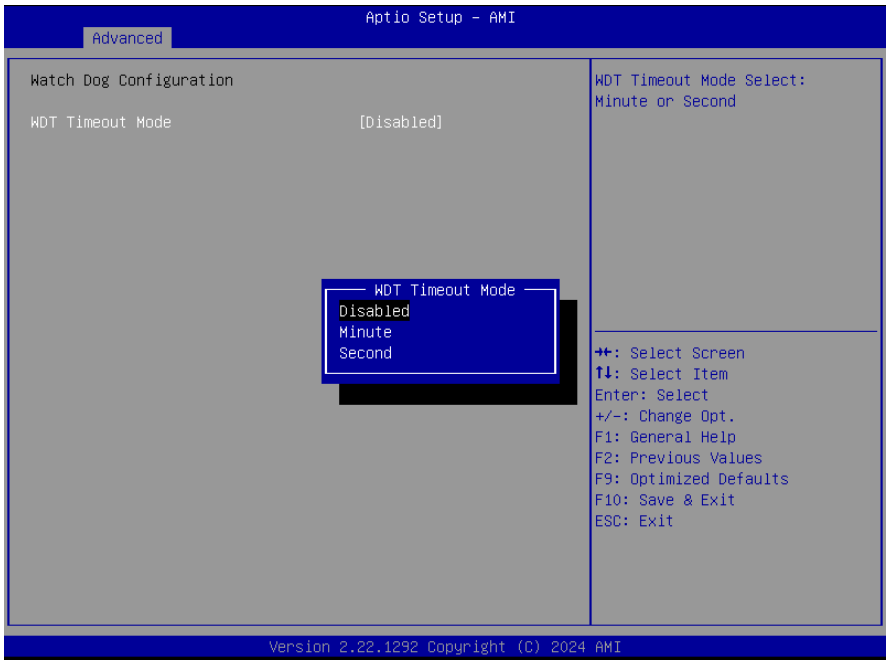


PC Health Status

The PC health status displays CPU temperature, system temperature, fan speed, and other relevant voltage values. The above parameters have a certain range, and the system cannot run beyond these ranges.

1. CPU Temperature
2. System Temperature
3. CPU Fan Speed
4. System Fan Speed
5. VCore: Core Voltage
6. V_SM
7. 3.3V
8. 5V
9. Smart Fan Function: The Smart Fan Function allows you to set three different modes for the CPU fan speed and system fan speed, according to your needs.
    1) Automatic Mode
    2) Full on Mode
    3) Manual Mode

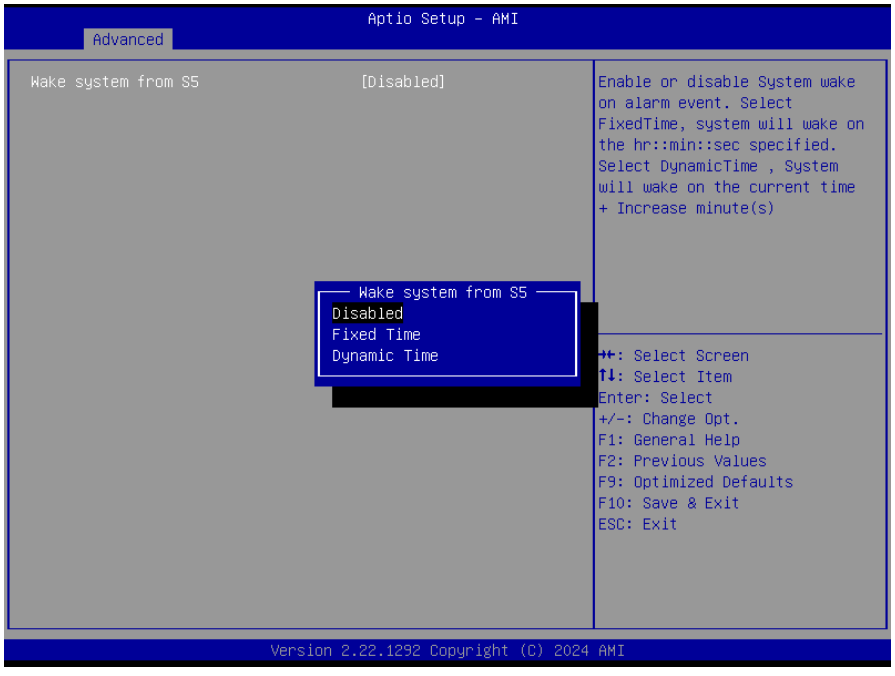
3.3.4 Watchdog Configuration



Watchdog Configuration

WDT Timeout Mode select: Minute or Second

3.3.5 S5 RTC Wake Settings

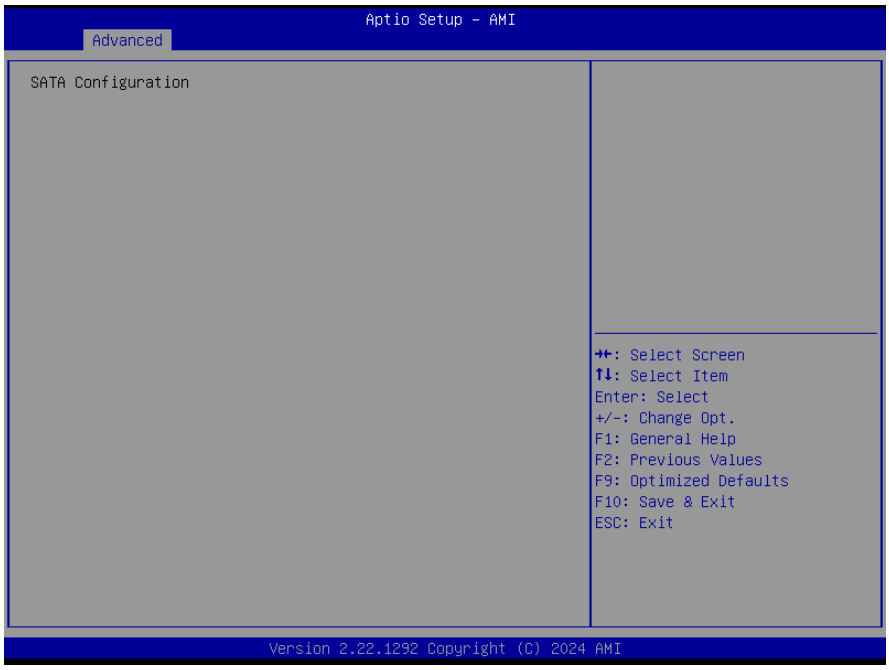


Wake system From S5: timing boot settings, disabled by default.

Fixed Time: Select Fixed Time and the system will wake on the Hr: Min: Sec specified.

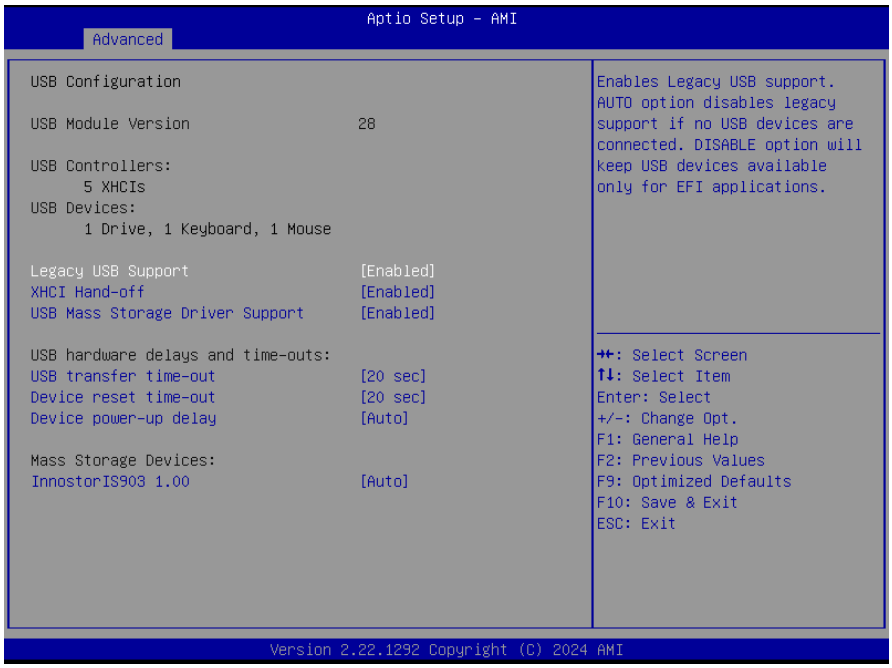
Dynamic Time: Select Dynamic Time and the system will wake on a dynamic time.

3.3.6 SATA Configuration



The capacity and model of the hard disk will be displayed under the option after the SATA protocol hard disk has been installed.

3.3.7 USB Configuration



1. **Legacy USB Support**

   Enable Legacy USB support. Disables legacy support if no USB devices are connected. Select enable will keep USB devices available under UEFI's support.

2. **XHCI Hand-off**

   Whether to enable the USB XCHI transfer protocol. A workaround for OS without XHCI hand-off support. The XHCI ownership change should be claimed by the USB XCHI driver.

3. **USB Mass Storage Driver Support**

   Enable(default) or disable USB Mass Storage Driver Support.

4. **USB transfer time-out**

   Time-out value for control, bulk, and interrupt transfers, default time:20 second.

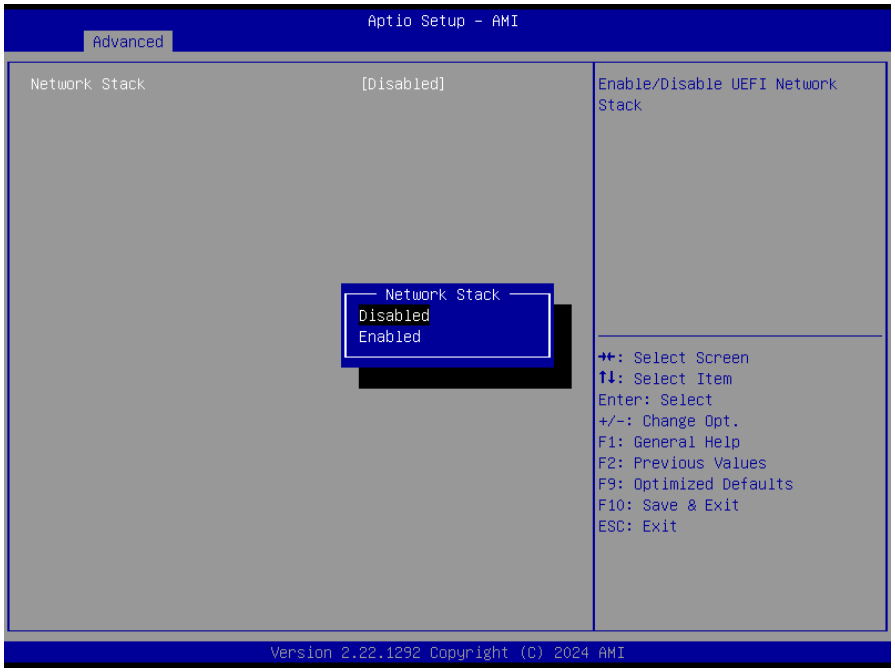
5. **Device reset time-out**

   USB mass storage device start unit command time-out, default time:20 second.

6. **Device Power-up Delay**

   Maximum time the device will take before it properly reports itself to the host controller.

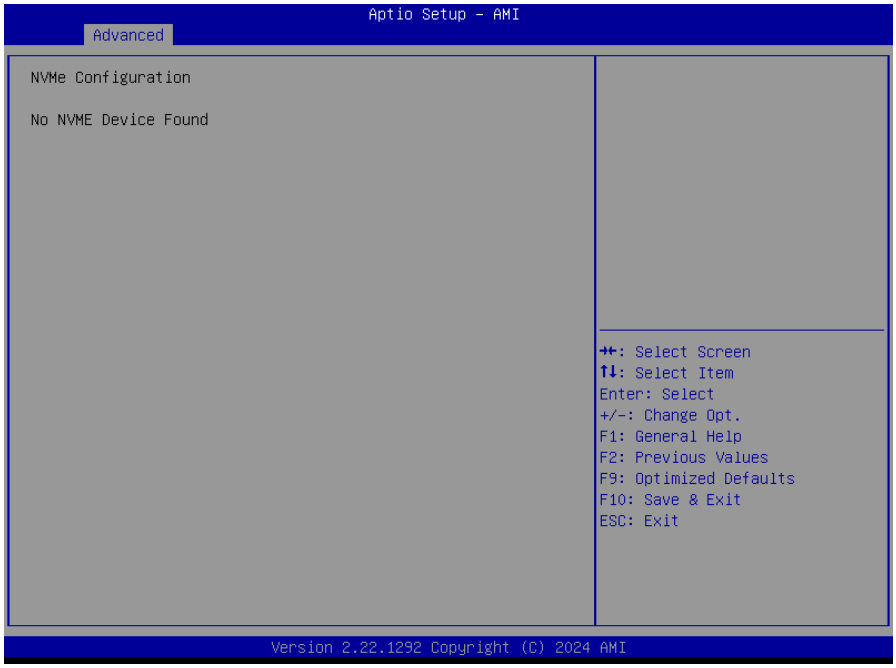
3.3.8 Network Stack Configuration



Network Stack

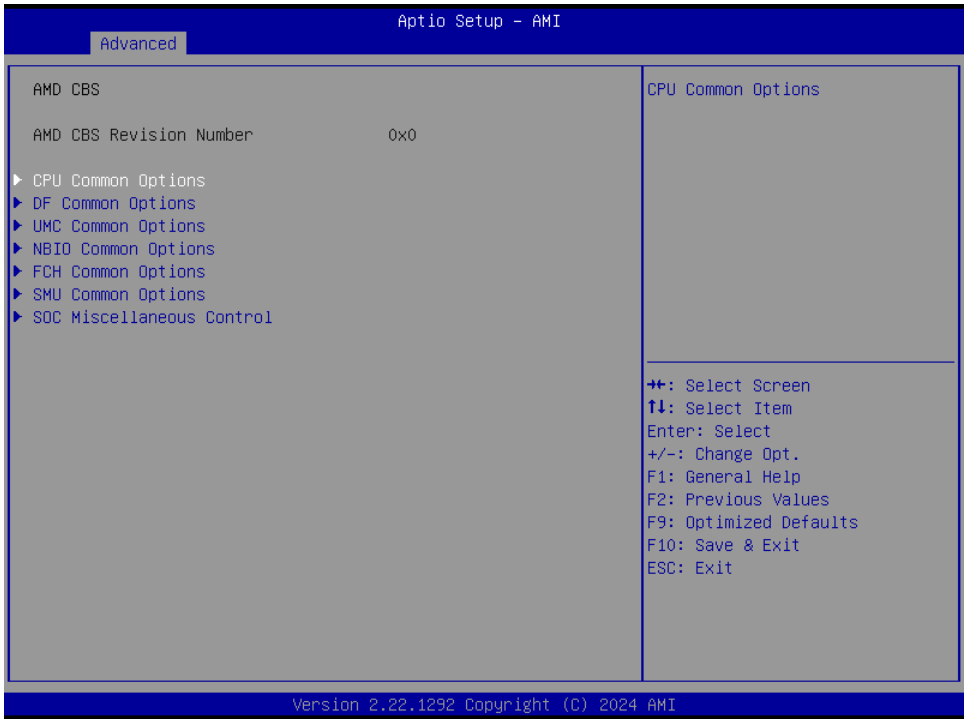
PXE Network boot setting, disabled by default.

3.3.9 NVME Configuration



The capacity and model of the SSD will be displayed under the option after the NVMe protocol SSD has been installed.

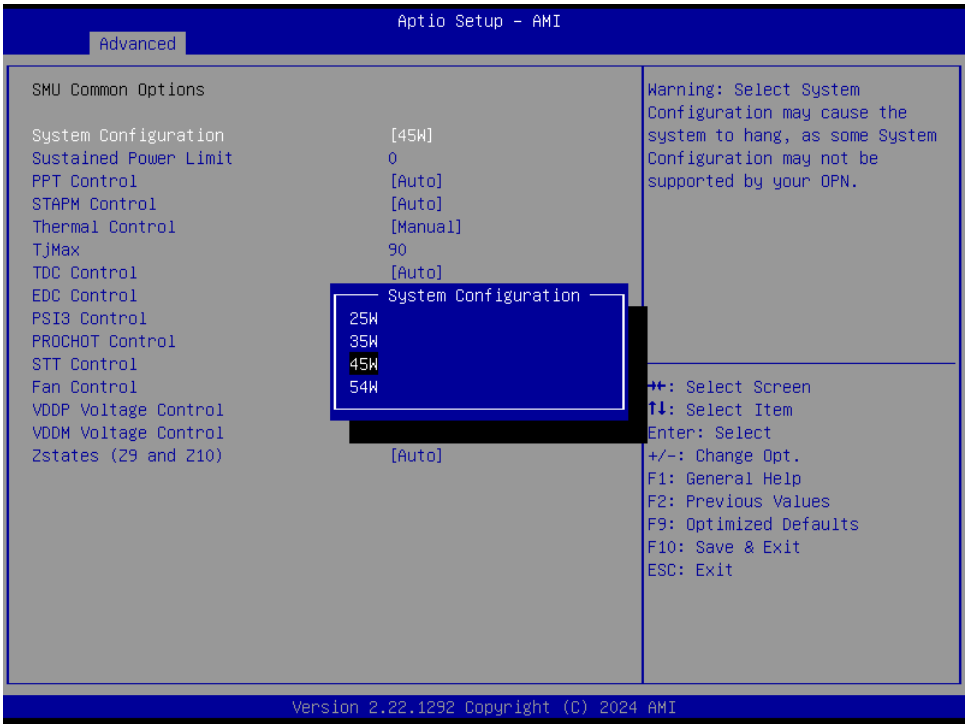
3.3.10 AMD CBS



AMD CBS: Custom BIOS Settings

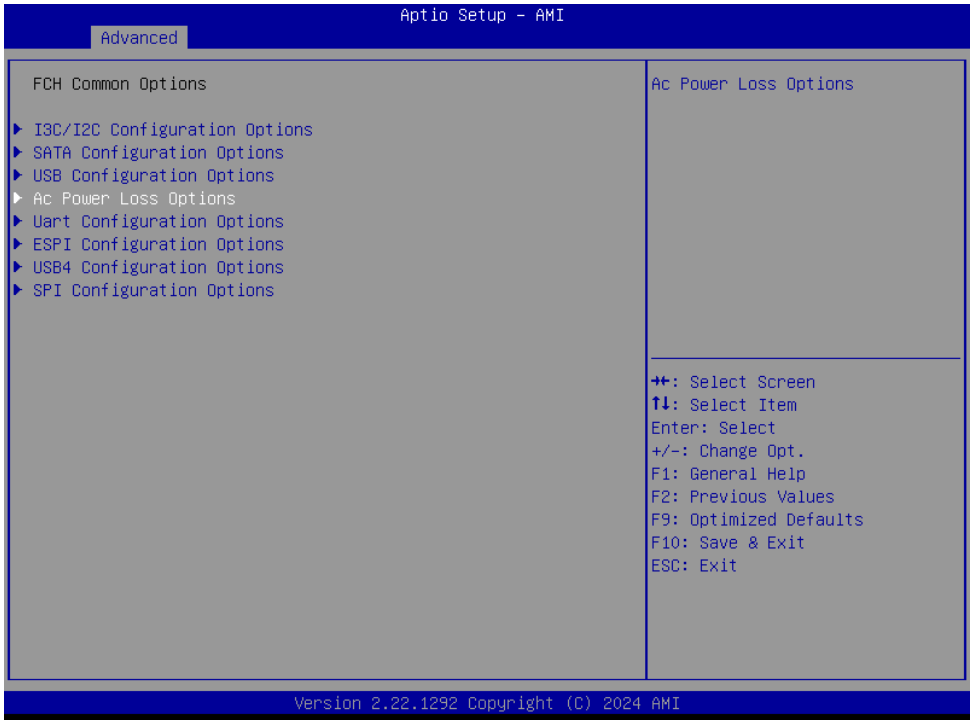
1. CPU Common Options
2. DF Common Options
3. UMC Common Options
4. NBIO Common Options
5. FCH Common Options
6. SMU Common Options
7. SOC Miscellaneous Control

3.3.10.1 SMU Common Options



1. System configuration
2. Sustained Power Limit
3. PPT Control
4. STAPM Control
5. Thermal Control
6. Tjmax
7. TDC Control
8. EDC Control
9. PSI3 Control
10. PROCHOT Control
11. STT Control
12. Fan Control
13. VDDP Voltage Control
14. VDDM Voltage Control
15. Zstates (Z9 and Z10)

3.3.10.2 FCH Common Options



SATA Configuration Option

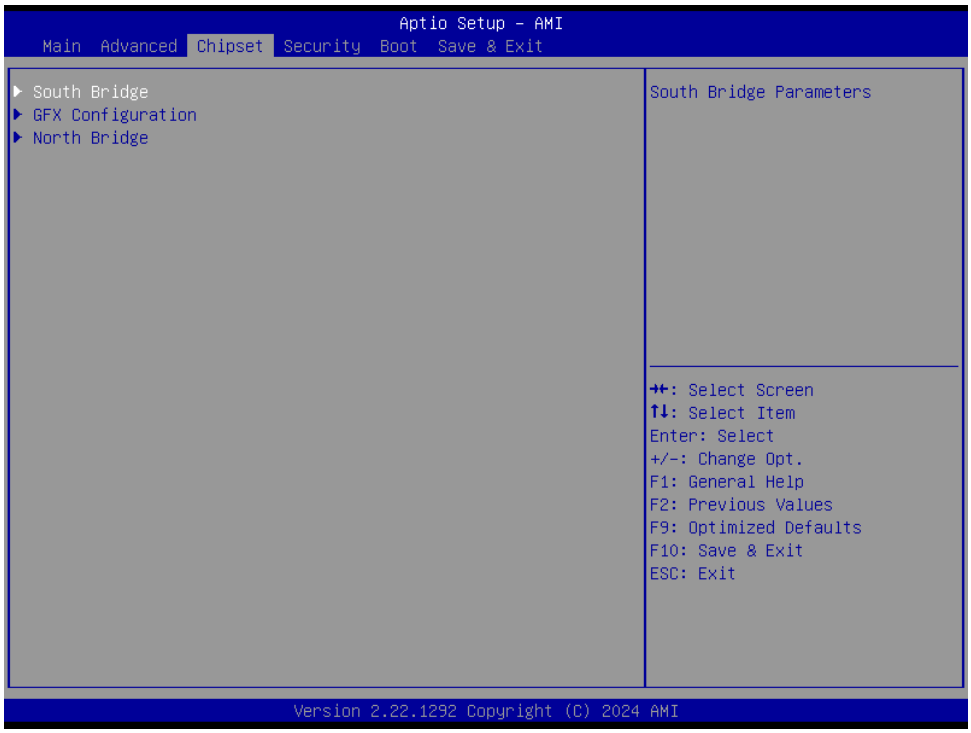
Option to check whether the SATA hard drive is recognized

AC Power Loss Options

"AC Power Loss Options" is a setting that determines the behavior of a computer when power is lost and then restored. There are two options available in this setting:

1. "Always off" (the default setting) means that the computer will remain off when power is restored, and you will need to manually press the power button to turn it on again.
2. "Always on" means that the computer will automatically turn on when power is restored. However, it is recommended that you wait for at least 15 seconds after a power loss before turning the computer back on.

3.4 Chipset



South Bridge

Allows users to configure the South Bridge settings.

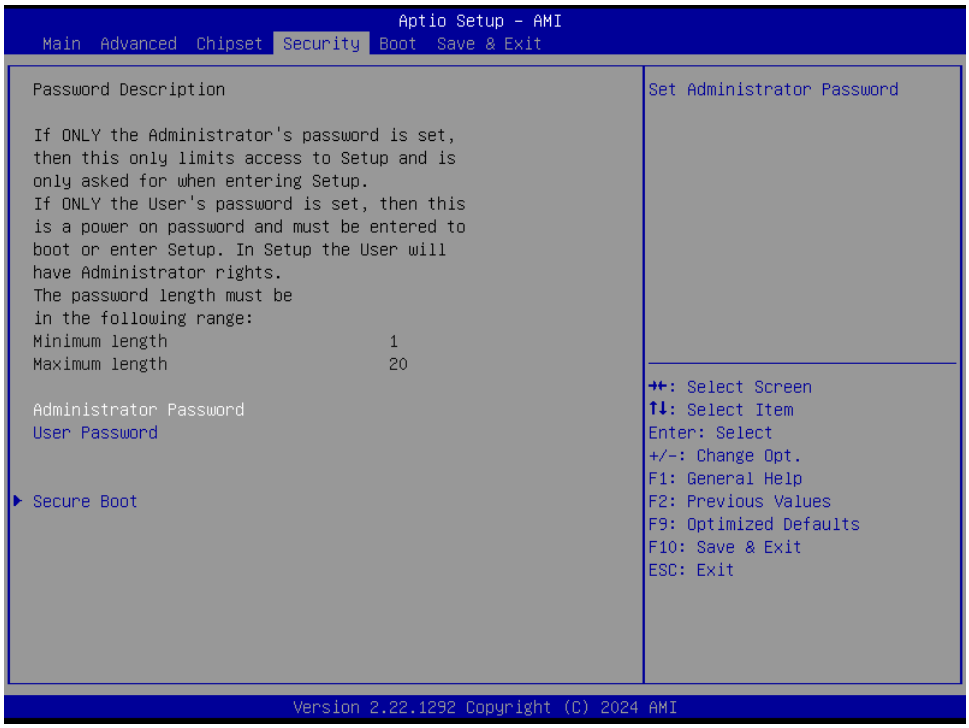
CFX configuration

Allows users to view details of the display items.

North Bridge

Allows users to configure the North Bridge settings.

3.5 Security

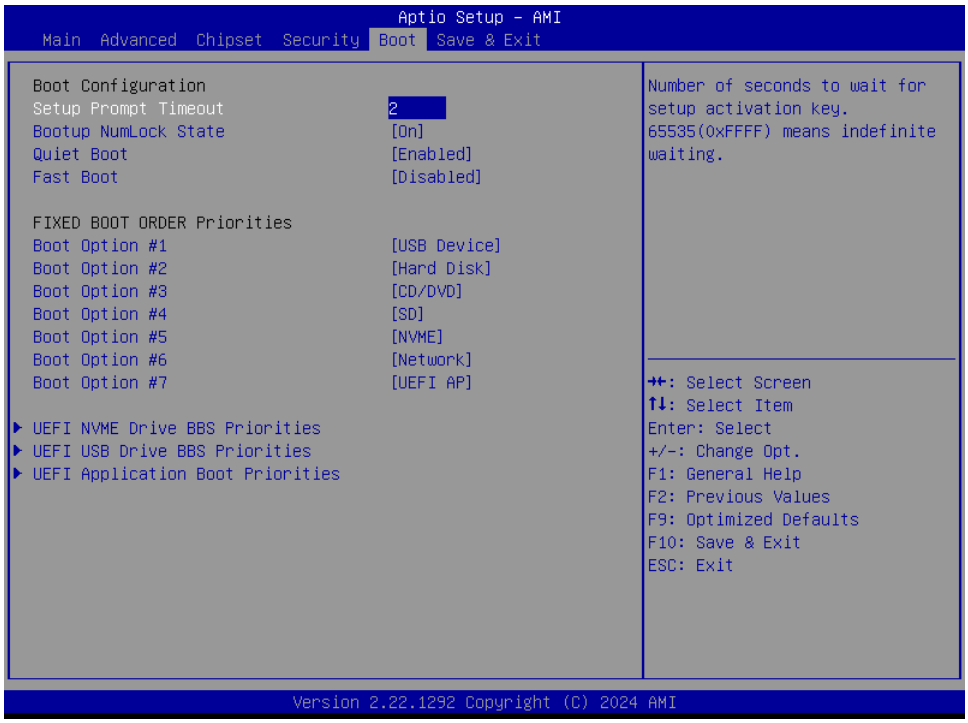


Administrator Password: Set the Administrator Password.

User Password: Set User Password.

Secure Boot: Secure boot

3.6 BOOT



Setup Prompt Timeout:

Number of seconds that the firmware will wait before initiating the original default boot selection. A value of 0 indicates that the default boot selection is to be initiated immediately on boot. A value of 65535(0xFFFF) indicates that firmware will wait for user input before booting. This means the default boot selection is not automatically started by the firmware.

Bootup NumLock State:

Select the keyboard NumLock state. The Bootup NumLock State allows activation of the Keypad number lock function after the system is powered on to the DOS system. When the default is set to ON, the NumLock is on when the system starts. When it is set to OFF, the keypad is in the cursor control state when starting.

Quiet Boot:

Full Logo Display: Enabled/Disabled Displays customized boot logo.

Fast Boot:

Disabled by Default

Boot Option #1~#6:

Set the system boot order from Number 1 to Number 6.

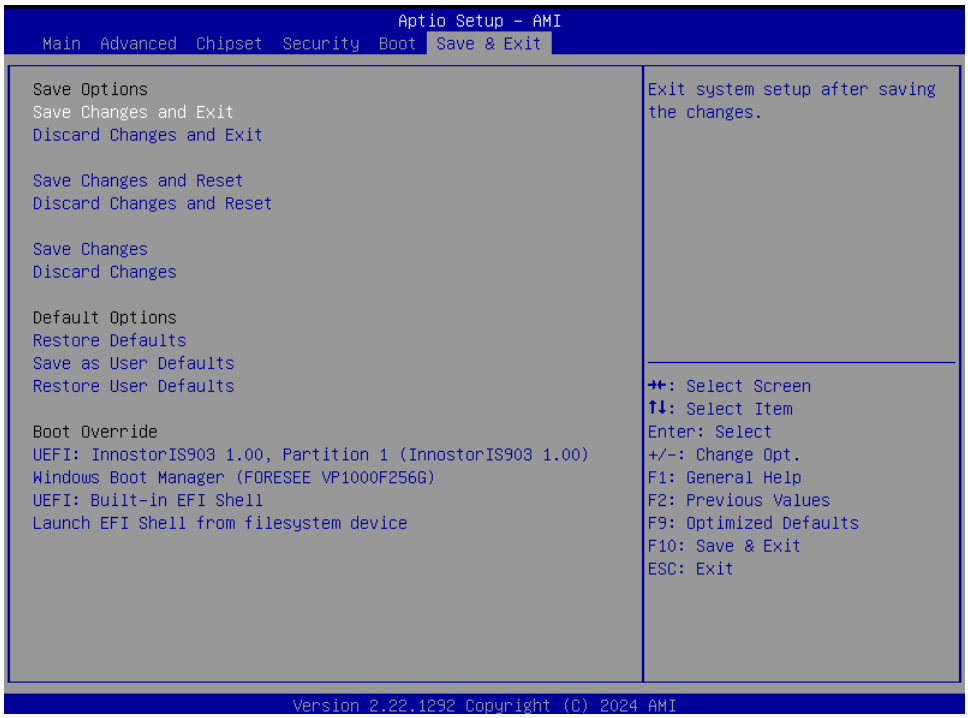
UEFI Hard Disk Drive BBS Priorities:

UEFI Hard Disk Drive BBS Priorities.

UEFI Application Boot Priorities:

UEFI application boot priority.

3.7 Save & Exit



Save Changes and Exit:

Exit the system setup after saving the changes and continue to start the computer.

Discard Changes and Exit:

Exit the system setup without saving any changes and continue to start the computer.

Save Changes and Reset:

Reset the system after saving the changes.

Discard changes and Reset:

Reset the system without saving any changes.

Save Changes:

Save changes done so far to any of the options.

Discard Changes:

Discard changes done so far to any of the options.

Restore Defaults:

Restore/load default values for all the options.

Save as User Defaults:

Save the changes done so far as the user defaults.

Restore User Defaults:

Restore the user defaults to all the options.

Boot Override:

Boot device selection can override your boot priority. Select the specified boot device such as SATA, USB Flash Disk, EFI Shell, PXE, etc., and boot directly. Or press F11 boot by selecting the specified boot device.