AXE-7440TR

User's Manual

4U AI GPU Server with AMD EPYC 9004/9005 Series Processors



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Part Number: 50M-99308-1000

LEADING EDGE AI COMPUTING

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Preface

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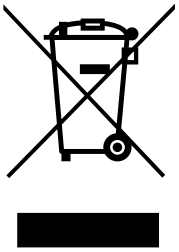
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Conventions

Take note of the following conventions used throughout this manual to make sure that users perform certain tasks and instructions properly.



NOTE:

Additional information, aids, and tips that help users perform tasks.



CAUTION:

Information to prevent ***minor*** physical injury, component damage, data loss, and/or program corruption when trying to complete a task.



WARNING:

Information to prevent ***serious*** physical injury, component damage, data loss, and/or program corruption when trying to complete a specific task.

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Revision History

Revision	Description	Date	By
1.0	Initial release	2026-05-14	AL

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Table of Contents

Preface ..... **ii**

List of Figures ..... **vii**

List of Tables ..... **viii**

1 Introduction **1**

1.1 Features 1

1.2 Packing List 1

2 Specifications **3**

3 Functional Block Diagram **5**

4 Mechanical Layout **7**

4.1 Mechanical Dimensions 7

4.2 Server Layout 8

4.3 Motherboard Connector Locations 10

4.4 Onboard LED Locations 11

5 Connector Pinouts and Header Settings **13**

5.1 Rear I/O 13

5.2 Motherboard Headers and Connectors 14

6 Hardware Installation **21**

6.1 CPU Installation 21

6.2 Memory Installation 24

6.3 PCIe Card Installation 26

6.4 M.2 Module Installation 26

7 BIOS Settings **29**

7.1 Introduction 29

7.2 Main Screen 30

7.3 Advanced Screen 32

7.4 Server Management 46

7.5 Event Logs 50

7.6 Security 51

7.7 Boot Screen 54

7.8 Exit Screen 56

8 Technical Support and Troubleshooting **57**

8.1 Software Support 57

8.2 Troubleshooting Procedure 57

8.3 Technical Support Request Procedure 58

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Safety Instructions **59**

Consignes de Sécurité Importantes **61**

FCC Warning **63**

Getting Services **64**

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List of Figures

Figure 1: Functional block diagram....5
Figure 2: Mechanical dimensions....7
Figure 3: AXE-7440TR rear panel....8
Figure 4: AXE-7440TR front panel....9
Figure 5: Headers and connectors....10

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List of Tables

Table 1: Headers and connectors descriptions.....10
Table 2: Onboard LED descriptions.....12

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1 Introduction

ADLINK AXE-7440TR is a 4U 19" rackmount edge computing server/workstation system powered by AMD EPYC 9004/9005 series processor.

To provide rich I/O expansion, it features 6 PCIe slots, 5 MCIO connectors, and 8 2.5”/3.5” SATA drive bays. It also supports high-speed data transfer interfaces such as PCIe 5.0, USB 3.2 Gen 2, and SATA 6 Gb/s (SATA III), along with DDR5 memory up to 6400 MT/s (1DPC) for edge AI applications.

With its abundant I/O port design and high-speed data transfer capabilities, AXE-7440TR delivers a significant competitive advantage for edge AI computing in terms of device compatibility, durable connectivity, and readiness for extreme environments.

1.1 Features

Main features of the AXE-7440TR:

- 4U chassis with a single AMD EPYC 9004/9005 series processor, up to 400W TDP
- 8× DDR5 RDIMM/3DS-RDIMM slots, up to 6400 MT/s (1DPC)
- 6x PCIe gen5 slots, including 4x PCIe x16 and 2x PCIe x8 slots
- Support up to 4x GPU cards with extension board
- 4x MCIOs (PCIe gen5 x8), 1x MCIO (PCIe gen5 x8 or 8x SATAIII)
- 8x 2.5”/3.5” SATAIII drives
- 3x Internal fan modules & 2x optional external fan modules
- Onboard VGA port
- 2× 10GbE (Intel® x710-AT2) and 2× 1GbE (Intel® i210); supports Wake-on-LAN (WOL) and PXE boot
- AST2600 BMC with dedicated 1GbE port, compliant with IPMI v2.0 and Redfish
- Dimension: 650mm(L) x 437.5mm(W) x 176.5mm(H)

1.2 Packing List

- AXE-7440TR barebone system
- CPU cooler
- 1x 4P-to-24P ATX power cable (8cm)
- 1x MCIO to 8x SATA cable (63cm)
- 2x screws for M.2 devices

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2 Specifications

System	Form Factor	4U 19” Rackmount
	Dimension (WxDxH)	437.5 x 650 x 176.5mm (17.23 x 25.59 x 6.95 inches)
	Gross Weight	25.6kg (56.44 lbs.)
	Net Weight	22kg (48.5 lbs.)
Processor	Socket Type	Socket SP5, LGA 6096
	Series	AMD EPYC 9004/9005
	TDP	Up to 400W
GPU	Type	Up to 4x PCIe gen5 x16 full-height, full-length cards
Memory	Slot Count	8x DIMM slots
	Capacity	2TB max
	DIMM Type/Speed	8 slots DDR5 ECC RDIMM/3DS-RDIMM, up to 6400MT/S (1DPC)
Storage	SATA	8x SATAIII ports via MCIO
	M.2	2x M.2 slots #1 M-key 2280 (PCIe gen5 x4 or SATAIII) #2 M-key 2280/22100 (PCIe gen5 x4 or SATAIII)
PCIe Expansion Slot	Configuration	4x PCIe gen5 x16 2x PCIe gen5 x8
Cooling	System Fan	3x hot-swappable fan modules (12038 fan) optional 2x 8038mm fans in rear end
Power Supply	PSU Type	2x CRPS
	Efficiency	80 Plus Platinum
	Output Watts	800W/1300W/1600W
	Voltage	100V to 240V AC @50-60Hz
	Redundancy	1+1
Front I/O	LEDs	HDD, NIC1, NIC2, UID
	USB	2x USB 3.0
	Others	1x UID button 1x Power button 1x Reset hole
Rear I/O	LAN	2x 10GbE (Intel® x710-AT2) 2x 1GbE (Intel® i210) 1x 1GbE (BMC)
	USB	2x Type-A USB3.2 Gen 1 (5Gbps)
	Display	1x D-Sub 15-pin VGA port
	Button	1x UID switch
Security	TPM	TPM 2.0 module (optional)
BMC Controller	Chipset	ASPEED AST2600 with IPMI 2.0 and Redfish support
BIOS	Chipset	AMI BIOS on SPI flash memory
Environment	Temperature	Operating: 0°C to +40°C · Storage: -40°C to +70°C Relative Humidity: 10%–85% (long term), 5%–90% (short term)
Operation System	OS	Microsoft® Windows: (for EPYC 9004) - Server 2019 (64bit) - Server 2022 (64bit)

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		Microsoft® Windows: (for EPYC 9005) - Server 2019 (64bit) - Server 2022 (64bit) - Server 2025 (64bit) Linux: (for EPYC 9004) - RedHat Enterprise Linux Server 8.6 (64bit) / Server 8.7 (64bit) / Server 9.0 (64bit) / Server 9.1 (64bit) - SUSE SLES 15.4 (64bit) - Ubuntu 20.04.5 (64bit) / 22.04 (64bit) / 22.10 (64bit) Linux: (for EPYC 9005) - RedHat Enterprise Linux Server 8.10 (64bit) / Server 9.4 (64bit) - SUSE SLES 15.6 (64bit) - Ubuntu 22.04.5 (64bit) / 24.04.2 (64bit)

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3 Functional Block Diagram

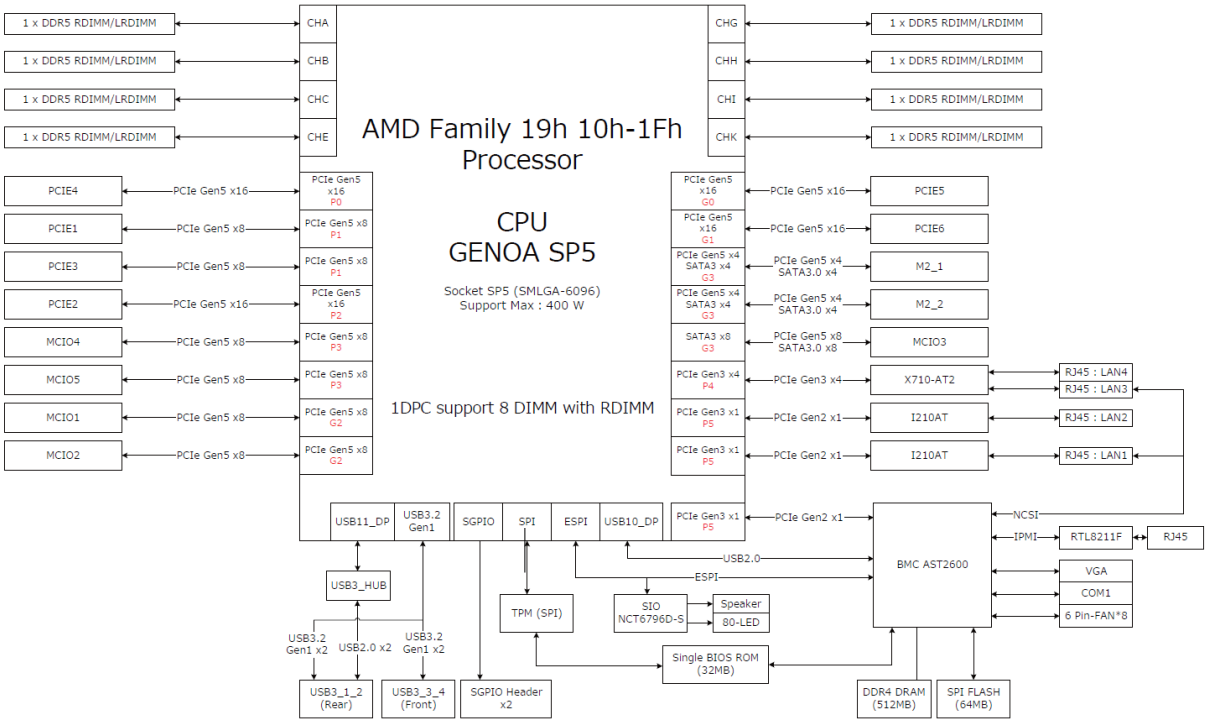


Figure 1: Functional block diagram

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4 Mechanical Layout

4.1 Mechanical Dimensions

All dimensions in millimeters (mm) unless noted.

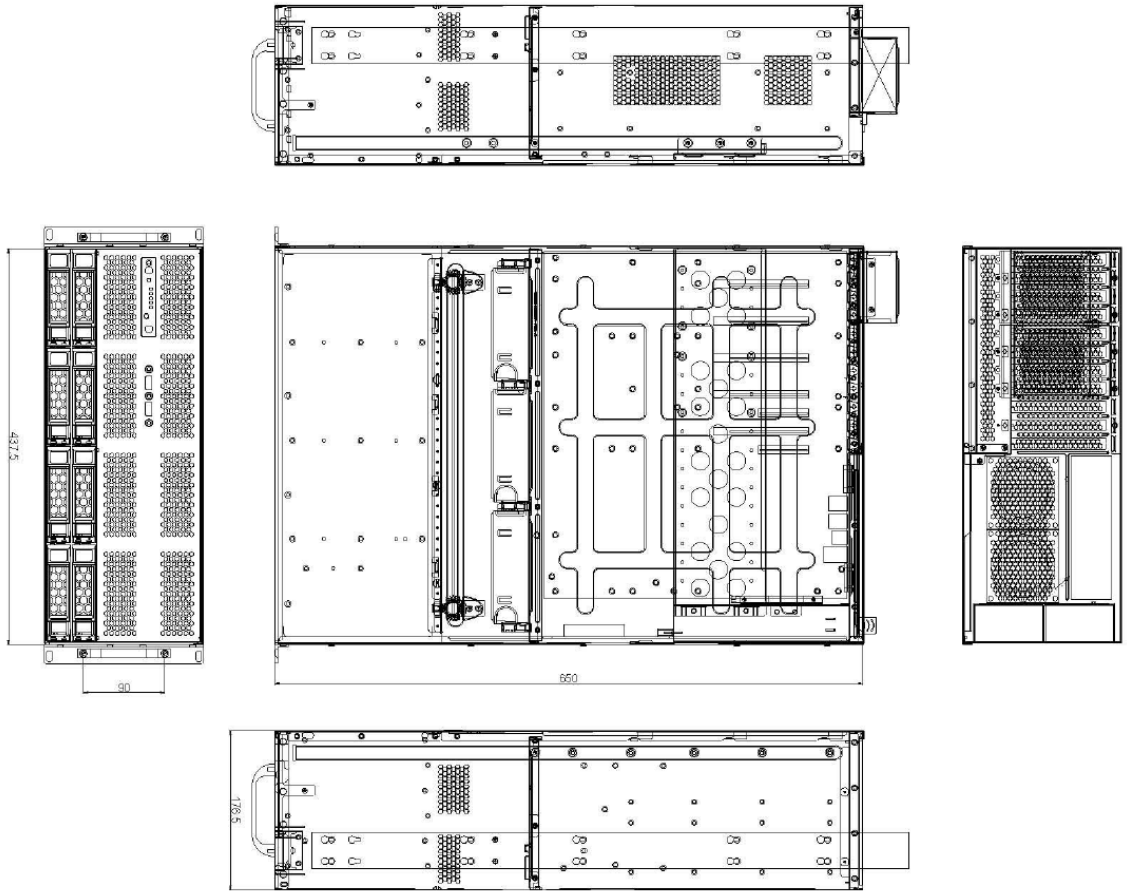


Figure 2: Mechanical dimensions

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4.2 Server Layout

4.2.1 AXE-7440TR Rear Panel

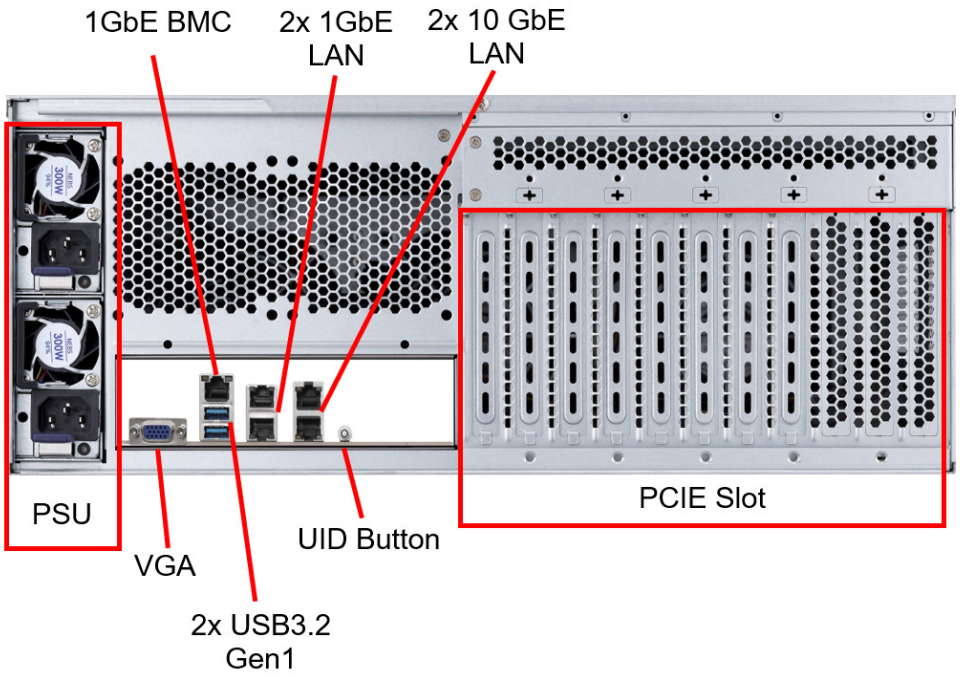


Figure 3: AXE-7440TR rear panel

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4.2.2 AXE-7440TR Front Panel

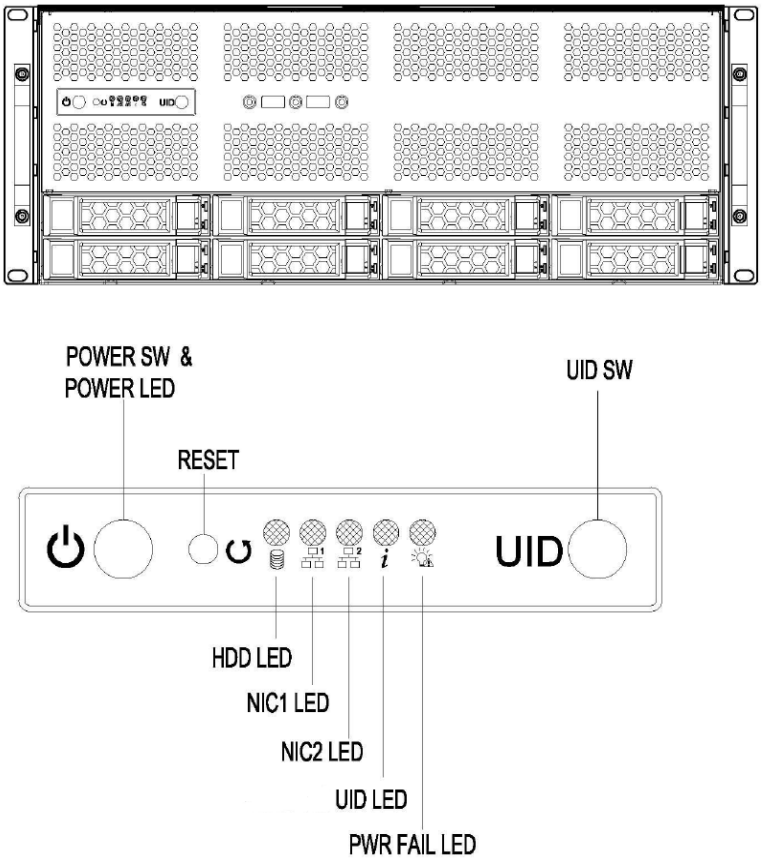


Figure 4: AXE-7440TR front panel

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4.3 Motherboard Connector Locations

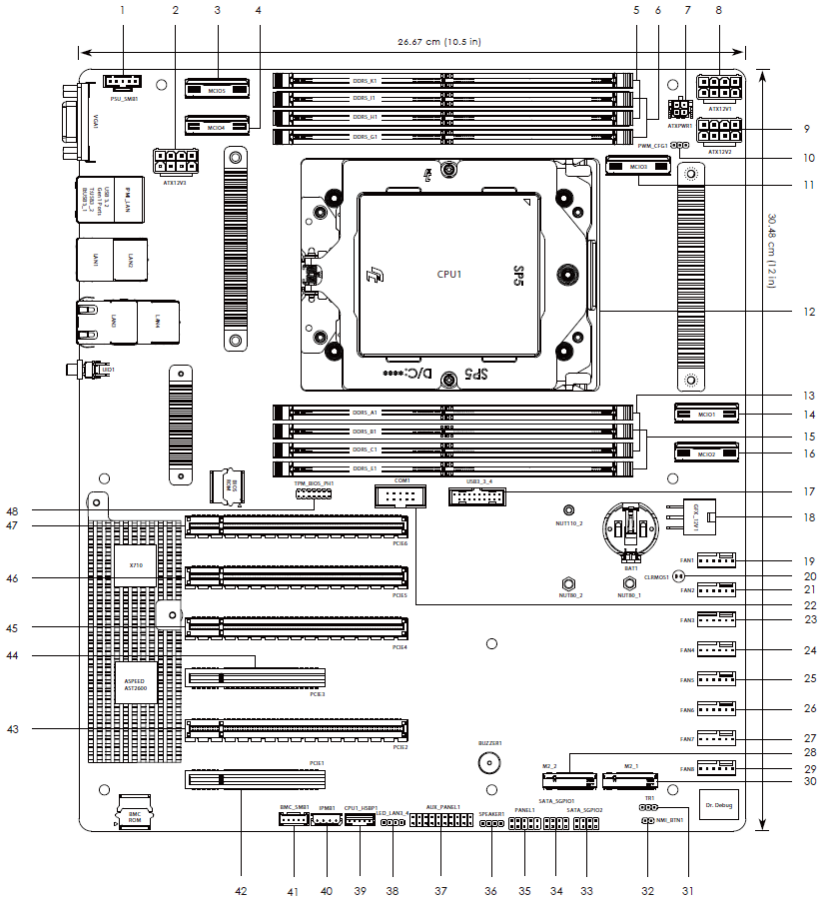


Figure 5: Headers and connectors

Table 1: Headers and connectors descriptions

No.	Description
1	PSU SMBus Header (PSU_SMB1)
2	ATX 12V Power Connector (ATX12V3)
3	MCIO x8 Connector (MCIO5)
4	MCIO x8 Connector (MCIO4)
5	2x 288-pin DDR5 DIMM Slots (DDR5_H1, DDR5_K1)*
6	2x 288-pin DDR5 DIMM Slots (DDR5_G1, DDR5_I1)*
7	ATX Power Connector (ATXPWR1)
8	ATX 12V Power Connector (ATX12V1)
9	ATX 12V Power Connector (ATX12V2)
10	PWM Configuration Header (PWM_CFG1)
11	MCIO x8 Connector (MCIO3)
12	MD Socket SP5 (SM-LGA-6096P) (CPU1)
13	2x 288-pin DDR5 DIMM Slots (DDR5_A1, DDR5_C1)*
14	MCIO x8 Connector (MCIO1)
15	2x 288-pin DDR5 DIMM Slots (DDR5_B1, DDR5_E1)*
16	MCIO x8 Connector (MCIO2)
17	USB 3.2 Gen1 Header (USB3_3_4)
18	Graphics 12V Power Connector (GFX_12V1)
19	System Fan Connector (FAN1)
20	Clear CMOS Pad (CLRMOS1)

No.	Description
25	System Fan Connector (FAN5)
26	System Fan Connector (FAN6)
27	System Fan Connector (FAN7)
28	M.2 slot (M2_2) (M-key 2280/22110)
29	System Fan Connector (FAN8)
30	M.2 slot (M2_1) (M-key 2280)
31	Thermal Sensor Header (TR1)
32	Non Maskable Interrupt Button (NMI_BTN1)
33	SATA SGPIO Connector (SATA_SGPIO2)
34	SATA SGPIO Connector (SATA_SGPIO1)
35	System Panel Header (PANEL1)
36	Speaker Header (SPEAKER1)
37	Auxiliary Panel Header (AUX_PANEL1)
38	Front LAN LED Connector (LED_LAN3_4)
39	Backplane PCI Express Hot-Plug Connector (CPU1_HSBP1)
40	Intelligent Platform Management Bus Header (IPMB1)
41	BMC SMBus Header (BMC_SMB1)
42	PCI Express gen5 x8 Slot (PCIE1)
43	PCI Express gen5 x16 Slot (PCIE2)
44	PCI Express gen5 x8 Slot (PCIE3)

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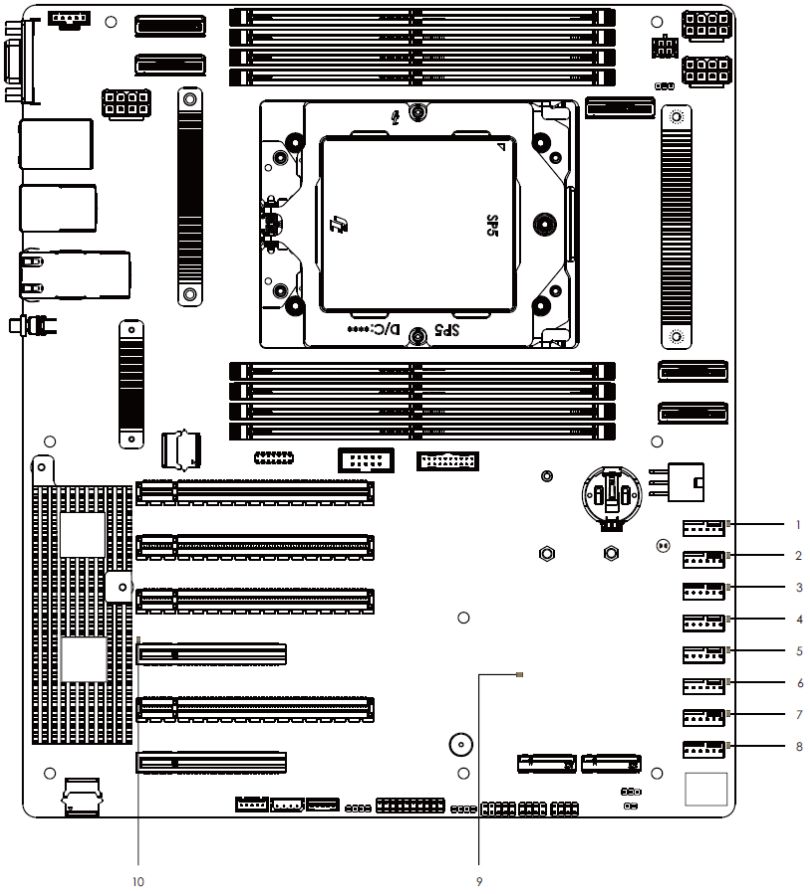
21	System Fan Connector (FAN2)
22	COM Port Header (COM1)
23	System Fan Connector (FAN3)
24	System Fan Connector (FAN4)

45	PCI Express gen5 x16 Slot (PCIE4)
46	PCI Express gen5 x16 Slot (PCIE5)
47	PCI Express gen5 x16 Slot (PCIE6)
48	SPI TPM Header (TPM_BIOS_PH1)

NOTE:

Please ensure the correct pin definition when connecting the power cables.

4.4 Onboard LED Locations



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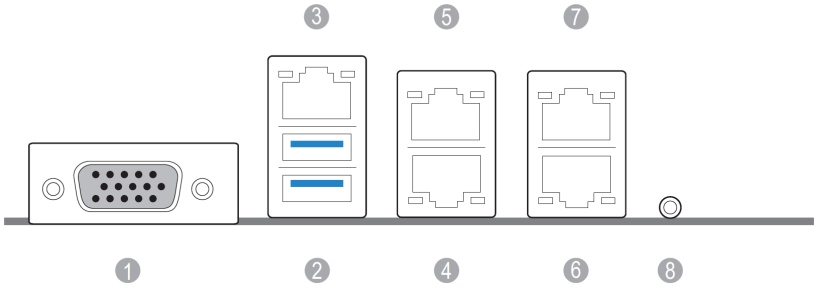
Table 2: Onboard LED descriptions

No.	Item	Color	Description`
1	LED_FAN1	Red	Fan 1 failure
2	LED_FAN2	Red	Fan 2 failure
3	LED_FAN3	Red	Fan 3 failure
4	LED_FAN4	Red	Fan 4 failure
5	LED_FAN5	Red	Fan 5 failure
6	LED_FAN5	Red	Fan 6 failure
7	LED_FAN7	Red	Fan 7 failure
8	LED_FAN8	Red	Fan 8 failure
9	SB_PWR1	Green	Standby PWR ready
10	BMC_LED1	Green	BMC heartbeat LED

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5 Connector Pinouts and Header Settings

5.1 Rear I/O

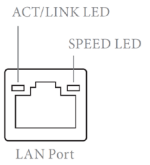


No.	Description
1	VGA output
2	2x USB 3.2 gen1, type-A
3	1GbE RJ45 port dedicated for BMC
4	1GbE RJ45 port (shared access to BMC)
5	1GbE RJ45 port
6	10GbE RJ45 port
7	10GbE RJ45 port
8	UID switch

5.1.1 LAN Port LED Indicators

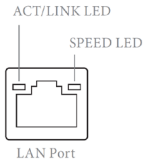
LEDs are located on each side of the BMC LAN port. Refer to the table below for the description.

Activity / Link LED		Speed LED	
Status	**Description**	**Status**	**Description**
Off	No Link	Off	10Mbps connection or no link
Blinking Orange	Data Activity	Orange	100Mbps connection
On	Link	Green	1Gbps connection

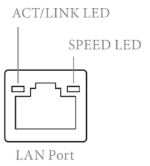


LEDs are located on each side of the 1GbE LAN port. Refer to the table below for the description

Activity / Link LED		Speed LED	
Status	**Description**	**Status**	**Description**
Off	No Link	Off	10Mbps connection or no link
Blinking Orange	Data Activity	Orange	100Mbps connection
On	Link	Green	1Gbps connection



Activity / Link LED		Speed LED	
Status	**Description**	**Status**	**Description**
Off	No Link	Off	100Mbps connection or no link
Blinking Orange	Data Activity	Orange	1Gbps connection
On	Link	Green	10Gbps connection



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5.1.2 UID button

Unit Identification LED/Switch (UID1)

Users can identify the server while the system remains operational. Pressing the UID button on the rear panel turns on the front and rear blue UID LED indicators. Press it again to turn them off.



NOTE:

1. Press and hold the UID button for 4 seconds, the BMC will trigger an external reset.
2. Press and hold the UID button for 10 seconds, the BMC will reset and load default values.

5.2 Motherboard Headers and Connectors

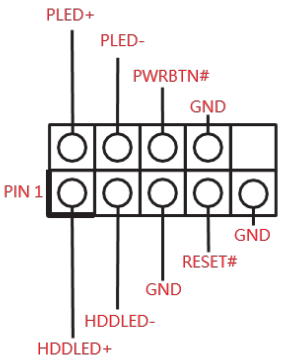
CAUTION:

Onboard headers and connectors are NOT jumpers. Do NOT place jumper caps over these headers and connectors. Placing jumper caps over the headers and connectors will cause permanent damage to the motherboard.

5.2.1 System Panel Header

(9-pin PANEL1)

Connect the power switch, reset switch and system status indicator to the chassis according to the pin definitions. Note the +/- pins before connecting the cables.



PWRBTN (Power Switch):
Connect to the power switch on the chassis front panel. Configure the way to turn off the-system using the power switch.

RESET (Reset Switch):
Connect to the reset switch on the chassis front panel. Press the reset switch to restart the computer if the computer freezes and fails to perform a normal restart.

PLED (System Power LED):
Connect to the power status indicator on the chassis front panel. The LED is on when the system is operating. The LED is off when the system is in S4 sleep state or powered off (S5).

HDDLED (Hard Drive Activity LED):
Connect to the hard drive activity LED on the chassis front panel. The LED is on when the hard drive is reading or writing data.

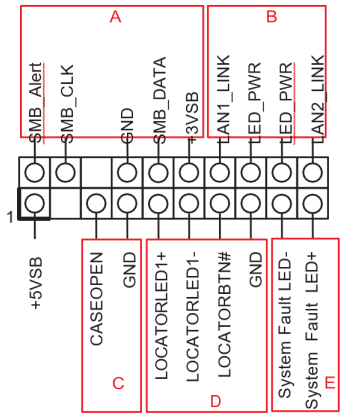
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The front panel design may vary by chassis. A typical front panel module includes a power switch, reset switch, power LED, hard drive activity LED, and speaker. When connecting the chassis front panel module to this header, ensure that the wire and pin assignments are correctly matched.

5.2.2 Auxiliary Panel Header

(18-pin AUX_PANEL1)

The header supports multiple functions on the front panel, including front panel SMB and LAN status indicators.



A. Front panel SMBus connecting pin (6-1 pin FPSMB)
This header allows user to connect SMBus (System Management Bus) equipment. It can be used for communication between peripheral equipment in the system, which has slower transmission rates, and power management equipment.

B. LAN status indicator (2-pin LAN1_LED, LAN2_LED)
These two 2-pin headers allow user to verify the LAN status.

C. Chassis intrusion pin (2-pin CHASSIS)
This header is used for detection of chassis intrusion used in conjunction with an external trigger. When this function is activated, if chassis cover is opened, the sensor will send a signal to the host system via this header; system will then record this chassis intrusion event.

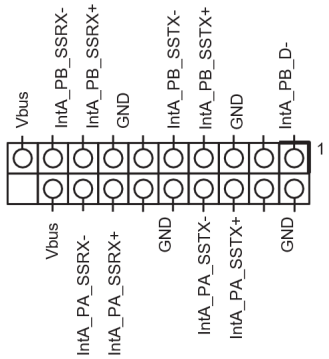
D. Locator LED (4-pin LOCATOR)
This header is for the locator switch and LED on the front panel.

E. System Fault LED (2-pin LOCATOR)
This header is for the Fault LED on the system.

5.2.3 USB 3.2 Gen1 header:

(19-pin USB3_3_4)

In addition to the USB ports on the rear I/O panel, there is a USB 3.2 gen1 header on the motherboard. This USB 3.2 gen1 header can support two USB 3.2 gen1 ports.

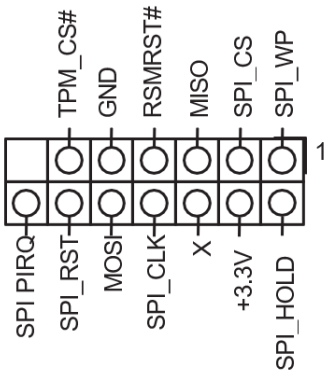


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5.2.4 SPI TPM Header

(13-pin TPM_BIOS_PH1)

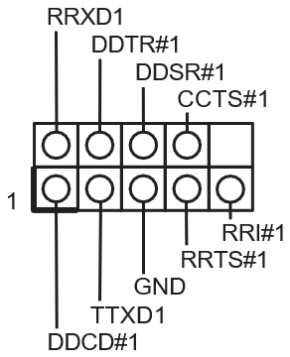
This connector supports SPI Trusted Platform Module (TPM) system, which can securely store keys, digital certificates, passwords, and data. A TPM system also helps enhance network security, protects digital identities, and ensures platform integrity.



5.2.5 Serial Port Header

(9-pin COM1)

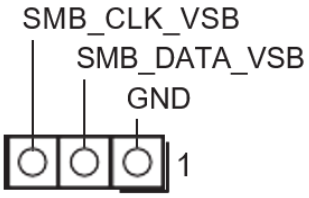
This COM header supports a serial port break-out cable.



5.2.6 PWM Configuration Header

(3-pin PWM_CFG1)

The header is used for PWM configurations.



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5.2.7 Non Maskable Interrupt Button Header

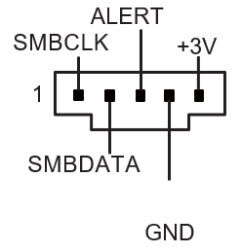
(2-pin NMI_BTN1)



5.2.8 PSU SMBus Header

(PSU_SMB1)

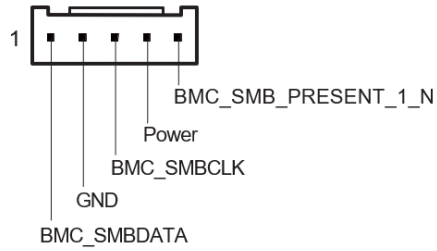
The PSU SMBus monitors the status of the power supply, fan, and system temperature.



5.2.9 BMC SMB Header

(5-pin BMC_SMB1)

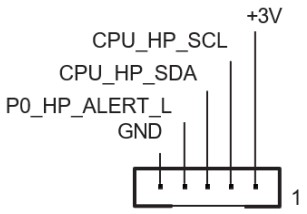
The header is used for the SMBUS devices.



5.2.10 Backplane PCI Express Hot-Plug Connector

(5-pin CPU1_ HSBP1)

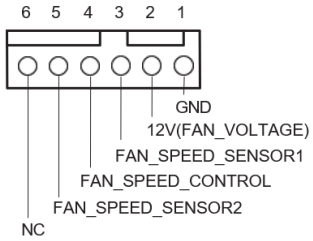
The header is used for the hot plug feature of HDDs on the backplane.



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5.2.11 System Fan Connectors

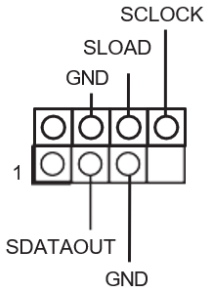
Connect the fan cable to the fan connector, ensuring that the black wire is connected to the ground pin. All connectors support PWM fan control.



5.2.12 SATA SGPIO Connectors

(7-pin SATA_SGPIO2) (7-pin SATA_SGPIO1)

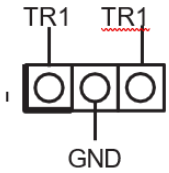
These connectors support Serial Link interface for onboard SATA connections.



5.2.13 Thermal Sensor Header

(3-pin TR1)

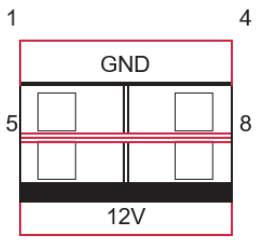
Connect the thermal sensor cable to either pin 1-2 or pin 2-3 and the other end to the monitoring device.



5.2.14 ATX Power Connectors

(8-pin ATX12V1) (8-pin ATX12V2) (8-pin ATX12V3)

This motherboard provides three 8-pin ATX power connectors.

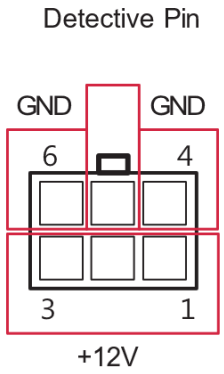


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5.2.15 Graphics 12V Power

Connector right-angle: (6-pin GFX_12V1)

This motherboard provides a 6-pin Graphics 12V power connector. Install the PSU's power cable to this connector when 4 graphics cards are installed.

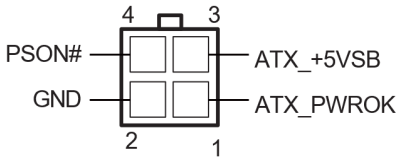


5.2.16 ATX Power Connector

(4-pin ATXPWR1)

The motherboard provides one 4-pin power/signal connector which is a required input for ATX power source.

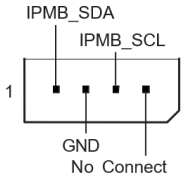
When using the ATX power, it is necessary to use a 24pin-to-4pin power cable to connect between the 24pin power connector of PSU and the ATX12V1, ATX12V2, or ATX12V3 connector on the motherboard for power supply and signal communication.



5.2.17 Intelligent Platform Management Bus Header

(4-pin IPMB1)

This 4-pin connector is used to provide a cabled connection between the baseboard or front panel and value-added features or third-party add-in cards, such as Emergency Management cards, that provide management functions using IPMB.

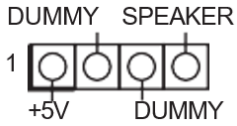


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5.2.18 Chassis Speaker Header

(4-pin SPEAKER1)

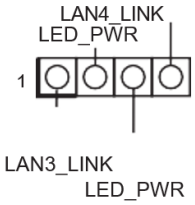
Connect the chassis speaker to this header.



5.2.19 Front LAN LED Connector

(LED_LAN3_4)

This 4-pin connector is used for the front LAN status indicator.



5.2.20 Clear CMOS Pad

(CLRCMOS1)

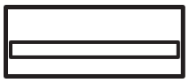
This feature allows users to clear the CMOS data. To clear the CMOS, remove the CMOS battery and short the Clear CMOS pads.



5.2.21 MCIO x8 Connectors

(MCIO1) (MCIO2) (MCIO3) (MCIO4) (MCIO5)

These connectors are used for the PCIE devices.



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6 Hardware Installation

Precautions

Note the following precautions before installing motherboard components or changing any motherboard settings:

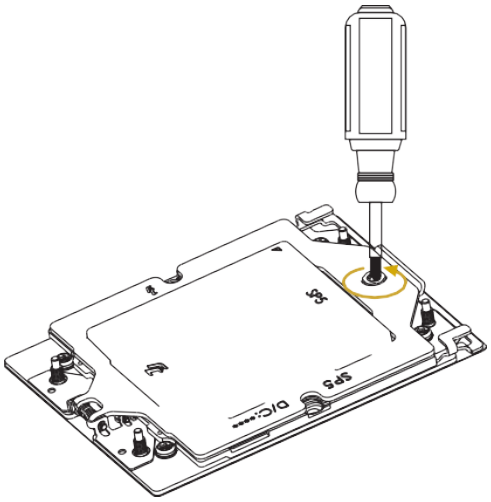
1. Unplug the power cord from the wall socket before touching any components.
2. To avoid damaging the motherboard's components due to static electricity, never place the motherboard directly on carpet or similar surfaces. Also, remember to use a grounded wrist strap or touch a properly grounded object before handling components.
3. Hold components by the edges and do not touch the ICs.
4. Whenever you uninstall any component, place it on a grounded anti-static pad or in the bag that came with the component.

6.1 CPU Installation

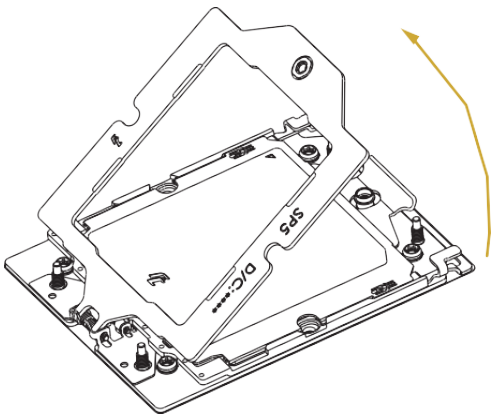
NOTE:

1. Before inserting the CPU into the socket, please check if the PnP cap is on the socket, if the CPU surface is unclean, or if there are any bent pins in the socket. Do not force to insert the CPU into the socket if above situation is found. Otherwise, the CPU will be seriously damaged.
2. Unplug all power cables before installing the CPU.

1.

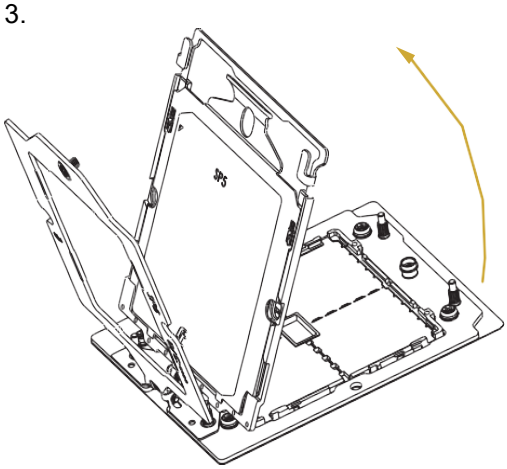


2.

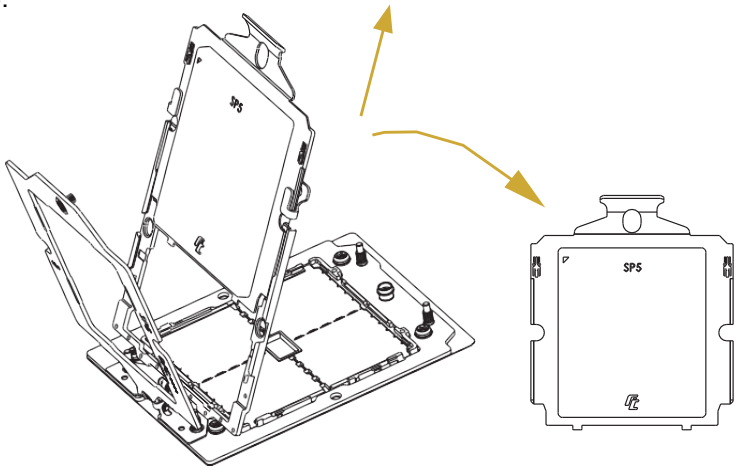


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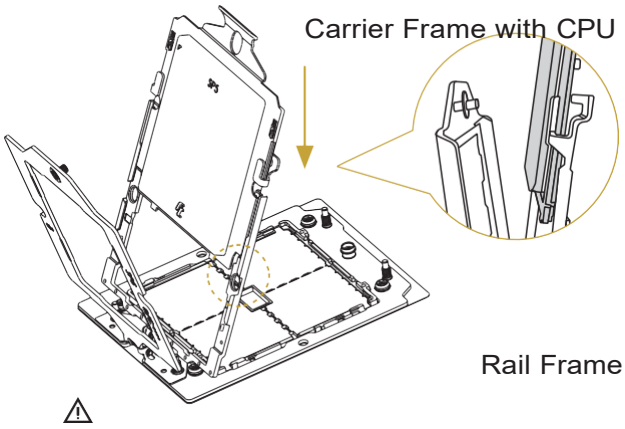
3.



4.



5.

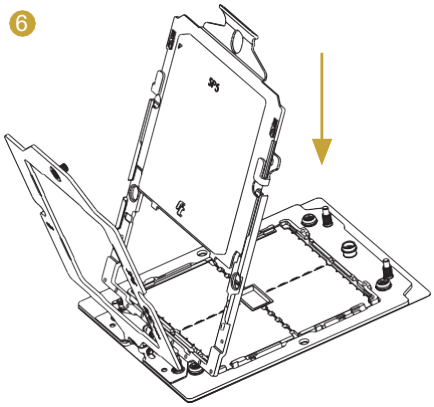


NOTE:

Ensure that the carrier frame with CPU is tightly secured to the rail frame while inserting it.

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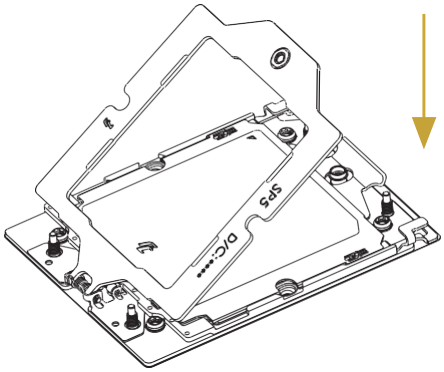
6.



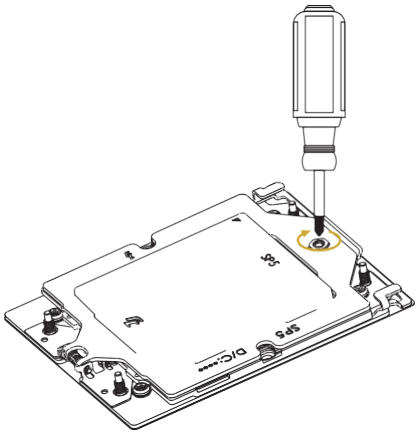
NOTE:

Install the carrier frame with the CPU. Do not separate them.

7.

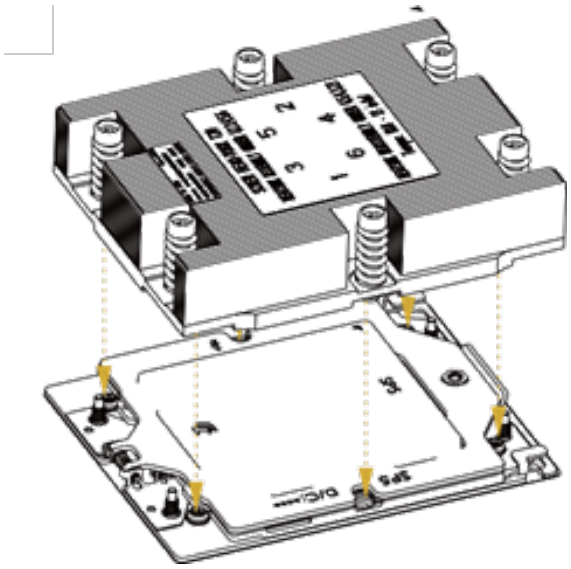


8.

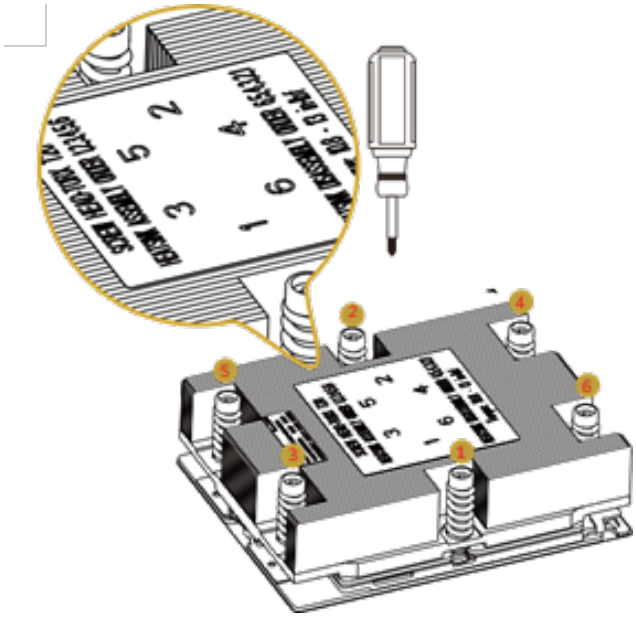


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9.



10.



6.2 Memory Installation

This motherboard provides 8x 288-pin DDR5 DIMM slots in two groups, and supports Single Channel Memory Technology.

NOTE:

1. Before installing a memory module, make sure to turn off the computer and unplug the power cord from the power outlet to prevent damage to the memory module.
2. For Eight channel configuration, identical DIMMs must be used (the same brand, speed, size and chip-type).
3. Only DDR5 DIMMs are supported.

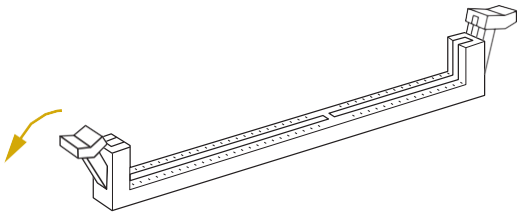
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Recommended Memory Configurations

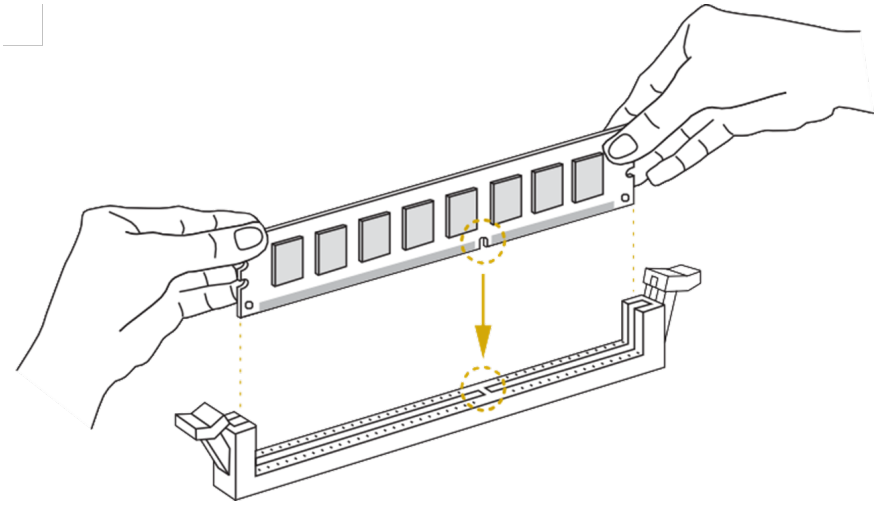
CPU1								
	A1	B1	C1	E1	G1	H1	I1	K1
1 DIMM	V							
2 DIMMS	V				V			
4 DIMMS	V		V		V		V	
8 DIMMS	V	V	V	V	V	V	V	V

The symbol V indicates slots populated.

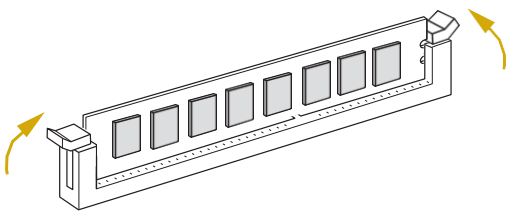
1.



2.



3.



6.3 PCIe Card Installation

There are six PCI Express slots on this motherboard.

Slot	Generation	Mechanical	Electrical	Source
PCIE1	5.0	x8	x8	CPU1
PCIE2	5.0	x16	x16	CPU1
PCIE3	5.0	x8	x8	CPU1
PCIE4	5.0	x16	x16	CPU1
PCIE5	5.0	x16	x16	CPU1
PCIE6	5.0	x16	x16	CPU1

Installing an expansion card:

1. Before installing an expansion card, ensure that the power supply is switched off or the power cord is unplugged. Please read the documentation of the expansion card and make necessary hardware settings for the card before starting the installation.
2. Remove the top cover.
3. Remove the PCIe slot bracket. Retain for future use.
4. Align the card connector with the slot and press firmly until the card is completely seated on the slot.
5. Fasten the card to the chassis with screws.
6. Replace top cover.

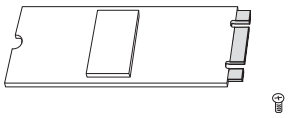
6.4 M.2 Module Installation

Two M.2 slots are available in the system:

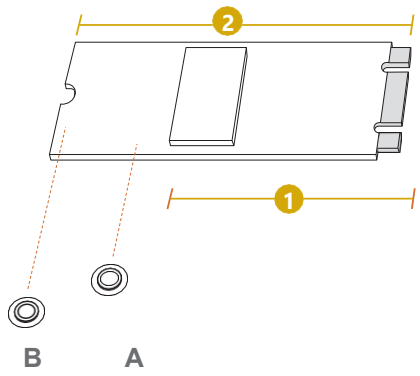
- #1 M-key 2280 (PCIe gen5 x4 or SATAIII)
- #2 M-key 2280/22100 (PCIe gen5 x4 or SATAIII)

Installing the M.2 SSD Module:

1. Prepare an M.2_SSD module and the screw.



2. Depending on the length of the M.2 module, select the corresponding hole.

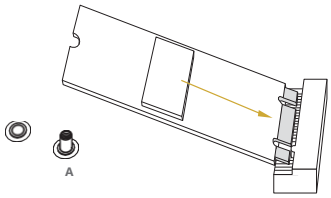


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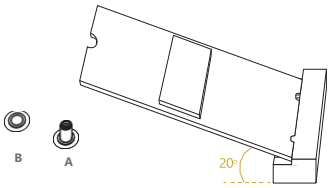
3. Adjust the standoff nut according to the module length; tighten it by hand.



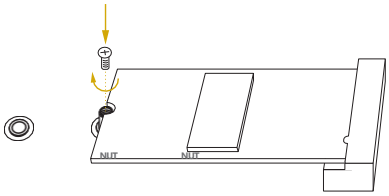
4. Insert the M.2 module into the slot. Note the orientation of the M-key to avoid damage.



B



5. Tighten the screw to secure the module. Do not overtighten.



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7 BIOS Settings

7.1 Introduction

This section explains how to use the BIOS SETUP UTILITY to configure the system. The BIOS chip on the motherboard stores the BIOS SETUP UTILITY. Run the BIOS SETUP UTILITY when starting up the computer. Please press <F2> or <Del> during the Power-On-Self-Test (POST) to enter the BIOS SETUP UTILITY; otherwise, POST will continue with its test routines.

Restart the system by pressing <Ctrl> + <Alt> + <Delete> to enter the BIOS SETUP UTI LITY after POST, or by pressing the reset button on the system chassis. This allows user to restart by turning the system off and then back on.


NOTE:

As the BIOS software is continuously updated, the following setup screens and descriptions are for reference only and may differ from the actual display.

7.1.1 BIOS Menu Bar

Item	Description
Main	To set up the system time/date information
Advanced	To set up the advanced BIOS features
Server Mgmt	To manage the server
Event Logs	For event log configuration
Security	To set up the security features
Boot	To set up the default system device to locate and load the Operating System
Exit	To exit the current screen or the BIOS SETUP UTILITY

Use < ← > key or < → > key to choose among the selections on the menu bar, and then press <Enter> to get into the sub screen.

7.1.2 Navigation Keys

Navigation Key(s)	Function Description
← / →	Moves the cursor left or right to select an item
↑ / ↓	Moves the cursor up or down to select an item
+ / -	To change option for the selected items
<Tab>	Switch to the next function
<Enter>	To open the selected screen
<PGUP>	To go to the previous page
<PGDN>	To go to the next page
<HOME>	To go to the top of the screen
<END>	To go to the bottom of the screen
<F1>	To display the General Help Screen
<F7>	Discard changes and exit the BIOS SETUP
<F9>	Load optimal default values for all the settings
<F10>	Save changes and exit the BIOS SETUP
<F12>	Print screen
<ESC>	Jump to the Exit Screen or exit the current screen

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7.2 Main Screen

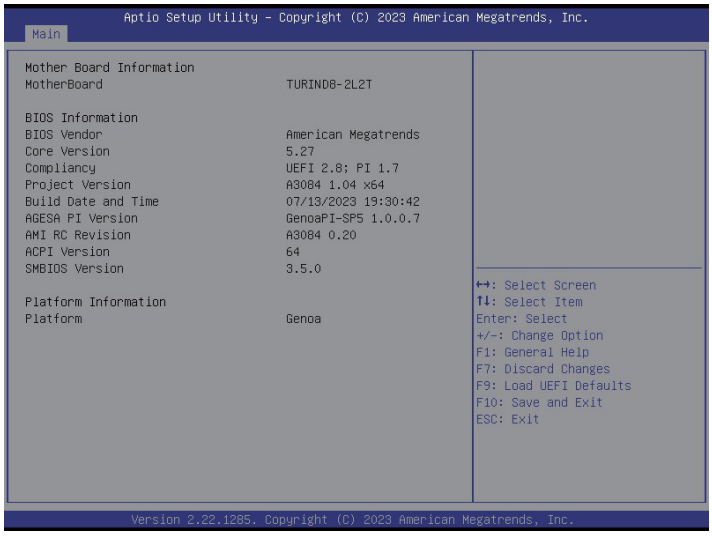
Once entering the BIOS SETUP UTILITY, the Main screen will appear and display the system overview. The Main screen provides system overview information and allows user to set the system time and date.



The illustration here is for references only. The actual layout may slightly vary depending on the model and the version used.

7.2.1 Motherboard Information

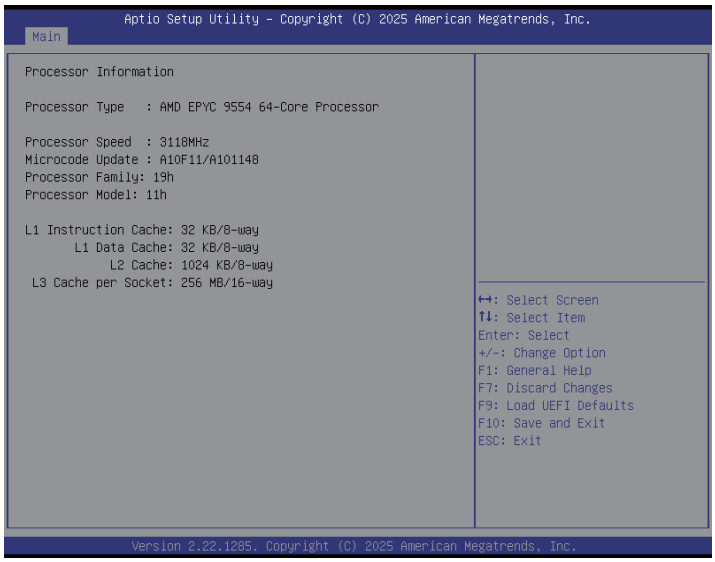
Press <Enter> to view the information of the motherboard.



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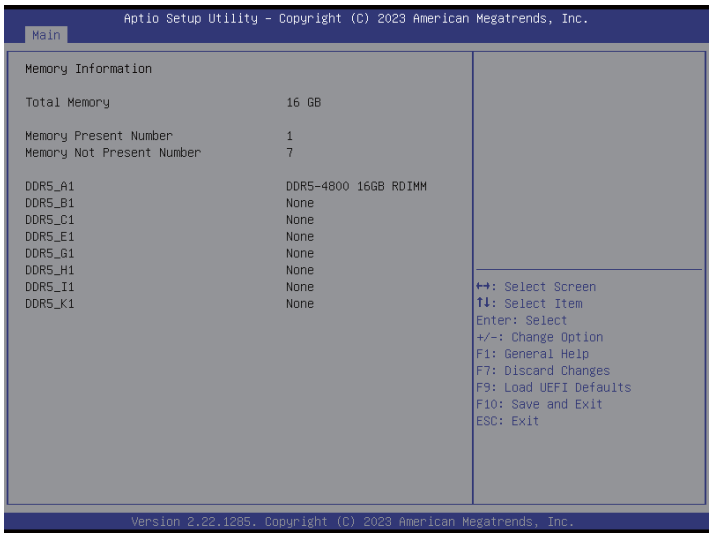
7.2.2 Processor Information

Press <Enter> to view the information of the processor.



7.2.3 Memory Information

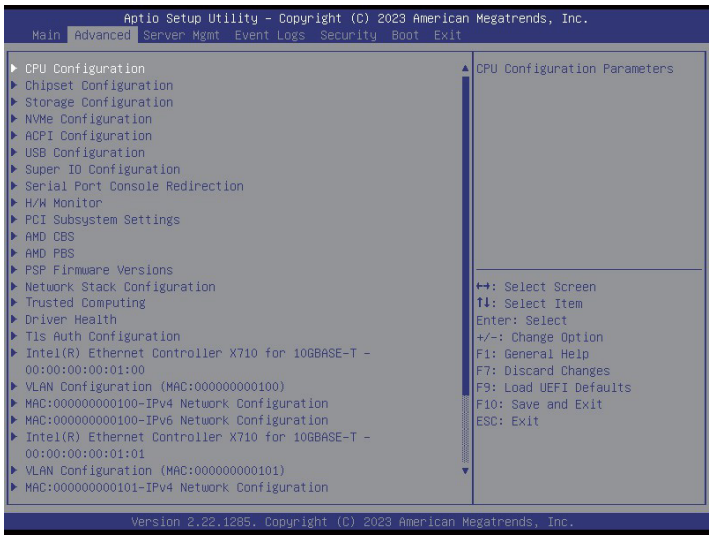
Press <Enter> to view the information of the memory.



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7.3 Advanced Screen

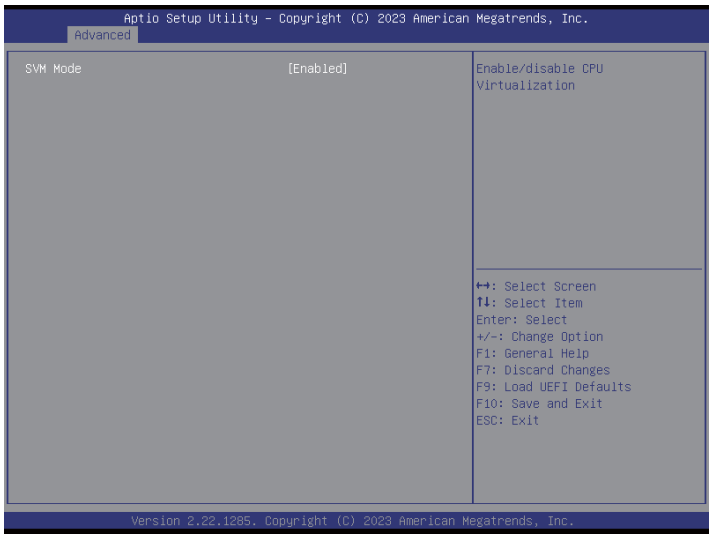
In this section, users can configure the following items: CPU Configuration, Chipset Configuration, Storage Configuration, NVMe Configuration, ACPI Configuration, USB Configuration, Super IO Configuration, Serial Port Console Redirection, H/W Monitor, PCI Subsystem Settings, AMD CBS, AMD PBS, PSP Firmware Versions, Network Stack Configuration, Trusted Computing, Driver Health, TLS Auth Configuration, and Instant Flash.



NOTE:

Setting wrong values may cause the system to malfunction.

7.3.1 CPU Configuration

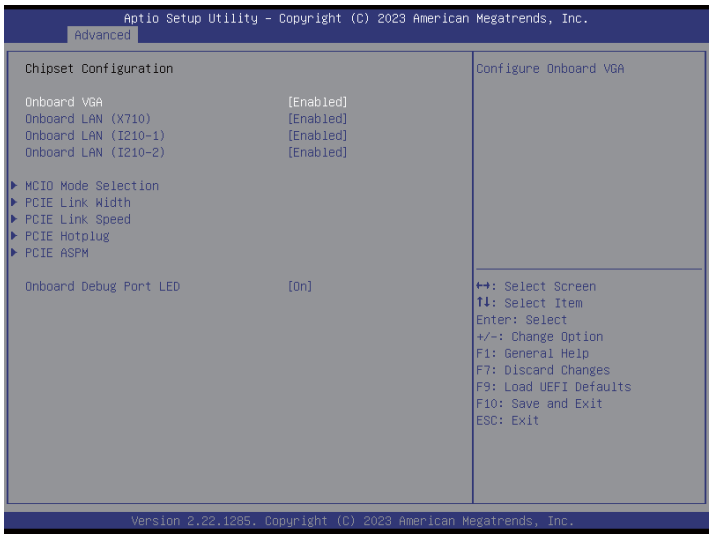


- SVM Mode

Enable or disable CPU Virtualization.

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7.3.2 Chipset Configuration



- Onboard VGA

Use this to enable or disable the Onboard VGA function.

- Onboard LAN (X710/I210-1/I210-2)

Use this to enable or disable the Onboard LAN function.

- MCIO Mode Selection

This item is for MCIO Mode Configuration.

- MCIO3 PCIE/SATA Mode

Configure MCIO3 PCIE/SATA Mode.

- PCIE Link Width

This displays the PCIE Link Width.

- PCIE1/PCIE2/PCIE3/PCIE4/PCIE5/PCIE6 Link Width

The default values for PCIE1 and PCIE3 are [x8], others are [x16].

- PCIE1/3 Link Width: x8, x4x4
- PCIE2/4/5/6 Link Width: x16, x8x8, x8x4x4, x4x4x8, x4x4x4x4
- MCIO2/MCIO1 Link Width

The default values for MCIO2 and MCIO1 are [x4x4/x4x4].

- MCIO3 Link Width

The default value for MCIO3 is [x4x4].

- MCIO5/MCIO4 Link Width

The default values for MCIO5 and MCIO4 are [x4x4/x4x4].

PCIE Link Speed

This displays the PCIE Link Speed.

- PCIE1/PCIE2/PCIE3/PCIE4/PCIE5/PCIE6 Link Speed

The default values for PCIE1/2/3/4/5/6 are [Auto].

- MCIO2/MCIO1 Link Speed

The default values for MCIO2 and MCIO1 are [Auto].

- MCIO3 Link Speed

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The default value for MCIO3 is [Auto].

- MCIO5/MCIO4 Link Speed

The default values for MCIO5 and MCIO4 are [Auto].

- M2_1/M2_2 Link Speed

The default values for M2_1 and M2_2 are [Auto].

PCIE Hot-plug

Select this item to enable or disable Hot Plug for PCIE1/2/3/4/5/6/7, M2_1/M2_2, MCIO1/2/3/4/5 globally.

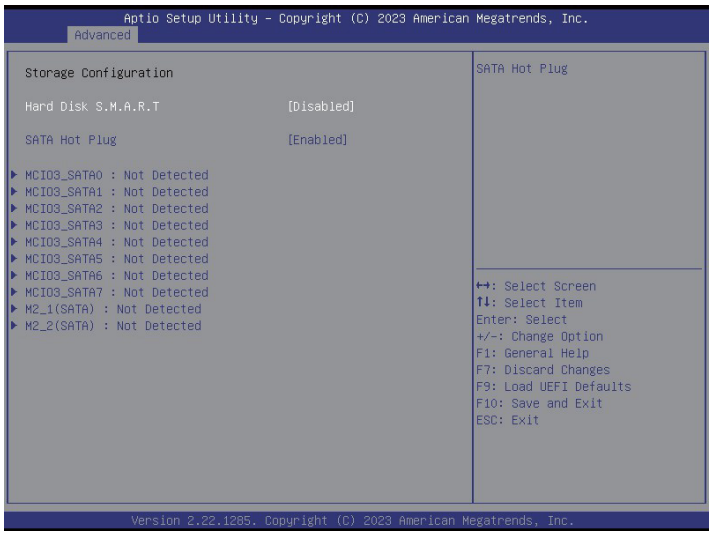
- PCIE ASPM

Select this item to disable ASPM support in all PCIe root ports. The default value is [Auto].

- Onboard Debug Port LED

Use this item to configure the onboard Debug LED.

7.3.3 Storage Configuration



Hard Disk S.M.A.R.T.

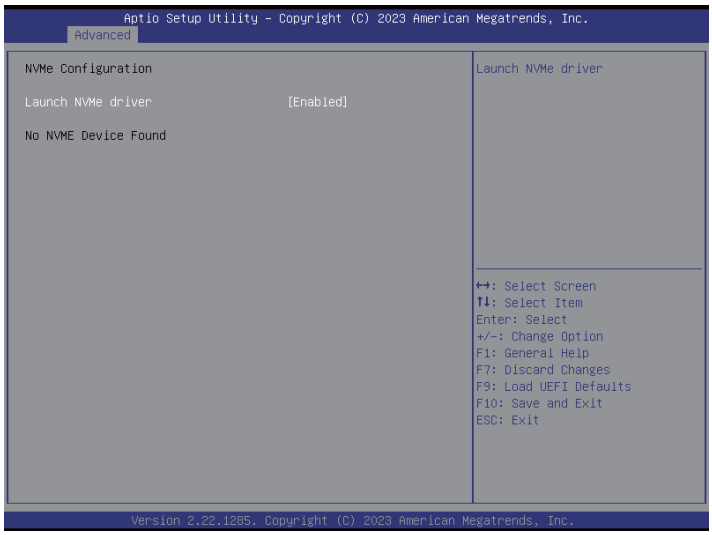
S.M.A.R.T stands for Self-Monitoring, Analysis, and Reporting Technology. It is a monitoring system for computer hard disk drives to detect and report on various indicators of reliability.

SATA Hot Plug

Use this to enable or disable the SATA Hot Plug Function.

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7.3.4 NVMe Configuration



The NVMe Configuration displays the NVMe controller and drive information.

Launch NVMe driver

Select this item to enable or disable launch NVMe driver.

7.3.5 ACPI Configuration



- PCIE Devices Power On

Allow the system to be waked up by a PCIE device and enable wake on LAN.

- Ring-In Power On

Allow the system to be waked up by onboard COM port modem Ring-In Signals.

- RTC Alarm Power On

Allow the system to be waked up by real time clock alarm. Set it to By OS to let it be handled by the operating system.

- RTC Alarm Date

Use this item to set Date of RTC power on feature.

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- RTC Alarm Hour

Use this item to set Hour of RTC power on feature.

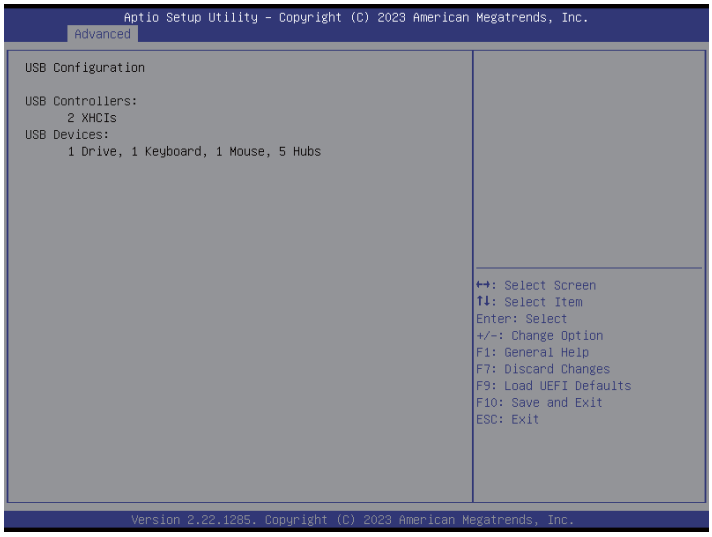
- RTC Alarm Minute

Use this item to set Minute of RTC power on feature.

- RTC Alarm Second

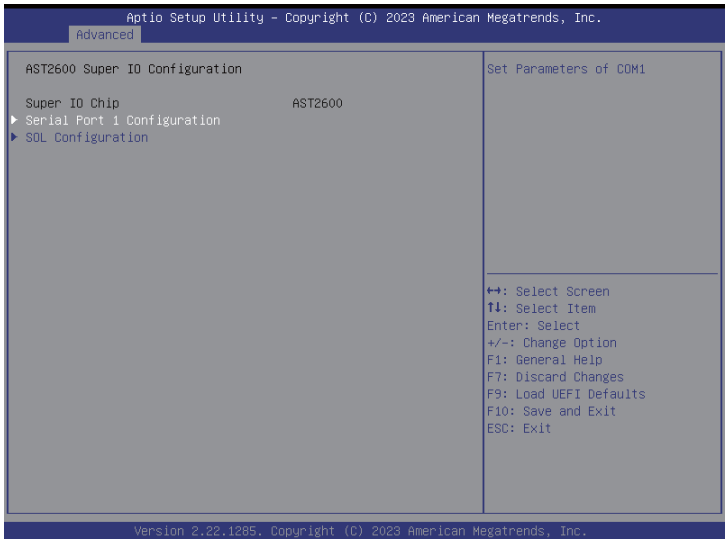
Use this item to set Second of RTC power on feature.

7.3.6 USB Configuration



This displays the USB Controllers and USB Devices information.

7.3.7 Super IO Configuration



Serial Port 1 Configuration

Use this item to set parameters of Serial Port 1 (COM1).

- Serial Port

Use this item to enable or disable the serial port.

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- Change Settings

Use this item to select an optimal setting for Super IO device.

SOL Configuration

Use this item to set parameters of SOL.

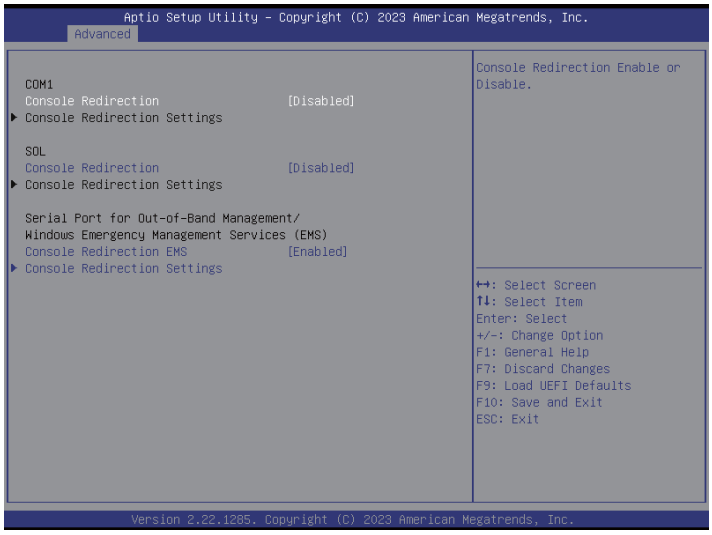
- SOL Port

Use this item to enable or disable the SOL Port.

- Change Settings

Use this item to select an optimal setting for Super IO device.

7.3.8 Serial Port Console Redirection



COM1 / SOL

Console Redirection

Use this to enable or disable Console Redirection. If this item is set to Enabled allowing to select a COM Port to be used for Console Redirection.

Console Redirection Settings

Use this to configure Console Redirection Settings, and specify how the computer and the host computer to which are connected exchange information. Both computers should have the same or compatible settings.

- Terminal Type

Use this to select the preferred terminal emulation type for out-of-band management.

Option	Description
VT100	ASCII character set
VT100Plus	Extended VT100 that supports color and function keys
VT-UTF8	UTF8 encoding is used to map Unicode chars onto 1 or more bytes
ANSI	Extended ASCII character set

- Bits Per Second

Use this to select the serial port transmission speed. The speed used in the host computer and the client computer must be the same. Long or noisy lines may require lower transmission speed. The options include [9600], [19200], [38400], [57600] and [115200].

- Data Bits

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Use this to set the data transmission size. The options include [7] and [8] (Bits).

- Parity

Use this to select the parity bit. The options include [None], [Even], [Odd], [Mark] and [Space].

- Stop Bits

The item indicates the end of a serial data packet. The standard setting is [1] Stop Bit. Select

[2] Stop Bits for slower devices.

- Flow Control

Use this to set the flow control to prevent data loss from buffer overflow. When sending data, if the receiving buffers are full, a "stop" signal can be sent to stop the data flow. Once the buffers are empty, a "start" signal can be sent to restart the flow. Hardware flow uses two wires to send start/stop signals. The options include [None] and [Hardware RTS/CTS].

- VT-UTF8 Combo Key Support

Use this to enable or disable the VT-UTF8 Combo Key Support for ANSI/ VT100 terminals.

- Recorder Mode

Use this to enable or disable Recorder Mode to capture terminal data and send it as text messages.

- Resolution 100x31

Use this to enable or disable extended terminal resolution support.

- Putty Keypad

Use this to select Function Key and Keypad on Putty.

Serial Port for Out-of-Band Management/Windows Emergency Management Services (EMS)

Console Redirection EMS

Use this to enable or disable Console Redirection EMS. If this item is set to Enabled allowing to select a COM Port to be used for Console Redirection.

Console Redirection Settings

Use this to configure Console Redirection Settings, and specify how the remote computer and the host computer to which are connected exchange information. Both computers should have the same or compatible settings.

- Out-of-Band Mgmt Port

Microsoft Windows Emergency Management Services (EMS) allows for remote management of a Windows Server OS through a serial port.

- Terminal Type EMS

Use this to select the preferred terminal emulation type for out-of-band management. It is recommended to select [VT-UTF8].

Option	Description
VT100	ASCII character set
VT100+	Extended VT100 that supports color and function keys
VT-UTF8	UTF8 encoding is used to map Unicode chars onto 1 or more bytes
ANSI	Extended ASCII character set

- Bits Per Second EMS

Use this to select the serial port transmission speed. The speed used in the host computer and the client computer must be the same. Long or noisy lines may require lower transmission speed. The options include [9600], [19200], [57600] and [115200].

- Flow Control EMS

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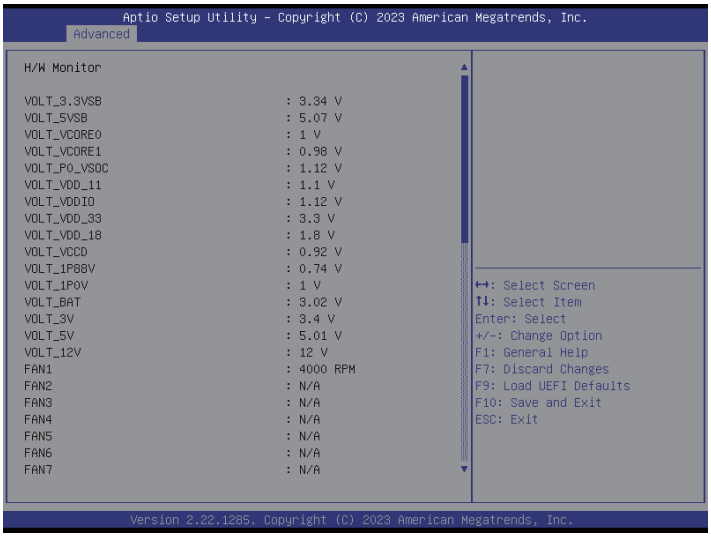
Use this to set the flow control to prevent data loss from buffer overflow. When sending data, if the receiving buffers are full, a "stop" signal can be sent to stop the data flow. Once the buffers are empty, a "start" signal can be sent to restart the flow. Hardware flow uses two wires to send start/stop signals. The options include [None], [Hardware RTS/CTS], and [Software Xon/Xoff].

Data Bits

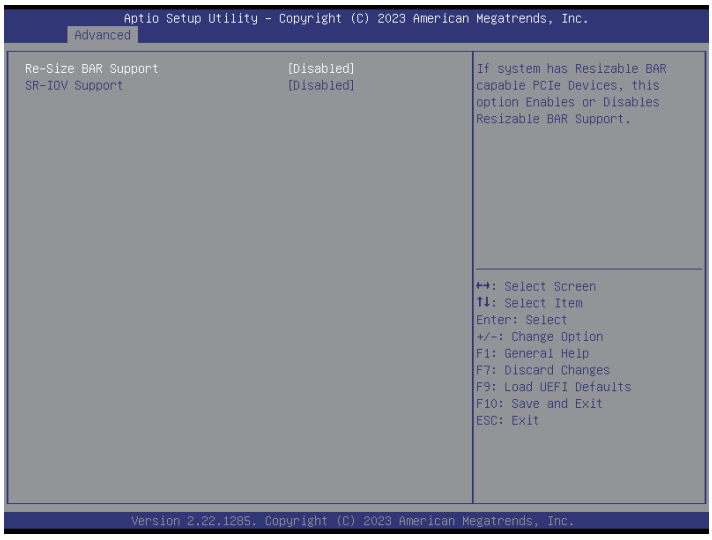
Parity Stop Bits

7.3.9 H/W Monitor

In this section, it allows user to monitor the status of the hardware on the system, including the parameters of the CPU temperature, motherboard temperature, CPU fan speed, chassis fan speed, and the critical voltage.



7.3.10 PCI Subsystem Settings



Re-Size BAR Support

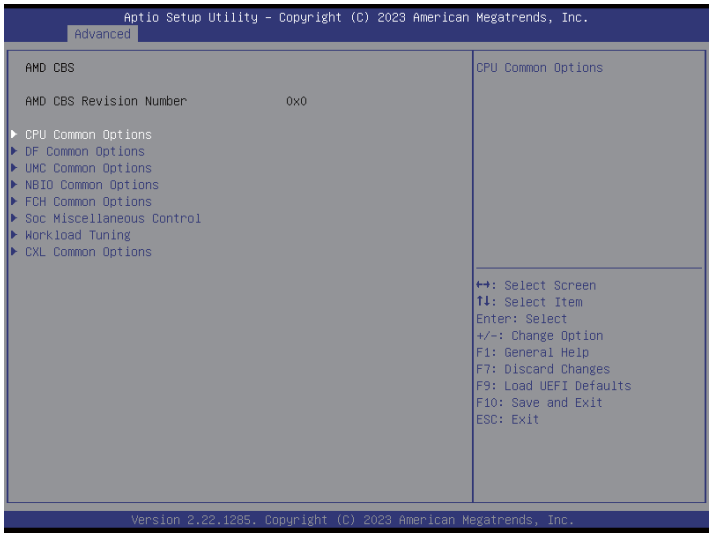
Enable or disable this item to Re-Size BAR supported upon the sysem has resizable BAR capable PCIe Devices.

SR-IOV Support

If system has SR-IOV capable PCIe Devices, this option Enables or Disables Single Root IO Virtualization Support.

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7.3.10.1 AMD CBS



CPU Common Options

Use this item to configure CPU Common options.

DF Common Options

Use this item to configure DF Common options.

UMC Common Options

Use this item to configure UMC Common options.

NBIO Common Options

Use this item to configure NBIO Common options.

FCH Common Options

Use this item to configure FCH Common options.

Soc Miscellaneous Control

Use this item to configure Soc Miscellaneous Control options.

Workload Tuning Options

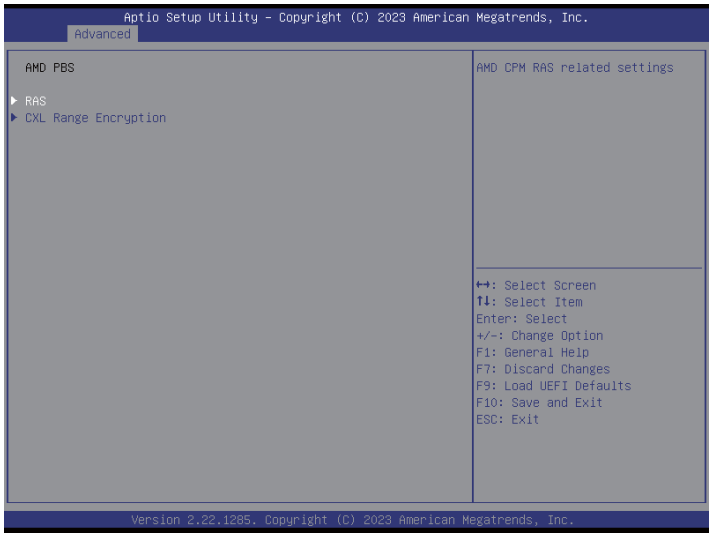
Use this item to configure Workload Tuning options.

CXL Common Options

Use this item to configure CXL Common options.

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7.3.10.2 AMD PBS



RAS

Use this item to configure AMD CPM RAS related settings.

RAS Periodic SMI Control

Use this to enable or disable Periodic SMI for polling [MCA Threshold] error.

SMI Threshold

This limits the number of [MCA Threshold and Deferred Error SMI source] per a unit time.

SMI Scale

Use this to define the time scale.

SMI Scale Unit

Use this to define the unit of time scale.

SMI Period

Use this to define the polling interval with ms unit. Input 0 value to disable this function.

GHES Notify Type

This specifies the notification type for deferred/corrected errors.

GHES UnCorr Notify Type

This specifies the notification type for uncorrected errors.

PCIe GHES Notify Type

This specifies the notification type for PCIe corrected errors.

PCIe UnCorr GHES Notify Type

This specifies the notification type for PCIe uncorrected errors.

PCIe Root Port Corr Err Mask Reg

Use this to initialize the PCIe AER corrected error mask register of root port.

PCIe Root Port UnCorr Err Mask Reg

Use this to initialize the PCIe AER uncorrected error mask register of root port.

PCIe Root Port UnCorr Err Sev Reg

Use this to initialize the PCIe AER uncorrected error severity registers of root port.

PCIe Device Corr Err Mask Reg

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Use this to initialize the PCIe AER corrected error mask register of PCIe device.

PCIe Device UnCorr Err Mask Reg

Use this to initialize the PCIe AER uncorrected error mask register of PCIe device.

PCIe Device UnCorr Error Sev Reg

Use this to initialize the PCIe AER uncorrected error severity registers of PCIe device

CXL DP CIE Mask Enable

Use this to enable or disable masking of CXL DP correctable error-internal error.

DRAM Hard Post Package Repair

Use this to enable or disable the spare DRAM rows to replace malfunctioning rows via an in-field repair mechanism.

HEST DMC Structure Support

Use this to enable or disable HEST DMC (Deffered Maching Check) structure support.

CXL Error Report Support

Use this to enable or disable CXL error reporting.

CXL Range Encryption

Configure AMD CXL range encryption setting.

Range 1/2/3/4/5/6/7 Memory Base

Use this item to enter memory range base address.

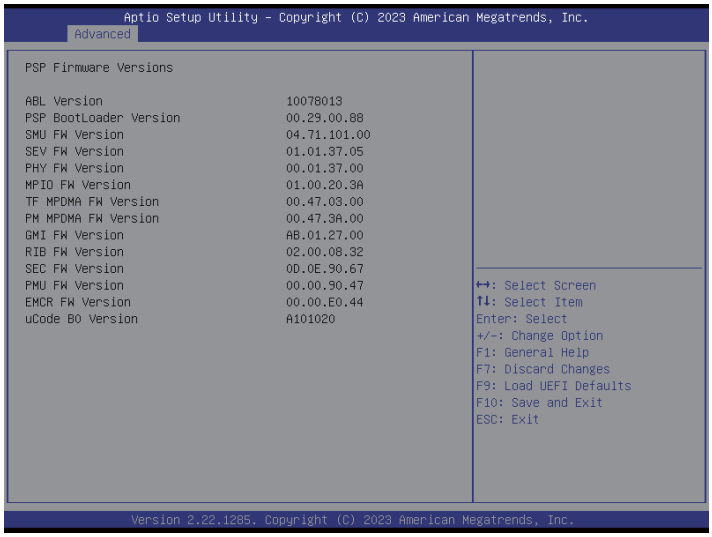
Range 1/2/3/4/5/6/7 Memory Limit

Use this item to enter memory range limit address.

Start CXL Range Encryption

Use this to encrypt all memory ranges.

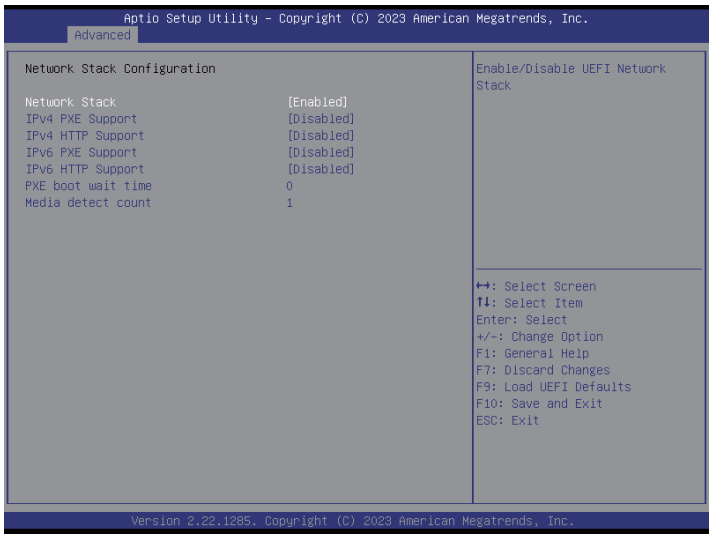
7.3.11 PSP Firmware Versions



The PSP Firmware Versions displays the version information of ABL, PSP Bootloader, SMU FW, SEV FW, PHY FW, MPIO FW, TF MPDMA FW, PM MPDMA FW, GMI FW, RIB FW, SEC FW, PMU FW, EMCR FW and uCode B0.

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7.3.12 Network Stack Configuration



Network Stack

Use this to enable or disable BIOS Network Stack.

IPv4 PXE Support

Use this to enable or disable IPv4 PXE boot support. If disabled, IPv4 PXE boot support will not be available.

IPv4 HTTP Support

Use this to enable or disable IPv4 HTTP boot support. If disabled, IPv4 HTTP boot support will not be available.

IPv6 PXE Support

Use this to enable or disable IPv6 PXE boot support. If disabled, IPv6 PXE boot support will not be available.

IPv6 HTTP Support

Use this to enable or disable IPv6 HTTP boot support. If disabled, IPv6 HTTP boot support will not be available.

PXE boot wait time

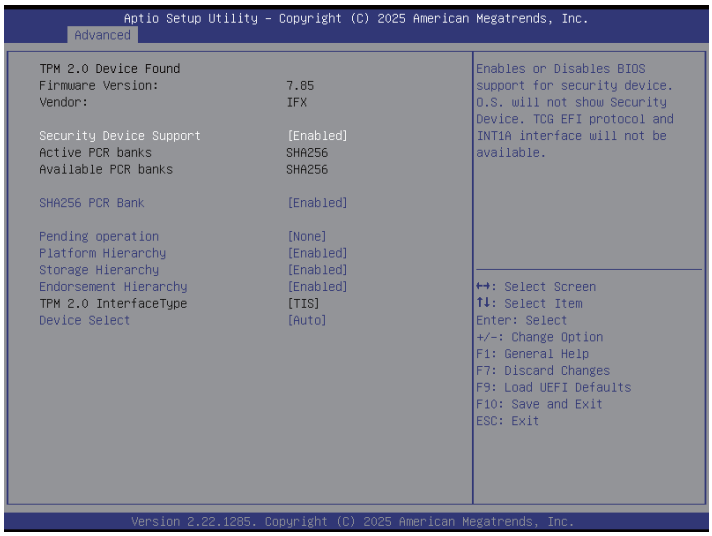
Wait time in seconds to press ESC key to abort the PXE boot. Use either +/- or numeric keys to set the value.

Media detect count

Number of times the presence of media will be checked. Use either +/- or numeric keys to set the value.

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7.3.13 Trusted Computing



NOTE:

Options may vary depending on the TPM module

Security Device Support

Enable to activate Trusted Platform Module (TPM) security for the hard disk drives.

Active PCR banks

This item displays active PCR Banks.

Available PCR banks

This item displays available PCR Banks.

SHA256 PCR Bank

Use this item to enable or disable SHA256 PCR Bank

Pending Operation

Schedule an Operation for the Security Device.

NOTE:

The computer will reboot during restart in order to change state of the device.

Platform Hierarchy

Use this item to enable or disable Platform Hierarchy.

Storage Hierarchy

Use this item to enable or disable Storage Hierarchy.

Endorsement Hierarchy

Use this item to enable or disable Endorsement Hierarchy.

TPM 2.0 InterfaceType

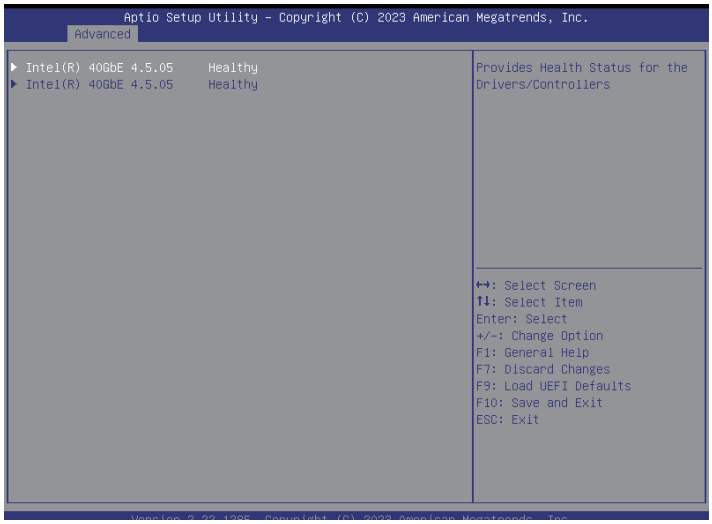
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Select the Communication Interface to TPM 2.0 Device

Device Select

Use this item to select the TPM device to be supported. TPM 1.2 will limit support to TPM 1.2 devices. TPM 2.0 will limit support to TPM 2.0 devices. Auto will support both with the default set to TPM 2.0 devices. If TPM 2.0 devices are not found, TPM 1.2 devices will be enumerated.

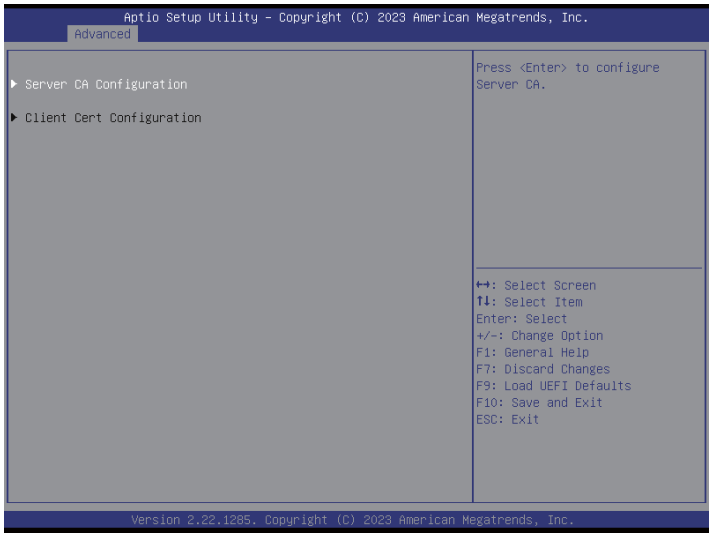
7.3.14 Driver Health



Inter (R) 40GbE 4.5.05 “Healthy”

Provides Health Status for the Drivers/Controllers.

7.3.15 Tis Auth Configuration



Server CA Configuration

Press <Enter> to configure Server CA.

- Enroll Cert

Press <Enter> to enroll cert.

- Delete Cert

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Press <Enter> to delete cert.

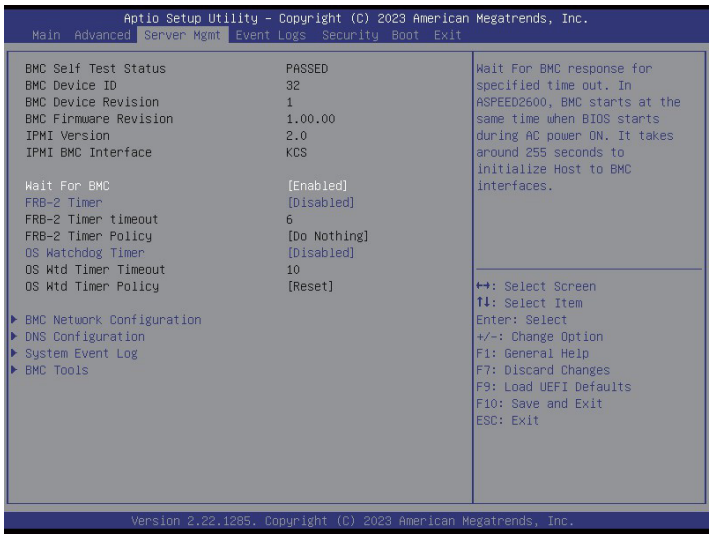
Client Cert Configuration

- Press <Enter> to configure Client Cert.

7.3.16 Instant Flash

Instant Flash is a BIOS flash utility embedded in Flash ROM. This convenient BIOS update tool allows user to update system BIOS without entering operating systems first like MSDOS or Windows®. Just save the new BIOS file to the USB flash drive, floppy disk or hard drive and launch this tool, then update the BIOS only in a few clicks without preparing an additional floppy diskette or other complicated flash utility. Please be noted that the USB flash drive or hard drive must use FAT32/16/12 file system. Execute the Instant Flash utility, the utility will show the BIOS files and the respective information. Select the proper BIOS file to update BIOS, and reboot the system after the BIOS update process is completed.

7.4 Server Management



Wait For BMC

Wait For BMC response for specified time out. BMC starts at the same time when BIOS starts during AC power ON. It takes around 255 seconds to initialize Host to BMC interfaces.

FRB-2 Timer

Use this item to enable or disable FRB-2 timer (POST timer)

FRB-2 Timer Timeout

Use this to define the FRB-2 Time Expiration between 1 to 30 value.

FRB-2 Timer Policy

Configure how the system should respond. If the FRB-2 Timer expires is disabled, this item is not available.

OS Watchdog Timer

Use this item to enable or disable OS Watchdog Timer. If enabled, starts a BIOS timer which can only be shut off by Management Software after the OS loads.

OS Wtd Timer Timeout

Configure the OS Boot Watchdog Timer Expiration between 1 to 30 min value. If the OS Boot Watchdog Timer is disabled, this item is not available.

OS Wtd Timer Policy

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Configure how the system should respond if the OS Boot Watchdog Timer expires. If the OS Boot Watchdog Timer is disabled, this item is not available.

BMC Network Configuration

Use this to configure BMC network parameters.

DNS Configuration

Select this item to configure DNS parameters.

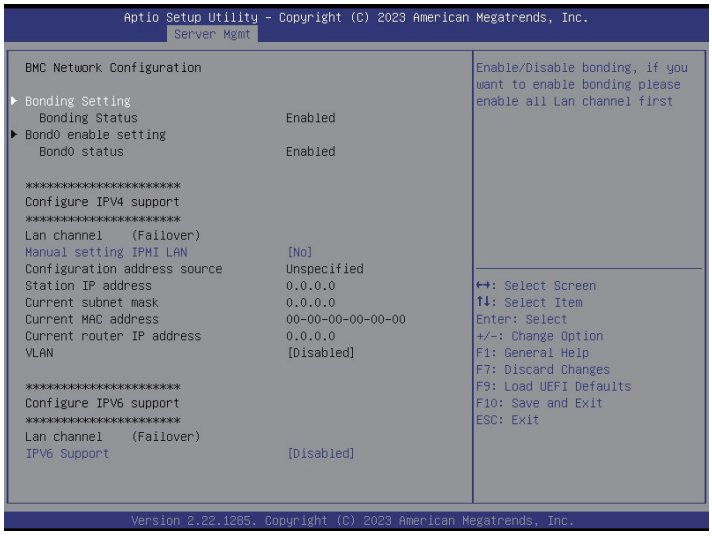
System Event Log

Press <Enter> to change the SEL event log configuration.

BMC Tools

Use this item to configure about KCS control, restore AC power loss and load BMC default settings.

7.4.1 BMC Network Configuration



Bonding Setting

Select this item to enabled or disabled bonding. Please enable all LAN channel first when enabling bonding.

Lan channel (Failover)

Manual Setting IPMI LAN

If [No] is selected, the IP address is assigned by DHCP. If using a static IP address, toggle to [Yes], and the changes take effect after the system reboots. The default value is [No].

Configuration Address Source

Select to configure BMC network parameters statically or dynamically (by BIOS or BMC). Configuration options: [Static] and [DHCP].

Static: Manually enter the IP Address, Subnet Mask and Gateway Address in the BIOS for BMC LAN channel configuration.

DHCP: IP address, Subnet Mask and Gateway Address are automatically assigned by the network's DHCP server.

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NOTE:

The default login information for the IPMI web interface is:

Username: admin

Password: admin

For more instructions on how to set up remote control environment and use the IPMI management platform, please refer to the IPMI Configuration User Guide

VLAN

Enable or disable Virtual Local Area Network.

If [Enabled] is selected, configure the items below.

VLAN ID: Select this item to configure the VLAN ID setting, the Maximum value is 4094 and the Minimum value is 1.

VLAN Priority: Select this item to configure the VLAN Priotity setting. the Maximum value is 7 and the Minimum value is 0.

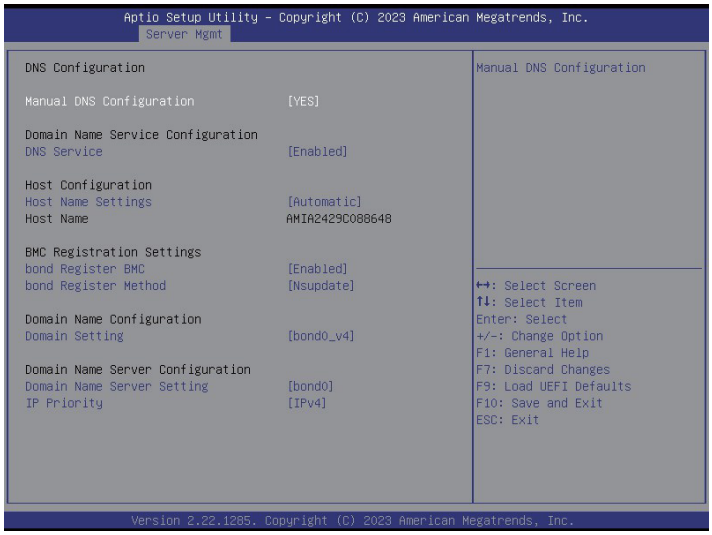
IPV6 Support

Enable or disable LAN IPV6 Support.

Manual Setting IPMI LAN(IPV6)

Select to configure LAN channel parameters statically or dynamically (by BIOS or BMC). Unspecified option will not modify any BMC network parameters during BIOS phase.

7.4.2 DNS Configuration



Manual DNS Configuration

Select this item to manual configure DNS.

If [YES] is selected, configure the items below.

DNS Service

Use this item to enable or disable DNS Service Configuration.

Host Name Settings

Use this item to automatic or manual Host Name Settings.

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Bond Register BMC

Use this item to enable or disable Bond Register BMC.

Bond Register Method

Use this item to configure Bond Register Method with nsupdate or DHCP client FQDN/ Hostname.

Domain Setting

This item supports Manual, Bond0_v4 and Bond0_v6 Domain Settings.

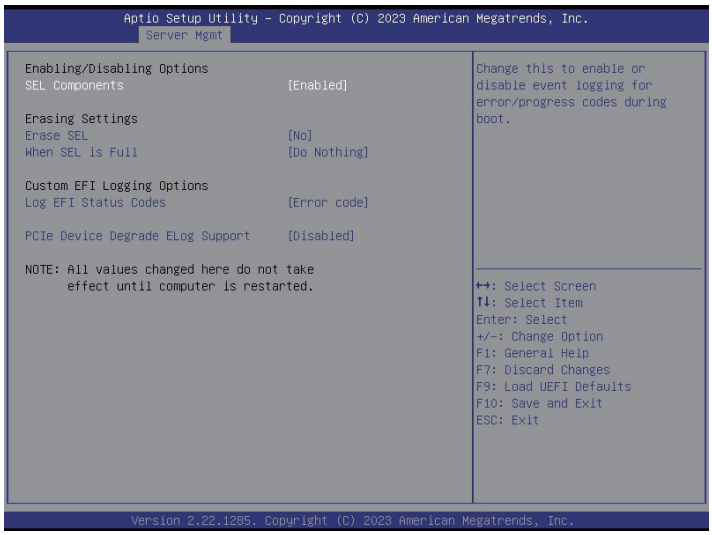
Domain Name Server Setting

This item supports Manual and Bond0 DNS Server Settings.

IP Priority

This item supports IPV4 and IPV6 IP Priority.

7.4.3 System Event Log



SEL Components

Change this to enable or disable event logging for error/progress codes during boot.

Erase SEL

Use this to choose options for erasing SEL.

When SEL is Full

Use this to choose options for reactions to a full SEL.

Log EFI Status Codes

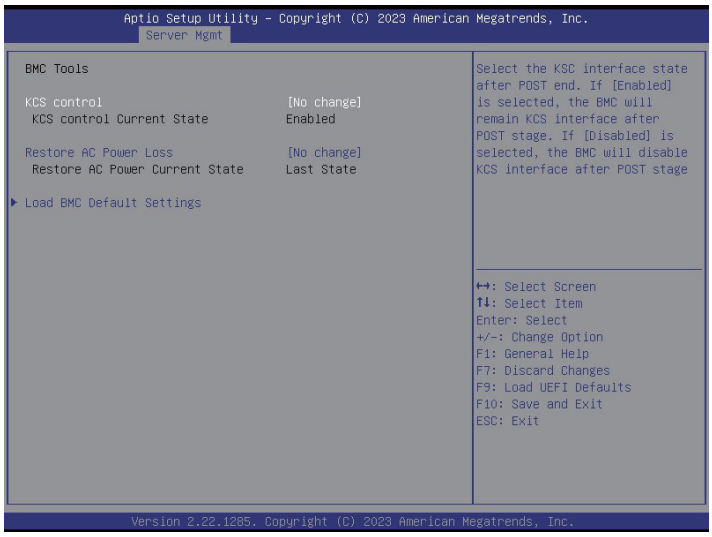
Use this item to disable the logging of EFI Status Codes or log only error code or only progress code or both.

PCIe Device Degrade ELog Support

Use this item to enable or disable PCIe Device Degrade Error Logging Support.

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7.4.4 BMC Tools



KCS Control

Select this KCS interface state after POST end. If [Enabled] us selected, the BMC will remain KCS interface after POST stage. If [Disabled] is selected, the BMC will disable KCS interface after POST stage

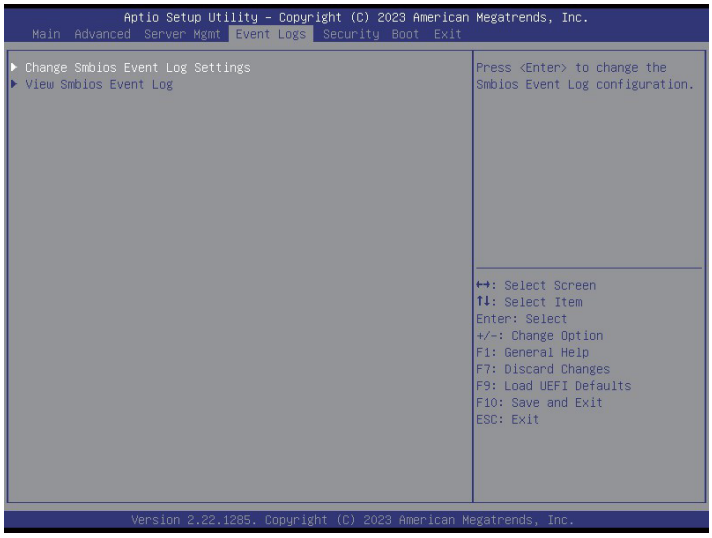
Restore AC Power Loss

This allows user to set the power state after an unexpected AC/power loss. If [Power Off] is selected, the AC/power remains off when the power recovers. If [Power On] is selected, the AC/power resumes and the system starts to boot up when the power recovers. If [Last State] is selected, it will recover to the state before AC/power loss.

Load BMC Default Settings

Use this item to Load BMC Default Settings

7.5 Event Logs



Change Smbios Event Log Settings

Use this item to configure the Smbios Event Log Settings.

When entering the item, the screen displays following sub-items:

- Smbios Event Log

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Use this item to enable or disable all features of the SMBIOS Event Logging during system boot.

- Erase Event Log

Choose options for erasing Smbios Event Log. Erasing is done prior to any logging activation during reset.

- When Log is Full

Use this item to choose options for reactions to a full Smbios Event Log. The options include [Do Nothing] and [Erase Immediately].

- Log System Boot Event

Choose option to enable/disable logging of System boot event.

- MECI (Multiple Event Count Increment)

Use this item to enter the increment value for the multiple event counter. The valid range is from 1 to 255.

- METW (Multiple Event Time Window)

Use this item to specify the number of minutes which must pass between duplicate log entries which utilize a multiple-event counter. The value ranges from 0 to 99 minutes.

- Log EFI Status Code

Enable or disable the logging of EFI Status Codes as OEM reserved type E0 (if not already converted to legacy).

- Convert EFI Status Codes to Standard Smbios Type

Enable or disable the converting of EFI Status Codes to Standard Smbios Types (Not all may be translated).

View Smbios Event Log

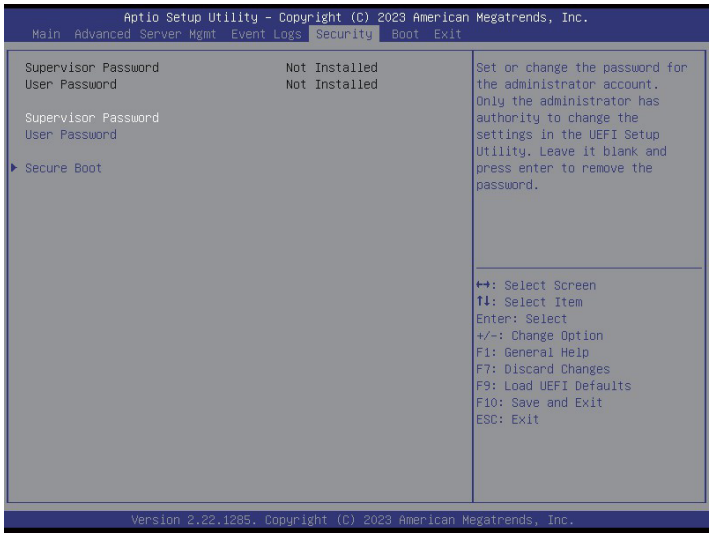
Press <Enter> to view the Smbios Event Log records.

NOTE:

All changes will take effect after a system restart.

7.6 Security

This section allows user to set or change the supervisor/user password for the system. User-level password cannot be cleared using an user account.



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Supervisor Password

Set or change the password for the administrator account. Only the administrator has authority to change the settings in the BIOS Setup Utility. Leave it blank and press enter to remove the password.

User Password

Set or change the password for the user account. Users are unable to change the settings in the BIOS Setup Utility. Leave it blank and press enter to remove the password.

Secure Boot

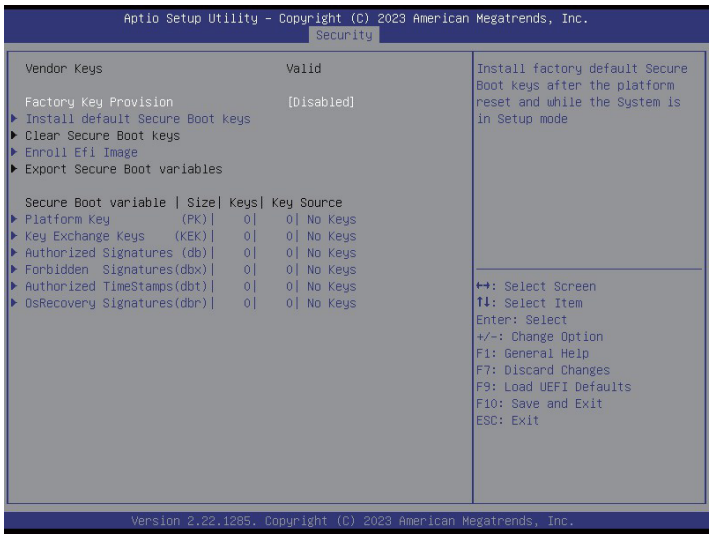
Use this to enable or disable Secure Boot Control. The default value is [Disabled]. Enable to support Windows Server 2012 R2 or later versions Secure Boot.

- Secure Boot Mode

Secure Boot mode selector: Standard/Custom. In Custom mode Secure Boot Variables can be configured without authentication.

7.6.1 Key Management

In this section, expert users can modify Secure Boot Policy variables without full authentication.



Factory Key Provision

Install factory default Secure Boot keys after the platform reset and while the System is in Setup mode.

Install Default Secure Boot Keys

Please install default secure boot keys if it’s the first time to use secure boot.

Clear Secure Boot Keys

This force system to setup Mode-Clear all Secure Boot Variables. Change takes effect after reboot.

Enroll Efi Image

Allow the image to run in Secure Boot mode. Enroll SHA256 hash of the binary into Authorized Signature Database (db).

Export Secure Boot Variables

Copy NVRAM content of Secure Boot variables to files in a root folder on a file system device.

Platform Key (PK)

Enroll Factory Defaults or load certificates from a file:

1. Public Key Certificate in:

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a) EFI_SIGNATURE_LIST
b) EFI_CERT_X509 (DER)
c) EFI_CERT_RSA2048 (bin)
d) EFI_CERT_SHAXXX
2. Authenticated BIOS Variable
3. EFI PE/COFF Image(SHA256)

Key Source: Factory, External, Mixed

Key Exchange Keys (KEK)

Enroll Factory Defaults or load certificates from a file:

1. Public Key Certificate in:
a) EFI_SIGNATURE_LIST
b) EFI_CERT_X509 (DER)
c) EFI_CERT_RSA2048 (bin)
d) EFI_CERT_SHAXXX
2. Authenticated BIOS Variable
3. EFI PE/COFF Image (SHA256)

Key Source: Factory, External, Mixed

Authorized Signatures (db)

Enroll Factory Defaults or load certificates from a file:

1. Public Key Certificate in:
a) EFI_SIGNATURE_LIST
b) EFI_CERT_X509 (DER)
c) EFI_CERT_RSA2048 (bin)
d) EFI_CERT_SHAXXX

Authenticated BIOS Variable

2. EFI PE/COFF Image(SHA256)

Key Source: Factory, External, Mixed

Forbidden Signatures (dbx)

Enroll Factory Defaults or load certificates from a file:

1. Public Key Certificate in:
a) EFI_SIGNATURE_LIST
b) EFI_CERT_X509 (DER)
c) EFI_CERT_RSA2048 (bin)
d) EFI_CERT_SHAXXX
2. Authenticated BIOS Variable
3. EFI PE/COFF Image(SHA256)

Key Source: Factory, External, Mixed

Authorized TimeStamps (dbt)

Enroll Factory Defaults or load certificates from a file:

1. Public Key Certificate in:
a) EFI_SIGNATURE_LIST

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b) EFI_CERT_X509 (DER)

c) EFI_CERT_RSA2048 (bin)

d) EFI_CERT_SHAXXX

2. Authenticated BIOS Variable

3. EFI PE/COFF Image(SHA256)

Key Source: Factory, External, Mixed

OsRecovery Signatures (dbr)

Enroll Factory Defaults or load certificates from a file:

1. Public Key Certificate in:

a) EFI_SIGNATURE_LIST

EFI_CERT_X509 (DER)

b) EFI_CERT_RSA2048 (bin)

c) EFI_CERT_SHAXXX

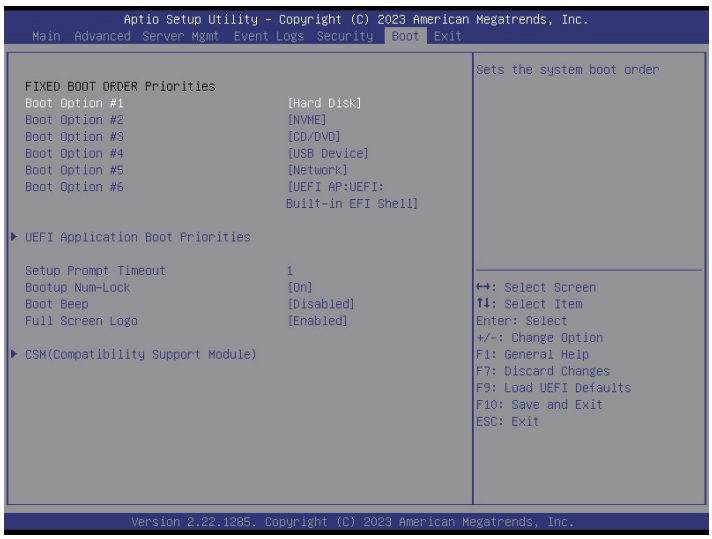
2. Authenticated BIOS Variable

3. EFI PE/COFF Image (SHA256)

Key Source: Factory, External, Mixed

7.7 Boot Screen

In this section, it will display the available devices on the system for user to configure the boot settings and the boot priority.



Boot Option #1/#2/#3/#4/#5/#6 Use this to set the system boot order.

BIOS Application Boot Priorities

Specifies the Boot Device Priority sequence from available BIOS Application.

Setup Prompt Timeout

Configure the number of seconds to wait for the BIOS setup utility.

Bootup Num-Lock

Select whether Num Lock should be turned on or off when the system boots up.

Boot Beep

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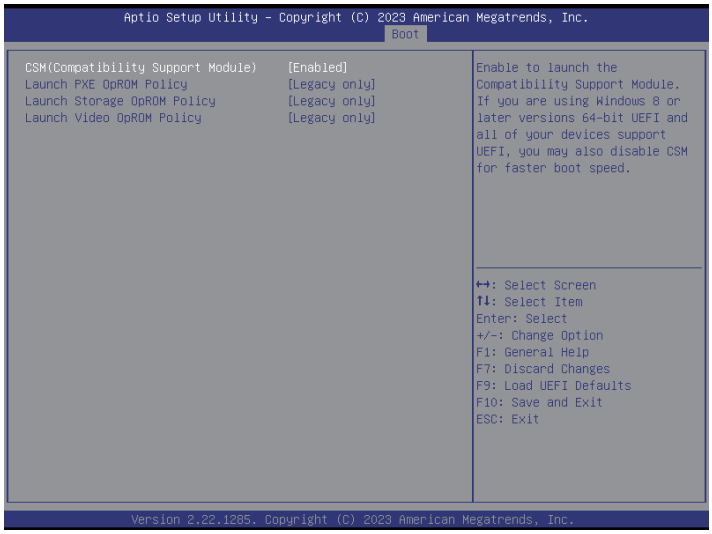
Select whether the Boot Beep should be turned on or off when the system boots up. Please note that a buzzer is needed.

Full Screen Logo

Enable to display the boot logo or disable to show normal POST message.

CSM (Compatibility Support Module)

7.7.1 CSM Parameters



CSM (Compatibility Support Module)

Enable to launch the Compatibility Support Module. Please do not disable unless running a WHCK test. If using Windows 8 or later versions 64-bit BIOS and all of the devices sup-port BIOS, it may also disable CSM for faster boot speed.

Launch PXE OpROM Policy

Select BIOS only to run those that support BIOS option ROM only. Select Legacy only to run those that support legacy option ROM only. Select Do not launch to not execute both legacy and BIOS option ROM.

Launch Storage OpROM Policy

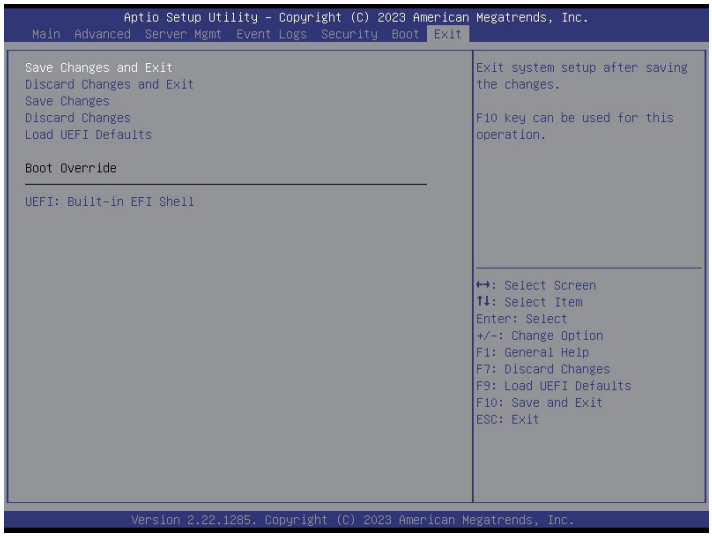
Select BIOS only to run those that support BIOS option ROM only. Select Legacy only to run those that support legacy option ROM only. Select Do not launch to not execute both legacy and BIOS option ROM.

Launch Video OpROM Policy

Select BIOS only to run those that support BIOS option ROM only. Select Legacy only to run those that support legacy option ROM only. Select Do not launch to not execute both legacy and BIOS option ROM.

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7.8 Exit Screen



Save Changes and Exit

When selecting this option, the following message “Save configuration changes and exit setup?” will pop-out. Press <F10> key or select [Yes] to save the changes and exit the BIOS SETUP UTILITY.

Discard Changes and Exit

When selecting this option, the following message “Discard changes and exit setup?” will pop-out. Press <ESC> key or select [Yes] to exit the BIOS SETUP UTILITY without saving any changes.

Save Changes

When selecting this option, the following message “Save changes?” will pop-out. Select [Yes] to save all changes.

Discard Changes

When selecting this option, the following message “Discard changes?” will pop-out. Select [Yes] to discard all changes.

Load BIOS Defaults

Load BIOS default values for all the setup questions. F9 key can be used for this operation.

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8 Technical Support and Troubleshooting

8.1 Software Support

Install Operating System:

This motherboard supports various Microsoft® Windows® Server / Linux operating systems.

Download and Install Software Drivers

After hardware installation is completed, visit our website at https://www.adlinktech.com/products/edge_server/axe_server/axe-7440tr?lang=en for drivers and other software updates

Contact Information

For more information, contact ADLINK at https://www.adlinktech.com, or reach out to your local authorized distributor.

8.2 Troubleshooting Procedure

Follow the procedures below to troubleshoot the system:

1. Disconnect the power cable and check whether the PWR LED is off.
2. Unplug all cables, connectors, and remove all add-on cards from the motherboard. Make sure that the jumpers are set to default settings.
3. Confirm that there are no short circuits between the motherboard and the chassis.
4. Install a CPU and fan on the motherboard, then connect the chassis speaker and power LED.

8.2.1 If there is no power...

1. Confirm that there are no short circuits between the motherboard and the chassis.
2. Make sure that the jumpers are set to default settings.
3. Check the settings of the 115V/230V switch on the power supply.
4. Verify if the battery on the motherboard provides ~3VDC. Install a new battery if necessary.

8.2.2 If there is no video...

1. Try re-plugging the VGA cables and power cord.
2. Check for memory errors.

8.2.3 If there are memory errors...

1. Verify that the DIMM modules are properly seated in the slots.
2. Use recommended DDR5 RDIMM/RDIMM-3DS
3. Install more than one DIMM modules that should be identical with the same brand, speed, size and chip-type.
4. Try inserting different DIMM modules into different slots to identify faulty ones.
5. Check the settings of the 115V/230V switch on the power supply.

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8.2.4 Unable to save system setup configurations...

1. Verify if the battery on the motherboard provides ~3VDC. Install a new battery if necessary.
2. Confirm whether the power supply provides adequate and stable power.

8.3 Technical Support Request Procedure

If the issues are still unsolved, please contact ADLINK technical support via the “Ask an Expert” page: https://www.adlinktech.com/en/Askanexpert

Be sure to include the following information:

1. Contact information
2. Model name, BIOS/BMC version and problem type.
3. System configuration.
4. Problem description.

8.3.1 Returning Merchandise for Service

For warranty service, the receipt or a copy of the invoice marked with the date of purchase is required. Call the vendor or visit the ADLINK eRMA website (https://partner.adlinktech.com/AdlinkPartnerCenterWeb/User/Login) to obtain a Returned Merchandise Authorization (RMA) number.

The RMA number should be displayed on the outside of the shipping carton, which should be mailed prepaid or hand-carried when returning the motherboard to the manufacturer. Shipping and handling charges will apply to all orders returned by mail after service has been completed.

This warranty does not cover damage incurred during shipping or failures due to alteration, misuse, abuse, or improper maintenance of the product.

Please contact your distributor for any product-related issues during the warranty period.

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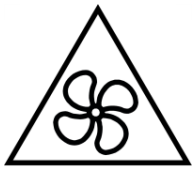
Safety Instructions

For user safety, please read and follow all **instructions**, **WARNINGS**, **CAUTIONS,** and **NOTES** marked in this manual and on the associated equipment before handling/operating the equipment.

1. Read these safety instructions carefully.
2. Keep this user's manual for future reference.
3. Read the specifications section of this manual for detailed information on the operating environment of this equipment.
4. The equipment can be operated at an ambient temperature of 55°C.
5. When installing/mounting or uninstalling/removing equipment; or when removal of the chassis lid required for user servicing (Section 3.1-3.5):
   - Turn off power and unplug any power cords/cables, and
   - Reinstall the chassis lid before restoring power.



Hazardous moving parts. Keep body parts out of the motion path.



6. To avoid electrical shock and/or damage to equipment:
   - Keep equipment away from water or liquid sources;
   - Keep equipment away from high heat or high humidity;
   - Keep equipment properly ventilated (do not block or cover ventilation openings);
   - Make sure to use recommended voltage and power source settings;
   - Always install and operate equipment near an easily accessible electrical socket-outlet;
   - Secure the power cord (do not place any object on/over the power cord);
   - Only install/attach and operate equipment on stable surfaces and/or recommended mountings;
   - If the equipment will not be used for long periods of time, turn off and unplug the equipment from its power source.
   - The power cord must be connected to a socket or outlet with a ground connection.
7. Never attempt to fix the equipment. Equipment should only be serviced by qualified personnel.
8. An RTC battery may be provided for uninterrupted, backup or emergency power.



Risk of explosion if battery is replaced with one of an incorrect type. Discard used batteries according to the manufacturer's instructions.

9. This equipment is not suitable for use in locations where children are likely to be present.
10. Equipment must be serviced by authorized technicians when:
    - The power cord or plug is damaged;
    - Liquid has penetrated the equipment;
    - It has been exposed to high humidity/moisture;
    - It is not functioning or does not function according to the user's manual;
    - It has been dropped and/or damaged; and/or,
    - It has an obvious sign of breakage.

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11. Please pay strict attention to all warnings and advisories appearing on the device, to avoid injury or damage.
12. The equipment may have more than one power supply input. To reduce the risk of electrical shock, trained personnel should disconnect all power supply inputs before servicing.



Shock hazard! Disconnect all power supply inputs before servicing.


Shock hazard!


Multiple power sources

13. It is recommended that equipment be installed only in a server room or computer room where access is:
    - Restricted to qualified service personnel or users familiar with restrictions applied to the location, reasons therefor, and any precautions required;
    - Only afforded by the use of a tool or lock and key, or other means of security, and is controlled by the authority responsible for the location.
14. Suitable for installation in Information Technology Rooms in accordance with Article 645 of the National Electrical Code and NFPA 75.
15. This product is intended to be supplied by a certified DC power source providing reinforced/double insulation from AC mains with an output rating of 36V to 72V DC ,20A min., Tma = 55°C. All power connection wiring must be performed by a qualified electrician in accordance with National Electrical Code, ANSI/NFPA 70 and Canadian Electrical Code, Part I, CSA C22.1. The DC power supply should be well-grounded to ensure safe operation. The protective earthing conductor shall be minimum 14 AWG and having green-and-yellow insulation. The ground wire should be installed first (before "+" and "-") and then removed.
16. When using a Fiber Optic Small-Form Pluggable (SFP) module, ensure it is IEC 60825-1, IEC 60825-2 and IEC 60950-1 or IEC 62368-1 certified and a Class 1 Laser Product.

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Consignes de Sécurité Importantes

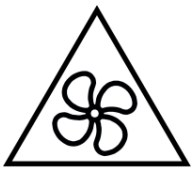
*Pour assurer la sécurité de l'utilisateur, veuillez lire et suivre toutes les **directives**, ainsi que les **AVERTISSEMENTS**, **MISES EN GARDE** et **REMARQUES** de ce manuel et indiqués sur l'équipement associé avant de manipuler ou utiliser l'équipement.*

1. *Veuillez lire attentivement ces instructions de sécurité avec soin.*
2. *Veuillez conserver ce manuel pour référence future.*
3. *Veuillez lire la section des spécifications de ce manuel pour avoir des informations détaillées sur l'environnement d'exploitation de cet équipement.*
4. *L'équipement peut être utilisé à une température ambiante de 55 °C.*
5. *Lors de l'installation ou du montage et de la désinstallation ou de la dépose de l'équipement; ou lors de la dépose du couvercle du châssis pour procéder à l'entretien par l'utilisateur (Sections 3.1-3.5):*
   - *Coupez l'alimentation et débranchez les cordons et les câbles d'alimentation, et*
   - *Reposez le couvercle du châssis avant de remettre l'alimentation.*



AVERTISSEMENT

***Pièces mobiles dangereuses.** Gardez les parties du corps hors de la trajectoire.*



6. *Pour éviter un risque d'électrocution et pour éviter d'endommager l'équipement :*
   - *Éloignez l'équipement de l'eau et de toute source liquide;*
   - *Éloignez l'équipement de toute source de chaleur ou d'humidité élevée;*
   - *Gardez l'équipement correctement ventilé (ne pas bloquer ou couvrir les ouvertures de ventilation);*
   - *Veillez à utiliser la tension recommandée et les réglages adéquats pour la source d'alimentation;*
   - *Veuillez toujours installer et exploiter l'équipement à proximité d'une prise de courant facilement accessible;*
   - *Assurez-vous que le cordon d'alimentation est acheminé de manière sécuritaire (ne déposez aucun objet dessus);*
   - *Installez, fixez et utilisez l'équipement sur des surfaces stables ou sur les fixations recommandées uniquement;*
   - *Si l'équipement n'est pas utilisé pendant une longue période, éteignez-le et débranchez-le de sa source d'alimentation.*
   - *Le cordon d'alimentation doit être connecté à une prise ou à une prise de courant avec mise à la terre.*
7. *N'essayez jamais de réparer l'équipement. L'équipement ne doit être réparé que par du personnel qualifié.*

8. *Une pile au lithium peut être installée pour assurer l'alimentation de secours ou d'urgence en continu.*



mise en garde

***Risque d'explosio**n si la batterie est remplacée par une batterie d'un type incorrect. Jetez les piles usagées conformément aux instructions du fabricant.*

9. *Cet équipement ne convient pas à une utilisation dans des lieux pouvant accueillir des enfants.*
10. *L'équipement doit être entretenu par des techniciens agréés lorsque :*
    - *le cordon d'alimentation est endommagé ou lorsque la fiche électrique est endommagée;*
    - *du liquide a pénétré à l'intérieur de l'équipement;*
    - *l'équipement a été exposé à un taux d'humidité élevé;*
    - *l'équipement ne fonctionne pas ou ne fonctionne pas conformément au manuel de l'utilisateur;*
    - *l'équipement est tombé ou lorsqu'il a été endommagé;*
    - *l'équipement présente un signe évident de défaillance.*

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11. *Veuillez porter une attention rigoureuse à tous les avertissements et à tous les avis figurant sur l'appareil, pour éviter des blessures ou des dommages.*
12. *L'équipement peut avoir plus d'une entrée d'alimentation. Pour réduire le risque d'électrocution, le personnel qualifié devrait déconnecter toutes les entrées d'alimentation avant de procéder à l'entretien.*



mise en garde

Risque d'électrocution! *Débranchez toutes les entrées d'alimentation avant de procéder à l'entretien.*


Shock hazard!
Risque d'électrocution!


Multiple power sources
Sources d'alimentation multiples

13. *Il est recommandé que l'équipement soit installé que dans une salle de serveur ou de la salle informatique où:*
    - *L'accès est limité au personnel de maintenance qualifié ou utilisateurs familiers avec les restrictions appliquées à l'emplacement, motifs, et tout les précautions nécessaires, et;*
    - *L'accès est uniquement assurée par l'utilisation d'un outil ou clé, ou d'autres moyens de sécurité, et est contrôlé par l'autorité responsable de l'emplacement.*
14. *Peut être installé dans des salles de matériel de traitement de l'information conformément à l'article 645 du National Electrical Code et à la NFPA 75.*
15. *Ce produit est destiné à être alimenté par une source d'alimentation CC certifiée fournissant une isolation renforcée/double du secteur CA avec une puissance de sortie de -48 V à -60 V CC, 12 A min., Tma = 55°C. Tout le câblage de connexion d'alimentation doit être effectué par un électricien qualifié conformément au Code national de l'électricité, ANSI / NFPA 70 et au Code canadien de l'électricité, Partie I, CSA C22.1. L'alimentation CC doit être bien mise à la terre pour garantir un fonctionnement sûr. Le conducteur de mise à la terre de protection doit être au minimum 14 AWG et avoir une isolation verte et jaune. Le fil de terre doit être installé en premier (avant «+» et «-») puis retiré.*

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FCC Warning

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

— Reorient or relocate the receiving antenna.
— Increase the separation between the equipment and receiver.
— Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
— Consult the dealer or an experienced radio/TV technician for assistance.

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Getting Services

Ask an Expert: https://www.adlinktech.com/en/Askanexpert

ADLINK Technology, Inc.
Address: No. 66, Huaya 1st Road, Guishan District
Taoyuan City 333, Taiwan
Tel: +886-3-216-5088
Fax: +886-3-328-5723
Email: service@adlinktech.com

Ampro ADLINK Technology, Inc.
Address: 6450 Via Del Oro, San Jose, CA 95119-1208, USA
Tel: +1-408-360-0200
Toll Free: +1-800-966-5200 (USA only)
Fax: +1-408-600-1189
Email: info@adlinktech.com

ADLINK Technology (China) Co., Ltd.
Address: 300 Fang Chun Rd., Zhangjiang Hi-Tech Park, Pudong New Area
Shanghai, 201203 China
Tel: +86-21-5132-8988
Fax: +86-21-5132-3588
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ADLINK Technology GmbH
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Fax: +49-621 43214-30
Email: emea@adlinktech.com

Please visit the Contact page at www.adlinktech.com for information on how to contact the ADLINK regional office nearest you.

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