NEXCOM International Co., Ltd.

Network and Communication Solutions

Network Security Appliance

NSA 3200

User Manual

NEXCOM International Co., Ltd.
Published February 2025

www.nexcom.com

Contents

Chapter 3: System Setup

Chapter 4: BIOS Setup

Appendix A: NEXBOOT Configuration

PREFACE

Copyright

Disclaimer

The information in this document is subject to change without prior notice and does not represent commitment from NEXCOM International Co., Ltd. However, users may update their knowledge of any product in use by constantly checking its manual posted on our website: http://www.nexcom.com. NEXCOM shall not be liable for direct, indirect, special, incidental, or consequential damages arising out of the use of any product, nor for any infringements upon the rights of third parties, which may result from such use. Any implied warranties of merchantability or fitness for any particular purpose is also disclaimed.

Acknowledgements

NSA 3200 is a trademark of NEXCOM International Co., Ltd. All other product names mentioned herein are registered trademarks of their respective owners.

Regulatory Compliance Statements

This section provides the FCC compliance statement for Class A devices and describes how to keep the system CE compliant.

Declaration of Conformity

FCC

This equipment has been tested and verified to comply with the limits for a Class A digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. Operation of this equipment in a residential area (domestic environment) is likely to cause harmful interference, in which case the user will be required to correct the interference (take adequate measures) at their own expense.

CE

The product(s) described in this manual complies with all applicable European Union (CE) directives if it has a CE marking. For computer systems to remain CE compliant, only CE-compliant parts may be used. Maintaining CE compliance also requires proper cable and cabling techniques.

RoHS Compliance

NEXCOM RoHS Environmental Policy and Status Update

NEXCOM is a global citizen for building the digital infrastructure. We are committed to providing green products and services, which are compliant with European Union RoHS (Restriction on Use of Hazardous Substance in Electronic Equipment) directive 2011/65/EU, to be your trusted green partner and to protect our environment.

RoHS restricts the use of Lead (Pb) < 0.1% or 1,000ppm, Mercury (Hg) < 0.1% or 1,000ppm, Cadmium (Cd) < 0.01% or 100ppm, Hexavalent Chromium (Cr6+) < 0.1% or 1,000ppm, Polybrominated biphenyls (PBB) < 0.1% or 1,000ppm, and Polybrominated diphenyl Ethers (PBDE) < 0.1% or 1,000ppm.

In order to meet the RoHS compliant directives, NEXCOM has established an engineering and manufacturing task force in to implement the introduction of green products. The task force will ensure that we follow the standard NEXCOM development procedure and that all the new RoHS components and new manufacturing processes maintain the highest industry quality levels for which NEXCOM are renowned.

The model selection criteria will be based on market demand. Vendors and suppliers will ensure that all designed components will be RoHS compliant.

How to recognize NEXCOM RoHS Products?

For existing products where there are non-RoHS and RoHS versions, the suffix "(LF)" will be added to the compliant product name.

All new product models launched after January 2013 will be RoHS compliant. They will use the usual NEXCOM naming convention.

Warranty and RMA

NEXCOM Warranty Period

NEXCOM manufactures products that are new or equivalent to new in accordance with industry standard. NEXCOM warrants that products will be free from defect in material and workmanship for 2 years, beginning on the date of invoice by NEXCOM.

NEXCOM Return Merchandise Authorization (RMA)

- Customers shall enclose the "NEXCOM RMA Service Form" with the returned packages.
- Customers must collect all the information about the problems encountered and note anything abnormal or, print out any on-screen messages, and describe the problems on the "NEXCOM RMA Service Form" for the RMA number apply process.
- Customers can send back the faulty products with or without accessories (manuals, cable, etc.) and any components from the card, such as CPU and RAM. If the components were suspected as part of the problems, please note clearly which components are included. Otherwise, NEXCOM is not responsible for the devices/parts.
- Customers are responsible for the safe packaging of defective products, making sure it is durable enough to be resistant against further damage and deterioration during transportation. In case of damages occurred during transportation, the repair is treated as "Out of Warranty."
- Any products returned by NEXCOM to other locations besides the customers' site will bear an extra charge and will be billed to the customer.

Repair Service Charges for Out-of-Warranty Products

NEXCOM will charge for out-of-warranty products in two categories, one is basic diagnostic fee and another is component (product) fee.

System Level

- Component fee: NEXCOM will only charge for main components such as SMD chip, BGA chip, etc. Passive components will be repaired for free, ex: resistor, capacitor.
- Items will be replaced with NEXCOM products if the original one cannot be repaired. Ex: motherboard, power supply, etc.
- Replace with 3rd party products if needed.
- If RMA goods can not be repaired, NEXCOM will return it to the customer without any charge.

Board Level

- Component fee: NEXCOM will only charge for main components, such as SMD chip, BGA chip, etc. Passive components will be repaired for free, ex: resistors, capacitors.
- If RMA goods can not be repaired, NEXCOM will return it to the customer without any charge.

Warnings

Read and adhere to all warnings, cautions, and notices in this guide and the documentation supplied with the chassis, power supply, and accessory modules. If the instructions for the chassis and power supply are inconsistent with these instructions or the instructions for accessory modules, contact the supplier to find out how you can ensure that your computer meets safety and regulatory requirements.

Cautions

Electrostatic discharge (ESD) can damage system components. Do the described procedures only at an ESD workstation. If no such station is available, you can provide some ESD protection by wearing an antistatic wrist strap and attaching it to a metal part of the computer chassis.

Safety Information

Before installing and using the device, note the following precautions:

- Read all instructions carefully.
- Do not place the unit on an unstable surface, cart, or stand.
- Follow all warnings and cautions in this manual.
- When replacing parts, ensure that your service technician uses parts specified by the manufacturer.
- Avoid using the system near water, in direct sunlight, or near a heating device.
- The load of the system unit does not solely rely for support from the rackmounts located on the sides. Firm support from the bottom is highly necessary in order to provide balance stability.
- The computer is provided with a battery-powered real-time clock circuit. There is a danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.

Installation Recommendations

Ensure you have a stable, clean working environment. Dust and dirt can get into components and cause a malfunction. Use containers to keep small components separated.

Adequate lighting and proper tools can prevent you from accidentally damaging the internal components. Most of the procedures that follow require only a few simple tools, including the following:

- A Philips screwdriver
- A flat-tipped screwdriver
- A grounding strap
- An anti-static pad

Using your fingers can disconnect most of the connections. It is recommended that you do not use needle-nose pliers to disconnect connections as these can damage the soft metal or plastic parts of the connectors.

Safety Precautions

1. Read these safety instructions carefully.

2. Keep this User Manual for later reference.

3. Disconnect this equipment from any AC outlet before cleaning. Use a damp cloth. Do not use liquid or spray detergents for cleaning.

4. For plug-in equipment, the power outlet socket must be located near the equipment and must be easily accessible.

5. Keep this equipment away from humidity.

6. Put this equipment on a stable surface during installation. Dropping it or letting it fall may cause damage.

7. The openings on the enclosure are for air convection to protect the equipment from overheating. DO NOT COVER THE OPENINGS.

8. Make sure the voltage of the power source is correct before connecting the equipment to the power outlet.

9. Place the power cord in a way so that people will not step on it. Do not place anything on top of the power cord. Use a power cord that has been approved for use with the product and that it matches the voltage and current marked on the product's electrical range label. The voltage and current rating of the cord must be greater than the voltage and current rating marked on the product.

10. All cautions and warnings on the equipment should be noted.

11. If the equipment is not used for a long time, disconnect it from the power source to avoid damage by transient overvoltage.

12. Never pour any liquid into an opening. This may cause fire or electrical shock.

13. Never open the equipment. For safety reasons, the equipment should be opened only by skilled person.

14. If one of the following situations arises, get the equipment checked by service personnel:
    a. The power cord or plug is damaged.
    b. Liquid has penetrated into the equipment.
    c. The equipment has been exposed to moisture.
    d. The equipment does not work well, or you cannot get it to work according to the user's manual.
    e. The equipment has been dropped and damaged.
    f. The equipment has obvious signs of breakage.

15. Do not place heavy objects on the equipment.

16. The unit uses a three-wire ground cable which is equipped with a third pin to ground the unit and prevent electric shock. Do not defeat the purpose of this pin. If your outlet does not support this kind of plug, contact your electrician to replace your obsolete outlet.

17. CAUTION: DANGER OF EXPLOSION IF BATTERY IS INCORRECTLY REPLACED. REPLACE ONLY WITH THE SAME OR EQUIVALENT TYPE RECOMMENDED BY THE MANUFACTURER. DISCARD USED BATTERIES ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.

    "ATTENTION: Risque d'explosion si la batterie est remplacée par un type incorrect. Mettre au rebus les batteries usagées selon les instructions."

18. This equipment is not suitable for use in locations where children are likely to be present.

    Cet équipement ne convient pas à une utilisation dans des lieux pouvant accueillir des enfants.

19. Suitable for installation in Information Technology Rooms in accordance with Article 645 of the National Electrical Code and NFPA 75.

    Peut être installé dans des salles de matériel de traitement de l'information conformément à l'article 645 du National Electrical Code et à la NFPA 75.

20. Use certified and rated Laser Class I for Optical Transceiver product.

Technical Support and Assistance

1. For the most updated information of NEXCOM products, visit NEXCOM's website at www.nexcom.com.

2. For technical issues that require contacting our technical support team or sales representative, please have the following information ready before calling:
   - Product name and serial number
   - Detailed information of the peripheral devices
   - Detailed information of the installed software (operating system, version, application software, etc.)
   - A complete description of the problem
   - The exact wordings of the error messages

Warning!

1. Handling the unit: carry the unit with both hands and handle it with care.

2. Maintenance: to keep the unit clean, use only approved cleaning products or clean with a dry cloth.

Conventions Used in this Manual

Warning:
Information about certain situations, which if not observed, can cause personal injury. This will prevent injury to yourself when performing a task.

Caution:
Information to avoid damaging components or losing data.

Note:
Provides additional information to complete a task easily.

Global Service Contact Information

Headquarters

NEXCOM International Co., Ltd.

9F, No. 920, Zhongzheng Rd.,
Zhonghe District, New Taipei City, 23586,
Taiwan, R.O.C.
Tel: +886-2-8226-7786
Fax: +886-2-8226-7782
www.nexcom.com

Asia

Taiwan

NexAIoT Headquarters
Industry 4.0 and Cloud Services

12F, No.922, Zhongzheng Rd.,
Zhonghe District, New Taipei City,
23586, Taiwan, R.O.C.
Tel: +886-2-8226-7796
Fax: +886-2-8226-7926
Email: sales@nexaiot.com
www.nexaiot.com

NexAIoT Co., Ltd.
Taichung Office

16F, No.250, Sec.2, Chongde Rd.,
Beitun District,
Taichung City, 406, Taiwan, R.O.C.
Tel: +886-4-2249-1179
Fax: +886-4-2249-1172
Email: jacobhuang@nexaiot.com
www.nexaiot.com

NexCOBOT Taiwan Co., Ltd.

13F, No.916, Zhongzheng Rd.,
Zhonghe District,
New Taipei City, 23586, Taiwan, R.O.C.
Tel: +886-2-8226-7786
Fax: +886-2-8226-7926
Email: jennyshern@nexcobot.com
www.nexcobot.com

GreenBase Technology Corp.

13F, No.922, Zhongzheng Rd.,
Zhonghe District,
New Taipei City, 23586, Taiwan, R.O.C.
Tel: +886-2-8226-7786
Fax: +886-2-8226-7900
Email: vivianlin@nexcom.com.tw
www.nexcom.com.tw

DivioTec Inc.

19F-1A, No.97, Sec.4, ChongXin Rd.,
Sanchong District,
New Taipei City, 24161, Taiwan, R.O.C.
Tel: +886-2-8976-3077
Email: sales@diviotec.com
www.diviotec.com

AIoT Cloud Corp.

13F, No.922, Zhongzheng Rd.,
Zhonghe District,
New Taipei City, 23586, Taiwan, R.O.C.
Tel: +886-2-8226-7786
Fax: +886-2-8226-7782
Email: alantsai@aiotcloud.net
www.aiotcloud.dev

EMBUX TECHNOLOGY CO., LTD.

13F, No.916, Zhongzheng Rd.,
Zhonghe District,
New Taipei City, 23586, Taiwan, R.O.C.
Tel: +886-2-8226-7786
Fax: +886-2-8226-7782
Email: info@embux.com
www.embux.com

TMR TECHNOLOGIES CO., LTD.

13F, No.916, Zhongzheng Rd.,
Zhonghe District,
New Taipei City, 23586, Taiwan, R.O.C.
Tel: +886-2-8226-7786
Fax: +886-2-8226-7782
Email: services@tmrtek.com
www.tmrtek.com

China

NEXSEC Incorporated

201, Floor 2, Unit 2, Building 15, Yard 3,
Gaolizhang Road, Haidian District,
Beijing, 100094, China
Tel: +86-10-5704-2680
Fax: +86-10-5704-2681
Email: marketing@nexsec.cn
www.nexsec.cn

NEXCOM Shanghai

Room 406-407, Building C, No 154, Lane 953,
Jianchuan Road, Minhang District,
Shanghai, 201108, China
Tel: +86-21-5278-5868
Fax: +86-21-3251-6358
Email: sales@nexcom.cn
www.nexcom.cn

NEXCOM Surveillance Technology Corp.

Floor 8, Building B3, Xiufeng Industrial Zone,
GanKeng Community, Buji Street,
LongGang District,
ShenZhen, 518112, China
Tel: +86-755-8364-7768
Fax: +86-755-8364-7738
Email: steveyang@nexcom.com.tw
www.nexcom.cn

NEXGOL Chongqing

1st Building No.999,
Star Boulevard, Yongchuan Dist,
Chongqing City, 402160, China
Tel: +86-23-4960-9080
Fax: +86-23-4966-5855
Email: sales@nexgol.com.cn
www.nexcom.cn

Beijing NexGemo Technology Co.,Ltd.

Room 205, No.1, Fazhan Rd.,
Beijing International Information Industry Base,
Changping District,
Beijing, 102206, China
Tel: +86-10-8072-2025
Fax: +86-10-8072-2022
Email: sales@nexgemo.cn
www.nexgemo.com

Japan

NEXCOM Japan

9F, Tamachi Hara Bldg.,
4-11-5, Shiba Minato-ku,
Tokyo, 108-0014, Japan
Tel: +81-3-5419-7830
Fax: +81-3-5419-7832
Email: sales@nexcom-jp.com
www.nexcom-jp.com

America

USA

NEXCOM USA

46665 Fremont Blvd.,
Fremont CA 94538, USA
Tel: +1-510-656-2248
Fax: +1-510-656-2158
Email: sales@nexcom.com
www.nexcomusa.com

Package Contents

Before continuing, verify that the NSA 3200 package that you received is complete. Your package should have all the items listed in the following table.

Item	Part Number	Name	Qty
1	60233AT133X00	SATA CABLE	2
2	6030000350X00	CONSOLE CABLE	1
3	5040210036X00	EAR SET	1
4	5044440031X00	RUBBER FOOT	4
5	5040150001X00	AL HANDLE	1
6	50311F0713X00	M.2 SCREW	1
7	50311F0144X00	SSD SCREW	8

Ordering Information

NSA 3200 (P/N: 10S00320000X0).

1U w/ 14th Gen Intel® Core™ processor, 8 x 2.5GbE RJ45 and 4 x 10GbE SFP+ ports, 1 x LAN module slot, single PSU

Chapter 1: Product Introduction

Overview

Key Features

- 14th Gen Intel® Core™ processor
- 2 x DDR5 ECC/non-ECC UDIMM slot, up to 64GB
- 2 x 2.5” SATA SSD slot
- 1 x M.2 2242 Key M slot for NVMe SSD
- 8 x 2.5GbE RJ45 port
- 4 x 10GbE SFP+ port
- 1 x PCIe 4.0 LAN module slot
- 2 x USB 3.2 Gen 1

Hardware Specifications

Main Board

- 14th Gen Intel® Core™ processor, up to 65W
- Intel® R680E, supports Intel® RST
- TPM 2.0 onboard
- Dual BIOS

Main Memory

- 2 x DDR5 5600/4800 UDIMM, ECC/non-ECC, up to 32GB per DIMM (dual channel)

Storage

- 2 x 2.5" SATA SSD slot
- 1 x M.2 Key M 2242 NVMe SSD

I/O Interface-External

- Buttons: Power & Reset
- LEDs: PWR/SYS/SSD/Bypass 1/Bypass 2/NEXBOOT
- 2 x USB 3.2 port
- 1 x RJ45 console port
- 1 x HDMI® port
- 8 x 2.5GbE RJ45 port
  - 4 x 2.5GbE RJ45 port with 2 x bypass pair
  - Reserve design for additional 8 x 2.5GbE RJ45 port
- 4 x 10GbE SFP+ ports
- 1 x PCIe 4.0 LAN module slot
- 1 x LCM
- 2 x Fixed smart fan
  - 1 x Additional fan for extension card (optional)

Expansion

- 1 x Riser card slot for additional 8 x 2.5GbE RJ45 port (optional)

Power

- 300W single power supply

Dimensions and Weight

- Chassis dimension: 438 x 300 x 44 mm
- Carton dimension: 539 x 500 x 194 mm
- Without packing: 5.37 kg
- With packing: 8.1 kg

Environment

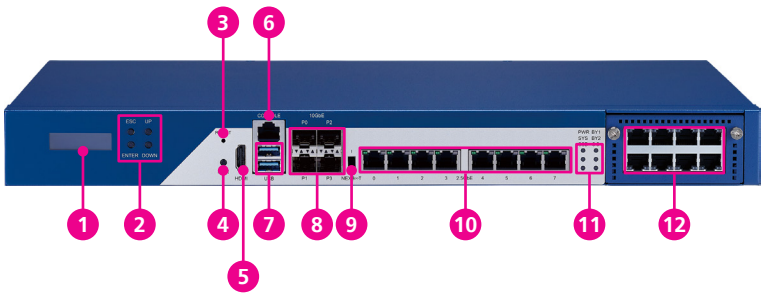
- Operating temperatures: 0°C~40°C
- Storage temperature: -40°C~80°C
- Relative humidity: 10%~90% non-condensing

Dimensions and Weight

- CE/FCC Class A
- CE-LVD

Knowing Your NSA 3200

Front Panel



1 LCM (Liquid Crystal Display Module)

The LCM is reserved for user-defined content and supports 2x16 characters.

2 LCM Control Buttons

3 Reset

Press and hold for 4 seconds to rest the system.

4 Power Button

Press to power on the system.
Press and hold for 1 second to power off the operating system.
Press and hold for 5 seconds to force the power off.

5 HDMI® 1.4a

6 RJ45 Console Port

7 USB 3.2 Type-A Ports

8 10GbE SFP+ Connectors

9 NEXB∞T Switch

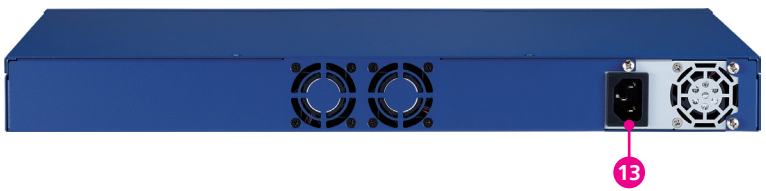
10 2.5GbE RJ45 Ports

11 LED Indicators

Refer to Chapter 2 for more detailed.

12 2.5GbE RJ45 Ports (Optional)

Rear Panel



13 AC Power Socket

FSP 300W ATX PSU, 100-240V AC

Chapter 2: Jumpers and Connectors

This chapter describes how to set the jumpers and connectors on the NSA 3200 motherboard.

Before You Begin

- Ensure you have a stable, clean working environment. Dust and dirt can get into components and cause a malfunction. Use containers to keep small components separated.
- Adequate lighting and proper tools can prevent you from accidentally damaging the internal components. Most of the procedures that follow require only a few simple tools, including the following:
  - A Philips screwdriver
  - A flat-tipped screwdriver
  - A set of jewelers screwdrivers
  - A grounding strap
  - An anti-static pad
- Using your fingers can disconnect most of the connections. It is recommended that you do not use needle-nosed pliers to disconnect connections as these can damage the soft metal or plastic parts of the connectors.
- Before working on internal components, make sure that the power is off. Ground yourself before touching any internal components, by touching a metal object. Static electricity can damage many of the electronic components. Humid environments tend to have less static electricity than dry environments. A grounding strap is warranted whenever danger of static electricity exists.

Precautions

Computer components and electronic circuit boards can be damaged by discharges of static electricity. Working on computers that are still connected to a power supply can be extremely dangerous.

Follow the guidelines below to avoid damage to your computer or yourself:

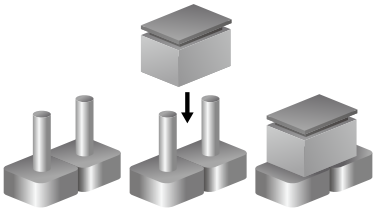
- Always disconnect the unit from the power outlet whenever you are working inside the case.
- If possible, wear a grounded wrist strap when you are working inside the computer case. Alternatively, discharge any static electricity by touching the bare metal chassis of the unit case, or the bare metal body of any other grounded appliance.
- Hold electronic circuit boards by the edges only. Do not touch the components on the board unless it is necessary to do so. Don't flex or stress the circuit board.
- Leave all components inside the static-proof packaging that they shipped with until they are ready for installation.
- Use correct screws and do not over tighten screws.

Jumper Settings

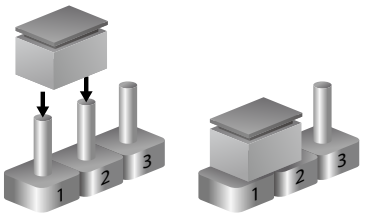
A jumper is the simplest kind of electric switch. It consists of two metal pins and a cap. When setting the jumpers, ensure that the jumper caps are placed on the correct pins. When the jumper cap is placed on both pins, the jumper is short. If you remove the jumper cap, or place the jumper cap on just one pin, the jumper is open.

Refer to the illustrations below for examples of what the 2-pin and 3-pin jumpers look like when they are short (on) and open (off).

Two-Pin Jumpers: Open (Left) and Short (Right)

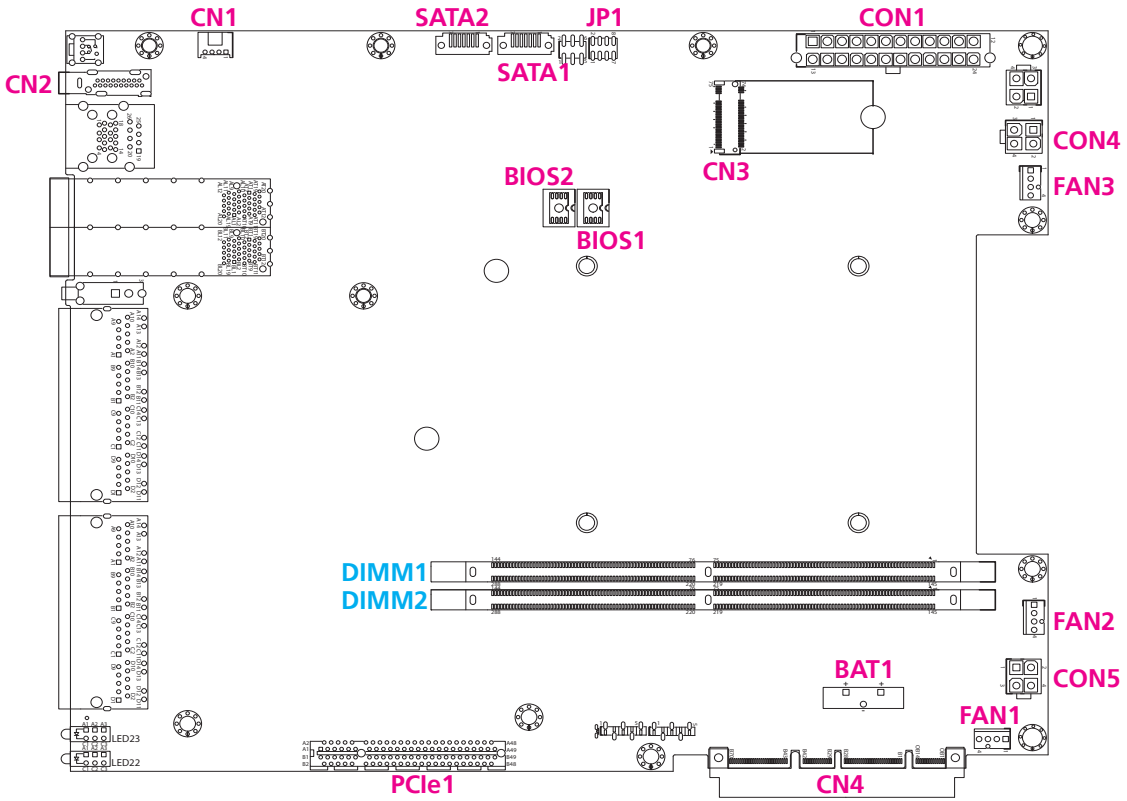


Three-Pin Jumpers: Pins 1 and 2 are Short



Locations of the Jumpers and Connectors

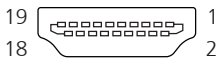
The figure below shows the location of the jumpers, headers, and connectors. Refer to this chapter for the detailed pin definitions of the connectors marked in pink.



External I/O Connectors

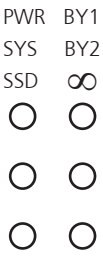
HDMI

Connector location: CN2



Pin	Definition	Type	Description
1	HDMI_DATA2_P_C	11	GND
2	GND	12	HDMI_CLK_N_C
3	HDMI_DATA2_N_C	13	NC
4	HDMI_DATA1_P_C	14	NC
5	GND	15	HDMI_CLK
6	HDMI_DATA1_N_C	16	HDMI_DAT
7	HDMI_DATA0_P_C	17	GND
8	GND	18	HDMI_PWR_C
9	HDMI_DATA0_N_C	19	HDMI_HPD_C
10	HDMI_CLK_P_C		

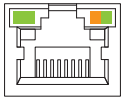
LED Indicators



LED Indicator	LED Status	Description
PWR (Power)	Off	Power off
	Steady green	System power is in S0 state
	Steady orange	System power is in S5 state
SYS (System)	Off	System power is in S5 state
	On	Boot up completion
	Blinking	System is in POST stage
SSD (Storage)	Off	Inactive
	Blinking	Data is being accessed

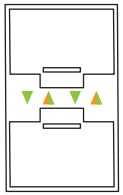
LED Indicator	LED Status	Description
BY1/ BY2	Off	Disconnect mode
	Green	Normal mode
	Orange	Bypass mode
∞ (Nexboot LED)	Off	Disable 2xFM / Power off
	Blinking green	Active OS running
	Steady green	active OS running
	Blinking orange	Golden OS running
	Steady orange	Golden OS ready
	Blinking green and orange	Blinking between the green and orange LEDs

LAN Port Indicators



LED Indicator	LED Status	Description
Link/Act (Left)	Off	Idel or disconnect
	Blinking green	LAN is active with traffic
Speed (Right)	Orange	1GbE link
	Green	2.5GbE link

SFP+ Port Indicators



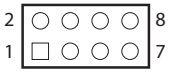
LED Indicator	LED Status	Description
Link/Act (Left)	Off	Inactive
	Blinking green	LAN is active with traffic
	Steady green	LAN is connected
Speed (Right)	Off	1GbE link
	Steady green	10GbE link

The left two LED indicators correspond to the upper connector, while the right two LED indicators correspond to the lower connector.

Internal Jumper

Clear CMOS/Power Mode

Connector location: JP1



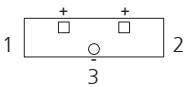
RTC Pin	Settings	AT/ATX Pin	Definition
1-3	Normal (default)	2-4	ATX (default)
3-5	Clean CMOS	4-6	AT

Pin	Definition	Pin	Definition
1	NC	2	+P3V3_EC
3	RTCRST_N	4	AT_ATX_SEL
5	GND	6	GND
7	+P3V_RTC	8	FP_PWR_BTN_N

Internal I/O Connectors

Battery Connector

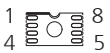
Connector location: BAT1



Pin	Definition	Pin	Definition
1, 2	RTC_BAT	3	GND

BIOS Socket

Connector location: BIOS1, BIOS2



BIOS1

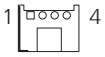
Pin	Definition	Pin	Definition
1	BIOS0_CS0#	5	+P3V3_AUX
2	BIOS0_MISO	6	BIOS0_IO3
3	BIOS0_IO2	7	BIOS0_SCK
4	GND	8	BIOS0_MOSI

BIOS2

Pin	Definition	Pin	Definition
1	BIOS1_CS0#	5	+P3V3_AUX
2	BIOS1_MISO	6	BIOS1_IO3
3	BIOS1_IO2	7	BIOS1_SCK
4	GND	8	BIOS1_MOSI

LCM

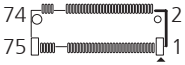
Connector location: CN1



Pin	Definition
1	GND
2	SP_LCM_RXD
3	SP_LCM_TXD
4	+P5V

M.2 Key M (2242)

Connector interface: PCIe 4.0 x4
Connector location: CN3



Pin	Definition	Pin	Definition
1	NGFF_CONFIG_3	2	+P3V3_NGFF
3	GND	4	+P3V3_NGFF
5	PCIE_X4_RXN3	6	NC
7	PCIE_X4_RXP3	8	NC
9	GND	10	NGFF_DSSN
11	PCIE_X4_TXN3	12	+P3V3_NGFF
13	PCIE_X4_TXP3	14	+P3V3_NGFF
15	GND	16	+P3V3_NGFF
17	PCIE_X4_RXN2	18	+P3V3_NGFF
19	PCIE_X4_RXP2	20	NC

Pin	Definition	Pin	Definition
21	NGFF_CONFIG_0	22	NC
23	PCIE_X4_TXN2	24	NC
25	PCIE_X4_TXP2	26	NC
27	GND	28	NC
29	PCIE_X4_RXN1	30	NC
31	PCIE_X4_RXP1	32	NC
33	GND	34	NC
35	PCIE_X4_TXN1	36	NC
37	PCIE_X4_TXP1	38	FM_M2_1_SSD_DEVSLP
39	GND	40	NC

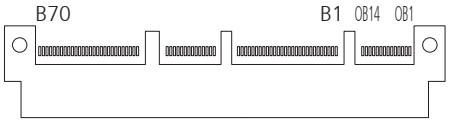
Continued on next page

Pin	Definition	Pin	Definition
41	PCIE_X4_RXN0	42	NC
43	PCIE_X4_RXP0	44	NC
45	GND	46	NC
47	PCIE_X4_TXN0	48	NC
49	PCIE_X4_TXP0	50	PLTRST_N_BUF
51	GND	52	SRCCLKREQ_N_2
53	PCIE_NVMe_CLKN	54	FM_LAN_WAKE_M2_N
55	PCIE_NVMe_CLKP	56	NC
57	GND	58	NC

Pin	Definition	Pin	Definition
59	NA	60	NA
61	NA	62	NA
63	NA	64	NA
65	NA	66	NA
67	NC	68	PCH_SUSCLK_33K_R_SSD
69	PEDET	70	+P3V3_NGFF
71	GND	72	+P3V3_NGFF
73	GND	74	+P3V3_NGFF
75	NGFF_CONFIG_2		

OCP Slot

Connector interface: PCIe 4.0 x8
Connector location: CN4



Pin	Definition	Pin	Definition
OA1	TEST POINT	OB1	TEST POINT
OA2	TEST POINT	OB2	TEST POINT
OA3	TEST POINT	OB3	TEST POINT
OA4	TEST POINT	OB4	TEST POINT
OA5	TEST POINT	OB5	TEST POINT
OA6	TEST POINT	OB6	TEST POINT
OA7	NC	OB7	TEST POINT
OA8	NC	OB8	NC
OA9	NC	OB9	NC
OA10	GND	OB10	GND
OA11	NC	OB11	NC
OA12	NC	OB12	NC
OA13	GND	OB13	GND
OA14	NC	OB14	NC

Pin	Definition	Pin	Definition
A1	GND	B1	+P12V
A2	GND	B2	+P12V
A3	GND	B3	+P12V
A4	GND	B4	+P12V
A5	GND	B5	+P12V
A6	GND	B6	+P12V
A7	SMB_CLK_OCP	B7	NC
A8	SMB_DAT_OCP	B8	NC
A9	NC	B9	NC
A10	GND	B10	PLTRST_N_BUF
A11	NC	B11	+P3V3_AUX
A12	NC	B12	FM_P3V3_AUX_EN
A13	GND	B13	GND
A14	CLK_PCIE_X8_OCP_N	B14	NC

Continued on next page

Pin	Definition	Pin	Definition
A15	CLK_PCIE_X8_OCP_P	B15	NC
A16	GND	B16	GND
A17	NC	B17	NC
A18	NC	B18	NC
A19	GND	B19	GND
A20	NC	B20	NC
A21	NC	B21	NC
A22	GND	B22	GND
A23	NC	B23	NC
A24	NC	B24	NC
A25	GND	B25	GND
A26	NC	B26	NC
A27	NC	B27	NC
A28	GND	B28	GND

Pin	Definition	Pin	Definition
A29	GND	B29	GND
A30	NC	B30	NC
A31	NC	B31	NC
A32	NC	B32	NC
A33	GND	B33	GND
A34	NC	B34	NC
A35	GND	B35	GND
A36	NC	B36	NC
A37	NC	B37	NC
A38	GND	B38	GND
A39	NC	B39	NC
A40	NC	B40	NC
A41	GND	B41	GND
A42	NC	B42	NC

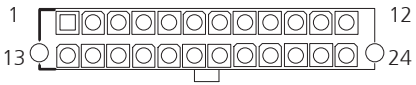
Continued on next page

Pin	Definition	Pin	Definition
A43	GND	B43	GND
A44	PCIE_X16_RXN0	B44	PCIE_X16_OCP_TXN0
A45	PCIE_X16_RXP0	B45	PCIE_X16_OCP_TXP0
A46	GND	B46	GND
A47	PCIE_X16_RXN1	B47	PCIE_X16_OCP_TXN1
A48	PCIE_X16_RXP1	B48	PCIE_X16_OCP_TXP1
A49	GND	B49	GND
A50	PCIE_X16_RXN2	B50	PCIE_X16_OCP_TXN2
A51	PCIE_X16_RXP2	B51	PCIE_X16_OCP_TXP2
A52	GND	B52	GND
A53	PCIE_X16_RXN3	B53	PCIE_X16_OCP_TXN3
A54	PCIE_X16_RXP3	B54	PCIE_X16_OCP_TXP3
A55	GND	B55	GND
A56	PCIE_X16_RXN4	B56	PCIE_X16_OCP_TXN4

Pin	Definition	Pin	Definition
A57	PCIE_X16_RXP4	B57	PCIE_X16_OCP_TXP4
A58	GND	B58	GND
A59	PCIE_X16_RXN5	B59	PCIE_X16_OCP_TXN5
A60	PCIE_X16_RXP5	B60	PCIE_X16_OCP_TXP5
A61	GND	B61	GND
A62	PCIE_X16_RXN6	B62	PCIE_X16_OCP_TXN6
A63	PCIE_X16_RXP6	B63	PCIE_X16_OCP_TXP6
A64	GND	B64	GND
A65	PCIE_X16_RXN7	B65	PCIE_X16_OCP_TXN7
A66	PCIE_X16_RXP7	B66	PCIE_X16_OCP_TXP7
A67	GND	B67	GND
A68	NC	B68	NC
A69	NC	B69	NC
A70	NC	B70	NC

Power Connector

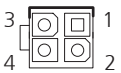
Connector location: CON1



Pin	Definition	Pin	Definition
1	+P3V3	13	+P3V3
2	+P3V3	14	NC
3	GND	15	GND
4	+P5V	16	FM_PS_EN_PSU_N
5	GND	17	GND
6	+P5V	18	GND
7	GND	19	GND
8	PS_PWROK_R	20	NC
9	+P5V_AUX	21	+P5V
10	+P12V	22	+P5V
11	+P12V	23	+P5V
12	+P3V3	24	GND

Power Connector (12V only)

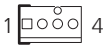
Connector location: CON2, CON4, CON5



Pin	Definition	Pin	Definition
1	GND	3	+P12V
2	GND	4	+P12V

Fan Connector

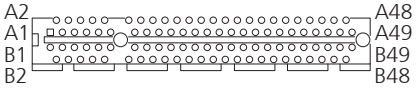
Connector location: FAN1, FAN2, FAN3



Pin	Definition
1	GND
2	+P12V_FAN1
3	EC_FAN1_TACH_R
4	EC_FAN1_PWM_R

PCIe Slot

Connector interface: PCIe 4.0 x8
Connector location: PCIe1



Pin	Definition	Pin	Definition
A1	GND	B1	+P12V
A2	+P12V	B2	+P12V
A3	+P12V	B3	+P12V
A4	GND	B4	+P12V
A5	NC	B5	+P12V
A6	NC	B6	+P12V
A7	NC	B7	NC
A8	NC	B8	+P3V3
A9	+P3V3	B9	NC
A10	+P3V3	B10	+P3V3_AUX
A11	DB_RST_N	B11	+P3V3_AUX
A12	GND	B12	NC
A13	PCIE_CLK_SLOT_P	B13	GND

Pin	Definition	Pin	Definition
A14	PCIE_CLK_SLOT_N	B14	PCIE_LAN16_TXP
A15	GND	B15	PCIE_LAN16_TXN
A16	PCIE_LAN16_RXP	B16	GND
A17	PCIE_LAN16_RXN	B17	NC
A18	GND	B18	GND
A19	NC	B19	PCIE_LAN15_TXP
A20	GND	B20	PCIE_LAN15_TXN
A21	PCIE_LAN15_RXP	B21	GND
A22	PCIE_LAN15_RXN	B22	GND
A23	GND	B23	PCIE_LAN14_TXP
A24	GND	B24	PCIE_LAN14_TXN
A25	PCIE_LAN14_RXP	B25	GND
A26	PCIE_LAN14_RXN	B26	GND

Continued on next page

Pin	Definition	Pin	Definition
A27	GND	B27	PCIE_LAN13_TXP
A28	GND	B28	PCIE_LAN13_TXN
A29	PCIE_LAN13_RXP	B29	GND
A30	PCIE_LAN13_RXN	B30	GND
A31	NC	B31	NC
A32	NC	B32	GND
A33	NC	B33	PCIE_LAN12_TXP
A34	GND	B34	PCIE_LAN12_TXN
A35	PCIE_LAN12_RXP	B35	GND
A36	PCIE_LAN12_RXN	B36	GND
A37	GND	B37	PCIE_LAN11_TXP
A38	GND	B38	PCIE_LAN11_TXN

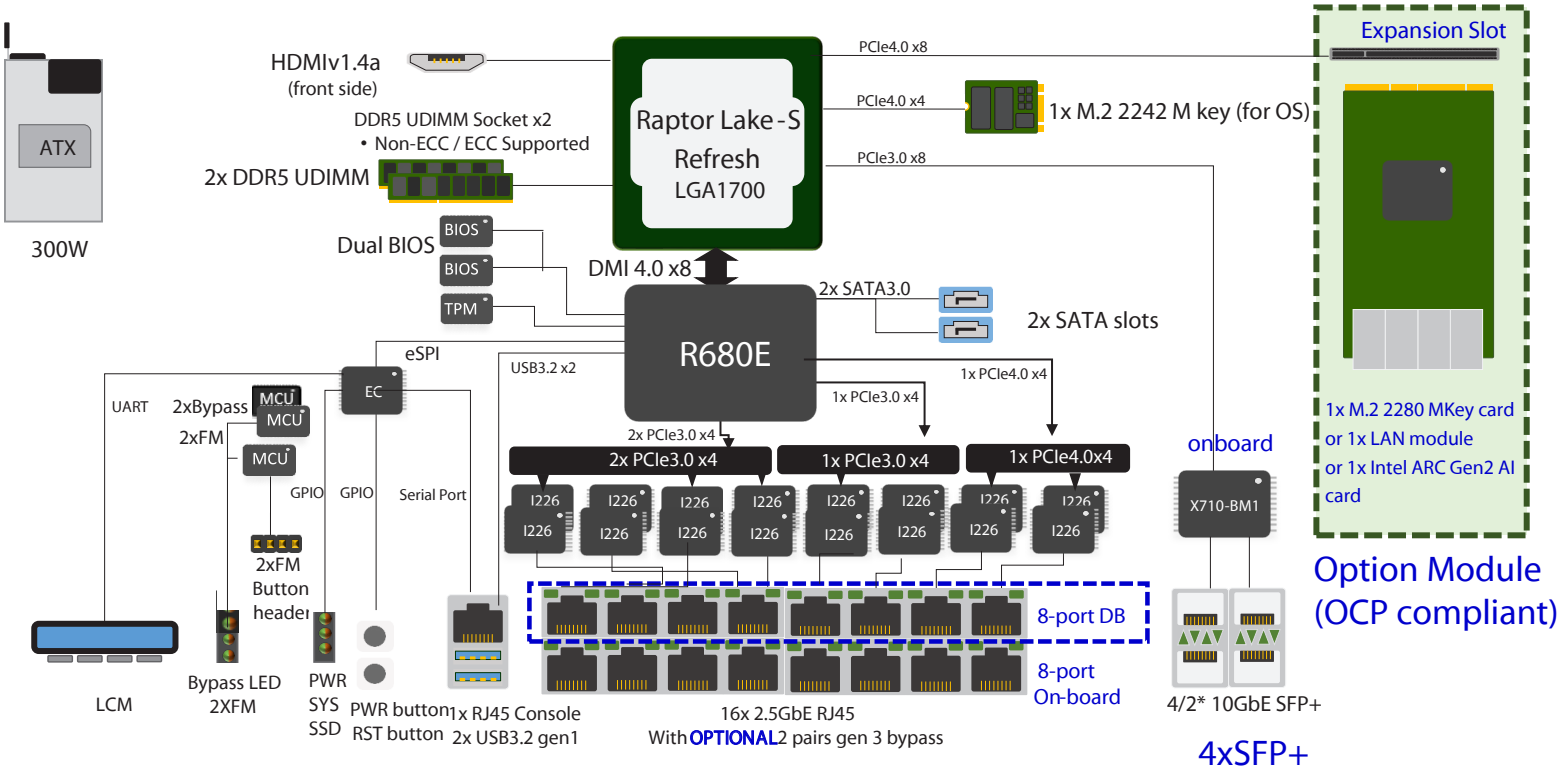
Pin	Definition	Pin	Definition
A39	PCIE_LAN11_RXP	B39	GND
A40	PCIE_LAN11_RXN	B40	GND
A41	GND	B41	PCIE_LAN10_TXP
A42	GND	B42	PCIE_LAN10_TXN
A43	PCIE_LAN10_RXP	B43	GND
A44	PCIE_LAN10_RXN	B44	GND
A45	GND	B45	PCIE_LAN9_TXP
A46	GND	B46	PCIE_LAN9_TXN
A47	PCIE_LAN9_RXP	B47	GND
A48	PCIE_LAN9_RXN	B48	NC
A49	GND	B49	GND

SATA Connector

Connector location: SATA1, SATA2

Pin	Definition
1	GND
2	SATA_TX_DP
3	SATA_TX_DN
4	GND
5	SATA_RX_DN
6	SATA_RX_DP
7	GND

Block Diagram



Chapter 3: System Setup

Removing the Chassis Cover

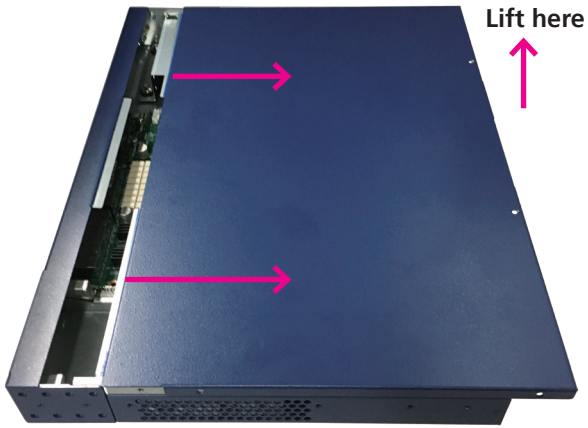
Prior to removing the chassis cover, make sure the unit's power is off and disconnected from the power sources to prevent electric shock or system damage.

1. Remove the screws around the chassis cover then put them in a safe place for later use.

Screws on the top

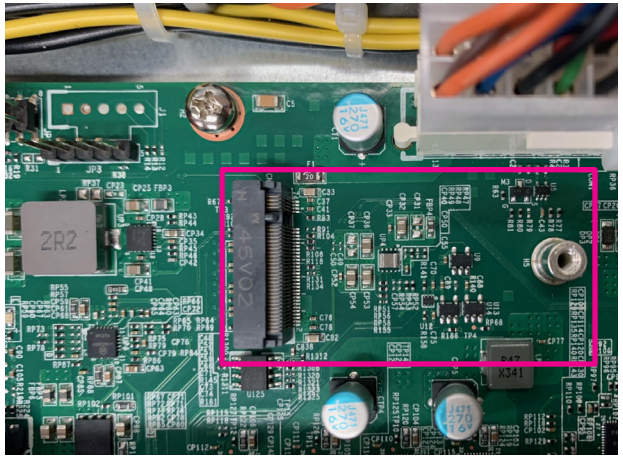
Screws on the sides

2. Gently slide the cover outwards, then lift up the cover to remove it.

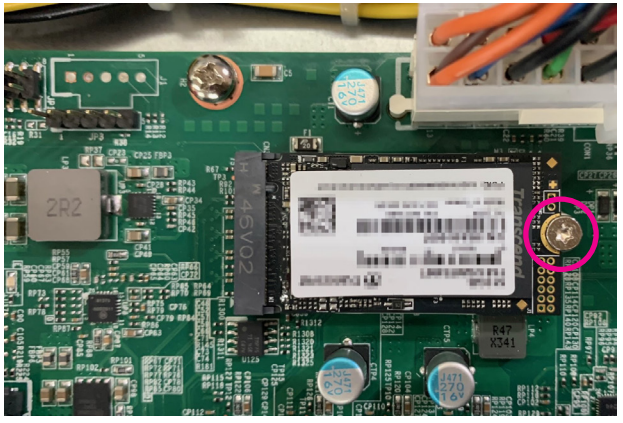


Installing an M.2 Module

1. Locate the M.2 slot on the motherboard.

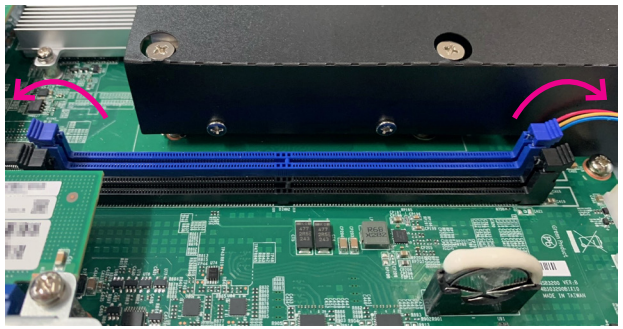


2. Insert the M.2 module into the M.2 slot at a 45-degree angle until the gold-plated connector on the edge of the module completely disappears into the slot, then push the module down and secure it with a screw.

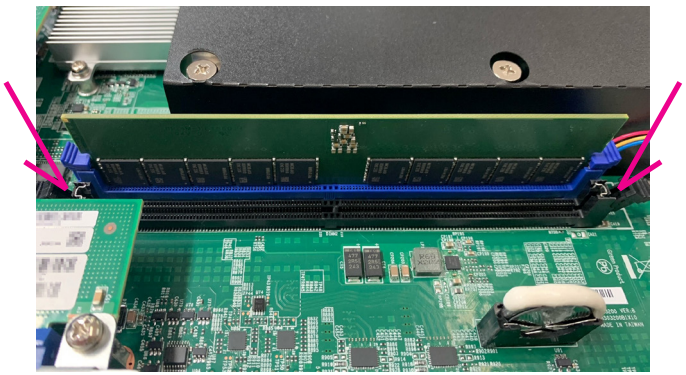


Installing DIMM Memory Modules

1. Locate the DIMM socket on the motherboard and release the locks on both sides of the socket.



2. Insert the module into the socket at an 90 degree angle. Apply firm, even pressure to each end of the module until it slips into the socket. While pushing the module into position, the locks on both sides will close automatically.



3. Repeat the steps above to insert the second memory module if required.

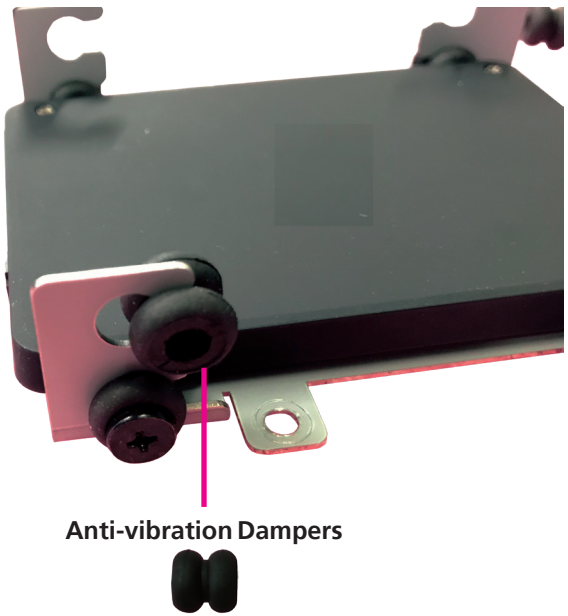
Two memory slots are available, and there is no issue with the installation order.

Installing a 2.5” SATA Hard Drive

Please correctly follow the below instructions and noted items to avoid making unnecessary damages.

The storage drive bracket is used to secure storage drives to the system. Up to 2 storage drives can be installed.

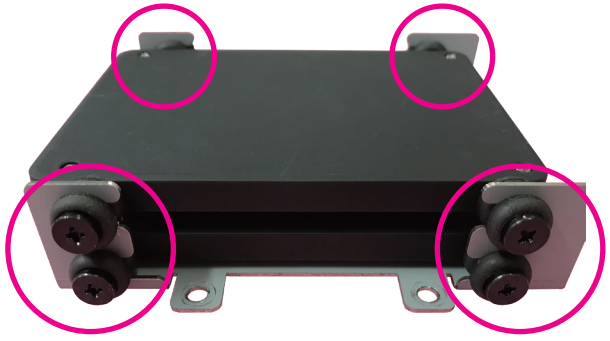
1. Slide the four anti-vibration dampers into the mounting holes on the storage drive bracket.



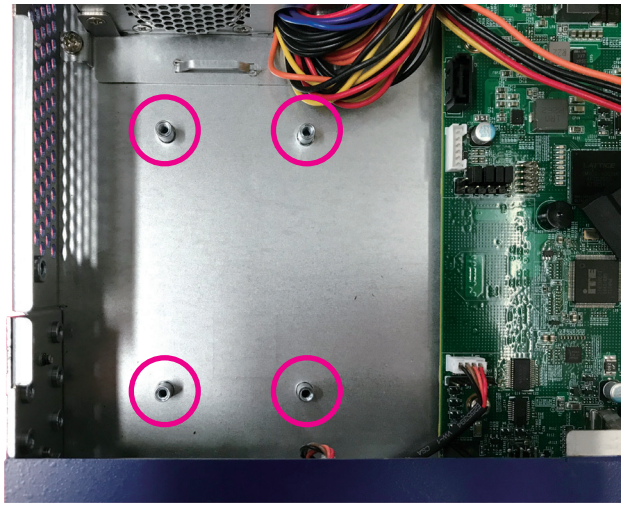
2. With the anti-vibration dampers installed, insert the mounting screws through the dampers.

3. Align the mounting holes that are on the sides of the storage drive to the mounting screws.

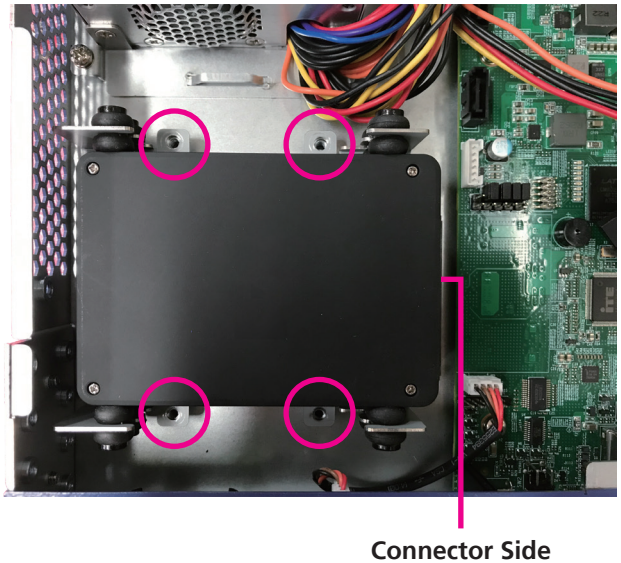
4. Fasten the screws to secure the storage drive in place.



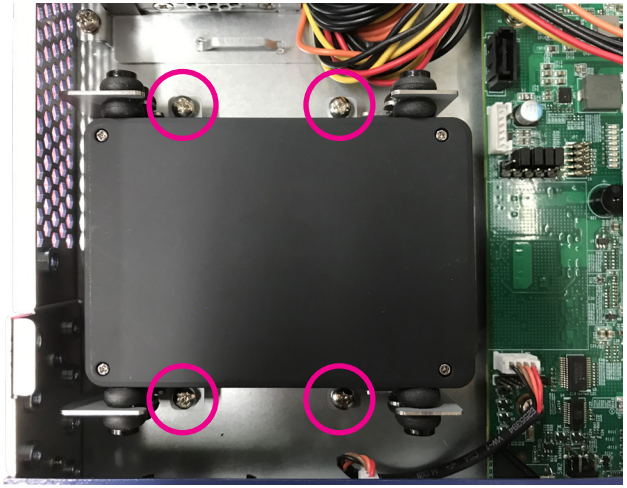
5. Locate the four mounting holes inside the chassis. This is where the storage bracket will be installed.



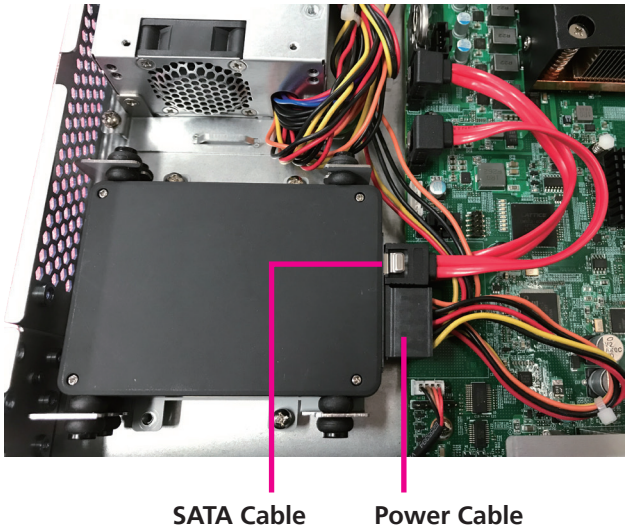
6. Place the storage bracket into the chassis with the connector side facing the board, and the mounting holes on the bracket aligned to the mounting holes inside the chassis.



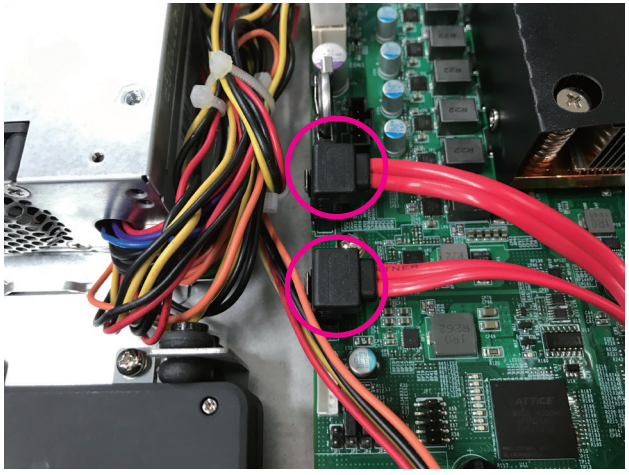
7. Secure the bracket in place with screws.



8. Connect the SATA data and power cables to the respective connectors on the storage drives.



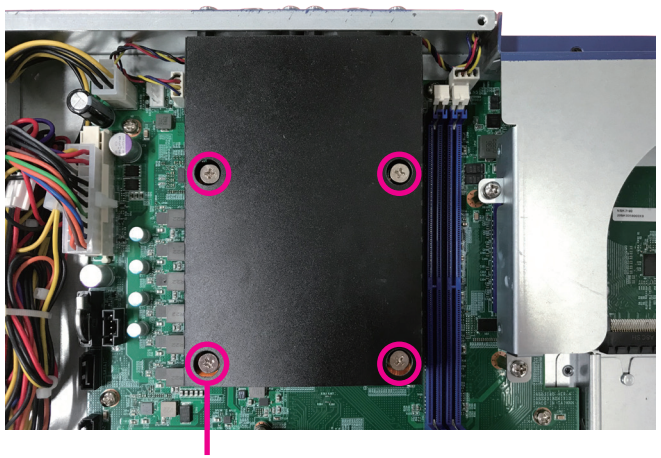
9. Connect the other ends of the SATA data cables to the respective connectors on the motherboard.



Installing a CPU

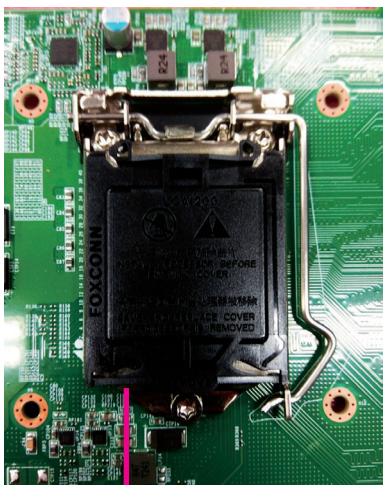
- Before you proceed, make sure (1) the CPU socket comes with a protective cap, (2) the cap is not damaged and (3) the socket's contact pins are not bent.
- Make sure all power cables are unplugged before you install the CPU.
- The CPU socket must not come in contact with anything other than the CPU. Avoid unnecessary exposure. Remove the protective cap only when you are about to install the CPU.

1. Remove the mounting screws that secure the heat sink to the chassis.



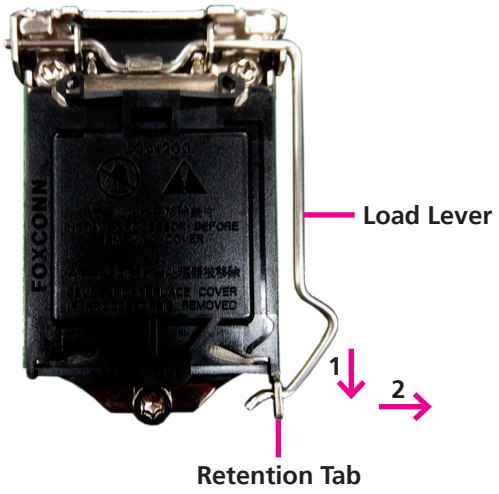
Mounting Screw

2. The CPU socket is readily accessible after you have removed the heat sink.

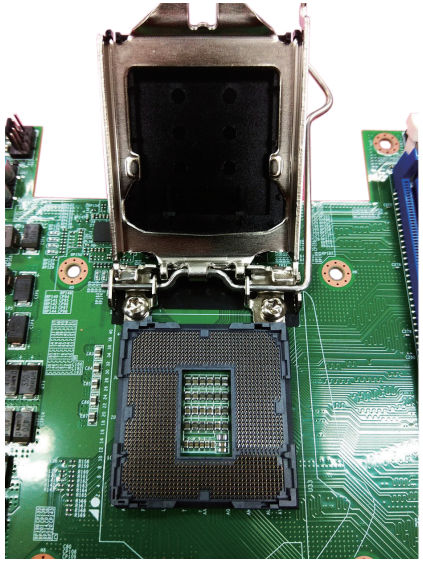


CPU Socket

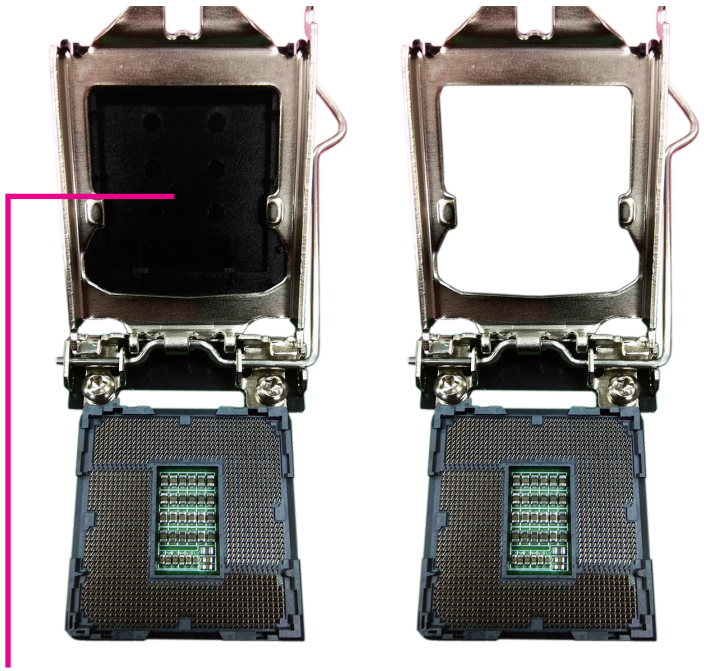
3. Unlock the socket by pushing the load lever down (1), moving it sideways (2) until it is released from the retention tab; then lift the load lever up.



4. Lifting the load lever will at the same time lift the load plate.

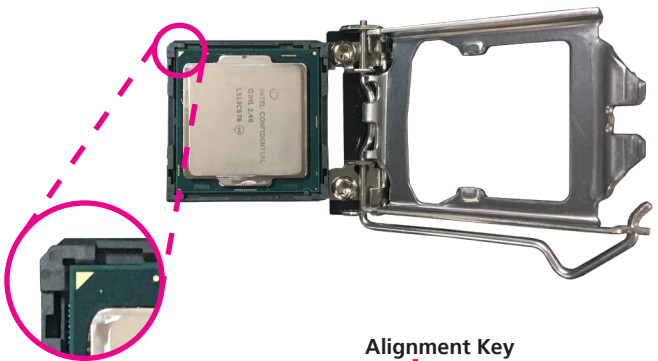


5. Remove the protective cap from the CPU socket. The cap is used to protect the CPU socket against dust and harmful particles. Remove the protective cap only when you are about to install the CPU.

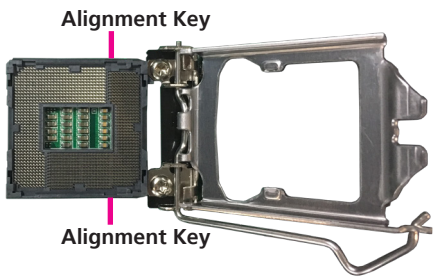


Protective Cap

6. Insert the CPU into the socket. The triangular edge on the CPU must align with the corner of the CPU socket shown on the photo.



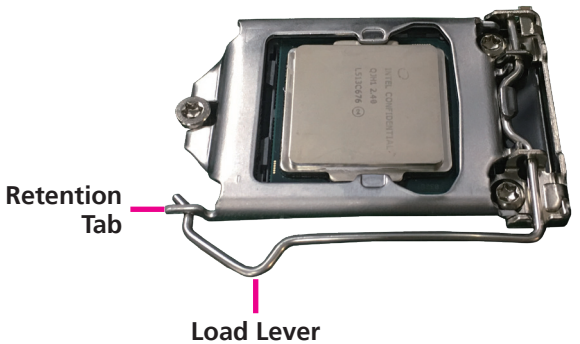
The CPU's notch will at the same time fit into the socket's alignment key.



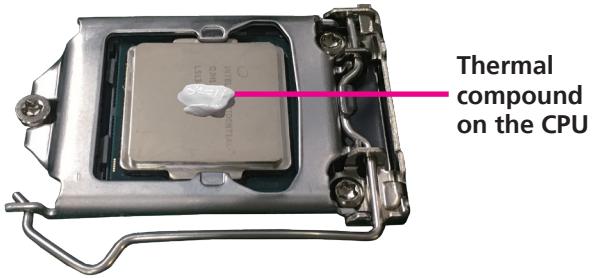
- Handle the CPU by its edges and avoid touching the pins.
- The CPU will fit in only one orientation and can easily be inserted without exerting any force.
- Do not force the CPU into the socket. Forcing the CPU into the socket may bend the pins and damage the CPU.

7. Close the load plate and then push the load lever down. While closing the load plate, make sure the front edge of the load plate slides under the retention knob.

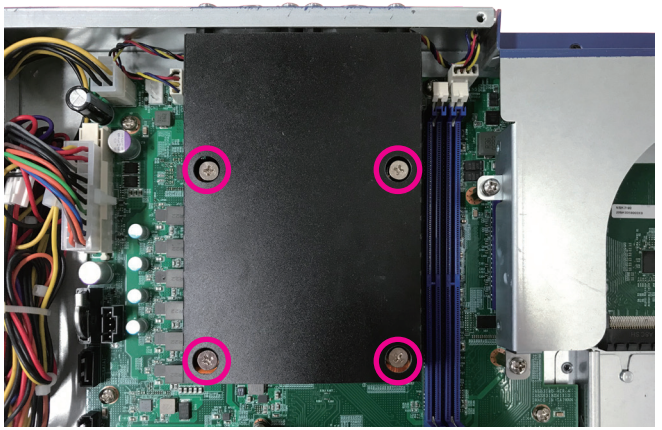
8. Hook the load lever under the retention tab.



9. Apply thermal compound on top of the CPU. Do not spread the compound all over the surface. When you later place the heat sink on top of the CPU, the compound will disperse evenly.



10. Install the heat sink back to its original location and tighten the screws to secure the heat sink in place.



Chapter 4: BIOS Setup

This chapter describes how to use the BIOS setup program for NSA 3200. The BIOS screens provided in this chapter are for reference only and may change if the BIOS is updated in the future.

To check for the latest updates and revisions, visit the NEXCOM website at www.nexcom.com.tw.

About BIOS Setup

The BIOS (Basic Input and Output System) Setup program is a menu driven utility that enables you to make changes to the system configuration and tailor your system to suit your individual work needs. It is a ROM-based configuration utility that displays the system's configuration status and provides you with a tool to set system parameters.

These parameters are stored in non-volatile battery-backed-up CMOS RAM that saves this information even when the power is turned off. When the system is turned back on, the system is configured with the values found in CMOS.

With easy-to-use pull down menus, you can configure such items as:

- Hard drives, diskette drives, and peripherals
- Video display type and display options
- Password protection from unauthorized use
- Power management features

The settings made in the setup program affect how the computer performs. It is important, therefore, first to try to understand all the setup options, and second, to make settings appropriate for the way you use the computer.

When to Configure the BIOS

- This program should be executed under the following conditions:
- When changing the system configuration
- When a configuration error is detected by the system and you are prompted to make changes to the setup program
- When resetting the system clock
- When redefining the communication ports to prevent any conflicts
- When making changes to the Power Management configuration
- When changing the password or making other changes to the security setup

Normally, CMOS setup is needed when the system hardware is not consistent with the information contained in the CMOS RAM, whenever the CMOS RAM has lost power, or the system features need to be changed.

Default Configuration

Most of the configuration settings are either predefined according to the Load Optimal Defaults settings which are stored in the BIOS or are automatically detected and configured without requiring any actions. There are a few settings that you may need to change depending on your system configuration.

Entering Setup

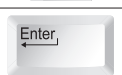
When the system is powered on, the BIOS will enter the Power-On Self Test (POST) routines. These routines perform various diagnostic checks; if an error is encountered, the error will be reported in one of two different ways:

- If the error occurs before the display device is initialized, a series of beeps will be transmitted.
- If the error occurs after the display device is initialized, the screen will display the error message.

Powering on the computer and immediately pressing 

allows you to enter Setup.

Legends

Key	Function
	Moves the highlight left or right to select a menu.
	Moves the highlight up or down between sub-menu or fields.
	Exits the BIOS Setup Utility.
	Scrolls forward through the values or options of the highlighted field.
	Scrolls backward through the values or options of the highlighted field.
	Selects a field.
	Displays General Help.
	Load previous values.
	Load optimized default values.
	Saves and exits the Setup program.
	Press <Enter> to enter the highlighted sub-menu

Scroll Bar

When a scroll bar appears to the right of the setup screen, it indicates that there are more available fields not shown on the screen. Use the up and down arrow keys to scroll through all the available fields.

Submenu

When "▶" appears on the left of a particular field, it indicates that a submenu which contains additional options are available for that field. To display the submenu, move the highlight to that field and press 

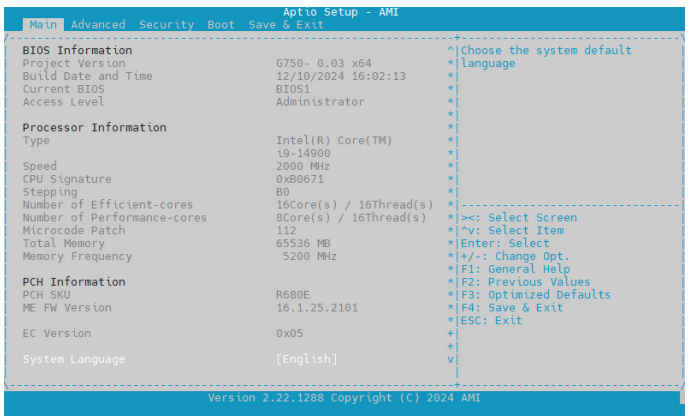
.

BIOS Setup Utility

Once you enter the AMI BIOS Setup Utility, the Main Menu will appear on the screen. The main menu allows you to select from several setup functions and one exit. Use arrow keys to select among the items and press Enter to accept or enter the submenu.

Main

The Main menu is the first screen that you will see when you enter the BIOS Setup Utility.



System Language
Choose the system default language.

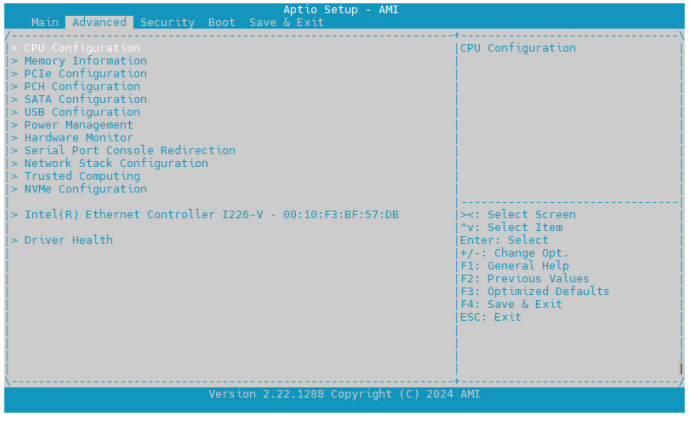
System Date
The date format is <day>, <month>, <date>, <year>. Day displays a day, from Monday to Sunday. Month displays the month, from January to December. Date displays the date, from 1 to 31. Year displays the year, from 1998 to 9999.

System Time
The time format is <hour>, <minute>, <second>. The time is based on the 24-hour military-time clock. For example, 1 p.m. is 13:00:00. Hour displays hours from 00 to 23. Minute displays minutes from 00 to 59. Second displays seconds from 00 to 59.

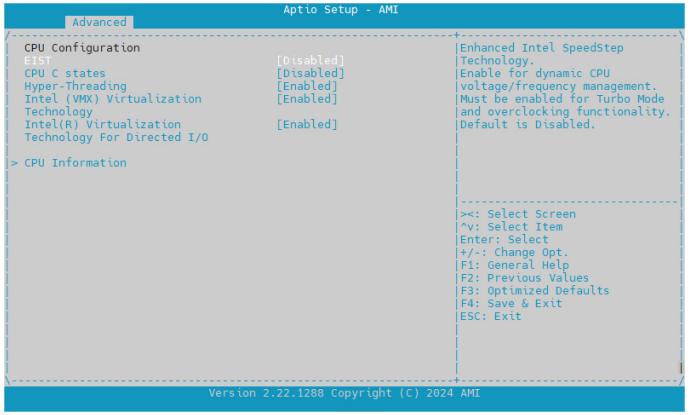
Advanced

The Advanced menu allows you to configure your system for basic operation. Some entries are defaults required by the system board, while others, if enabled, will improve the performance of your system or let you set some features according to your preference.

Setting incorrect field values may cause the system to malfunction.



CPU Configuration



BIST
Enhanced Intel Speedstep Technology. Enable for dynamic CPU voltage/ frequency management. Must be enabled for turob mode and overclocking functionality. Default is disabled.

CPU C states
Enable or disable CPU C states.

Hyper-Threading
Intel HT Technology provide two logical cores per physical CPU core, when enalbed. Improves simultaneous processing of threads for improved efficiency and performance boost for multithread apps. Defautl is enabled.

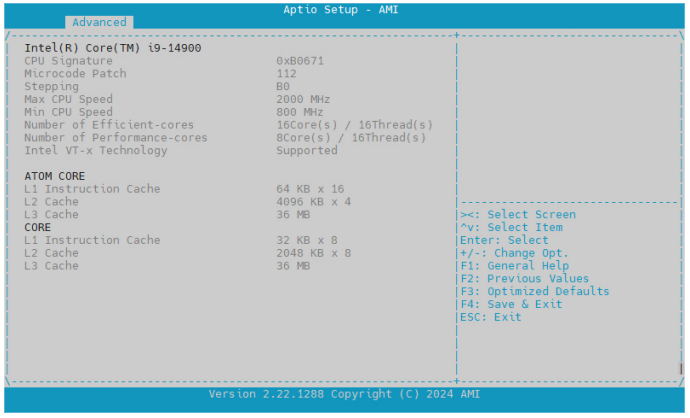
Intel (VMX) Virtualization Technology
When enabled, the VMM can utilize the additional hardware capabilities provided by Vanderpool Technology.

Intel(R) Virtualization Technology for Directed I/O
Enable or disable Intel Virtualization Technology for directed I/O (VT-d). Default is enabled.

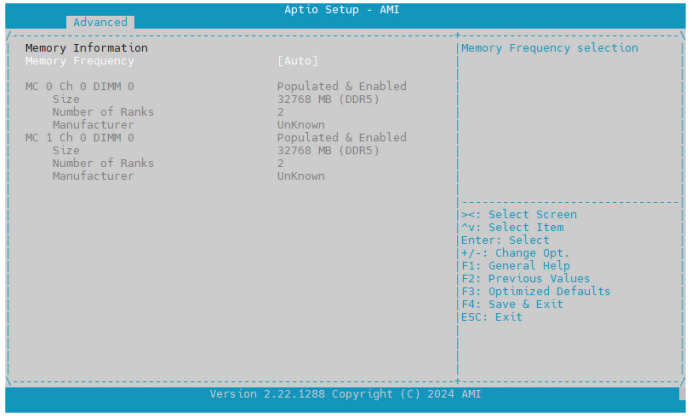
CPU Information
Enter the CPU information submenu.

CPU Information

Display the information about the installed CPU.



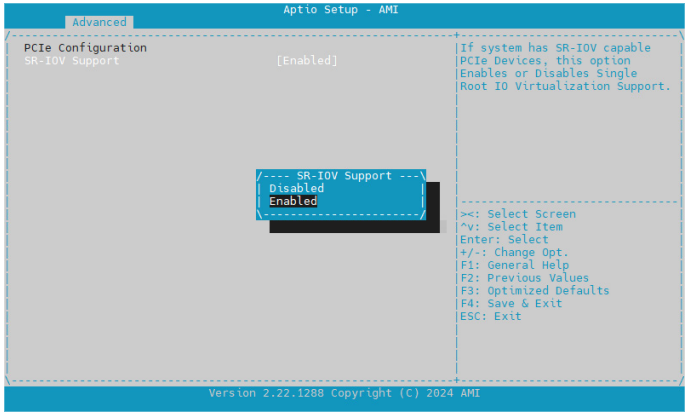
Memory Information



Memory Frequency

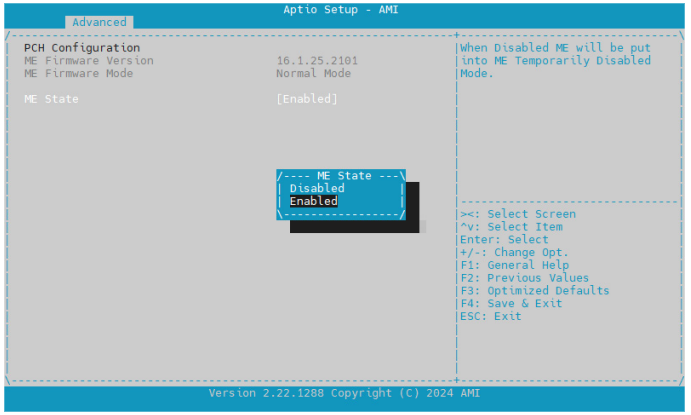
Configure the memory frequency.

PCIe Configuration



SR-IOV Support
In the system has SR-IOV capable PCIe devices, this option enables or disables Single Root IO Virtualization support.

PCH Configuration



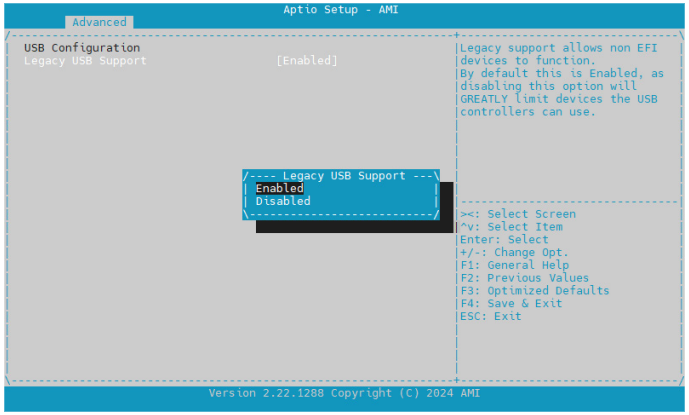
ME State
When disabled ME will be put into ME Temporarily Disabled Mode.

SATA Configuration

Enable VMD controller
Enable or disable the VMD controller.

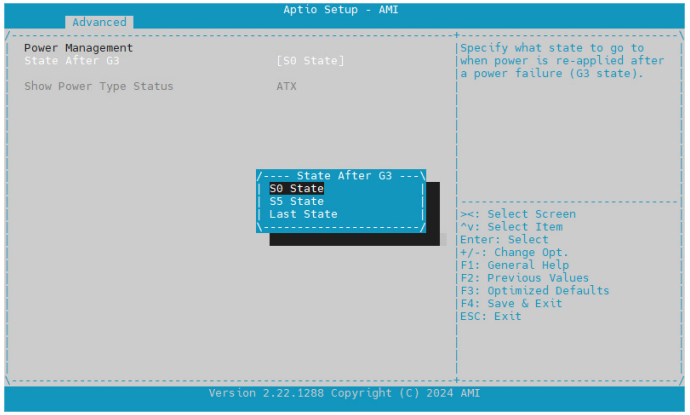
Hot Plug (Serial ATA Port 0/1)
Enable or disable hot plug functionality for this SATA port.

USB Configuration



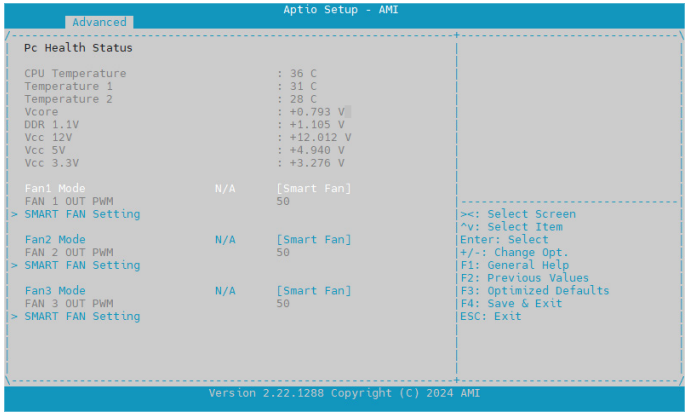
Legacy USB Support
Legacy support allows non EFI devices to function. By default this is enabled, as disabling this option will greatly limit devices the USB controllers can use.

Power Management



State After G3
Specify what state to go to when power is re-applied after a power failure (G3 state).

Hardware Monitor

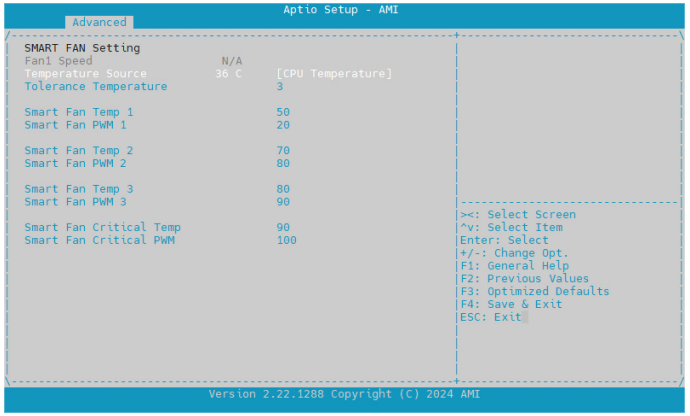


Fan Mode 1/2/3
Configure the fan mode for the system.

FAN 1/2/3 OUT PWM
The valid range is 0 to 100. By default, the value is 50.

Smart FAN Setting
Enter the Smart FAN Setting submenu.

Smart Fan Setting



Temperature Source
Configure the temperature source from CPU or from a configured temperature level.

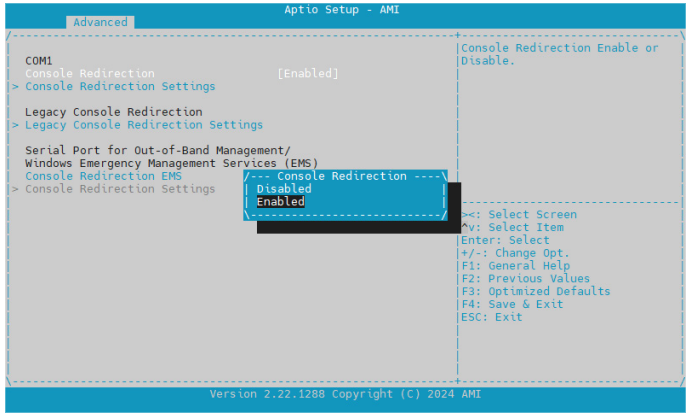
Smart Fan Temp 1/2/3
Configure the temperature level for the fan between 0 to 100°C.

Smart Fan PWM 1/2/3
Configure the fan speed, the valid range is 0 to 100.

Smart Fan Critical Temp
Configure the critical temperature level for the fan between 0 to 100°C.

Smart Fan Critical PWM 1/2/3
Configure the critical fan speed, the valid range is 0 to 100.

Serial Port Console Redirection



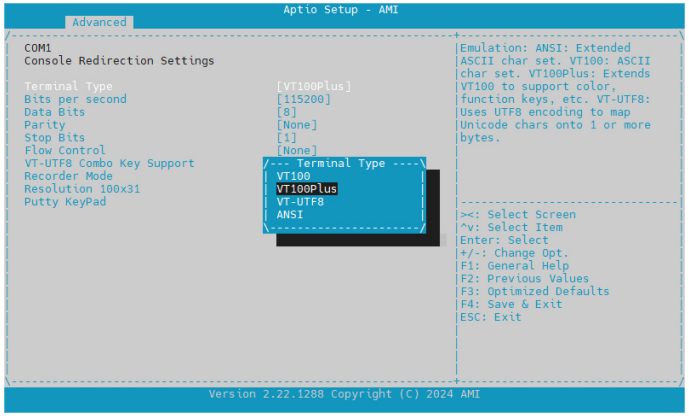
Console Redirection
Enable or disable console redirection for COM1.

Console Redirection Settings
The settings specify how the host computer and the remote computer (which the user is using) will exchange data. Both computers should have the same or compatible settings.

Legacy Console Redirection Settings
Enter the Legacy Console Redirection Settings submenu.

Console Redirection EMS
Enable or disable console redirection EMS.

Console Redirection Settings



Terminal Type

VT100	ASCII character set.
VT100Plus	Extends VT100 to support color, function keys, etc.
VT-UTF8	Uses UTF8 encoding to map Unicode characters onto 1 or more bytes.
ANSI	Extended ASCII character set.

Bits per second
Select a serial port transmission speed. The speed must be matched on the other side. Long or noisy lines may require lower speeds. The options are 9600, 19200, 38400, 57600, and 115200.

Data Bits
The options are 7 and 8.

Parity
A parity bit can be sent with the data bits to detect some transmission errors

Even	Parity bit is 0 if number of 1's in the data bits is even.
Odd	Parity bit is 0 if number of 1's in the data bit is odd.
Mark	Parity bit is always 1.
Space	Parity bit is always 0.

Mark and Space Parity do not allow for error detection.

Stop Bits
Stop bits indicate the end of a serial data packet. (A start bit indicates the beginning). The standard setting is 1 stop bit. Communication with slow devices may require more than 1 stop bit.

Flow Control
Flow control can 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 re-start the flow. Hardware flow control uses two wires to send start/stop signals.

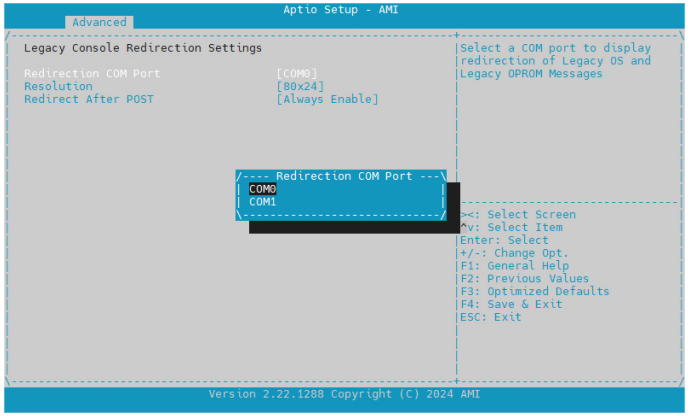
VT-UTF8 Combo Key Support
Enable VT-UTF8 combination key support for ANSI / VT100 terminals.

Recorder Mode
With this mode enabled, only text will be sent. This is to capture the terminal data.

Resolution 100x31
Enable or disable extended terminal resolution.

Putty KeyPad
Select FunctionKey and KeyPad on Putty. The available options are VT100, LINUX, XTERMR6, SCO, ESCN, and VT400.

Legacy Console Redirection Settings

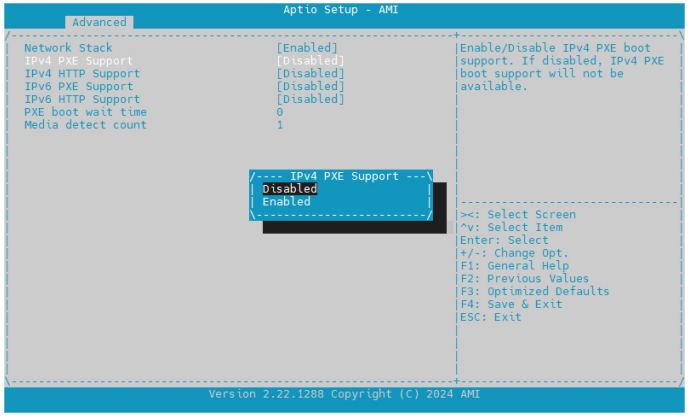


Redirection COM Port
Select a COM port to display redirection of the legacy OS and the legacy OPROM messages.

Resolution
On legacy OS, the number of rows and columns supported redirection.

Redirection After POST
When Bootloader is selected, legacy console redirection is disabled before booting to legacy OS. When Always Enable (default) is selected, legacy console redirection is enabled for legacy OS.

Network Stack Configuration



Network Stack
Enable or disable UEFI network stack. Once enabled, more options will be available for configuration.

IPv4 PXE Support
Enable or disable IPv4 PXE boot support. If disabled, the IPv4 PXE boot support will not be available.

IPv4 HTTP Support
Enable or disable IPv4 HTTP boot support. If disabled, the IPv4 HTTP boot support will not be available.

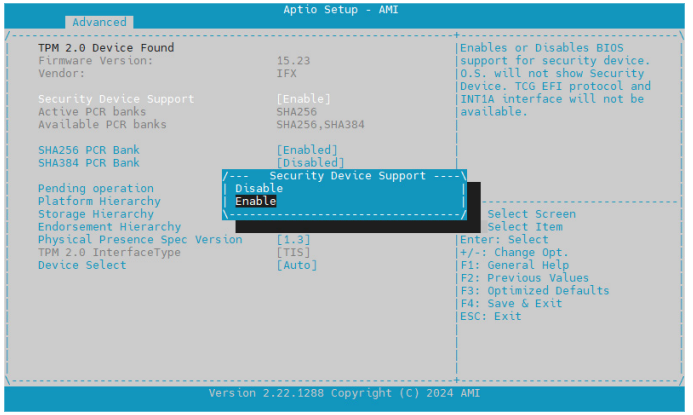
IPv6 PXE Support
Enable or disable IPv6 PXE boot support. If disabled, the IPv6 PXE boot option will not be available.

IPv6 HTTP Support
Enable or disable IPv6 HTTP boot support. If disabled, the 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.

Trusting Computing



Security Device Support
Enable or disable BIOS support for security device. O.S will not show Security Device. TCG EFI protocol and INT1A interface will not be available.

SHA256 PCR Bank
Enable or disable SHA256 PCR Bank.

SHA384 PCR Bank
Enable or disable SHA384 PCR Bank.

Pending operation
Schedule an operation for the security device. Note: Your computer will reboot during restart in order to change state of security device.

Platform Hierarchy
Enable or disable the platform hierarchy.

Storage Hierarchy
Enable or disable the storage hierarchy.

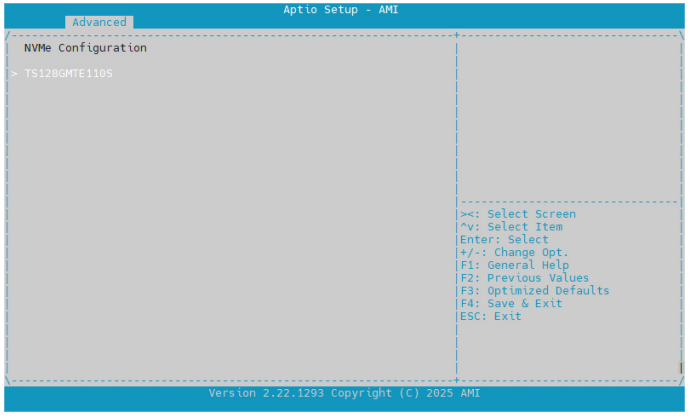
Endorsement Hierarchy
Enable or disable the endorsement hierarchy.

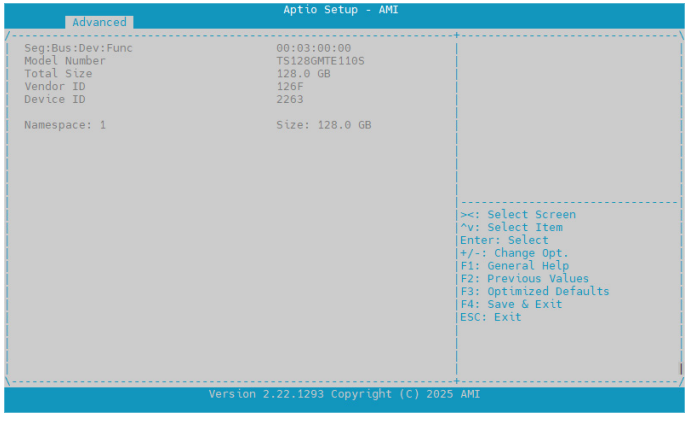
Physical Presence Spec Version
Select to tell OS to support PPI spec version 1.2 or 1.3. Note: Some HCK tests might not support 1.3.

Device Select
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 it's not found, TPM 1.2 device will be enumerated.

NVMe Configuration

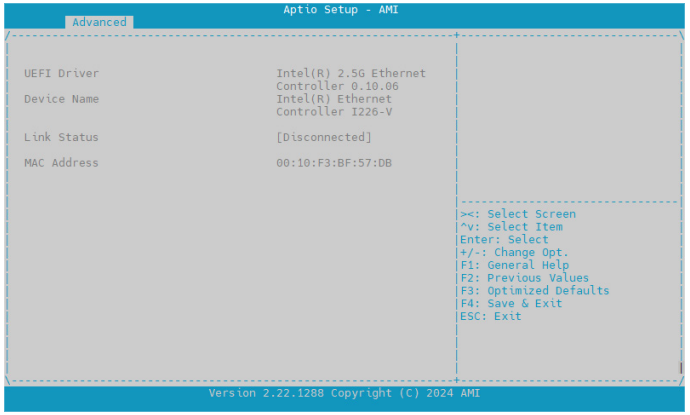
This section displays the information about installed NVMe devices. The submenu will appear and show by its model name when an NVMe device is installed.





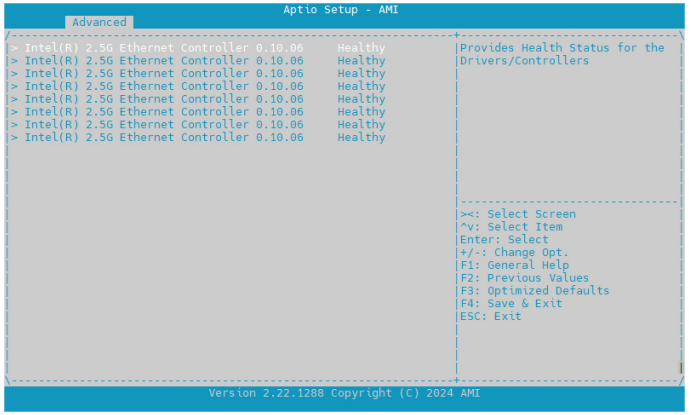
Intel(R) Ethernet Controller I226-V

This section displays the relevant information of the system Ethernet controller.

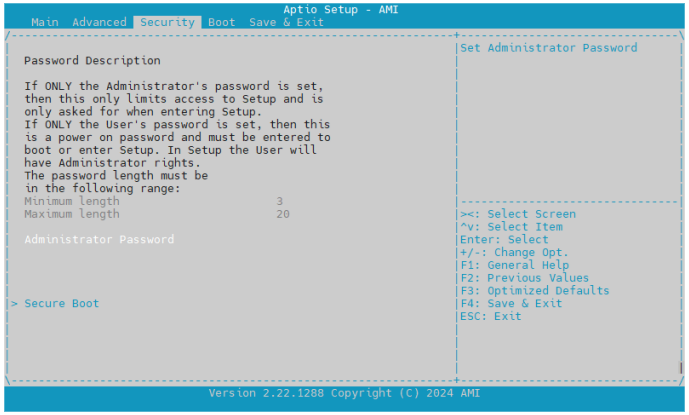


Driver Healthy

This section provides healthy status for the drivers or controllers.



Security



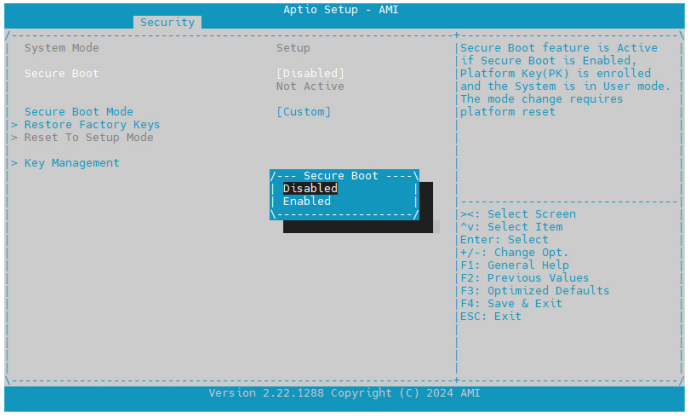
Administrator Password
Select this to reconfigure the administrator's password.

User Password
Select this to set a user password.

Secure Boot
Enter the Secure Boot submenu.

Secure Boot

This section provides healthy status for the drivers or controllers.



Secure Boot

Secure Boot feature is active if Secure Boot is enabled, Platform Key (PK) is enrolled and the system is in User mode. The mode change requires platform reset.

Secure Boot Mode

Select this to configure the Secure Boot mode.

Standard Fixed secure boot policy.

Custom Secure boot policy variables can be configured by a physically present user without full authentication.

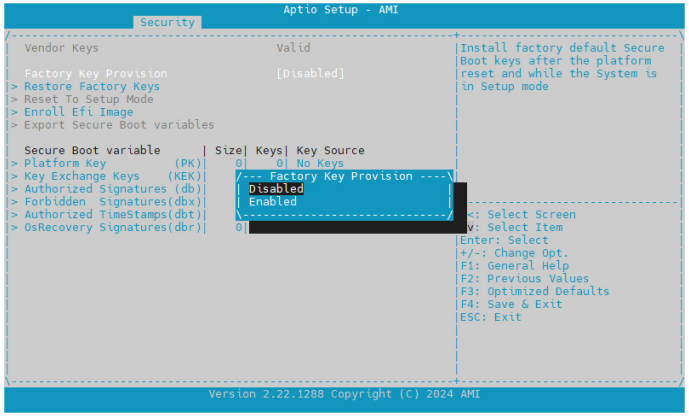
Restore Factory Keys

Force the system to get into User mode. Install factory default Secure Boot key databases.

Key Management

Enable expert users to modify Secure Boot Policy variables without variable authentication.

Key Management



Factory Key Provision
Install factory default secure boot keys after the platform reset and while the system is in setup mode.

Restore Factory Keys
Force system to user mode. Install factory default secure boot key databases.

Enroll Efi Image
Allow Efi image to run in Secure Boot mode. Enroll SHA256 Hash certificate of a PE image into Authorized Signature Database (db).

Secure boot variable
Include the size, keys, and key source of the following:

- Platform Key (PK)
- Key Exchange Keys (KEK)
- Authorized Signatures (db)
- Forbidden Signatures (dbx)
- Authorized Time Stamps (dbt)
- OsRecovery Signatures (dbr)

Enroll factory defaults or load certificates from a file:

1. Public Key Certificate:
   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

Boot

Setup Prompt Timeout
Select the number of seconds to wait for the setup activation key. 65535(0xFFFF) denotes indefinite waiting.

Bootup NumLock State
Select the keyboard NumLock state.

NEXBOOT
Enable or disable NEXBOOT function. Once enabled, more options will be available for configuration. For more detailed configurations, refer to Appendix A.

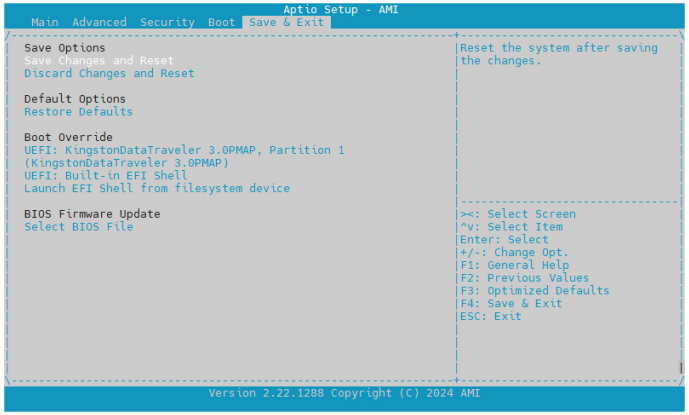
Quiet Boot
Enable or disable quiet boot function.

Fast Boot
Enable or disable boot with initialization of a minimal set of devices required to launch active boot option. This has no effect for BBS boot options.

FIXED BOOT ORDER Priorities
Adjust the boot sequence of the system. Boot Option #1 is the first boot device that the system will boot from, next will be #2 and so forth.

UEFI USB Key Drive BBS Priorities
Configure the boot device priority sequence from available UEFI USB key drives.

Save & Exit



Save Changes and Reset
To save the changes and reset, select this field then press <Enter>. A dialog box will appear. Confirm by selecting Yes.

Discard Changes and Reset
To exit the Setup utility and reset without saving the changes, select this field then press <Enter>. You may be prompted to confirm again before exiting.

Restore Defaults
To restore the BIOS to default settings, select this field then press <Enter>. A dialog box will appear. Confirm by selecting Yes.

Boot Override
To bypass the boot sequence from the Boot Option List and boot from a particular device, select the desired device and press <Enter>.

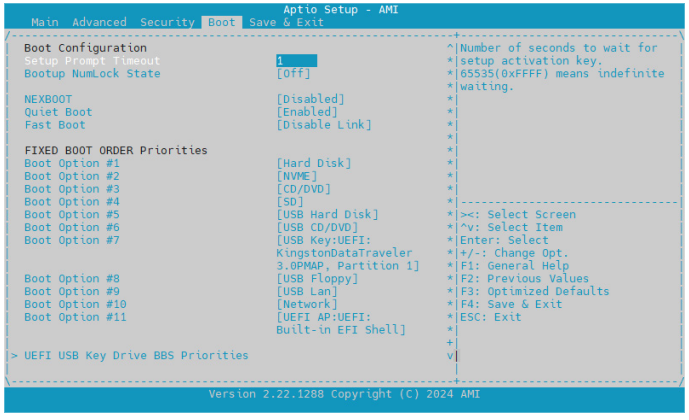
Launch EFI Shell from filesystem device
Attempts to launch EFI Shell application (Shell.efi) from one of the available filesystem devices.

Select BIOS File
Enter BIOS update mode. Please follow onscreen instructions to load binary image and update BIOS ROM from USB Flash drive. Do not reboot or shut down the system while updating.

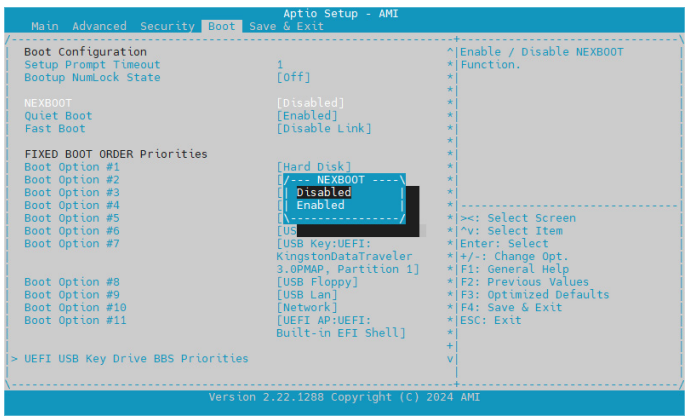
Appendix A: NEXBOOT Configuration

NEXBOOT is a feature designed to prevent issues by automatically resetting the system if the clear WDT function fails. Follow the steps below to enable and configure it in the BIOS.

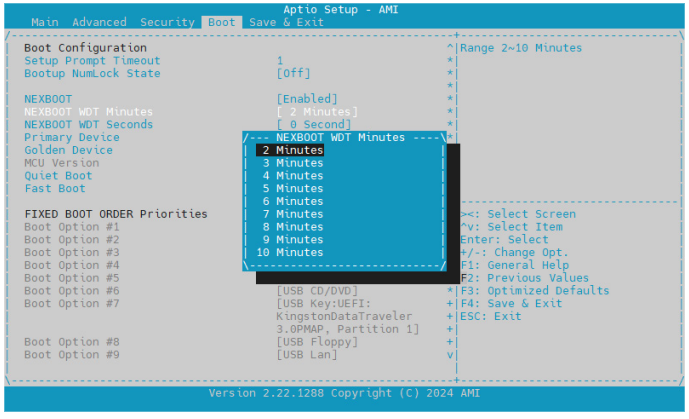
1. Immediately press the <Del> button when powering on the system, then navigate using the arrow keys to select the **BOOT** section.



2. Navigate with the up or down keys to select the feature of NEXBOOT. By default, the feature is disabled. Press the <Enter> button to enable it.

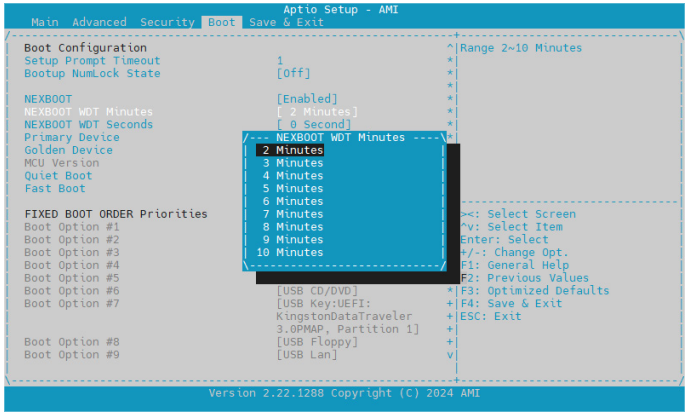


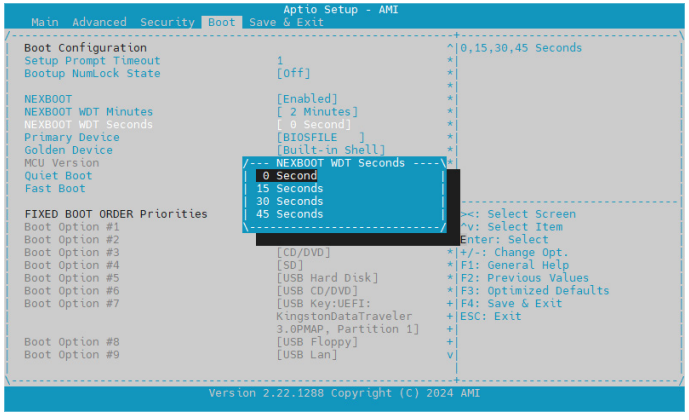
3. Once the NEXBOOT is enabled, relative settings become available for configuration. Note that the FIXED BOOT ORDER Priorities in the **BOOT** section and BOOT Override in the **Save & Exit** section will gray out and become unavailable for configuration.



NEXBOOT WDT Minutes & NEXBOOT WDT Seconds

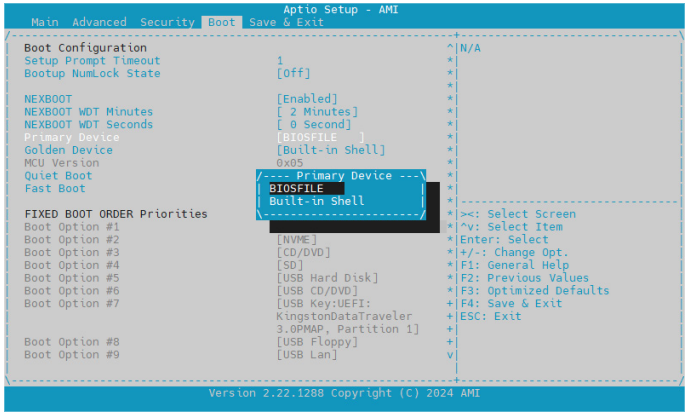
NEXBOOT WDT Minutes & NEXBOOT WDT Seconds are features designed to set a timer for triggering NEXBOOT WDT when entering the OS without clearing the WDT. You can adjust the minutes and seconds separately.

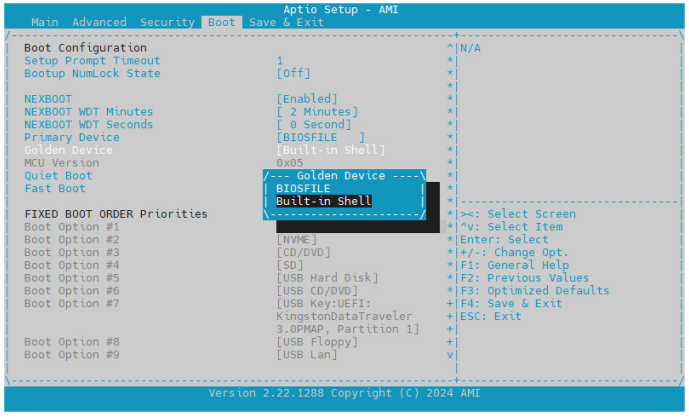




Primary Device & Golden Device

Specify the primary and golden device for the system. The primary device is the system will attempt to boot from that drive first. If the clear WDT is failed to work in the operating system on the primary device, the NEXBOOT WDT will be triggered to reboot the system into the golden device.





If there is only one disk available on the system and the WDT is not cleared in the OS on that device, it will trigger a boot into the Built-in Shell by default.