

User Manual



Aicotek Media Player MPC-321

User Manual



Empowering the world with AI solutions



Media Player MPC-321 User Manual

History

Revision History	Changes	Date
Ver1.0	First Edition	2026/04/24

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Safety Precautions

- (1) Please read and follow the safety precautions before you are going to use it.
- (2) Pay attention to the labels on the product.
- (3) Make sure to use in an environment that meets the design specifications, otherwise, malfunction or partial damage caused by non-compliance with relevant regulations is not covered under the product quality guarantee.
- (4) Please unplug the power cord and do not use liquids to clean the PC.
- (5) Please keep the PC in a safe space to prevent it from falling and damaging its components.
- (6) Please keep the power cord in a safe location to avoid causing personal injury.
- (7) Please do not bundle control wires, communication cables and power wires together, it would be better to keep a distance of at least 100mm between them to avoid mutual interference.
- (8) It is recommended to use wires with isolation, especially in environments with severe electromagnetic interference.
- (9) Please disconnect it from the power socket if the PC is not used for a long time.
- (10) Please make sure that no liquids enter the device to avoid the risk of fire or short circuit.
- (11) Please disconnect the power cord before opening the computer case.
- (12) Please clean the dust regularly.
- (13) Please ask for technical support and return the PC to RMA:
 - The power cord or plug is damaged;
 - Liquid has entered the interior of the PC;
 - PC doesn't work;
 - PC is damaged;
 - Physical damage on the PC.

Chapter 1 System Overview

1.1 System Introduction

This Media Player computer is equipped with an Intel low-power N100 or N150 processor and supports 2 HDMI and DP display outputs. It is an economical, efficient and multi-functional fanless PC. It is a solution for digital signage and information release systems.

1.2 Product Specifications

Model Name		MPC-321
System	CPU	Intel N100, N150 Processor
	Memory	Single SO-DIMM DDR4 Max.16GB
	Storage	1 x M.2 M Key 2280 NVMe /SATA SSD, 1 x EMMC 64GB (optional)
	Display	2 x HDMI 4K@60Hz, 1 x DP 4K@60Hz
	USB	2 x USB3.2 Gen2 Type-A, 1 x USB3.2 Gen2 Type-C, 2 x USB2.0 Type-A
	LAN	1 x RJ45, 10/100/1000Mbps
	WiFi	1 x M.2 E Key 2230
	Audio	1 x Line-out, 1 x Mic-in
	TPM	TPM2.0
	WatchDog	Support
	Auto Power on	Support
OS	OS Support	Windows11/Linux
Power	Input Voltage	DC-in 12~19V, 5.5*2.5mm
Mechanical	Dimensions	149x128x29.5mm (5.9x5.0x1.2 in)
	Net Weight	0.7kg (1.5lb)
Environment	Operating Temperature	-5~45℃ (23~113°F)
	Storage Temperature	-20~70℃ (-4~158°F)
	Relative Humidity	10%~90% non-condensing
	Vibration	Operating random vibration test 5~500Hz, 1Grms @with SSD, follows IEC 60068-2-64
	Shock	Operating 10G peak acceleration (11ms duration), follows IEC 60068-2-27
	EMC	CE FCC

1.3 External I/O

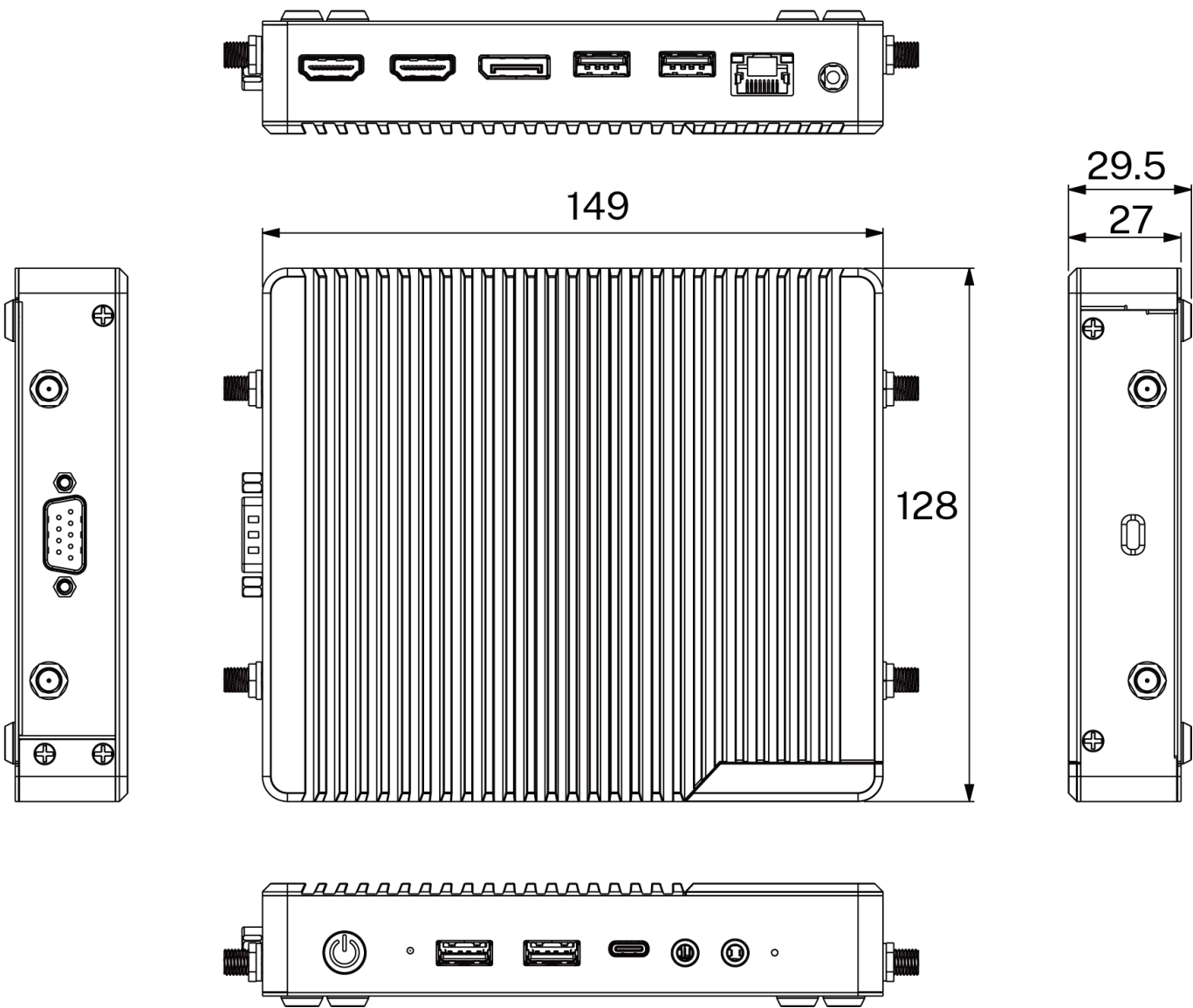


0

1	Power Button	8	DC-in 12~19V
2	HDD LED	9	1 x RJ45, 1000Mbps
3	2 x USB3.2 Gen2 Type-A	10	2 x USB2.0
4	1 x USB3.2 Gen2 Type-C	11	1 x DP, 4K@60Hz
5	Line-out	12	2 x HDMI, 4K@60Hz
6	Mic-in	13	1 x COM (RS232, RS422, RS485)
7	Reset	14	Kensignton Lock

1.4 Dimensions

Unit: mm



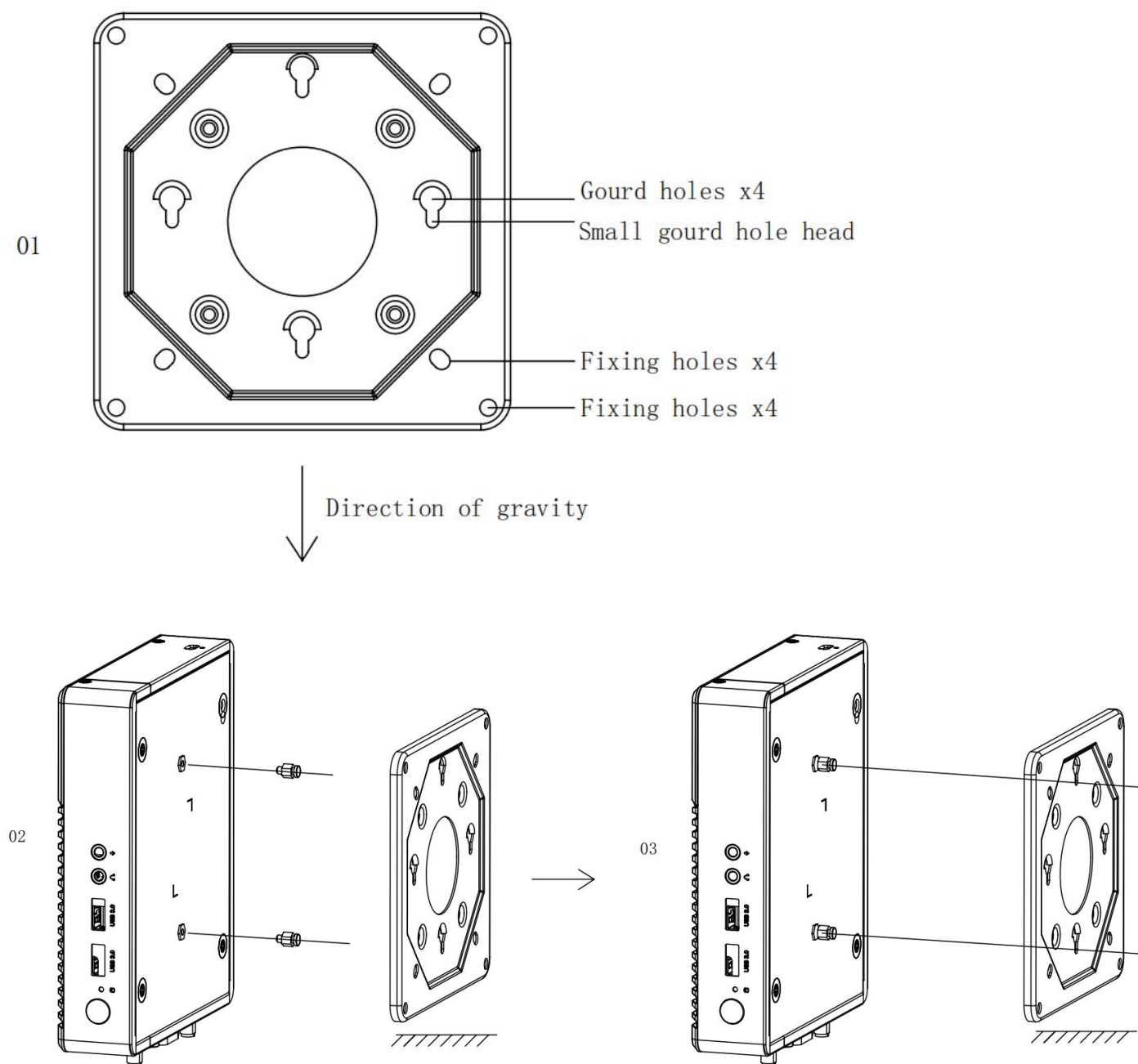
1.5 Wall-mounted

Installation of wall hanging strip.

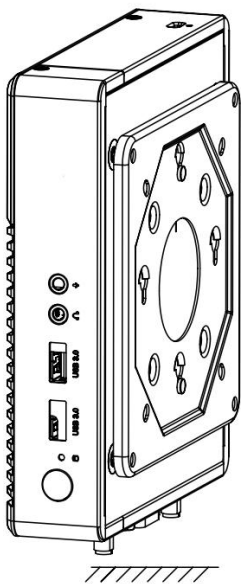
The following are the installation steps:

1. Fix the VASA wall bracket with the gourd hole small head downward;
2. Lock the I-nails of the accessory package to the machine;
3. Hang the I-nails against the gourd hole and onto the VASA wall mount;
4. Complete the assembly.

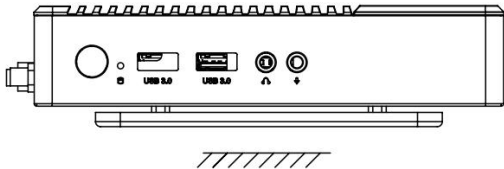
Schematic diagram



04



Schematic diagram
after assembly 1



Schematic diagram
after assembly 2

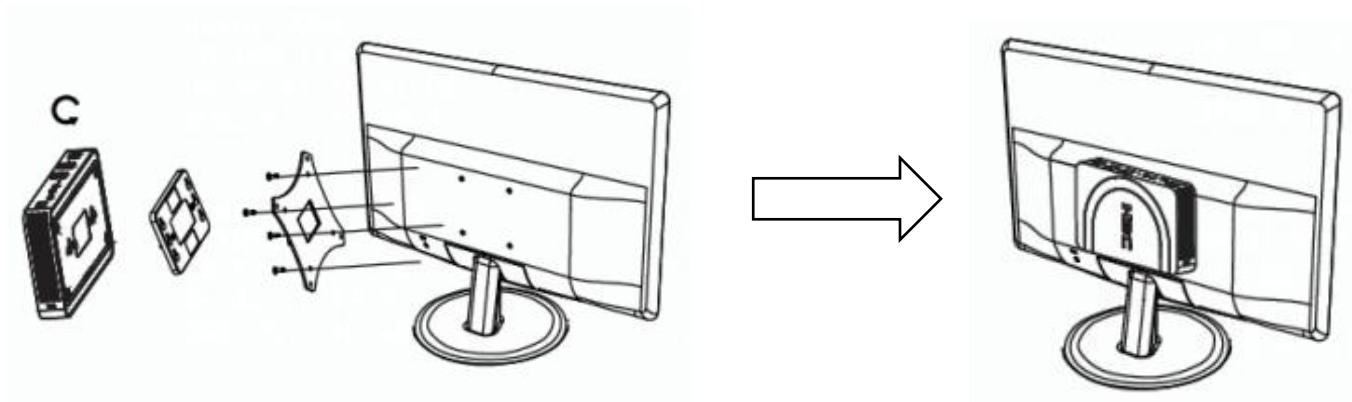
1.6 Back-mounted bracket installation

1. Place the PC on the desk. Alternatively, use M3x9.2 screws to install the MINI PC onto a wall mounted display.
2. Connect the required external cables and peripherals to corresponding ports.
3. Connect the power adapter to a power socket by using a power cord. The rated input voltage range for the power socket is 100 VAC to 240 VAC @ 50-60 Hz.
4. Connect the power adapter to the client power port.

To disconnect the power supply, perform the following tasks:

- a. Shut down the client.
- b. Disconnect the power adapter from the power port.
- c. Unplug the power cord.

Schematic diagram



Chapter 2 Connectors and I/O Definitions

2.1 DC IN

Use power adapter with round hole plug.

DC IN	Input voltage	Plug size
	12~19V	5.5*2.5mm

2.2 Power Button & LED

Power Button	Operation	Function
	Press One Times	Turn on or off
	Long press for 4 seconds	Forced shutdown

Power LED	Status	LED
	S0	Blue
	S3 (Sleep)	Off
	S4 (Hibernate)	Off
	S5 (Shutdown)	Off

HDD LED	Status	LED
	S0	Red flickering
	S3 (Sleep)	Off
	S4 (Hibernate)	Off
	S5 (Shutdown)	Off

2.3 Reset

The reset button is beside the Mic-in. The Reset function is Clear CMOS.

Note:
 If the Reset button is pressed when the machine is powered on, please disconnect the power supply for 3 seconds and then power it on again.
 After pressing the Reset button, the first startup is relatively slow, and it takes 30 to 60 seconds before it can be turned on.

Button	Function
Reset	Clear CMOS. Restore the BIOS to its default Settings.

2.4 Audio

Interface	Function
Line-out	Output audio signal.
Mic-in	Microphone interface, input audio signal.

2.5 LAN

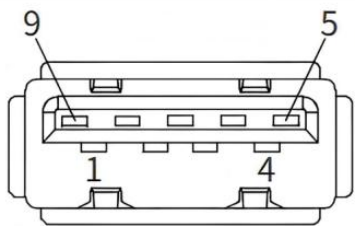
Speed	10/100/1000Mbps
1000Mbps	Link LED: Green Active LED: Yellow Blinking
100Mbps	Link LED: Green Active LED: Yellow Blinking
10Mbps	Link LED: Off Active LED: Yellow Blinking

LAN	Pin no.	Signal	Pin no.	Signal
	1	TX_D1+	5	BI_D3-
	2	TX_D1-	6	RX_D2-
	3	RX_D2+	7	BI_D4+
	4	BI_D3+	8	BI_D4-

2.6 USB

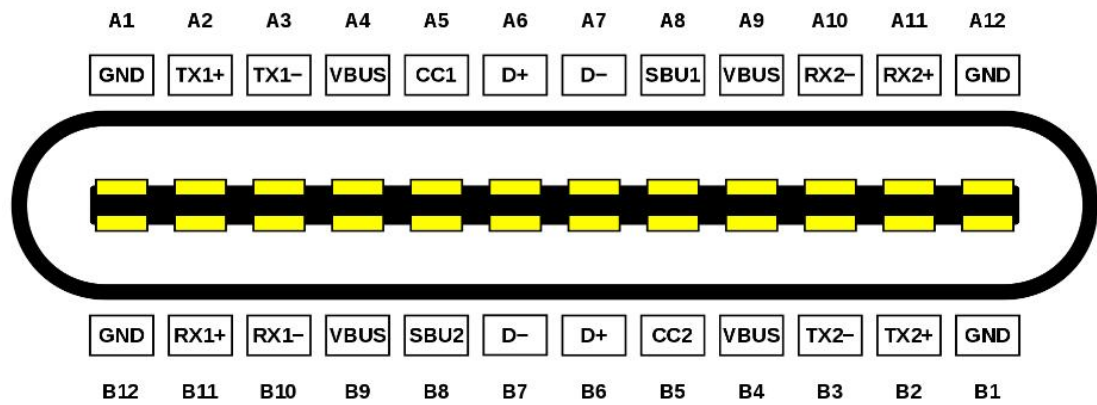
Type	Number	Read Speed	Write Speed
USB3.2 Gen2 Type-A	Front, 2	1050MB/s	980MB/s
USB3.2 Gen2 Type-C	Front, 1	1050MB/s	980MB/s
USB2.0 Type-A	Rear, 2	40MB/s	40MB/s

USB3.2 Gen2 Type-A



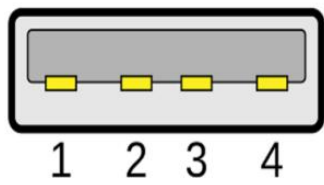
USB3.0 Type-A	Pin no.	Signal	Pin no.	Signal
	1	VBUS	6	SSRX+
	2	DATA-	7	GND-DRAIN
	3	DATA+	8	SSTX-
	4	GND	9	SSTX+
	5	SSRX-		

USB3.2 Gen2 Type-C



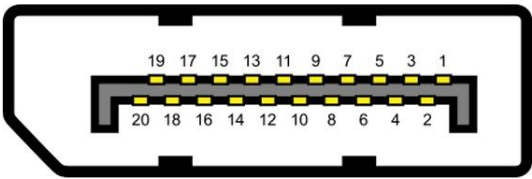
USB3.0 Type-C	Pin no.	Signal	Pin no.	Signal
	A1	GND	B12	GND
	A2	TX1+	B11	RX1+
	A3	TX1-	B10	RX1-
	A4	VBUS	B9	VBUS
	A5	CC1	B8	SBU2
	A6	D+	B7	D-
	A7	D-	B6	D+
	A8	SBU1	B5	CC2
	A9	VBUS	B4	VBUS
	A10	RX2-	B3	TX2-
	A11	RX2+	B2	TX2+
	A12	GND	B1	GND

USB2.0 Type-A



USB2.0 Type-A	Pin no.	Signal	Pin no.	Signal
	1	VBUS	3	DATA+
	2	DATA-	4	GND

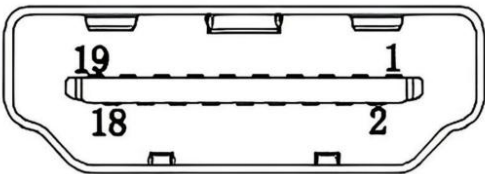
2.7 DP



DP support 4K@60Hz

DP 1.2 Type-A	Pin no.	Signal	Pin no.	Signal
	1	ML_Lane0+	11	GND
	2	GND	12	ML_Lane3-
	3	ML_Lane0-	13	CONFIG1
	4	ML_Lane1+	14	CONFIG2
	5	GND	15	AUX_CH+
	6	ML_Lane1-	16	GND
	7	ML_Lane2+	17	AUX_CH-
	8	GND	18	HOT_PLUG
	9	ML_Lane2-	19	DP_PWR_RETURN
	10	ML_Lane3+	20	DP_PWR

2.8 HDMI



HDMI support 4K@60Hz

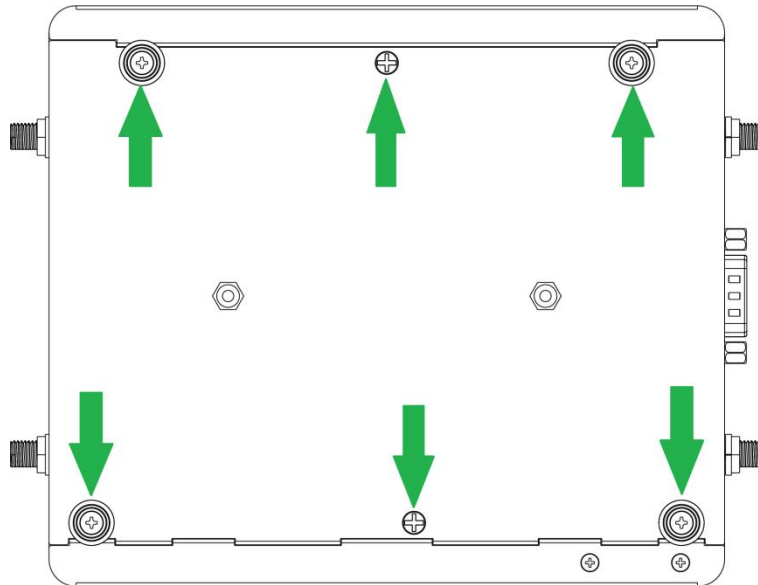
HDMI 2.0 Type-A	Pin no.	Signal	Pin no.	Signal
	1	TMDS DATA2+	11	TMDS Clock Shield
	2	TMDS DATA2 Shield	12	TMDS Clock-
	3	TMDS DATA2-	13	CEC
	4	TMDS DATA1+	14	Utility/HEAC+
	5	TMDS DATA1 Shield	15	SCL
	6	TMDS DATA1-	16	SDA
	7	TMDS DATA0+	17	DDC/CEC/HEC Ground
	8	TMDS DATA0 Shield	18	+5V Power
	9	TMDS DATA0-	19	Hot Plug Detect
	10	TMDS Clock+		

Chapter 3 Installation accessories

3.1 Install Memory

Please follow the steps below:

(1) Use a screwdriver to remove the six screws marked with the green arrow.



(2) Press the positions marked by the two arrows to remove the memory stick. When installing the memory stick, tilt it at a 45° Angle and then insert it into the memory slot.



3.2 Install SSD

Use a screwdriver to remove the screws marked with arrows, and then install the SSD.



3.3 Install WiFi Card

Use a screwdriver to remove the screw marked with the arrow, and then install the WiFi Card.



3.4 Install 4G/5G Module

Install the SIM card at the position marked by the arrow of number 1.

Remove the screws at the position marked by the arrow on the number 2 and install the 4G/5G module.

note: The studs marked with the number 2 can be adjusted according to the length of the 4G/5G module.

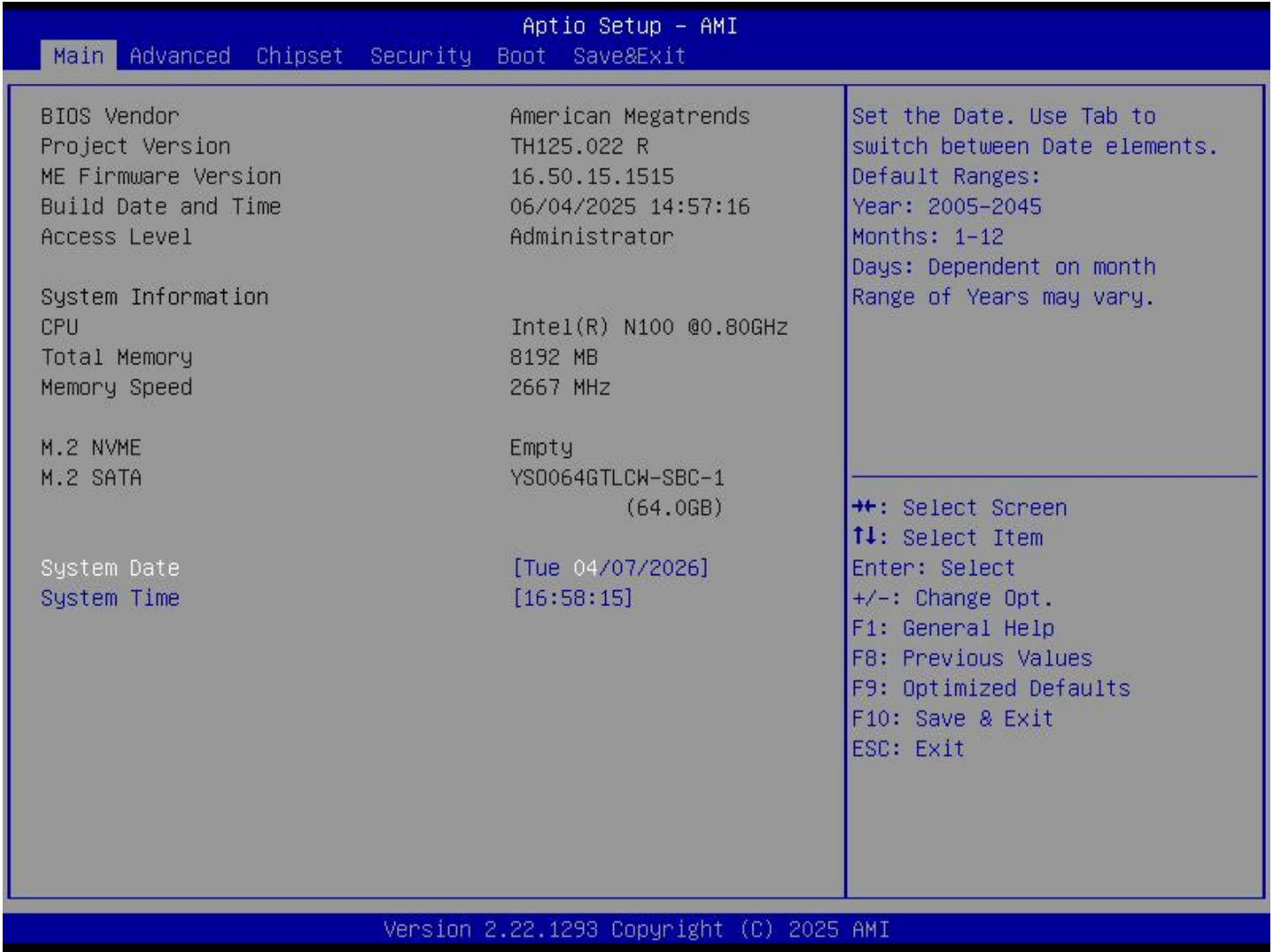


Chapter 4 BIOS Setup

Press the Del key during boot to enter the BIOS setup.

Key	Function
Del	Enter BIOS Setup
ESC	Quit without saving
F1	General Help
F8	Load Previous Values
F9	Optimized Defaults
F10	Save & Exit
F11	Boot Menu
Ctrl + F1	Open the hidden Settings

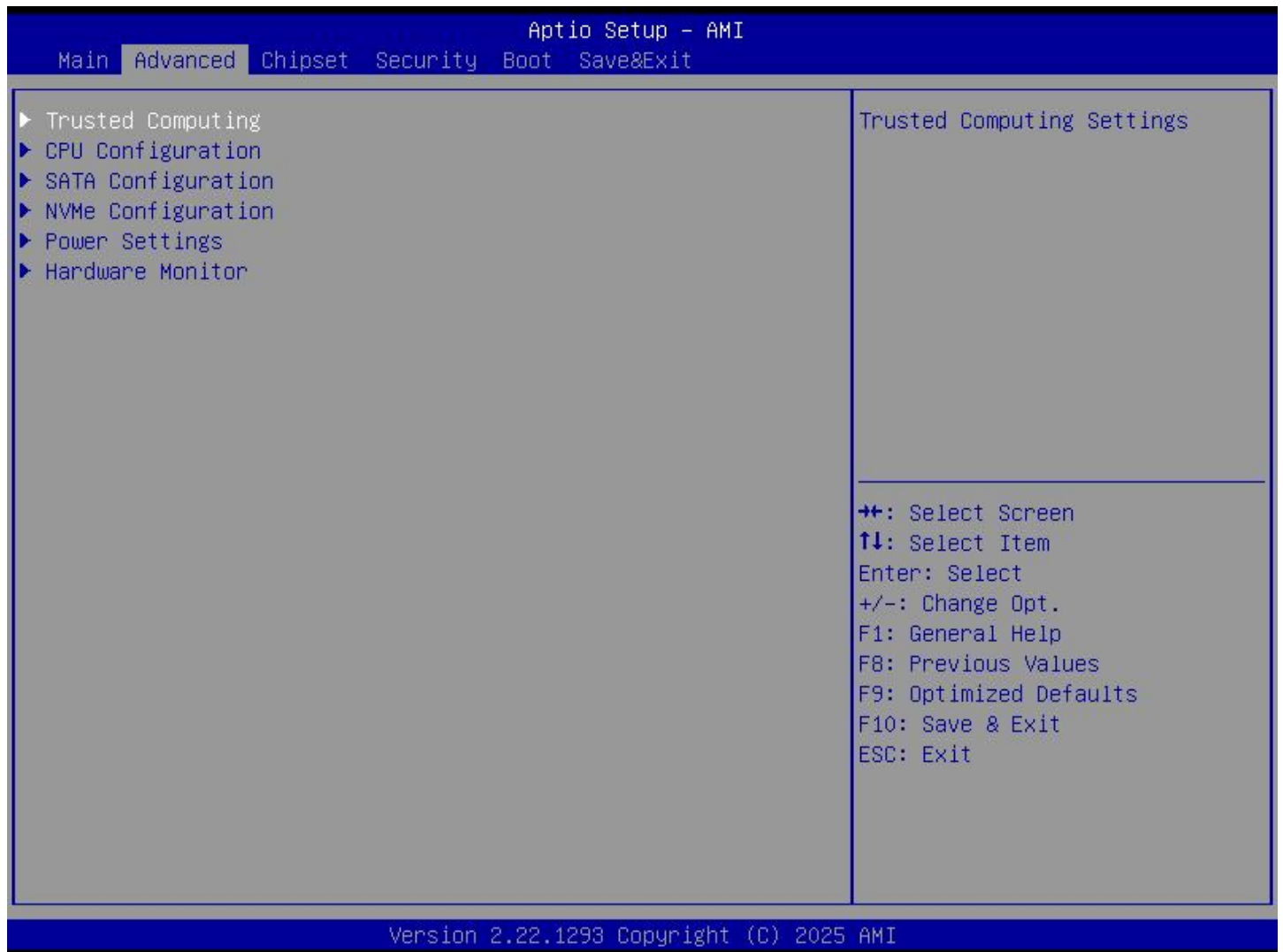
4.1 Main



The System Language is only English.

Users can set the Time in System Date and System Time, and it will take effect after a restart.

4.2 Advanced



Most of the BIOS controls are on the Advanced page.
It includes control items such as CPU, TPM, Power Management, etc.

4.2.1 Trusted Configuration

Aptio Setup - AMI		
Advanced		
TPM 2.0 Device Found		Enables or Disables BIOS support for security device. O.S. will not show Security Device. TCG EFI protocol and INT1A interface will not be available.
Firmware Version:	15.23	
Vendor:	IFX	
Security Device Support	[Enable]	
Active PCR banks	SHA256	←→: Select Screen ↑↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F8: Previous Values F9: Optimized Defaults F10: Save & Exit ESC: Exit
Available PCR banks	SHA256,SHA384	
SHA256 PCR Bank	[Enabled]	
SHA384 PCR Bank	[Disabled]	
Pending operation	[None]	
Platform Hierarchy	[Enabled]	
Storage Hierarchy	[Enabled]	
Endorsement Hierarchy	[Enabled]	
Physical Presence Spec Version	[1.3]	
TPM 2.0 InterfaceType	[TIS]	
Device Select	[Auto]	
Version 2.22.1293 Copyright (C) 2025 AMI		

The TPM Support control is set to Enabled by default. It is recommended that users maintain this default state.

4.2.2 CPU Configuration

Aptio Setup - AMI

Advanced

CPU Configuration

CPU

CPU ID

Microcode Revision

Package TDP Limit

Power Limit 1

Power Limit 2

Turbo Mode

Intel(R) N100 @0.80GHz

0xB06E0

1A

6.0

6.0

15.0

[Enabled]

Enable/Disable processor Turbo Mode (requires EMTTM enabled too). AUTO means enabled.

↔: Select Screen

↑↓: Select Item

Enter: Select

+/-: Change Opt.

F1: General Help

F8: Previous Values

F9: Optimized Defaults

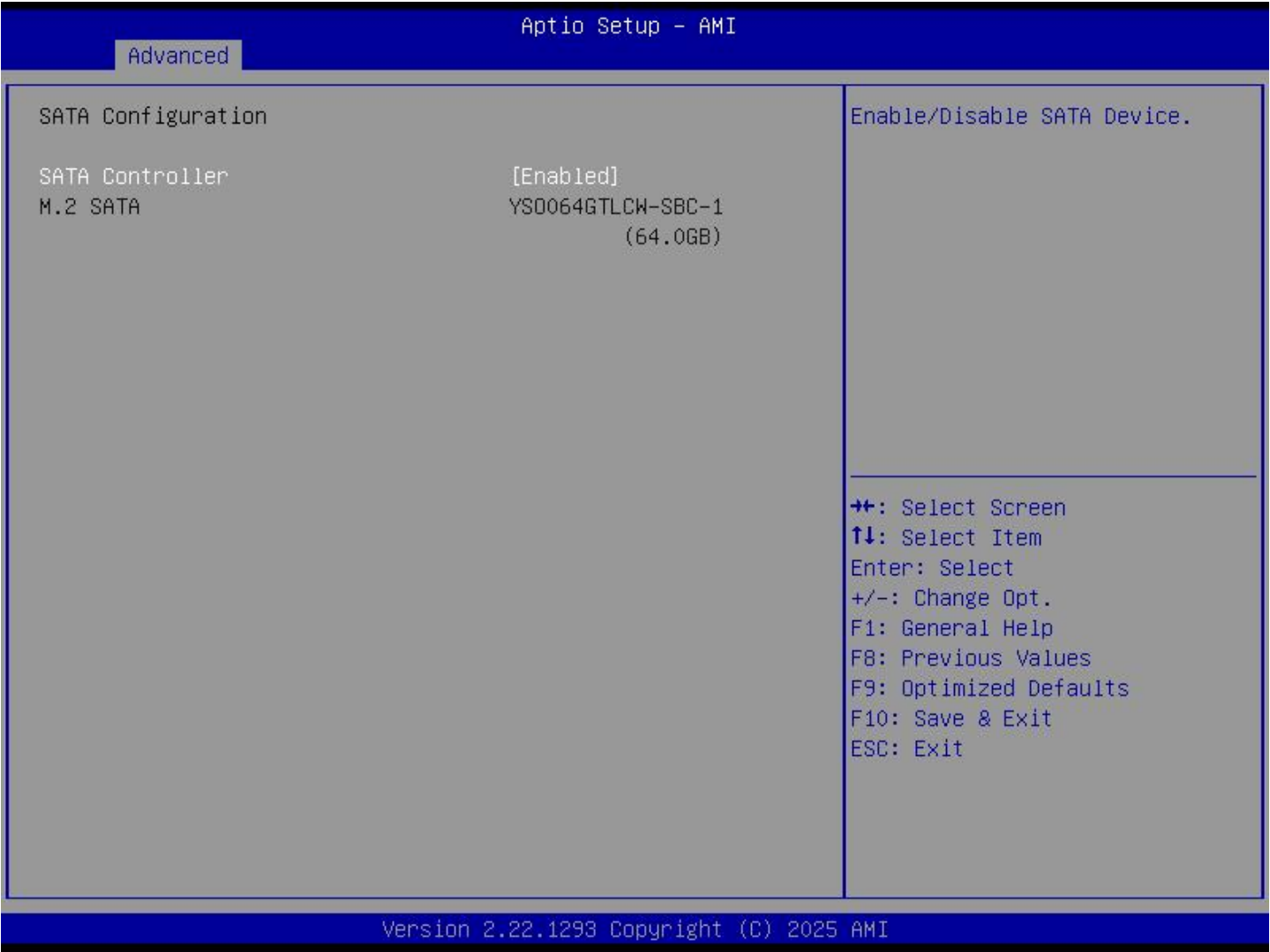
F10: Save & Exit

ESC: Exit

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The default Settings for Intel hyper-Threading and Turbo Mode control items are Enabled. It is recommended that users maintain the default state.

4.2.3 SATA Configuration



The SATA Configuration is set to Enabled by default, and the SATA SSD can be recognized after the machine is turned on.

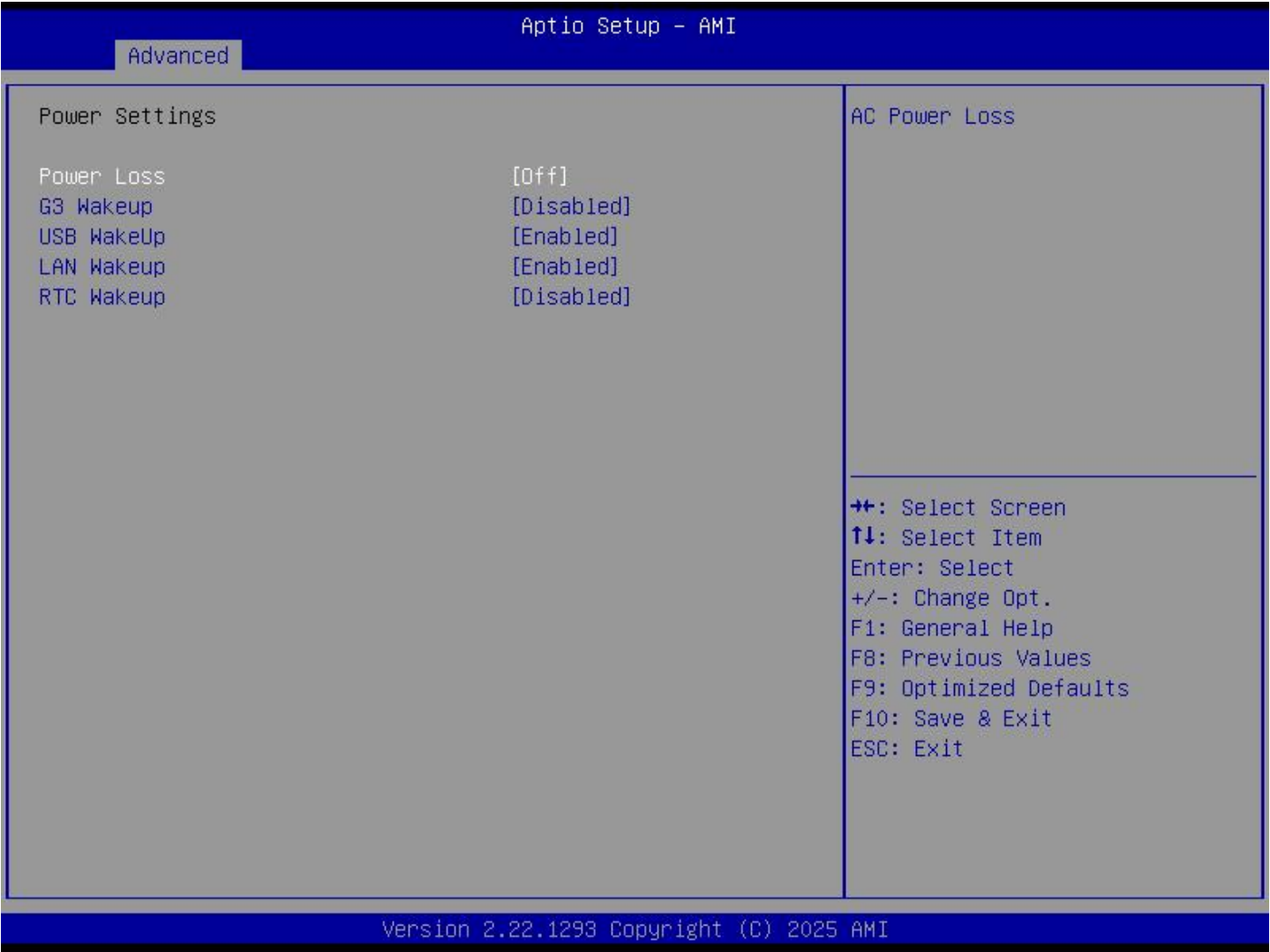
If the SATA Configuration is set to Disabled, the machine will not recognize the SATA SSD after startup, and thus cannot enter the Windows or Linux system installed on the SSD.

4.2.4 NVMe Configuration



Users can view the information of the installed NVMe SSD in NVMe Configuration.

4.2.5 Power Management Configuration



Restore AC Power Loss

	Function
Off	When a PC is plugged in, it won't boot up automatically.
On	When a PC is plugged in, it will automatically boot up
Last State	When the PC is plugged in, it will return to its previous state. If the power is unplugged after the machine is turned on, this time when the PC is plugged in, it will automatically start up. If the machine shuts down normally under the system, this time when the PC is plugged in, it will not start up automatically.

USB Wakeup

	Function
Enabled	Set to Enabled, you can wake up the S3 and S4 states of the computer via a USB keyboard or mouse.
Disabled	Set to Disabled, it is not allowed to wake up the S3 and S4 states of the computer through USB devices.

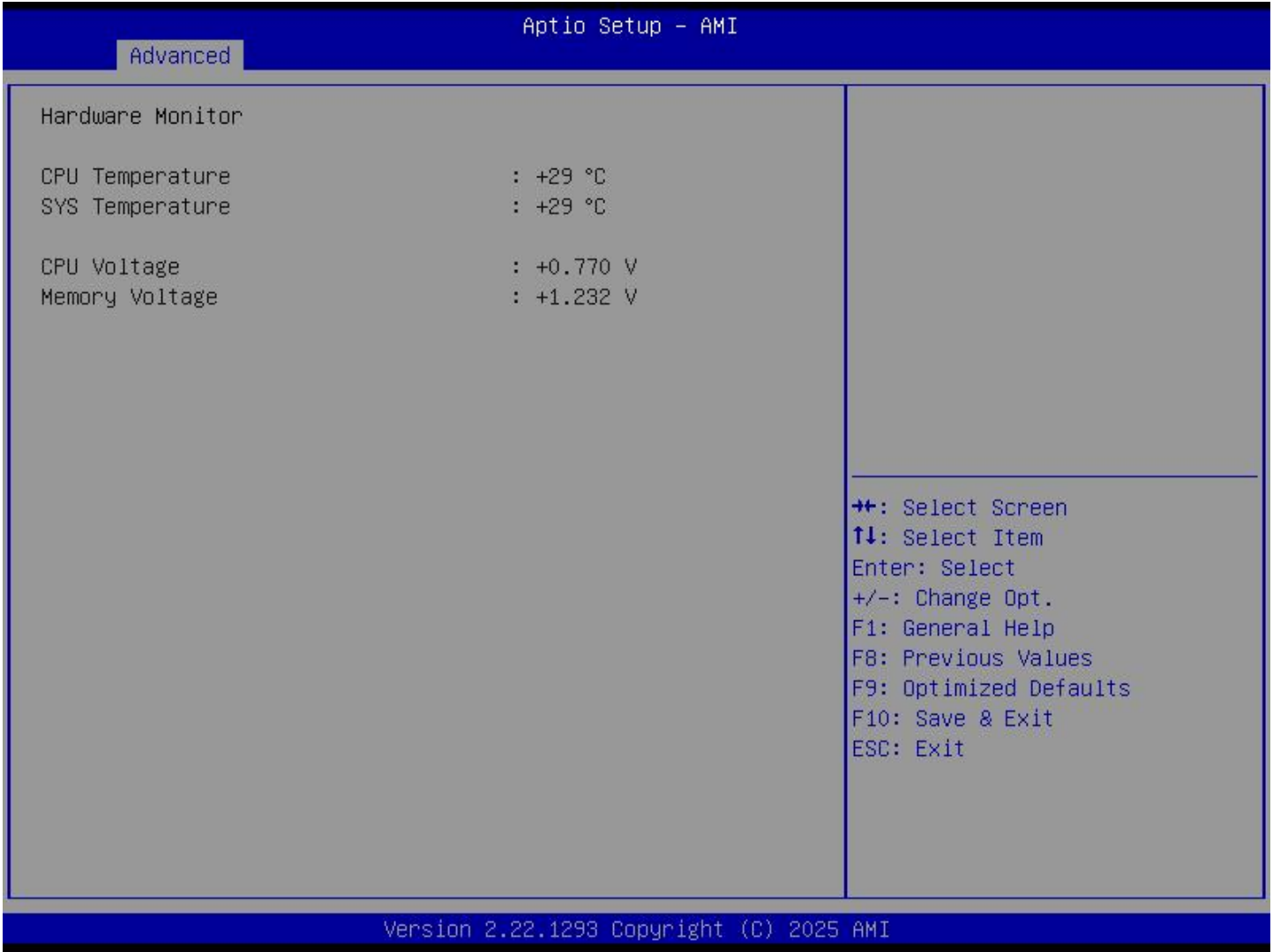
LAN Wakeup

	Function
Enabled	Set to Enabled to allow the PC to be awakened via the network.
Disabled	Set to Disabled and do not allow the PC to be awakened via the network

RTC Wakeup

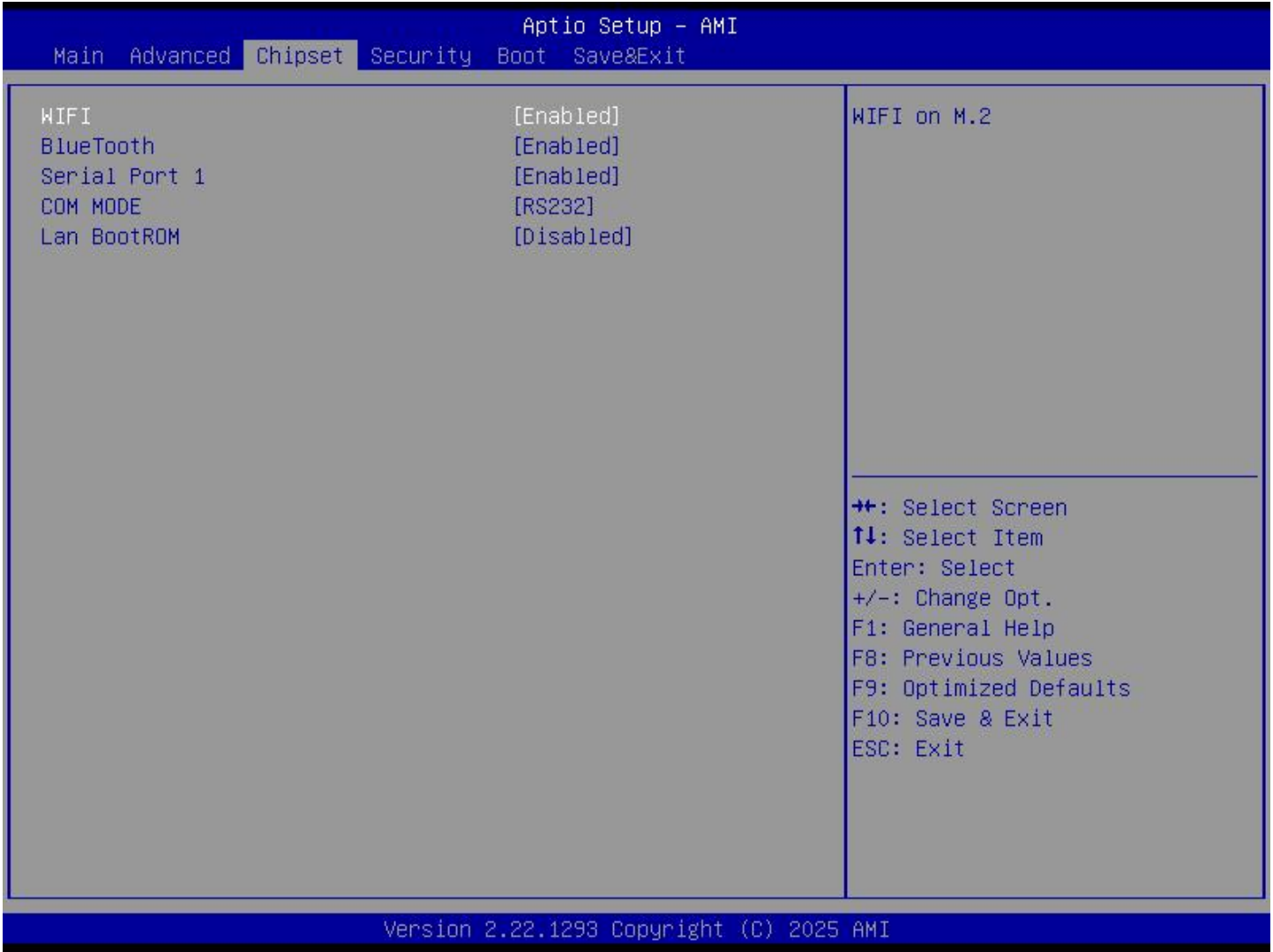
	Function
Enabled	Setting it to "Enabled" allows you to set the PC to boot up at a specified time. When Wake up DAY is set to 0, the PC will automatically boot up at the set time every day. When Wake up DAY is set to 1-31, it indicates the date, and the PC will automatically boot up on this day of each month. Wake up hour, minute, second set the scheduled startup time.
Disabled	If set to Disabled, the PC will not boot up automatically.

4.2.6 Hardware Monitor



Users can view data such as CPU temperature on Hardware Monitor.

4.3 Chipset

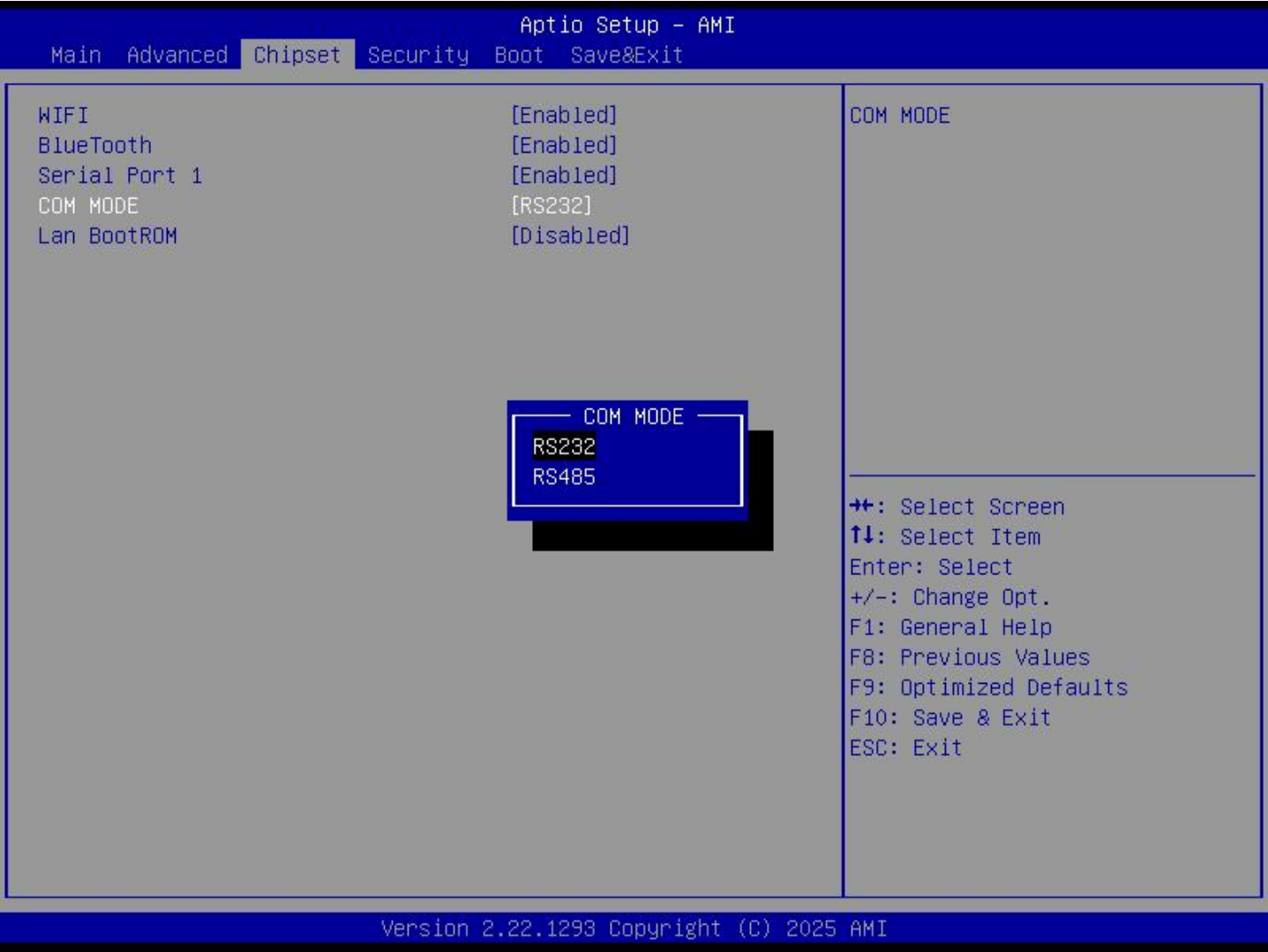


WiFi

	Function
Enabled	Set to Enabled, the WiFi function can be used under the system.
Disabled	Set to Disabled, the WiFi function cannot be used under the system.

Bluetooth

	Function
Enabled	Set to Enabled, the Bluetooth function can be used under the system.
Disabled	Set to Disabled, the Bluetooth function cannot be used under the system.



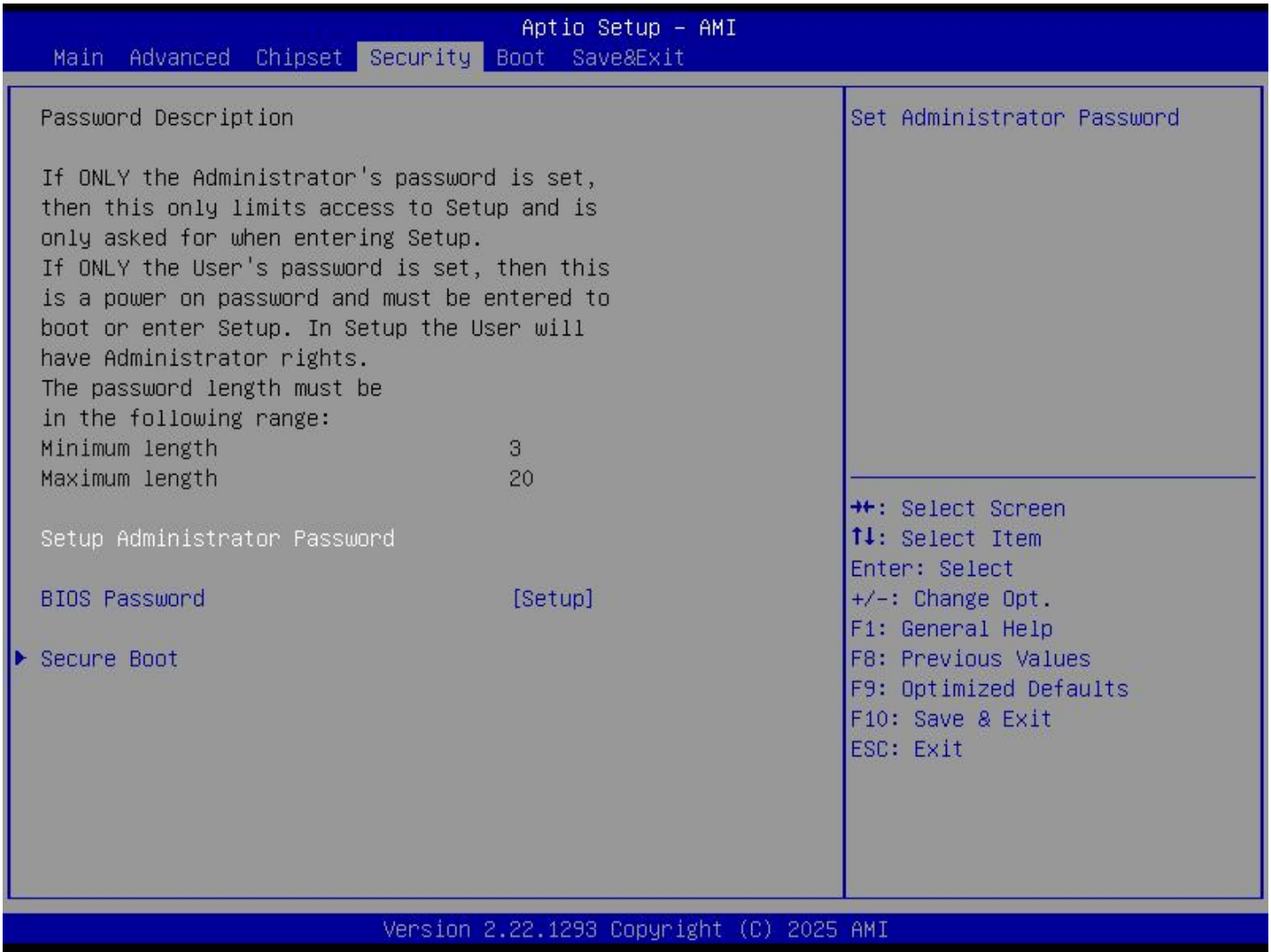
Serial Port 1

	Function
Enabled	Set to Enabled, COM Mode can be set to RS232 or RS485.
Disabled	Set to Disabled, the COM port cannot be used under the system.

LAN BootROM

	Function
Enabled	Set it to Enabled, and then you can enable the corresponding network boot function.
Disabled	Set to Disabled, Network startup unavailable.

4.4 Security



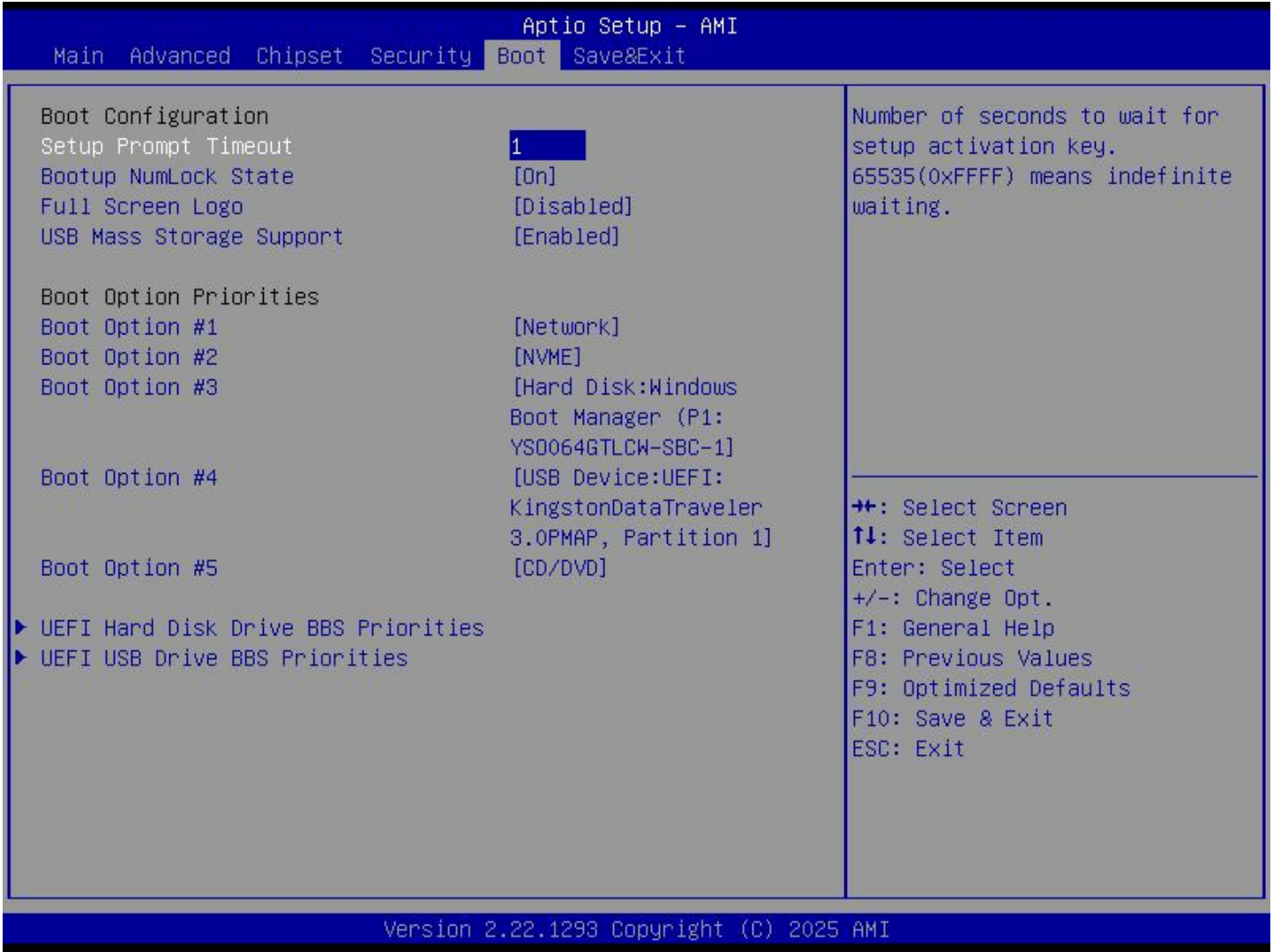
Setup Administrator Password

On the Security page, users can set a password for the BIOS. After setting the password for BIOS, only by entering BIOS can you access the BIOS page.
After entering the wrong password three times, the page will hang and can only be restarted.

Secure Boot

Secure Boot is set to the Enabled state by default, which can prevent unauthorized operating systems and malicious software from loading during the device startup process. Enabling Secure Boot ensures that only software and drivers verified by Microsoft can run at system startup, effectively preventing the intrusion of malicious software. Enabling secure boot also helps to enhance the stability and reliability of the system.
Under the Windows system, press the Win + R keys and then enter msinfo32. You can check whether it is enabled in the Secure Boot State column.

4.5 Boot



Set Prompt Timeout

Set Prompt Timeout sets the time spent on the Logo page after startup.

Bootup NumLock State

Control the status of the keyboard number light. By default, it is in the off state.

Full Screen Logo

The Quiet boot function controls the display of the startup screen. Its core role is to hide the details of the hardware self-check (POST) during startup and only display the brand Logo or static screen, thereby enhancing the visual experience of startup.

The default setting is Disabled.

After setting it to Enabled, the AMI logo will be displayed upon startup.

4.6 Save&Exit



Save Changes and Reset

This item allows you to restart the system after saving the changes.

Discard Changes And Reset

This item allows you to restart system setup without saving any changes.

Restore Defaults

This item allows you to restore/load default values for all the options.

Chapter 5 Packing List

Power cord	
Power adapter	
VESA Screw x 2	
VESA stent	