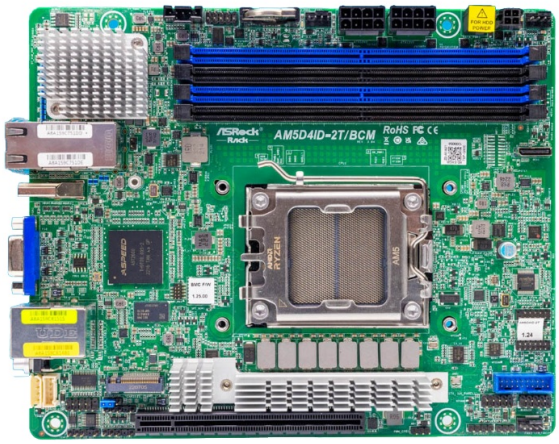


ASRock AM5D4ID-2T-BCM Server Workstation Motherboard User Manual

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ASRock AM5D4ID-2T-BCM Server Workstation Motherboard

USER MANUAL

Version 1.0

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FCC

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) this device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reason-able protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in ac-cordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

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

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CALIFORNIA, USA ONLY
The Lithium battery adopted on this motherboard contains Perchlorate, a toxic substance controlled in Perchlorate Best Management Practices (BMP) regulations passed by the California Legislature. When you discard the Lithium battery in California, USA, please follow the related regulations in advance.

“Perchlorate Material-special handling may apply, see www.dtsc.ca.gov/hazardouswaste/perchlorate”

AUSTRALIA ONLY
Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and compensation for any other reasonably foreseeable loss or damage caused by our goods. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure. If you require assistance please call ASRock Rack Tel : +886-2-55599600 ext.123 (Standard International call charges apply)

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CE

ASRock Rack INC. hereby declares that this device is in compliance with the essential re-quirements and other relevant provisions of related Directives. Full text of EU declaration of conformity is available at: **http://www.asrockrack.com**

ASRock Rack follows the green design concept to design and manufacture our products, and makes sure that each stage of the product life cycle of ASRock Rack product is in line with global environmental regulations. In addition, ASRock Rack disclose the relevant in-formation based on regulation requirements.
Please refer to **https://www.asrockrack.com/general/about.asp?cat=Responsibility** for in-formation disclosure based on regulation requirements ASRock Rack is complied with:



DO NOT throw the motherboard in municipal waste. This product has been designed to enable proper reuse of parts and recycling. This symbol of the crossed out wheeled bin indicates that the product (electrical and electronic equipment) should not be placed in municipal waste. Check local regulations for disposal of electronic products.

Chapter 1 Introduction

Thank you for purchasing ASRock Rack AM5D4ID-2T/BCM or AM5D4ID-2L+/BCM motherboard, a reliable motherboard produced under ASRock Rack’s consistently stringent quality control. It delivers excellent performance with robust design conforming to ASRock Rack’s commitment to quality and endurance.
In this manual, chapter 1 and 2 contains introduction of the motherboard and step-by-step guide to the hardware installation. Chapter 3 and 4 contains the configuration guide to BIOS setup and information of the software support.

Because the motherboard specifications and the BIOS software might be updated, the con-tent 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 ASRock Rack website without further notice. Find the latest memory and CPU support lists on ASRock Rack website as well. ASRock Rack’s Website: **www.ASRockRack.com**
About this motherboard technical support, please visit the website for specific information **http://www.asrockrack.com/support/**

1.1 Package Contents

- ASRock Rack AM5D4ID-2T/BCM or AM5D4ID-2L+/BCM Motherboard (deep mini-ITX Form Factor: 6.7-in x 8.2-in, 17.0 cm x 20.8 cm)
- Quick Installation Guide
- 1 x I/O Shield
- 1 x Oculink to PCIe Cable (80cm) (Optional)
- 1 x ATX 4P to 24P Power Cable (8cm)
- 1 x SATA Power Cable (80cm)
- 1 x Screw for M.2 Socket

If any items are missing or appear damaged, contact the authorized dealer.

The illustrations shown in this manual are examples only, the actual system may differ slightly .

1.2 Specifications

AM5D4ID-2T/BCM / AM5D4ID-2L+/BCM	
Physical Status	
Form Factor	Deep mini-ITX
Dimension	6.7″ x 8.2″ (170 mm x 208mm)
Processor System	
CPU	Supports AMD Raphael Processors
Socket	1 Socket AM5 (LGA1718)
Thermal Design Power (TDP)	120W (Air) / 170W (Liquid)
Chipset	KNOLL3 X300
System Memory	
Supported DIMM Quantity	4 DIMM slots (2DPC)
Supported Type	DDR5 288-pin ECC/non-ECC UDIMM
Max. Capacity per DIMM	48GB
Max. DIMM Frequency	5200 MHz (1DPC), 3600 MHz (2DPC)
Voltage	1.2V
Note	Memory support is to be validated.
PCIe Expansion Slots (Slot7 close to CPU)	
Slot 7	PCIe5.0 x16 [CPU]
Other PCIe Expansion Connectors	
M.2 Slot	1M-key (PCIe4.0 x4), supports 2280 form factor [CPU]
OCuLink	1 OCuLink1 (PCIe4.0 x2) [CPU]
Ethernet	
Additional Ethernet Controller	AM5D4ID-2T/BCM: 1 BCM57416: 2 RJ45 (10GbE) AM5D4ID-2L+/BCM: 1 BCM5720L: 2 RJ45 (1GbE)
USB	
Connectors/ Headers	External: 2 Type-A (USB3.2 Gen1) Internal: 1 header (19-pin, 2 USB3.2 Gen1)

Graphics

Controller	ASPEED AST2600: 1 DB15 AMD Processors with Graphics: 1 HDMI

Security

TPM	1 (13-pin, SPI)

Rear I/O	
VGA	1 DB15 (VGA), 1 HDMI
USB	2 Type-A (USB3.2 Gen1)
RJ45	AM5D4ID-2T/BCM: 2 RJ45(10GbE), 1 dedicated IPMI AM5D4ID-2L+/BCM: 2 RJ45(1GbE), 1 dedicated IPMI

Hardware Monitor	
Temperature	CPU, DDR, MB, Card Side
Fan	Fan Tachometer, Multi-Speed Control, CPU Quiet Fan (Allow Chassis Fan Speed Auto-Adjust by CPU Temperature)
Voltage	3VSB, 5VSB, VCPU, VCCM, APU VDDP, 1.05V_PROM_S5, 2.5V_PROM, 1.05V_PROM_RUN, BAT, 3V, 5V, 12V

System BIOS	
BIOS type	AMI UEFI BIOS; 256Mb (32MB) SPI Flash ROM
Features	Plug and Play, ACPI 5.1 compliance wake up events, SMBIOS 2.3

Internal Connectors/Headers	
PSU Connector	1 (4-pin, ATX PSU signal) w/ ATX 24-pin adapter cable, 2 (8-pin, ATX 12V) support 12V DC-in
HDD Power Connector	1 (4-pin) for HDD power when using 12V DC-in power source
Auxiliary Panel Header	1 (9-pin) chassis intrusion, system fault LED, LAN activity LED
System Panel Header	1 (9-pin) power switch, reset switch, system power LED, HDD activity LED
COM Header	1
Speaker Header	1
Fan Header	3 (4-pin)
Thermal Sensor Header	1
TPM Header	1 (13-pin, SPI)
80 Debug Port Header	1 (13-pin, LPC)
SMbus Header	1
PMbus Header	1
IPMB Header	1

Clear CMOS	1

Others	1 UID header (4-pin), 1 NCSI header (4-pin), 1 IPMI LAN LED header (4-pin)
LED Indicators	
Standby Power LED	1 (5VSB)

Fan Fail LED	3
BMC Hearbeat LED	1
Support OS	
OS	Microsoft® Windows®: – Windows 10 (64 bit) – Windows 11 (64 bit) Linux®: – UBuntu 22.04.2 (64 bit) * On the Windows system, Raid mode supports UEFI Boot only. * The Linux system doesn't support Raid Mode. * Please refer to our website for the latest OS support list.
Enviroment	
Operating Temperature	10 – 35°C (50 – 95 degF)
Non-operating Temperature	-40 – 70°C (-40 – 158degF)

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

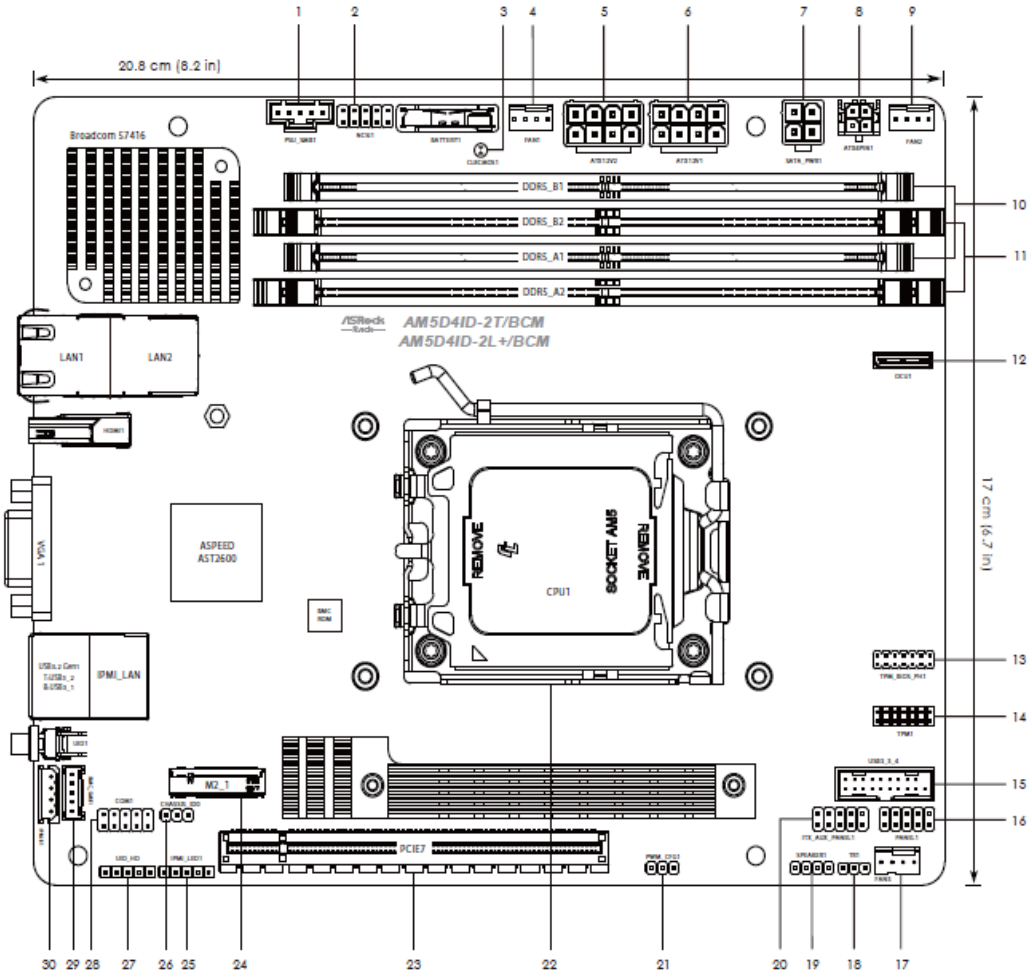
Intel® Ethernet Connection > Power Management. And the "PCI Devices Power On" is enabled in UEFI SETUP UTILITY > Advanced > ACPI Configuration. After that, onboard LAN1&2 can wake up S5 under OS.

If installing Intel® LAN utility or Marvell SATA utility, this motherboard may fail Win-dows® Hardware Quality Lab (WHQL) certification tests. If installing the drivers only, it will pass the WHQL tests.

1.3 Unique Features

ASRock Rack Instant Flash is a BIOS flash utility embedded in Flash ROM. This convenient BIOS update tool allows updating system BIOS without entering operating systems first like MS-DOS or Windows®. With this utility, press the <F6> key during the POST or the <F2> key to enter into the BIOS setup menu to access ASRock Rack Instant Flash.
Just launch this tool and save the new BIOS file to the USB flash drive, floppy disk or hard drive, then update the BIOS only in a few clicks without preparing an additional floppy dis-kette or other complicated flash utility. Please be noted that the USB flash drive or hard drive must use FAT32/16/12 file system.

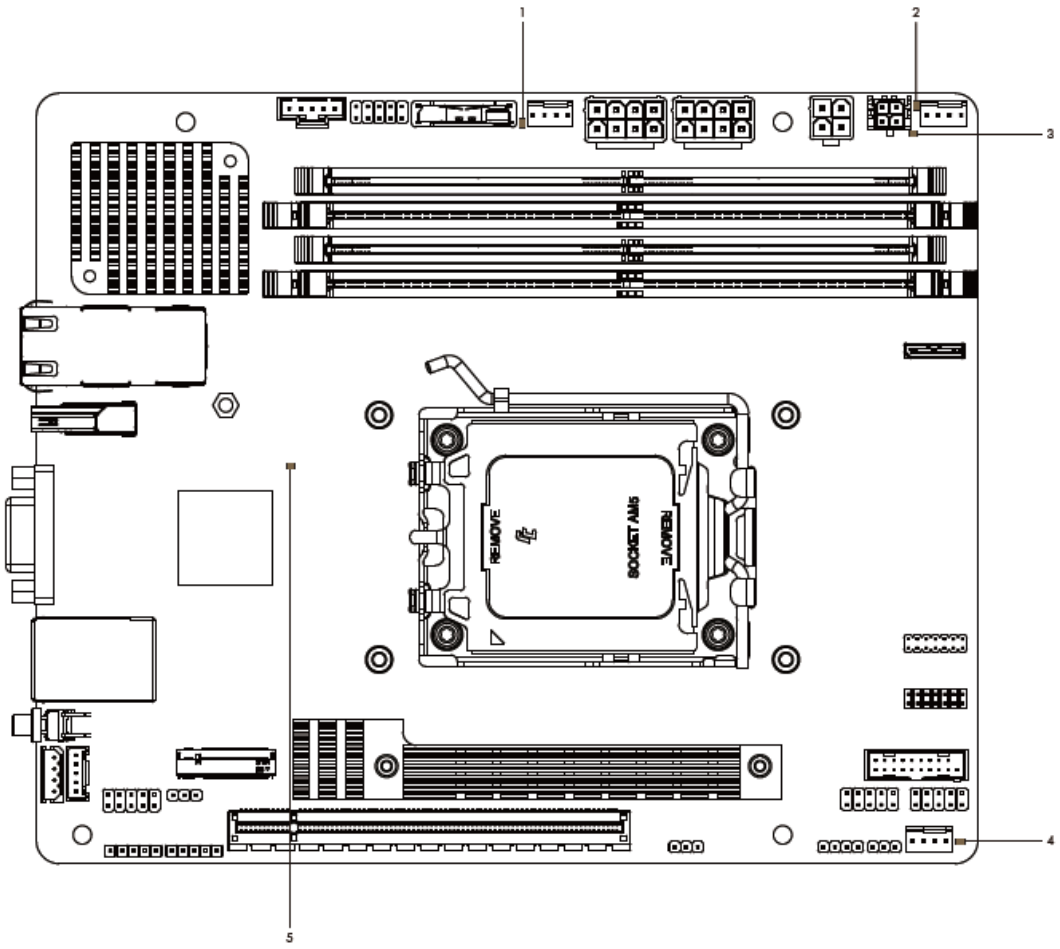
1.4 Motherboard Layout


20.8 cm (8.2 in)
17 cm (6.7 in)
Broadcom 57416
DDR5_B1
DDR5_B2
DDR5_A1
DDR5_A2
AM5D4ID-2T/BCM
AM5D4ID-2L+/BCM
LAN1
LAN2
VGA 1
ASPEED AST2600
IPMI_LAN
CPU1
SOCKET AM5
REMOVE
REMOVE
M2_1
PCIE7
1
2
3
4
5
6
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8
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No.	Description
1	PSU SMBus Header (PSU_SMB1)
2	NSCI Header (NSCI1)
3	Clear CMOS Pad (CLRCMOS1)
4	System Fan Connector (FAN1)
5	ATX 12V Power Connector (ATX12V1)
6	ATX 12V Power Connector (ATX12V2)
7	SATA Power Connector (SATA_PWR1)
8	ATX 4-PIN Power Connector (ATX4PIN1)
9	System Fan Connector (FAN2)
10	2 x 288-pin DDR5 DIMM Slots (DDR5_A1, DDR5_B1)*
11	2 x 288-pin DDR5 DIMM Slots (DDR5_A2, DDR5_B2)*
12	OCuLink x4 Connector (OCU1)
13	SPI TPM Header (TPM_BIOS_PH1)
14	80 Debug Port Header (TPM1)
15	USB 3.2 Gen1 Header (USB3_3_4)
16	System Panel Header (PANEL1)
17	System Fan Connector (FAN3)
18	Thermal Sensor Header (TR1)
19	Speaker Header (SPEAKER1)
20	Auxiliary Panel Header (ITX_AUX_PANEL1)
21	PWM Configuration Header (PWM_CFG1)
22	AMD Socket AM5 (LGA 1718) (CPU1)
23	PCI Express 5.0 x16 Card Slot (PCIE7)
24	M.2 Socket (M2_1) (Type 2280)
25	IPMI LAN LED Header (IPMI_LED1)
26	Chassis ID Jumper (CHASSIS_ID0)
27	UID Button Header (UID_HD)
28	Serial Port Header (COM1)
29	Baseboard Management Controller SMBus Header (BMC_SMB1)
30	Intelligent Platform Management Bus Header (IPMB1)

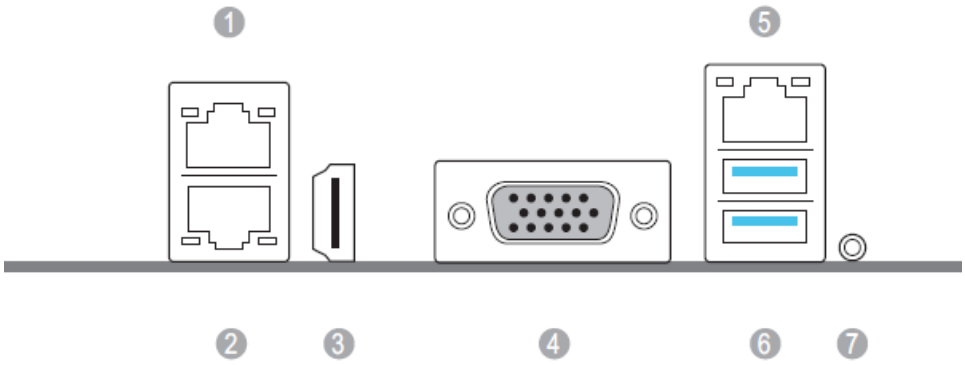
* For DIMM installation and configuration instructions, please see p.18 (Installation of Memory Modules (DIMM)) for more details.

1.5 Onboard LED Indicators



No.	Item		Status	Description
1	FAN_LED1		Red	FAN1 failed
2	FAN_LED2		Red	FAN2 failed
3	SB_PWR1		Green	STB PWR ready
4	FAN_LED3		Red	FAN3 failed
5	BMC_LED1		Green	BMC heartbeat LED

1.6 I/O Panel



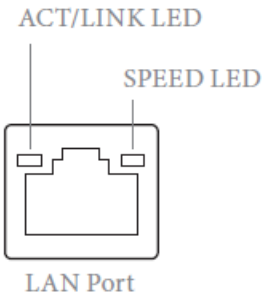
AM5D4ID-2T/BCM

No.	Description	No.	Description
1	10G LAN RJ-45 Port (LAN2)**	5	LAN RJ-45 Port (IPMI_LAN1)*
2	10G LAN RJ-45 Port (LAN1)**	6	USB 3.2 Gen1 Ports (USB3_1_2)
3	HDMI Port (HDMI1)	7	UID Switch (UID1)
4	VGA Port (VGA1)		

AM5D4ID-2L+/BCM

No.	Description	No.	Description
1	1G LAN RJ-45 Port (LAN2)***	5.	LAN RJ-45 Port (IPMI_LAN1)*
2	1G LAN RJ-45 Port (LAN1)***	6	USB 3.2 Gen1 Ports (USB3_1_2)
3	HDMI Port (HDMI1)	7	UID Switch (UID1)
4	VGA Port (VGA1)		

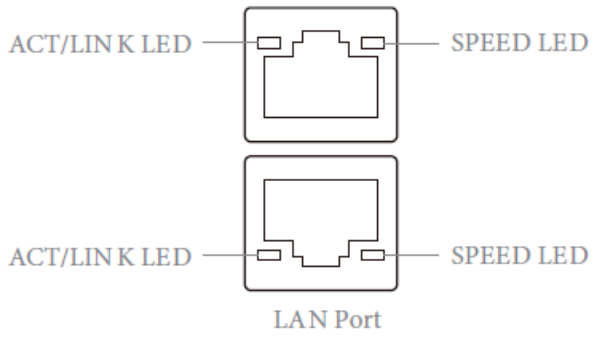
*There is an LED on each side of IPMI LAN port. Please refer to the table below for the LAN port LED indications..



IPMI LAN Port LED Indications

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.



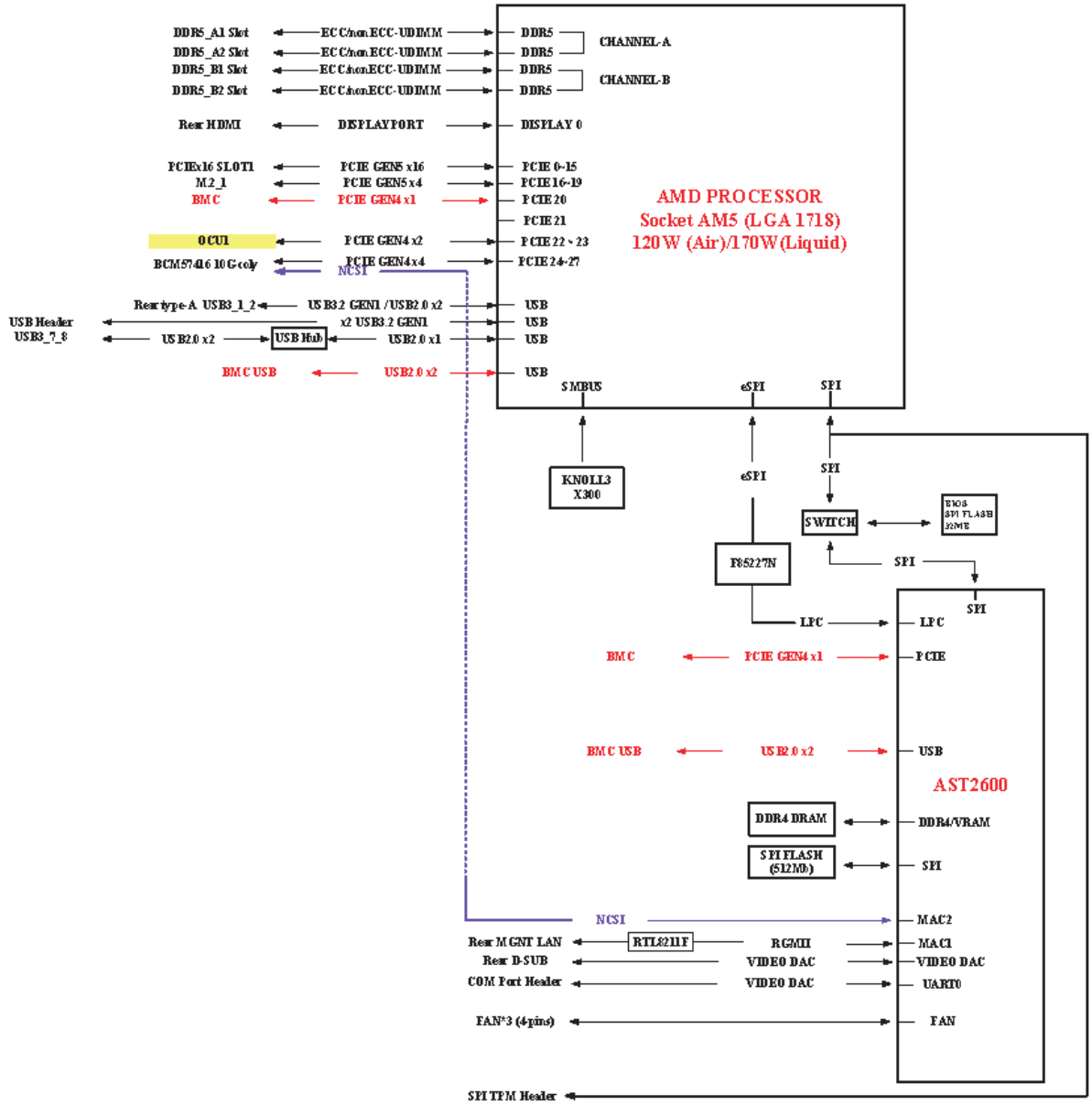
10G LAN Port (LAN1, LAN2) LED Indications

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

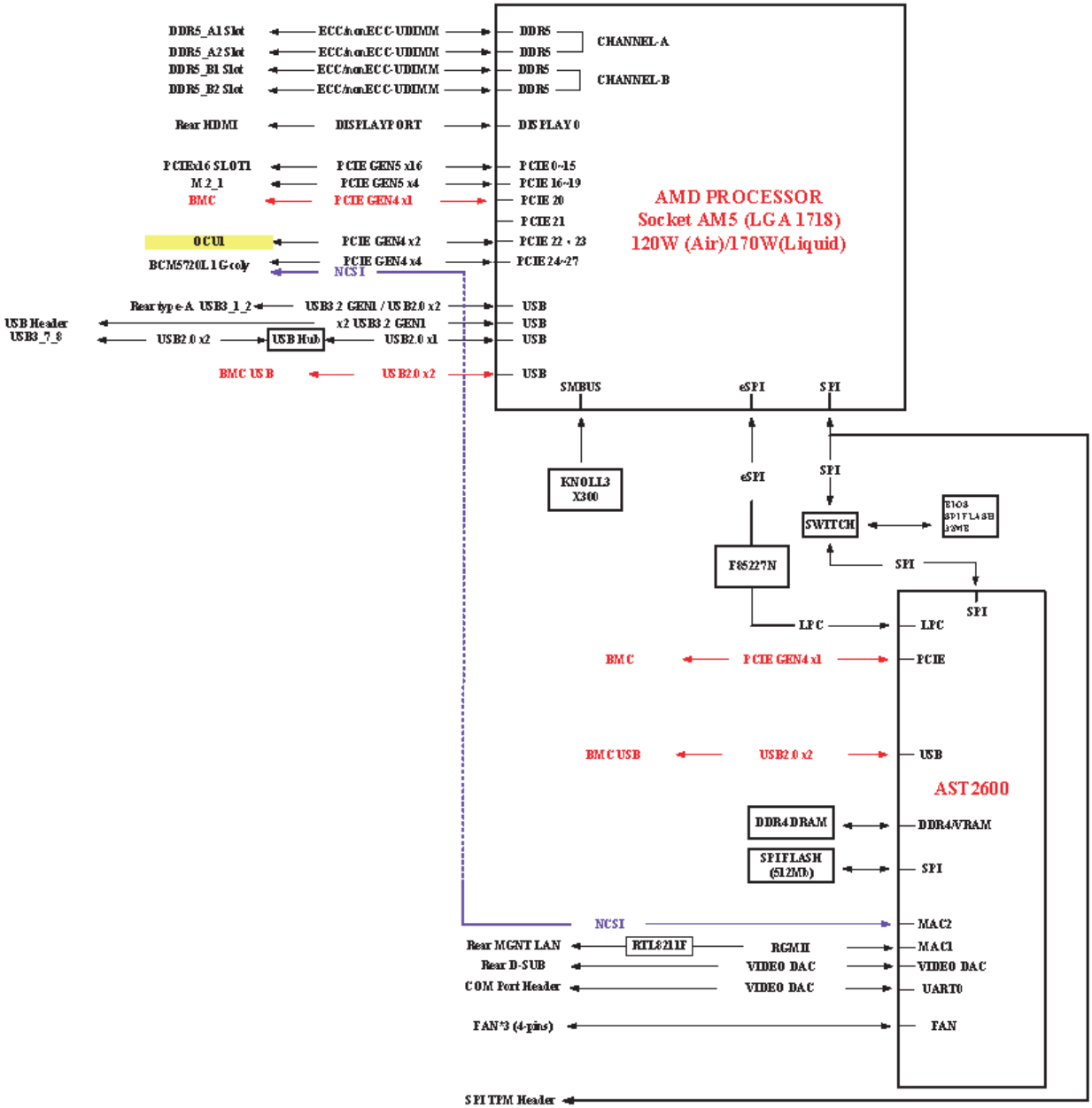
1.7 Block Diagram

AM5D4ID-2T/BCM

AM5D4ID-2T/BCM



AM5D4ID-2L+/BCM



Chapter 2 Installation

This is a deep mini-ITX form factor (6.7” x 8.2”, 17.0 cm x 20.8 cm) motherboard. Before installing the motherboard, study the configuration of the chassis to ensure that the motherboard fits into it.

This is a deep mini-ITX form factor (6.7" x 8.2", 17.0 cm x 20.8 cm) motherboard. Before installing the motherboard, study the configuration of the chassis to ensure that the motherboard fits into it.



Make sure to unplug the power cord before installing or removing the motherboard. Failure to do so may cause physical injuries and motherboard damages.

2.1 Screw Holes

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



Attention! Before installing this motherboard, be sure to unscrew and remove the standoffs at the marked location, under the motherboard, from the chassis, in order to avoid electrical short circuit and damage to the motherboard.



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

2.2 Pre-installation Precautions

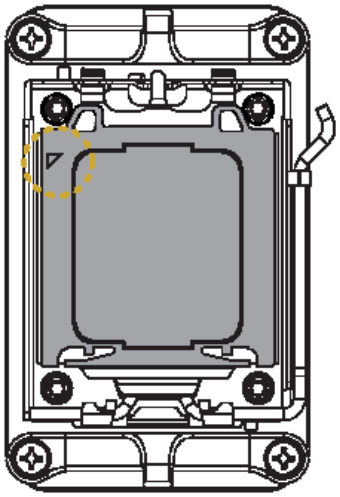
Take note of the following precautions before installing motherboard components or change any motherboard settings.

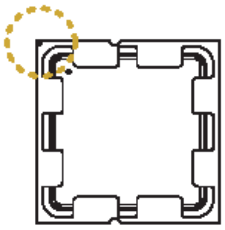
1. Unplug the power cord from the wall socket before touching any components.
2. To avoid damaging the motherboard's components due to static electricity, NEVER place the motherboard directly on the carpet or the like. Also remember to use a grounded wrist strap or touch a safety grounded object before handling the components.
3. Hold components by the edges and do not touch the ICs.
4. Whenever uninstall 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.



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.

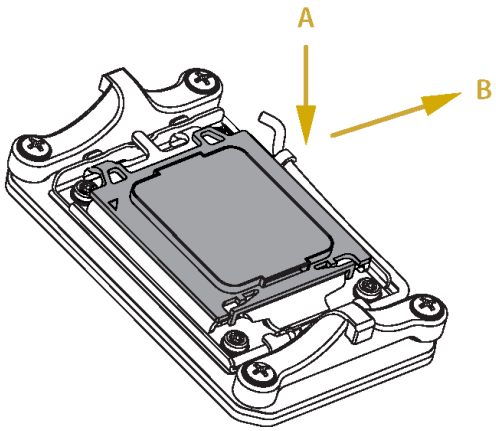
1. *Before inserting the 1718-Pin CPU into the socket, please check if the **PnP cap** is on the socket, if the CPU surface is unclean, or if there are any **bent pins** in the socket. Do not force to insert the CPU into the socket if above situation is found. Otherwise, the CPU will be seriously damaged.*
2. *Unplug all power cables before installing the CPU.*



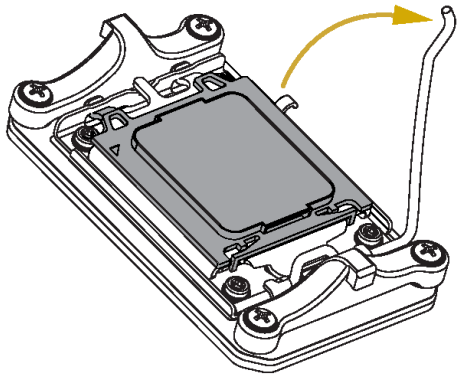


⚠ Turn the CPU to the correct orientation before opening the CPU socket cover.

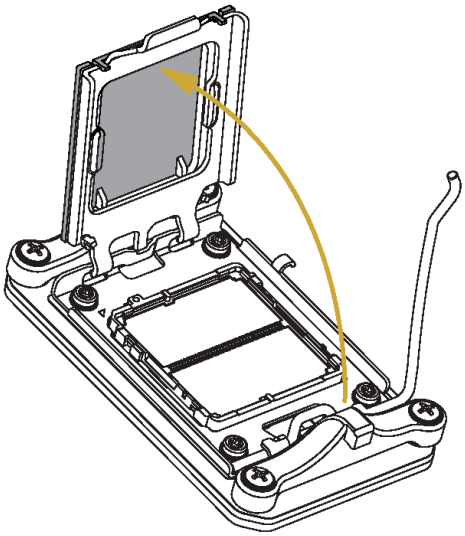
1



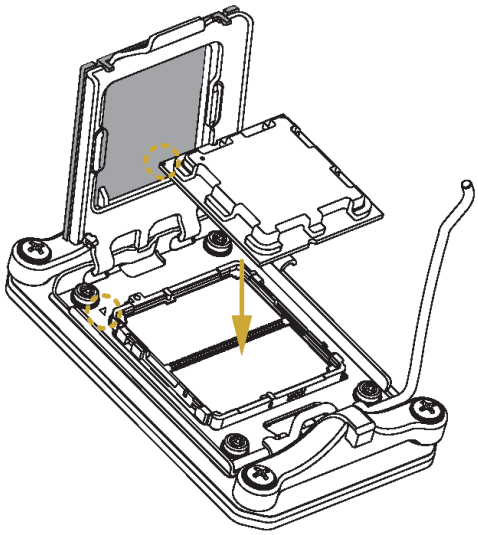
2



3

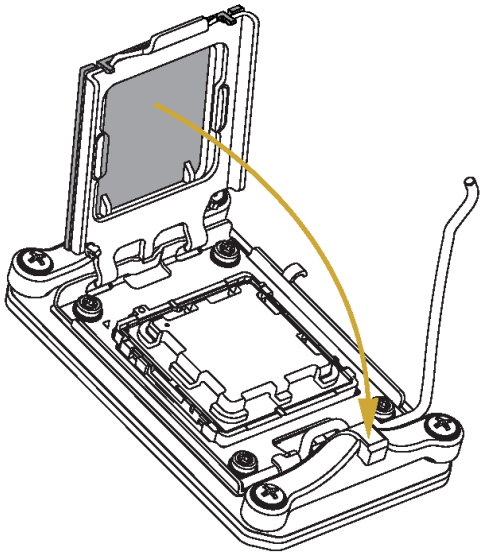


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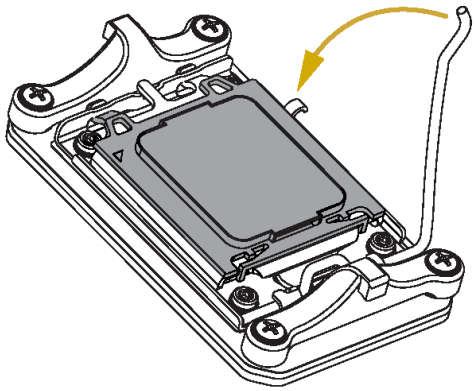


⚠ Carefully place the CPU in as flat as possible. Do not drop it.

5

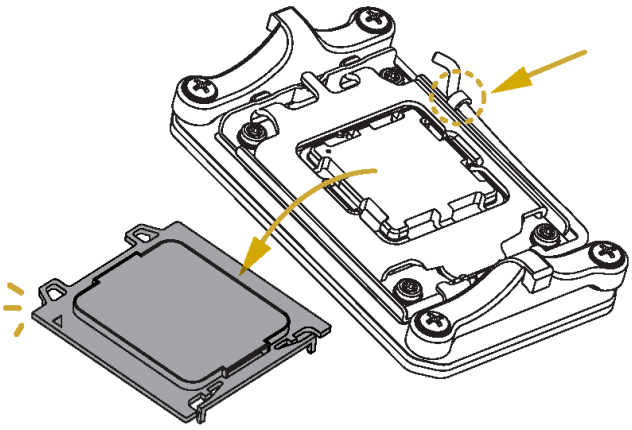


6



⚠ Make sure the CPU is aligned with the socket before locking it into place.

7



⚠ Make sure the black cover plate is always in place until it pops off when closing the socket lever.

Please save the cover if the processor is removed. The cover must be placed if wishing to return the motherboard for after service.

2.4 Installing the CPU Fan and Heatsink

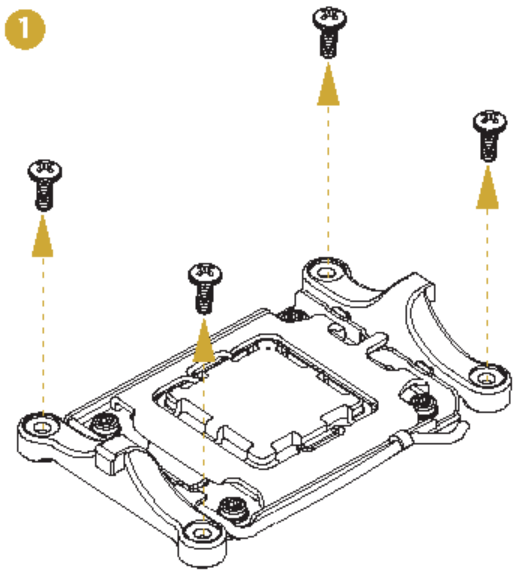
After installing the CPU into this motherboard, it is necessary to install a larger heatsink and cooling fan to dissipate heat. It also needs to spray thermal grease between the CPU and the heatsink to improve heat

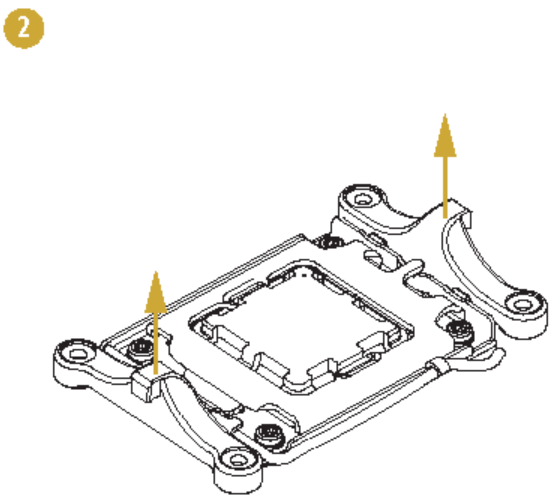
dissipation. Make sure that the CPU and the heatsink are securely fastened and in good contact with each other.

After installing the CPU into this motherboard, it is necessary to install a larger heatsink and cooling fan to dissipate heat. It also needs to spray thermal grease between the CPU and the heatsink to improve heat dissipation. Make sure that the CPU and the heatsink are securely fastened and in good contact with each other.

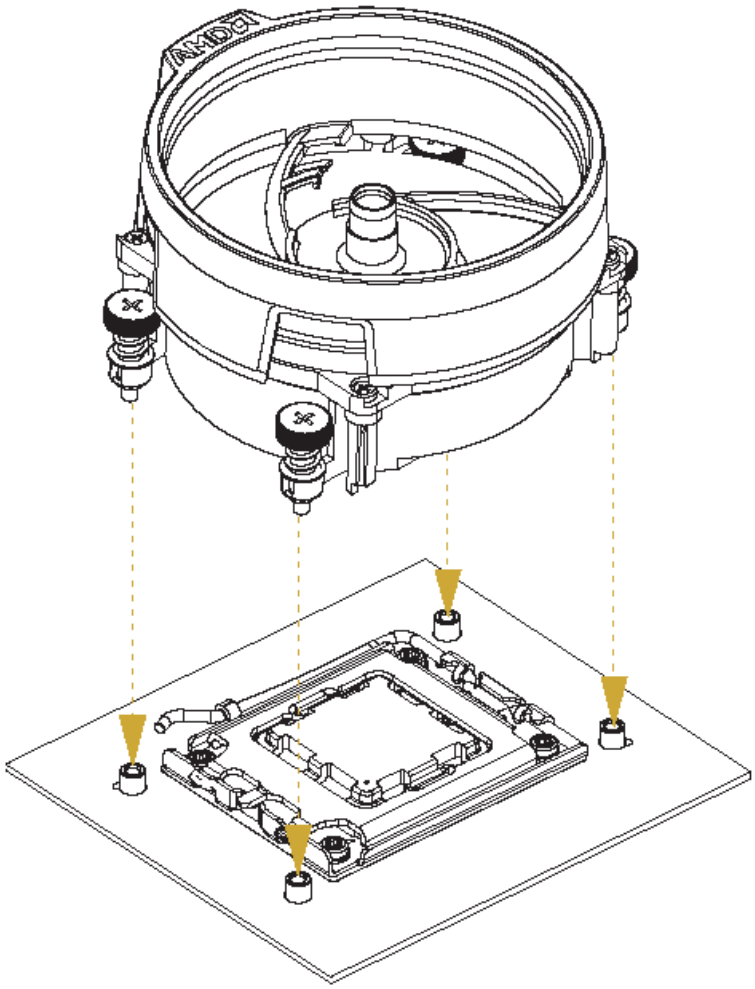
Please turn off the power or remove the power cord before changing a CPU or heatsink.

Installing the CPU Cooler

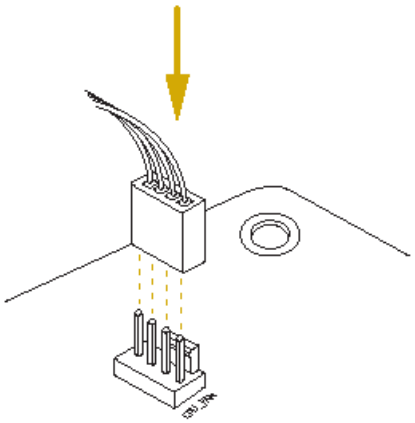




3



4



2.5 Installing Memory Modules (DIMM)

This motherboard provides four 288-pin DDR5 (Double Data Rate 5) DIMM slots, and supports Dual Channel Memory Technology.

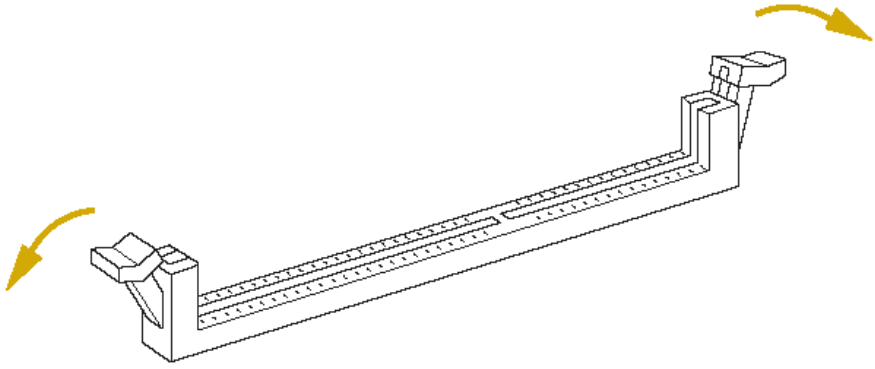
This motherboard provides four 288-pin DDR5 (Double Data Rate 5) DIMM slots, and supports Dual Channel Memory Technology.

1. *For dual channel configuration, install identical (the same brand, speed, size and chip-type) DDR5 DIMM pairs.*
2. *It is unable to activate Dual Channel Memory Technology with only one or three memory module installed.*
3. *It is not allowed to install a DDR, DDR2 , DDR3 or DDR4 memory module into a DDR5 slot; otherwise, this motherboard and DIMM may be damaged.*

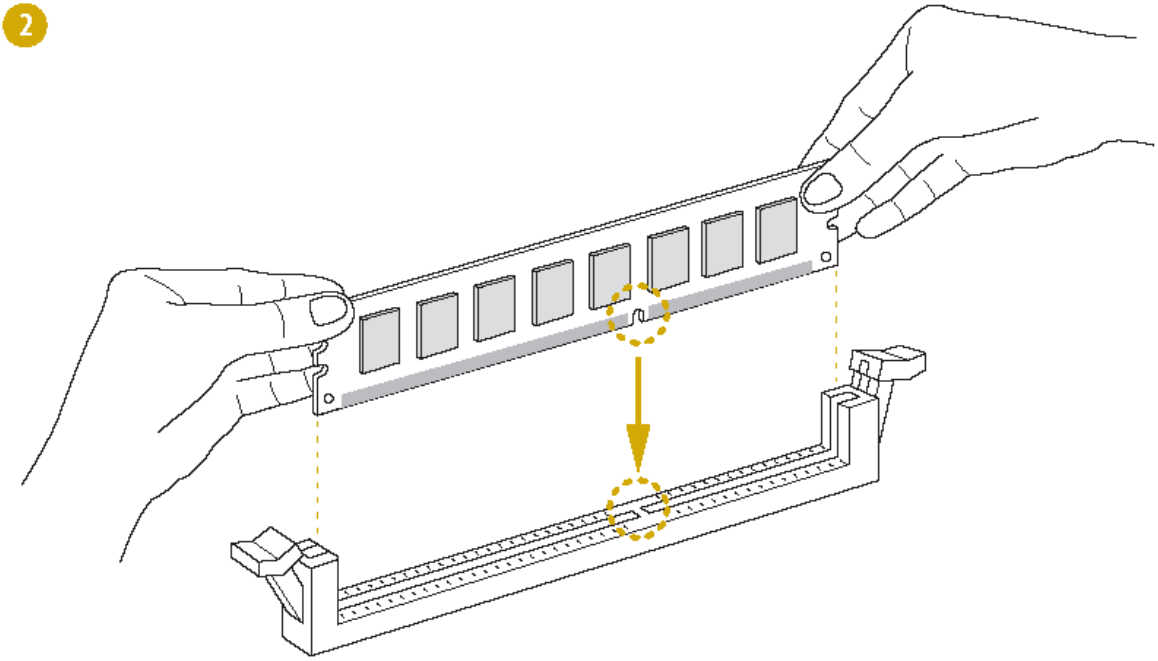
Recommended Memory Configuration

	Priority	A1	A2	B1	B2
1 DIMM	1	Populated			
	2			Populated	
2 DIMMS	1	Populated		Populated	
	2	Populated	Populated		
	3			Populated	Populated
4 DIMMS	1	Populated	Populated	Populated	Populated

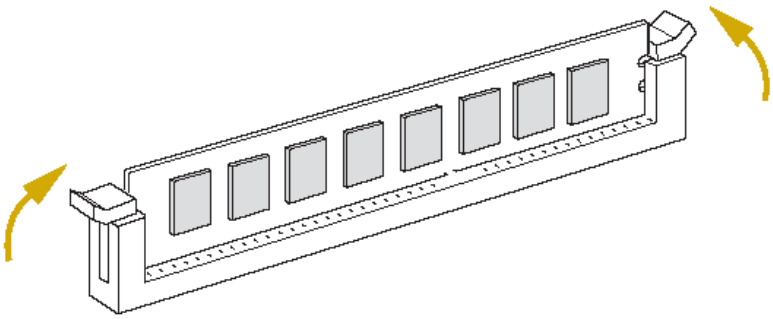
1



2



3



The DIMM only fits in one correct orientation. It will cause permanent damage to the motherboard and the DIMM if forcing the DIMM into the slot at incorrect orientation.

2.6 Expansion Slot (PCI Express Slot)

There is 1 PCI Express slot on this motherboard.

PCIE slot:
PCIE7 (PCIE 5.0 x16 slot, from CPU) is used for PCI Express x16 lane width cards.

There is 1 PCI Express slot on this motherboard.

PCIE slot:

PCIE7 (PCIE 5.0 x16 slot, from CPU) is used for PCI Express x16 lane width cards.

Slot	Generation	Mechanical	Electrical	Source
PCIE7	5.0	x16	x16	CPU

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.

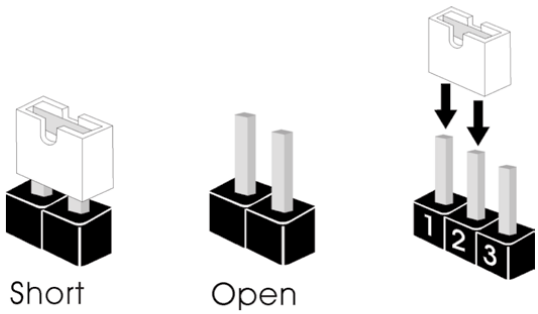
Step 5. Fasten the card to the chassis with screws.

Step 6. Replace the system cover.

2.7 Jumper Setup

The illustration shows how jumpers are setup. When the jumper cap is placed on the pins, the jumper is “Short”. If no jumper cap is placed on the pins, the jumper is “Open”. The illustration shows a 3-pin jumper whose pin1 and pin2 are “Short” when a jumper cap is placed on these 2 pins.

The illustration shows how jumpers are setup. When the jumper cap is placed on the pins, the jumper is “Short”. If no jumper cap is placed on the pins, the jumper is “Open”. The illustration shows a 3-pin jumper whose pin1 and pin2 are “Short” when a jumper cap is placed on these 2 pins.

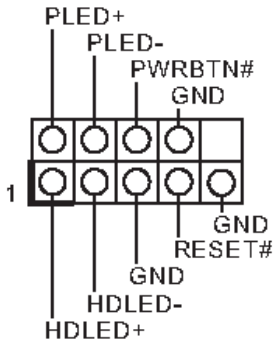


Chassis ID Jumper (3-pin CHASSIS_ID0) (see p.6, No. 26)	1_2 Descriptor Security Override	2_3 Not Override (Default)

2.8 Onboard Headers and Connectors

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.

System Panel Header
(9-pin PANEL1)
(see p.6, No. 16)



Connect the power switch, reset switch and system status indicator on the chassis to this header according to the pin assignments. Particularly note the positive and negative pins before connecting the cables.

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

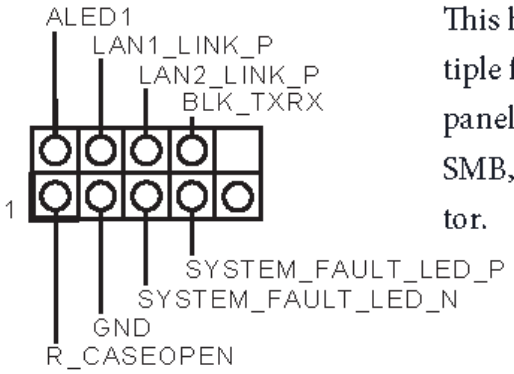
RESET (Reset Switch):
Connect to the reset switch on the chassis front panel. Press the reset switch to restart the computer if the computer freezes and fails to perform a normal restart.

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

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.

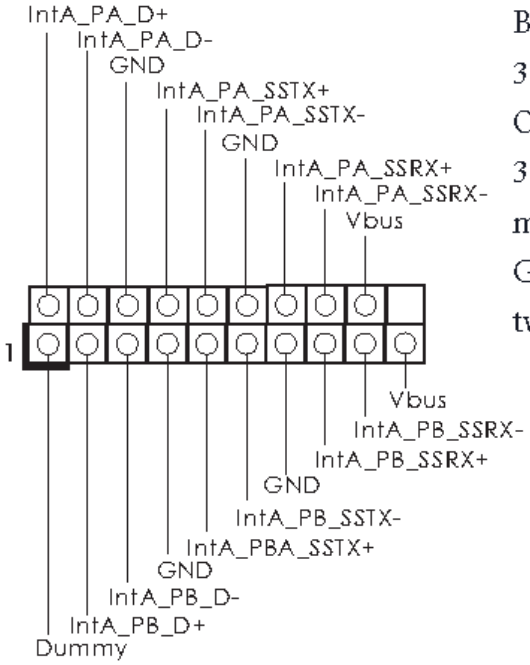
The front panel design may differ by chassis. A front panel module mainly consists of power switch, reset switch, power LED, hard drive activity LED, speaker and etc. When connecting the chassis front panel module to this header, make sure the wire assignments and the pin assignments are matched correctly.

Auxiliary Panel Header
(9-pin ITX_AUX PANEL1)
(see p.6, No. 20)



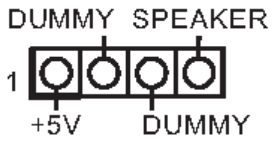
This header supports multiple functions on the front panel, including front panel SMB, internet status indicator.

USB 3.2 Gen1 Header
(19-pin USB3_3_4)
(see p.6, No. 15)



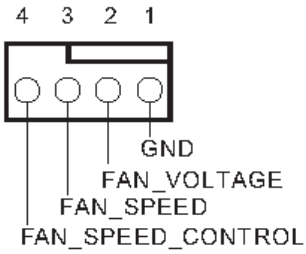
Besides two default USB 3.2 Gen1 ports on the I/O panel, there is one USB 3.2 Gen1 header on this motherboard. This USB 3.2 Gen1 header can support two USB 3.2 Gen1 ports.

Speaker Header
(4-pin SPEAKER1)
(see p.6, No. 19)



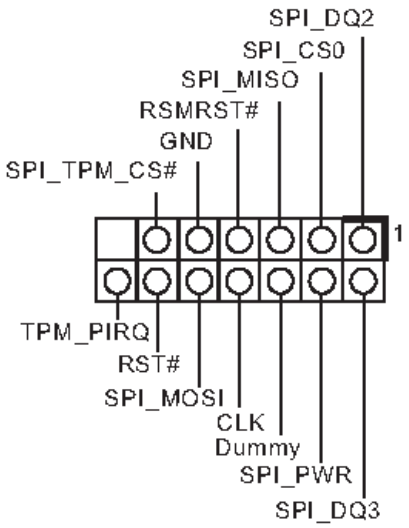
Please connect the chassis speaker to this header.

System Fan Connectors
(4-pin FAN1)
(see p.6, No. 4)
(4-pin FAN2)
(see p.6, No. 9)
(4-pin FAN3)
(see p.6, No. 17)



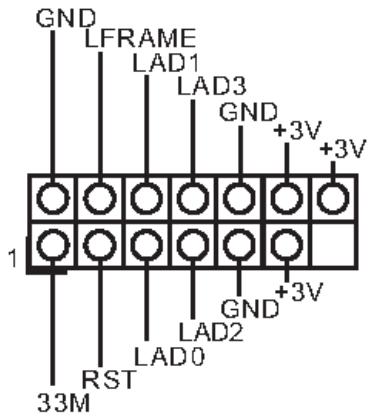
Please connect fan cables to the fan connectors and match the black wire to the ground pin. All fans support Fan Control.

SPI TPM Header
(13-pin TPM_BIOS_PH1)
(see p.6, No. 13)



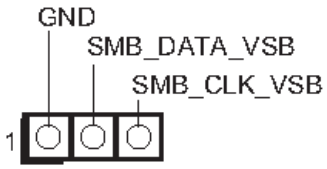
This connector supports SPI Trusted Platform Module (TPM) system, which can securely store keys, digital certificates, passwords, and data. A TPM system also helps enhance network security, protects digital identities, and ensures platform integrity.

80 Debug Port Header
(13-pin TPM1)
(see p.6, No. 14)



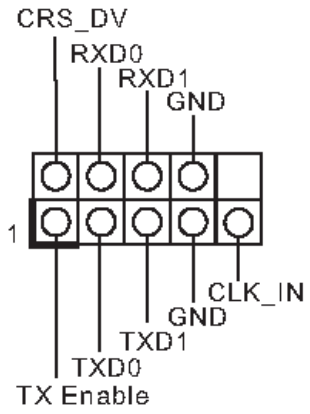
This header is used to connect to a debug display for showing the motherboard debug information.

PWM Configuration Header
(3-pin PWM_CFG1)
(see p.6, No. 21)



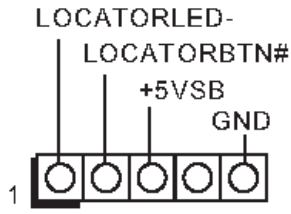
This header is used for PWM configurations.

NCSI Header
(9-pin NCSI1)
(see p.6, No.2)



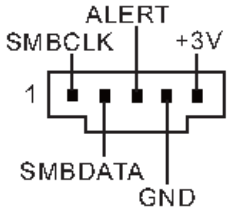
The onboard NCSI header is used for external connections.

UID Button Header
(5-pin UID_HD)
(see p.6, No.27)



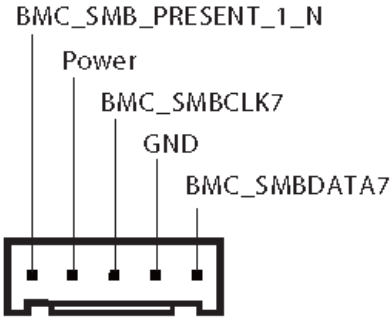
This header is used for UID button features.

PSU SMBus Header
(5-pin PSU_SMB1)
(see p.6, No.1)



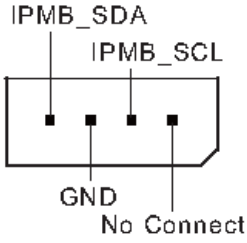
PSU SMBus header monitors the status of the power supply, fan and system temperature.

Baseboard Management Controller SMBus Header
(5-pin BMC_SMB1)
(see p.6, No.29)



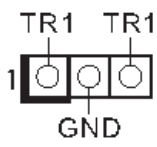
The header is used for the SMBUS devices.

Intelligent Platform Management Bus Header
(4-pin IPMB1)
(see p.6, No.30)



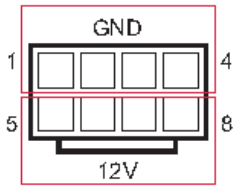
This 4-pin connector is used to provide a cabled base-board or front panel connection for value added features and 3rd-party add-in cards, such as Emergency Management cards, that provide management features using the IPMB.

Thermal Sensor Header
(3-pin TR1)
(see p.6, No. 18)



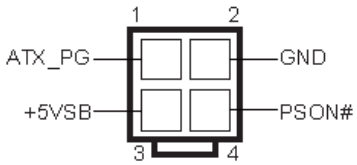
Please connect the thermal sensor cable to either pin 1-2 or pin 2-3 and the other end to the device which can to monitor its temperature.

ATX 12V Power Connectors
(8-pin ATX12V1)
(see p.6, No. 5)
(8-pin ATX12V2
(see p.6, No. 6)



This motherboard provides one 8-pin and one 4-pin ATX 12V power connectors.

ATX 4-PIN Power Connector
(4-pin ATX4PIN1)
(see p.6, No. 8)



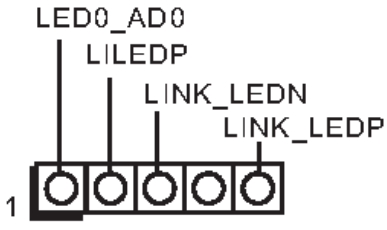
The motherboard provides one 4-pin power/signal connector which is a required input for ATX power source.

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 ATX4PIN1 connector on the motherboard for power supply and signal communication.

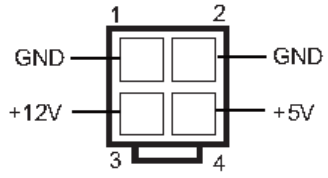
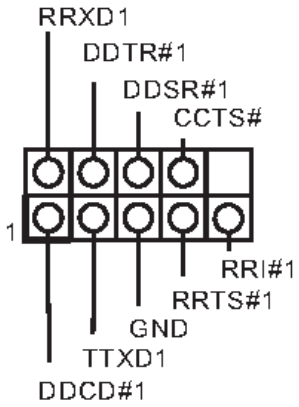
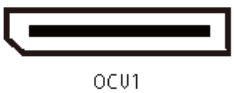
For DC-IN 12V application, it is not necessafor ry to use this ATX 4-PIN power connector.

**Caution: Misconnection between the ATX4PIN1 and the SATA_PWR1 connectors may permanently damage the motherboard.*

IPMI LAN LED Header
(4-pin IPMI_LED1)
(see p.6, No. 25)



This header is used to connect to the LED indicators on the chassis.

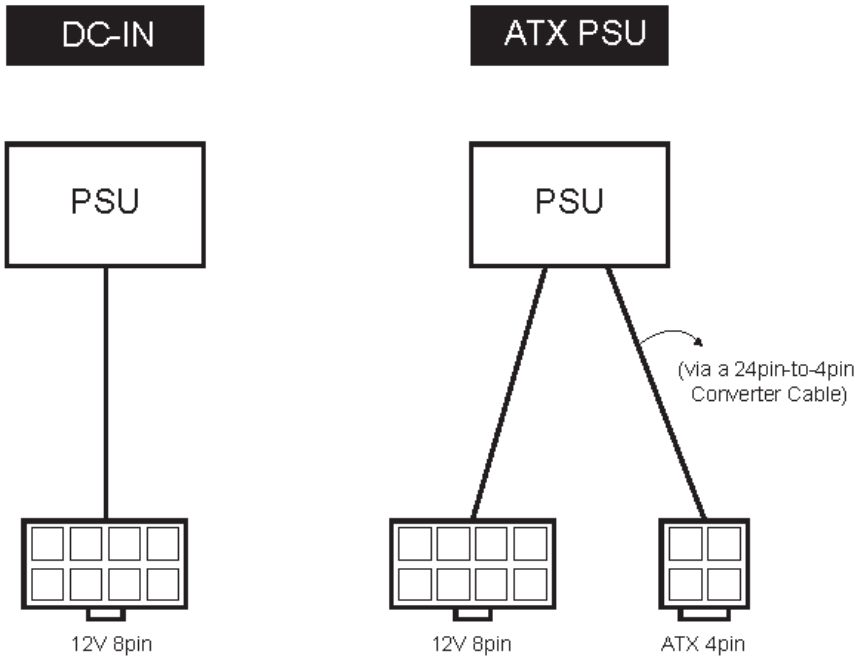
SATA Power Connector (4-pin SATA_PWR1) (see p.6, No. 7)		Please use a SATA power cable to connect this SATA Power Connector and the SATA HDD for supplying power from the motherboard, when using DC-IN mode without SATA power supply. **Caution: Misconnection between the ATX4PIN1 and the SATA_PWR1 connectors may permanently damage the motherboard.*
Serial Port Header (9-pin COM1) (see p.6, No. 28)		This COM1 header supports a serial port module.
Clear CMOS Pad (CLRMOS1) (see p.6, No. 3)		This allows user to clear the data in CMOS. To clear CMOS, take out the CMOS battery and short the Clear CMOS Pad.
OCuLink x4 Connector (OCU1) (see p.6, No. 12)		Please connect a PCIE SSD or an OCulink-to-SATA x4 cable to the connector.

2.9 ATX PSU / DC-IN Power Connections

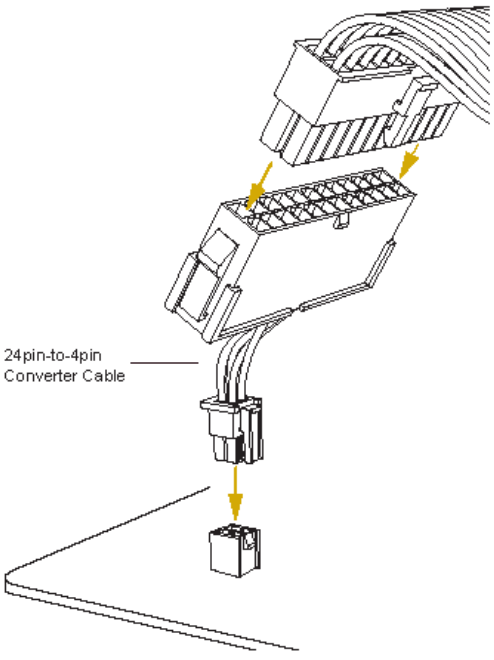
This motherboard supports both +12V DC and ATX power input. Please refer to the table below for the required connections between the motherboard and the power supply.

This motherboard supports both +12V DC and ATX power input. Please refer to the table below for the required connections between the motherboard and the power supply.

Connector	DC-IN	ATX PSU
12V 8pin	O	O
ATX 4pin	X	O *(with the bundled ATX 24pin-to-4pin converter cable)*



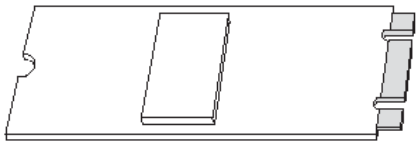
The following diagram illustrates how to connect the bundled ATX 24pin-to-4pin converter cable.



2.10 M.2 SSD Module Installation Guide

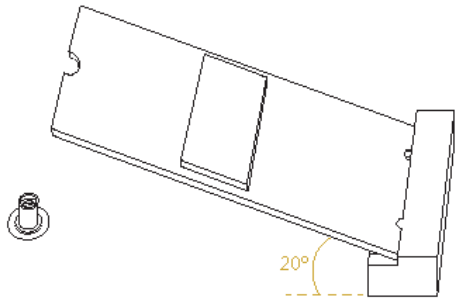
The M.2 Socket (M2_1, Key M) supports type 2280 M.2 PCI Express module up to Gen4 x4 (16GT/s x4).

Installing the M.2 SSD Module



Step 1

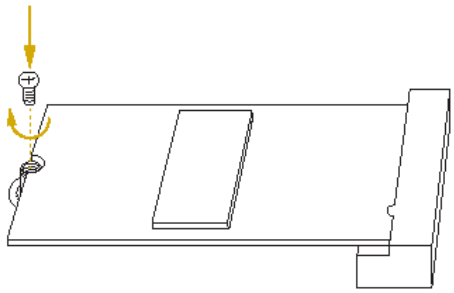
Prepare a M.2 SSD module and the screw.





Step 2

Gently insert the M.2 SSD module into the M.2 slot. Please be aware that the M.2 SSD module only fits in one orientation.



Step 3

Tighten the screw with a screwdriver to secure the module into place. Please do not overtighten the screw as this might damage the module.

2.11 Dual LAN and Teaming Operation Guide

Dual LAN with Teaming enabled on this motherboard allows two single connections to act as one single connection for twice the transmission bandwidth, making data transmission more effective and improving the quality of transmission of distant images. Fault tolerance on the dual LAN network prevents network downtime by transferring the workload from a failed port to a working port.



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

Before setting up Teaming, please make sure whether the Switch (or Router) supports Teaming (IEEE 802.3ad Link Aggregation). Specify a preferred adapter in Intel PROSet. Under normal conditions, the Primary adapter handles all non-TCP/IP traffic. The Secondary adapter will receive fallback traffic if the primary fails. If the Preferred Primary adapter fails, but 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.

Step 2

Click the **Settings** tab.

Step 3

Click the **Modify Team** button.

Step 4

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

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

Chapter 3 UEFI Setup Utility

3.1 Introduction

This section explains how to use the UEFI SETUP UTILITY to configure the system. The UEFI chip on the motherboard stores the UEFI SETUP 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 UEFI SETUP UTILITY; otherwise, POST will continue with its test routines.
Restart the system by pressing <Ctrl> + <Alt> + <Delete> to enter the UEFI SETUP UTIL-ITYafter POST, or by pressing the reset button on the

3.1 Introduction

This section explains how to use the UEFI SETUP UTILITY to configure the system. The UEFI chip on the motherboard stores the UEFI SETUP 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 UEFI SETUP UTILITY; otherwise, POST will continue with its test routines.

Restart the system by pressing <Ctrl> + <Alt> + <Delete> to enter the UEFI SETUP UTIL-ITYafter POST, or by pressing the reset button on the

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 what see-ing on the screen.

3.1.1 UEFI 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
Security	To set up the security features
Server Mgmt	To manage the server
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.

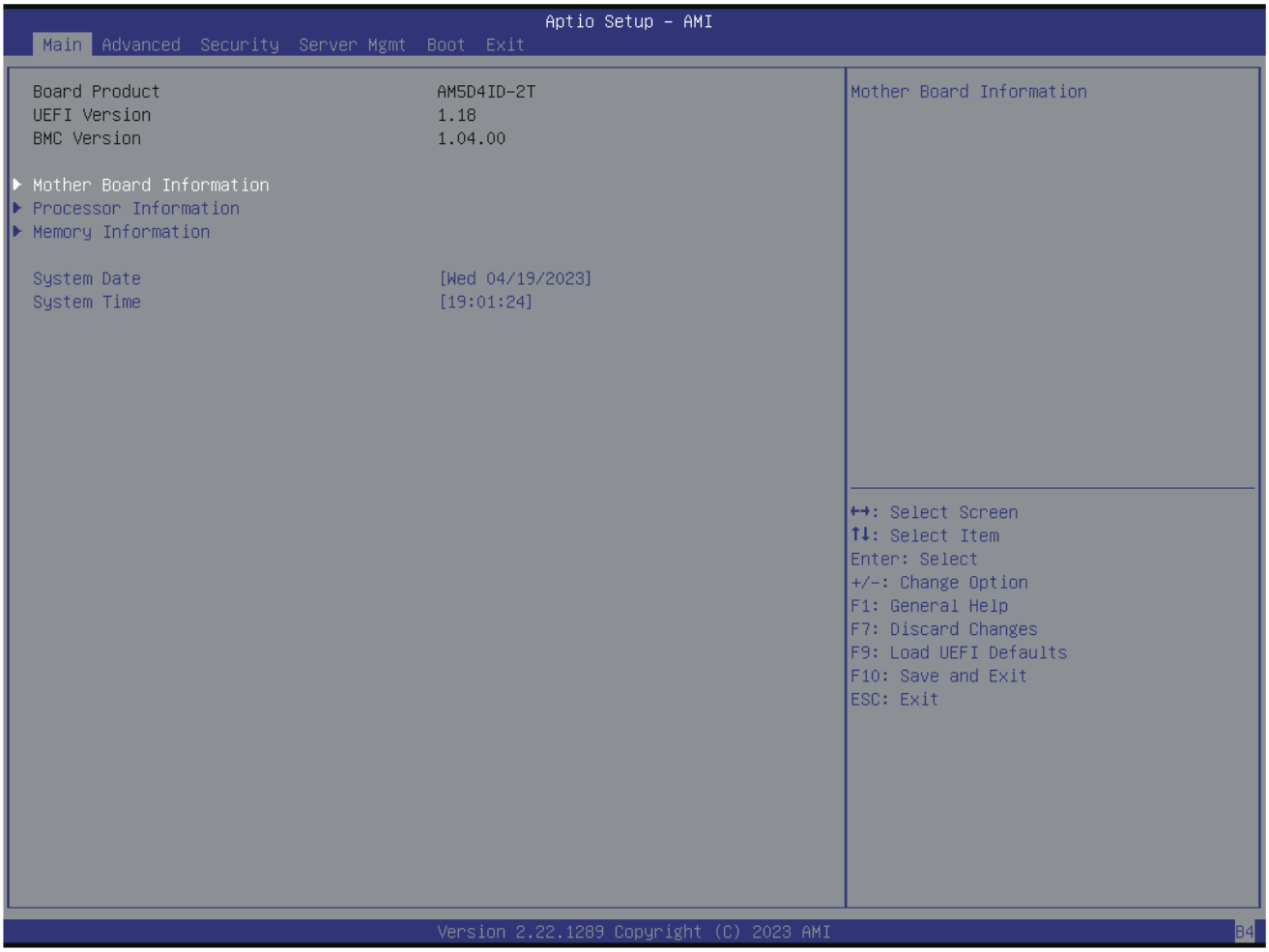
3.1.2 Navigation Keys

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 Screens
↑ / ↓	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

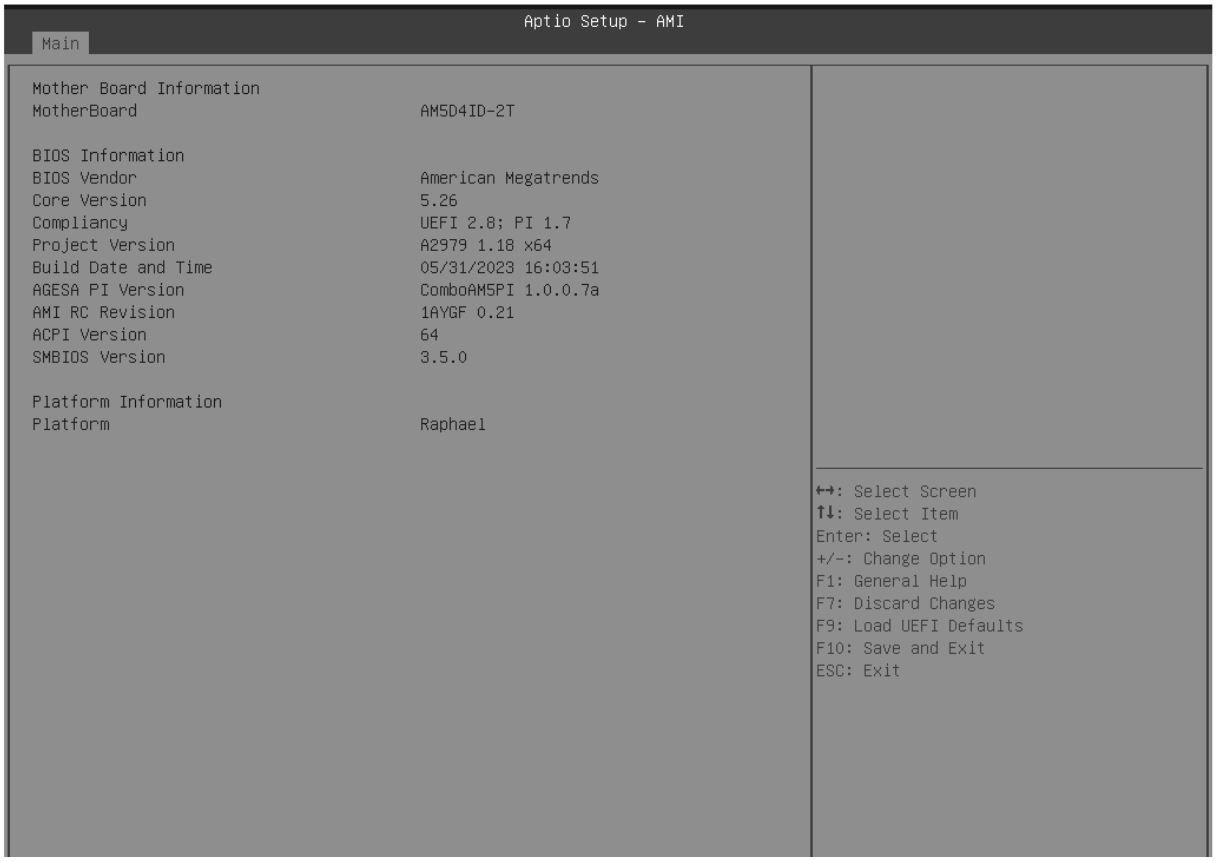
3.2 Main Screen

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



3.2.1 Motherboard Information

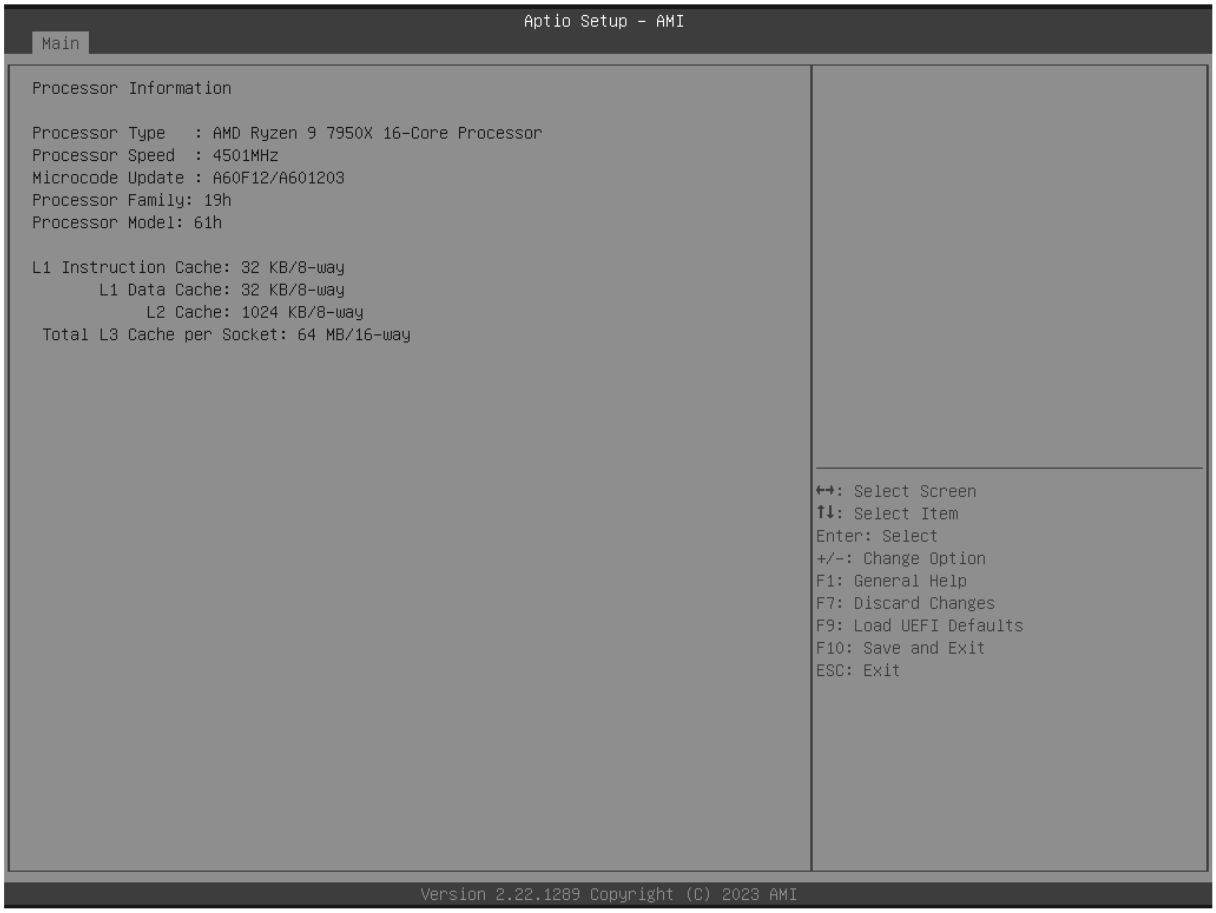
Press [Enter] to view the information of the motheboard.





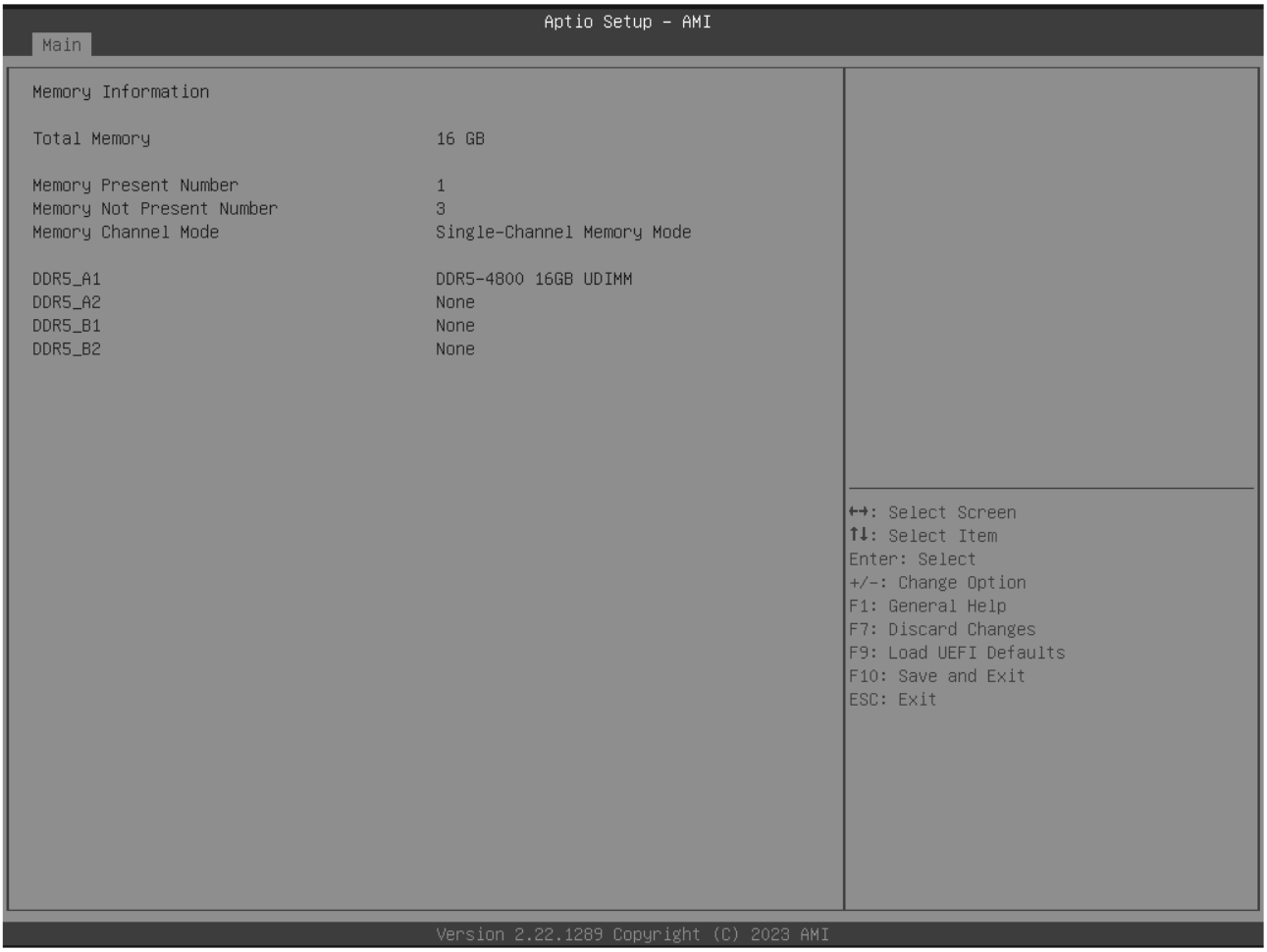
3.2.2 Processor Information

Press [Enter] to view the information of the processor.



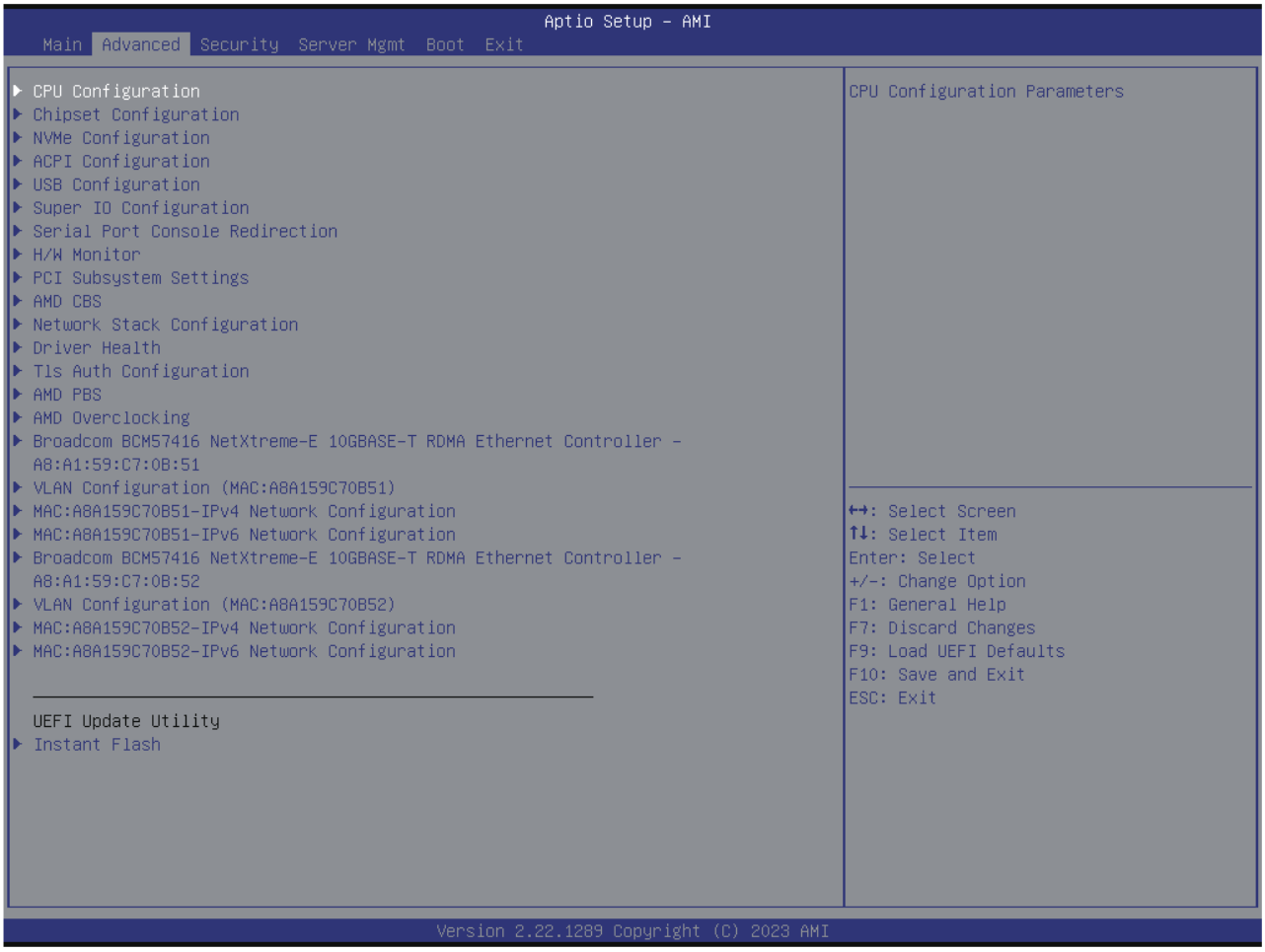
3.2.3 Memory Information

Press [Enter] to view the information of the memory.

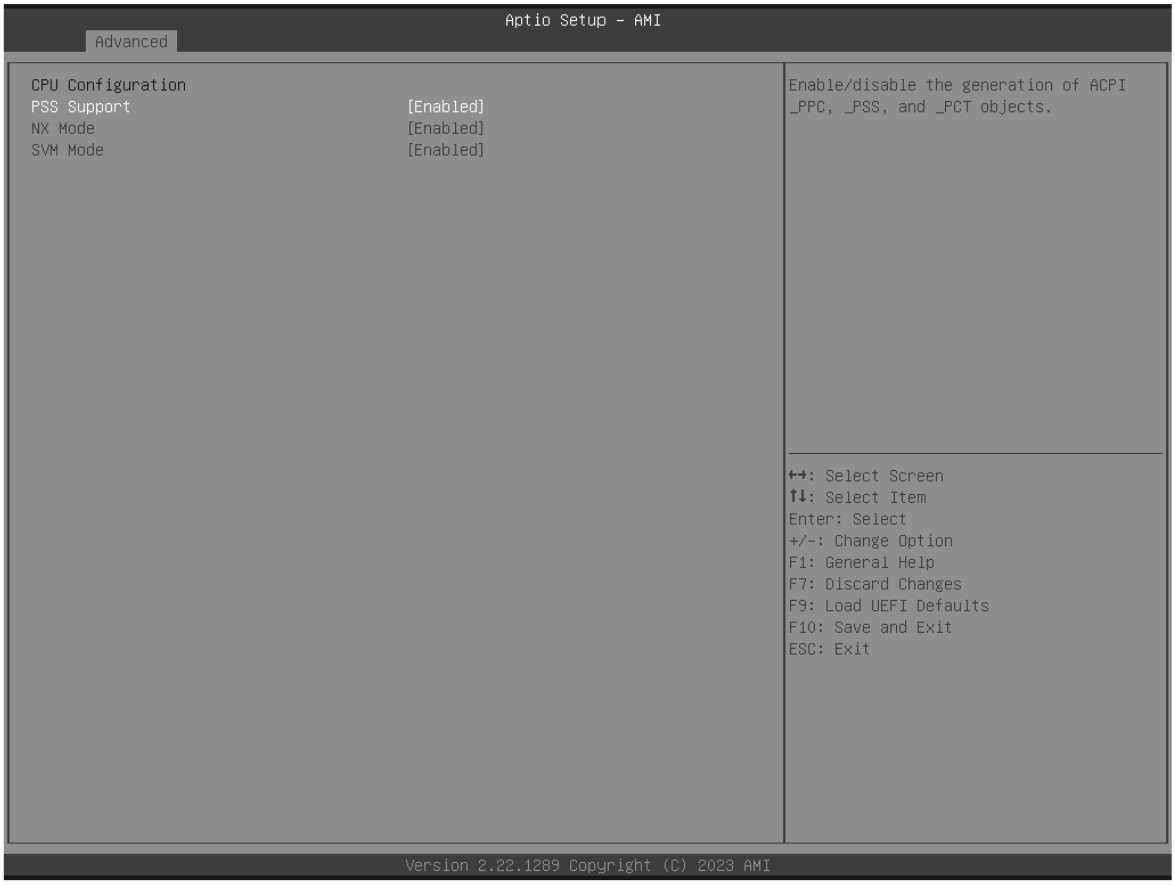


3.3 Advanced Screen

In this section, set the configurations for the following items: CPU Configuration, Chipset Configuration, NVMe Configuration, ACPI Configuration, USB Configuration, Super IO Configuration, Serial Port Console Redirection, H/W Monitor, PCI Subsystem Settings, AMD CBS, Network Stack Configuration, Driver Health, Tls Auth Configuration, AMD PBS, AMD Overclocking and Instant Flash.



3.3.1 CPU Configuration



PSS Support

Use this item to enable or disable the generation of ACPI _PPC, _PSS, and _PCT objects.

NX Mode

Use this item to enable or disable No-execute page protection Function.

SVM Mode

Use this item to enable or disable CPU Virtualization.

3.3.2 Chipset Configuration



AMD PCIE Link Width

Displays PCIE Link Width information.

AMD PCIE Link Speed

Use this item to configure PCIE Link Speed. The default value is [Auto].

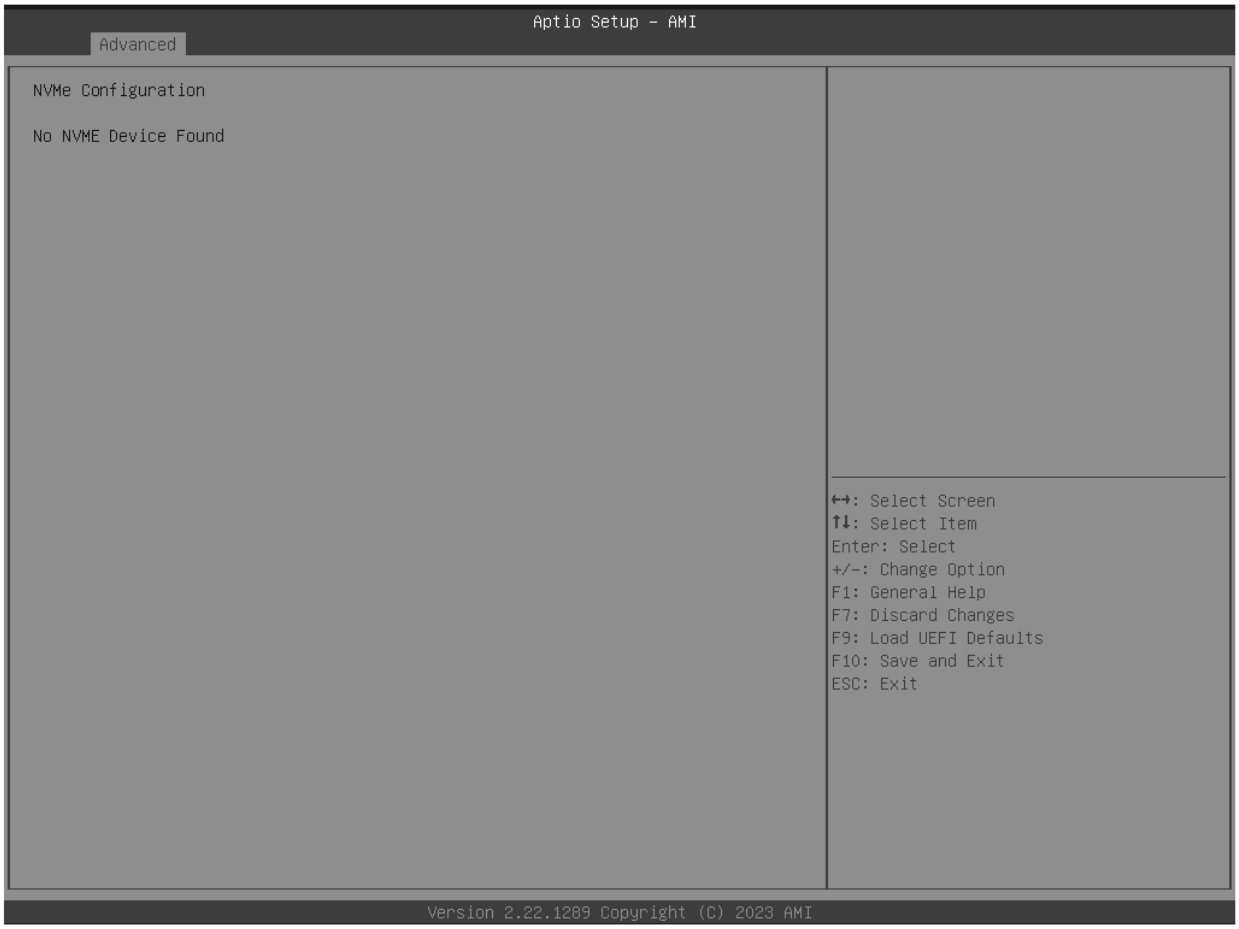
OnBoard Lan

Use this to enable or disable the Onboard LAN function.

SPI/fTPM Switch

To select 0:AMD CPU fTPM, 1: AMD CPU HSP or 2: Route to SPI TPM.

3.3.3 NVMe Configuration



NVMe Configuration

The NVMe Configuration displays the NVMe controller and Drive information.

3.3.4 ACPI Configuration



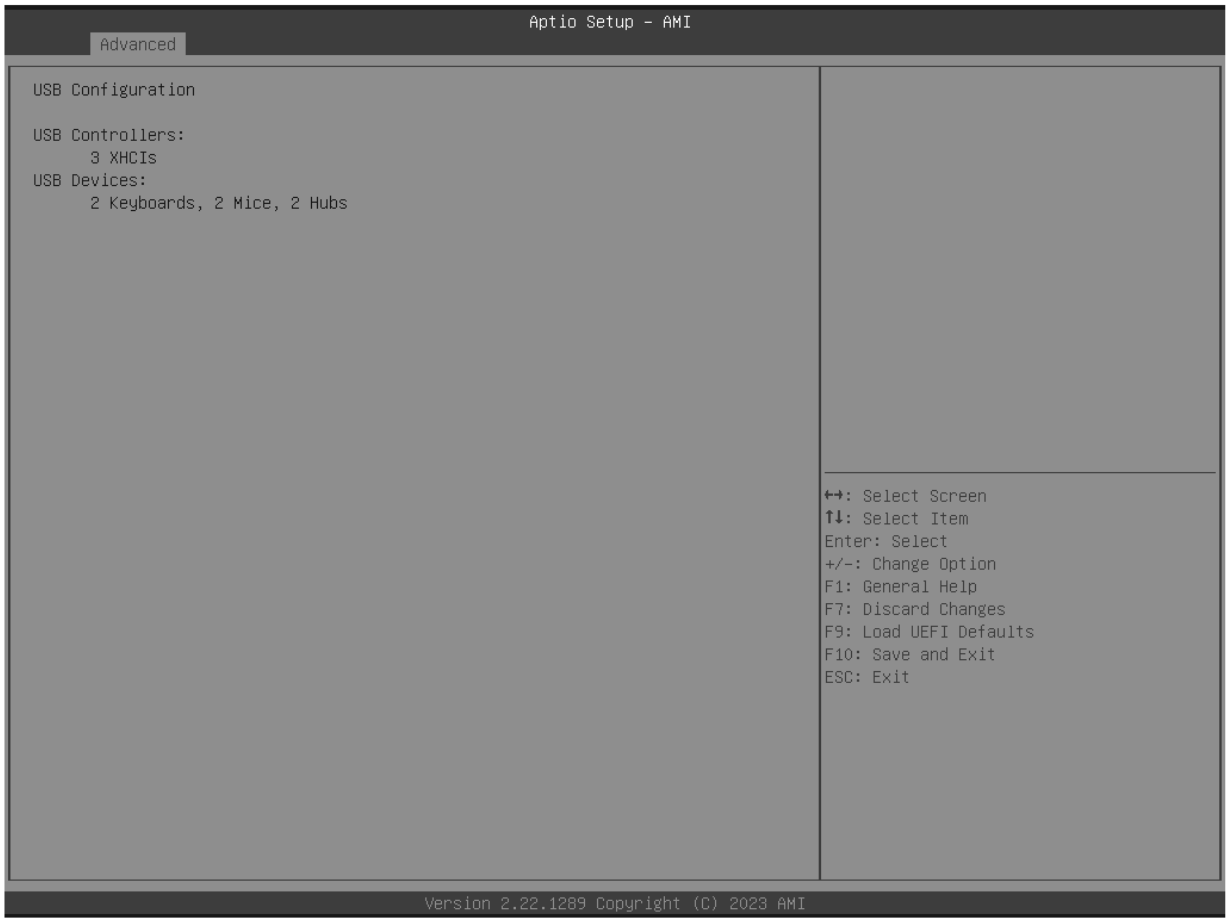
PCIE Devices Power On

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

RTC Alarm Power On

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

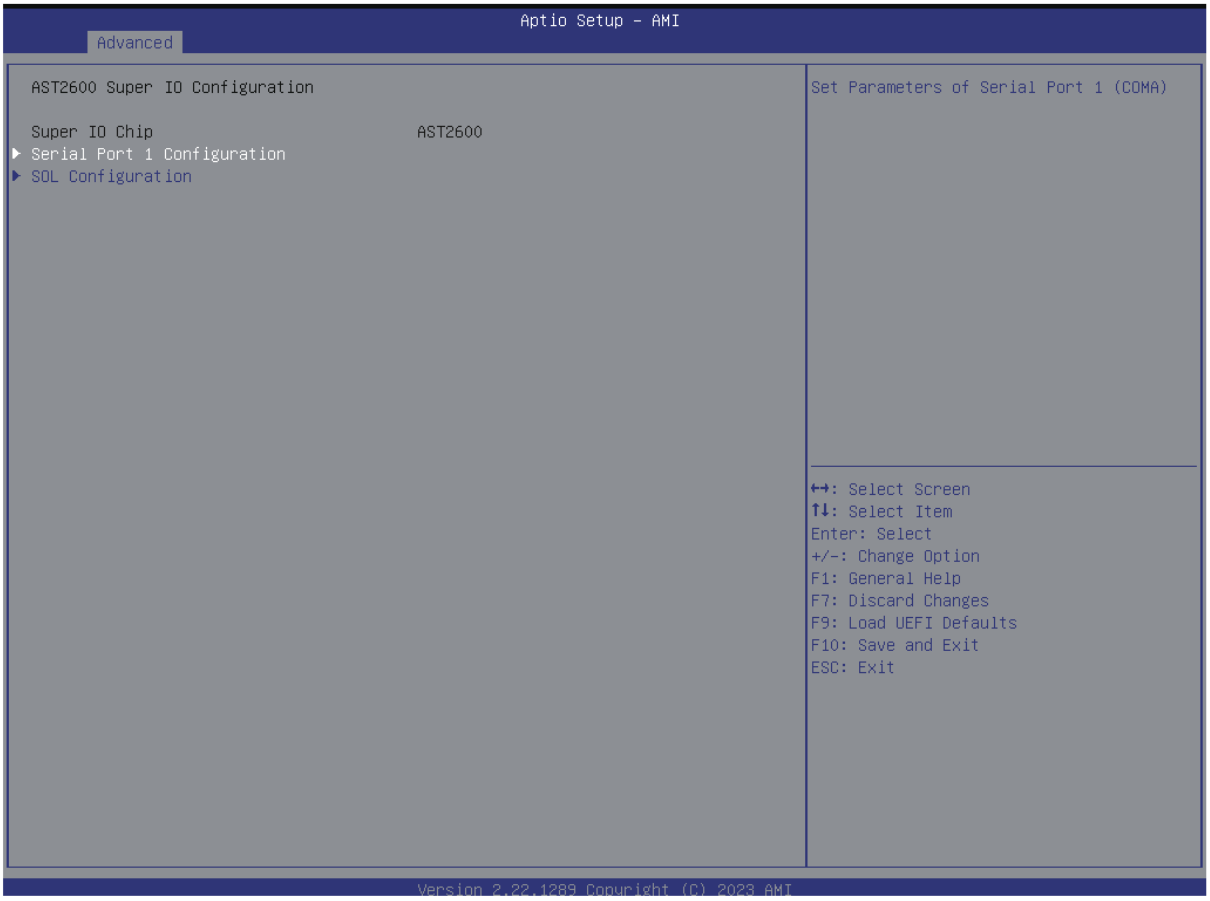
3.3.5 USB Configuration



USB Configuration

The USB Configuration displays the USB Controllers and USB Device informations.

3.3.6 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.

Serial Port Address

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

SOL Configuration

Use this item to set parameters of SOL.

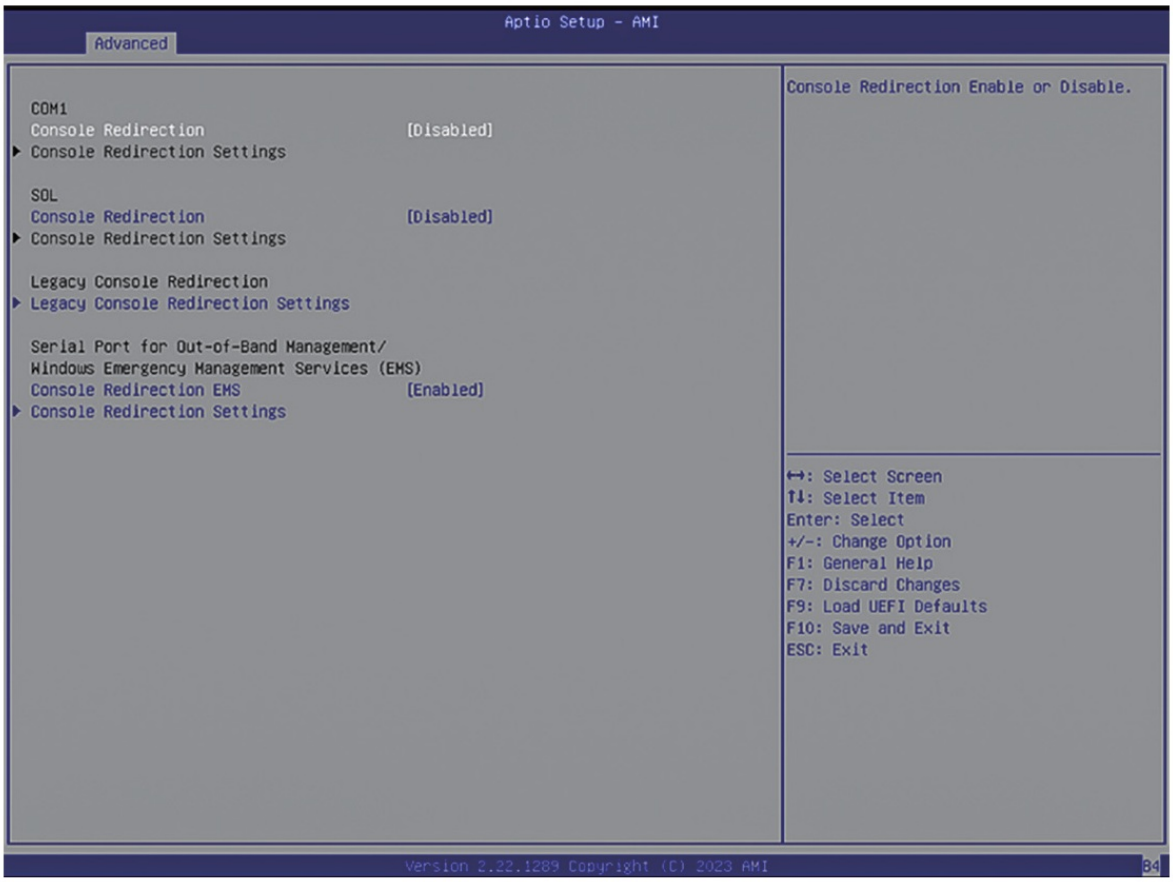
Serial Port

Use this item to enable or disable the serial port (COM).

Serial Port Address

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

3.3.7 Serial Port Console Redirection



COM1 / SOL

Console Redirection

Use this option to enable or disable Console Redirection. If this item is set to Enabled, it allows user to 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 host computer to which are connected exchange information. Both computers should have the same or compatible settings.

Terminal Type

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

Bits Per Second
Use this item 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 item to set the data transmission size. The options include [7] and [8] (Bits).
Parity
Use this item 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 item 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 item to enable or disable the VT-UTF8 Combo Key Support for ANSI/VT100 terminals.
Recorder Mode
Use this item to enable or disable Recorder Mode to capture terminal data and send it as text messages.
Resolution 100×31
Use this item to enable or disable extended terminal resolution support.
Putty KeyPad
Use this item 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 option to enable or disable Console Redirection. If this item is set to Enabled, it allows user to 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 host computer to which are connected exchange information.

Out-of-Band Mgmt Port
Microsof t Windows Emergency Management Services (EMS) allows for remote management of a Windows Server OS through a serial port.
Terminal Type EMS
Use this item to select the preferred terminal emulation type for out-of-band management. It is recommended to select [VT-UTF8].

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

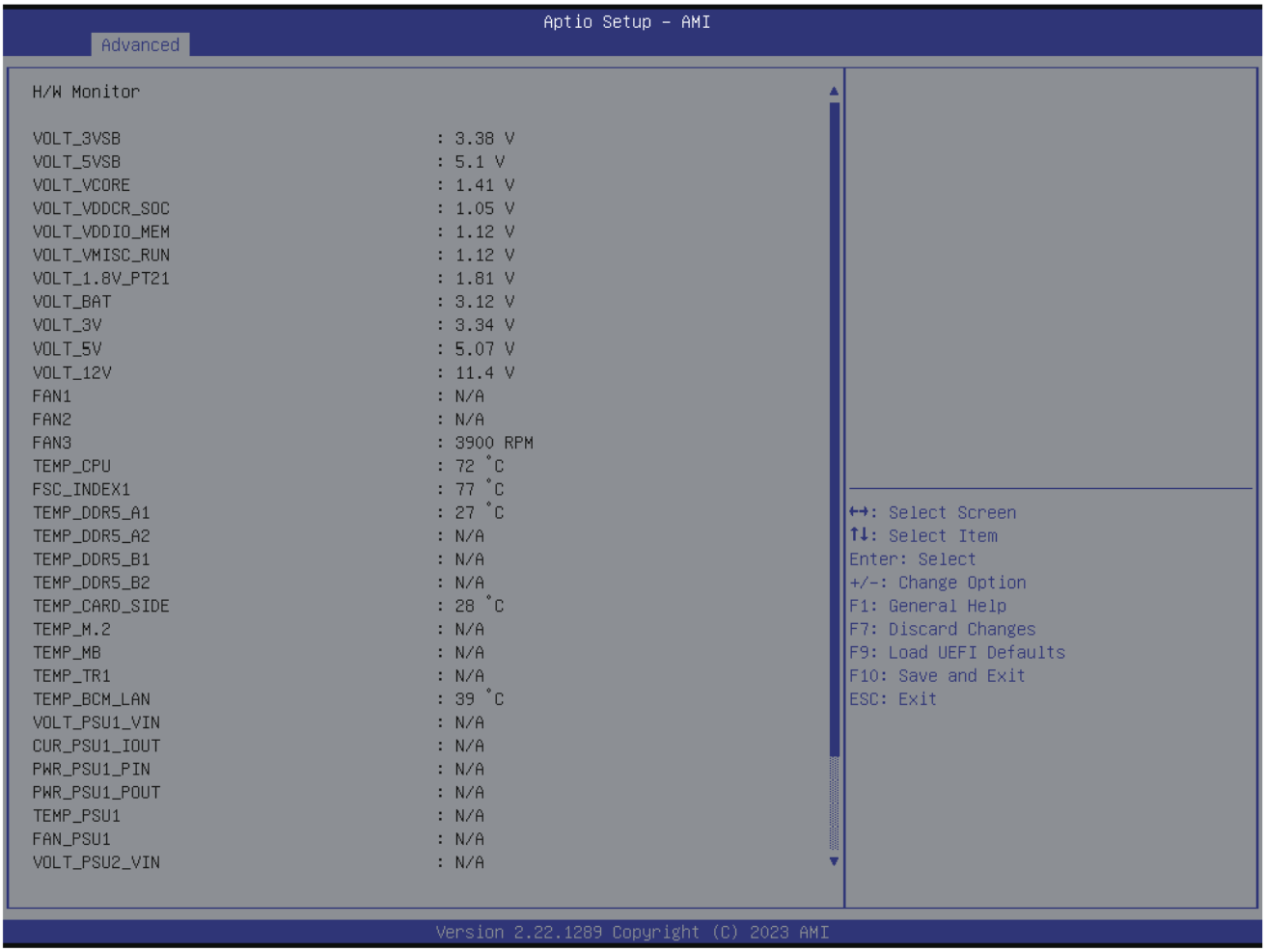
ANSI	Extended ASCII character set

Bits Per Second EMS
Use this item 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 item 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].

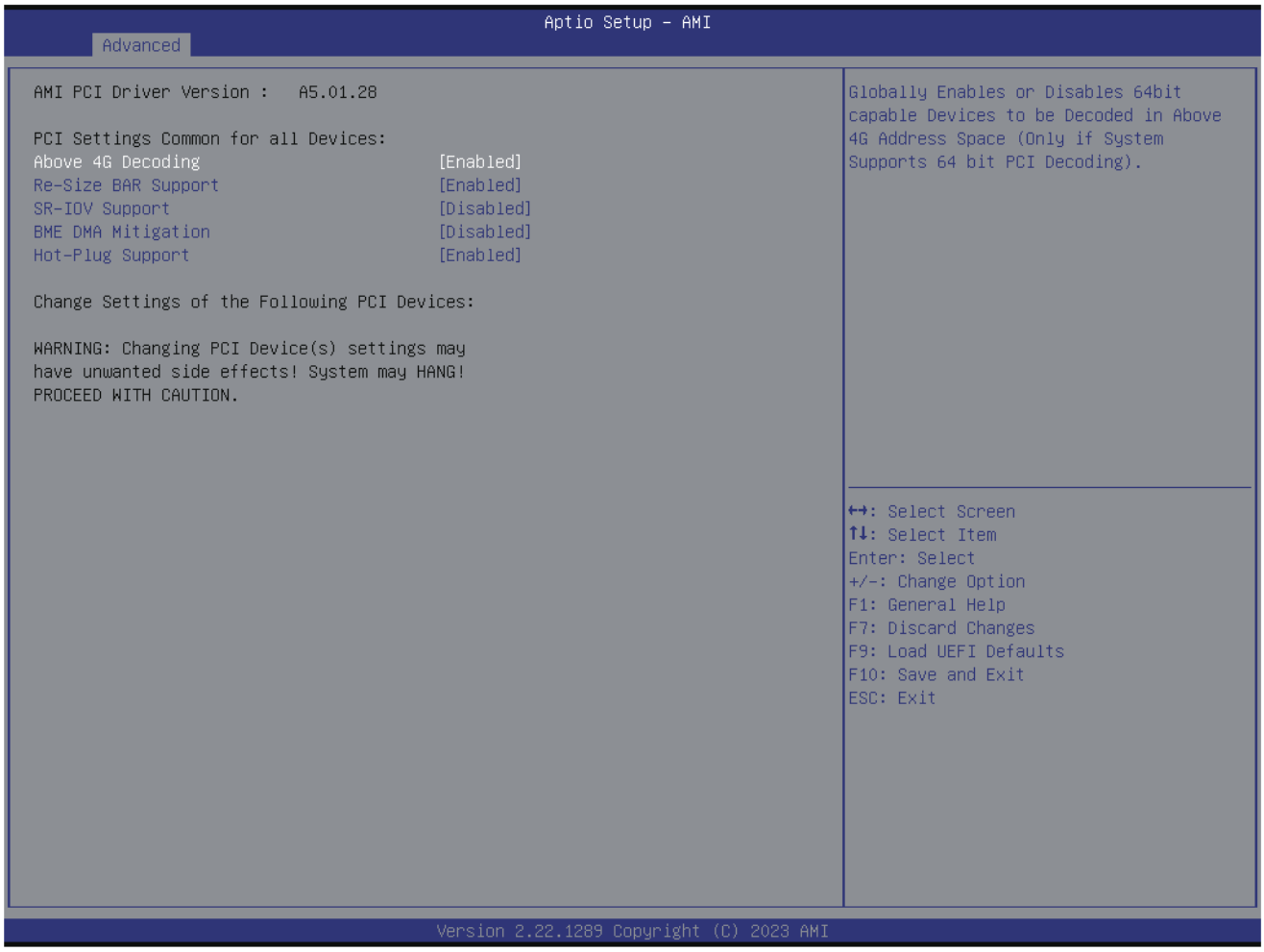
Data Bits EMS
Parity EMS
Stop Bits EMS

3.3.8 H/W Monitor

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



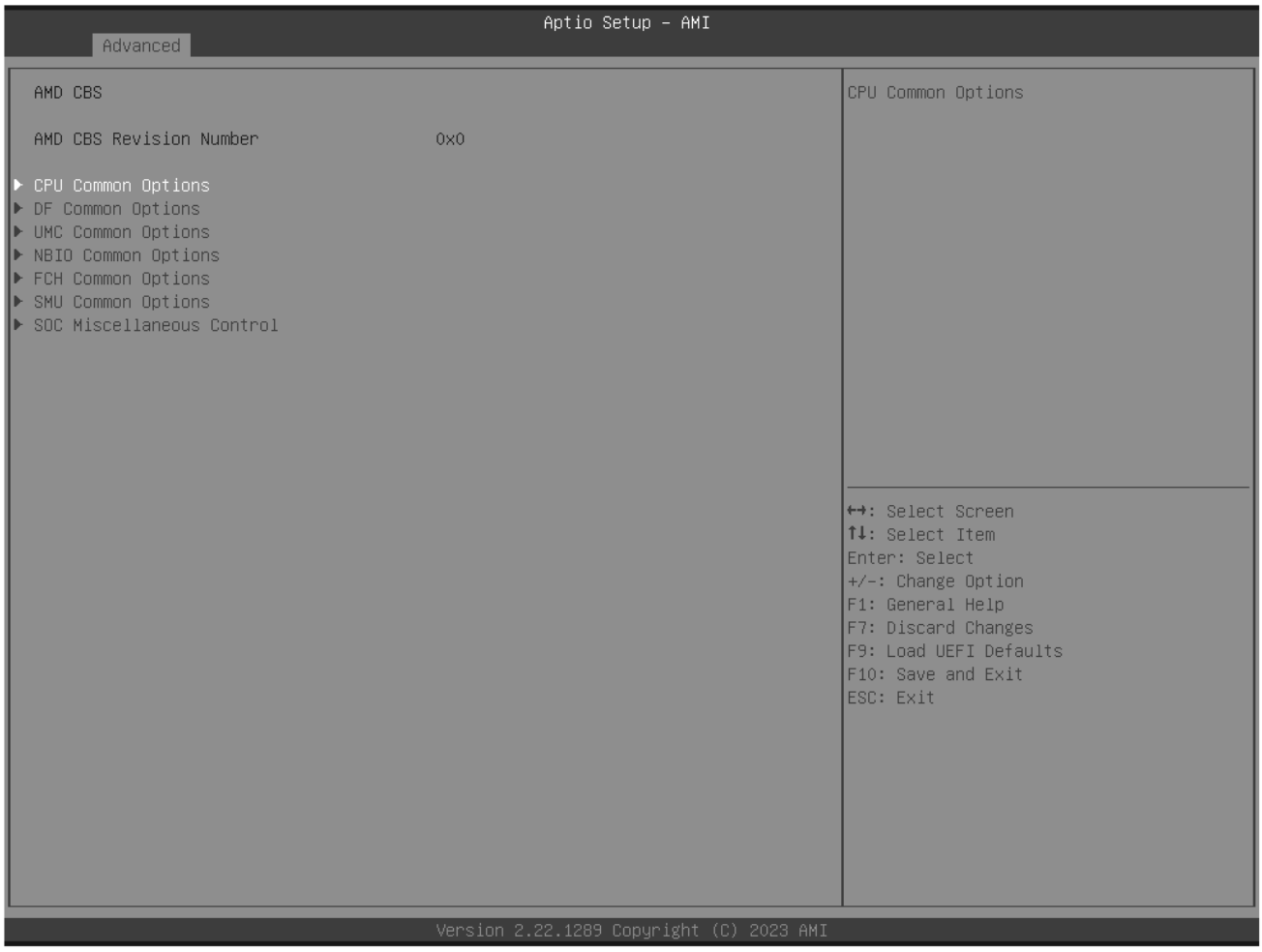
3.3.9 PCI Subsystem Settings



Above 4G Decoding
Use this item to enable or disable 64bit capable Devices to be decoded in Above 4G Address Space (only if the system supports 64 bit PCI decoding).
Re-Size BAR Support
If system has Resizable BAR capable PCIe Devices, this option Enables/Disables Resizable BAR support.
SR-IOV Support
If system has SR-IOV capable PCIe Devices, this option Enables/Disables Single Root IO Virtualization Support.
BME DMA Mitigation
Re-enable Bus Master Attribute disabled during Pci enumeration for PCI Bridges after SMM Locked.
Hot-Plug Support
Use this item to enable or disable Hot-Plug support for the entire system. If System has Hot-Plug capable Slots and this option set to Enabled, it provides a Setup screen for selecting PCI resource padding for Hot-Plug.

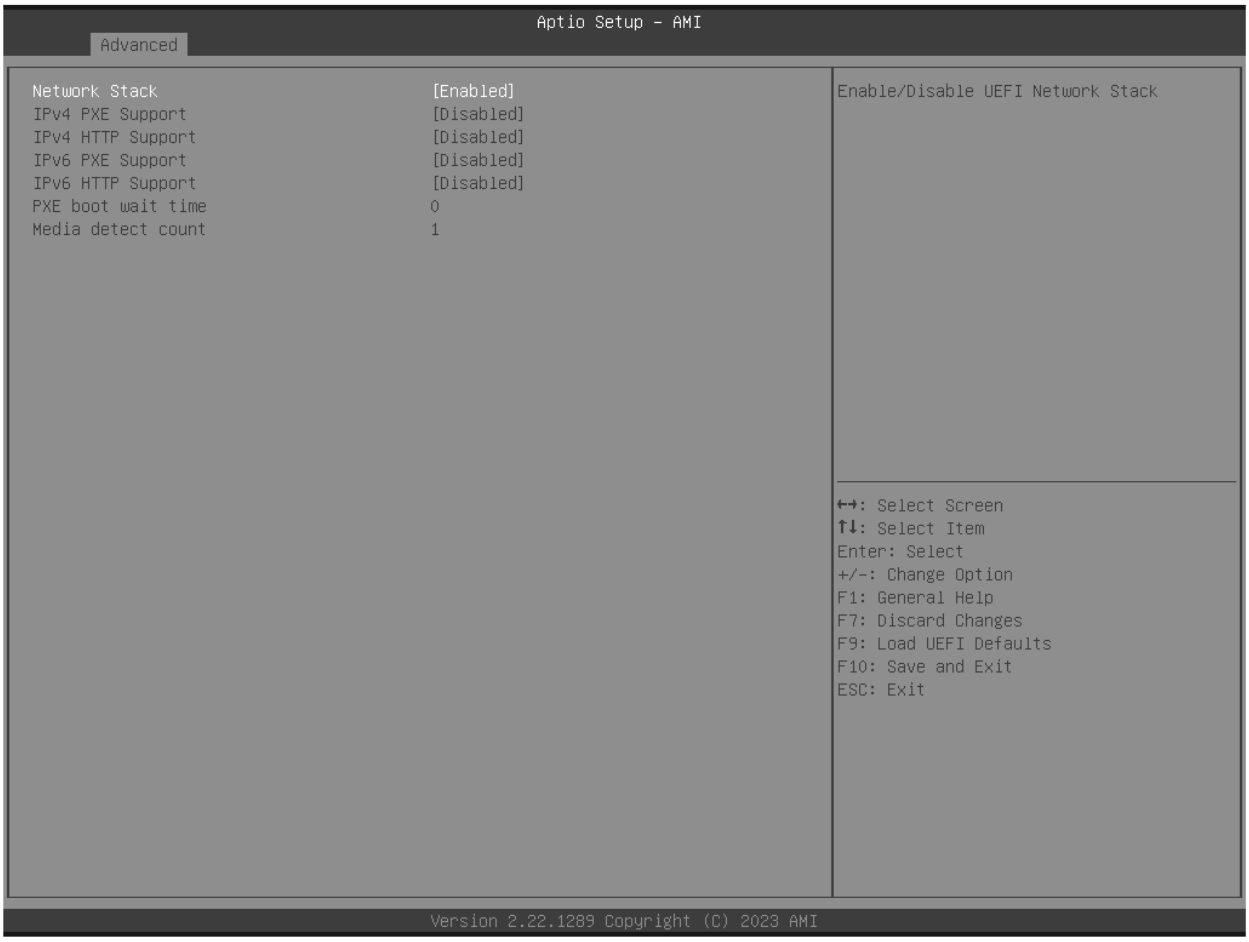
Changing PCI Device(s) settings may have unwanted side effects! System may HANG! PROCEED WITH CAUTION.

3.3.10 AMD CBS



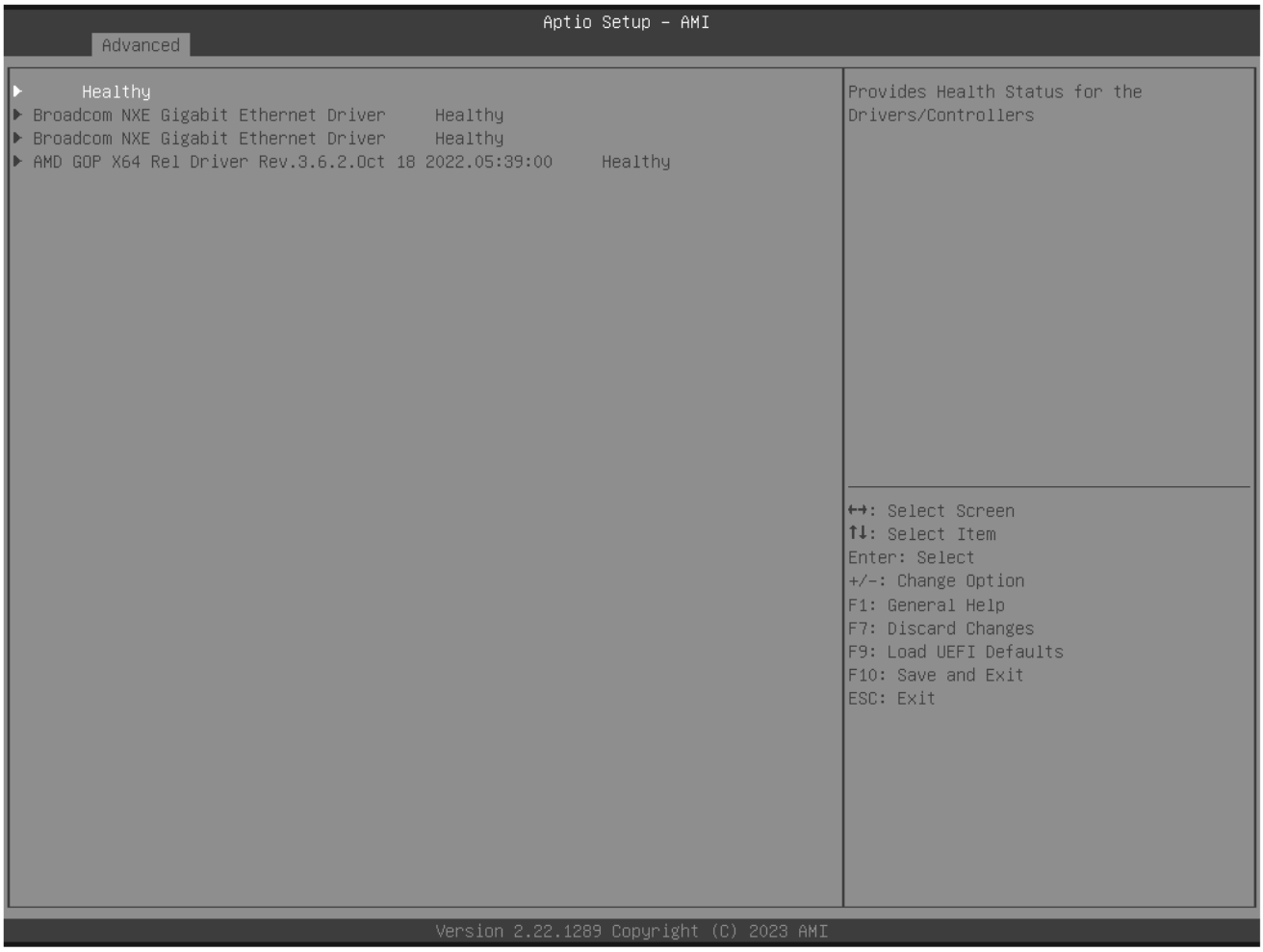
CPU Common Options
Use this item to configure CPU common options.
DF Common Options
Use this item to configure DF common options.
UMC Common Options
Use this item to configure UMC common options.
NBIO Common Options
Use this item to configure NBIO common options.
FCH Common Options
Use this item to configure FCH common options.
SMU Common Options
Use this item to configure SMU common options.
SOC Miscellaneous Control
Use this item to configure Soc Miscellaneous control options.

3.3.11 Network Stack Configuration



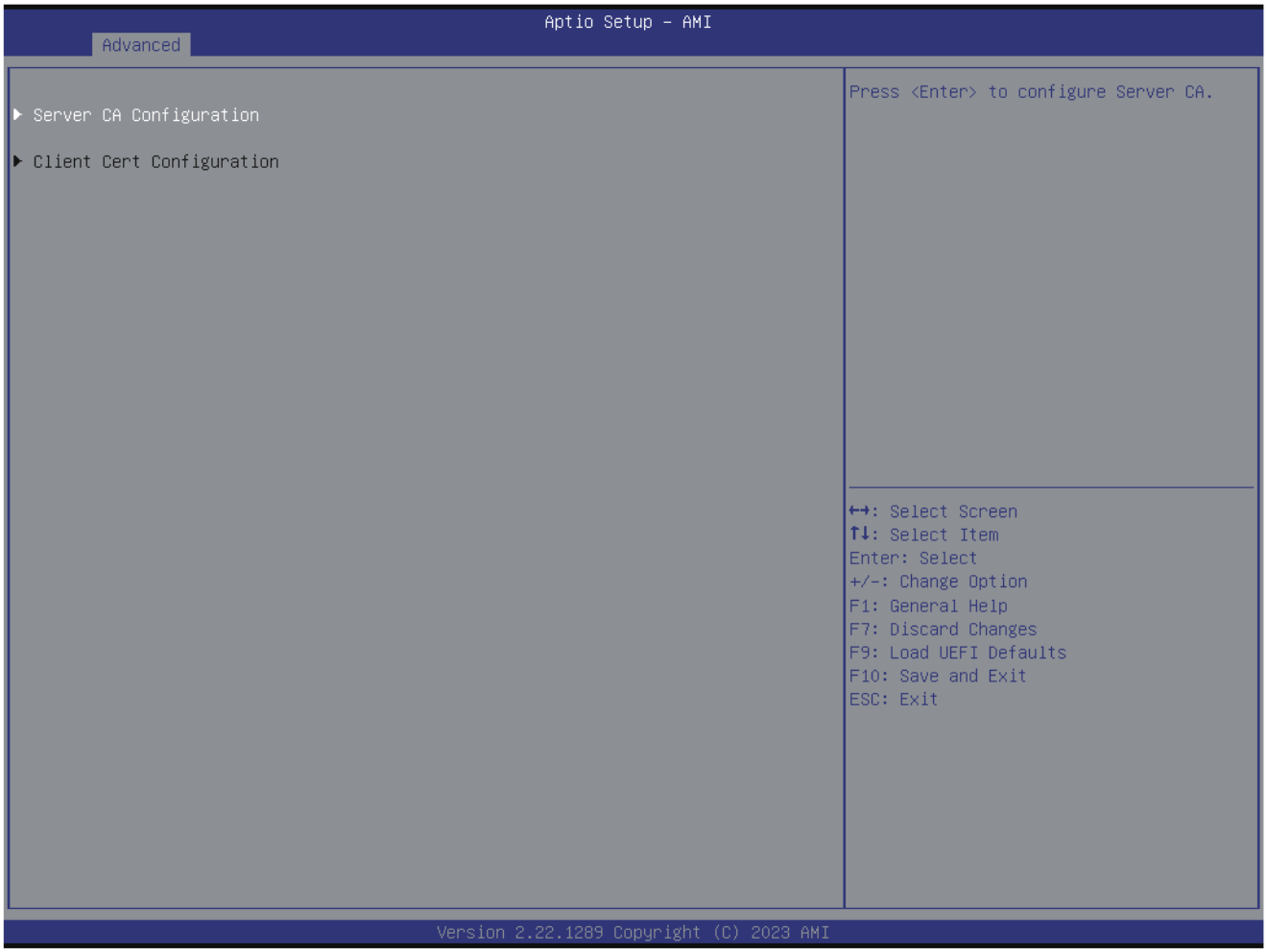
Network Stack
Enable UEFI network stack can prevents user from performing single-user network boots and network installation. If disabled, the host does not use the network interface.
IPv4 PXE Support
Enable IPv4 PXE Boot support. If disabled, IPv4 PXE Boot Option is not supported.
IPv4 HTTP Support
Enable IPv4 HTTP Boot support. If disabled, IPv4 HTTP Boot Option is not supported.
IPv6 PXE Support
Enable IPv6 PXE Boot support. If disabled, IPv6 PXE Boot Option is not supported.
IPv6 HTTP Support
Enable IPv6 HTTP Boot support. If disabled, IPv6 HTTP Boot Option is not supported.
PXE Boot Wait Time
Specifies the wait time and press the ESC key to abort the PXE boot.
Media Detect Count
Specifies the number of times the presence of physical storage device are verified on a system reset or power cycle.

3.3.12 Driver Health



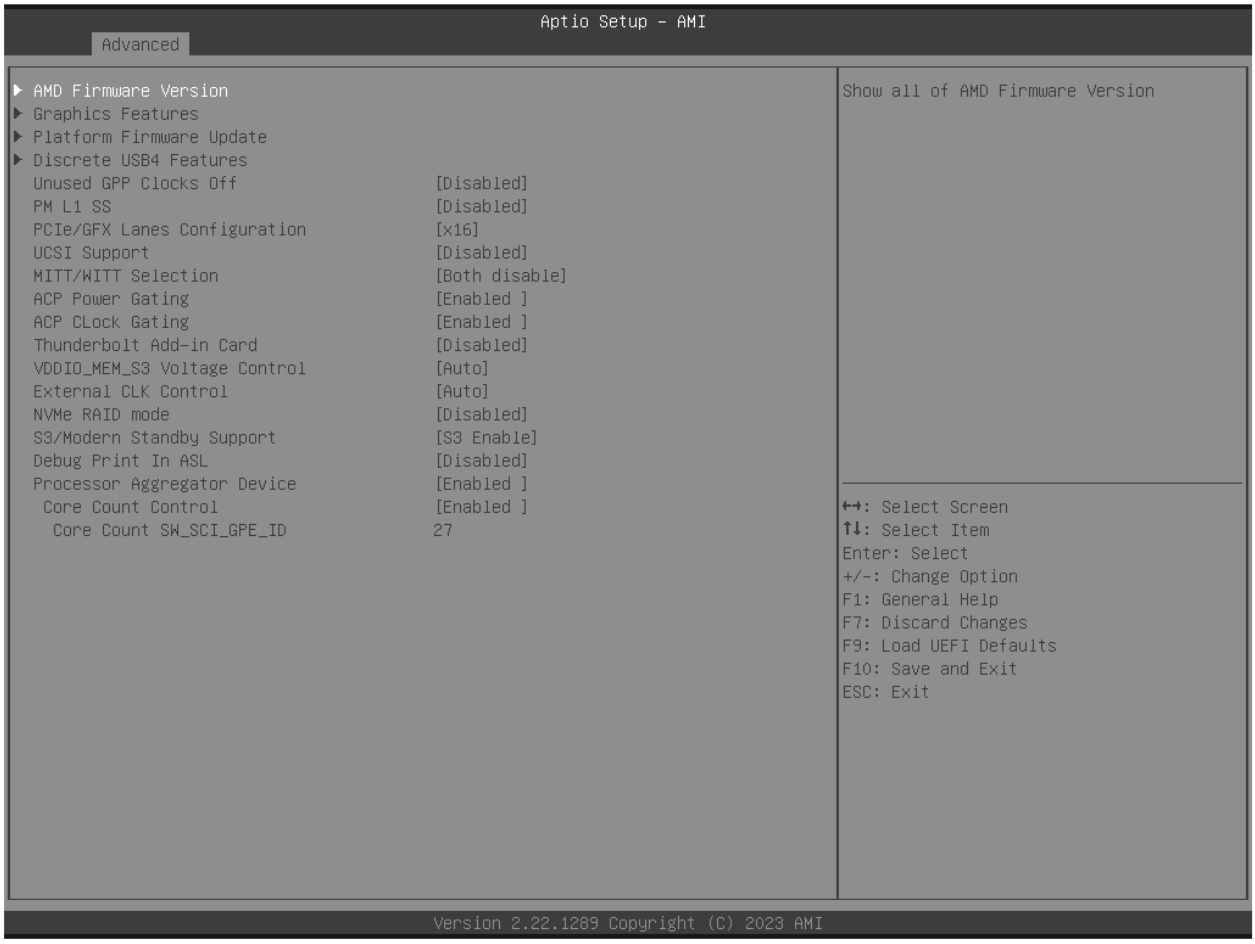
Broadcom NXE Gigabit Ethernet Driver Healthy
Provides Health Status for the Drivers/Controllers.
AMD GOP X64 Rel Driver Rev.3.6.2.Oct 18 2022.05:39:00 Healthy Provides Health Status for the Drivers/Controllers.

3.3.13 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.

3.3.14 AMD PBS



AMD Firmware Version
Show all of AMD Firmware Version.
Graphics Features
Graphics Features – HG, DGPU Features, BOMAC0.
Platform Firmware Update
Use this item to process Platform Firmware Update
Discrete USB4 Features
Discrete USB4 Features – PCIe resource, D3 support, Native USB4 suport and so on.
Unused GPP Clocks Off
Turn Unused GPP Clocks Off.
PM L1 SS
Enable for PM L1 SS and ASPM L1 SS.
UCSI Support
Enable for UCSI (USB Type-C Connector System Software Interface).

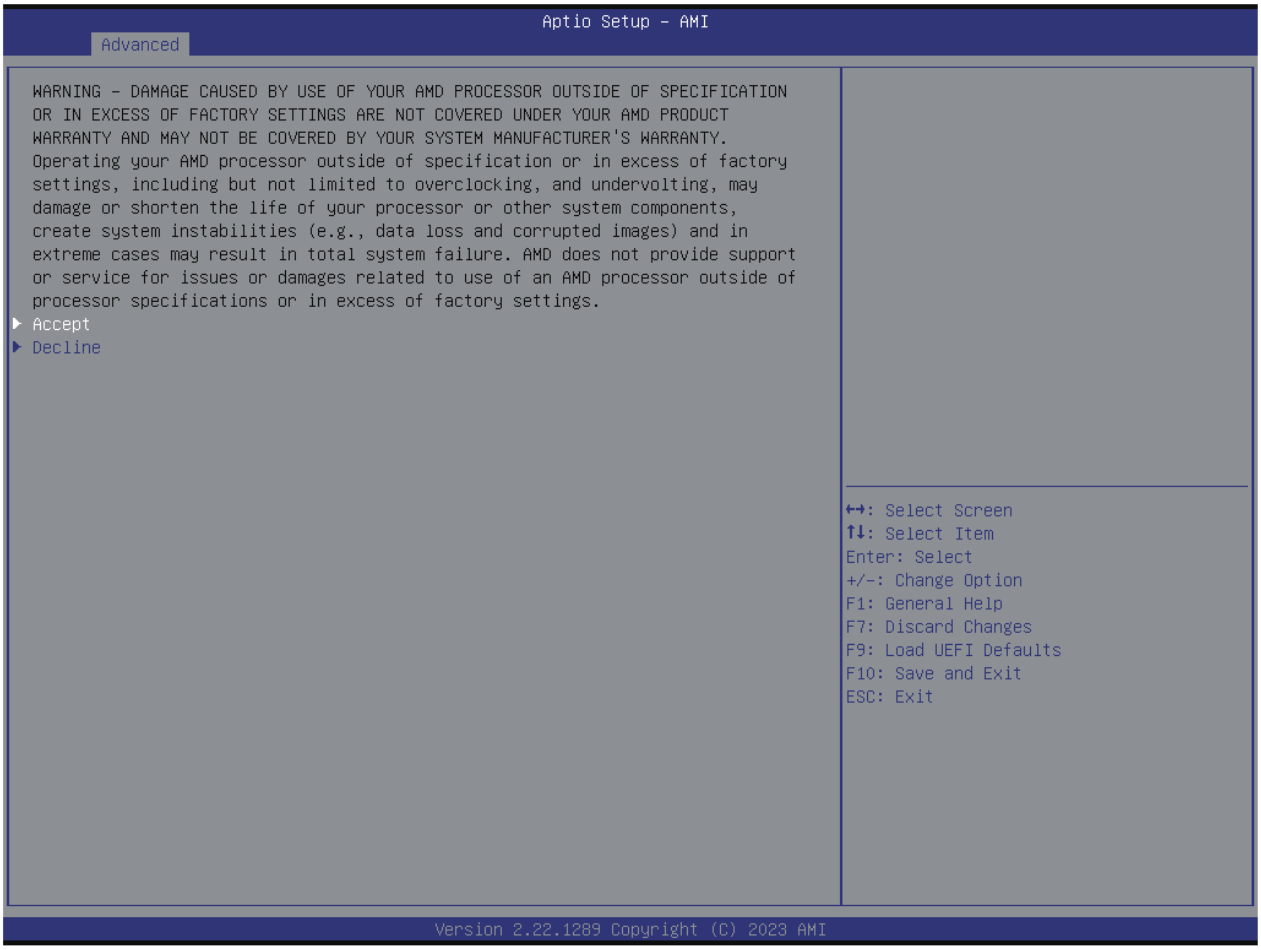
MITT/WITT Selection
Use this item to configure MITT/WITT Selection
ACP Power Gating
Use this item to enable or disable ACP Power Gating.
ACP CLock Gating
Use this item to enable or disable ACP CLOCK Gating.
Thunderbolt Add-in Card
Enable Thunderbolt AR/TR Add-in Card Support.
VDDIO_MEM_S3 Voltage Control
Use this item to configure voltage control for VDDIO_MEM_S3 with Auto or Manual selections.
External CLK Control
Use the item to configure External CLK Control with Auto (100Mhz CGPLL generated by default) / eCLK0 (EXT_GPP0_SRC) or GPP1 (External input thru GPP1).

Switch APU clocks source mapping will get stuck immediately (post code: B0005A5A), manual press cold reset button to bypass the stuck.

NVMe RAID mode
Use this item to enable or disable NVMe RAID mode. Please setting the 'PCIe/GFX Lanes Configuration' item according to the RAID configuration.
S3/Modern Standby Support
Switch S3/Modern Standby.
Debug Print In ASL
Enable Debug Print In ASL.
Processor Aggregator Device
Enable or disable the Processor Aggregator Device.
Core Count Control
Enable or disable the Core Count Control.
Core Count SW_SCI_GPE_ID
Select Core Count SW_SCI_GPE_ID range: 0~31, default value is 25.

3.3.15 AMD Overclocking

The AMD Overclocking menu accesses options for configuring CPU frequency and voltage.



3.3.16 Instant Flash

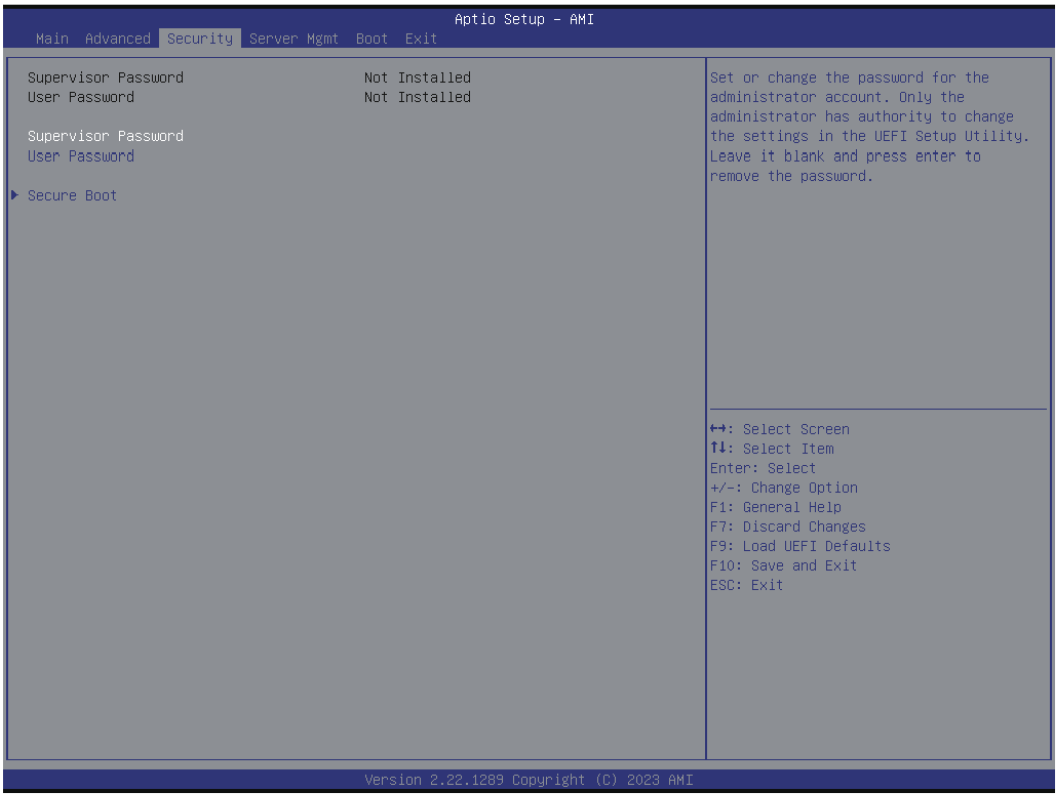
Instant Flash is a UEFI flash utility embedded in Flash ROM. This convenient UEFI update tool allows user to update system UEFI without entering operating systems first like MS-DOS or Windows®. Just save the new UEFI file to the USB flash drive, floppy disk or hard drive and launch this tool, then update 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 or hard drive must use FAT32/16/12 file system. Execute the Instant Flash util-ity, 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 com-pleted.

3.4 Security

In this section, set or change the supervisor/user password for the system. For the user pass-word, it also allows user to clear it.

In this section, set or change the supervisor/user password for the system. For the user password, it also allows 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/Disable Secure Boot Control. The default value is [Enabled]. Enable to support Windows Server 2012 R2 or later versions Secure Boot.

Secure Boot Mode

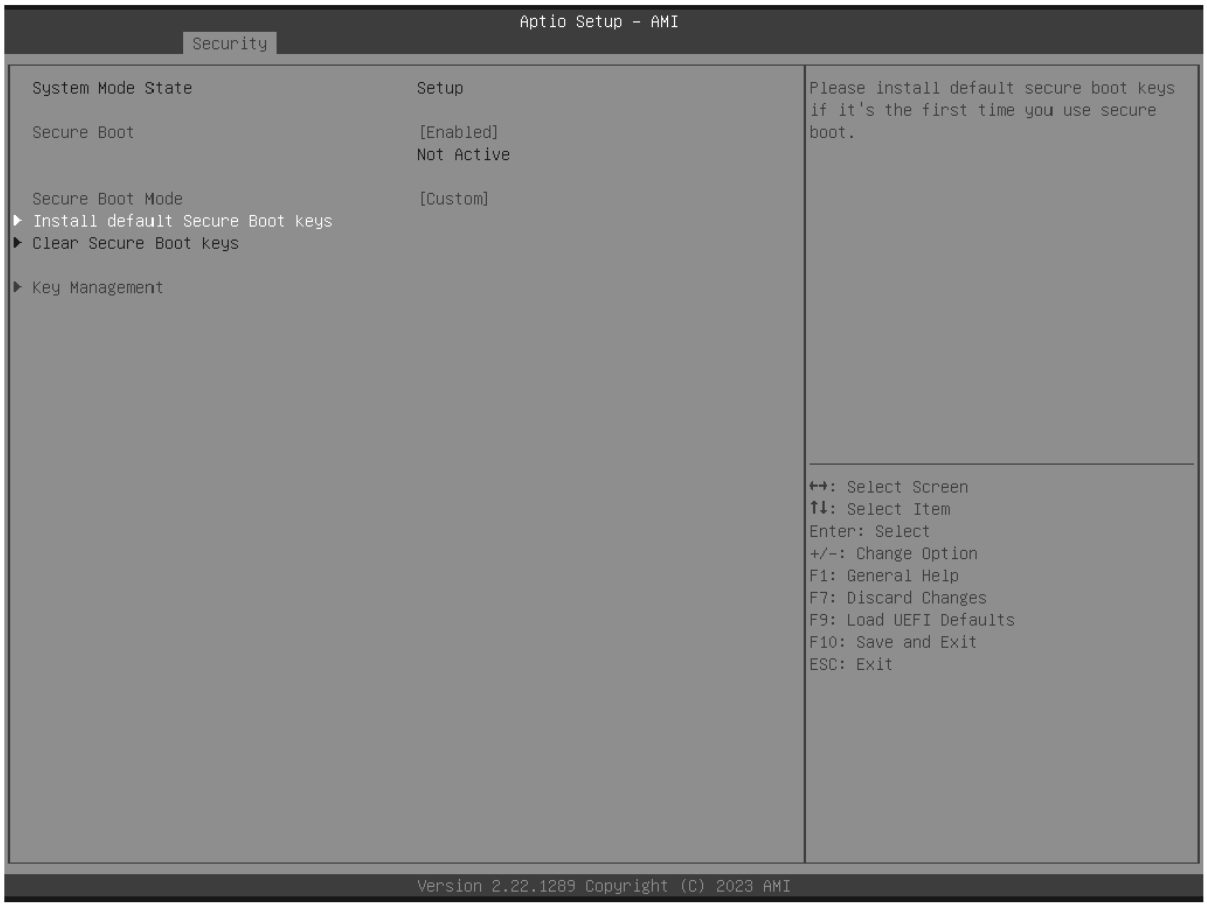
Secure Boot mode options: Standard/Custom. In Custom mode, Secure Boot Policy variables can be configured without authentication.

Supervisor Password
Set or change the password for the administrator account. Only the administrator has author-ity 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/Disable Secure Boot Control. The default value is [Enabled]. Enable to support Windows Server 2012 R2 or later versions Secure Boot.
Secure Boot Mode
Secure Boot mode options: Standard/Custom. In Custom mode, Secure Boot Policy variables can be configured without authentication.

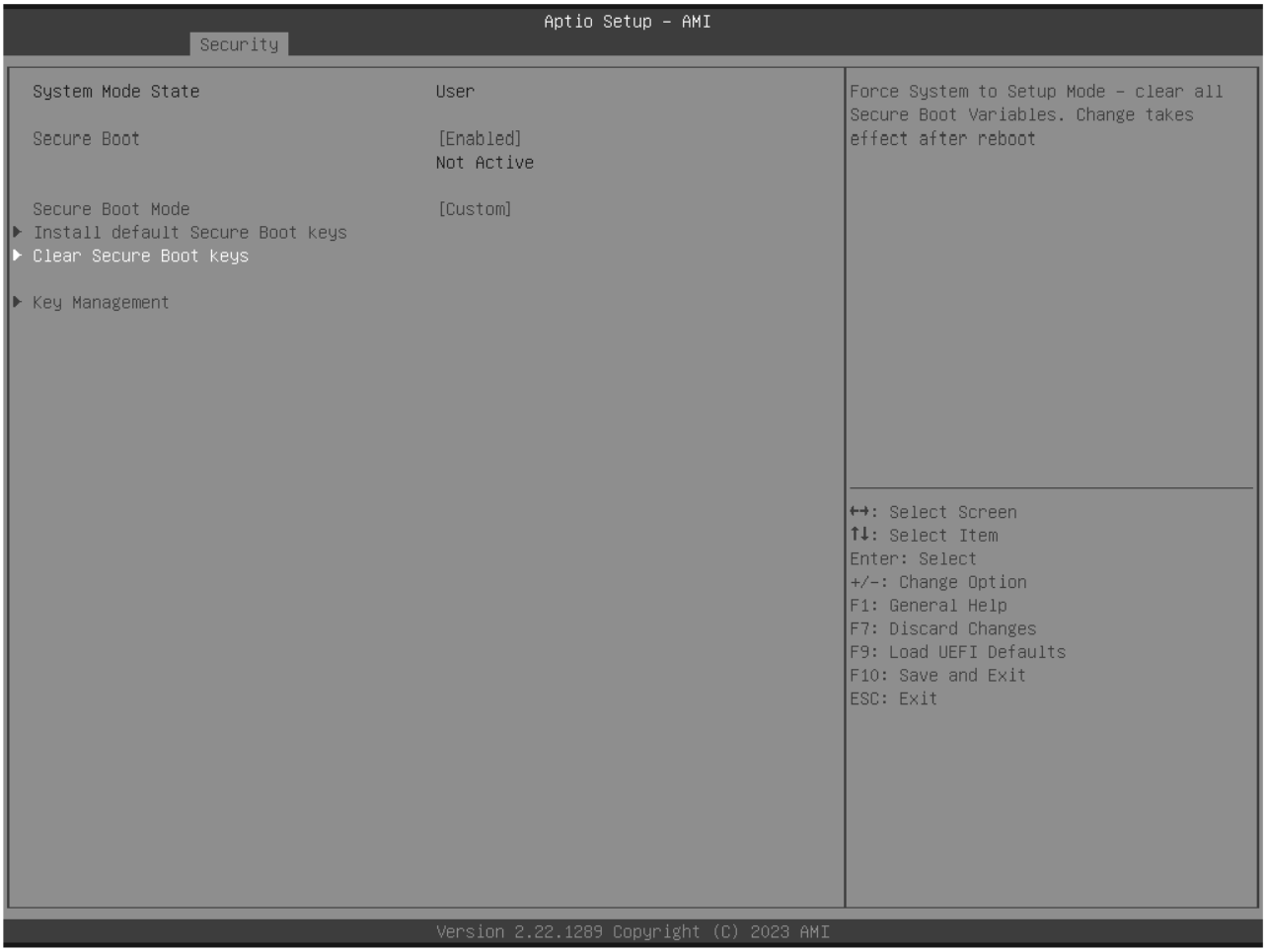
3.4.1 Install Default Secure Boot Keys

Please install default secure boot keys if it is the first time to use secure boot. Select Clear Secure Boot keys item to clear the asigned secure boot keys.



3.4.2 Clear Secure Boot Keys

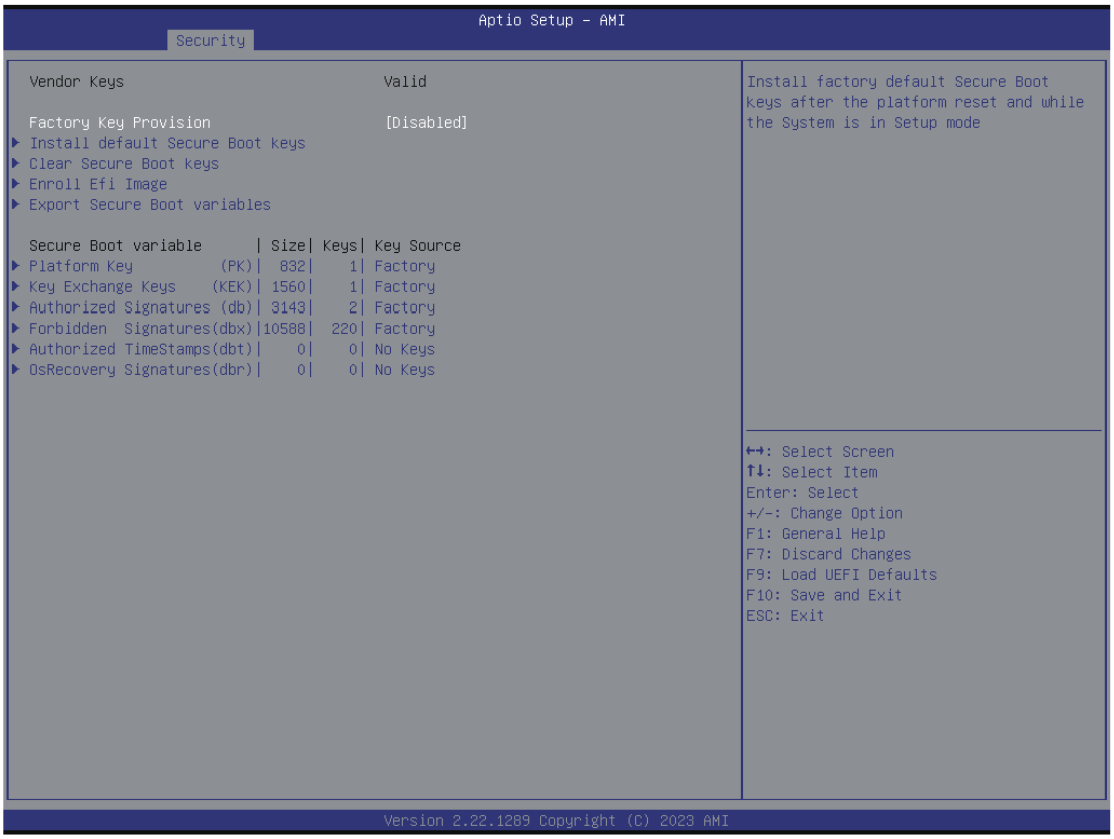
Force System to Setup Mode – clear all Secure Boot Variables. Change takes effect after reboot.



3.4.3 Key Management

In this section, expert users can modify Secure Boot Policy variables without full authentica-tion.

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

Force System to Setup Mode - clear all Secure Boot Variables. Change takes effect after reboot.

Enroll Efi Image

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

Export Secure Boot Variables

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

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
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 Autho-rized 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, Modified, Mixed
Key Exchange Keys (KEK)
Enroll Factory Defaults or load certificates from a file: 1. Public Key Certificate in:

a) EFI_SIGNATURE_LIST
b) EFI_CERT_X509 (DER)
c) EFI_CERT_RSA2048 (bin)
d) EFI_CERT_SHAXXX

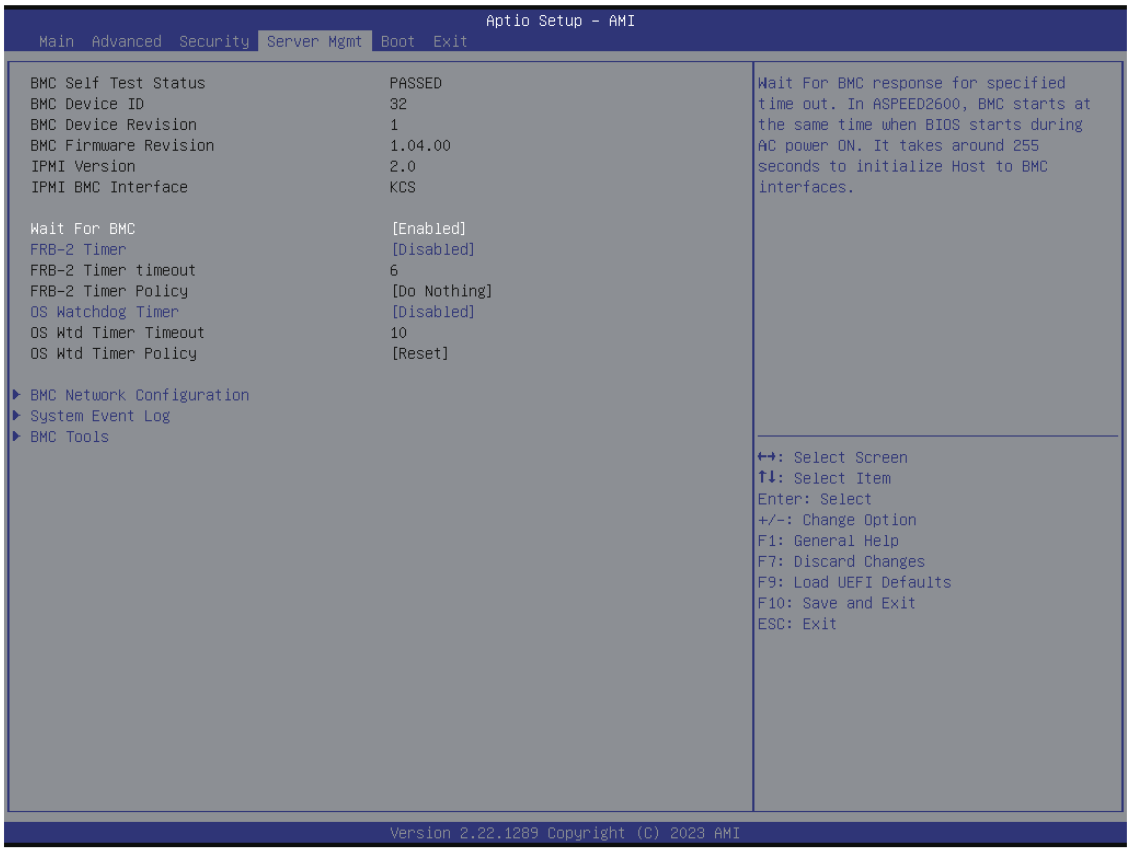
2. Authenticated UEFI Variable
3. EFI PE/COFF Image(SHA256)
Key Source: Factory, Modified, Mixed
Authorized Signatures (db)
Enroll Factory Defaults or load certificates from a file:
1. Public Key Certificate in:
a) EFI_SIGNATURE_LIST
b) EFI_CERT_X509 (DER)
c) EFI_CERT_RSA2048 (bin)
d) EFI_CERT_SHAXXX

2. Authenticated UEFI Variable
3. EFI PE/COFF Image(SHA256)
Key Source: Factory, Modified, 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, Modified, Mixed

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, Modified, 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, Modified, Mixed

3.5 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 90 seconds to initialize Host to BMC interfaces.

FRB-2 Timer

FRB-2 Timer

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

FRB-2 Timer Timeout

Select this item 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.

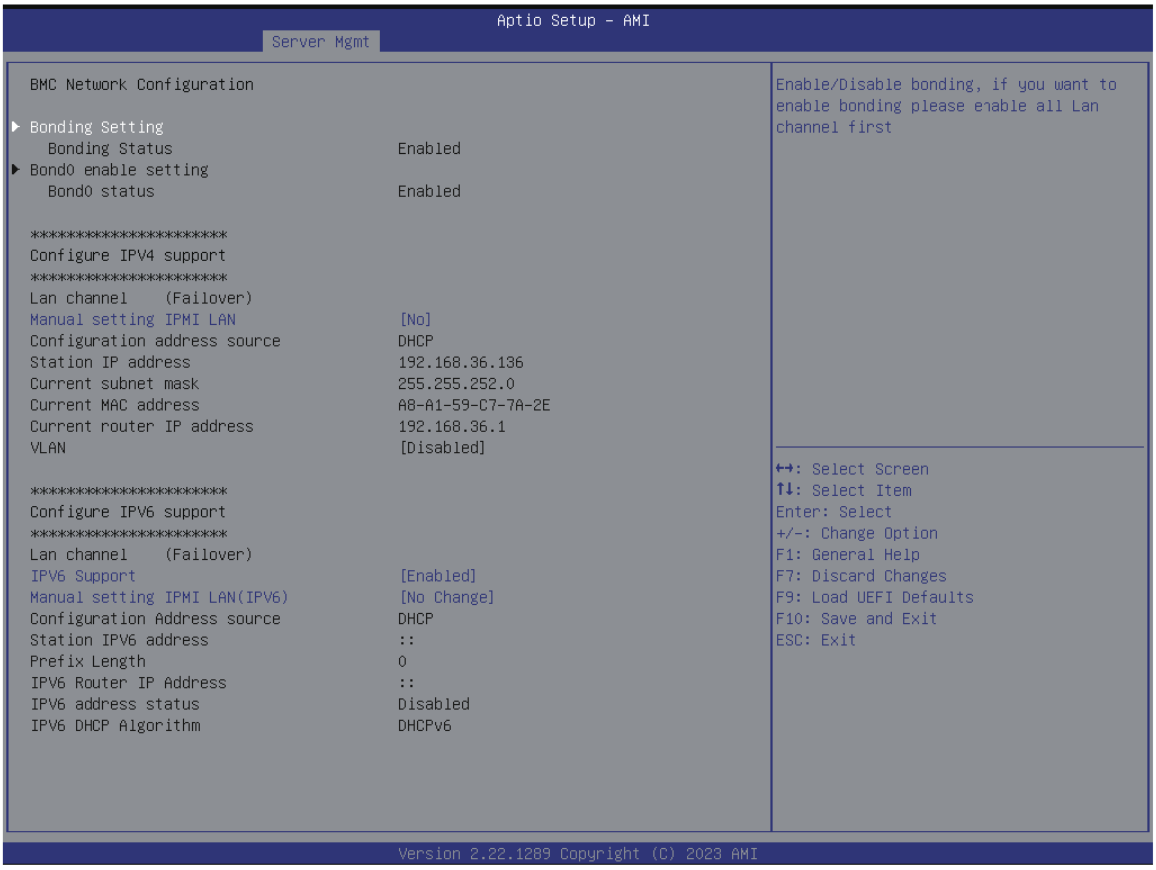
OS Watchdog Timer

Select 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.

3.5.1 BMC Network Configuration



Bonding Setting

Select this item to enabled or disabled bonding. Please enable all lan channel first when want to enable bonding.

Lan Channel (Failover)

Manual Setting IPMI LAN

If [No] is selected, the IP address is assigned by DHCP. 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.

When [DHCP] or [Static] is selected, do NOT modify the BMC network settings on the IPMI web page.

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 or go to the Support website at: http://www.asrockrack.com/support/ipmi.asp

VLAN

Enabled or disabled Virtual Local Area Network. Select [Enabled] to configure VLAN ID and VLAN priority.

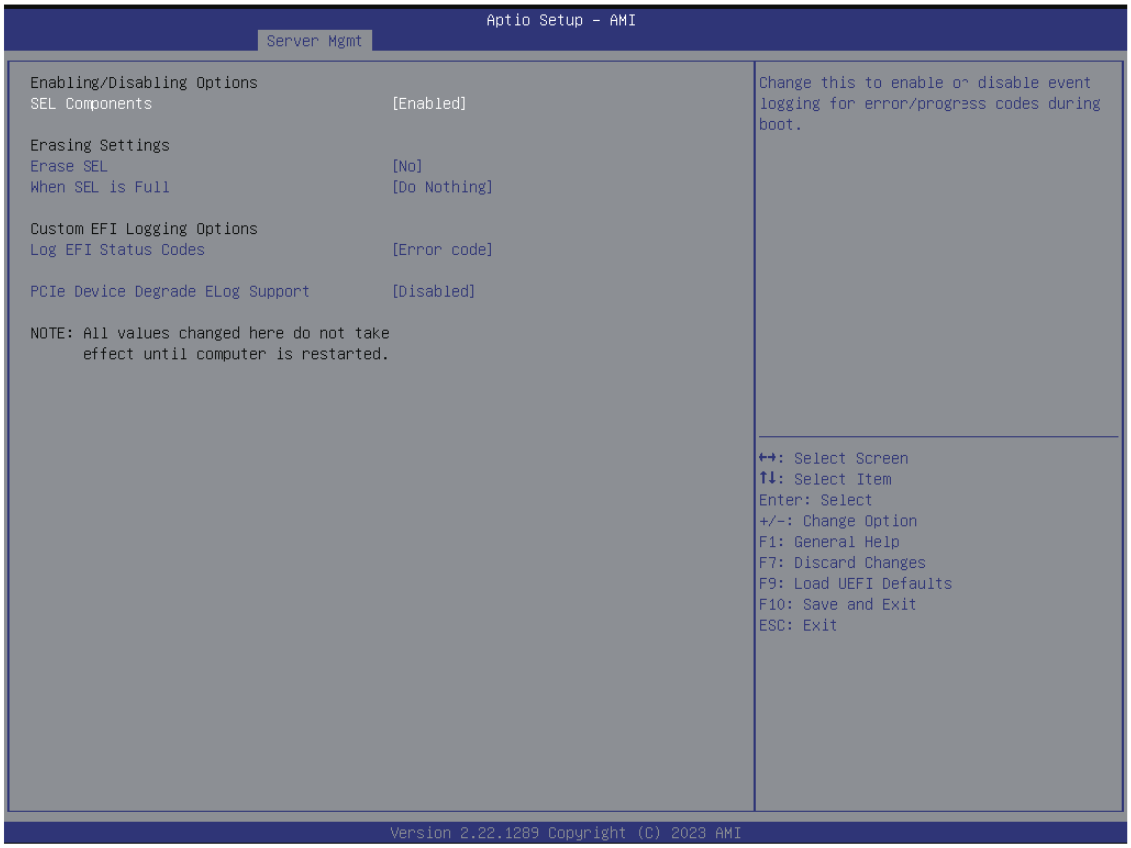
IPV6 Support

Enabled/Disable LAN1 IPV6 Support.

Manual Setting IPMI LAN(IPV6)

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

3.5.2 System Event Log



SEL Components

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

Erase SEL

Use this to choose options for earsing SEL.

When SEL is Full

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

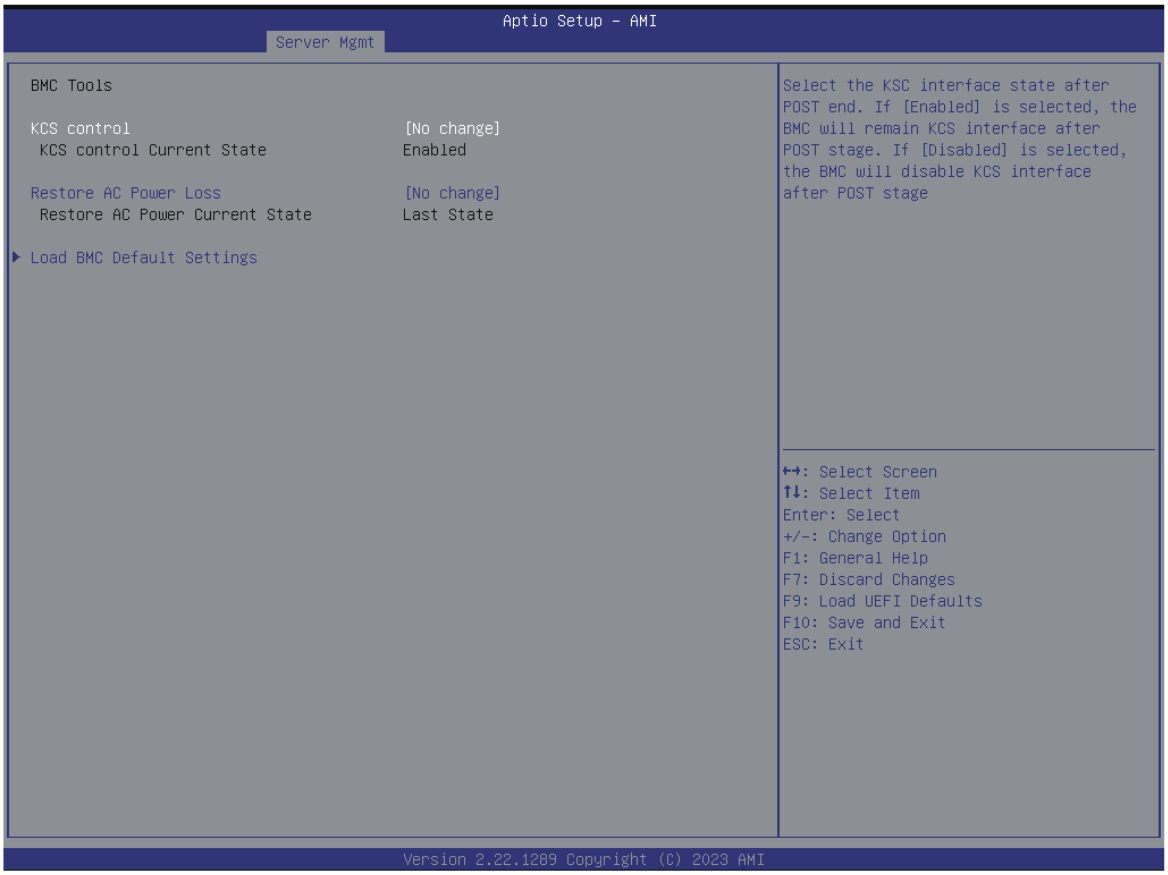
Log EFI Status Codes

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.

3.5.3 BMC Tools



KCS control

Select the KSC interface state after POST end. If [Enabled] is 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.

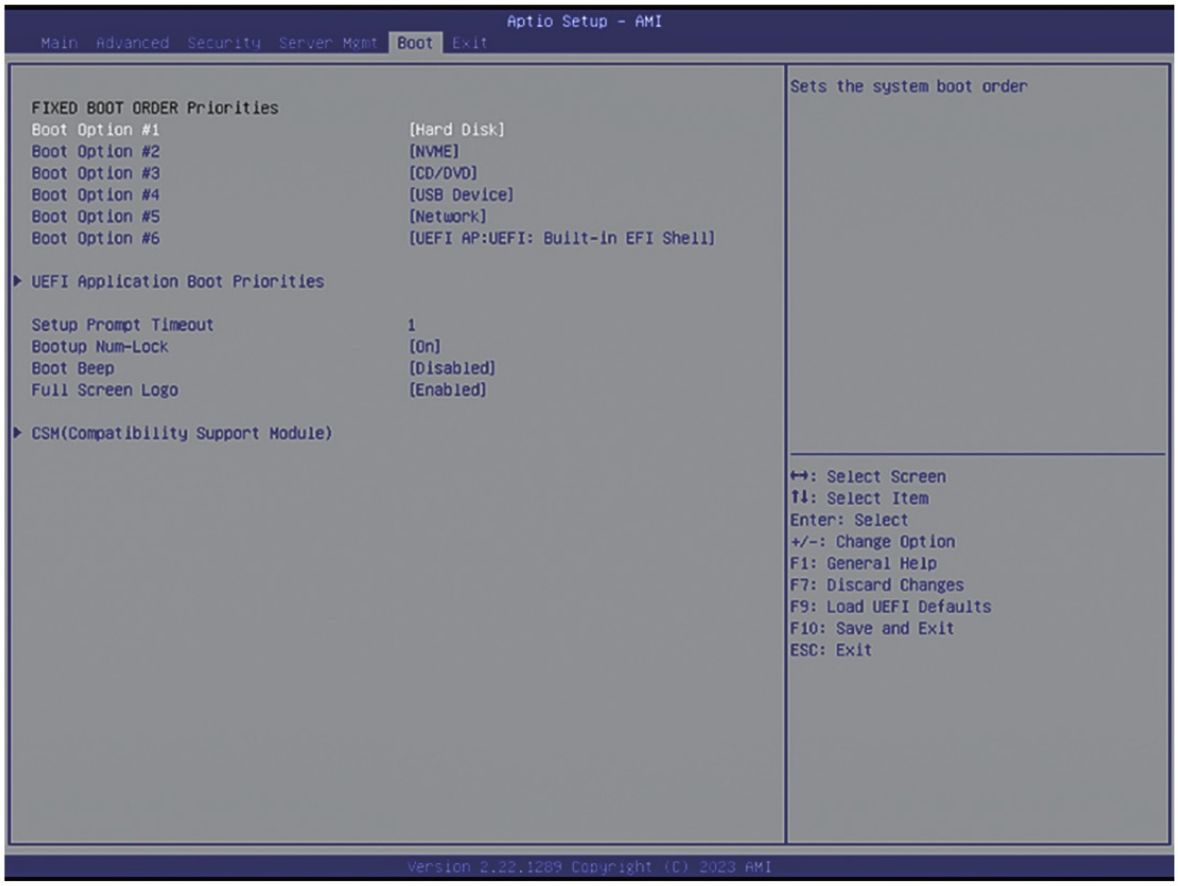
All values changed here do not take effect until computer is restarted.

3.6 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.

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



Boot Option #1/#2/#3/#4/#5/#6

Use this item 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.

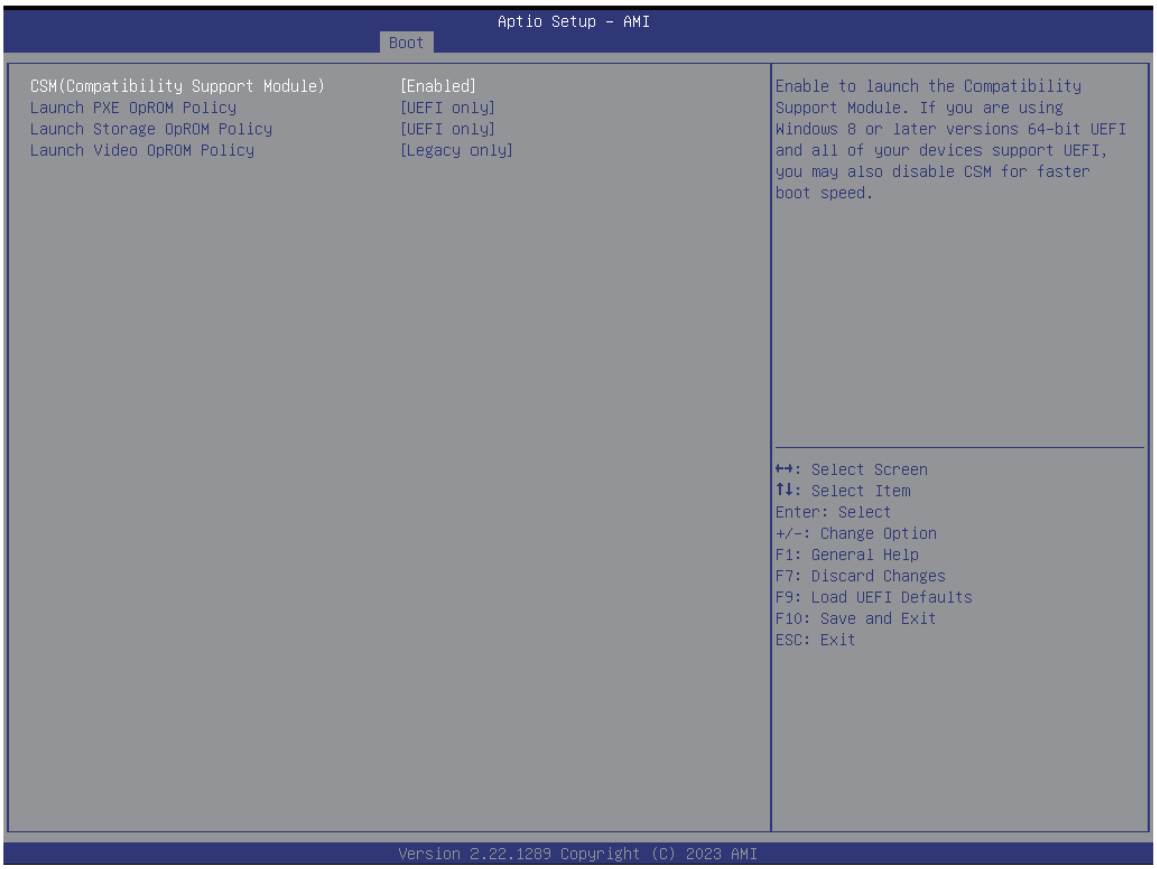
Boot Beep

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 messages.

3.6.1 CSM Parameters



CSM (Compatibility Support Module)

Enable to launch the Compatibility Support Module. If using Windows 8 64-bit UEFI and all of the devices support 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.

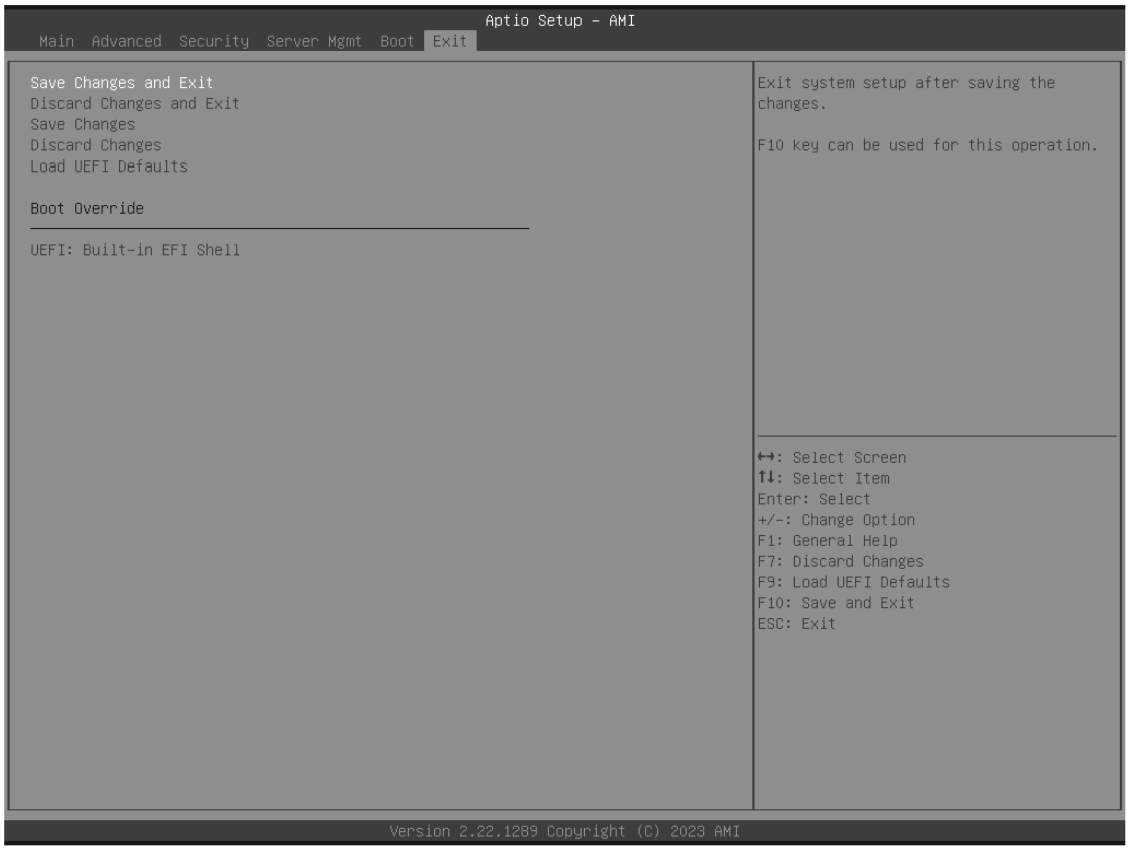
Launch Storage OpROM Policy

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.

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.

3.7 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. Press <F7> key or select [Yes] to save all changes.

Discard Changes

When selecting this option, the following message “Discard changes?” will pop-out. Press <F7> key or 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.

Boot Override

This item displays the available devices. Select an item to start booting from the selected

device.

Chapter 4 Software Support

After all the hardware has been installed, it suggests to the offical website at **http://www.ASRockRack.com** and make sure if there are any new updates of the BIOS / BMC firmware for the motherboard.
4.1 Download and Install Operating System
This motherboard supports various Microsoft® Windows® Server / Linux compliant operating systems. Please download the operating system from the OS manufacturer. Please refer to the OS documentation for more instructions.
* Please download the Intel® SATA Floppy Image driver from the ASRock Rack's website (www.asrockrack.com) to the USB drive while installing OS in SATA RAID mode.
4.2 Download and Install Software Drivers
This motherboard supports various Microsoft® Windows® compliant drivers. Please download the required drivers from our website at **http://www.ASRockRack.com**.
To download necessary drivers, go the the product page, click on the "Download" tab, choose the operating system that is used, and then download the using driver.
4.3 Contact Information
Contact ASRock Rack or want to know more about ASRock Rack, welcome to visit ASRock Rack's website at **http://www.ASRockRack.com**; or contact the dealer for further information.

Chapter 5 Troubleshooting

5.1 Troubleshooting Procedures

Follow the procedures below to troubleshoot the system.

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

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 the settings of the 115V/230V switch on the power supply.
4. Verify if the battery on the motherboard provides ~3VDC. Install a new battery if it does not.

If there is no video…

1. Try replugging the monitor 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 UDIMM modules.
3. If having installed more than one DIMM modules, they should be identical with the same brand, speed, size and chip-type.
4. Try inserting different DIMM modules into different slots to identify faulty ones.
5. Check the settings of the 115V/230V switch on the power supply.

Unable to save system setup configurations…
1. Verify if the battery on the motherboard provides ~3VDC. Install a new battery if it does not.
2. Confirm whether the power supply provides adaquate and stable power.

Other problems…
1. Try searching keywords related to the problem on ASRock Rack's FAQ page:
http://www.asrockrack.com/support

5.2 Technical Support Procedures

If having tried the troubleshooting procedures mentioned above and the problems are still unsolved, please contact ASRock Rack's technical support with the following information:
1. Contact information
2. Model name, BIOS version and problem type.
3. System configuration.
4. Problem description.

Contact ASRock Rack's technical support at:

http://www.asrockrack.com/support/tsd.asp
5.3 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 going to our RMA website (**http://event.asrockrack.com/tsd.asp**) 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.

Contact Information

Contact ASRock Rack or want to know more about ASRock Rack, you're welcome to visit ASRock Rack's website at http://www.asrockrack.com; or contact the dealer for further information. For technical questions, please submit a support request form at
https://event.asrockrack.com/tsd.asp
ASRock Rack Incorporation
e-mail: ASRockRack_sales@asrockrack.com
ASRock Rack EUROPE B.V.
Bijsterhuizen 11-11
6546 AR Nijmegen
The Netherlands
Phone: +31-24-345-44-33
ASRock Rack America, Inc.
13848 Magnolia Ave, Chino, CA91710 U.S.A.
Phone: +1-909-590-8308
Fax: +1-909-590-1026

FAQ (Frequently Asked Questions)

Q: Can I use this motherboard with any CPU?

A: No, you need to ensure that the CPU is compatible with the motherboard. Refer to the user manual or manufacturer's website for a list of supported CPUs.

Q: How do I update the BIOS of this motherboard?

A: To update the BIOS, download the latest BIOS version from the manufacturer's website. Follow the instructions provided in the user manual or on the website to flash the BIOS using a USB drive or other supported method.

Q: What are the maximum memory and storage capacities supported by this motherboard?

A: The maximum memory and storage capacities depend on the specific model of the motherboard. Refer to the user manual or manufacturer's website for detailed information on supported memory and storage configurations.

Documents / Resources

	ASRock AM5D4ID-2T-BCM Server Workstation Motherboard [pdf] User Manual AM5D4ID-2T-BCM Server Workstation Motherboard, AM5D4ID-2T-BCM, Server Workstation Motherboard, Workstation Motherboard, Motherboard

References

- ASRockRack.com
- asrockrack.com/
- asrockrack.com
- asrockrack.com/support
- asrockrack.com/support/
- asrockrack.com/support/ipmi.asp
- asrockrack.com/support/tsd.asp
- dtsc.ca.gov/hazardouswaste/
- asrockrack.com/general/about.asp?cat=Responsibility
- User Manual

Manuals+, Privacy Policy

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