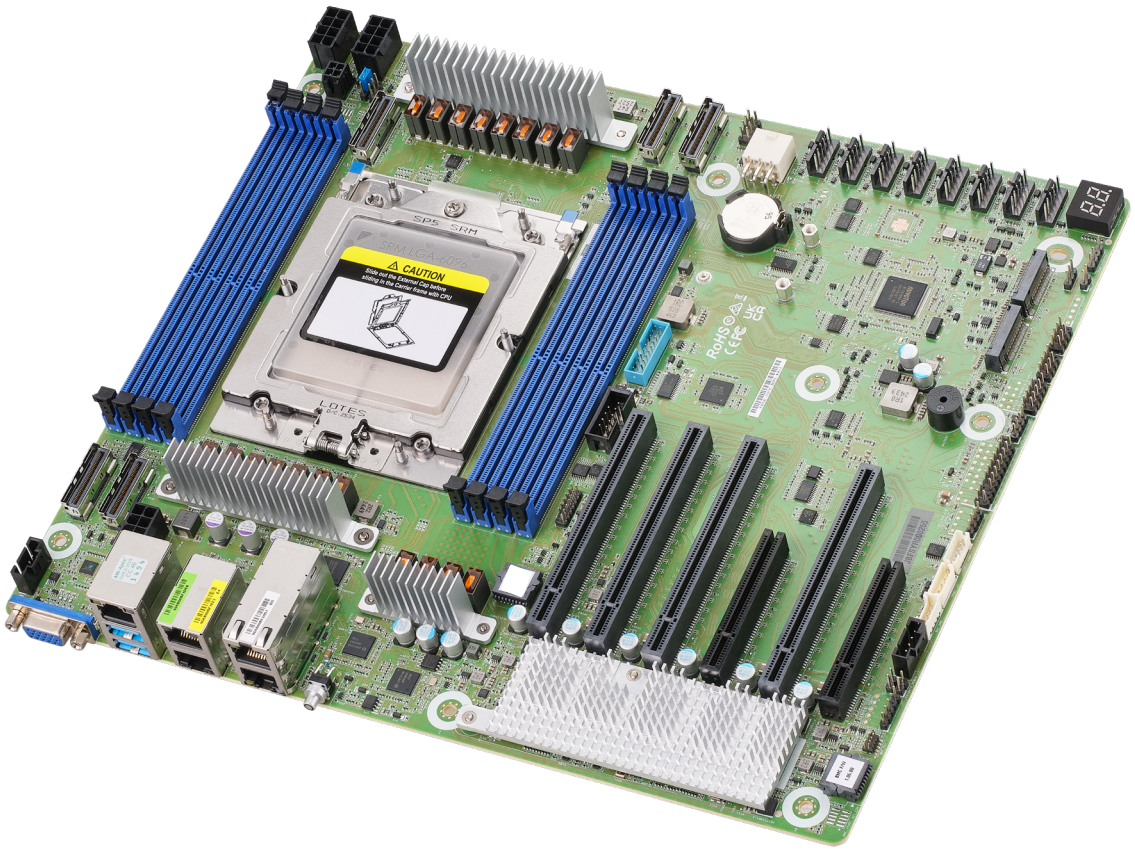
ISB-TR10

User's Manual

CEB Form Factor Server Motherboard for
AMD EPYC™ 9005/9004 Series Processor



Manual Rev.:	Rev. 1.0
Revision Date:	February 05, 2026
Part Number:	50M-13022-1000

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Leading EDGE COMPUTING

Preface

Copyright

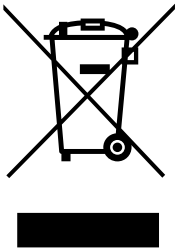
Copyright 2026 ADLINK Technology, Inc. This document contains proprietary information protected by copyright. All rights are reserved. No part of this manual may be reproduced by any mechanical, electronic, or other means in any form without prior written permission of the manufacturer.

Disclaimer

The information in this document is subject to change without prior notice in order to improve reliability, design, and function and does not represent a commitment on the part of the manufacturer. In no event will the manufacturer be liable for direct, indirect, special, incidental, or consequential damages arising out of the use or inability to use the product or documentation, even if advised of the possibility of such damages.

Environmental Responsibility

ADLINK is committed to fulfill its social responsibility to global environmental preservation through compliance with the European Union's Restriction of Hazardous Substances (RoHS) directive and Waste Electrical and Electronic Equipment (WEEE) directive. Environmental protection is a top priority for ADLINK. We have enforced measures to ensure that our products, manufacturing processes, components, and raw materials have as little impact on the environment as possible. When products are at their end of life, our customers are encouraged to dispose of them in accordance with the product disposal and/or recovery programs prescribed by their nation or company.



Battery Labels (for products with battery)



California Proposition 65 Warning



WARNING: This product can expose you to chemicals including acrylamide, arsenic, benzene, cadmium, Tris(1,3-dichloro-2-propyl)phosphate (TDCPP), 1,4-Dioxane, formaldehyde, lead, DEHP, styrene, DINP, BBP, PVC, and vinyl materials, which are known to the State of California to cause cancer, and acrylamide, benzene, cadmium, lead, mercury, phthalates, toluene, DEHP, DIDP, DnHP, DBP, BBP, PVC, and vinyl materials, which are known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Trademarks

Product names mentioned herein are used for identification purposes only and may be trademarks and/or registered trademarks of their respective companies.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

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.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Revision History

Revision	Description	Date	By
1.0	Initial release	2026-02-05	AL

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Table of Contents

Preface ..... **ii**

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

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

1 Introduction **1**

1.1 Packing List 1

2 Specifications **3**

2.1 Unique Features 5

3 Functional Block Diagram **7**

4 Mechanical Layout **9**

4.1 Motherboard Layout 9

4.2 Onboard LED Indicators 12

4.3 I/O Panel 13

5 Installation **15**

5.1 Screw Holes 15

5.2 Pre-installation Precautions 16

5.3 Installing the CPU 16

5.4 Installation of Memory Modules (DIMM) 20

5.5 Expansion Slots (PCI Express Slots) 21

5.6 M.2 SSD Module Installation 22

6 Connector Pinouts and Jumper Settings **25**

6.1 Onboard Headers and Connectors 25

6.2 ATX PSU Power Connections 36

6.3 Dr. Debug 37

6.4 LEDs and Switches 39

6.5 Dual LAN and Teaming Operation Guide 39

7 BIOS Settings **41**

7.2 Main Screen 42

7.3 Advanced Screen 44

7.4 Server Mgmt 59

7.5 Event Logs 63

7.6 Security 64

7.7 Boot Screen 67

7.8 Exit Screen 69

8 Software Support **71**

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

8.1 Install Operating System 71
8.2 Download and Install Software Drivers 71
8.3 Contact Information 71

9 Troubleshooting 73

9.1 Troubleshooting Procedures 73
9.2 Technical Support Procedures 74
9.3 Returning Merchandise for Service 74

Safety Instructions 75

Getting Service 76

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

List of Figures

Figure 1: Functional block diagram....7
Figure 2: Motherboard layout....9
Figure 3: Onboard LED indicators....12
Figure 4: I/O panel locations....13

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

List of Tables

Table 1: Motherboard layout descriptions 10
Table 2: Onboard LED indicator descriptions 12
Table 3: I/O panel descriptions 13

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

1 Introduction

ADLINK ISB-TR10 delivers excellent performance with a robust design, conforming to ADLINK's commitment to quality and endurance.

The ISB-TR10 is a high-performance server motherboard designed in a standard CEB form factor (12" × 10.5" / 305 × 267 mm), enabling easy system integration with a space-efficient layout. It features a single Socket SP5 (LGA 6096) and supports AMD EPYC™ 9005/9004 series processors, delivering exceptional compute capability for demanding workloads.

The board supports eight DDR5 RDIMM DIMM slots (1DPC) with speeds up to 6400 MT/s, ensuring high memory bandwidth and reliability. For expansion flexibility, the ISB-TR10 provides a rich PCIe Gen5 configuration, including four PCIe 5.0 x16 slots, two PCIe 5.0 x8 slots, one MCIO connector configurable as PCIe 5.0 x8 or eight SATA 6 Gb/s, and four additional MCIO connectors supporting PCIe 5.0 x8. For storage scalability, the motherboard supports two M.2 slots, configurable as PCIe 5.0 x4 or SATA 6 Gb/s, enabling high-speed storage options for various application needs.



Because the motherboard specifications and the BIOS software might be updated, the content of this manual will be subject to change without notice. In case any modifications of this manual occur, the updated version will be available on ADLINK's website without further notice. Find the latest memory and CPU support lists on ADLINK's website as well: https://www.adlinktech.com

For technical support: https://www.adlinktech.com/en/askanexpert

---

1.1 Packing List

If any items are missing or appear damaged, contact your ADLINK's authorized dealer.

- ADLINK ISB-TR10 motherboard (CEB form factor: 12" x 10.5")
- Quick installation guide
- 1 I/O shield
- 1 MCIO x8 to 8 SATA +8P cable (63cm)
- 1 ATX 4P to 24P power cable (8cm)
- 2x screws for M.2

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

This page intentionally left blank.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

2 Specifications

ISB-TR10	
Board	
Form Factor	CEB
Dimension	12" x 10.5" (304.8 x 266.7mm)
Processor	
CPU	Supports AMD EPYC™ 9005/9004 (with AMD 3D V-Cache™ Technology) and 97x4 series processors
Socket	Single Socket SP5 (LGA6096)
Thermal Design Power (TDP)	Up to 400W
Chipset	System on Chip
System Memory	
Total DIMM slots	8 slots (1DPC)
Supported Type	DDR5 288-pin RDIMM, RDIMM-3DS
Max. Capacity per DIMM	RDIMM: 128GB (2Rx4) RDIMM-3DS: 256GB (2Rx4)
Max. Frequency	6400MHz
Voltage	1.1V
PCIe Expansion Slots	
PCIe x16	SLOT6: PCIe5.0 / CXL2.0* x16
	SLOT5: PCIe5.0 x16
	SLOT4: PCIe5.0 x16
	SLOT2: PCIe5.0 / CXL2.0* x16
PCIe x8	SLOT3: PCIe5.0 / CXL2.0* x8
	SLOT1: PCIe5.0 / CXL2.0* x8

Supports CXL1.1 while installing AMD EPYC 9004 (with AMD 3D V-Cache™ Technology) and 97x4 series processors.

Other PCIe Expansion Connectors	
M.2	1 M-key (PCIe5.0 x4 or SATA 6Gb/s), supports 2280 form factor 1 M-key (PCIe5.0 x4 or SATA 6Gb/s), supports 22110/2280 form factor
MCIO	1 MCIO (PCIe5.0 x8 or 8 SATA 6Gb/s) 4 MCIO (PCIe5.0 x8)
SATA/SAS Storage	
PCH Built-in Storage	AMD EPYC 9005/9004 (10 SATA 6Gb/s): 1 MCIO, 2 M.2
Ethernet	
RJ45 ports	Intel X710-AT2: 2 (10GbE) Intel i210: 2 (1GbE)
Server Management	
BMC Controller	ASPEED AST2600
Dedicated LAN	1 Realtek RTL8211F RJ45 port for BMC
Graphics	
Controller	ASPEED AST2600
VRAM	DDR4 512MB
Rear I/O	
UID Button/LED	1 UID button w/ LED
Video Port	1 DB15 (VGA)
USB	2 Type-A (USB3.2 Gen1)
RJ45	2 RJ45 (10GbE), 2 RJ45 (1GbE), 1 dedicated IPMI
Internal Connectors/Headers	
Power Connector	1 (4-pin, ATX PSU signal) w/ ATX 24-pin adapter cable, 3 (8-pin, ATX 12V), 1 (6-pin, ATX 12V)
Auxiliary Panel Header	1 (18-pin): chassis intrusion, system fault LED, LAN1/LAN2 activity LED, locate, SMBus

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

System Panel Header	1 (9-pin): power switch, reset switch, system power LED, HDD activity LED
NMI Header	1
Front Lan LED Header	1
COM Header	1
Speaker Header	1 (4-pin)
Fan Header	8 (6-pin)
Thermal Sensor Header	1
TPM Header	1 (13-pin, SPI)
SGPIO Header	2 (7-pin)
HSBP	1 (5-pin)
SMbus Header	1
PMbus Header	1
IPMB Header	1
USB Header	1 (19-pin, 2 USB3.2 Gen1)
Clear CMOS	1 (contact pads)
LED Indicators	
Standby Power LED	1 (5VSB)
80 Debug port LED	1
Fan Fail LED	8
BMC Heartbeat LED	1
System BIOS	
Type	AMI UEFI BIOS; 256 Mb (32MB) SPI Flash ROM
Features	Instant Flash, ACPI 6.4 and above compliance wake up events, SMBIOS 3.5.0 and above, Plug and Play(PnP)
Hardware Monitor	
Temperature	CPU, MB, TR1 Temperature sensing
Fan	Fan Tachometer Quiet Fan (Allow Chassis Fan Speed Auto-Adjust by CPU Temperature) Fan Multi-Speed Control
Voltage	VCORE0, VCORE1, VDDIO, VCCD, 3V, 5V, 12V, BAT, 3.3VSB, 5VSB, VSOC, VDD_11, VDD_33, VDD_18, 1P88V,1P0V
Software	
OS supported	Microsoft® Windows: (for EPYC 9004) - Server 2019 (64bit) - Server 2022 (64bit) 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) Hypervisor: (for EPYC 9004) - VMWare® ESXi 7.0 U3i / 8.0 - CITRIX Hypervisor 8.2.1
Environment	
Temperature	Operation temperature: 10°C to 35°C Non operation temperature: -40°C to 70°C
Humidity	Non operation humidity: 20% to 90% (Non-condensing)

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000



This motherboard supports Wake from on Board LAN. To use this function, please make sure that the “Wake on Magic Packet from power off state” is enabled in Device Manager > Intel® Ethernet Connection > Power Management. And the “PCI Devices Power On” is enabled in UEFI SETUP UTILITY > Advanced > ACPI Configuration. After that, onboard LAN1&2 can wake up S5 under OS.

2.1 Unique Features

Instant Flash is a BIOS flash utility embedded in Flash ROM. This convenient BIOS update tool allows users to update system BIOS without an installed OS. With this utility, press the <F6> key during the POST or the <del> key to enter into the BIOS setup menu to access Instant Flash. Use a USB drive formatted in FAT32 to update.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

This page intentionally left blank.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

3 Functional Block Diagram

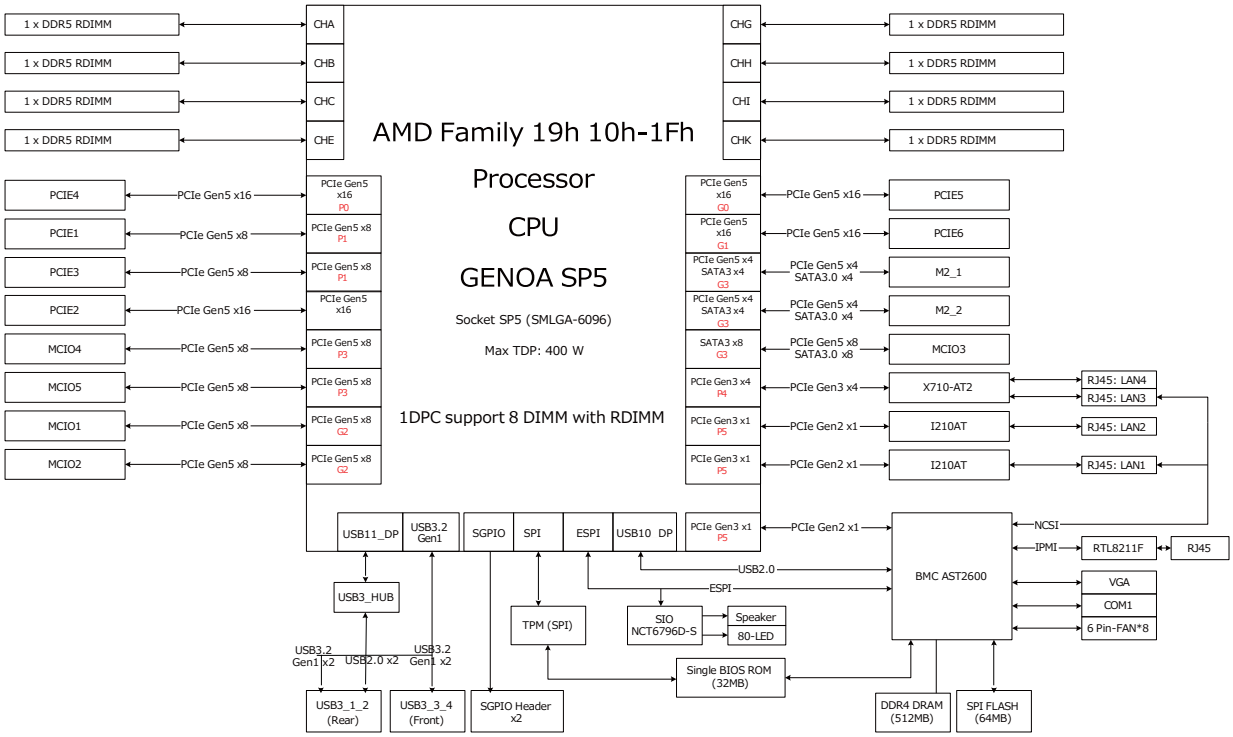


Figure 1: Functional block diagram

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

This page intentionally left blank.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

4 Mechanical Layout

4.1 Motherboard Layout

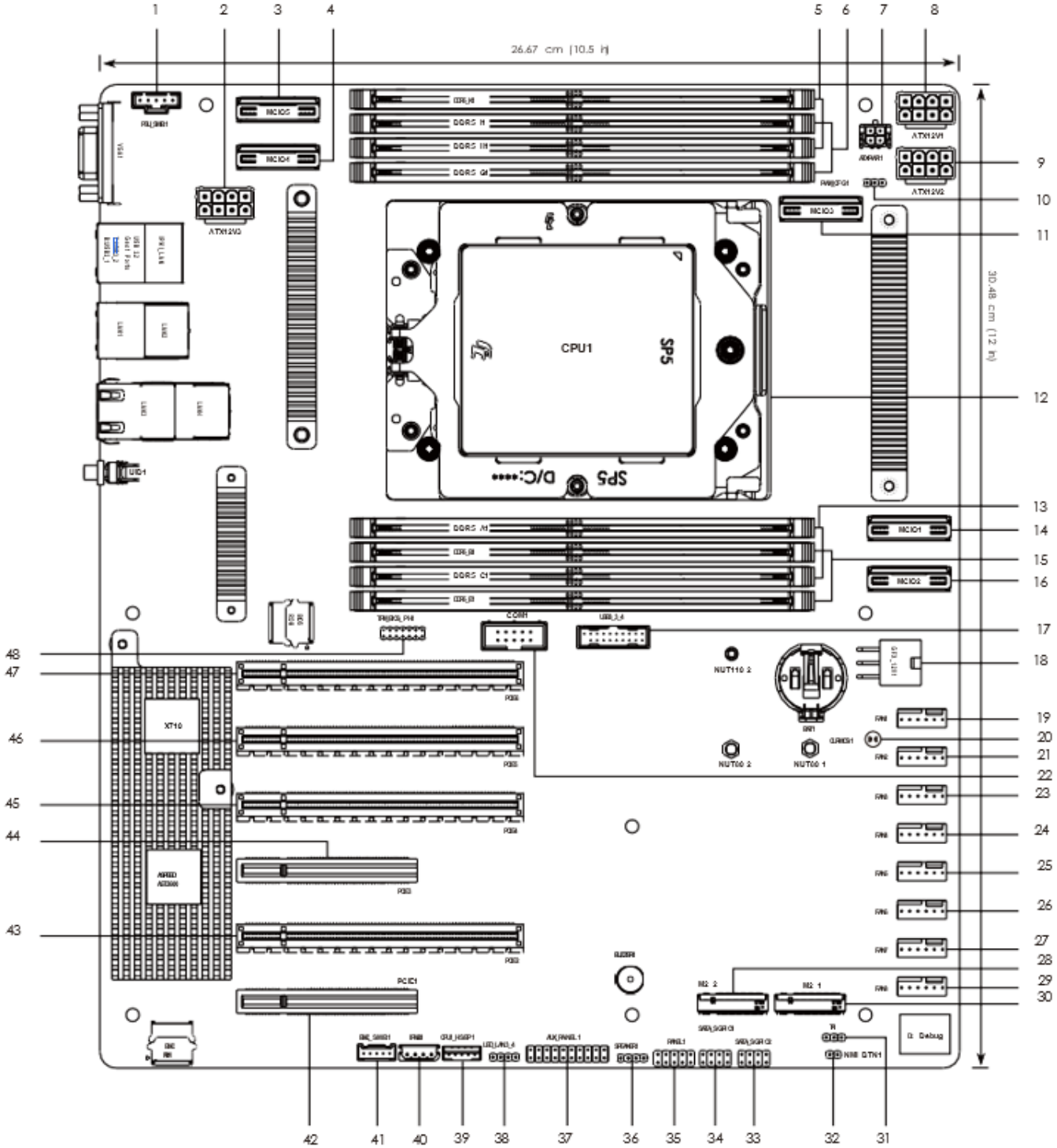


Figure 2: Motherboard layout

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Table 1: Motherboard layout descriptions

IO Panel Connectors	
Item	**Description**
1	PSU SMBus Header (PSU_SMB1)
2	ATX 12V Power Connector (ATX12V3)
3	Mini Cool Edge IO x8 Connector (MCIO5)
4	Mini Cool Edge IO x8 Connector (MCIO4)
5	2 x 288-pin DDR5 DIMM Slots (DDR5_H1, DDR5_K1)*
6	2 x 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	Mini Cool Edge IO x8 Connector (MCIO3)
12	AMD Socket SP5 (SM-LGA-6096P) (CPU1)
13	2 x 288-pin DDR5 DIMM Slots (DDR5_A1, DDR5_C1)*
14	Mini Cool Edge IO x8 Connector (MCIO1)
15	2 x 288-pin DDR5 DIMM Slots (DDR5_B1, DDR5_E1)*
16	Mini Cool Edge IO 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)
21	System Fan Connector (FAN2)
22	COM Port Header (COM1)
23	System Fan Connector (FAN3)
24	System Fan Connector (FAN4)
25	System Fan Connector (FAN5)
26	System Fan Connector (FAN6)
27	System Fan Connector (FAN7)
28	M.2 Socket (M2_2) (Type 2280/22110)
29	System Fan Connector (FAN8)
30	M.2 Socket (M2_1) (Type 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)

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

IO Panel Connectors	
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 5.0 x8 Slot (PCIE1)
43	PCI Express 5.0 x16 Slot (PCIE2)
44	PCI Express 5.0 x8 Slot (PCIE3)
45	PCI Express 5.0 x16 Slot (PCIE4)
46	PCI Express 5.0 x16 Slot (PCIE5)
47	PCI Express 5.0 x16 Slot (PCIE6)
48	SPI TPM Header (TPM_BIOS_PH1)

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

4.2 Onboard LED Indicators

Figure 3: Onboard LED indicators

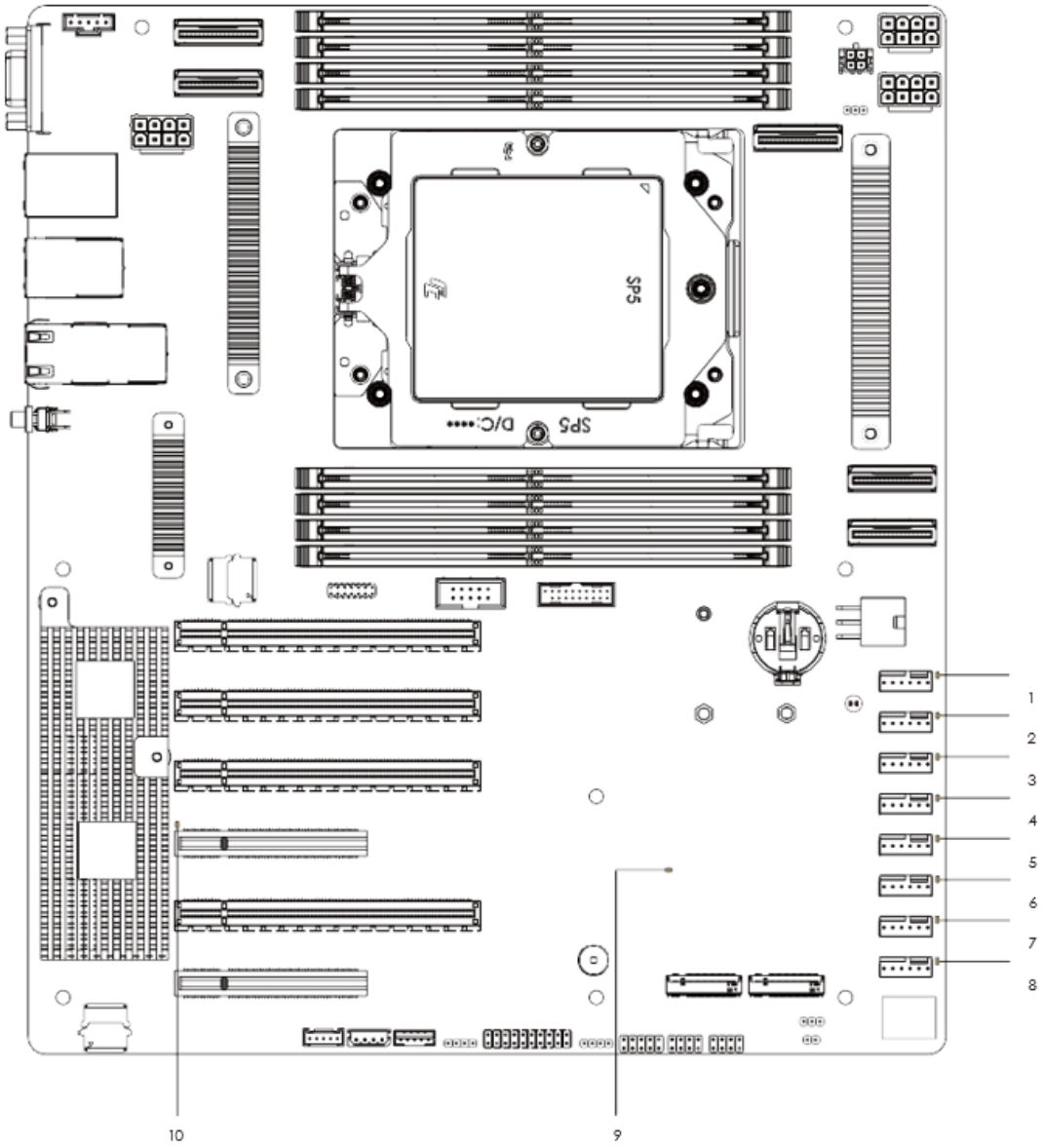


Table 2: Onboard LED indicator descriptions

No.		Item	Status Description
1	LED_FAN1	Red	FAN1 failed
2	LED_FAN2	Red	FAN2 failed
3	LED_FAN3	Red	FAN3 failed
4	LED_FAN4	Red	FAN4 failed
5	LED_FAN5	Red	FAN5 failed
6	LED_FAN6	Red	FAN6 failed
7	LED_FAN7	Red	FAN7 failed
8	LED_FAN8	Red	FAN8 failed
9	SB_PWR1	Green	STB PWR ready
10	BMC_LED1	Green	BMC heartbeat LED

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

4.3 I/O Panel

Figure 4: I/O panel locations

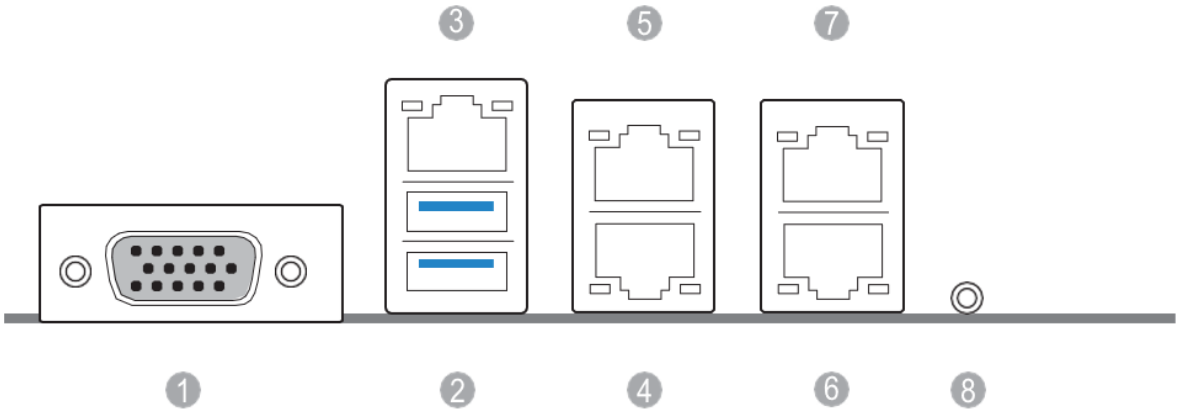
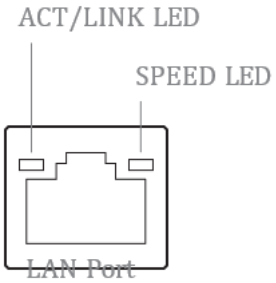


Table 3: I/O panel descriptions

No.	Description	No.	Description
1	VGA Port (VGA1)	5	1G LAN RJ-45 Port (LAN2)**
2	USB 3.2 Gen1 Ports (USB3_1_2)	6	10G LAN RJ-45 Port (LAN3)***
3	IPMI LAN Header (IPMI_LAN1)*	7	10G LAN RJ-45 Port (LAN4)***
4	1G LAN RJ-45 Port (LAN1, shared NIC)**	8	UID Switch (UID1)

4.3.1 LAN Port LED Indicators

*There is an LED on each side of IPMI LAN port. Please refer to the table below for the LAN port LED indications.

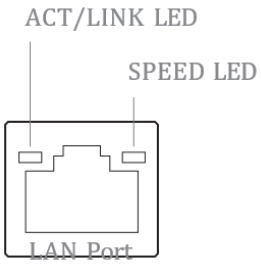


IPMI LAN Port LED Indicators

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

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

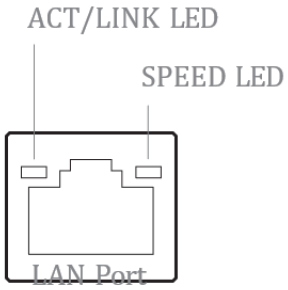
**There is an LED on each side of 1G LAN port. Please refer to the table below for the LAN port LED indications.



1G LAN Port LED Indicators

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

***There is an LED on each side of 10G LAN port. Please refer to the table below for the LAN port LED indications.



10G LAN Port LED Indicators

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

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

5 Installation

This is an CEB form factor (12” x 10.5”, 30.48 x 26.67cm) motherboard. Before installing the motherboard, study the configuration of the chassis to ensure that the motherboard fits into it.

NOTE:

1. Ensure the motherboard battery is installed before unplugging the power cord or installing/removing the motherboard.
2. Before installing or removing any component, ensure that the power is switched off or the power cord is detached from the power supply. Failure to do so may cause severe damage to the motherboard, peripherals, and/or components.

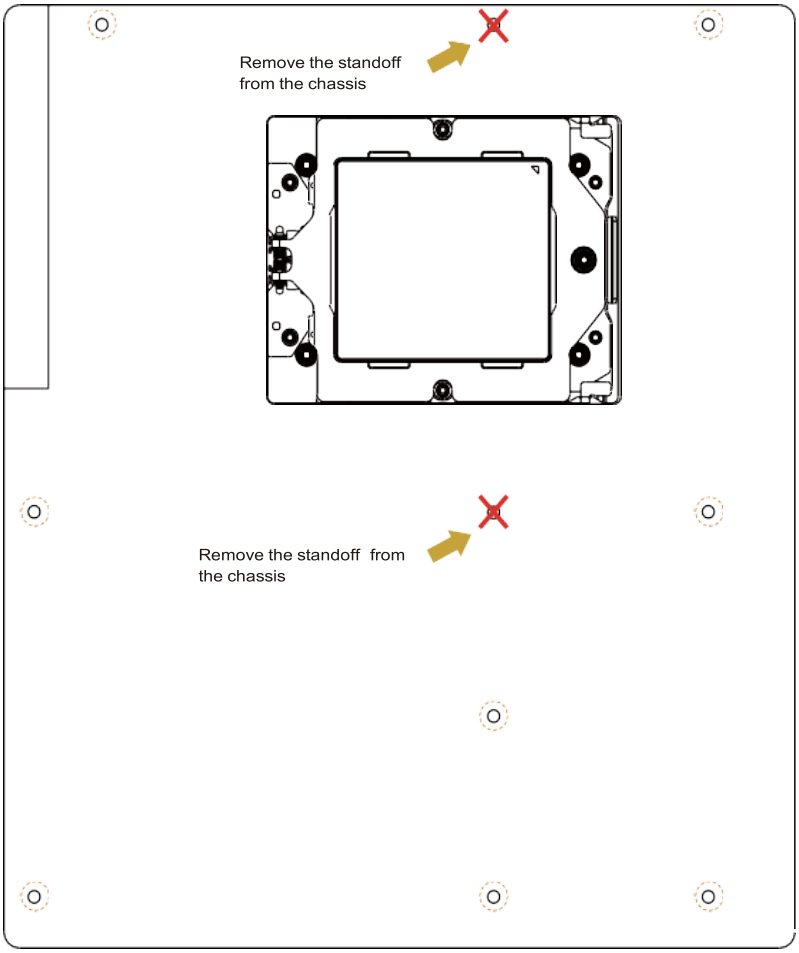
5.1 Screw Holes

Place screws into the holes indicated by circles to secure the motherboard to the chassis.

CAUTION:

Attention! Before installing this motherboard, be sure to unscrew and remove the standoff at the marked location beneath the motherboard from the chassis to avoid electrical short circuits and damage to the motherboard.

Do not over-tighten the screws. Doing so may damage the motherboard.



Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

5.2 Pre-Installation Precautions

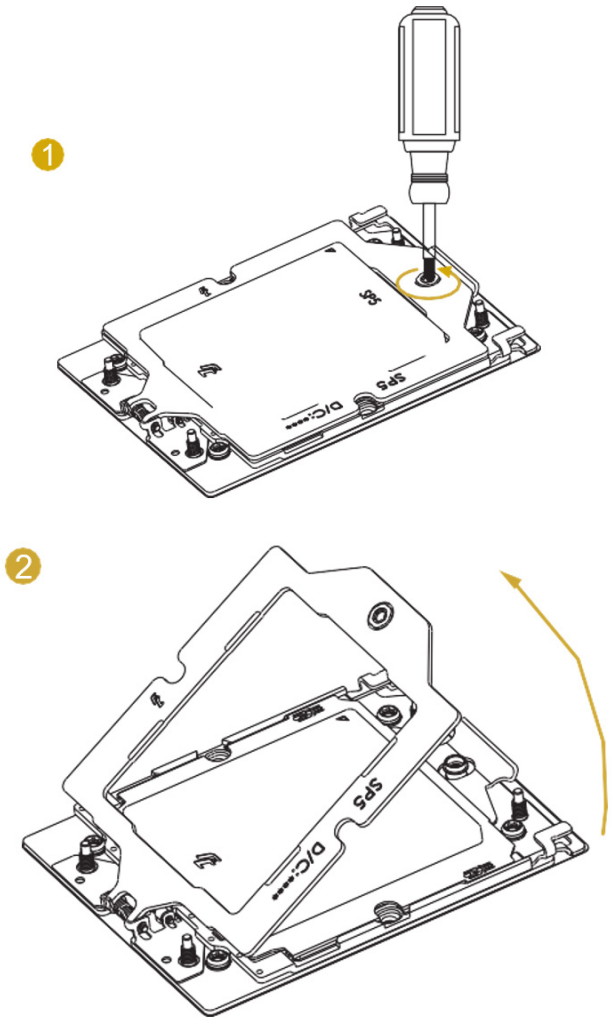
Take note of the following precautions before installing motherboard components or change any motherboard settings.

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 the carpet or the like. Also remember to use a grounded wrist strap or touch a safety grounded object before handling the components.
3. Hold components by the edge and do not touch the ICs.
4. Whenever removing any component, place it on a grounded anti-static pad or in the bag that comes with the component.
5. When placing screws into the screw holes to secure the motherboard to the chassis, please do not over-tighten the screws! Doing so may damage the motherboard.

5.3 Installing the CPU

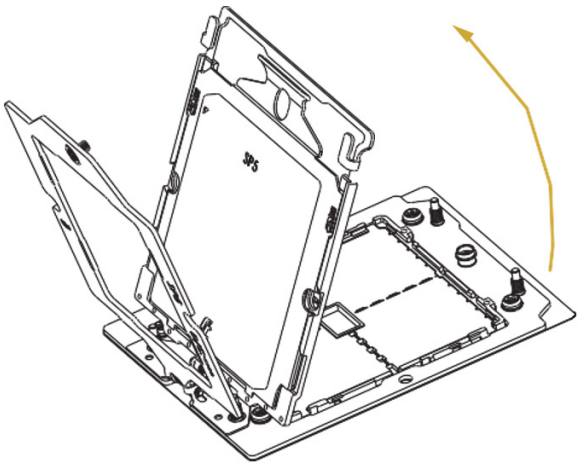
NOTE:

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.

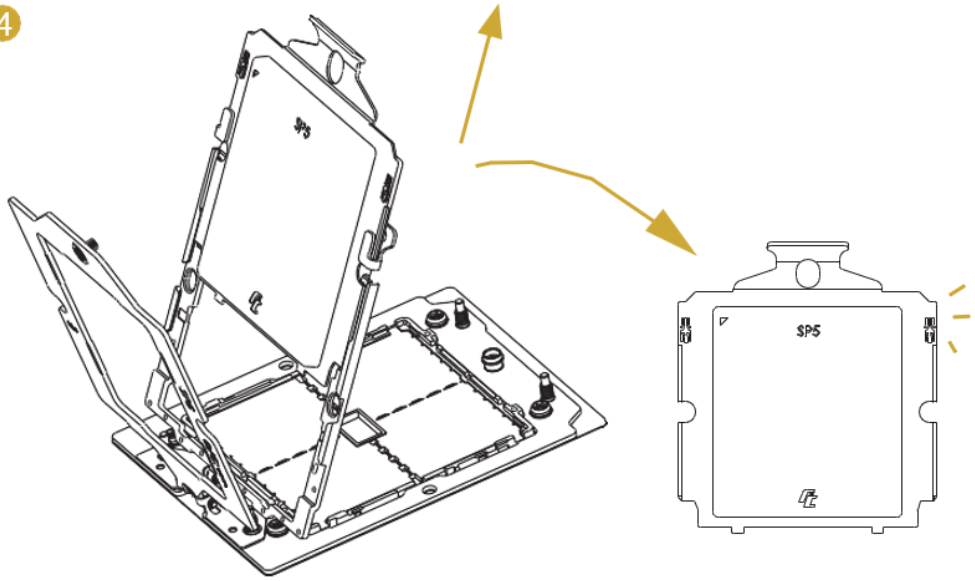


Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

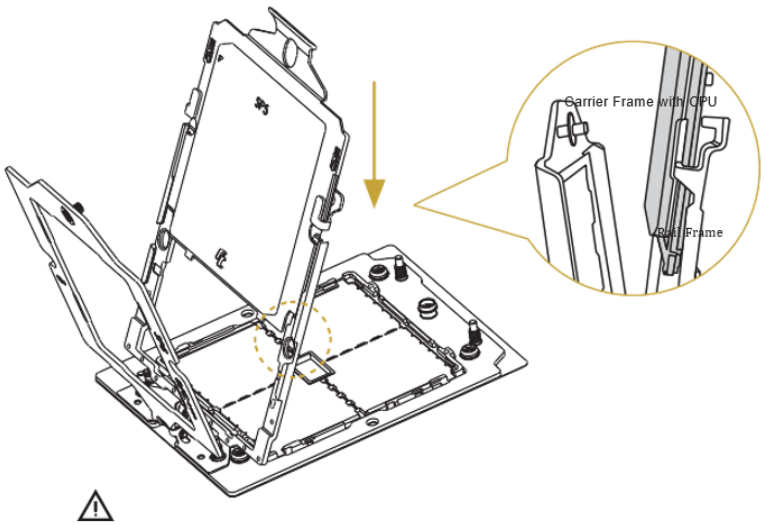
3



4



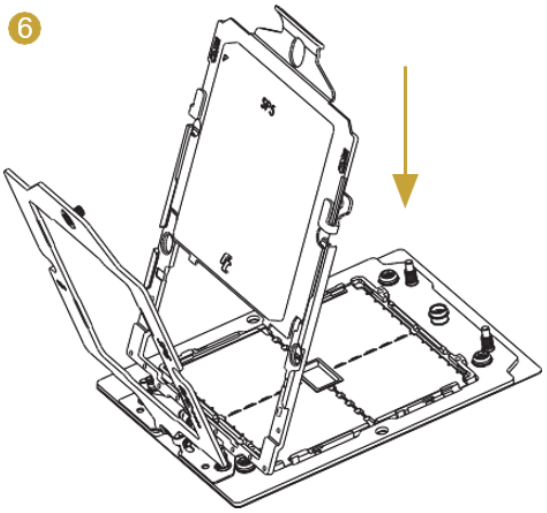
5



⚠ Please make sure that the carrier frame with CPU is closely attached to the rail frame while inserting it.

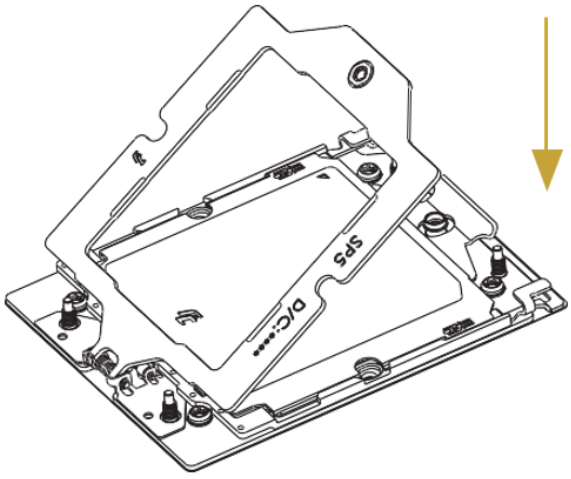
Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

6

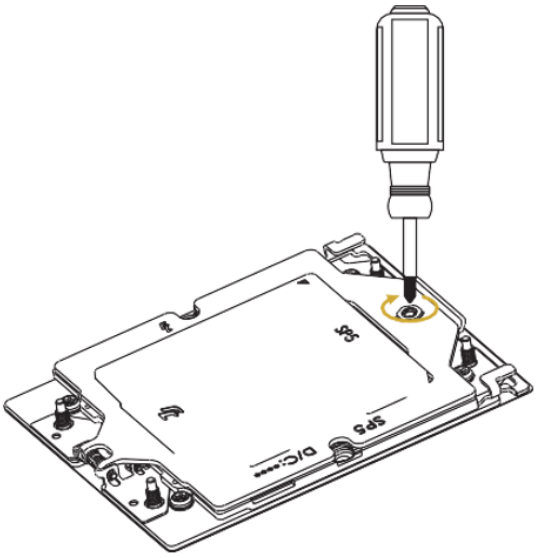


Install the carrier frame with CPU. Don't separate them.

7

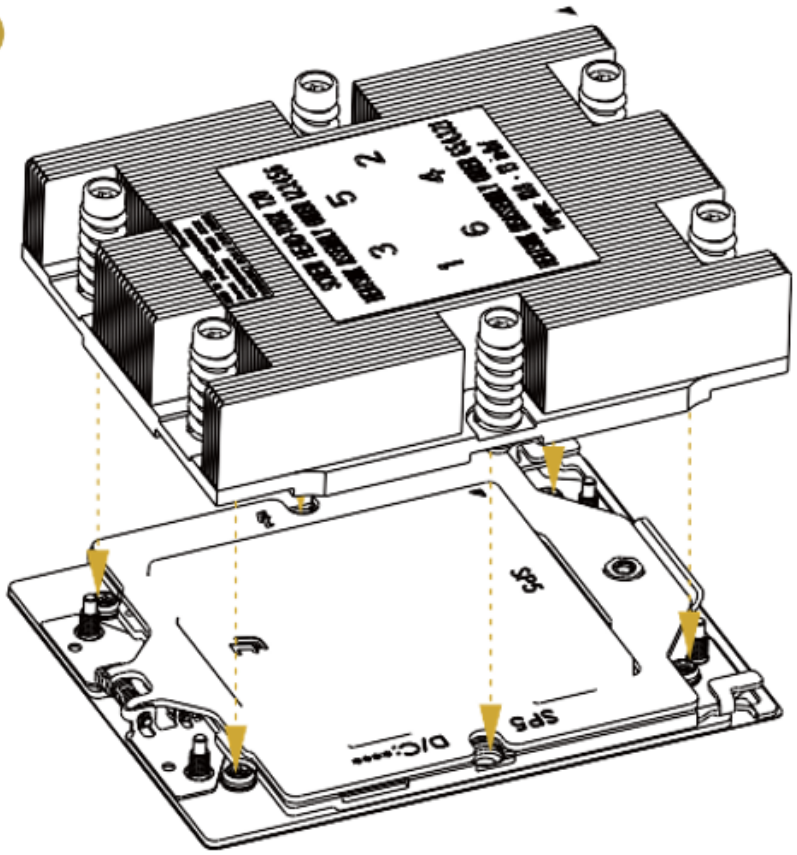


8

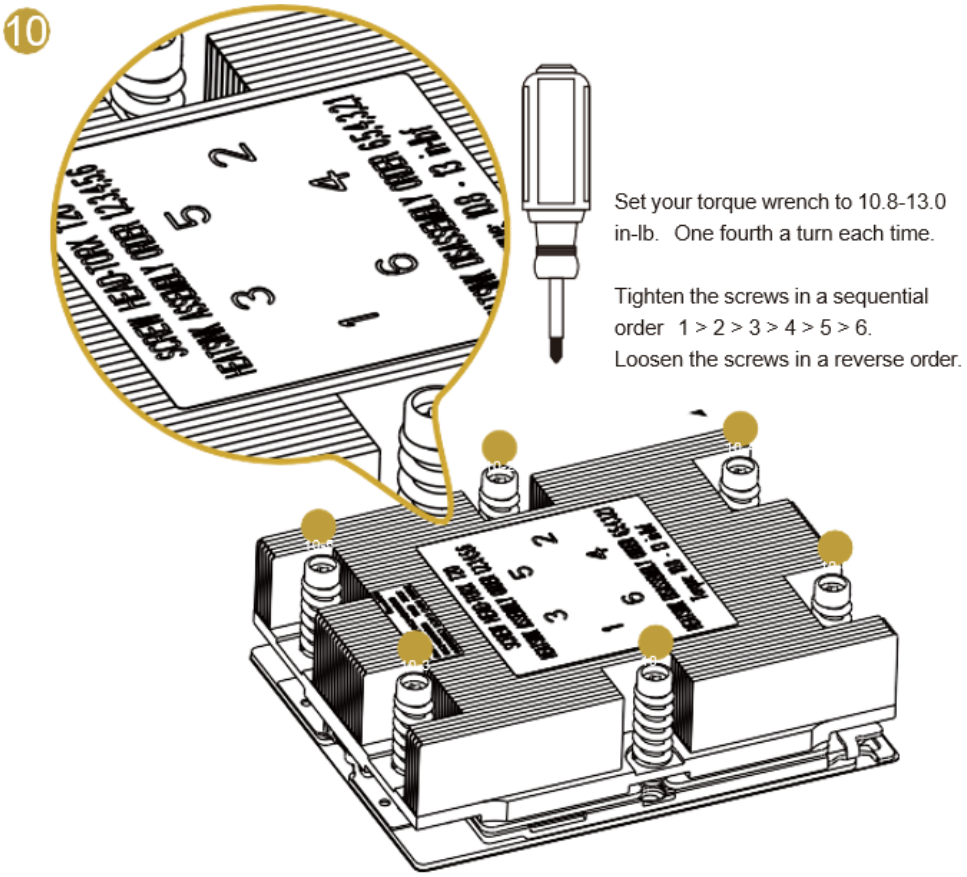


LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

9



10



Set your torque wrench to 10.8-13.0 in-lb. One fourth a turn each time.

Tighten the screws in a sequential order 1 > 2 > 3 > 4 > 5 > 6.
Loosen the screws in a reverse order.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

5.4 Installation of Memory Modules (DIMM)

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

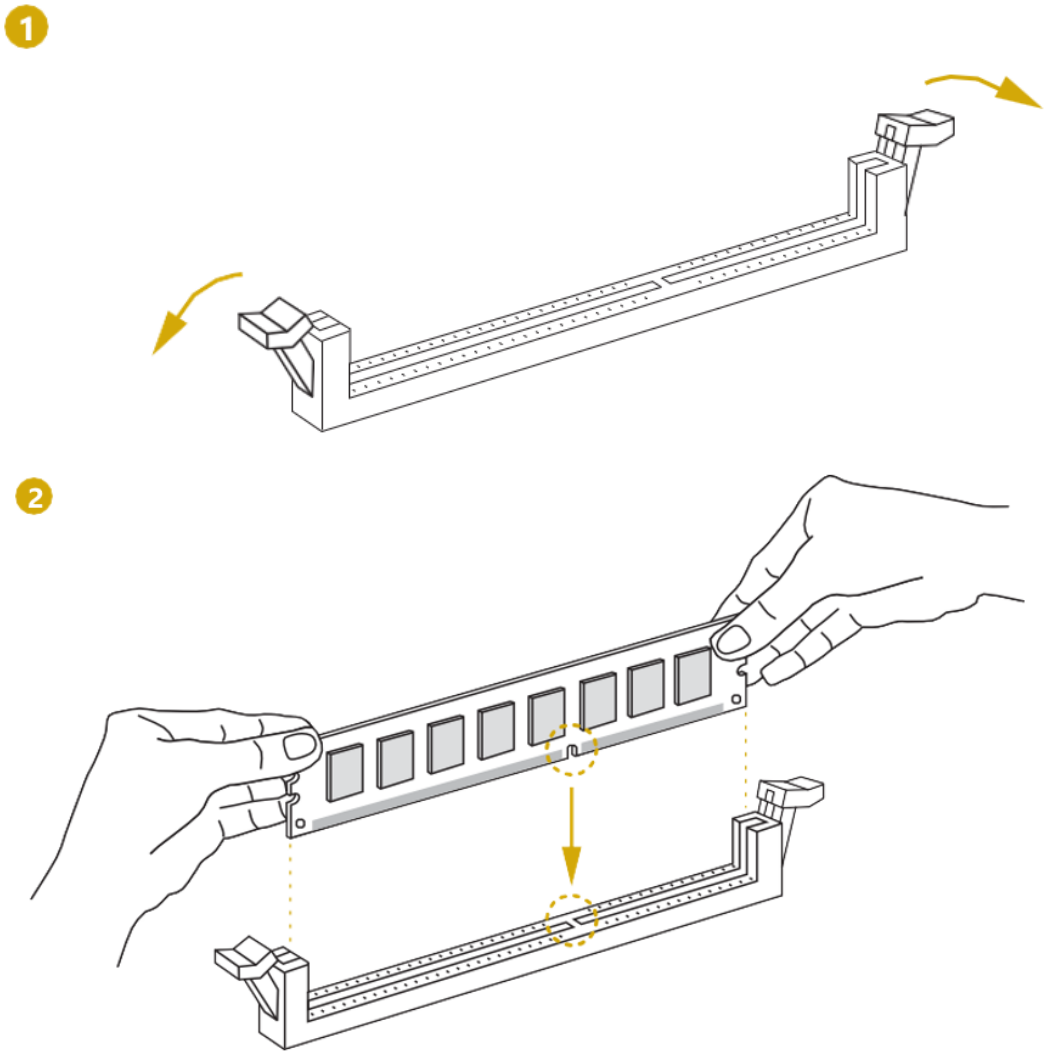
NOTE:

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.

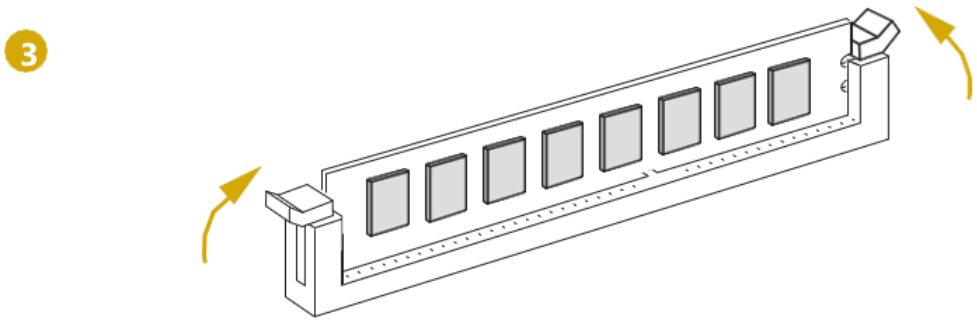
Recommended Memory Configurations

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.



Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000



5.5 Expansion Slots (PCI Express Slots)

There are six PCI Express slots on this motherboard.

PCIE slots:

PCIE1 (PCIE 5.0 x8 slot, from CPU1) is used for PCI Express x8 lane width cards.
PCIE2 (PCIE 5.0 x16 slot, from CPU1) is used for PCI Express x16 lane width cards.
PCIE3 (PCIE 5.0 x8 slot, from CPU1) is used for PCI Express x8 lane width cards.
PCIE4 (PCIE 5.0 x16 slot, from CPU1) is used for PCI Express x16 lane width cards.
PCIE5 (PCIE 5.0 x16 slot, from CPU1) is used for PCI Express x16 lane width cards.
PCIE6 (PCIE 5.0 x16 slot, from CPU1) is used for PCI Express x16 lane width cards.

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

5.5.1 Installing an Expansion Card

Step 1. Before installing an expansion card, please make sure 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.

Step 2. Remove the system unit cover (if the motherboard is already installed in a chassis).

Step 3. Remove the bracket facing the slot that intending to use. Keep the screws for later use.

Step 4. Align the card connector with the slot and press firmly until the card is completely seated on the slot.

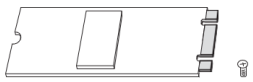
Step 5. Fasten the card to the chassis with screws.

Step 6. Replace the system cover.

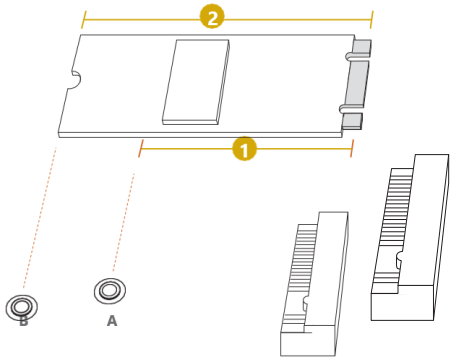
Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

5.6 M.2 SSD Module Installation

The M.2 sockets (M2_1/M2_2, Key M) support 2280 and 22110 M.2 PCI Express modules, up to Gen5 x4 (32 GT/s x4).



Step 1: Prepare an M.2 SSD module and the mounting screw.



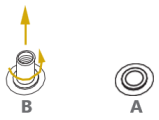
Step 2: Depending on the PCB type and length of the M.2 SSD module, select the corresponding nut location.

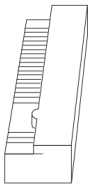
M2_1:

No.	1
Nut Location	A (NUT80_1)
PCB Length	8cm
Module Type	Type2280

M2_2:

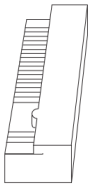
No.	1	2
Nut Location	A (NUT80_2)	B (NUT110_2)
PCB Length	8cm	11cm
Module Type	Type2280	Type 22110





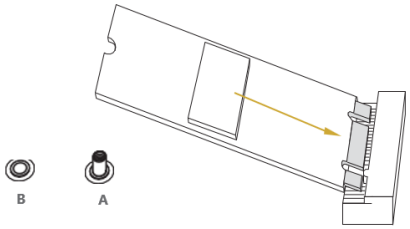
Step 3: Move the standoff according to the module type and length.
If using the default nut, skip Steps 3 and 4 and go directly to **Step 5**.
Otherwise, release the standoff by hand.



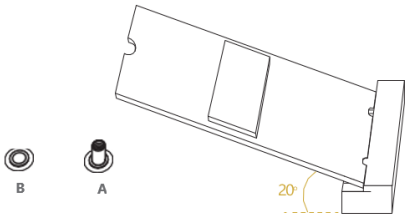


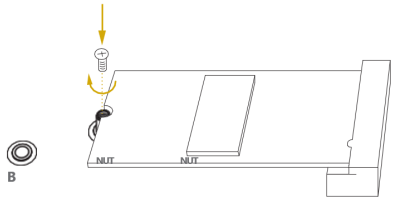
Step 4: Peel off the yellow protective film from the nut to be used.
Hand-tighten the standoff into the desired nut location on the motherboard.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000



Step 5: Align and gently insert the M.2 SSD module into the M.2 slot. Note that the M.2 SSD module fits only in one orientation.





Step 6: Tighten the screw with a screwdriver to secure the module in place. Do not overtighten the screw, as this may damage the module.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

This page intentionally left blank.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

6 Connector Pinouts and Jumper Settings

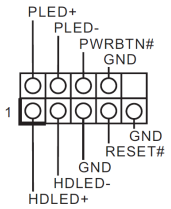
6.1 Onboard Headers and Connectors

NOTE:

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.

6.1.1 System Panel Header

(9-Pin PANEL1)



Connect the power switch, reset switch, and system status indicators on the chassis to this header according to the pin assignments. Ensure the positive and negative pins are correctly aligned before connecting the cables.

PWRBTN (Power Switch):
Connect to the power switch on the chassis front panel. Configure the system power-off behavior 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 it freezes and fails to perform a normal restart.

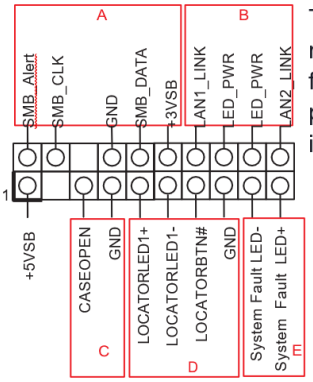
PLED (System Power LED):
Connect to the power status indicator on the chassis front panel. The LED is on when the system is operating. The LED is off when the system is in the S4 sleep state or powered off (S5).

HDLED (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.

The front panel design may vary by chassis. A front panel module typically consists of a power switch, reset switch, power LED, hard drive activity LED, speaker, etc. When connecting the chassis front panel module to this header, ensure that the wire assignments match the pin assignments correctly.

6.1.2 Auxiliary Panel Header

(18-Pin AUX_PANEL1)



This header supports multiple functions on the front panel, including front panel SMB, internet status indicator.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

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. Internet status indicator (2-pin LAN1_LED, LAN2_LED)
These two 2-pin headers allow user to use the Gigabit internet indicator cable to connect to the LAN status indicator. When this indicator flickers, it means that the internet is properly connected.

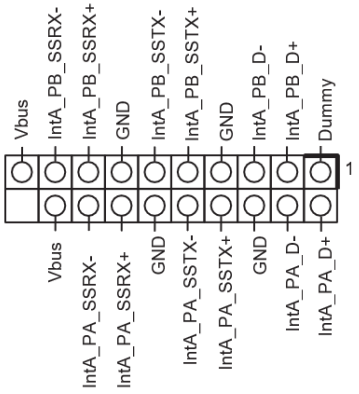
C. Chassis intrusion pin (2-pin CHASSIS)
This header is provided for host computer chassis with chassis intrusion detection designs. In addition, it must also work with external detection equipment, such as a chassis intrusion detection sensor or a microswitch. When this function is activated, if any chassis component movement occurs, the sensor will immediately detect it and send a signal to this header, and the system will then record this chassis intrusion event. The default setting is set to the CASEOPEN and GND pin; this function is off.

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.

6.1.3 USB 3.2 Gen1 Header

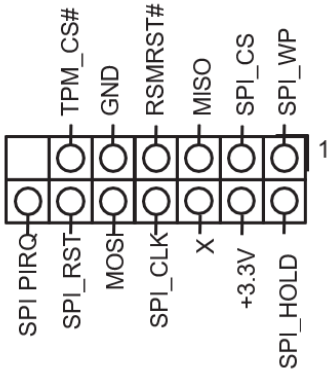
(19-pin USB3_3_4)



In addition to the two default USB 3.2 Gen1 ports on the I/O panel, this motherboard includes one USB 3.2 Gen1 header. This USB 3.2 Gen1 header supports two USB 3.2 Gen1 ports.

6.1.4 SPI TPM Header

(13-pin TPM_BIOS_PH1)

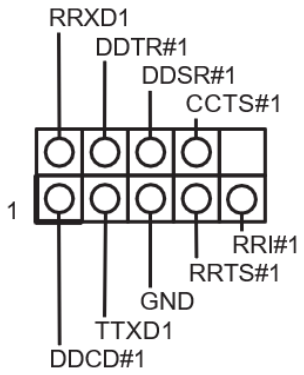


This connector supports SPI Trusted Platform Module (TPM) system, which can securely store keys, digital certificates, passwords, and data. A TPM system also helps enhance network security, protects digital identities, and ensures platform integrity.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

6.1.5 Serial Port Header

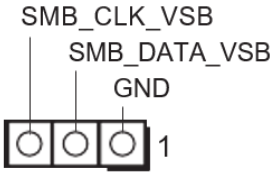
(9-pin COM1)



This COM header supports a serial port module.

6.1.6 PWM Configuration Header

(3-pin PWM_CFG1)



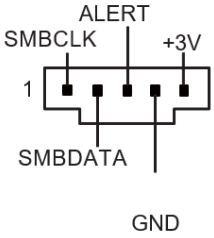
This header is used for PWM configurations.

6.1.7 Non Maskable Interrupt Button Header (2-Pin NMI_BTN1)



Please connect a NMI device to this header.

6.1.8 PSU SMBus Header (PSU_SMB1)

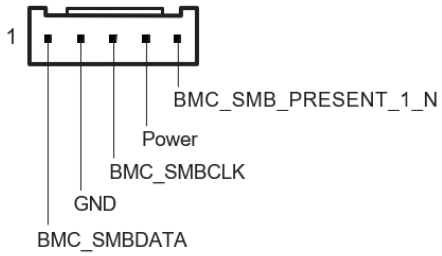


PSU SMBus monitors the status of the power supply, fan and system temperature.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

6.1.9 BMC SMB Header

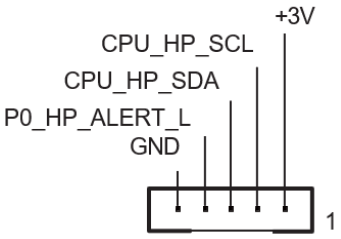
(5-pin BMC_SMB1)



This header is used for the SMBus devices.

6.1.10 Backplane PCI Express Hot-Plug Connector

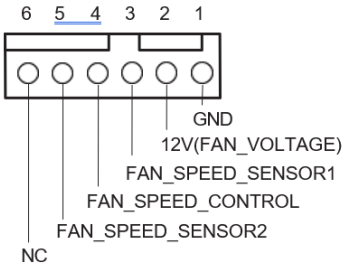
(5-pin CPU1_ HSBP1)



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

6.1.11 System Fan Connectors

(6-pin FAN1)



Connect fan cables to the fan connectors and match the black wire to the ground pin. All fans support Fan Control.

(Refer to Table1: Motherboard layout descriptions, No. 19) (6-pin FAN2)

(Refer to Table1: Motherboard layout descriptions, No. 21) (6-pin FAN3)

(Refer to Table1: Motherboard layout descriptions, No. 23) (6-pin FAN4)

(Refer to Table1: Motherboard layout descriptions, No. 24) (6-pin FAN5)

(Refer to Table1: Motherboard layout descriptions, No. 25) (6-pin FAN6)

(Refer to Table1: Motherboard layout descriptions, No. 26) (6-pin FAN7)

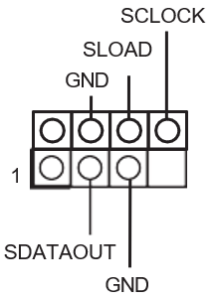
(Refer to Table1: Motherboard layout descriptions, No. 27) (6-pin FAN8)

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

6.1.12 SATA SGPIO Connectors

(7-pin SATA_SGPIO2)

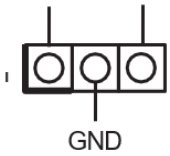
(7-pin SATA_SGPIO1)



These connectors support Serial Link interface for onboard SATA connections.

6.1.13 Thermal Sensor Header

(3-pin TR1)



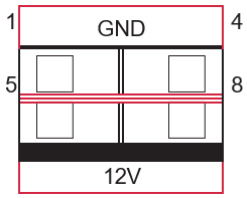
Please connect the thermal sensor cable to either pin 1-2 or pin 2-3 and the other end to the device which wishing to monitor its temperature.

6.1.14 ATX Power Connectors

(8-pin ATX12V1)

(8-pin ATX12V2)

(8-pin ATX12V3)



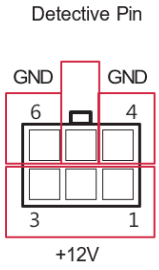
This motherboard provides three ATX power connectors.

6.1.15 Graphics 12V Power

Connector

Right-angle:

(6-pin GFX_12V1)

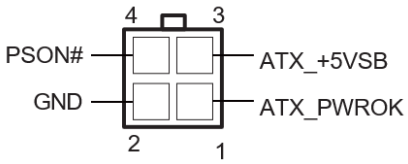


This motherboard provides a 6-pin Graphics 12V power connector. Install the PSU's power cable to this connector when 4 graphics cards are installed.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

6.1.16 ATX Power Connector

(4-pin ATXPWR1)

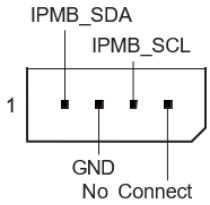


The motherboard provides one 4-pin power/signal connector which is a required input for ATX power source.

When using 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.

6.1.17 Intelligent Platform Management Bus Header (4-Pin IPMB1)



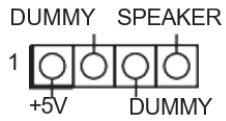
This 4-pin connector is used to provide a cabled baseboard or front panel connection

for value added features and 3rd-party add-in cards, such as Emergency Management cards, that provide management features using the IPMB.

6.1.18 Chassis Speaker Header

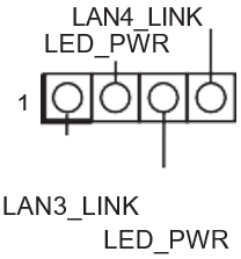
(4-Pin SPEAKER1)

Connect the chassis speaker to this header.



6.1.19 Front LAN LED Connector

(LED_LAN3-4)



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

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

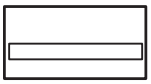
6.1.20 Clear CMOS Pad

(CLRCMOS1)



This allows user to clear the data in CMOS. To clear CMOS, take out the CMOS battery and short the Clear CMOS Pad.

6.1.21 MCI) x8 Connectors



These connectors are used for the PCIE devices.

(MCIO1)

Pin	Signal	Pin	Signal
A1	GND	B1	GND
A2	G2_RXP7	B2	G2_TXN7
A3	G2_RXN7	B3	G2_TXP7
A4	GND	B4	GND
A5	G2_RXP6	B5	G2_TXN6
A6	G2_RXN6	B6	G2_TXP6
A7	GND	B7	GND
A8	BP_TYPE	B8	SMB_SCL
A9	WAKE#	B9	SMB_SDA
A10	GND	B10	GND
A11	DP	B11	RST0_L
A12	DN	B12	PRSNT_N
A13	GND	B13	GND
A14	G2_RXP5	B14	G2_TXN5
A15	G2_RXN5	B15	G2_TXP5
A16	GND	B16	GND
A17	G2_RXP4	B17	G2_TXN4
A18	G2_RXN4	B18	G2_TXP4
A19	GND	B19	GND
A20	G2_RXP3	B20	G2_TXN3
A21	G2_RXN3	B21	G2_TXP3
A22	GND	B22	GND
A23	G2_RXP2	B23	G2_TXN2
A24	G2_RXN2	B24	G2_TXP2
A25	GND	B25	GND
A26	BP_TYPE	B26	SMB_SCL
A27	WAKE#	B27	SMB_SDA
A28	GND	B28	GND
A29	DP	B29	RST0_L
A30	DN	B30	PRSNT_N
A31	GND	B31	GND
A32	G2_RXP1	B32	G2_TXN1
A33	G2_RXN1	B33	G2_TXP1
A34	GND	B34	GND
A35	G2_RXP0	B35	G2_TXN0
A36	G2_RXN0	B36	G2_TXP0
A37	GND	B37	GND
75	NP_NC_1	76	NP_NC_2
77	PGND_1	78	PGND_3
79	PGND_2	80	PGND_4

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

(MCIO2)

Pin	Definition	Pin	Definition
A1	GND	B1	GND
A2	G2_RXP15	B2	G2_TXN15
A3	G2_RXN15	B3	G2_TXP15
A4	GND	B4	GND
A5	G2_RXP14	B5	G2_TXN14
A6	G2_RXN14	B6	G2_TXP14
A7	GND	B7	GND
A8	BP_TYPE	B8	SMB_SCL
A9	WAKE#	B9	SMB_SDA
A10	GND	B10	GND
A11	DP	B11	RST0_L
A12	DN	B12	PRSNT_N
A13	GND	B13	GND
A14	G2_RXP13	B14	G2_TXN13
A15	G2_RXN13	B15	G2_TXP13
A16	GND	B16	GND
A17	G2_RXP12	B17	G2_TXN12
A18	G2_RXN12	B18	G2_TXP12
A19	GND	B19	GND
A20	G2_RXP11	B20	G2_TXN11
A21	G2_RXN11	B21	G2_TXP11
A22	GND	B22	GND
A23	G2_RXP10	B23	G2_TXN10
A24	G2_RXN10	B24	G2_TXP10
A25	GND	B25	GND
A26	BP_TYPE	B26	SMB_SCL
A27	WAKE#	B27	SMB_SDA
A28	GND	B28	GND
A29	DP	B29	RST0_L
A30	DN	B30	PRSNT_N
A31	GND	B31	GND
A32	G2_RXP9	B32	G2_TXN9
A33	G2_RXN9	B33	G2_TXP9
A34	GND	B34	GND
A35	G2_RXP8	B35	G2_TXN8
A36	G2_RXN8	B36	G2_TXP8
A37	GND	B37	GND
75	NP_NC_1	76	NP_NC_2
77	PGND_1	78	PGND_3
79	PGND_2	80	PGND_4

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

(MICIO3)

Pin	Definition	Pin	Definition
A1	GND	B1	GND
A2	G3_RXP0	B2	G3_TXP0
A3	G3_RXN0	B3	G3_TXN0
A4	GND	B4	GND
A5	G3_RXP1	B5	G3_TXP1
A6	G3_RXN1	B6	G3_TXN1
A7	GND	B7	GND
A8	BP_TYPE	B8	SMB_SCL
A9	WAKE#	B9	SMB_SDA
A10	GND	B10	GND
A11	DP	B11	RST0_L
A12	DN	B12	PRSNT_N
A13	GND	B13	GND
A14	G3_RXP2	B14	G3_TXP2
A15	G3_RXN2	B15	G3_TXN2
A16	GND	B16	GND
A17	G3_RXP3	B17	G3_TXP3
A18	G3_RXN3	B18	G3_TXN3
A19	GND	B19	GND
A20	G3_RXP4	B20	G3_TXP4
A21	G3_RXN4	B21	G3_TXN4
A22	GND	B22	GND
A23	G3_RXP5	B23	G3_TXP5
A24	G3_RXN5	B24	G3_TXN5
A25	GND	B25	GND
A26	BP_TYPE	B26	SMB_SCL
A27	WAKE#	B27	SMB_SDA
A28	GND	B28	GND
A29	DP	B29	RST0_L
A30	DN	B30	PRSNT_N
A31	GND	B31	GND
A32	G3_RXP6	B32	G3_TXP6
A33	G3_RXN6	B33	G3_TXN6
A34	GND	B34	GND
A35	G3_RXP7	B35	G3_TXP7
A36	G3_RXN7	B36	G3_TXN7
A37	GND	B37	GND
75	NP_NC_1	76	NP_NC_2
77	PGND_1	78	PGND_3
79	PGND_2	80	PGND_4

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

(MCIO4)

Pin	Definition	Pin	Definition
A1	GND	B1	GND
A2	P3_RXN0	B2	P3_TXP0
A3	P3_RXP0	B3	P3_TXN0
A4	GND	B4	GND
A5	P3_RXN1	B5	P3_TXP1
A6	P3_RXP1	B6	P3_TXN1
A7	GND	B7	GND
A8	BP_TYPE	B8	SMB_SCL
A9	WAKE#	B9	SMB_SDA
A10	GND	B10	GND
A11	DP	B11	RST1_L
A12	DN	B12	PRSNT_N
A13	GND	B13	GND
A14	P3_RXN2	B14	P3_TXP2
A15	P3_RXP2	B15	P3_TXN2
A16	GND	B16	GND
A17	P3_RXN3	B17	P3_TXP3
A18	P3_RXP3	B18	P3_TXN3
A19	GND	B19	GND
A20	P3_RXN4	B20	P3_TXP4
A21	P3_RXP4	B21	P3_TXN4
A22	GND	B22	GND
A23	P3_RXN5	B23	P3_TXP5
A24	P3_RXP5	B24	P3_TXN5
A25	GND	B25	GND
A26	BP_TYPE	B26	SMB_SCL
A27	WAKE#	B27	SMB_SDA
A28	GND	B28	GND
A29	DP	B29	RST1_L
A30	DN	B30	PRSNT_N
A31	GND	B31	GND
A32	P3_RXN6	B32	P3_TXP6
A33	P3_RXP6	B33	P3_TXN6
A34	GND	B34	GND
A35	P3_RXN7	B35	P3_TXP7
A36	P3_RXP7	B36	P3_TXN7
A37	GND	B37	GND
75	NP_NC_1	76	NP_NC_2
77	PGND_1	78	PGND_3
79	PGND_2	80	PGND_4

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

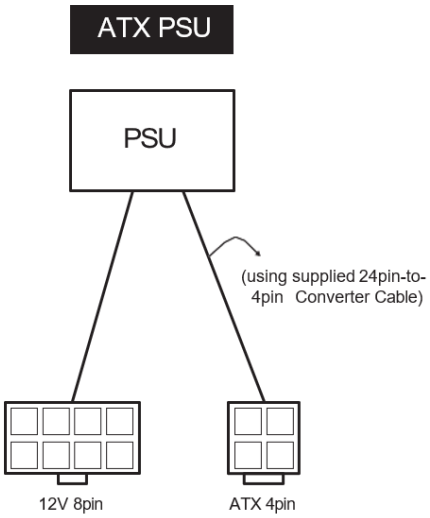
(MCIO5)

Pin	Definition	Pin	Definition
A1	GND	B1	GND
A2	P3_RXN8	B2	P3_TXP8
A3	P3_RXP8	B3	P3_TXN8
A4	GND	B4	GND
A5	P3_RXN9	B5	P3_TXP9
A6	P3_RXP9	B6	P3_TXN9
A7	GND	B7	GND
A8	BP_TYPE	B8	SMB_SCL
A9	WAKE#	B9	SMB_SDA
A10	GND	B10	GND
A11	DP	B11	RST1_L
A12	DN	B12	PRSNT_N
A13	GND	B13	GND
A14	P3_RXN10	B14	P3_TXP10
A15	P3_RXP10	B15	P3_TXN10
A16	GND	B16	GND
A17	P3_RXN11	B17	P3_TXP11
A18	P3_RXP11	B18	P3_TXN11
A19	GND	B19	GND
A20	P3_RXN12	B20	P3_TXP12
A21	P3_RXP12	B21	P3_TXN12
A22	GND	B22	GND
A23	P3_RXN13	B23	P3_TXP13
A24	P3_RXP13	B24	P3_TXN13
A25	GND	B25	GND
A26	BP_TYPE	B26	SMB_SCL
A27	WAKE#	B27	SMB_SDA
A28	GND	B28	GND
A29	DP	B29	RST1_L
A30	DN	B30	PRSNT_N
A31	GND	B31	GND
A32	P3_RXN14	B32	P3_TXP14
A33	P3_RXP14	B33	P3_TXN14
A34	GND	B34	GND
A35	P3_RXN15	B35	P3_TXP15
A36	P3_RXP15	B36	P3_TXN15
A37	GND	B37	GND
75	NP_NC_1	76	NP_NC_2
77	PGND_1	78	PGND_3
79	PGND_2	80	PGND_4

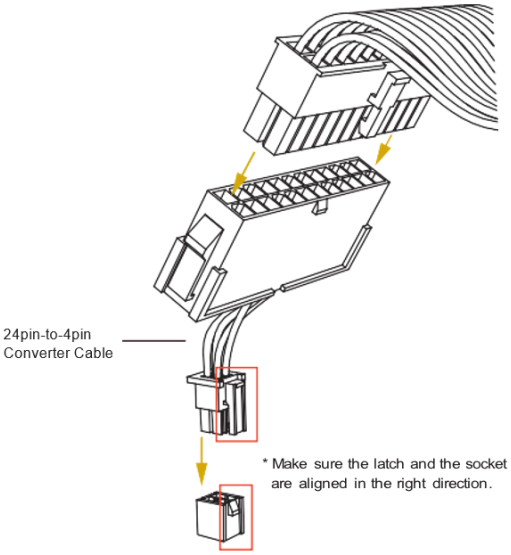
Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

6.2 ATX PSU Power Connections

This motherboard supports ATX power input. Please refer to the table below for the required connections between the motherboard and the power supply.



The following diagram illustrates how to connect the bundled ATX 24pin-to-4pin converter cable.



Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

6.3 Dr. Debug

Dr. Debug is used to provide code information, making troubleshooting even easier. Please refer to the diagrams below for instructions on reading the Dr. Debug codes.

Code	Description
0x1	PEI_CORE_STARTED
0x11	PEI_CAR_CPU_INIT
0x15	PEI_CAR_NB_INIT
0x19	PEI_CAR_SB_INIT
0x31	PEI_MEMORY_INSTALLED
0x32	PEI_CPU_INIT
0x33	PEI_CPU_CACHE_INIT
0x34	PEI_CPU_AP_INIT
0x35	PEI_CPU_BSP_SELECT
0x36	PEI_CPU_SMM_INIT
0x37	PEI_MEM_NB_INIT
0x3B	PEI_MEM_SB_INIT
0x4F	PEI_DXE_IPL_STARTED
0x60	DXE_CORE_STARTED
0x61	DXE_NVRAM_INIT
0x62	DXE_SBRUN_INIT
0x63	DXE_CPU_INIT
0x68	DXE_NB_HB_INIT
0x69	DXE_NB_INIT
0x6A	DXE_NB_SMM_INIT
0x70	DXE_SB_INIT
0x71	DXE_SB_SMM_INIT
0x72	DXE_SB_DEVICES_INIT
0x78	DXE_ACPI_INIT
0x79	DXE_CSM_INIT
0x90	DXE_BDS_STARTED
0x91	DXE_BDS_CONNECT_DRIVERS
0x92	DXE_PCI_BUS_BEGIN
0x93	DXE_PCI_BUS_HPC_INIT
0x94	DXE_PCI_BUS_ENUM
0x95	DXE_PCI_BUS_REQUEST_RESOURCES
0x96	DXE_PCI_BUS_ASSIGN_RESOURCES
0x97	DXE_CON_OUT_CONNECT
0x98	DXE_CON_IN_CONNECT
0x99	DXE_SIO_INIT
0x9A	DXE_USB_BEGIN
0x9B	DXE_USB_RESET
0x9C	DXE_USB_DETECT
0x9D	DXE_USB_ENABLE
0xA0	DXE_IDE_BEGIN
0xA1	DXE_IDE_RESET
0xA2	DXE_IDE_DETECT
0xA3	DXE_IDE_ENABLE
0xA4	DXE_SCSI_BEGIN
0xA5	DXE_SCSI_RESET
0xA6	DXE_SCSI_DETECT
0xA7	DXE_SCSI_ENABLE
0xA8	DXE_SETUP_VERIFYING_PASSWORD
0xA9	DXE_SETUP_START

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

0xAB	DXE_SETUP_INPUT_WAIT
0xAD	DXE_READY_TO_BOOT
0xAE	DXE_LEGACY_BOOT
0xAF	DXE_EXIT_BOOT_SERVICES
0xB0	RT_SET_VIRTUAL_ADDRESS_MAP_BEGIN
0xB1	RT_SET_VIRTUAL_ADDRESS_MAP_END
0xB2	DXE_LEGACY_OPROM_INIT
0xB3	DXE_RESET_SYSTEM
0xB4	DXE_USB_HOTPLUG
0xB5	DXE_PCI_BUS_HOTPLUG
0xB6	DXE_NVRAM_CLEANUP
0xB7	DXE_CONFIGURATION_RESET
0xF0	PEI_RECOVERY_AUTO
0xF1	PEI_RECOVERY_USER
0xF2	PEI_RECOVERY_STARTED
0xF3	PEI_RECOVERY_CAPSULE_FOUND
0xF4	PEI_RECOVERY_CAPSULE_LOADED
0xE0	PEI_S3_STARTED
0xE1	PEI_S3_BOOT_SCRIPT
0xE2	PEI_S3_VIDEO_REPOST
0xE3	PEI_S3_OS_WAKE
0x50	PEI_MEMORY_INVALID_TYPE
0x53	PEI_MEMORY_NOT_DETECTED
0x55	PEI_MEMORY_NOT_INSTALLED
0x57	PEI_CPU_MISMATCH
0x58	PEI_CPU_SELF_TEST_FAILED
0x59	PEI_CPU_NO_MICROCODE
0x5A	PEI_CPU_ERROR
0x5B	PEI_RESET_NOT_AVAILABLE
0xD0	DXE_CPU_ERROR
0xD1	DXE_NB_ERROR
0xD2	DXE_SB_ERROR
0xD3	DXE_ARCH_PROTOCOL_NOT_AVAILABLE
0xD4	DXE_PCI_BUS_OUT_OF_RESOURCES
0xD5	DXE_LEGACY_OPROM_NO_SPACE
0xD6	DXE_NO_CON_OUT
0xD7	DXE_NO_CON_IN
0xD8	DXE_INVALID_PASSWORD
0xD9	DXE_BOOT_OPTION_LOAD_ERROR
0xDA	DXE_BOOT_OPTION_FAILED
0xDB	DXE_FLASH_UPDATE_FAILED
0xDC	DXE_RESET_NOT_AVAILABLE
0xE8	PEI_MEMORY_S3_RESUME_FAILED
0xE9	PEI_S3_RESUME_PPI_NOT_FOUND
0xEA	PEI_S3_BOOT_SCRIPT_ERROR
0xEB	PEI_S3_OS_WAKE_ERROR

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

6.4 LEDs and Switches

With the UID button, users can locate the operating server from behind a rack of servers.

6.4.1 Unit Identification Purpose

LED/Switch (UID1)



When the UID button on the front or rear panel is pressed, the corresponding front or rear blue UID LED indicator will turn on. Press the UID button again to turn off the indicator.

6.5 Dual LAN and Teaming Operation Guide

Dual LAN with Teaming enabled on this motherboard allows two individual connections to function as a single connection, doubling the transmission bandwidth, improving data transfer efficiency, and enhancing the quality of transmitted distant images. Fault tolerance on the dual LAN network prevents downtime by transferring the workload from a failed port to a functioning port.


NOTE:

The speed of transmission is subject to the actual network environment or status even with Teaming enabled.

Before setting up Teaming, make sure that the switch (or router) supports Teaming (IEEE 802.3ad Link Aggregation) and specify a preferred adapter in Intel PROSet. Under normal conditions, the primary adapter handles all non-TCP/IP traffic. The secondary adapter receives fallback traffic if the primary fails. If the preferred primary adapter fails and is later restored to an active status, control is automatically switched back to the preferred primary adapter.

Step 1

From **Device Manager**, open the properties of a team connection.

Step 2

Click the **Settings** tab.

Step 3

Click the **Modify Team** button.

Step 4

Select the adapter that wants to be the primary adapter and click the **Set Primary** button.

The software will choose an adapter of the highest capability (model and speed) to act as the default primary upon not specify a preferred primary adapter. If a failover occurs, another adapter becomes the primary. The adapter will, however, rejoin the team as a non-primary.

This page intentionally left blank.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

7 BIOS Settings

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

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


NOTE:

Because the UEFI software is constantly being updated, the following UEFI setup screens and descriptions are for reference purpose only, and they may not exactly match actual displayed item.

7.1.1 BIOS Menu Bar

The top of the screen has a menu bar with the following selections:

Item	Description
Main	To set up the system time/date information
Advanced	To set up the advanced UEFI 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 UEFI 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

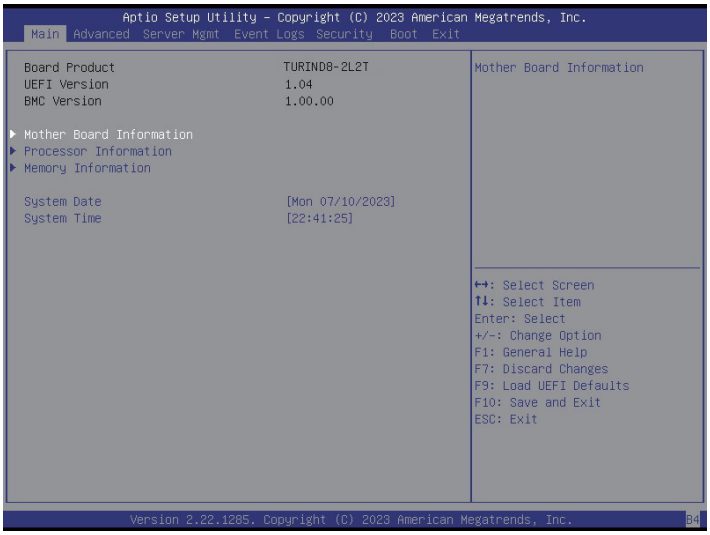
Please check the following table for the function description of each navigation key.

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

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

7.2 Main Screen

Upon entering the UEFI Setup Utility, the Main screen appears, displaying the system overview. The Main screen provides system overview information and allows the user to set the system time and date.

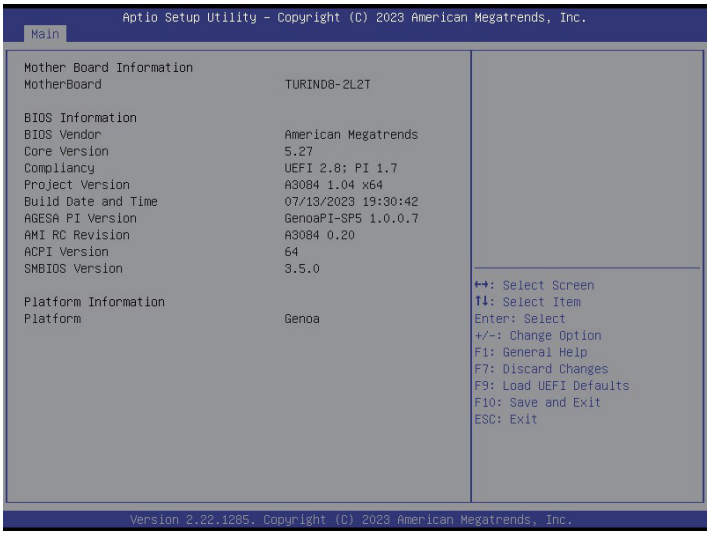


NOTE:

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

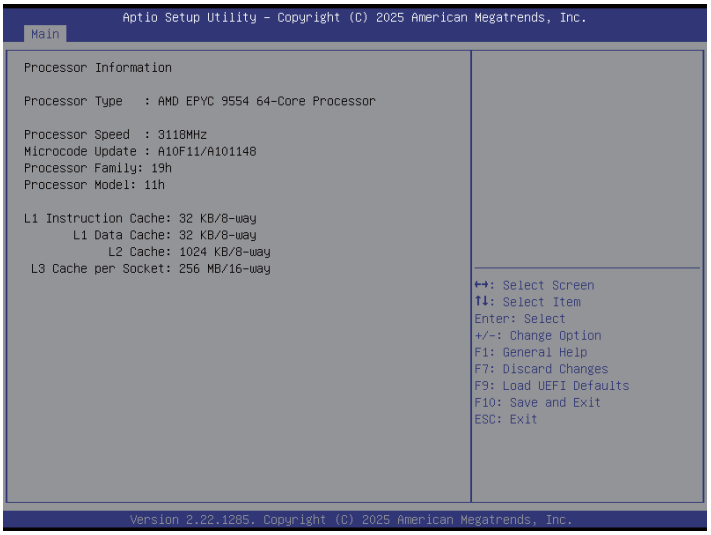
Press <Enter> to view the information of the motherboard.



Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

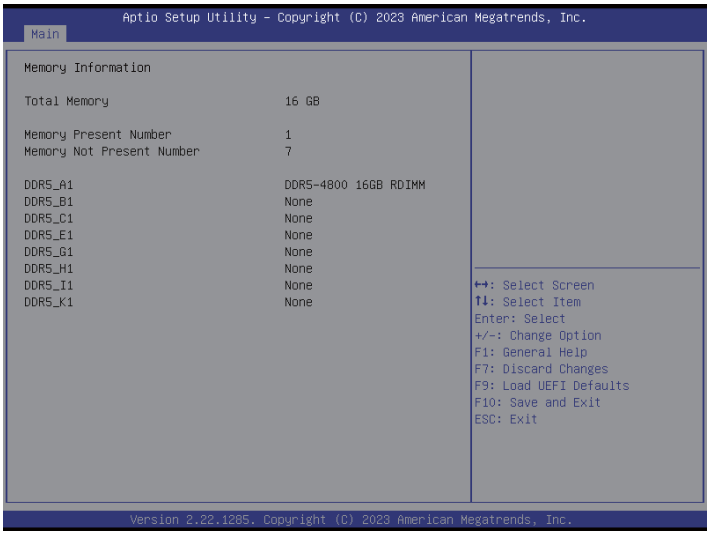
7.2.2 Processor Information

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



7.2.3 Memory Information

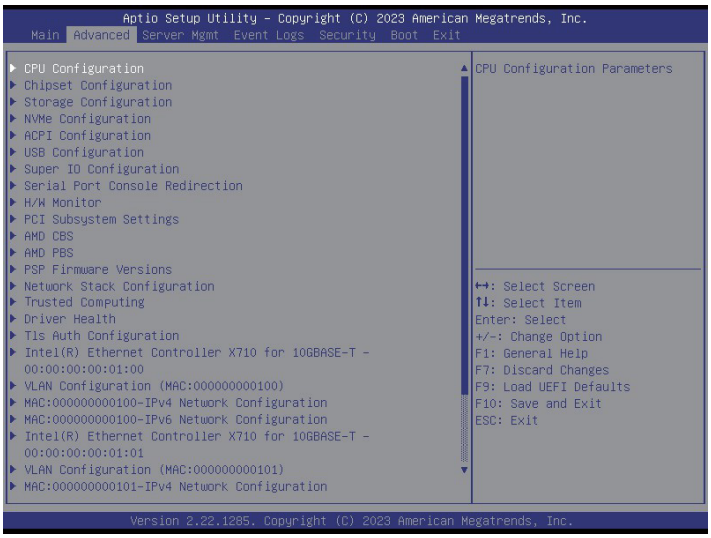
Press <Enter> to view the information of the memory.



Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

7.3 Advanced Screen

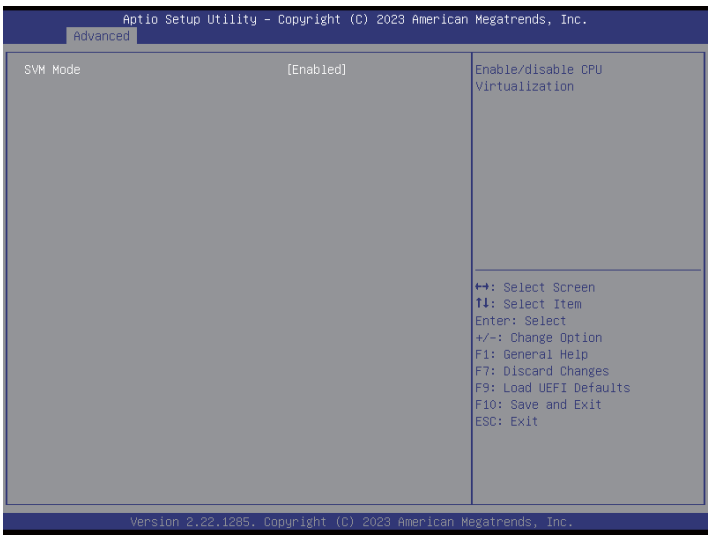
In this section, the user can set configurations for the following items: CPU Configuration, Chipset Configuration, Storage Configuration, NVMe Configuration, ACPI Configuration, USB Configuration, Super IO Configuration, Serial Port Console Redirection, H/W Monitor, PCI Subsystem Settings, AMD CBS, 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

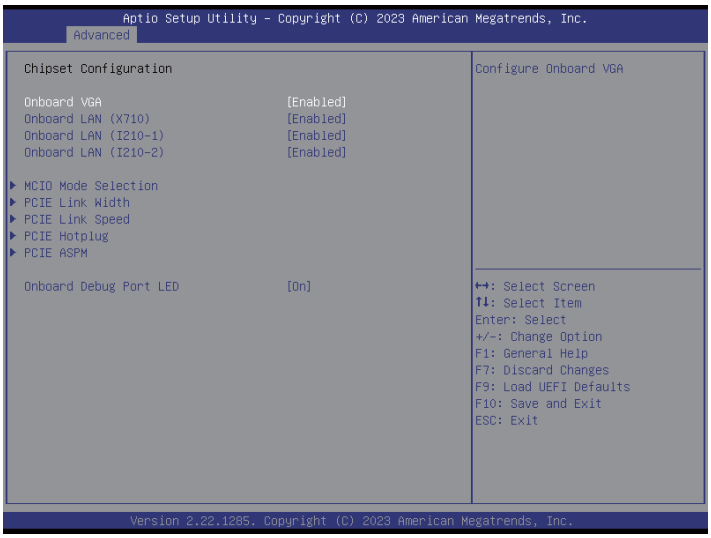


SVM Mode

Enable or disable CPU Virtualization.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

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].

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

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

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 Hotplug

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.

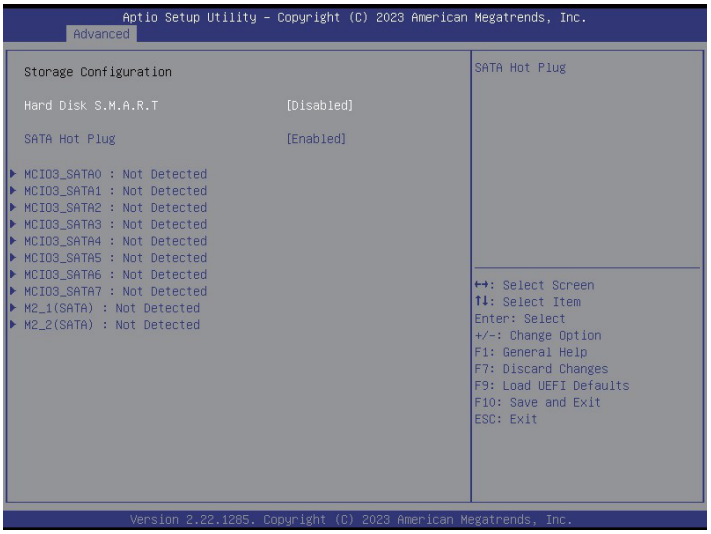
PCIE ASPM

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 Dr. Debug LED.

7.3.3 Storage Configuration



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

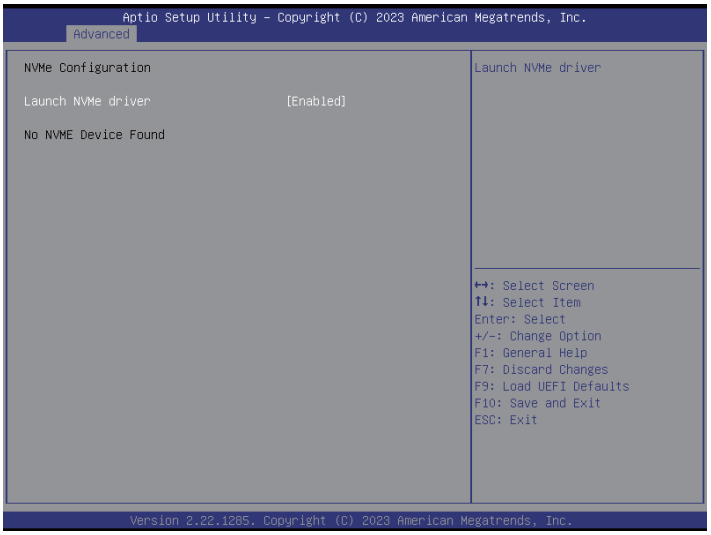
S.M.A.R.T stands for Self-Monitoring, Analysis, and Reporting Technology. It is a monitoring system for computer hard disk drives to detect and report on various indicators of reliability.

SATA Hot Plug

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

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

7.3.4 NVMe Configuration

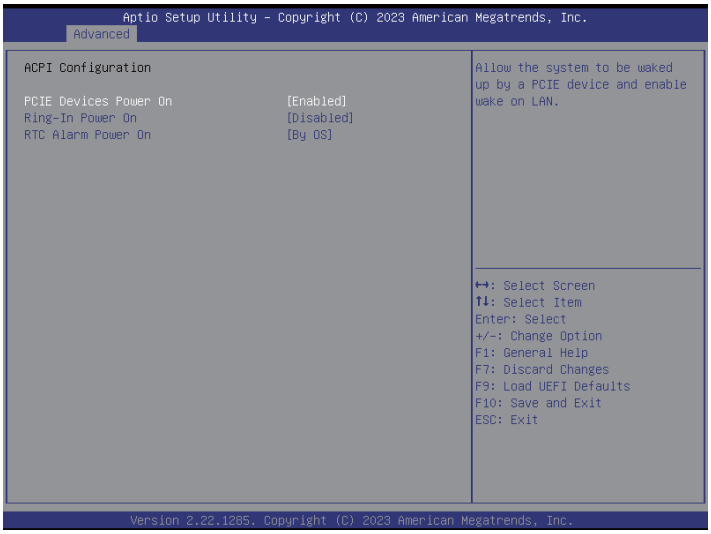


The NVMe Configuration displays the NVMe controller and Drive information.

Launch NVMe driver

Select this item to enable or disable launch NVMe driver.

7.3.5 ACPI Configuration



PCIE Devices Power On

Allows the system to be woken up by a PCIE device and enables Wake-on-LAN.

Ring-In Power On

Allows the system to be woken up by onboard COM port modem ring-in signals.

RTC Alarm Power On

Allows the system to be woken up by a real-time clock alarm. Set it to By OS to allow the operating system to handle this function.

RTC Alarm Date

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

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

RTC Alarm Hour

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

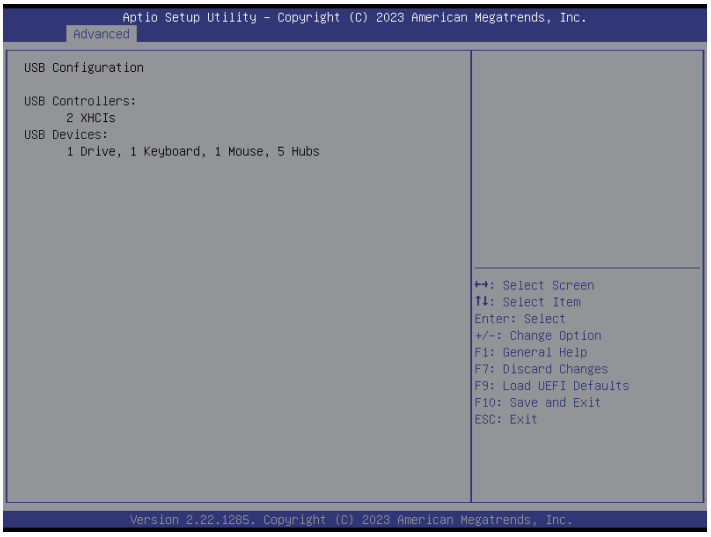
RTC Alarm Minute

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

RTC Alarm Second

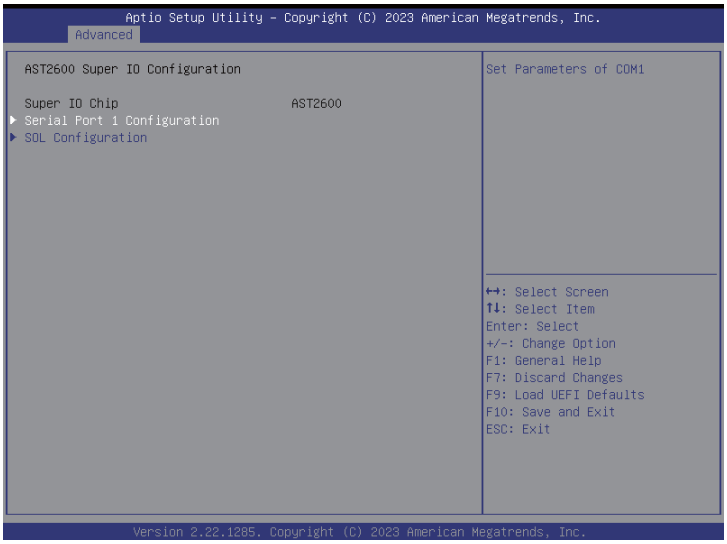
Use this item to set Second of RTC power on feature.

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.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Change Settings

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

SOL Configuration

Use this item to set parameters of SOL.

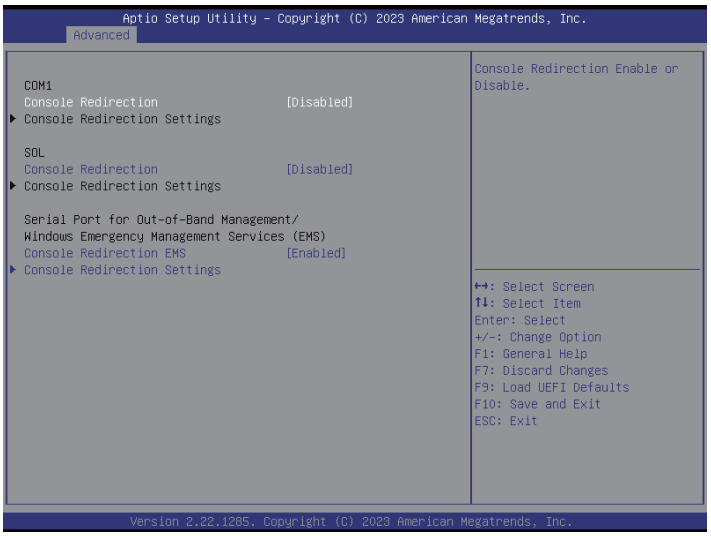
SOL Port

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 you can select a COM port to be used for Console Redirection.

Console Redirection Settings

Use this option to configure Console Redirection settings and specify how the computer and the connected host computer 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

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

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

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

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

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

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

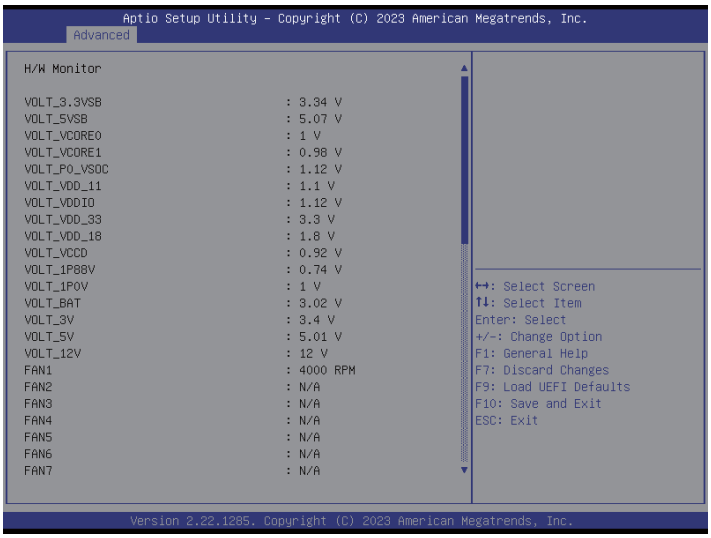
Parity

Stop

Bits

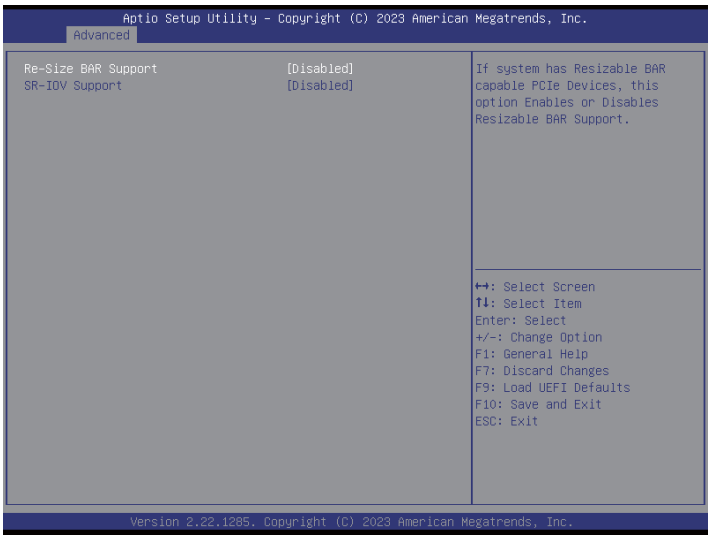
7.3.9 H/W Monitor

It allows users 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.



Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

7.3.10 PCI Subsystem Settings



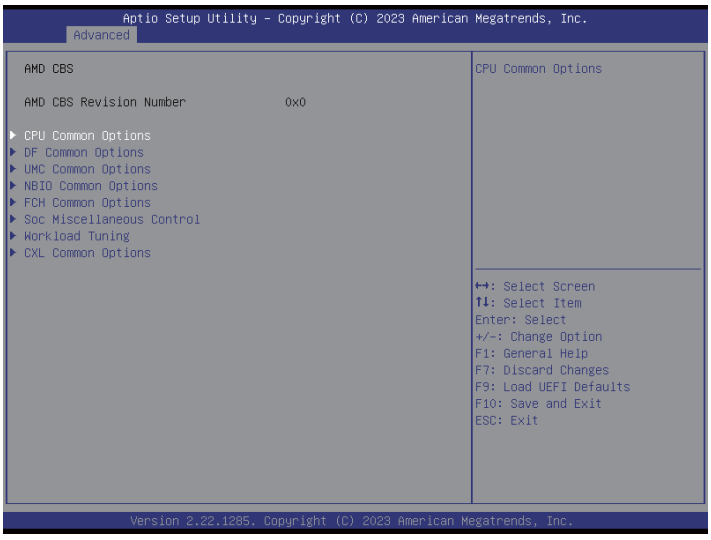
Re-Size BAR Support

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.

7.3.11 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.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

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.

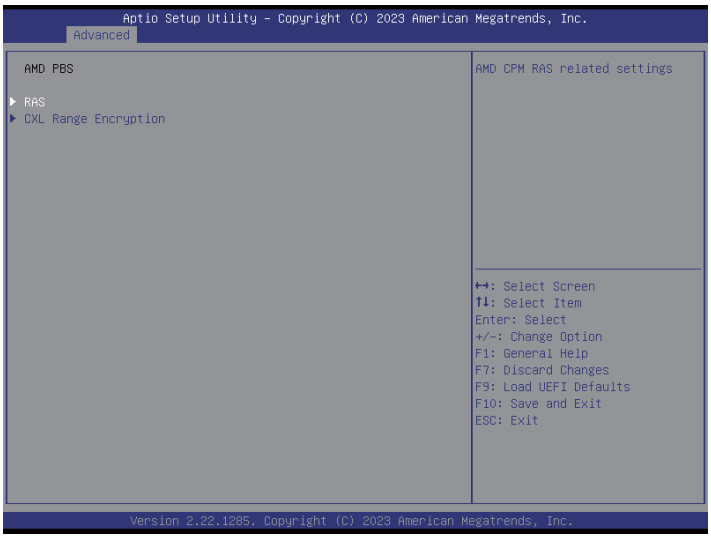
Workload Tuning Options

Use this item to configure Workload Tuning options.

CXL Common Options

Use this item to configure CXL Common options.

7.3.12 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

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

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

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 (Deferred Machine 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

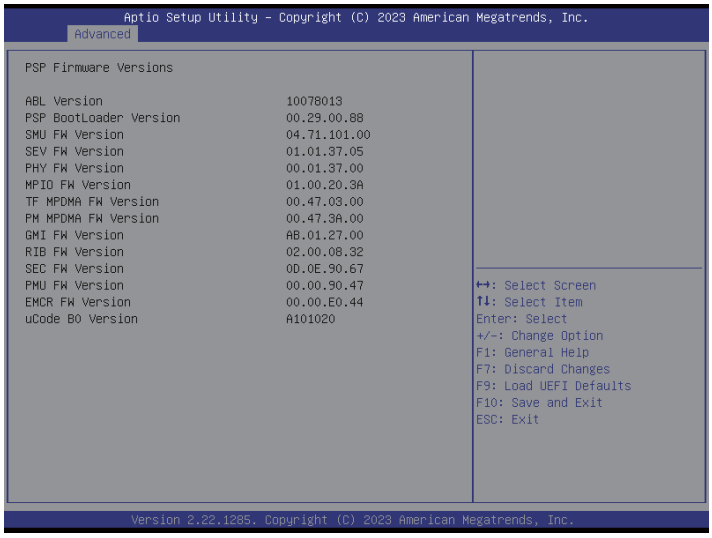
Use this item to enter memory range limit address.

Start CXL Range Encryption

Use this to encrypt all memory ranges.

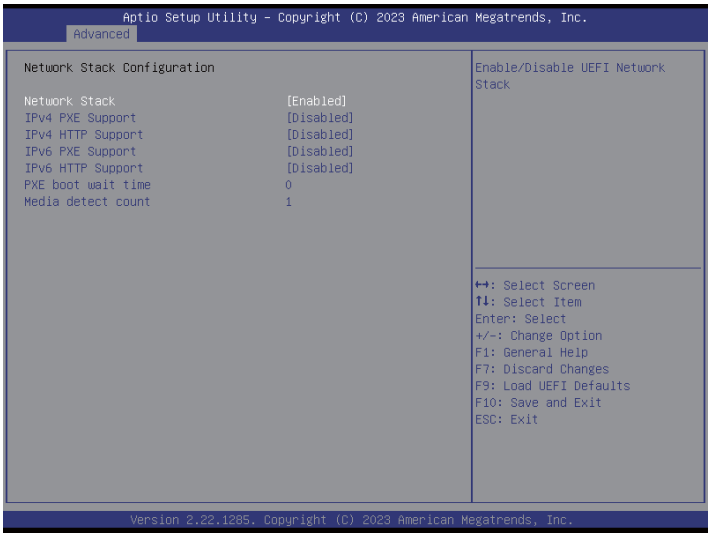
Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

7.3.13 PSP Firmware Versions



The PSP Firmware Versions display the version information for 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.

7.3.14 Network Stack Configuration



Network Stack

Use this to enable or disable UEFI 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.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

IPv6 HTTP Support

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

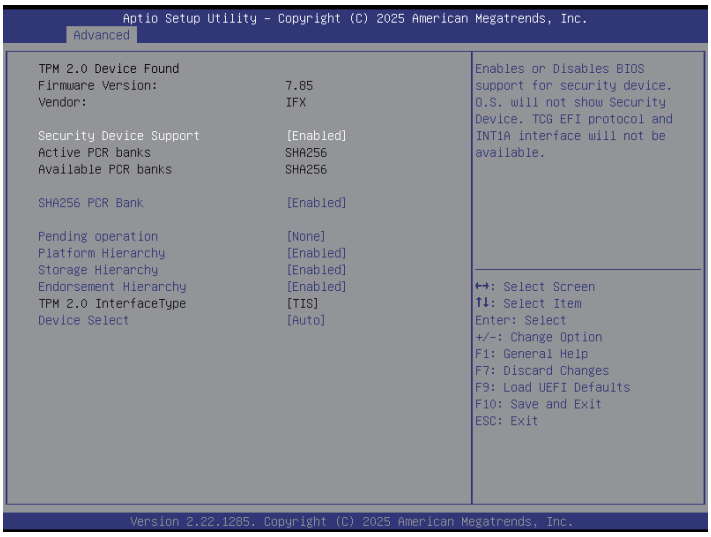
PXE boot wait time

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.

7.3.15 Trusted Computing



NOTE: Options vary depending on the version of the connected 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.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Storage Hierarchy

Use this item to enable or disable Storage Hierarchy.

Endorsement Hierarchy

Use this item to enable or disable Endorsement Hierarchy.

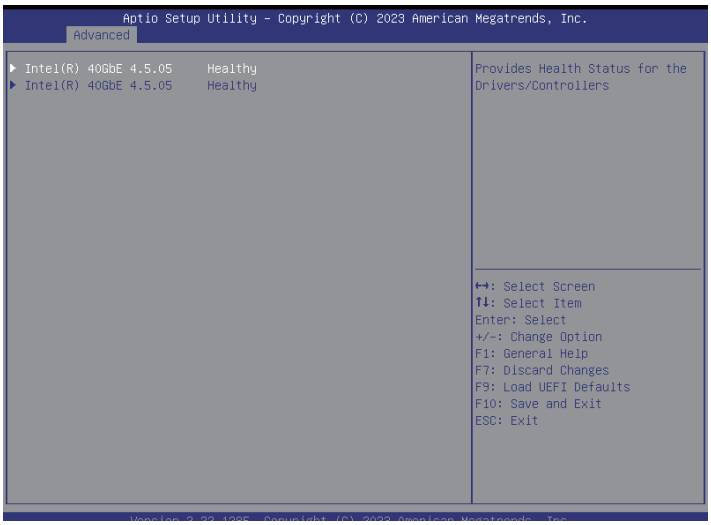
TPM 2.0 InterfaceType

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 restrict support to TPM 1.2 devices. TPM 2.0 will restrict 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.

7.3.16 1Driver Health

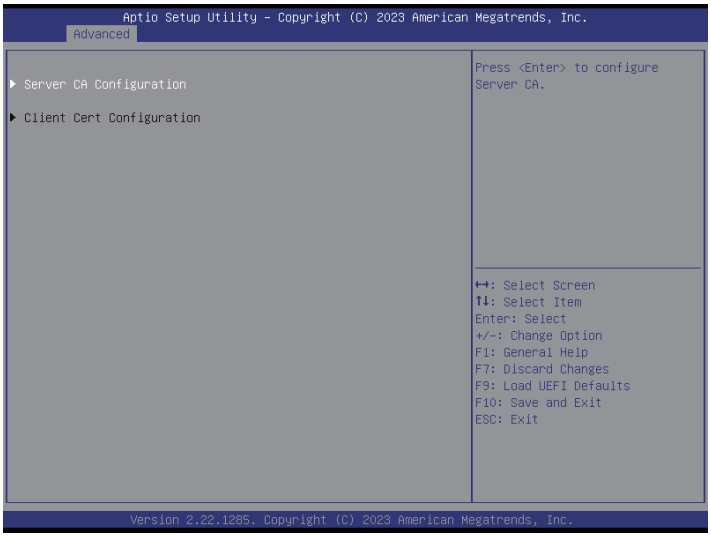


Inter (R) 40GbE 4.5.05 " Healthy"

Provides Health Status for the Drivers/Controllers.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

7.3.17 Tls Auth Configuration



Server CA Configuration

Press <Enter> to configure Server CA.

Enroll Cert

Press <Enter> to enroll cert.

Delete Cert

Press <Enter> to delete cert.

Client Cert Configuration

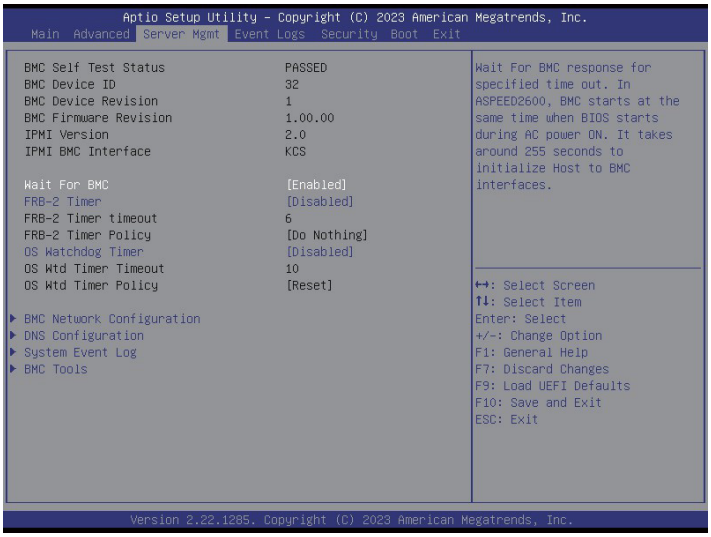
Press <Enter> to configure Client Cert.

7.3.18 Instant Flash

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

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

7.4 Server Mgmt



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

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

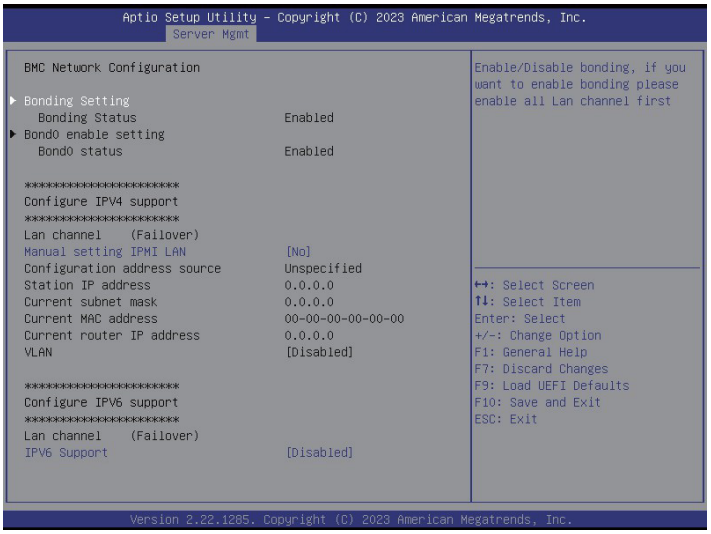
Press <Enter> to change the SEL event log configuration.

BMC Tools

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

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

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.

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 Priority setting. the Maximum value is 7 and the Minimum value is 0.

IPV6 Support

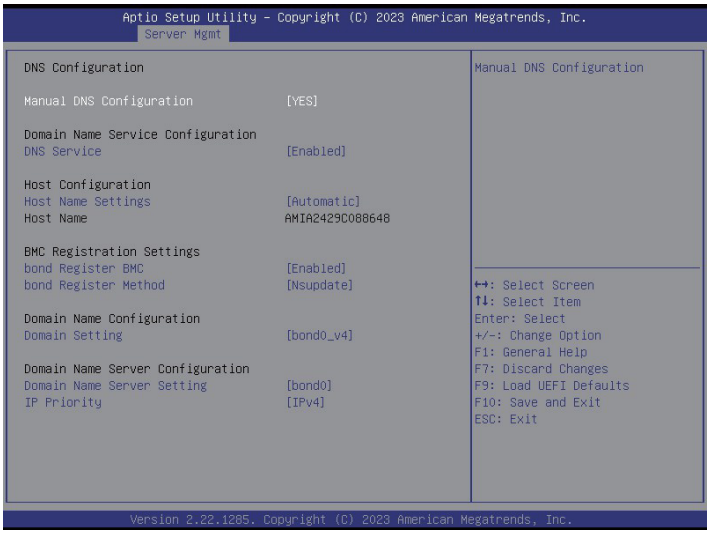
Enable or disable LAN IPV6 Support.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

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.

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

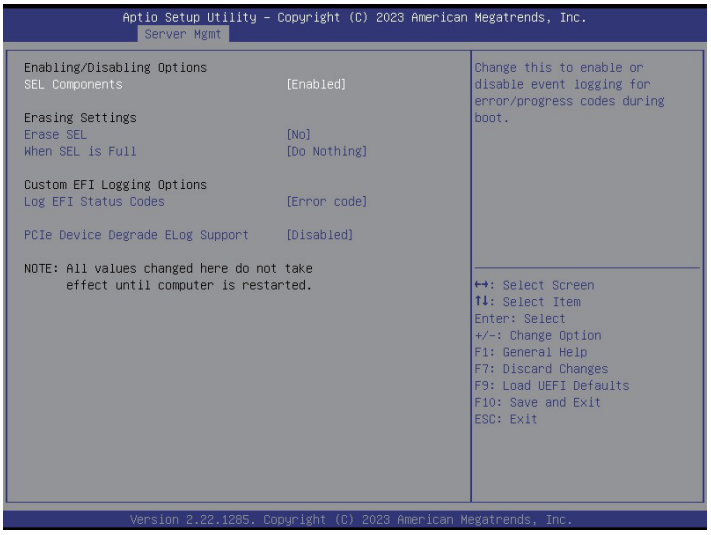
This item supports Manual and Bond0 DNS Server Settings.

IP Priority

This item supports IPV4 and IPV6 IP Priority.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

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.

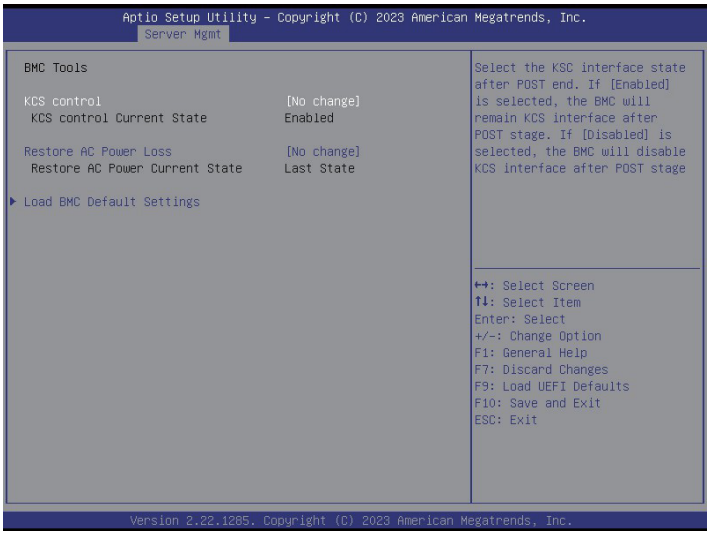
Log EFI Status Codes

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.

7.4.4 BMC Tools



Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

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

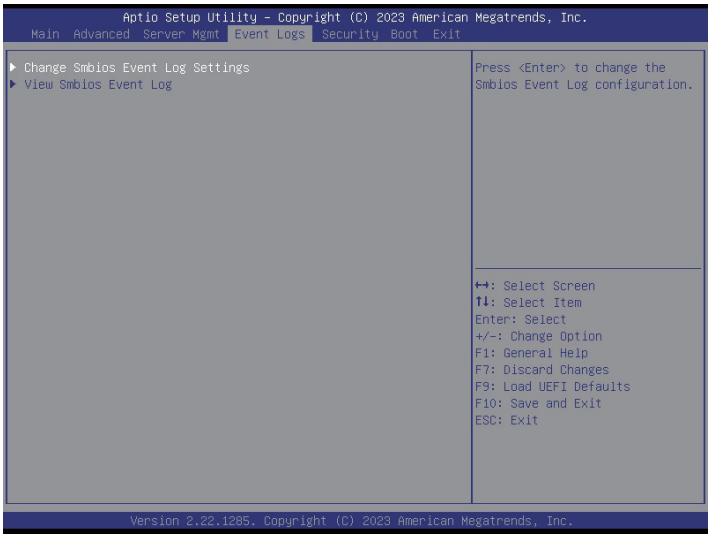
Restore AC Power Loss

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

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.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

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

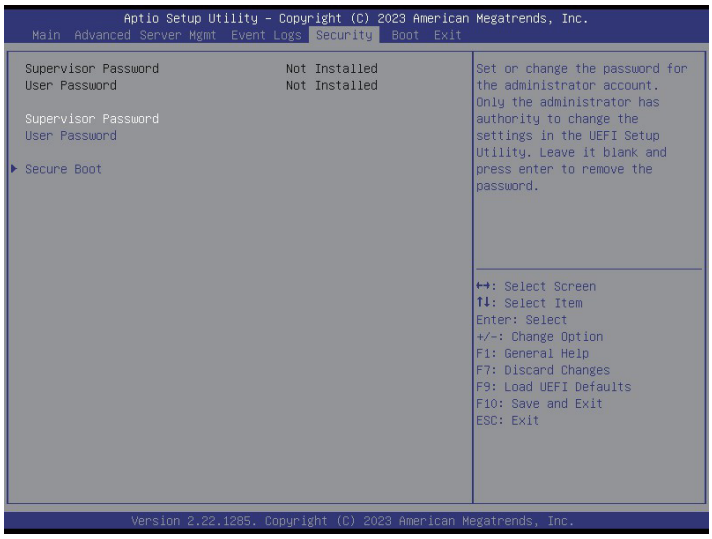
Press <Enter> to view the Smbios Event Log records.

NOTE:

All values changed here do not take effect until the computer is restarted.

7.6 Security

This section allows user to set or change the supervisor/user password for the system. For the user password item is allowed user to clear it.



Supervisor Password

Set or change the password for the administrator account. Only the administrator has authority to change the settings in the UEFI 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 UEFI 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.

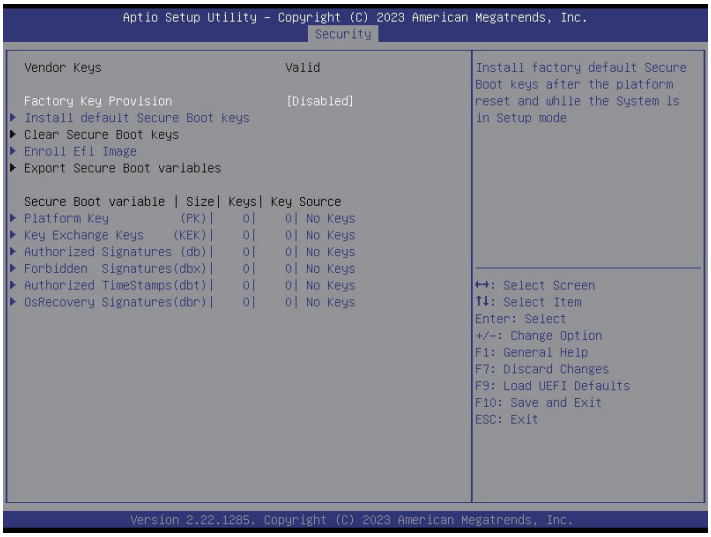
Secure Boot Mode

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

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

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 de-vice.

Platform Key (PK)

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 UEFI Variable

3. EFI PE/COFF Image(SHA256)

Key Source: Factory, External, Mixed

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

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 UEFI 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

2. Authenticated UEFI Variable

3. 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 UEFI Variable

3. EFI PE/COFF Image(SHA256)

Key Source: Factory, External, Mixed

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Authorized TimeStamps (dbt)

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 UEFI 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

b) EFI_CERT_X509 (DER)

c) EFI_CERT_RSA2048 (bin)

d) EFI_CERT_SHAXXX

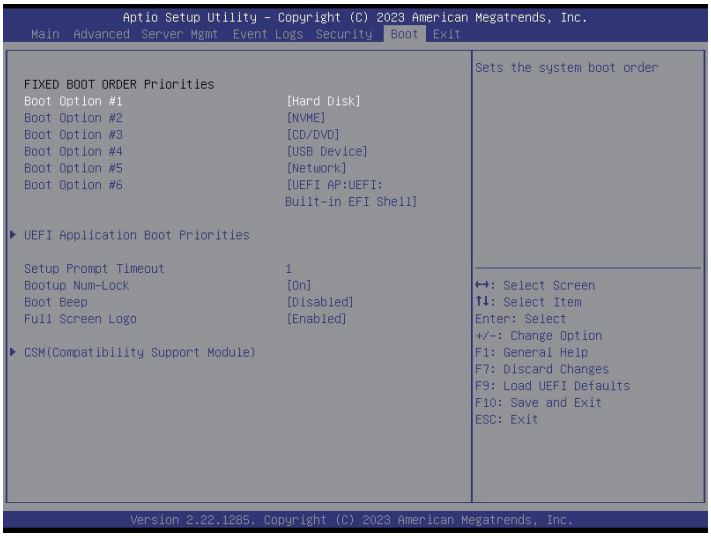
2. Authenticated UEFI Variable

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.



Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Boot Option

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

Application Boot Priorities

Specifies the Boot Device Priority sequence from available UEFI Application.

Setup Prompt Timeout

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

Bootup Num-Lock

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

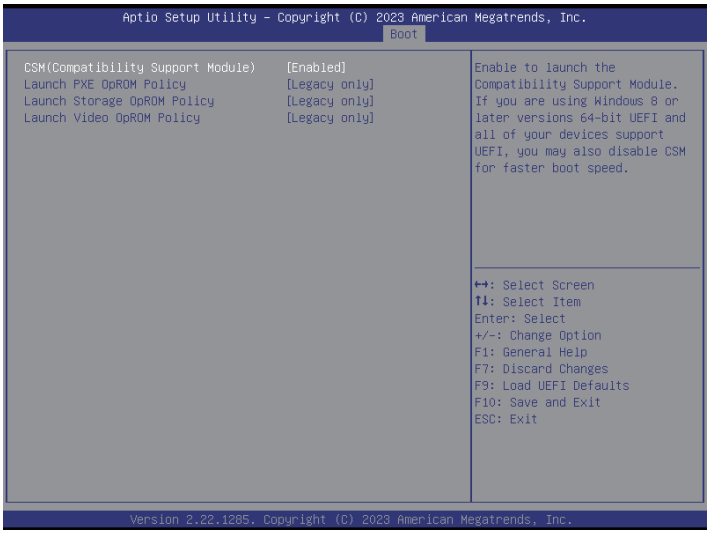
Boot Beep

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.

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 UEFI and all of the devices sup-port UEFI, it may also disable CSM for faster boot speed.

Launch PXE OpROM Policy

Select UEFI only to run those that support UEFI 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 UEFI option ROM.

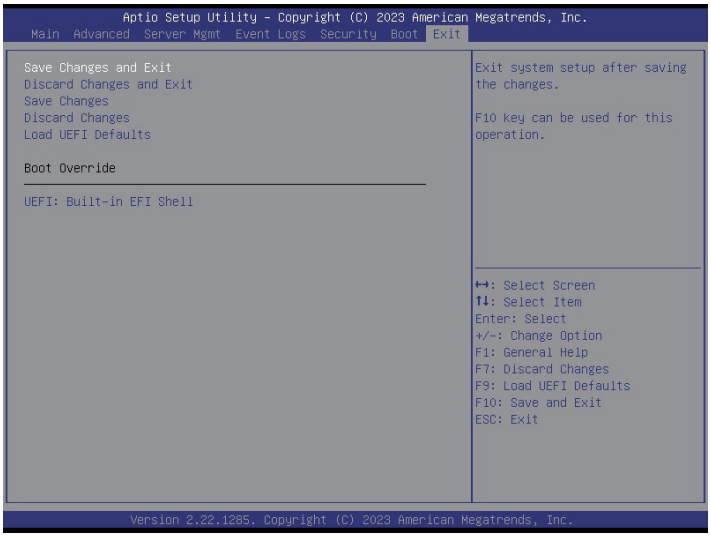
Launch Storage OpROM Policy

Select UEFI only to run those that support UEFI 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 UEFI option ROM.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Launch Video OpROM Policy

Select UEFI only to run those that support UEFI 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 UEFI option ROM.



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 UEFI 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 UEFI 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 UEFI Defaults

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

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

This page intentionally left blank.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

8 Software Support

8.1 Install Operating System

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

8.2 Download and Install Software Drivers

After hardware installation is completed, visit our website at https://www.adlinktech.com for drivers and other software updates

8.3 Contact Information

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

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

This page intentionally left blank.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

9 Troubleshooting

9.1 Troubleshooting Procedures

Follow the procedures below to troubleshoot the system.



Always unplug the power cord before adding, removing, or changing any hardware components. Failure to do so may cause physical injuries and damages to motherboard components.

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.

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 for the correct input voltage on the power supply.
4. Verify if the battery on the motherboard provides ~3VDC. Install a new battery if necessary.

If there is no video...

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

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.

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.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

9.2 Technical Support Procedures

If the problems 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.

9.3 Returning Merchandise for Service

For warranty service, the receipt or a copy of the invoice marked with the date of purchase is required. By calling the vendor or visiting 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 is mailed prepaid or hand-carried when returning the motherboard to the manufacturer. Shipping and handling charges will be applied for all orders that must be mailed when service is complete.

This warranty does not cover damages incurred in shipping or from failure due to alteration, misuse, abuse or improper maintenance of products.

Contact the distributor first for any product related problems during the warranty period.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Safety Instructions

Read and follow all instructions marked on the product and in the documentation before you operate your system. Retain all safety and operating instructions for future use.

- Please read these safety instructions carefully.
- Please keep this User‘s Manual for later reference.
- Read the specifications section of this manual for detailed information on the operating environment of this equipment.
- When installing/mounting or uninstalling/removing equipment, turn off the power and unplug any power cords/cables.
- 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.
- Never attempt to fix the equipment. Equipment should only be serviced by qualified personnel.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Getting Service

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
Email: market@adlinktech.com

ADLINK Technology GmbH
Address: Hans-Thoma-Strasse 8-10, 68163 Mannheim, Germany
Tel: +49-621-43214-0
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.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000