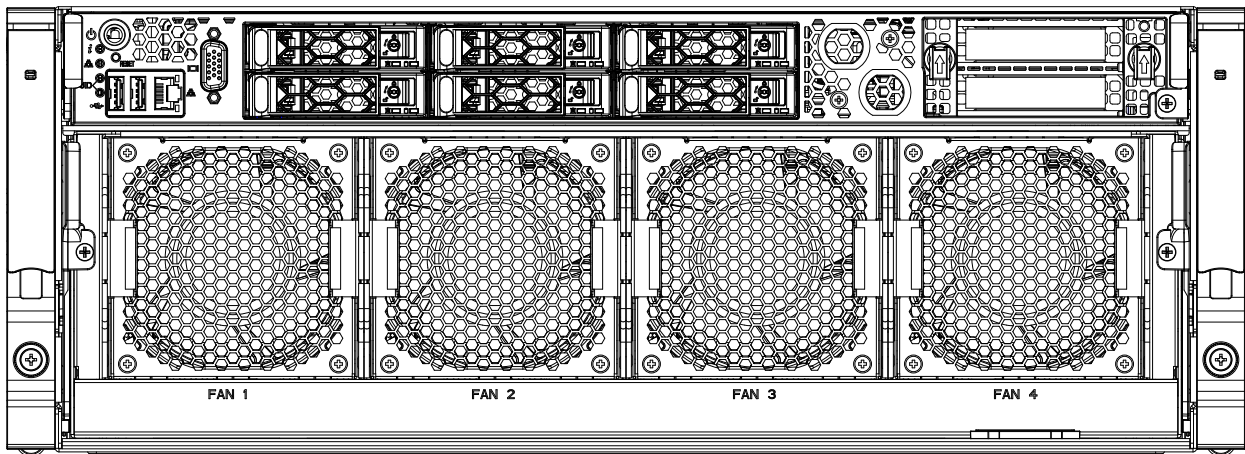




A+ Server
AS -4124GO-NART
AS -4124GO-NART+



USER'S MANUAL

Revision 1.0d

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Manual Revision 1.0d

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Preface

About this Manual

This manual is written for professional system integrators and PC technicians. It provides information for the installation and use of the A+ Server AS-4124GO-NART/AS-4124GO-NART+. Installation and maintenance should be performed by experienced technicians only.

Please refer to the server specifications page on our website for updates on supported memory, processors and operating systems (<http://www.supermicro.com>).

Notes

For your system to work properly, please follow the links below to download all necessary drivers/utilities and the user's manual for your server.

- Supermicro product manuals: <http://www.supermicro.com/support/manuals/>
- Product drivers and utilities: <https://www.supermicro.com/wdl>
- Product safety info: http://www.supermicro.com/about/policies/safety_information.cfm

If you have any questions, please contact our support team at:
support@supermicro.com

This manual may be periodically updated without notice. Please check the Supermicro website for possible updates to the manual revision level.

Secure Data Deletion

A secure data deletion tool designed to fully erase all data from storage devices can be found on our website: https://www.supermicro.com/about/policies/disclaimer.cfm?url=/wdl/utility/Lot9_Secure_Data_Deletion_Utility/

Warnings

Special attention should be given to the following symbols used in this manual.



Warning! Indicates important information given to prevent equipment/property damage or personal injury.



Warning! Indicates high voltage may be encountered when performing a procedure.

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Appendix B System Specifications

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Chapter 1

Introduction

1.1 Overview

This chapter provides a brief outline of the functions and features of the A+ Server AS -4124GO-NART/AS -4124GO-NART+. In addition to the H12DGO-6 motherboard and CSE-438G chassis, parts included with the system are listed below.

Main Parts List		
Description	Part Number	Quantity
Nvidia A100 HGX-2 40G/80G 8-GPU Baseboard	GPU-NVTHGX-A100-SXM4-8 or GPU-NVTHGX-A100-SXM4-88	1
GPU Midplane	BPN-GPU-438G	1
SAS3/SATA3/NVMe4 Backplane	BPN-NVME4-F418-B6S6	1
Fan Board	AOM-438G-FAN-P	1
AIOM Adapter	AOM-438G-AIOM-P	1
GPU Riser Card	AOM-DGO-IO-P	1
Switch Board	AOM-SXM4-IO-P	1
CPU Riser Card	RSC-G-66G4	1
Four Hot-swappable Heavy-duty Fans	FAN-0196L4-1	4
2200W Platinum Level or 3000W Titanium Level (96%+) Redundant Power Supply Modules	PWS-2K21G-2R or PWS-3K02G-2R	4
Rackmount Rails	MCP-290-00057-0N	1 set

Note: The following safety models associated with the AS -4124GO-NART/AS -4124GO-NART+ have been certified as compliant with CSA or UL models: 438G-Q22H12, 438G-Q30H12, 438G-GPU, 438G-H12.

1.2 Unpacking the System

Inspect the box in which the server was shipped and note if it was damaged in any way. If any equipment appears damaged, file a damage claim with the carrier who delivered it. Refer to Section 1.8 for Returned Merchandise Authorization (RMA) instructions.

Decide on a suitable location for the rack unit that will hold the server. It should be situated in a clean, dust-free area that is well ventilated. Avoid areas where heat, electrical noise and electromagnetic fields are generated. It will also require a grounded AC power outlet nearby. Be sure to read the precautions and considerations noted in Appendix A.

1.3 System Features

The following table provides you with an overview of the main features of the A+ Server AS -4124GO-NART/AS -4124GO-NART+.

System Features
Motherboard
H12DGO-6
Chassis
CSE-438G
CPU
Dual AMD EPYC 7002/7003 processor in SP3 sockets (Note: AMD EPYC 7003 series processor support requires BIOS version 2.0 or newer.)
Management Chipset
ASPEED A2600 BMC/IPMI management controller with enhanced security
Memory
Up to 8TB 3DS ECC DDR4-3200 SDRAM memory in 32 slots
Storage Drives
Six hot-swap front NVMe drives (four SATA/NVMe drives, two NVMe only drives) Optional four rear NVMe drives (Note: See Chapter 3 page 48 for recommendations) Two onboard NVMe M.2
Expansion Slots
Eight PCIe 4.0 x16 slots on the switch tray One PCIe 4.0 x16 LP and one PCIe 4.0 x8 LP on the motherboard tray
Power
AS -4124GO-NART: four 2200W 80Plus Platinum modules with PMBus with Smart Power throttling AS -4124GO-NART+: four 3000W 80Plus Platinum modules with PMBus with Smart Power throttling
Cooling
GPU node: four system cooling fans CPU node: eight 80-mm, counter-rotating PWM fans; one air shroud, two CPU heatsinks, eight GPU heatsinks
Input/Output
One VGA Two USB One dedicated IPMI LAN
Security
One TPM 2.0 header
Form Factor
4U rackmount; (WxHxD) 17.6 x 6.9 x 35.4 in. (446 x 174 x 900 mm)

1.4 Server Chassis Features

Control Panel

The control panel includes three buttons and three indicator LEDs. Next to the buttons and LEDs are I/O ports including two USB ports, one dedicated IPMI LAN port, and a VGA port.

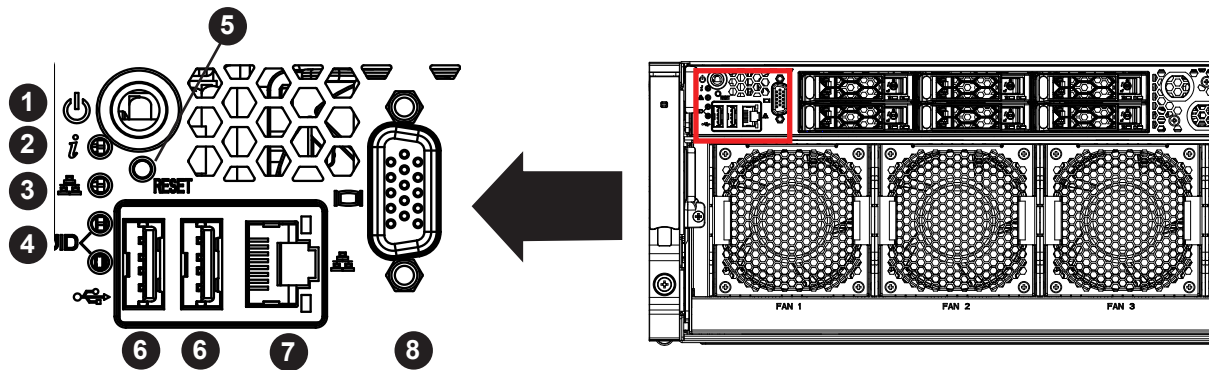


Figure 1-1. Control Panel

Control Panel Features		
Item	Feature	Description
1	Power button	The main power switch applies or removes primary power from the power supply to the node but maintains standby power.
2	Information LED	Alerts operator to several states, as noted in the table below.
3	NIC LED	Indicates network activity on the LAN when flashing.
4	UID button/LED	The unit identification (UID) button turns on or off the blue light function of the Information LED and a blue LED on the rear of the chassis. These are used to locate the server in large racks and server banks.
5	Reset Button	Press the button with an object (such as a paper clip) to reset the system.
6	USB	USB 3.0 ports
7	LAN Port	Dedicated IPMI LAN port
8	VGA	VGA port

Information LED	
Status	Description
Continuously on and red	An overheat condition has occurred. (This may be caused by cable congestion.)
Blinking red (1Hz)	Fan failure, check for an inoperative fan.
Blinking red (0.25Hz)	Power failure, check for a non-operational power supply.
Solid blue	Local UID has been activated. Use this function to locate the server in a rack mount environment.
Blinking blue	Remote UID is on. Use this function to identify the server from a remote location.

Front Features

In addition to the control panel, the chassis front offers access to the NVMe U.2 drives, riser slots, fans, a pull-out service tag, and handles to remove the CPU and GPU tray.

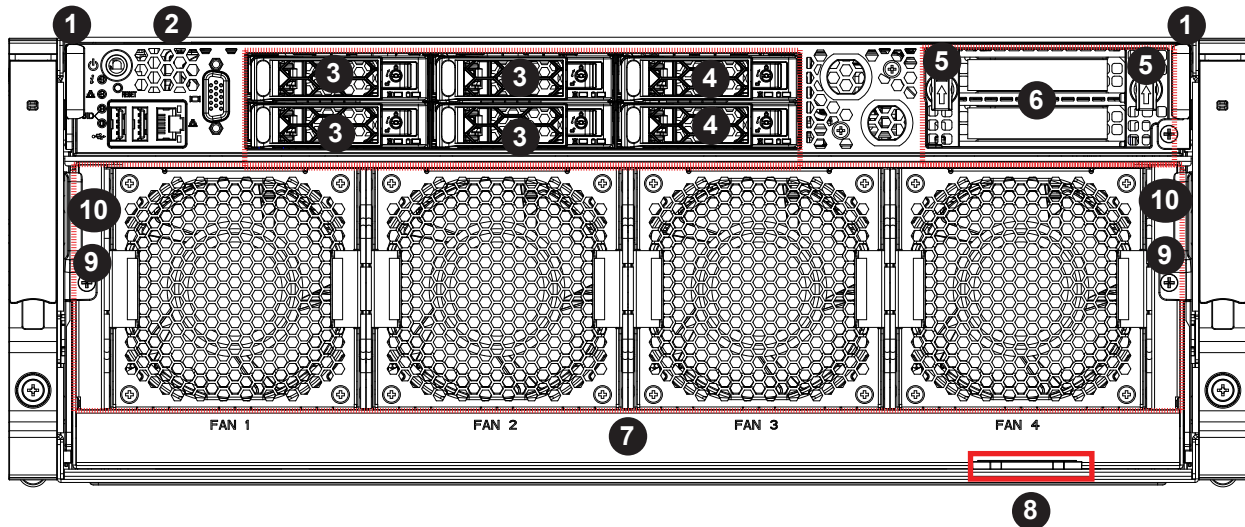


Figure 1-2. Chassis Front View

Front System Features		
Item	Feature	Description
1	CPU Tray Release Handle	Handles to support CPU tray removal
2	Control Panel	Described in previous section
3	Hybrid NVMe Drives	Four hot-swappable SAS3/SATA3/NVMe4 drives
4	NVMe Only Drives	Two hot-swappable NVMe U.2 drives
5	Riser Release Handle	Handles to support riser bracket removal
6	Riser Slot	Slots to house riser card's external connectors
7	GPU Node Fans	Front grille with hot-swappable GPU heavy-duty fans
8	Service Tag	Pull-out service tag with BMC password label
9	GPU Tray Release Screw	Screws to secure the GPU tray
10	GPU Tray Release Handle	Handles to support GPU tray removal

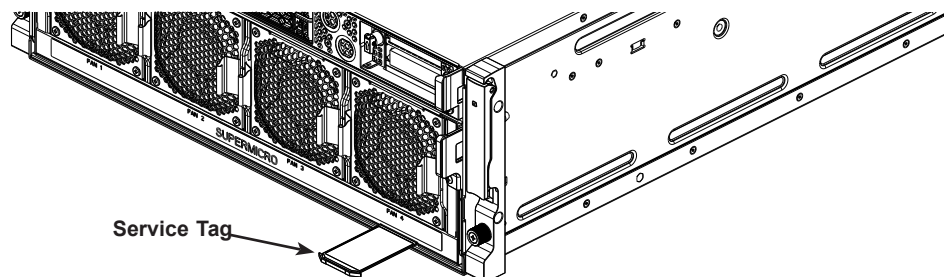


Figure 1-3. Service Tag Location

Rear Features

The illustration below shows the features included on the rear of the chassis.

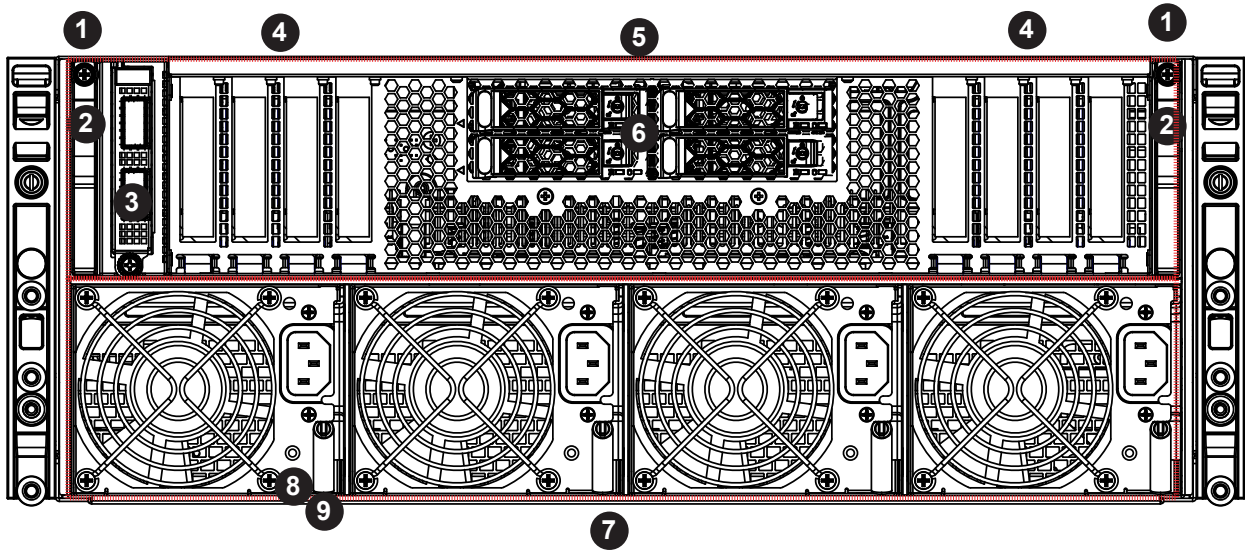


Figure 1-4. Chassis Rear View

Rear System Features		
Item	Feature	Description
1	Switch Tray Release Screw	Screws securing the switch tray.
2	Switch Tray Release Handle	Handles to support switch tray removal.
3	AIOM Slot	Slot for AIOM
4	Expansion Slots	Eight expansion slots.
5	Switch Tray	Contains switch board.
6	NVMe U.2 Drives	Optional four hot-swappable NVMe U.2 drives
7	Power Supply Modules	Four 2200W Platinum Level or 3000W Titanium Level (96%+) redundant power supply modules.
8	PSU LED Indicator	Power supply LED. Amber indicates off and green indicates on.
9	PSU Release Handle	Power supply handle to unlock and remove power supply.

1.5 System Architecture

Block Diagrams

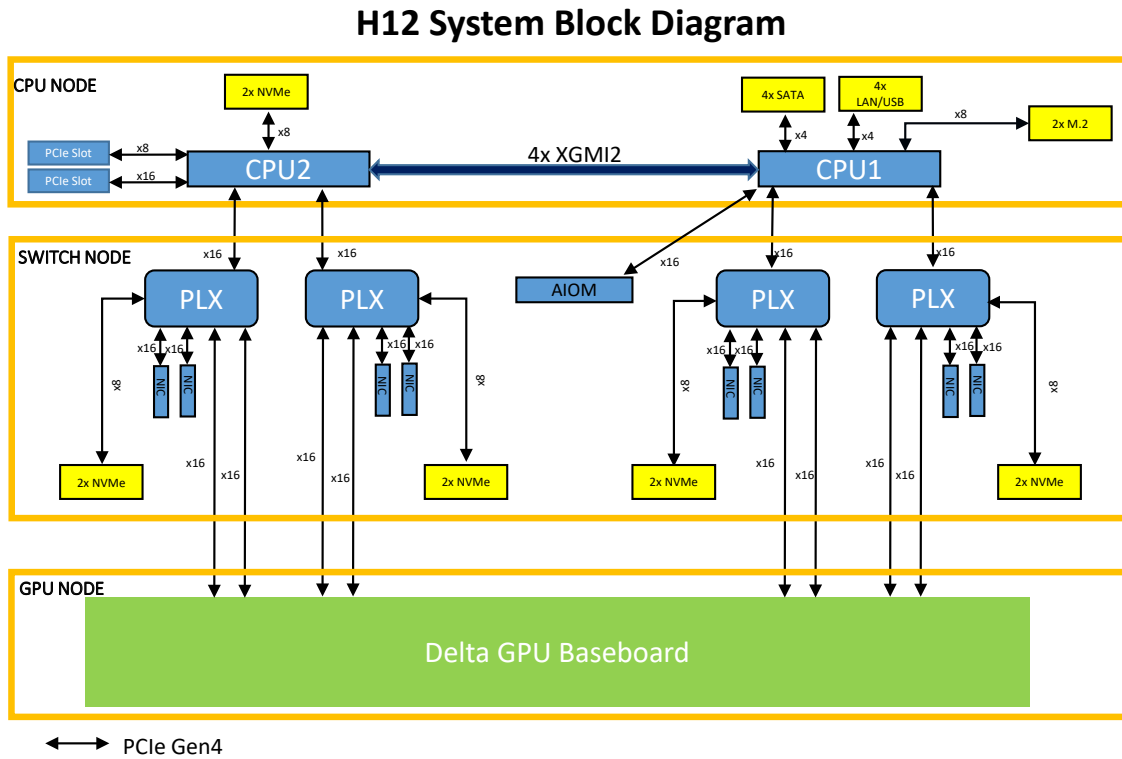


Figure 1-5. System Block Diagram

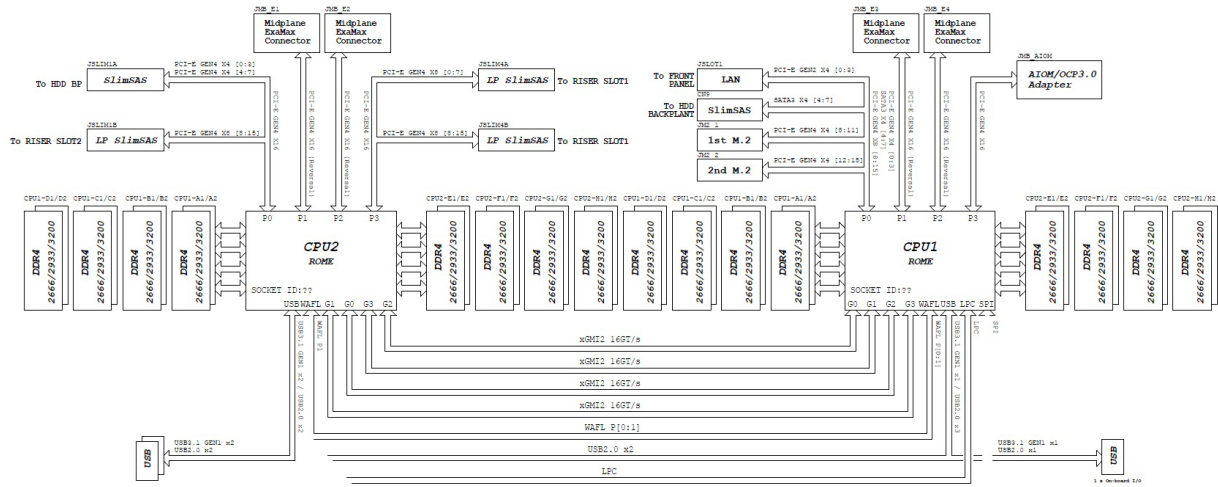


Figure 1-6. Motherboard Block Diagram

Board Locations



Figure 1-7. GPU Node Board Locations

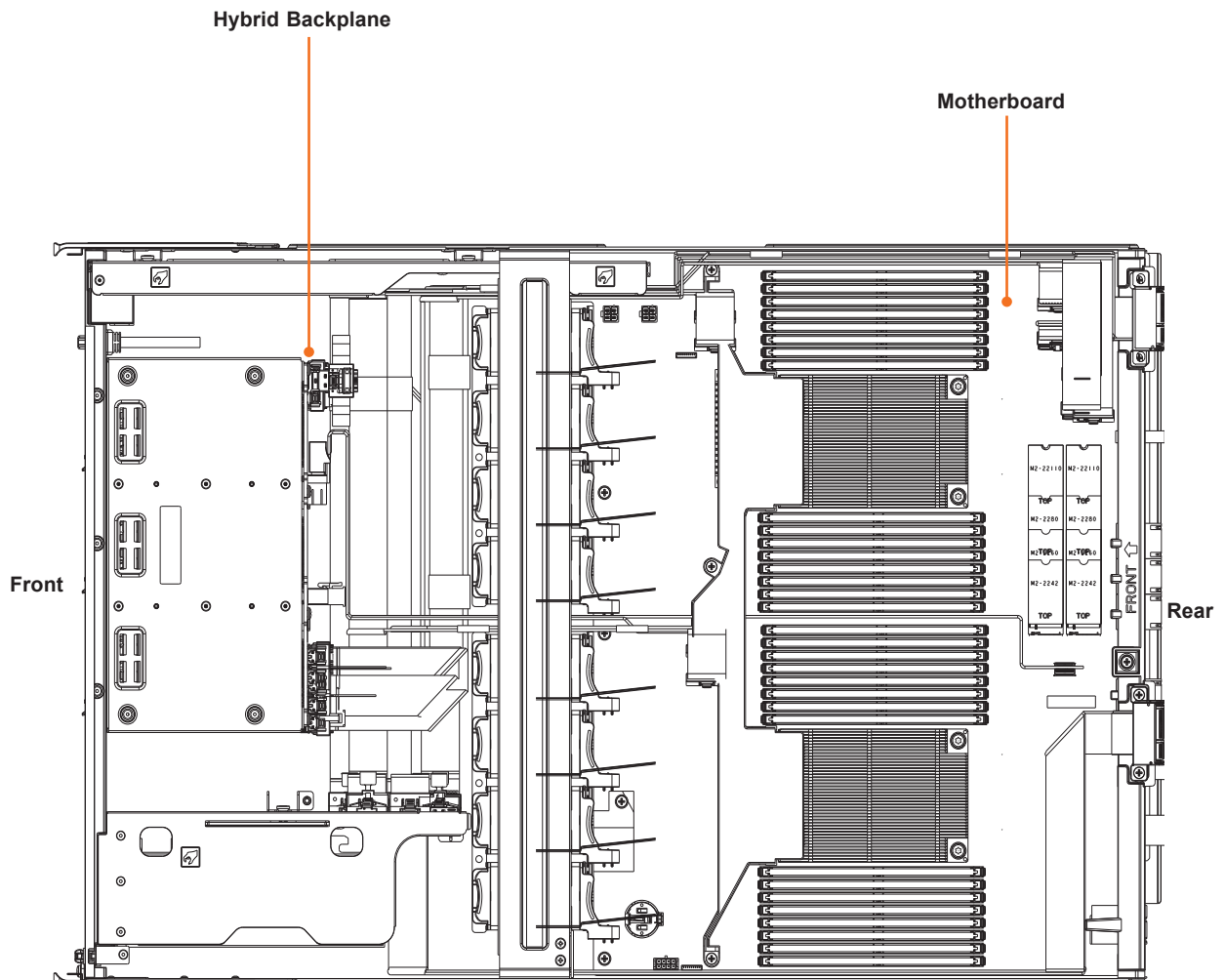


Figure 1-8. CPU Node Board Locations

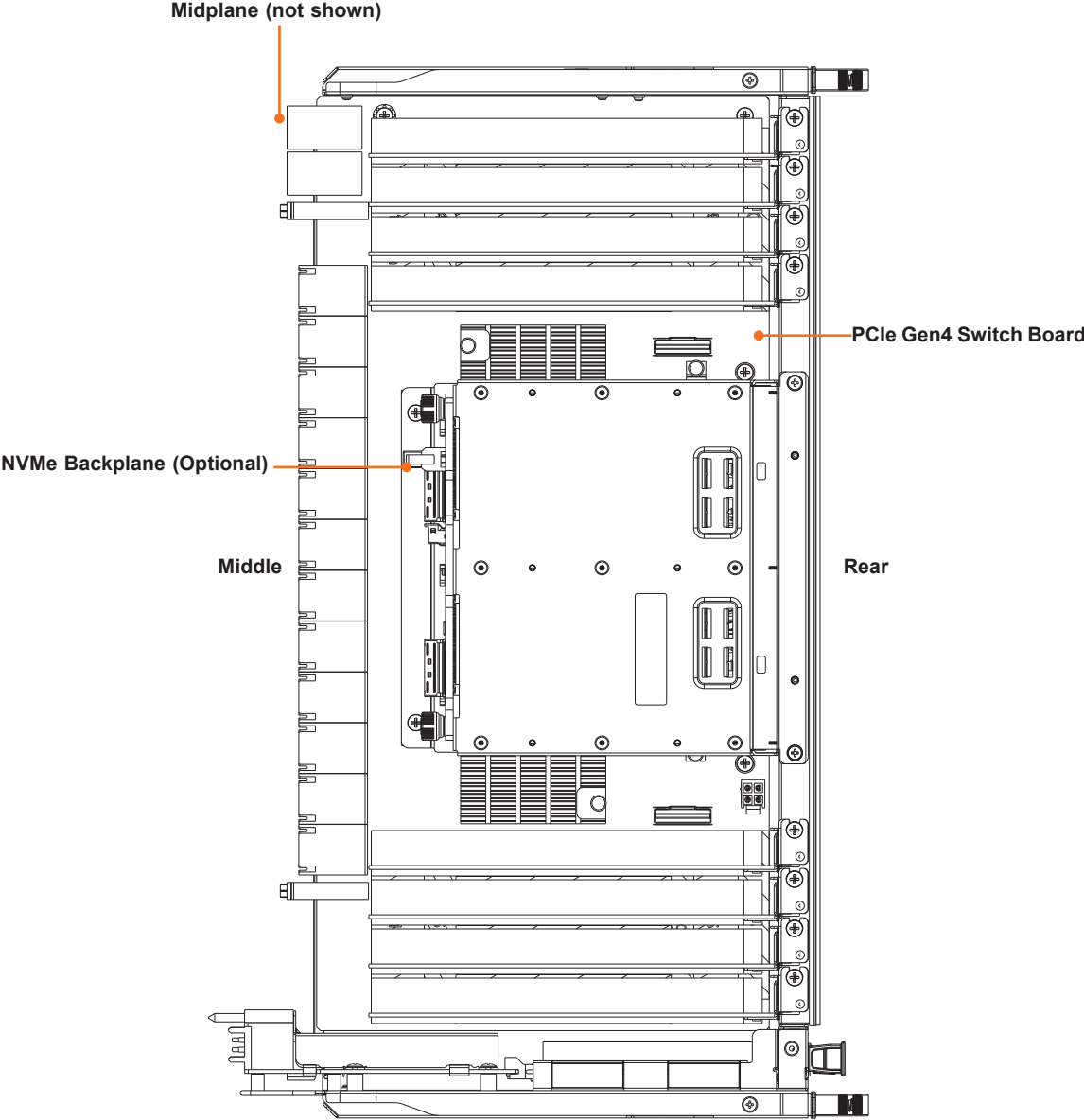


Figure 1-9. Switch Node Board Location

1.6 Motherboard Layout

Below is a layout of the H12DGO-6 with jumper, connector and LED locations shown. See the table on the following page for descriptions. For detailed descriptions, pinout information and jumper settings, refer to Chapter 4.

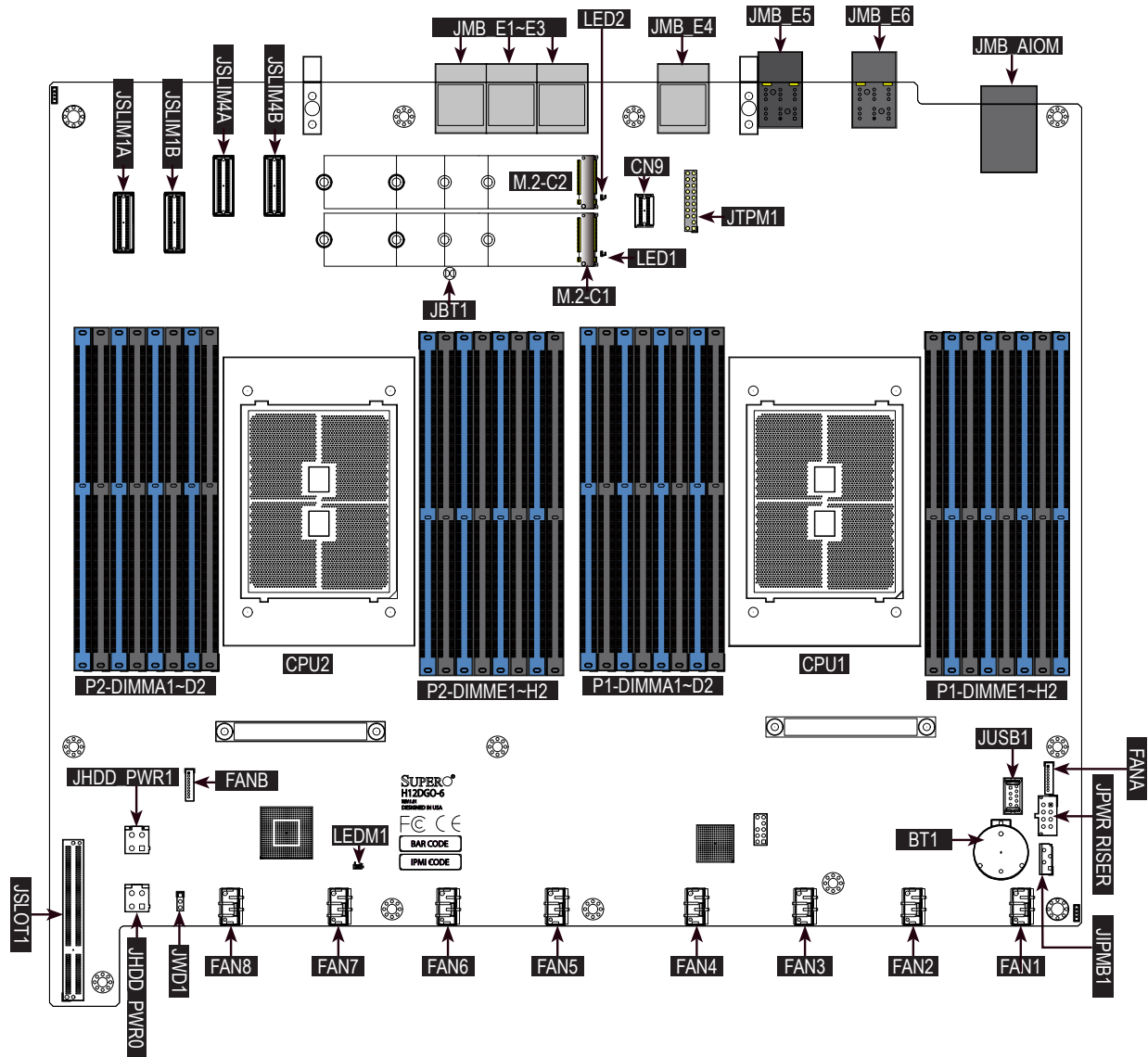


Figure 1-10. Motherboard Layout

Quick Reference Table

Jumper	Description	Default Setting
JBT1	CMOS Clear	Open (Normal)
JWD1	Watch Dog Timer Enable	Pins 1-2 (Reset to System)
LED	Description	Status
LEDM1	BMC Heartbeat LED	Green: Blinking (BMC Normal) Green: Fast blinking (BMC Initializing)
LED1	M.2-C1 Active LED	On: M.2-C1 Active
LED2	M.2-C2 Active LED	On: M.2-C2 Active
Connector	Description	
JIPMB1	4-pin External I ² C Header (for an IPMI Card)	
BT1	Onboard CMOS Battery Socket	
JSLOT1	Supermicro I/O Riser Slot (AOM-DGO-IO)	
JMB_AIOM	Supermicro Advanced I/O Module (AIOM) Slot via AOM-438G-AIOM	
JMB_E1~JMB_E4	PCIe Connectors (Connect to Middle Plate BPN-GPU-438G)	
JMB_E5~JMB_E6	Power Connectors (Connect to Middle Plate BPN-GPU-438G)	
M.2-C1, M.2-C2	PCIe M.2 Slots	
FANA, FANB	CPU Waterpump Header	
FAN1~FAN8	System Fan Headers	
JSLIM1A	Processor 2 NVME 4.0 x8	
JSLIM1B		
JSLIM4A	Processor 2 PCIe 4.0 x8	
JSLIM4B		
JUSB1	Type A USB 3.0 Socket	
JPWR_RISER	Power for Riser Cards RSC-G-66G4	
CN9	SlimSAS (PCIe 4.0 x4) interface for 4 SATA 3.0 ports	
JHDD_PWR0, JHDD_PWR1	Power for SATA/NVMe Backplane BPN-NVMe4-228N-S4	
JTPM1	LPC Trusted Platform Module/Port 80 Connector	

Note: Jumpers in the table not described are for manufacturing testing purposes only and are not covered in this manual.

1.7 Where to Get Replacement Components

If you need replacement parts for your system, to ensure the highest level of professional service and technical support, purchase exclusively from our Supermicro Authorized Distributors/System Integrators/Resellers. A list can be found at: <http://www.supermicro.com>. Click the "Where to Buy" link.

1.8 Returning Merchandise for Service

A receipt or copy of your invoice marked with the date of purchase is required before any warranty service will be rendered. You can obtain service by calling your vendor for a Returned Merchandise Authorization (RMA) number. When returning to the manufacturer, the RMA number should be prominently displayed on the outside of the shipping carton, and mailed prepaid or hand-carried. Shipping and handling charges will be applied for all orders that must be mailed when service is complete.

For faster service, RMA authorizations may be requested online (<http://www.supermicro.com/support/rma/>).

Whenever possible, repack the chassis in the original Supermicro carton, using the original packaging material. If these are no longer available, be sure to pack the chassis securely, using packaging material to surround the chassis so that it does not shift within the carton and become damaged during shipping.

This warranty only covers normal consumer use and does not cover damages incurred in shipping or from failure due to the alteration, misuse, abuse or improper maintenance of products.

During the warranty period, contact your distributor first for any product problems.

Chapter 2

Server Installation

2.1 Overview

This chapter provides advice and instructions for mounting your system in a server rack. If your system is not already fully integrated with processors, system memory etc., refer to Chapter 3 for details on installing those specific components.

Caution: Electrostatic Discharge (ESD) can damage electronic components. To prevent such damage to PCBs (printed circuit boards), it is important to use a grounded wrist strap, handle all PCBs by their edges and keep them in anti-static bags when not in use.

2.2 Preparing for Setup

The box in which the system was shipped should include the rackmount hardware needed to install it into the rack. Please read this section in its entirety before you begin the installation.

Choosing a Setup Location

- The system should be situated in a clean, dust-free area that is well ventilated. Avoid areas where heat, electrical noise and electromagnetic fields are generated.
- Leave enough clearance in front of the rack so that you can open the front door completely (~25 inches) and approximately 30 inches of clearance in the back of the rack to allow sufficient space for airflow and access when servicing.
- This product should be installed only in a Restricted Access Location (dedicated equipment rooms, service closets, etc.).
- This product is not suitable for use with visual display workplace devices according to §2 of the German Ordinance for Work with Visual Display Units.

Rack Precautions

- Ensure that the leveling jacks on the bottom of the rack are extended to the floor so that the full weight of the rack rests on them.

- In single rack installations, stabilizers should be attached to the rack. In multiple rack installations, the racks should be coupled together.
- Always make sure the rack is stable before extending a server or other component from the rack.
- You should extend only one server or component at a time - extending two or more simultaneously may cause the rack to become unstable.

Server Precautions

- **Caution:** The assembled system may weigh over 200 lbs. When moving it, remove the GPU tray to reduce weight, and use a lift and multiple people.
- Review the electrical and general safety precautions in Appendix A.
- Determine the placement of each component in the rack *before* you install the rails.
- Install the heaviest server components at the bottom of the rack first and then work your way up.
- Use a regulating uninterruptible power supply (UPS) to protect the server from power surges and voltage spikes and to keep your system operating in case of a power failure.
- Allow any drives and power supply modules to cool before touching them.
- When not servicing, always keep the front door of the rack and all covers/panels on the servers closed to maintain proper cooling.

Rack Mounting Considerations

Ambient Operating Temperature

If installed in a closed or multi-unit rack assembly, the ambient operating temperature of the rack environment may be greater than the room's ambient temperature. Therefore, consideration should be given to installing the equipment in an environment compatible with the manufacturer's maximum rated ambient temperature (TMRA).

Airflow

Equipment should be mounted into a rack so that the amount of airflow required for safe operation is not compromised.

Mechanical Loading

Equipment should be mounted into a rack so that a hazardous condition does not arise due to uneven mechanical loading.

Circuit Overloading

Consideration should be given to the connection of the equipment to the power supply circuitry and the effect that any possible overloading of circuits might have on overcurrent protection and power supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.

Reliable Ground

A reliable ground must be maintained at all times. To ensure this, the rack itself should be grounded. Particular attention should be given to power supply connections other than the direct connections to the branch circuit (i.e. the use of power strips, etc.).



To prevent bodily injury when mounting or servicing this unit in a rack, you must take special precautions to ensure that the system remains stable. The following guidelines are provided to ensure your safety:

- This unit should be mounted at the bottom of the rack if it is the only unit in the rack.
- When mounting this unit in a partially filled rack, load the rack from the bottom to the top with the heaviest component at the bottom of the rack.
- If the rack is provided with stabilizing devices, install the stabilizers before mounting or servicing the unit in the rack.
- Slide rail mounted equipment is not to be used as a shelf or a work space.

2.3 Installing the Rails

There are a variety of rack units on the market, which may require a slightly different assembly procedure. This rail set fits a rack between 28" and 33.5" deep. Do not use a two post "telco" type rack.

The following is a basic guideline for installing the system into a rack with the rack mounting hardware provided. You should also refer to the installation instructions that came with the specific rack you are using.

Installing the Rails onto a Rack

1. Identify the left rail and right rail, as they are different.

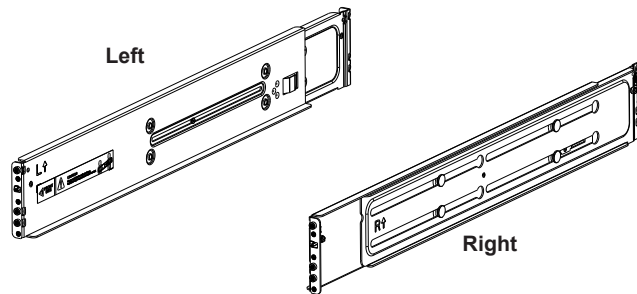


Figure 2-1. Identifying the Left and Right Rail

2. Position the template at the front of the rack to determine the locations of the screws for the rails.

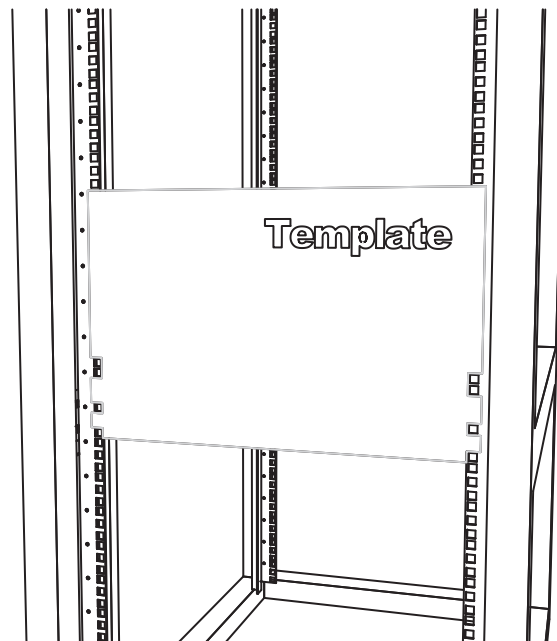


Figure 2-2. Placing Template in Rack

3. In each rail set, the two sections are screwed together to keep them immobile during shipping. Release these screws just enough to allow the rail sections to slide apart. Note the arrow on the rail, which indicates the end that attaches to the front of the rack.
4. Slide the rails sections apart to match the depth of the rack. Position the rails with the template and secure the front of each to the front of the rack with two flathead screws, then secure the back of each rail to the rear of the rack with two flathead screws (see Figure 2-3).

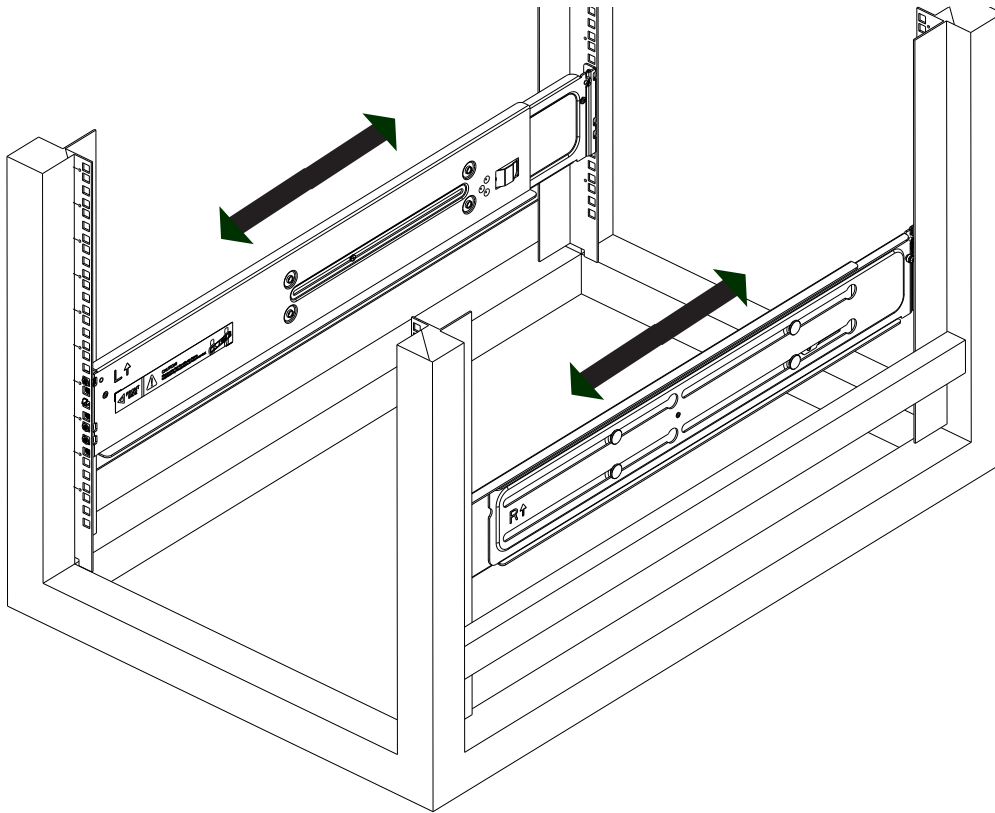


Figure 2-3. Sliding the Rail to the Depth of the Rack

2.4 Installing the Server

Once rails are attached to the chassis and the rack, you can install the server.

Installing the Chassis into a Rack

Caution: The assembled system may weigh over 200 lbs. Use a lift and multiple people to move it. Remove the GPU tray before installing into the rack to reduce the weight of the system.

1. If you want to install the optional chassis handles, use screws including a thumbscrew, through the bottom hole of each handle. **Note:** These handles need only be installed when mounting the system into a short rack. When mounting into a deep rack, they are unnecessary and regular screws should be used instead of thumbscrews.
2. Using a lift and as many people as necessary, lift the system and slide it onto the installed rails.

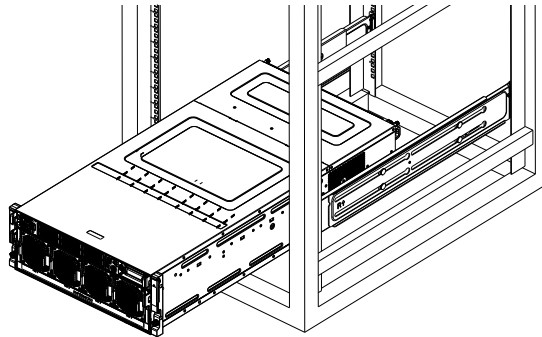


Figure 2-4. Sliding the Server into the Rack

Note: The figure is for illustrative purposes only. Some chassis components such as the GPU tray may be removed from the chassis enclosure before installing the system to the rack.

3. After pushing the enclosure all the way into the rack, use the thumbscrew on each side of the server to lock it into place.

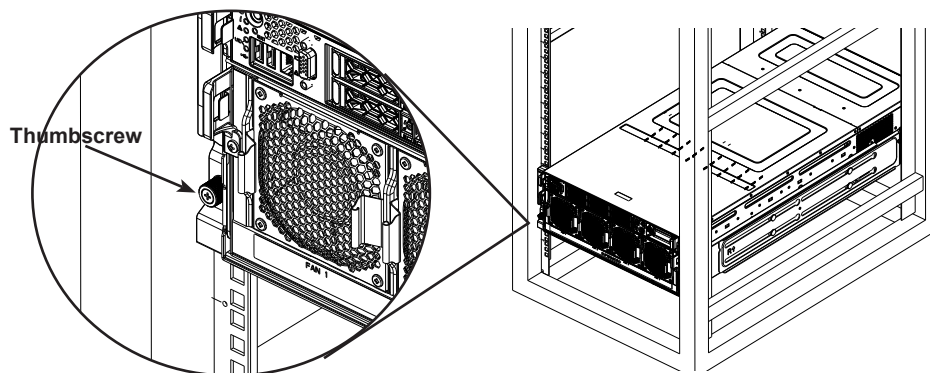


Figure 2-5. Locking the Server to the Rack

Chapter 3

Maintenance and Component Installation

This chapter provides instructions on installing and replacing main system components. To prevent compatibility issues, only use components that match the specifications and/or part numbers given.

Installation or replacement of most components require that power first be removed from the system. Please follow the procedures given in each section.

3.1 Removing Power

Before performing some setup or maintenance tasks, use the following procedure to ensure that power has been removed from the system.

Removing Power from the System

1. Use the operating system to power down the system.
2. Grasp the head of each power cord and gently pull it out of the back of the power supply.
3. Disconnect the cords from the power strip or wall outlet.

3.2 Accessing the System

The system is comprised of three trays. Each tray can be removed from the chassis using release levers. Before removing the trays, power down, as described in Section 3.1.

Removing the Motherboard Tray

1. Remove the locking screw holding the release lever and set aside. The locking screw is next to the riser slot.
2. Pull both release levers out.
3. Press outwards slightly and pull out the tray.

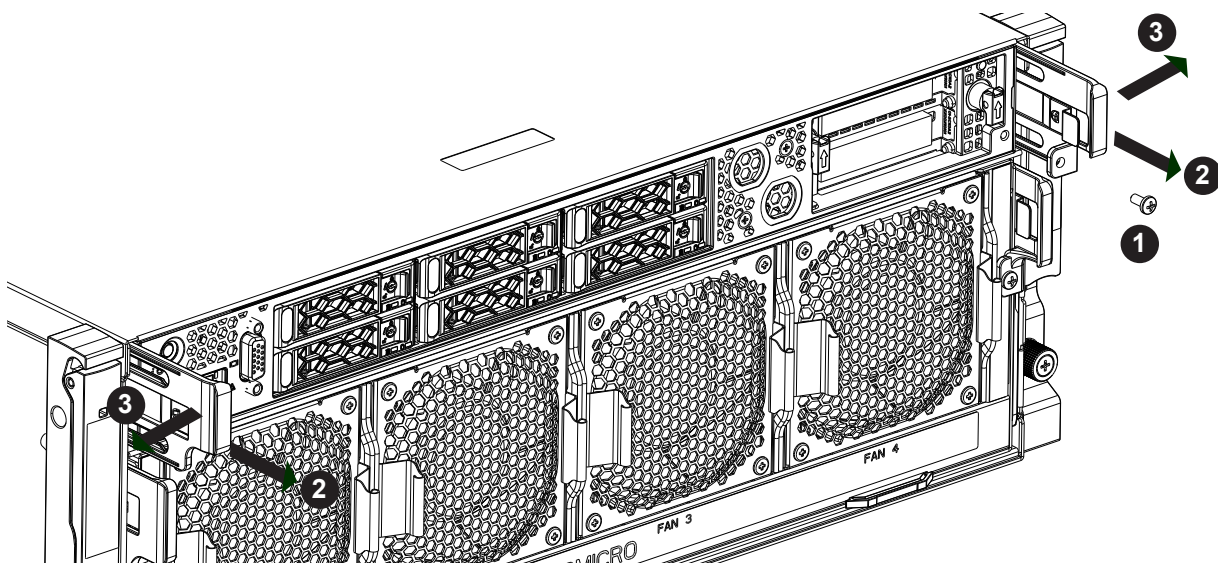


Figure 3-1. Motherboard Tray Handles

4. Service the motherboard as needed.
5. With both release levers in fully pulled-out positions, carefully and slowly reinsert the motherboard tray back into the chassis enclosure until both tray handles are retracted into the chassis.
6. Insert and tighten the tray handle locking screw.

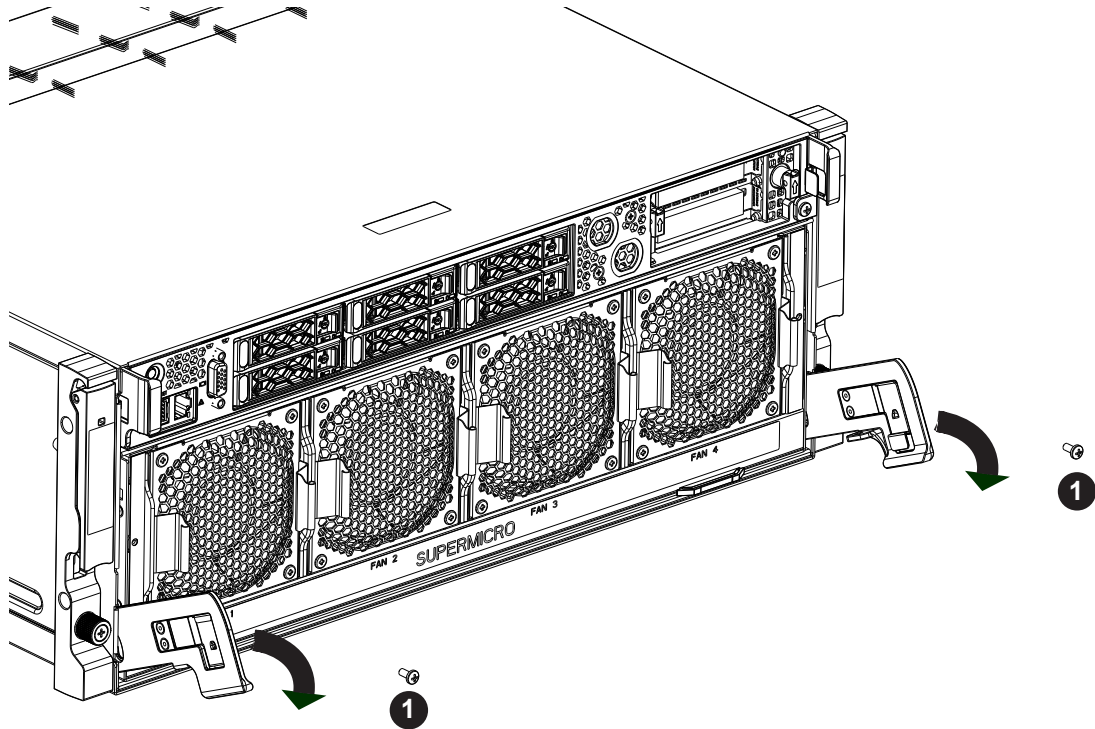


Figure 3-2. GPU Tray Handle and Locking Screw

Removing the GPU Tray

Caution: The GPU tray may weigh up to 45 lbs. When moving the tray, exercise caution and use multiple people.

1. Remove the tray handle locking screws, one on each side.
2. Rotate both tray handles downward.
3. Carefully and slowly pull the GPU tray outward until the safety lock is engaged.
4. Release the safety locks on both side of the GPU tray.
5. Continue to carefully and slowly pull and remove the GPU tray from the chassis enclosure.
6. Place the GPU tray on a safe surface.
7. Service the GPU board as needed.
8. With both tray handles in fully pulled-down positions, carefully and slowly reinsert the switch tray back into the chassis enclosure until both tray handles are rotated back into the chassis enclosure and locked.
9. Insert and tighten both tray handle locking screws.

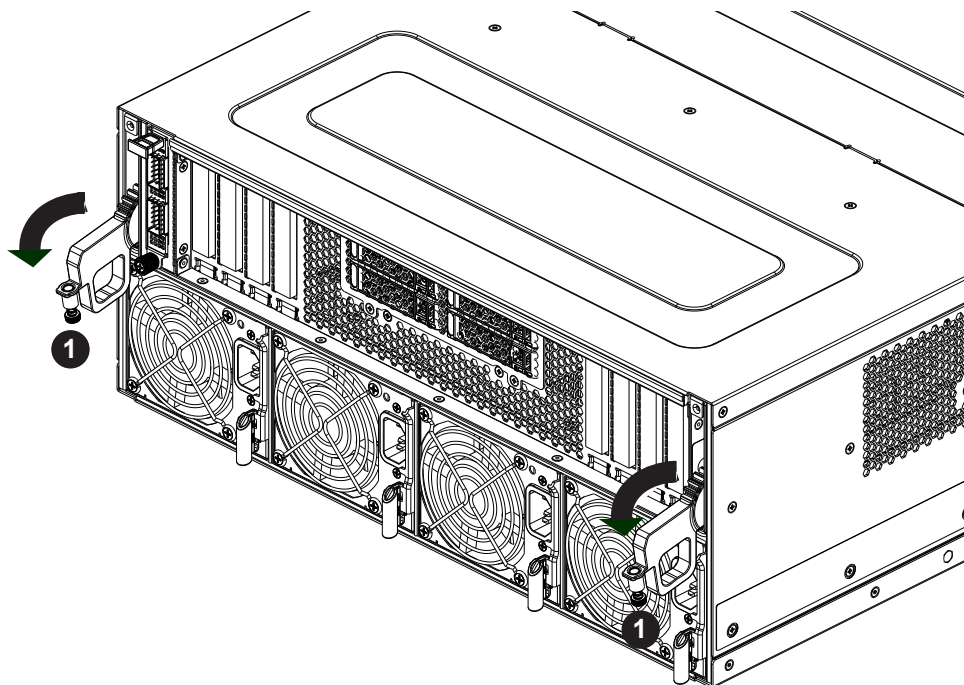


Figure 3-3. Unlocking the Switch Handles

Removing the Switch Tray

1. Loosen the thumbscrew on both handles.
2. Rotate both tray handles downward.
3. Carefully and slowly pull the switch tray outward from the chassis enclosure.
4. Service the switch tray as needed.
5. With both tray handles in fully pulled-down positions, carefully and slowly reinsert the switch tray back into the chassis until both tray handles are rotated back into the chassis enclosure and locked.
6. Tighten both thumbscrews.

3.3 Motherboard Components

Processor and Heatsink Installation

Warning: When handling the processor package, avoid placing direct pressure on the label area of the fan.

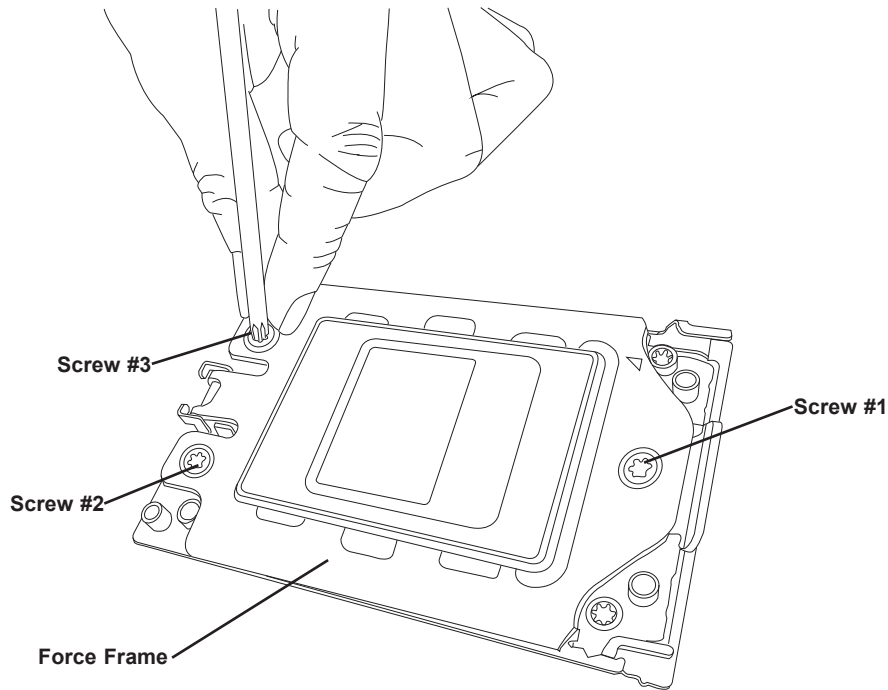
Important:

- For the Processor/Heatsink installation you need to use a T20 screwdriver when opening/closing the CPU socket.
- Always connect the power cord last, and always remove it before adding, removing or changing any hardware components. Make sure that you install the processor into the CPU socket before you install the CPU heatsink.
- If you buy a CPU separately, make sure that you use an AMD-certified multi-directional heatsink only.
- Make sure to install the motherboard into the chassis before you install the CPU heatsink.
- When receiving a motherboard without a processor pre-installed, make sure that the plastic CPU socket cap is in place and none of the socket pins are bent; otherwise, contact your retailer immediately.

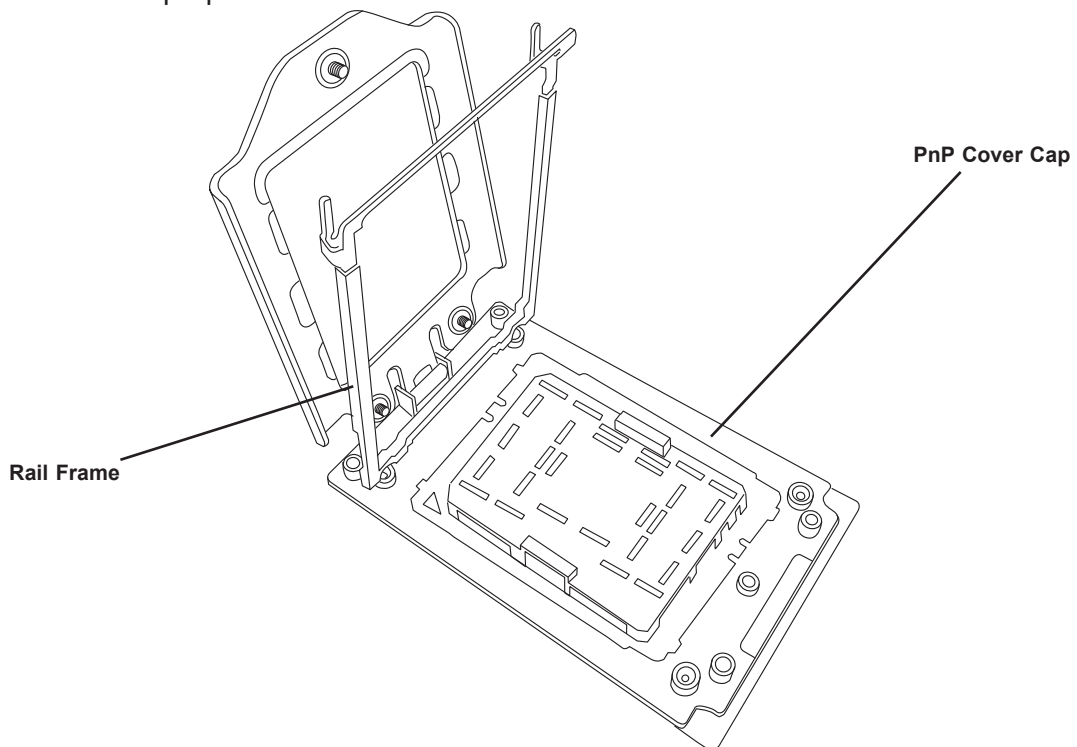
Refer to the Supermicro website for updates on CPU support.

Installing the Processor and Heatsink

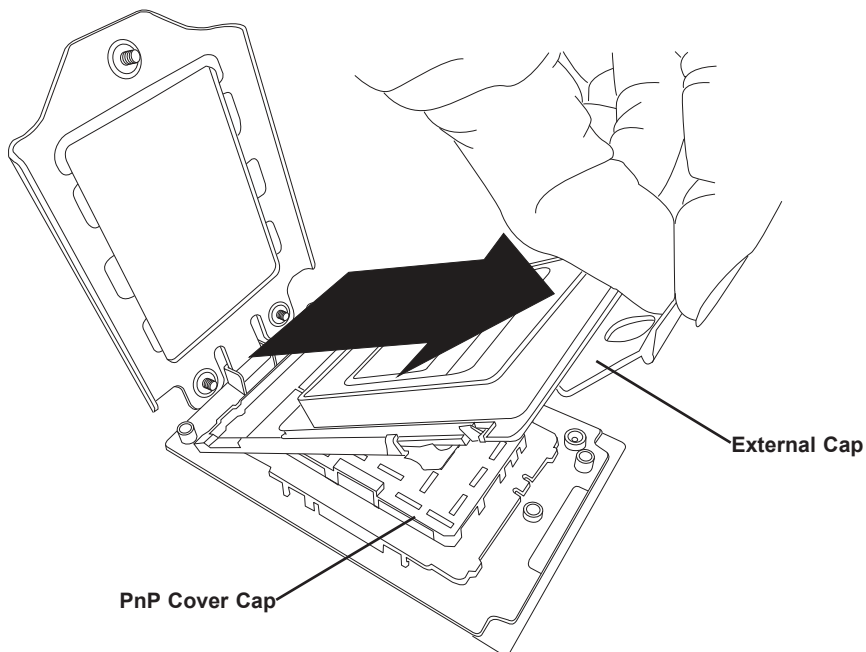
1. Unscrew the screws holding down Force Frame in the sequence of 3-2-1. The screws are numbered on the Force Frame next to each screw hole.



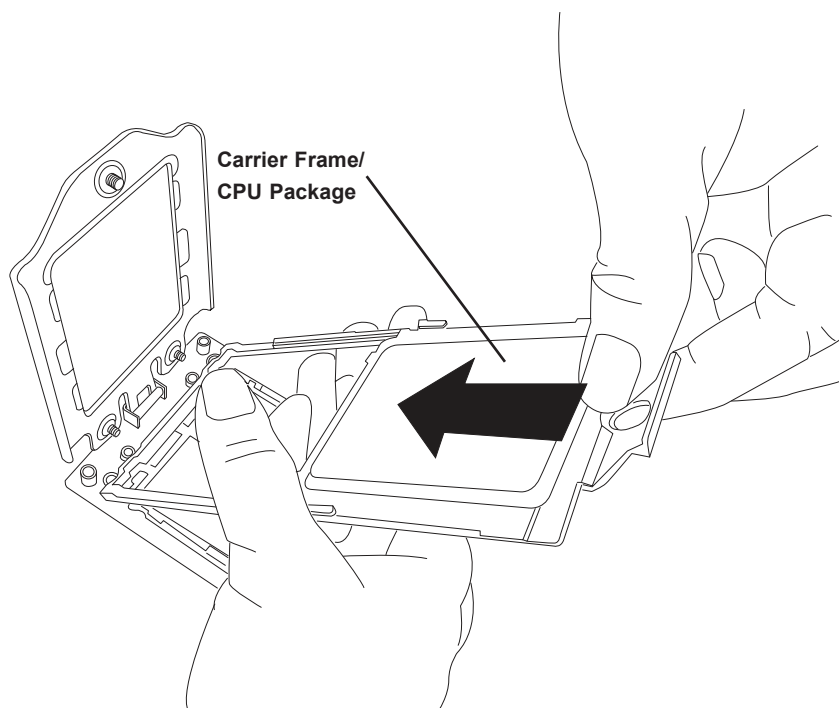
1. Lift the Rail Frame up by gripping the lift tabs near the front end of the rail frame. While keeping a secure grip of the Rail Frame, lift it to a position so you can do the next step of removing the External Cap.
2. **Note:** The Rail Frame is spring loaded, so keep a secure grip on it as you lift it so it does not snap up.



1. Remove the External Cap from the Rail Frame by pulling it upwards through the rail guides on the Rail Frame.

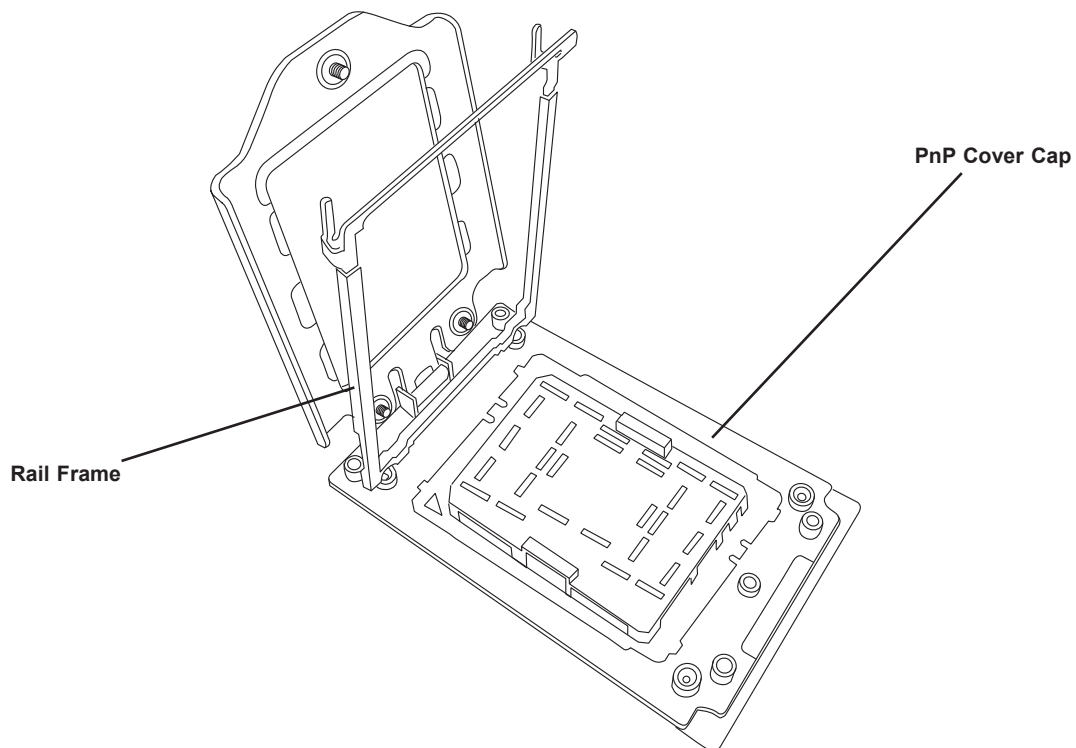


2. The CPU Package is shipped from the factory with the Carrier Frame pre-assembled. Grip the handle of the Carrier Frame/CPU Package assembly from its shipping tray, and while gripping the handle, align the flanges of the Carrier Frame onto the rails of the Rail Frame so its pins will be at the bottom when the Rail Frame is lowered later.
3. Slide the Carrier Frame/CPU Package downwards to the bottom of the Rail Frame. Ensure the flanges are secure on the rails as you lower it downwards.



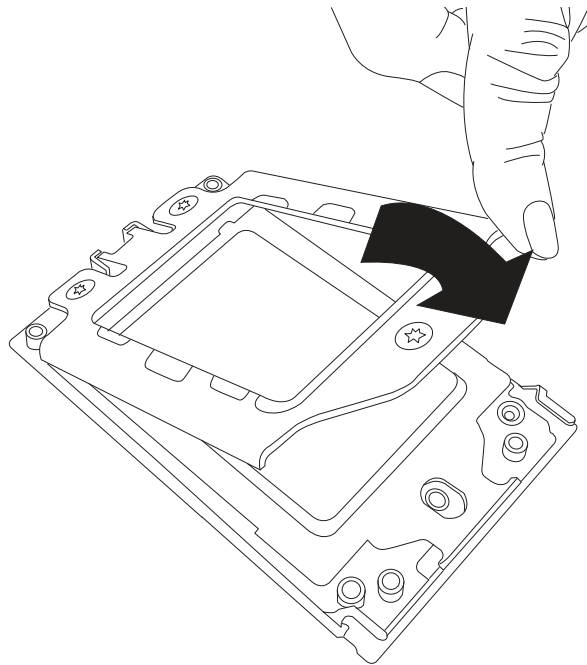
Note: You can only install the CPU inside the socket in one direction with the handle at the top. Make sure that it is properly inserted into the CPU socket before closing the Rail Frame plate. If it doesn't close properly, do not force it as it may damage your CPU. Instead, open the Rail Frame plate again, and double-check that the CPU is aligned properly.

1. Lift up the Rail Frame till it securely rests in upright position. Then remove the PnP Cover Cap from the CPU socket below. Grip the two lift tabs marked "Remove" at the middle of the cap and pull vertically upwards to remove the PnP Cover Cap.

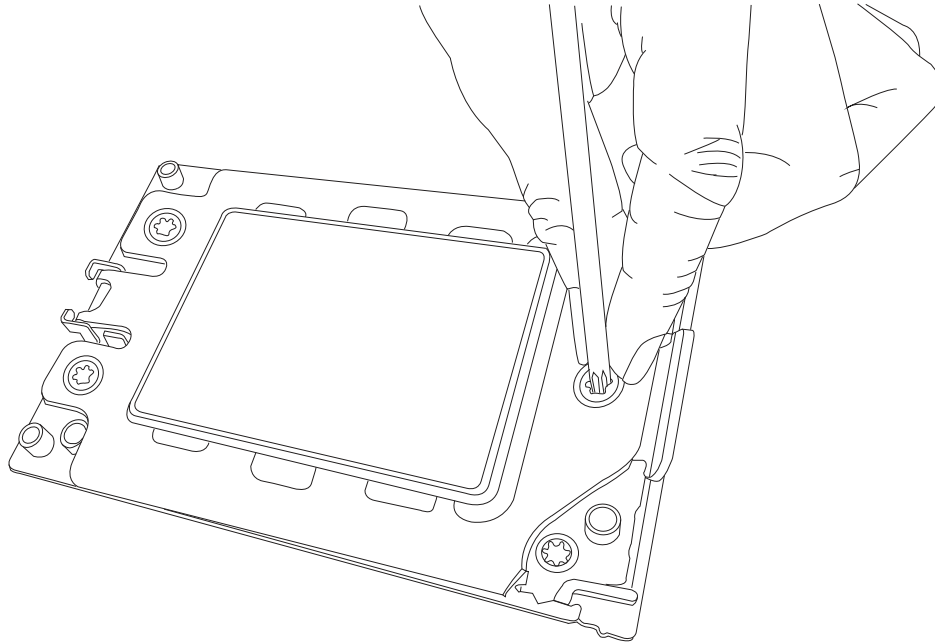


Warning! The exposed socket contacts are extremely vulnerable and can be damaged easily. Do not touch or drop objects onto the contacts and be careful removing the PnP Cover Cap and when placing the Rail Frame over the socket.

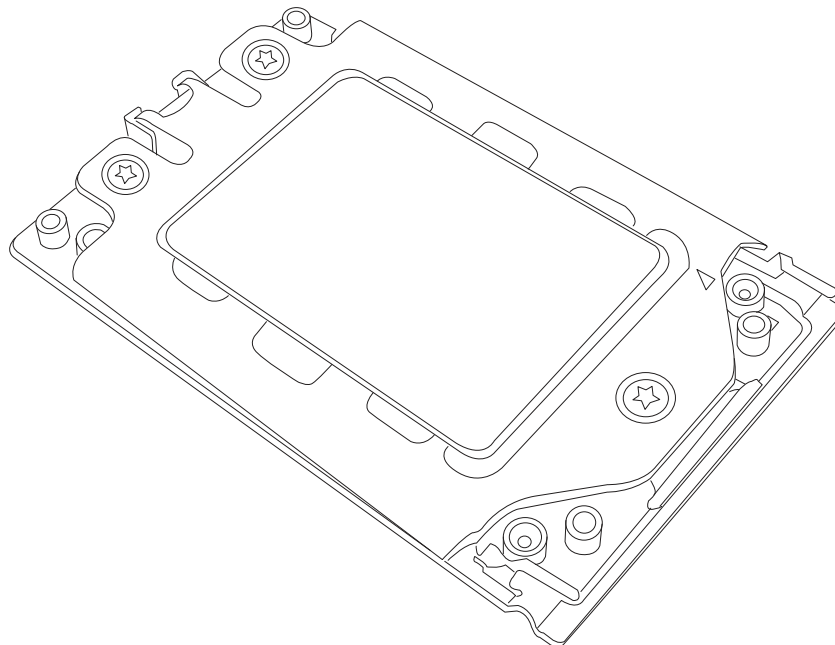
2. Gently lower the Rail Frame down onto the socket until the latches on the Rail Frame engage with the Socket housing, and it rests in place. **DO NOT** force it into place!



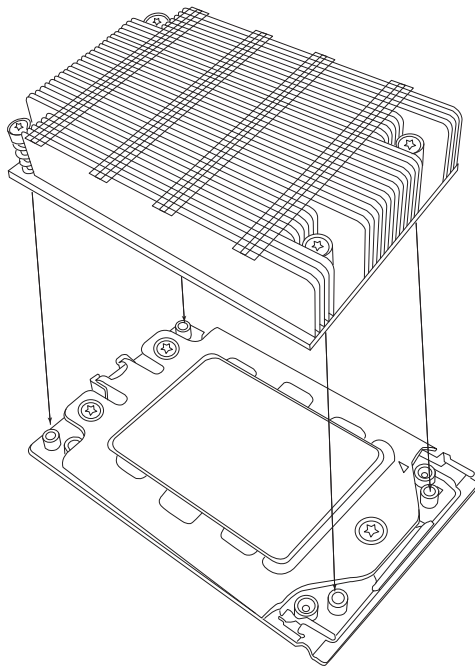
1. Gently lower the Force Frame down onto the Rail Frame and hold it in place until it is seated in the Socket housing. Note that the Force Frame is spring loaded and has to be held in place before it is secured. **Important: Use a torque screwdriver, set it at 16.1 kgf-cm (14.0 lbf-in) with a Torx T20 screw head bit, to prevent damage to the CPU.**



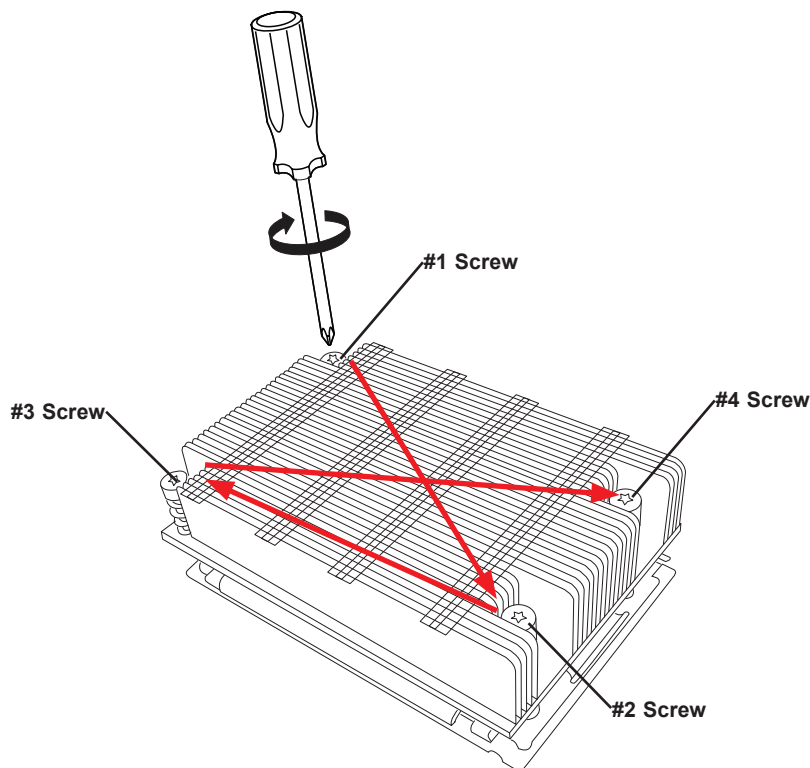
2. Place and re-screw the screws in the reverse order to the way you removed them (holes 1-2-3 in order). When finished, the Force Frame will be secure over both the Rail Frame and CPU Package.



3. After the Force Frame is secured and the CPU package is in place, now you must install the heatsink to the frame. Lower the heatsink down till it rests securely over the four screw holes on CPU Package on the socket frame.



4. Using a diagonal pattern, tighten the four screws down on the heatsink in a clockwise fashion till it is secure. The heatsink will now be secured and you have finished installing the processor and heatsink onto the motherboard. Repeat this procedure for any remaining CPU sockets on the Motherboard.



Un-installing the Processor and Heatsink

1. Remove the heatsink attached to the top of the CPU Package by reversing the installation procedure.
2. Clean the Thermal grease left by the heatsink on the CPU package lid to limit the risk of it contaminating the CPU package land pads or contacts in the socket housing.
3. Reverse the procedure for installing the Force Frame onto the socket, unscrewing the plate in the 3-2-1 screw order and lift the Force Frame to the vertical position.
4. Lift the Rail Frame using the lift tabs near the front end of the Rail Frame. Note that the Rail Frame is spring loaded, so be careful lifting it up into a vertical position.
5. Grip the handle of the Carrier Frame and pull upwards to extract it from the Rail Frame. Return the Carrier Frame/CPU Package to its original shipping container.
6. Grip the handle on the External Cap and return it to the Rail Frame sliding it downwards till it rests in the frame.
7. Gripping the Rail Frame, rotate it downwards till it rests above and locks over the socket housing in its horizontal position.
8. Push and rotate down the Force Frame till it is over the External Cap and Rail Frame into a horizontal position.
9. While holding down the Force Frame, secure it back to the socket frame by securing screw 1 in place. Note that without a CPU Package in place, it is not necessary to tighten down screws 2 and 3 at this time.

Memory Installation

Note: Check the Supermicro website for recommended memory modules.

Important: Exercise extreme care when installing or removing DIMM modules to prevent any possible damage.

Memory Support

The H12DGO-6 supports up to 8TB of ECC DDR4 3200 MHz speed, RDIMM/LRDIMM/3DS/NVDIMM memory in thirty-two slots. Refer to the table below for additional memory information.

Processors and their Corresponding Memory Modules																
CPU#	Channel 1		Channel 2		Channel 3		Channel 4		Channel 5		Channel 6		Channel 7		Channel 8	
8 DIMMS																
CPU1		A2		B2		C2		D2		E2		F2		G2		H2
16 DIMMS																
CPU1	A1	A2	B1	B2	C1	C2	D1	D2	E1	E2	F1	F2	G1	G2	H1	H2
16 DIMMS																
CPU1		A2		B2		C2		D2		E2		F2		G2		H2
CPU2		A2		B2		C2		D2		E2		F2		G2		H2
32 DIMMS																
CPU1	A1	A2	B1	B2	C1	C2	D1	D2	E1	E2	F1	F2	G1	G2	H1	H2
CPU2	A1	A2	B1	B2	C1	C2	D1	D2	E1	E2	F1	F2	G1	G2	H1	H2

Populating RDIMM/RDIMM 3DS/LRDIMM/LRDIMM 3DS DDR4 Memory Modules with 7002/7003 Processors

(Note: AMD EPYC 7003 series processor support requires BIOS version 2.0 or newer.)

Type	DIMM Population		Maximum DIMM Capacity (GB)		Maximum Frequency (MHz)
	DIMM1	DIMM2	1 Channel	8 Channel	
RDIMM		1R	32GB	256GB	3200
	1R	1R	64GB	512GB	2933
		2R or 2DR	64GB	512GB	3200
	1R	2R or 2DR	96GB	768GB	2933
	2R or 2DR	2R or 2DR	128GB	1TB	2933
LRDIMM dual die package		4DR	128GB	1TB	3200
	4DR	4DR	256GB	2TB	2933
LRDIMM 3DS		2S2R	128GB	1TB	3200
		2S4R	256GB	2TB	3200
	2S2R	2S2R	256GB	2TB	2933
	2S2R	2S4R	384GB	3TB	2933
	2S4R	2S4R	512GB	4TB	2933
3DS RDIMM		2S2R	128GB	1TB	2933
	2S2R	2S2R	256GB	2TB	2666
		2S4R	256GB	2TB	2933
	2S2R	2S4R	384GB	3TB	2666
	2S4R	2S4R	512GB	4TB	2666

DIMM Module Population Sequence

When installing memory modules, the DIMM slots should be populated in the following order: DIMMA2, DIMMB2, DIMMC2, DIMMD2, DIMME2, DIMMF2, DIMMG2, DIMMH2, then DIMMA1, DIMMB1, DIMMC1, DIMMD1, DIMME1, DIMMF1, DIMMG1, DIMMH1.

- The blue slots must be populated first.
- Always use DDR4 DIMM modules of the same type, size and speed.
- Mixed DIMM speeds can be installed. However, all DIMMs will run at the speed of the slowest DIMM.
- The motherboard will support odd-numbered modules (1 or 3 modules installed). However, to achieve the best memory performance, fully populate the motherboard with validated memory modules.

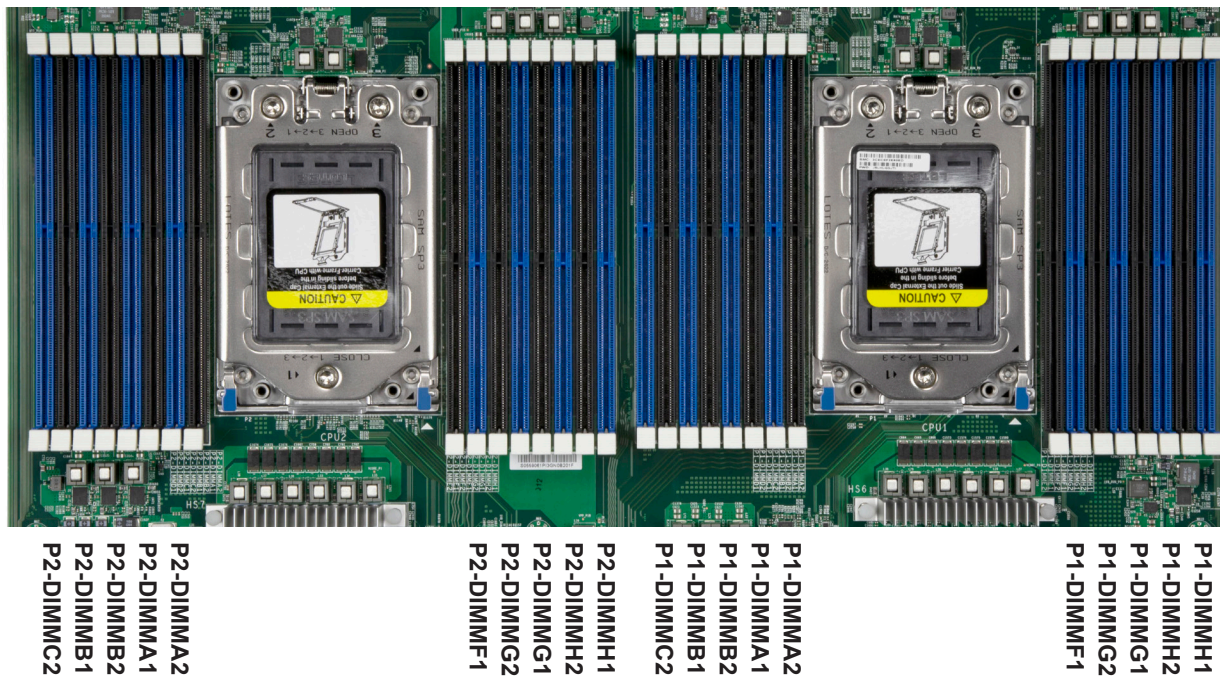
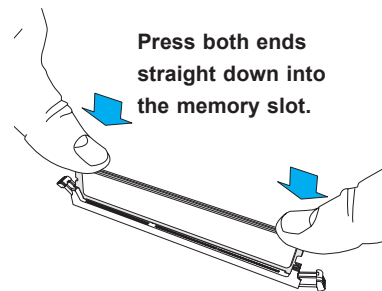
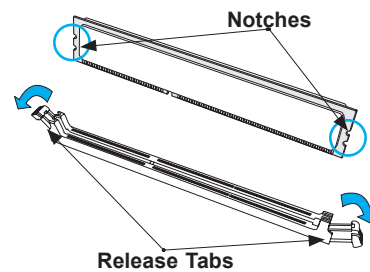
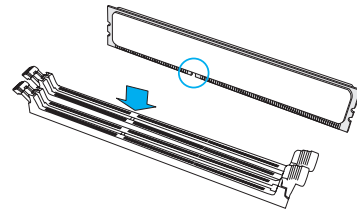


Figure 3-4. DIMM Numbering

DIMM Installation

1. Insert the desired number of DIMMs into the memory slots, starting with DIMMA2, DIMMB2, DIMMC2, DIMMD2, DIMME2, DIMMF2, DIMMG2, DIMMH2, then DIMMA1, DIMMB1, DIMMC1, DIMMD1, DIMME1, DIMMF1, DIMMG1, DIMMH1. For best performance, please use the memory modules of the same type and speed.
2. Push the release tabs outwards on both ends of the DIMM slot to unlock it.
3. Align the key of the DIMM module with the receptive point on the memory slot.
4. Align the notches on both ends of the module against the receptive points on the ends of the slot.
5. Press both ends of the module straight down into the slot until the module snaps into place.
6. Press the release tabs to the lock positions to secure the DIMM module into the slot.



DIMM Removal

Press both release tabs on the ends of the DIMM module to unlock it. Once the DIMM module is loosened, remove it from the memory slot.

Motherboard Battery

The motherboard uses non-volatile memory to retain system information when system power is removed. This memory is powered by a lithium battery residing on the motherboard.

Replacing the Battery

Begin by removing power from the system as described in section 3.1.

1. Push aside the small clamp that covers the edge of the battery. When the battery is released, lift it out of the holder.
2. To insert a new battery, slide one edge under the lip of the holder with the positive (+) side facing up. Then push the other side down until the clamp snaps over it.

Note: Handle used batteries carefully. Do not damage the battery in any way; a damaged battery may release hazardous materials into the environment. Do not discard a used battery in the garbage or a public landfill. Please comply with the regulations set up by your local hazardous waste management agency to dispose of your used battery properly.

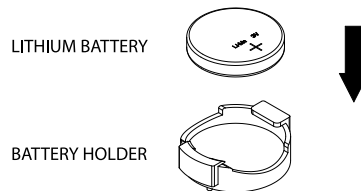


Figure 3-5. Installing the Onboard Battery

Warning: There is a danger of explosion if the onboard battery is installed upside down (which reverses its polarities). This battery must be replaced only with the same or an equivalent type recommended by the manufacturer (BR2032).

3.4 Chassis Components

GPU Tray

The GPU tray contains the Nvidia HGX A100 baseboard. Note the handles must be in the unlocked and extended position to install the GPU tray.

Caution: The GPU tray may weigh up to 45 lbs. When moving the tray, exercise caution and use multiple people.

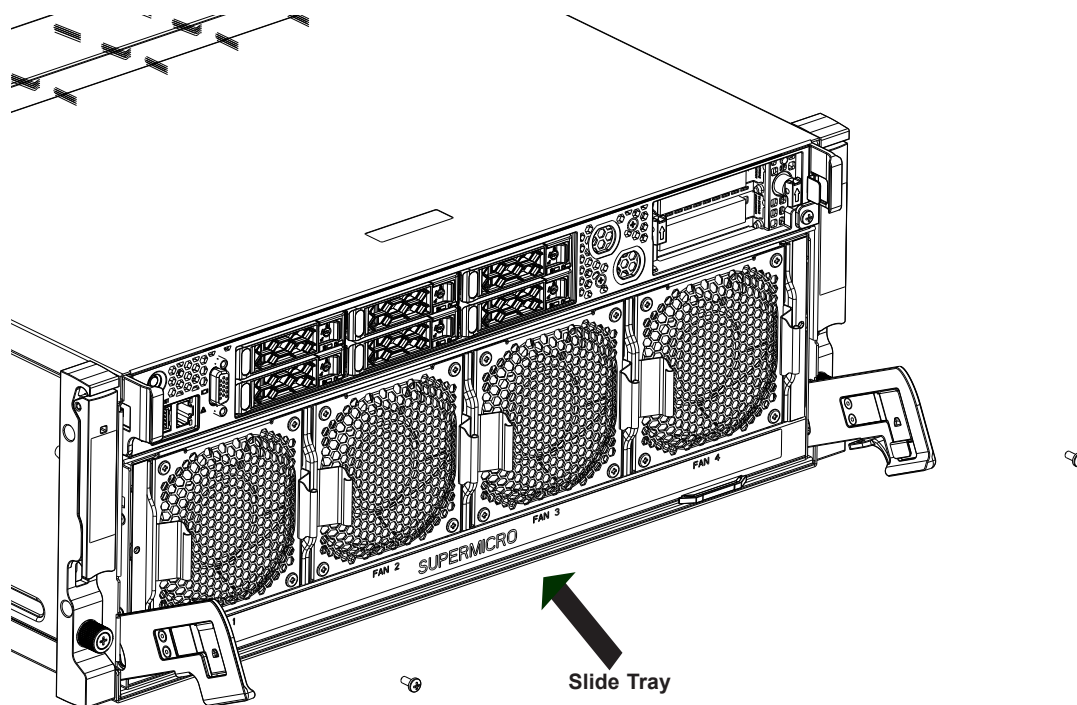


Figure 3-6. Installing GPU Tray

Installing the GPU Tray

1. The release lever on both side must be in the fully opened position.
2. Slide the tray into the chassis.
3. Lift the two handles until they are upright and snap into place.
4. Secure each handle with a screw.

Switch Tray

The switch tray contains the PCIe 4.0 switch board and Network Interface Cards. Note the handles must be in the unlocked and extended position to install the switch tray.

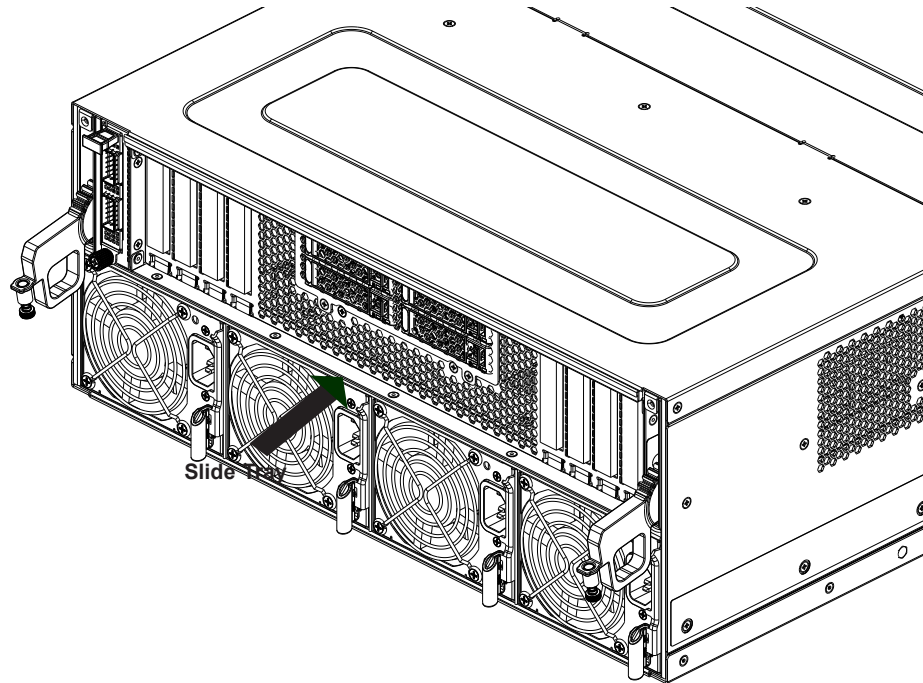


Figure 3-7. Installing Switch Tray

Installing the Switch Tray

1. The handle on each side must be in the fully pulled-down position.
2. Slide the tray into the chassis.
3. Lift the two handles until they are fully in the upright position.
4. Tighten both thumbscrews.

Storage Drives

Your server may or may not have come with NVMe U.2 drives installed. Up to six 2.5" drives are supported by the chassis. Four drives are SATA/NVMe and two drives are SATA only. An additional four NVMe drives can be supported with an optional backplane.

The drives are mounted in drive carriers to simplify their installation and removal from the chassis. (Both procedures may be done without removing power from the system.)

Drive Carrier Indicators

Each drive carrier has two LED indicators: an activity indicator and a status indicator. In RAID configurations, the status indicator lights to indicate the status of the drive. In non-RAID configurations, the status indicator remains off. See the table below for details.

Hard Drive Carrier LED Indicators			
	LED Color	State	Status
Activity LED	Blue	Solid On	SAS/NVMe drive installed
	Blue	Blinking	I/O activity
Status LED	Red	Solid On	Failed drive for SAS/SATA/NVMe
	Red	Blinking at 1 Hz	Rebuild drive for SAS/SATA/NVMe
	Red	Blinking with two blinks and one stop at 1 Hz	Hot spare for SAS/SATA/NVMe
	Red	On for five seconds, then off	Power on SAS/SATA/NVMe
	Red	Blinking at 4 Hz	Identity drive for SAS/SATA/NVMe
	Red	Solid On	Safe to remove NVMe device
	Green	Blinking at 1 Hz	Attention state- do not remove NVMe device

Note: Enterprise level hard disk drives are recommended for use in Supermicro chassis and servers. For information on recommended HDDs, see the Supermicro website, <http://www.supermicro.com/products/nfo/files/storage/SBB-HDDCompList.pdf>.

Removing/Installing Drives

Removing Drive Carriers from the Chassis

1. Push the release button on the drive carrier. This releases and extends the drive carrier handle. If the release button does not release it, the handle may be locked: using a flat-head screwdriver, rotate the screw counterclockwise 45 degrees to unlock the handle.

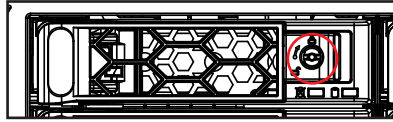


Figure 3-8. Unlocking Handle

2. Use the handle to pull the carrier out of the chassis as shown below.

Caution: Except for short periods of time (swapping drives), do not operate the server with the drive carriers removed from the bays, regardless of how many drives are installed, for proper airflow.

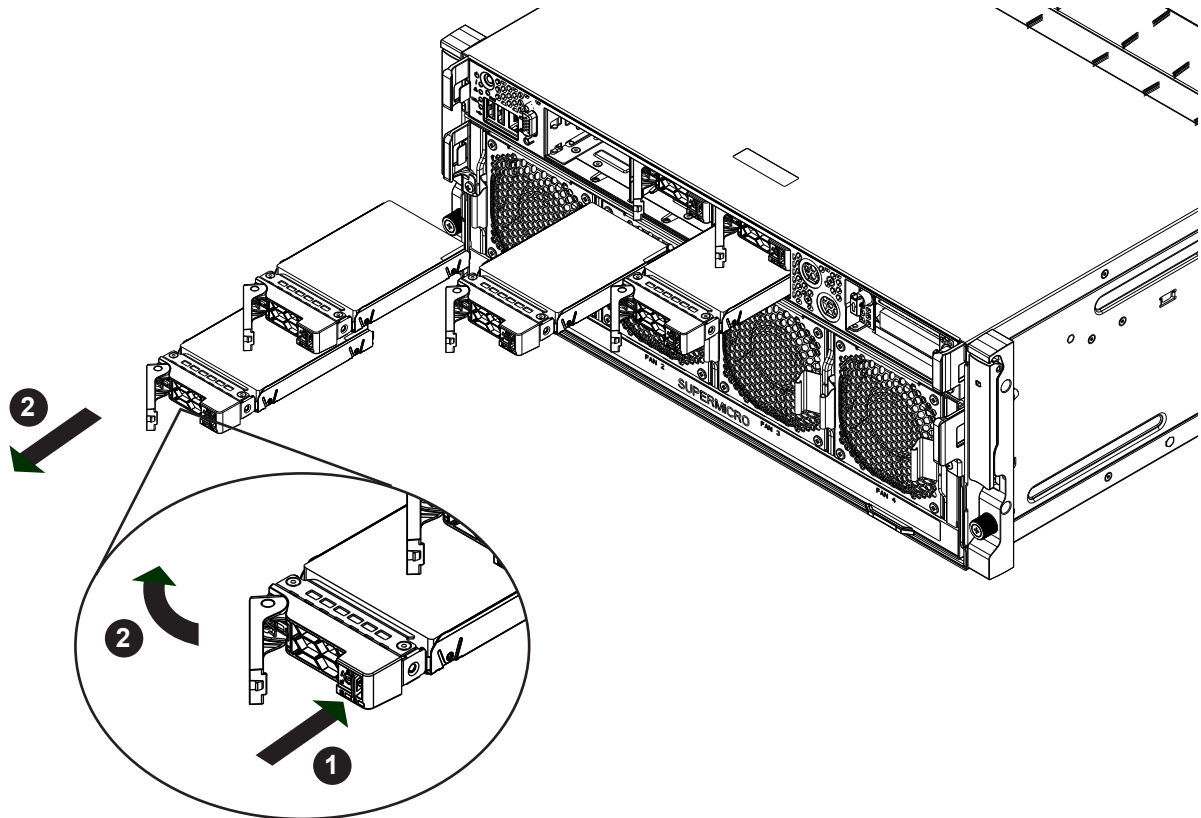


Figure 3-9. Removing a Drive Carrier

Installing a 2.5" NVMe Drive

1. Place the NVMe drive carrier on a flat surface.
2. Orient the drive with the connector facing the bottom rear of the carrier. The drive can be inserted from above the carrier and into the clips until a "click" is heard.
3. Use the open handle of the drive carrier to insert the carrier into the open drive bay.
4. Secure the drive carrier into the drive bay by closing the drive carrier handle.
5. Lock the handle with a flat-head screwdriver.

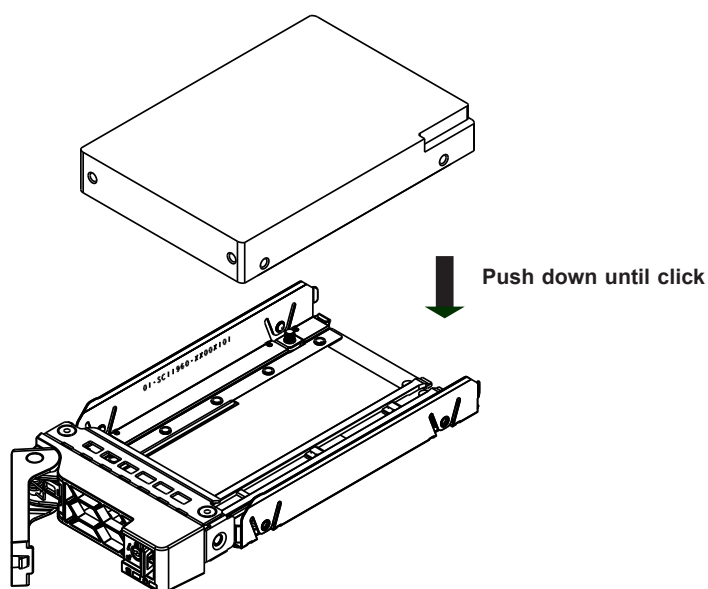


Figure 3-10. Installing Drive to Drive Carrier

Removing a 2.5" NVMe Drive

1. After removing the carrier from the system, push up from the bottom of the drive to remove it from the carrier.
2. Replace with a new drive and insert the carrier back into the open drive bay.

Optional Rear 2.5" NVMe Drive

Up to four rear 2.5" NVMe drives can be supported with an optional backplane. If installing rear NVMe drives, follow the recommended configuration below.

- Four SSDs of 7mm height.
- Two SSDs of 15mm height in the top row only.

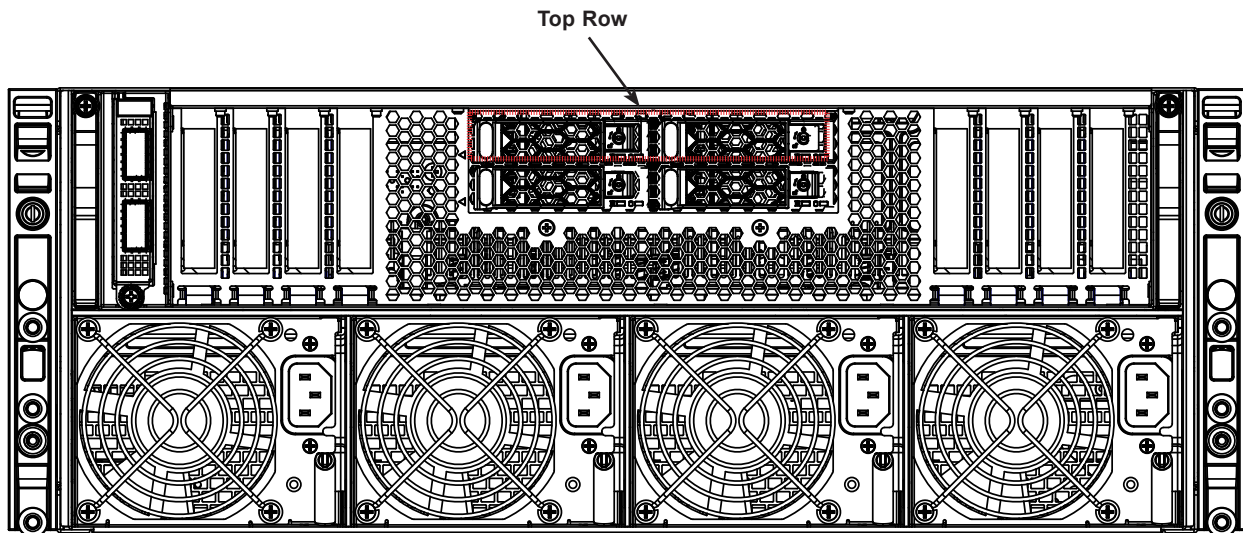


Figure 3-11. Optional Rear NVMe Drives

Hot-Swap for NVMe Drives

Supermicro servers support NVMe surprise hot-swap. For even better data security, NVMe *orderly* hot-swap is recommended. NVMe drives can be ejected and replaced remotely using IPMI.

Ejecting a Drive

1. **IPMI > System > Storage Monitoring > Physical View**
2. Select Device, Group and Slot, and click **Eject**. After ejecting, the drive Status LED indicator turns green.
3. Remove the drive.

Note that *Device* and *Group* are categorized by the CPLD design architecture. The AS -4124GO-NART/AS -4124GO-NART+ server has one Device and one Group.

Slot is the slot number on which the NVMe drives are mounted.

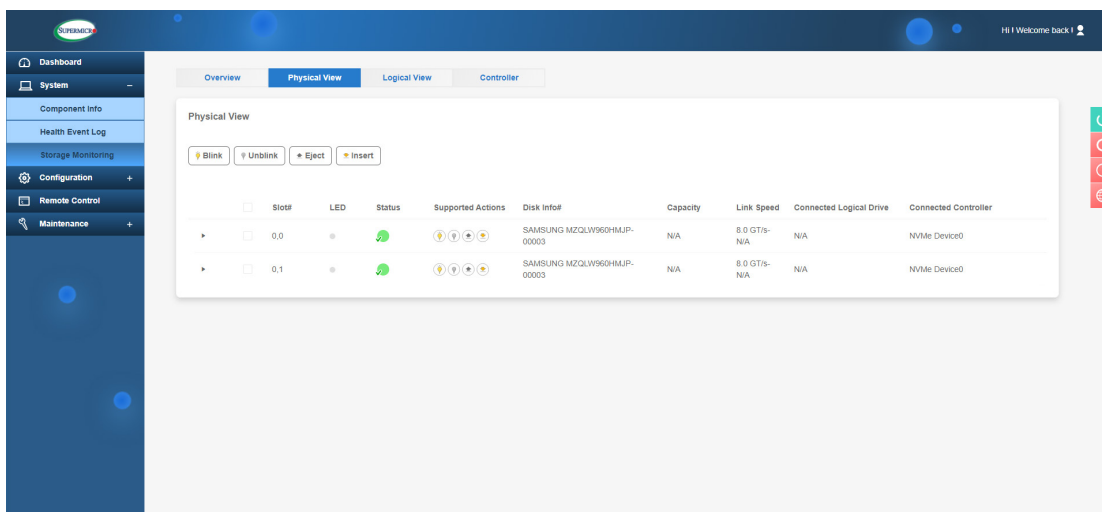


Figure 3-12. IPMI Screenshot

Replacing the Drive

1. Insert the replacement drive.
2. **IPMI > System > Storage Monitoring > Physical View**
3. Select Device, Group and slot and click **Insert**. The drive Status LED indicator flashes red, then turns off. The Activity LED turns blue.

Checking the Temperature of an NVMe Drive

There are two ways to check using IPMI.

Checking a Drive

- **IPMI > Server Health > NVMe SSD** – Shows the temperatures of all NVMe drives, as in Figure 3-12.
- **IPMI > Server Health > Sensor Reading > NVME_SSD** – Shows the single highest temperature among all the NVMe drives.

Installing an M.2 Solid State Drive

The H12DGO-6 can accommodate two M.2 solid state drives (SSDs). Each M.2 socket supports NVMe PCIe 3.0 x2 (32 Gb/s) or SATA SSD cards in the 2280 or 22110 form factors. The 22110 form factor is recommended because the appropriate standoff comes pre-installed on the motherboard.

Caution: Use industry-standard anti-static equipment, such as gloves or wrist strap, and follow precautions to avoid damage caused by ESD.

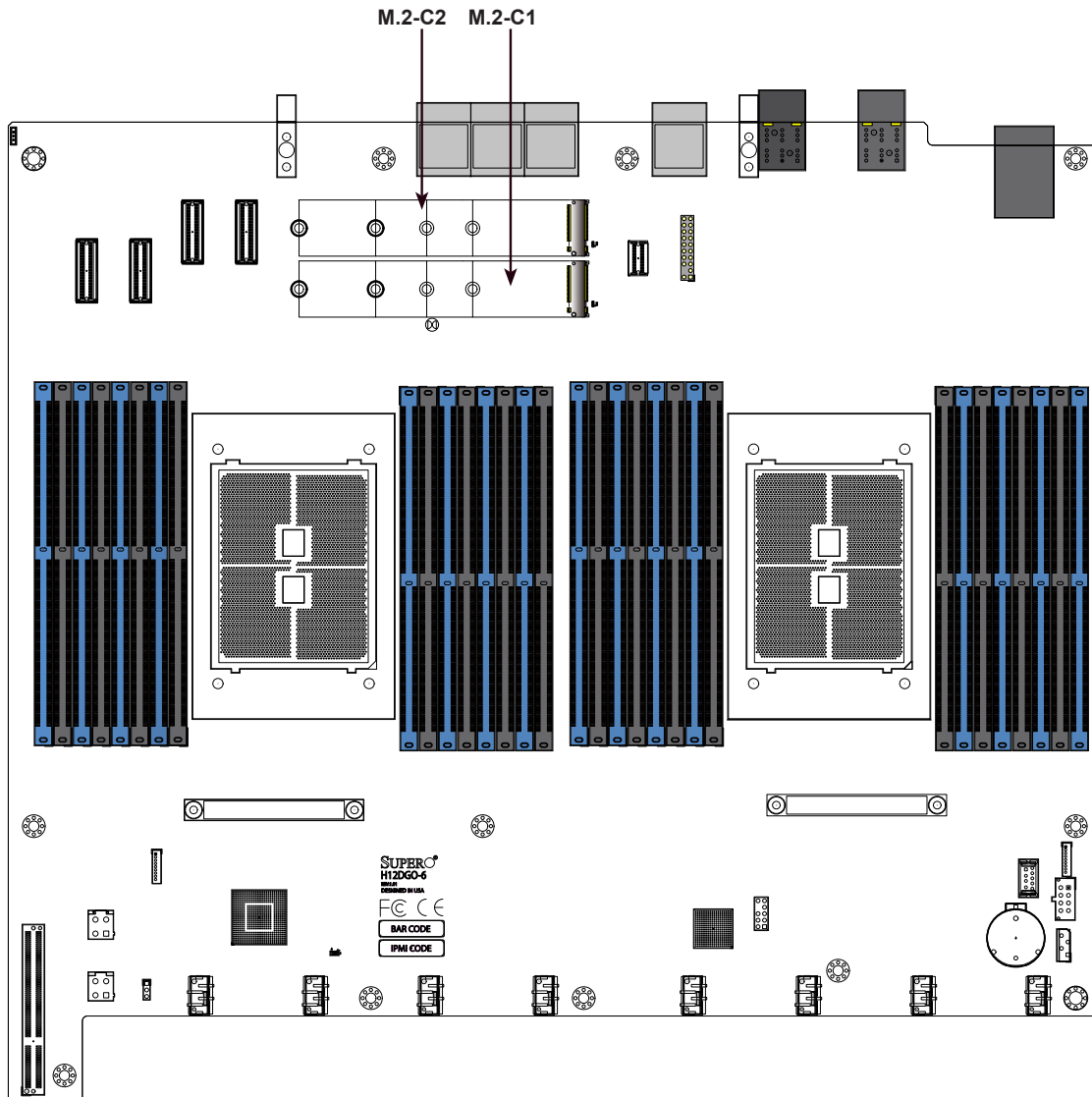


Figure 3-13. M.2 Slot Locations

Installing an M.2 2280 Device

1. Power down the system and remove the CPU tray as described in Section 3.1 and 3.2.
2. Remove any component blocking the M.2 sockets.
3. To loosen the M.2 plastic standoff on the motherboard, lift up its top square latch, and use gentle force to pull it out of the hole.
4. Move and place the standoff plug in the proper hole.
5. Insert the M.2 2280 device at a slight angle in the M.2 slot, and ensure the notch on the other end of the device aligns the standoff top.
6. Pull the top square latch down and ensure the latch plug is pushed in standoff to secure the device in place.
7. Replace the CPU tray into the chassis.

Replacing GPUs

Individual GPU and GPU baseboards are recommended to be serviced by Supermicro due to the optimized density of the system.

Prior to submitting an RMA for GPUs, Nvidia requires that their Field Diagnostic tool is first run to isolate hardware failures and obtain a log file for review. Check with Supermicro Technical Services for more details. In addition, more details can be found in Nvidia reference document Baseboard Field Diagnostics Software Guide DU-09163-001.

Replacing GPU Baseboard Module

1. Run Nvidia's Field Diagnostic tool to isolate failures and obtain a log file for review.
2. Disconnect the GPU baseboard module's 54V power cable.
3. Remove the two GPU air shrouds. Each air shroud has two quick-release latches.
4. Remove four fan modules. Remove the cross-bar and the fan board holder. It is not necessary to remove the fan board from the fan board holder.
5. While holding the GPU module, remove the sixteen screws that secure the GPU baseboard to the mechanical tray. See Figure 3-15 for the screw locations.
6. Once all screws are loose, grasp both handles of the GPU module and lift it up and out. Be careful not to scratch the GPU baseboard or your hands on the chassis metal edges.

For installation reverse the above steps.

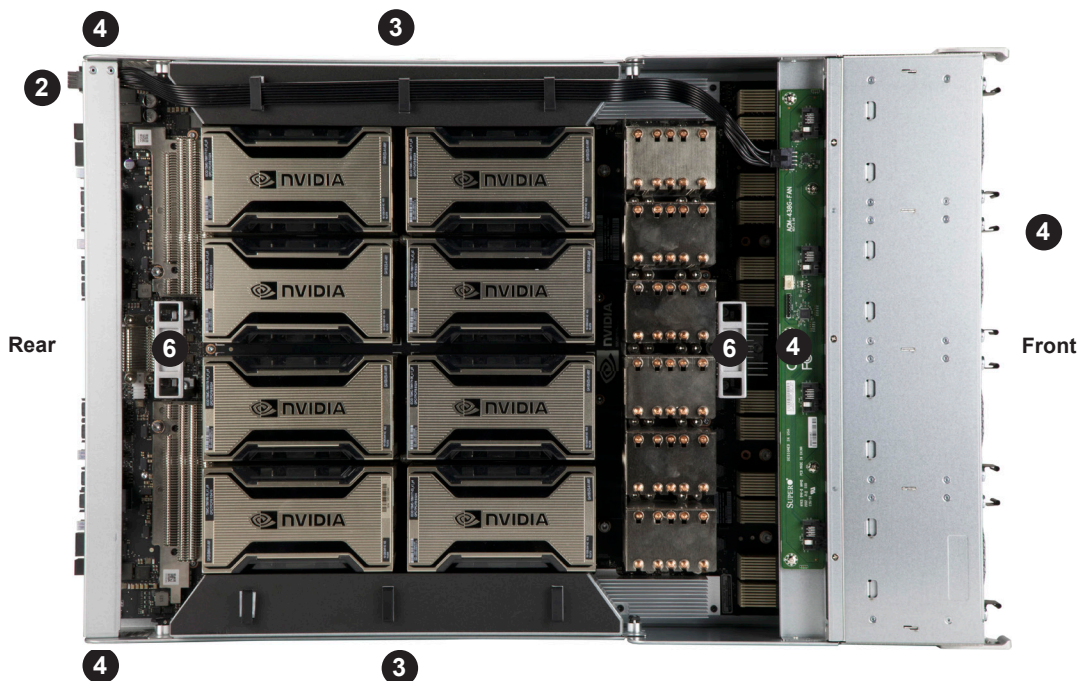


Figure 3-14. GPU Baseboard

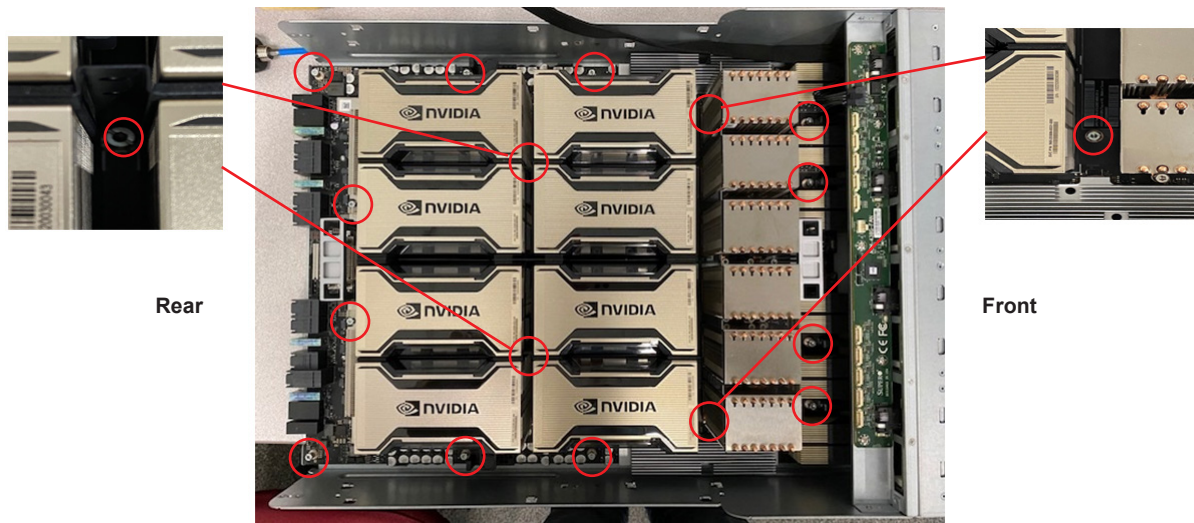


Figure 3-15. Screw Locations

Replacing Individual GPUs

Prior to submitting an RMA for GPUs, Nvidia requires that their Field Diagnostic tool is first run to isolate hardware failures and obtain a log file for review. Check with Supermicro Technical Services for more details. In addition, more details can be found in Nvidia reference document Baseboard Field Diagnostics Software Guide DU-09163-001. Use these tools to determine the failed GPU and locate using the Cable Mapping Guide Figure and GPU Mapping Table. Be sure to identify the failed GPU correctly and if any questions reach out to Supermicro Technical Service team to help.

Note: GPU heatsink and individual GPU SXM4 replacement is recommended to be done by a qualified Supermicro service technician.

GPU Identification Numbers

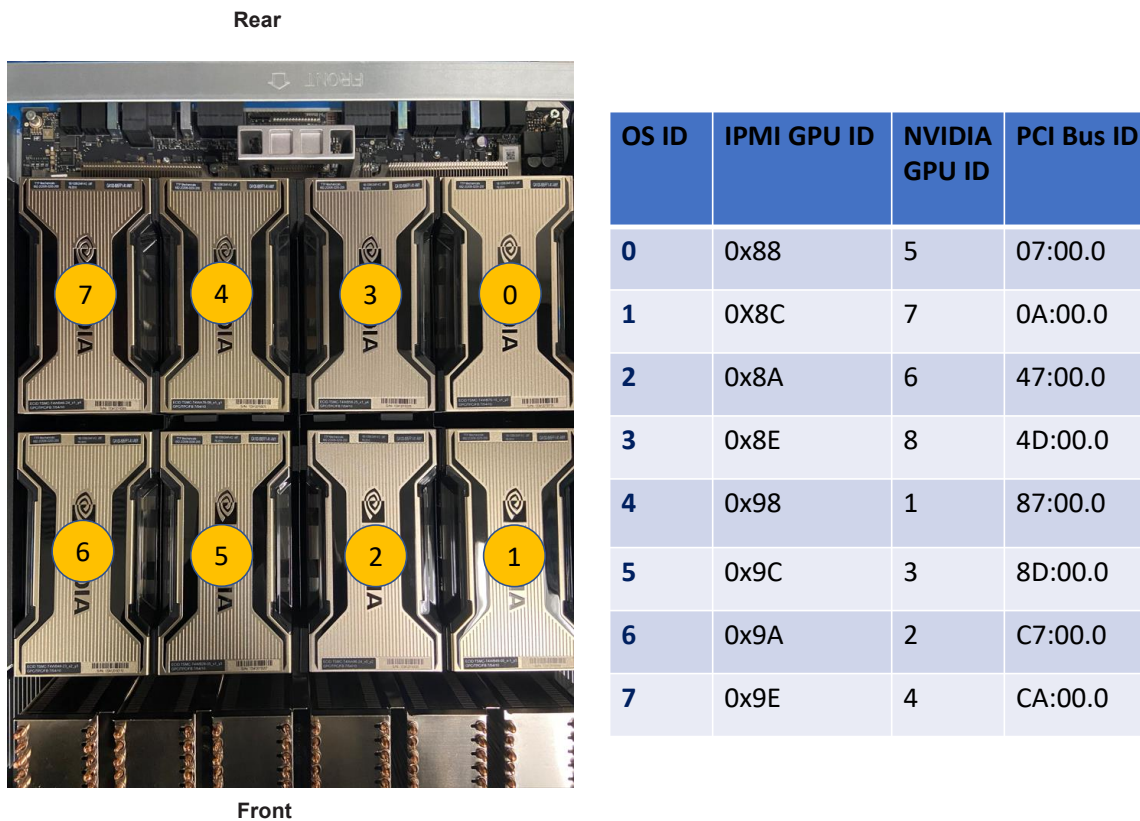


Figure 3-16. GPU ID Numbering

Installing Expansion Cards

The system has one PCIe 4.0 x16 LP and one PCIe 4.0 x8 LP slots on the motherboard tray and eight PCIe 4.0 x16 slots on the switch tray.

Note: Expansion cards are recommended to be serviced by Supermicro due to the optimized density of the 4U form factor.

Installing an Expansion Card in the Motherboard Tray

1. Power down the system and remove the motherboard tray as described in Section 3.1 and 3.2.

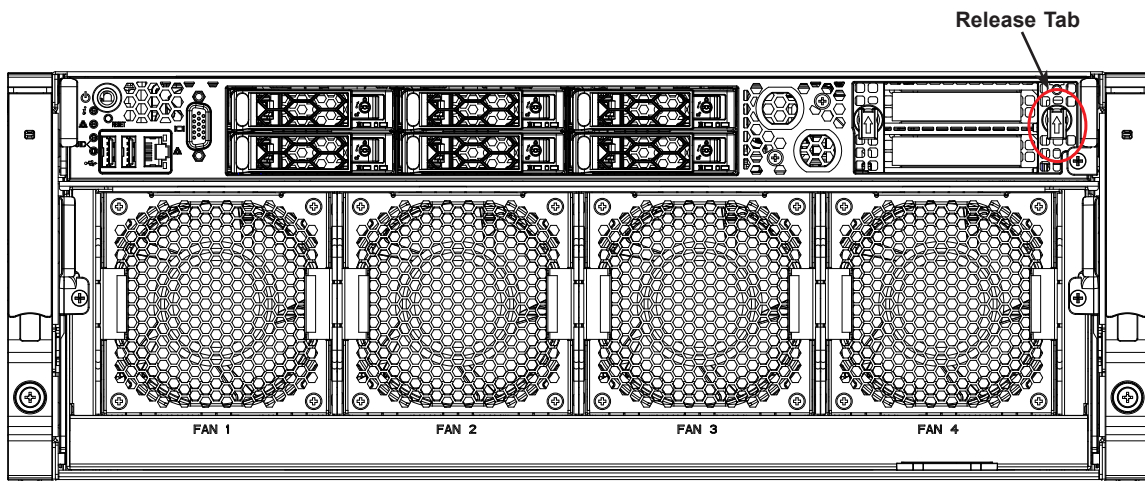


Figure 3-17. Expansion Bracket Release Tab

2. Rotate open both release tabs until the arrows point downward and remove the bracket from the chassis.
3. Insert the expansion card(s) into the riser card slot(s) while aligning the rear PCI shield.
4. Replace the riser card into the motherboard expansion slot while aligning the bracket into the chassis.
5. Rotate the release tab until the arrows point upward and clicks.
6. Replace the motherboard tray into the chassis.

Installing an Expansion Card in the Switch Tray

1. Power down the system and remove the switch tray as described in Section 3.1 and 3.2.
2. Remove the shield and screw where the expansion card will be installed.
3. Install the expansion card and re-install the screw.

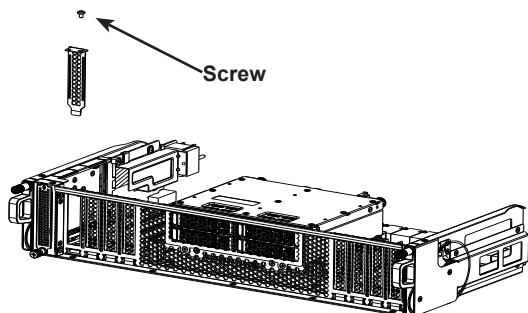


Figure 3-18. Remove Shield and Screw

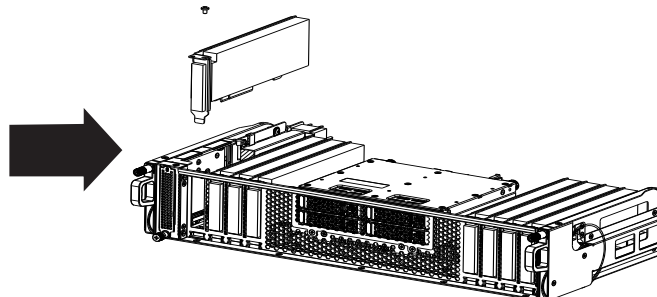


Figure 3-19. Install Card and Screw

Installing AIOM in the Switch Tray

1. Power down the system and remove the switch tray as described in Section 3.1 and 3.2.
2. Loosen the thumbscrew on the AIOM shield and remove it from the chassis.
3. Push the AIOM card into the chassis until the release lever retracts.
4. Tighten the thumbscrew to secure the AIOM card in the chassis.

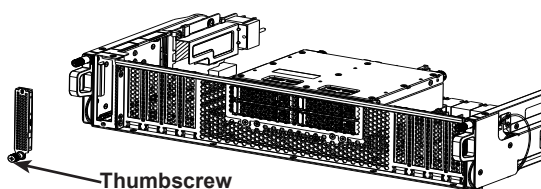


Figure 3-20. Remove Shield

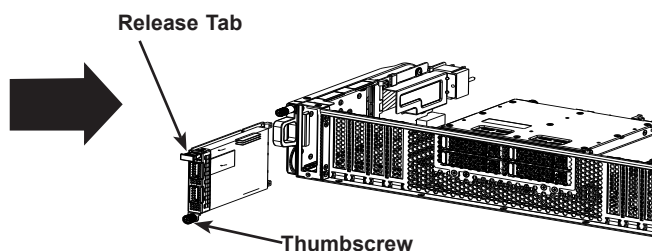


Figure 3-21. Install AIOM

System Fans

The GPU node contains four hot-swappable heavy-duty fans. The fan modules are powered from the fan board mounted within the GPU tray. These fans are powered by 8-pin power connectors. The CPU node contains six counter-rotating fans. Fan speed is controlled by a system temperature setting in IPMI. If a fan fails, the remaining fans will ramp up to full speed. The system can continue to run with a failed fan in the GPU node or CPU node. Replace any failed fan at your earliest convenience with the same type and model.

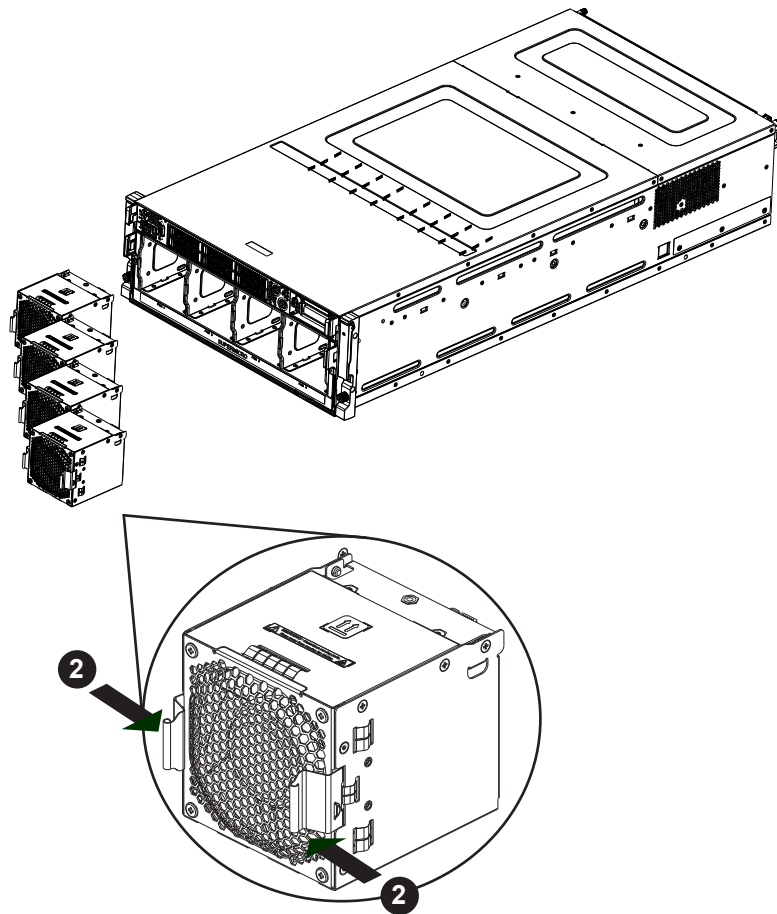


Figure 3-22. GPU Fan Replacement

Changing a System Fan

1. Determine which fan is failing. If possible, use IPMI. If not, while the power is on, examine the fans to determine which one has failed.
2. Squeeze both tabs at the side of the fan module and pull the fan out of the chassis.
3. Replace the fan with a new one, making sure it is within specifications.
4. Push the fan into the housing until it is secure and running.

5. Confirm that the fan is working properly checking the server air flow:

- Make sure there are no objects to obstruct air flow in and out of the server.
- If you are using a front bezel, make sure the bezel filter is replaced periodically.
- Do not operate the server without drives or drive trays in the drive bays.
- Use only recommended server parts.
- Make sure no wires or foreign objects obstruct air flow through the chassis. Pull all excess cabling out of the airflow path or use shorter cables.

The control panel LEDs display system heat status. See “Control Panel” in Chapter 1 for details.

Overheating

There are several possible responses if the system overheats.

Overheat Temperature Setting

Some backplanes allow the overheat temperature to be set at 45, 50, or 55 by changing a jumper setting. For more information, consult the backplane user manual at www.supermicro.com. (Click Support, then the Manuals link.)

Responses

If the server overheats:

1. Use the LEDs to determine the nature of the overheating condition.
2. Confirm that the chassis covers are installed properly.
3. Make sure all fans are present and operating normally.
4. Check the routing of the cables.
5. Verify that the heatsinks are installed properly. Push the replacement fan module straight inward into the GPU tray until the left and right fan module finger tabs are locked into the GPU tray.

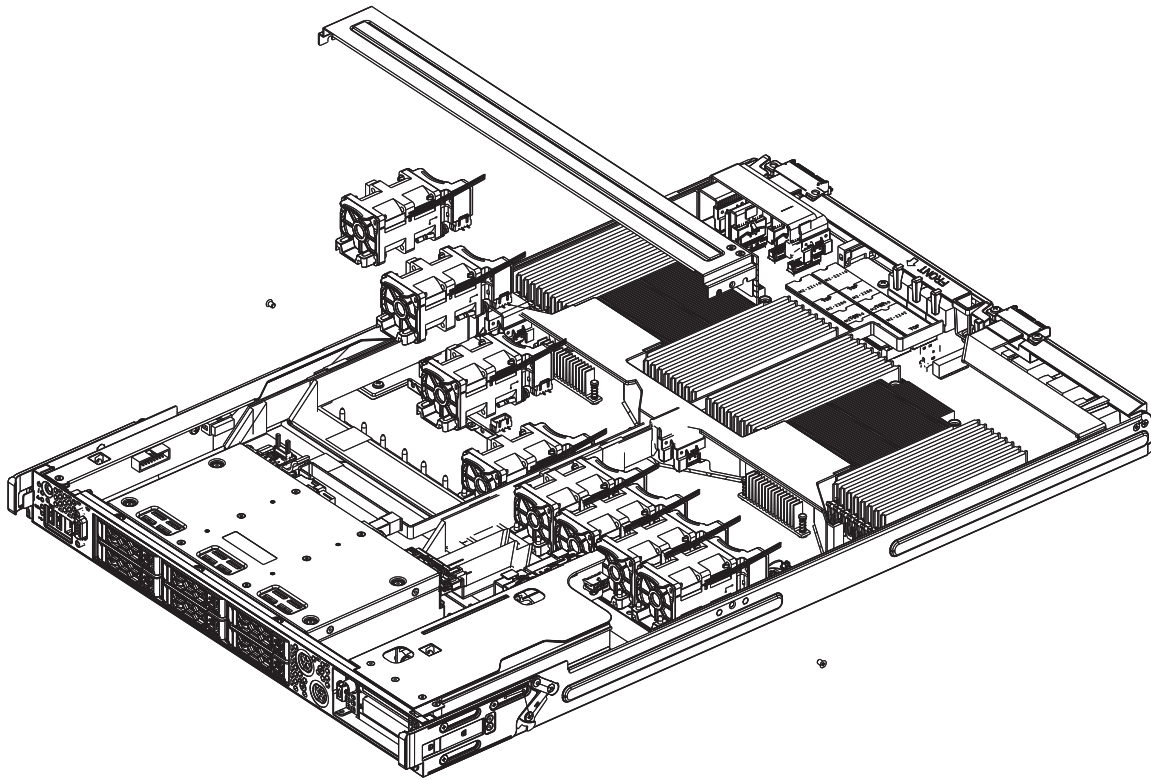


Figure 3-23. CPU Fan Replacement

Changing a CPU Fan

1. Identify the failed fan using IPMI.
2. Power down the system and remove the motherboard tray as described in Section 3.1 and 3.2.
3. Remove the two screws holding the crossbar to the CPU tray and remove the crossbar.
4. Remove the failed fan's wiring from the motherboard.
5. Remove the four pins securing the fan to the fan tray.
6. Lift the fan from the fan tray and out of the chassis.
7. Place a new fan in the open position in the fan tray. Make sure the arrow indicating the air flow direction points in the same direction as the other fans.
8. Reconnect the fan's wiring.
9. Replace the motherboard tray into the chassis.

Air Shroud

Air shrouds help to funnel the airflow provided by the fans over the system components that generate the most heat.

Installing the Air Shroud

1. Remove the CPU node from the chassis.
2. Ensure the CPU, CPU heatsinks, and configured DIMMs are installed.
3. Gently place the air shroud over the CPU heatsinks with the front snap locations lining up with metal chassis middle crossbar. Be careful that the airshroud legs at either end do not interfere with any motherboard components such as DIMMs. Guide the air shroud around cable bundles as necessary.

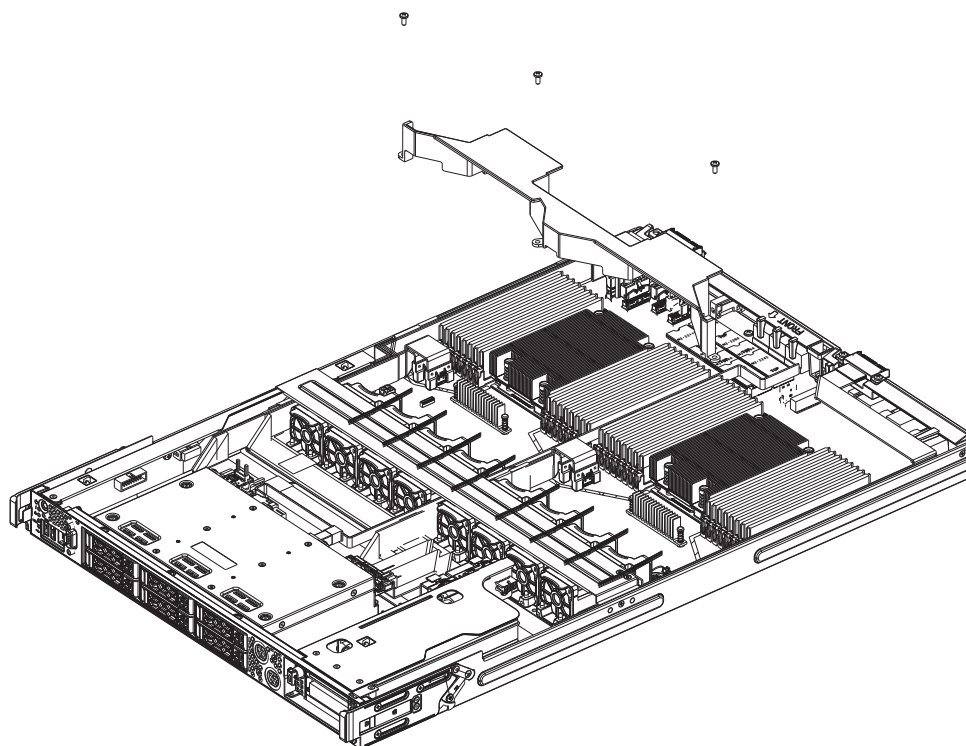


Figure 3-24. Installing Air Shrouds

4. Install three screws to hold the air shroud to the chassis floor.

Power Supply

The AS -4124GO-NART features 2200W (3+1) redundant Platinum Level power supplies while the AS -4124GO-NART+ features 3000W (2+2) redundant Titanium Level (96%+) power supplies. The power modules can be changed without powering down the system. New units can be ordered directly from Supermicro or authorized distributors.

These power supplies are auto-switching capable. This feature enables them to automatically sense the input voltage and operate at a 100-120v or 180-240v. An amber light will be illuminated on the power supply when the power is off. An illuminated green light indicates that the power supply is operating.

Replacing the Power Supply

1. Fully rotate the power supply locking handle upward.
2. Carefully and slowly pull the power supply from the rear structure.

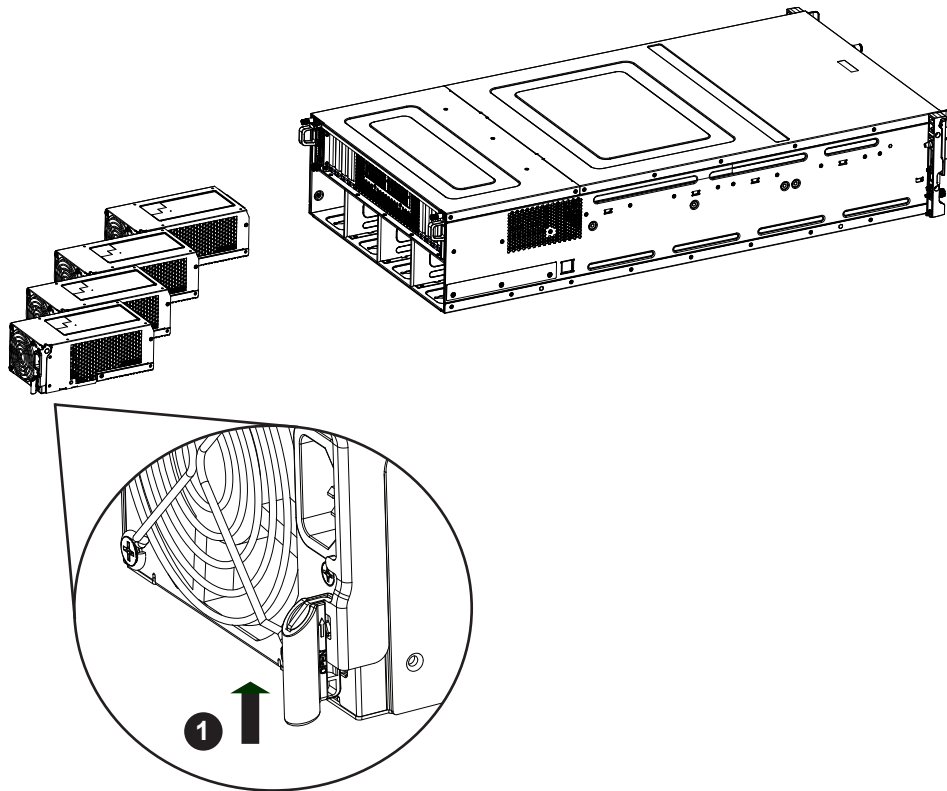


Figure 3-25. Push Handle Upwards

3. Insert replacement power supply (with lock handle on fully upward position) into the rear structure until the power supply locking handle engages with the rear structures locking pin.
4. Fully push power supply locking handle downward until it is locked into the rear structure.

Chapter 4

Motherboard Connections

This section describes the connections on the motherboard and provides pinout definitions. Note that depending on how the system is configured, not all connections are required. The LEDs on the motherboard are also described here. A motherboard layout indicating component locations may be found in Chapter 1.

Please review the Safety Precautions in Chapter 3 before installing or removing components.

4.1 Headers and Connectors

Fan Headers

There are eight fan headers on the motherboard. These are 4-pin fan headers; pins 1-3 are backward compatible with traditional 3-pin fans. The onboard fan speeds are controlled by Fan Mode in the BMC. When using Fan Mode setting, please use all 4-pin fans.

Fan Header Pin Definitions	
Pin#	Definition
1	Ground (Black)
2	+12V (Red)
3	Tachometer (Yellow)
4	PWM control (Blue)

IPMB System Management Bus Header

A System Management Bus header for IPMI 2.0 is located at JIPMB1. Connect the appropriate cable here to use the IPMB I²C connection on your system.

IPMB Header Pin Definitions	
Pin#	Definition
1	Data
2	Ground
3	Clock
4	No Connection

Backplane 12V and 5V 8-pin Power Connectors

JHDD_PWR0 and JHDD_PWR1 are 4-pin 12V and 5V DC power inputs for the system's backplane. Refer to the table below for pin definitions.

Backplane 8-pin Power Pin Definitions			
Pin#	Definition	Pin#	Definition
1	Ground	3	+5V
2	Ground	4	+12V

TPM Header/Port 80 Connector

The JTPM1 header is used to connect a Trusted Platform Module (TPM), which is available from a third-party vendor. A TPM is a security device that supports encryption and authentication in hard drives. It enables the motherboard to deny access if the TPM associated with the hard drive is not installed in the system.

Please go to the following link for more information on TPM: <http://www.supermicro.com/manuals/other/TPM.pdf>.

Trusted Platform Module Header Pin Definitions			
Pin#	Definition	Pin#	Definition
1	LCLK	2	GND
3	LFRAME#	4	
5	LRESET#	6	NC
7	LAD3	8	LAD2
9	3.3V	10	LAD1
11	LAD0	12	GND
13	NC	14	NC
15	3.3V_STBY	16	SERIRQ
17	GND	18	NC
19	NC	20	NC

SATA Ports

The H12DGO-6 supports four SATA 3.0 ports through CN9 port and HDD backplane board BPN-NVMe4-F418-B6S6 with a specific cable.

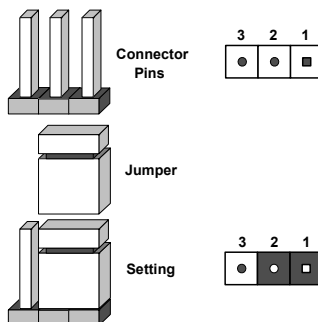
NVM Express Connections

Two NVM Express ports are located on the serverboard (from CPU2). These ports provide high-speed, low-latency PCIe 4.0 x4 connections directly from the CPU to NVMe Solid State Drives (SSD). This greatly increases SSD data-throughput performance and significantly reduces PCIe latency by simplifying driver/software requirements resulted from direct PCIe interface from the CPU to the NVMe SSD drives.

4.2 Jumpers

To modify the operation of the motherboard, jumpers are used to choose between optional settings. Jumpers create shorts between two pins to change the function associated with it. Pin 1 is identified with a square solder pad on the printed circuit board. See the motherboard layout page for jumper locations.

Note: On a two-pin jumper, "Closed" means the jumper is on both pins and "Open" indicates the jumper is either on only one pin or has been completely removed.



CMOS Clear

JBT1 is used to clear CMOS, which will also clear any passwords. Instead of pins, this jumper consists of contact pads to prevent accidentally clearing the contents of CMOS.

To Clear CMOS

1. First power down the system and unplug the power cord(s).
2. Remove the cover of the chassis to access the motherboard.
3. Remove the onboard battery from the motherboard.
4. Short the CMOS pads with a metal object such as a small screwdriver for at least four seconds.
5. Remove the screwdriver (or shorting device).
6. Re-install the motherboard battery.
7. Replace the cover, reconnect the power cord(s) and power on the system.

Notes: Clearing CMOS will also clear all passwords.

Do not use the PW_ON connector to clear CMOS.



JBT1 contact pads

Watch Dog

JWD1 controls the Watch Dog function. Watch Dog is a monitor that can reboot the system when a software application hangs. Jumping pins 1-2 will cause Watch Dog to reset the system if an application hangs. Jumping pins 2-3 will generate a non-maskable interrupt (NMI) signal for the application that hangs. Watch Dog must also be enabled in BIOS. The default setting is Reset.

Note: When Watch Dog is enabled, the user needs to write their own application software to disable it.

Watch Dog Jumper Settings	
Jumper Setting	Definition
Pins 1-2	Reset (Default)
Pins 2-3	NMI
Open	Disabled

4.3 LED Indicators

LAN Port LEDs

The IPMI Ethernet port has two LED indicators. The Activity LED is yellow and indicates connection and activity. The Link LED may be green, amber, or off to indicate the speed of the connection. Refer to the tables below for more information.

LAN1/2 LED (Connection Speed Indicator)	
LED Color	Definition
Off	10 Mb/s
Green	100 Mb/s
Amber	1 Gb/s

Activity Indicator		
Color	Status	Definition
Off	No Connection	
Yellow	Flashing	Active

Front Power LED

When this LED is lit, it means system is in power-on state, and the onboard power status is ok. Turn off the system and unplug the power cord before removing or installing components.

Front Power LED Indicator	
LED Color	Definition
Off	System Off (power cable not connected)
Green	System On, Power OK

BMC Heartbeat LED

A BMC Heartbeat LED is located at LED2 on the serverboard. When LED2 is blinking, BMC functions normally. See the table below for more information.

BMC Heartbeat LED States		
Color	State	Definition
Green	Solid On	BMC is not ready.
Green	Blinking	BMC Normal
Green	Fast Blinking	BMC: Initializing

Unit Identified LED

The front UID LED is located next to the UID switch. The UID indicators provide easy identification of a system unit that may be in need of service.

UID LED Status	
LED State	Status
Solid On	Local Unit Identified
Blinking	Remote Unit Identified

Chapter 5

Software

After the hardware has been installed, you should install the Operating System (OS), configure RAID settings and install the drivers. Necessary drivers and utilities may be found at <ftp://ftp.supermicro.com/driver>.

5.1 OS Installation

You must first configure RAID settings (if using RAID) before you install the Windows OS and the software drivers. To configure RAID settings, please refer to the RAID Configuration User Guides posted on our website at www.supermicro.com/support/manuals.

Installing the Windows OS for a RAID System

1. Insert Microsoft's Windows Setup DVD in the DVD drive and the system will start booting up from the DVD.
2. Insert the USB stick containing Windows drivers to a USB port on the system.
Note: for older legacy OS's, please use a method to slipstream the drivers.
3. Select the partition on the drive in which to install Windows.
4. Browse the USB folder for the proper driver files.
5. Choose the RAID driver indicated in the Windows OS Setup screen, then choose the hard drive in which you want to install it.
6. Once all devices are specified, continue with the installation.
7. After the Windows OS installation is completed, the system will automatically reboot.

Installing Windows to a Non-RAID System

1. Insert Microsoft's Windows OS Setup DVD in the DVD-ROM drive and the system will start booting up from the DVD.
2. Continue with the installation. The Windows OS Setup screen will display.
3. From the Windows OS Setup screen, press the <Enter> key. The OS Setup will automatically load all device files and then continue with the Windows installation.
4. After the installation has completed, the system will automatically reboot.

5.2 Driver Installation

The Supermicro website contains drivers and utilities for your system at <https://www.supermicro.com/wdl/driver>. Some of these must be installed, such as the chipset driver.

After accessing the FTP site, go into the CDR_Images directory and locate the ISO file for your motherboard. Download this file to create a DVD of the drivers and utilities it contains. (You may also use a utility to extract the ISO file if preferred.)

After creating a DVD with the ISO files, insert the disk into the DVD drive on your system and the display shown in Figure 5-1 should appear.

Another option is to go to the Supermicro website at <http://www.supermicro.com/products/>. Find the product page for your motherboard here, where you may download individual drivers and utilities to your hard drive or a USB flash drive and install from there.

Note: To install the Windows OS, please refer to the instructions posted on our website at <http://www.supermicro.com/support/manuals/>.

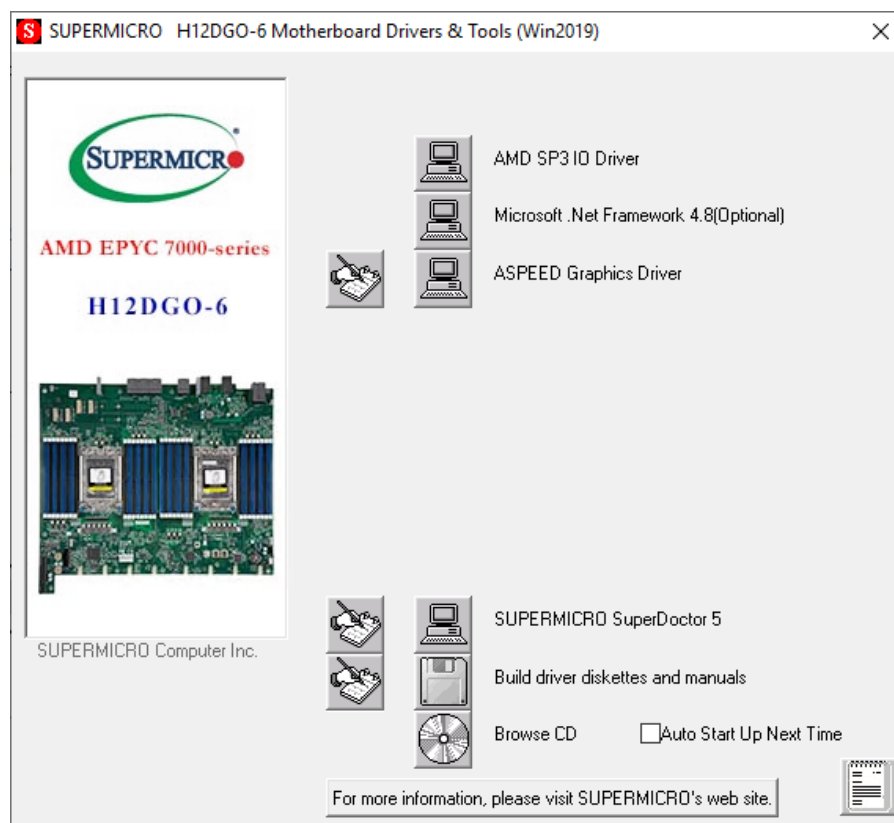


Figure 5-1. Driver & Tool Installation Screen

Note: Click the icons showing a hand writing on paper to view the readme files for each item. Click the computer icons to the right of these items to install each item (from top to the bottom) one at a time. **After installing each item, you must re-boot the system before moving on to the next item on the list.** The bottom icon with a CD on it allows you to view the entire contents.

5.3 SuperDoctor® 5

The Supermicro SuperDoctor 5 is a program that functions in a command-line or web-based interface for Windows and Linux operating systems. The program monitors such system health information as CPU temperature, system voltages, system power consumption, fan speed, and provides alerts via email or Simple Network Management Protocol (SNMP).

SuperDoctor 5 comes in local and remote management versions and can be used with Nagios to maximize your system monitoring needs. With SuperDoctor 5 Management Server (SSM Server), you can remotely control power on/off and reset chassis intrusion for multiple systems with SuperDoctor 5 or IPMI. SuperDoctor 5 Management Server monitors HTTP, FTP, and SMTP services to optimize the efficiency of your operation.



Figure 5-2. SuperDoctor 5 Interface Display Screen (Health Information)

5.4 IPMI

The H12DGO-6 supports the Intelligent Platform Management Interface (IPMI). IPMI provides remote access, monitoring and management through the baseboard management controller (BMC) and other management controllers distributed among different system modules. There are several BIOS settings that are related to IPMI. For general documentation and information on IPMI, visit our website at: <http://www.supermicro.com/products/nfo/IPMI.cfm>.

BMC ADMIN User Password

For security, each system is assigned a unique default BMC password for the ADMIN user. This can be found on a sticker on the chassis and a sticker on the motherboard. The sticker also displays the BMC MAC address. See the [system features](#) for the location of the BMC password label.

For more information regarding BMC passwords, please visit our website at <http://www.supermicro.com/bmcpassword>.

Chapter 6

UEFI BIOS

6.1 Introduction

This chapter describes the AMIBIOS™ setup utility for the H12DGO-6 motherboard. The BIOS is stored on a chip and can be easily upgraded using a flash program.

Note: Due to periodic changes to the BIOS, some settings may have been added or deleted and might not yet be recorded in this manual. Please refer to the Manual Download area of our website for any changes to the BIOS that may not be reflected in this manual.

Starting the Setup Utility

To enter the BIOS setup utility, press the <Delete> key while the system is booting-up. (In most cases, the <Delete> key is used to invoke the BIOS setup screen. There are a few cases when other keys are used, such as <F1>, <F2>, etc.) Each main BIOS menu option is described in this manual.

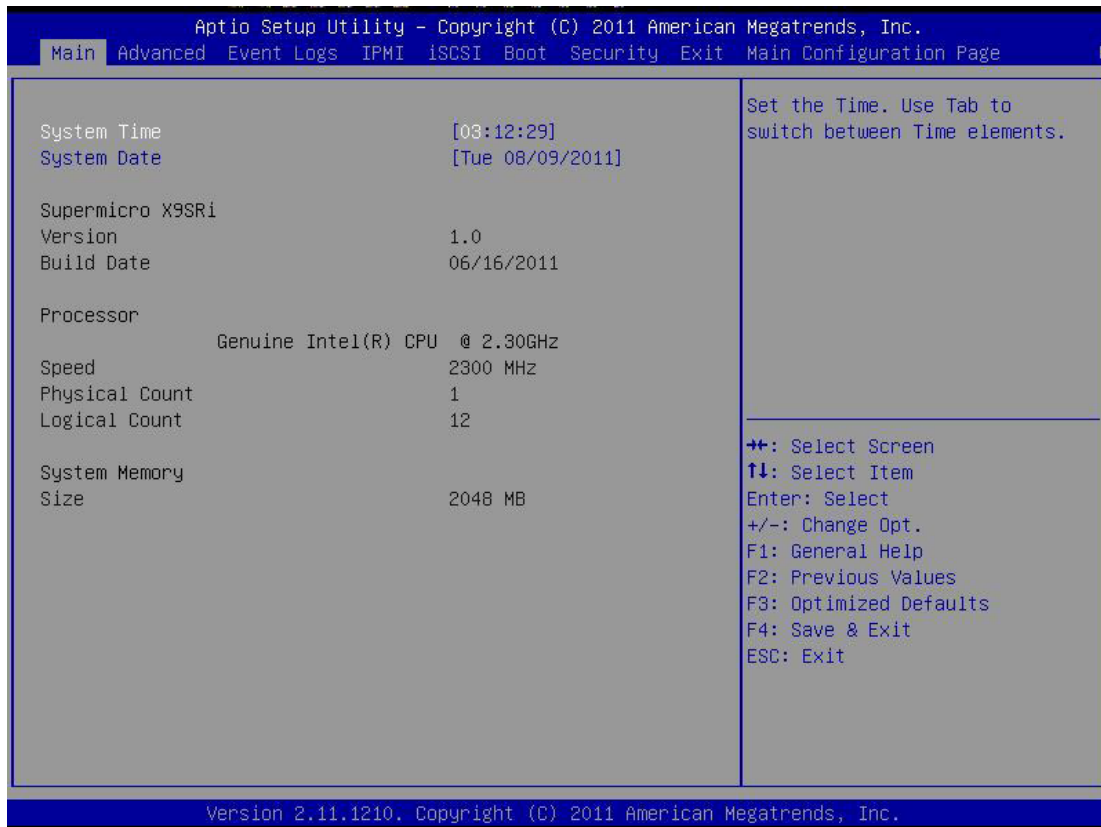
The Main BIOS screen has two main frames. The left frame displays all the options that can be configured. "Grayed-out" options cannot be configured. The right frame displays the key legend. Above the key legend is an area reserved for a text message. When an option is selected in the left frame, it is highlighted in white. Often a text message will accompany it. (Note that BIOS has default text messages built in. We retain the option to include, omit, or change any of these text messages.) Settings printed in **Bold** are the default values.

A "►" indicates a submenu. Highlighting such an item and pressing the <Enter> key will open the list of settings within that submenu.

The BIOS setup utility uses a key-based navigation system called hot keys. Most of these hot keys (<F1>, <F2>, <F3>, <F4>, <Enter>, <ESC>, <Arrow> keys, etc.) can be used at any time during the setup navigation process.

6.2 Main Setup

When you first enter the AMI BIOS setup utility, you will see the Main setup screen. You can always return to the Main setup screen by selecting the Main tab on the top of the screen. The Main BIOS setup screen is shown below.



System Date/System Time

Use this item to change the system date and time. Highlight *System Date* or *System Time* using the arrow keys. Enter new values using the keyboard. Press the <Tab> key or the arrow keys to move between fields. The date must be entered in Day MM/DD/YYYY format. The time is entered in HH:MM:SS format.

Note: The time is in the 24-hour format. For example, 5:30 P.M. appears as 17:30:00. The date's default value is the BIOS build date after the RTC (Real Time Clock) reset.

Supermicro H12DGO-6

BIOS Version

This feature displays the version of the BIOS ROM used in the system.

Build Date

This feature displays the date when the version of the BIOS ROM used in the system was built.

CPLD Version

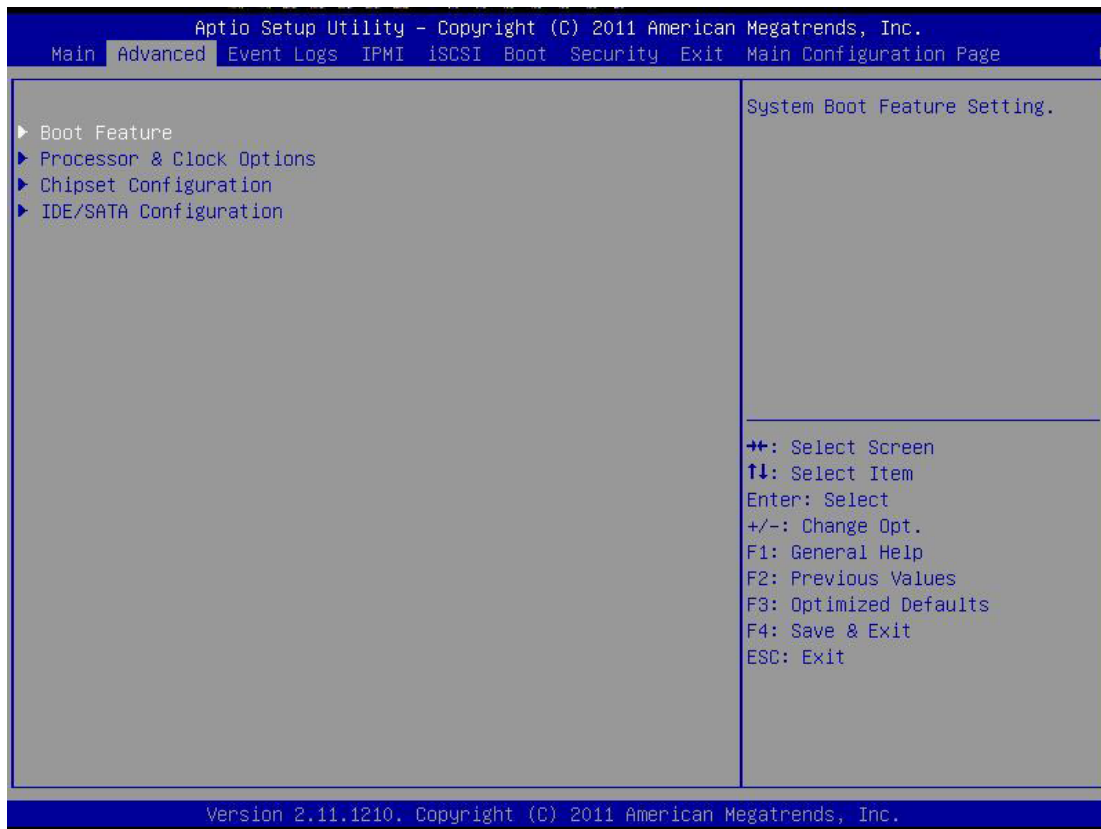
This feature displays the version of the CPLD (Complex-Programmable Logical Device) used in the system.

Memory Information

Total Memory

This feature displays the total size of memory available in the system.

6.3 Advanced



Warning: Take caution when changing the Advanced settings. An incorrect value, a very high DRAM frequency, or an incorrect DRAM timing setting may make the system unstable. When this occurs, revert to the default to the manufacture default settings.

► Boot Feature

Quiet Boot

Use this feature to select the screen display between the POST messages and the OEM logo upon bootup. Select Disabled to display the POST messages. Select Enabled to display the OEM logo instead of the normal POST messages. The options are Disabled and **Enabled**.

Option ROM Messages

Use this feature to set the display mode for the Option ROM. Select Keep Current to display the current AddOn ROM setting. Select Force BIOS to use the Option ROM display set by the system BIOS. The options are **Force BIOS** and Keep Current.

Bootup NumLock State

Use this feature to set the Power on state for the <Numlock> key. The options are **On** and Off.

Wait For "F1" If Error

Use this feature to force the system to wait until the 'F1' key is pressed if an error occurs. The options are Disabled and **Enabled**.

INT19 (Interrupt 19) Trap Response

Interrupt 19 is the software interrupt that handles the boot disk function. When this item is set to Immediate, the ROM BIOS of the host adaptors will "capture" Interrupt 19 at bootup immediately and allow the drives that are attached to these host adaptors to function as bootable disks. If this item is set to Postponed, the ROM BIOS of the host adaptors will not capture Interrupt 19 immediately and allow the drives attached to these adaptors to function as bootable devices at bootup. The options are **Immediate** and Postponed.

Re-try Boot

If this item is enabled, the BIOS will automatically reboot the system from a specified boot device after its initial boot failure. The options are **Disabled**, Legacy Boot, and EFI Boot.

Power Configuration

Watch Dog Function

If enabled, the Watch Dog Timer will allow the system to reset or generate NMI based on jumper settings when it is expired for more than 5 minutes. The options are **Disabled** and Enabled.

Restore on AC Power Loss

Use this feature to set the power state after a power outage. Select Stay-Off for the system power to remain off after a power loss. Select Power-On for the system power to be turned on after a power loss. Select Last State to allow the system to resume its last power state before a power loss. The options are Stay Off, Power On, and **Last State**.

Power Button Function

This feature controls how the system shuts down when the power button is pressed. Select 4 Seconds Override for the user to power off the system after pressing and holding the power button for 4 seconds or longer. Select Instant Off to instantly power off the system as soon as the user presses the power button. The options are **Instant Off** and 4 Seconds Override.

► Trusted Computing

Configuration

Security Device Support

If this feature and the TPM jumper on the motherboard are both set to Enabled, onboard security devices will be enabled for TPM (Trusted Platform Module) support to enhance data integrity and network security. Please reboot the system for a change on this setting to take effect. The options are Disabled and **Enabled**.

► PSP Firmware Versions

This section displays the Platform Security Processor (PSP) firmware versions.

PSP Directory Level 1 (Fixed)

- PSP Recovery BL Ver
- SMU FW Version
- ABL Version

PSP Directory Level 2 (Updateable)

- PSP Bootloader Version
- SMU FW Version
- ABL Version

► ACPI Settings

PCI AER Support

The options are **Disabled** and Enabled.

High Precision Event Timer

The High Precision Event Timer (HPET) can produce periodic interrupts and is used to synchronize multimedia streams, providing smooth playback and reducing the need to use other timestamp calculations. The options are Disabled and **Enabled**.

NUMA Node Per Socket

This feature specifies the number of desired Non-Uniform Memory Access (NUMA) nodes per socket. Setting this to zero will attempt to interleave the two sockets together. The options are NPS0, NPS1, NPS2, NPS4 and **Auto**.

ACPI SRAT L3 Cache As NUMA Domain

Use this setting to enable/disable ACPI SRAT L3 Cache As NUMA Domain. The options are Disabled, Enabled and **Auto**.

► Super IO Configuration

The following Super IO information will display:

Super IO Chip AST2600

► Serial Port 1 Configuration

Serial Port

Select Enabled to enable the selected onboard serial port. The options are Disabled and **Enabled**.

Device Settings

This item displays the status of a serial part specified by the user.

Change Settings

This feature specifies the base I/O port address and the Interrupt Request address of a serial port specified by the user. Select Auto to allow the BIOS to automatically assign the base I/O and IRQ address. The options are **Auto**, IO=3F8h; IRQ=4, IO=3F8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12, IO=2F8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12, IO=3E8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12, and IO=2E8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12.

► SOL Configuraiton

Serial Port

Select Enabled to enable the selected onboard serial port. The options are Disabled and **Enabled**.

Device Settings

This item displays the status of a serial part specified by the user.

Change SOL Settings

This feature specifies the base I/O port address and the Interrupt Request address of a serial port specified by the user. Select Auto to allow the BIOS to automatically assign the base I/O and IRQ address. The options are **Auto**, IO=2F8h; IRQ=3, IO=3F8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12, IO=2F8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12, IO=3E8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12, and IO=2E8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12.

Serial Port 2 Attribute

The options are **SOL** and COM.

► Serial Port Console Redirection

COM1

Console Redirection

Select Enabled to enable console redirection support for a serial port specified by the user. The options are **Disabled** and Enabled.

**If the item above set to Enabled, the following items will become available for user's configuration:*

► Console Redirection Settings

Terminal Type

This feature allows the user to select the target terminal emulation type for Console Redirection. Select VT100 to use the ASCII Character set. Select VT100+ to add color and function key support. Select ANSI to use the Extended ASCII Character Set. Select VT-UTF8 to use UTF8 encoding to map Unicode characters into one or more bytes. The options are VT100, **VT100+**, VT-UTF8, and ANSI.

Bits per second

Use this feature to set the transmission speed for a serial port used in Console Redirection. Make sure that the same speed is used in the host computer and the client computer. A lower transmission speed may be required for long and busy lines. The options are 9600, 19200, 38400, 57600 and **115200** (bits per second).

Data Bits

Use this feature to set the data transmission size for Console Redirection. The options are 7 and **8**.

Parity

A parity bit can be sent along with regular data bits to detect data transmission errors. Select Even if the parity bit is set to 0, and the number of 1's in data bits is even. Select Odd if the parity bit is set to 0, and the number of 1's in data bits is odd. Select None if you do not want to send a parity bit with your data bits in transmission. Select Mark to add a mark as a parity bit to be sent along with the data bits. Select Space to add a Space as a parity bit to be sent with your data bits. The options are **None**, Even, Odd, Mark, and Space.

Stop Bits

A stop bit indicates the end of a serial data packet. Select 1 Stop Bit for standard serial data communication. Select 2 Stop Bits if slower devices are used. The options are **1** and **2**.

Flow Control

Use this feature to set the flow control for Console Redirection to prevent data loss caused by buffer overflow. Send a "Stop" signal to stop sending data when the receiving buffer is full. Send a "Start" signal to start sending data when the receiving buffer is empty. The options are **None** and Hardware RTS/CTS.

VT-UTF8 Combo Key Support

Select Enabled to enable VT-UTF8 Combination Key support for ANSI/VT100 terminals. The options are Disabled and **Enabled**.

Recorder Mode

Select Enabled to capture the data displayed on a terminal and send it as text messages to a remote server. The options are **Disabled** and Enabled.

Resolution 100x31

Select Enabled for extended-terminal resolution support. The options are Disabled and **Enabled**.

Legacy OS Redirection Resolution

For Legacy OS systems, use this setting to specify the number of Rows and Columns supported for redirection. Options include 80x24 and **80x25**.

Putty KeyPad

This feature selects the settings for Function Keys and KeyPad used for Putty, which is a terminal emulator designed for the Windows OS. The options are **VT100**, LINUX, XTERMR6, SC0, ESCN, and VT400.

Redirection After BIOS POST

For this setting, when the Bootloader is selected, then the Legacy Console Redirection is disabled before booting to the legacy OS. If you select Always Enable, then the Legacy Console Redirection is enabled for legacy OS systems. Default option for this system is **Always Enable**. The options are **Always Enable** and BootLoader.

SOL

Console Redirection

Select Enabled to enable SOL console redirection support for a serial port specified by the user. The options are Disabled and **Enabled**.

****If the item above set to Enabled, the following items will become available for user's configuration:***

► Console Redirection Settings

Terminal Type

This feature allows the user to select the target terminal emulation type for Console Redirection. Select VT100 to use the ASCII Character set. Select VT100+ to add color and function key support. Select ANSI to use the Extended ASCII Character Set. Select VT-UTF8 to use UTF8 encoding to map Unicode characters into one or more bytes. The options are VT100, **VT100+**, VT-UTF8, and ANSI.

Bits per second

Use this feature to set the transmission speed for a serial port used in Console Redirection. Make sure that the same speed is used in the host computer and the client computer. A lower transmission speed may be required for long and busy lines. The options are 9600, 19200, 38400, 57600 and **115200** (bits per second).

Data Bits

Use this feature to set the data transmission size for Console Redirection. The options are 7 and **8**.

Parity

A parity bit can be sent along with regular data bits to detect data transmission errors. Select Even if the parity bit is set to 0, and the number of 1's in data bits is even. Select Odd if the parity bit is set to 0, and the number of 1's in data bits is odd. Select None if you do not want to send a parity bit with your data bits in transmission. Select Mark to add a mark as a parity bit to be sent along with the data bits. Select Space to add a Space as a parity bit to be sent with your data bits. The options are **None**, Even, Odd, Mark, and Space.

Stop Bits

A stop bit indicates the end of a serial data packet. Select 1 Stop Bit for standard serial data communication. Select 2 Stop Bits if slower devices are used. The options are **1** and **2**.

Flow Control

Use this feature to set the flow control for Console Redirection to prevent data loss caused by buffer overflow. Send a "Stop" signal to stop sending data when the receiving buffer

is full. Send a "Start" signal to start sending data when the receiving buffer is empty. The options are **None** and Hardware RTS/CTS.

VT-UTF8 Combo Key Support

Select Enabled to enable VT-UTF8 Combination Key support for ANSI/VT100 terminals. The options are Disabled and **Enabled**.

Recorder Mode

Select Enabled to capture the data displayed on a terminal and send it as text messages to a remote server. The options are **Disabled** and Enabled.

Resolution 100x31

Select Enabled for extended-terminal resolution support. The options are Disabled and **Enabled**.

Legacy OS Redirection Resolution

For Legacy OS systems, use this setting to specify the number of Rows and Columns supported for redirection. Options include 80x24 and **80x25**.

Putty KeyPad

This feature selects the settings for Function Keys and KeyPad used for Putty, which is a terminal emulator designed for the Windows OS. The options are **VT100**, LINUX, XTERMR6, SC0, ESCN, and VT400.

Redirection After BIOS POST

For this setting, when the Bootloader is selected, then the Legacy Console Redirection is disabled before booting to the legacy OS. If you select Always Enable, then the Legacy Console Redirection is enabled for legacy OS systems. Default option for this system is **Always Enable**. The options are **Always Enable** and BootLoader.

► Legacy Console Redirection Settings

Legacy Serial Redirection Port

For this setting, select a COM port to display redirection of Legacy OS and Legacy OPRM messages. Options include **COM1** and SOL.

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

Console Redirection

Select Enabled to enable EMS console redirection support for a serial port specified by the user. The options are **Enabled** and Disabled.

**If the item above set to Enabled, the following items will become available for user's configuration:*

► Console Redirection Settings

Out-of-Band Mgmt Port

The feature selects a serial port in a client server to be used by the Microsoft Windows Emergency Management Services (EMS) to communicate with a remote host server. The options are **COM1** and SOL.

Terminal Type

Use this feature to select the target terminal emulation type for Console Redirection. Select VT100 to use the ASCII character set. Select VT100+ to add color and function key support. Select ANSI to use the extended ASCII character set. Select VT-UTF8 to use UTF8 encoding to map Unicode characters into one or more bytes. The options are VT100, VT100+, **VT-UTF8**, and ANSI.

Bits per second

This item sets the transmission speed for a serial port used in Console Redirection. Make sure that the same speed is used in the host computer and the client computer. A lower transmission speed may be required for long and busy lines. The options are 9600, 19200, 57600, and **115200** (bits per second).

Flow Control

Use this item to set the flow control for Console Redirection to prevent data loss caused by buffer overflow. Send a "Stop" signal to stop sending data when the receiving buffer

is full. Send a "Start" signal to start sending data when the receiving buffer is empty. The options are **None**, Hardware RTS/CTS, and Software Xon/Xoff.

Data Bits

Use this feature to set the data transmission size for Console Redirection. The options are 7 and 8.

Parity

A parity bit can be sent along with regular data bits to detect data transmission errors. Select Even if the parity bit is set to 0, and the number of 1's in data bits is even. Select Odd if the parity bit is set to 0, and the number of 1's in data bits is odd. Select None if you do not want to send a parity bit with your data bits in transmission. Select Mark to add a mark as a parity bit to be sent along with the data bits. Select Space to add a Space as a parity bit to be sent with your data bits. The options are **None**, Even, Odd, Mark, and Space.

Stop Bits

A stop bit indicates the end of a serial data packet. Select 1 Stop Bit for standard serial data communication. Select 2 Stop Bits if slower devices are used. The options are 1 and 2.

► CPU Configuration

SMT Control

Use this setting to specify Simultaneous Multithreading. Options include Off for 1T single thread and **Auto** for 2T two-thread if your system is capable of it.

Core Performance Boost

This setting is used to configure for Core Performance Boost. Options include Disabled and **Auto**.

Global C-state Control

This setting is used to configure for Global C-state Control. Options include Disabled, Enabled and **Auto**.

Local APIC Mode

Use this setting to adjust local APIC mode. Options include xAPIC, x2APIC and **Auto**.

CCD Control

Use this setting to disable CCDs in the CPU. Options include **Auto**, 2 CCDs, 3 CCDs, 4 CCDs and 6 CCDs.

Core Control

This sets the number of cores to be used by your system. Once this option has been used to remove any cores, a power cycle is required in order for the future selections to take effect. Options include **Auto**, TWO (1+1), FOUR (2 + 2), and SIX (3 + 3). If unsure, leave this to Auto.

L1 Stream HW Prefetcher/L2 Stream HW Prefetcher

This setting is used to enable or disable the L1/L2 Stream Hardware Prefetcher. The options are Disabled, Enabled and **Auto**.

SVM Mode

This setting **Enables** or Disables CPU Virtualization.

SMEE

This setting Enables or **Disables** secure memory encryption.

► CPU1/CPU2 Information

These sections are for informational purposes. They will display some details about the detected CPUs on the motherboard, such as:

- CPU Version
- Number of Cores Running
- Processor Family
- Processor Model
- Microcode Patch Level
- L1 Instruction Cache (Size/Method)
- L1 Data Cache (Size/Method)
- L2 Data Cache (Size/Method)
- L3 Cache per Socket (Size/Method)

► NB Configuration

Determinism Control

Use this setting to configure the Determinism Control. Options include Manual and **Auto**.

cTDP Control

Use this setting to configure the cTDP Control. Options include Manual and **Auto**.

IOMMU

Use this setting to enable/disable IOMMU. Options include **Disabled**, Enabled, and Auto.

ACS Enable

Use this setting to enable/disable ACS. Options include Enabled, Disabled and **Auto**.

Package Power Limit Control

Use this setting for Package Power Limit Control. Options include Manual and **Auto**.

APBDIS

Use this setting to set APBDIS. Options include 0, 1 and **Auto**.

DF Cstates

Use this setting to enable/disable DF Cstates. Options include Disabled, Enabled, and **Auto**.

Preferred IO

Use this setting for Preferred IO. Options include Manual and **Auto**.

► Memory Configuration

Memory Clock

This setting allows you to select different memory clock speed. The options include **Auto** and speed settings from 2666MHz, 2933MHz to 3200MHz.

Memory Interleaving

This setting controls fabric level memory interleaving. Note that the channel, die and socket have requirements on memory populations and it will be ignored if the memory doesn't support the selected option. The options are Disabled and **Auto**.

Memory Interleaving Size

This setting controls the memory interleaving size. This determines the starting address of the interleave (bit 8, 9, 10 or 11). The options are 256 Bytes, 512 Bytes, 1 KB, 2 KB and **Auto**.

Chipselect Interleaving

This setting controls interleave memory blocks across the DRAM chip for node 0. The options are Disabled and **Auto**.

BankGroupSwap

This setting controls the Bank Group Swap. The options are Enabled, Disabled and **Auto**.

DRAM Scrub Time

This setting provides a value that is the number of hours to scrub memory. The options are Disabled, 1 hour, 4 hours, 8 hours, 16 hours, 24 hours, 48 hours and **Auto**.

► CPU1 Memory Configuration

These sections are for informational purposes. They will display some details about the detected memory according to each CPU on the motherboard, such as:

- Detected Size (per slot, in MB)
- Current Speed (MT/s)

► CPU2 Memory Configuration

These sections are for informational purposes. They will display some details about the detected memory according to each CPU on the motherboard, such as:

- Detected Size (per slot, in MB)
- Current Speed (MT/s)

► PCIe/PCI/PnP Configuration

This menu provides PCIe/PCI/PnP configuration settings and information.

PCI Bus Driver Version

PCI Devices Common Settings:

Above 4G Decoding

This setting Disables or **Enables** 64-bit capable devices ability to be decoded in above 4G address space (only if the system supports 64-bit PCI decoding).

SR-IOV Support

If the system has SR-IOV capable PCIe devices, this setting will Disables or **Enable** the Single Root IO Virtualization Support for the system.

BME DMA Mitigation

Re-enable Bus Master Attribute disabled during Pci enumeration for PCI Bridges after SMM Locked. The options are **Disabled** and Enabled.

PCIe ARI Support

Use this setting to Disable, Enable or **Auto** control the Alternative Routing-ID Interpretation.

PCIe Spread Spectrum

Use this setting to **Disable** or Enable PCIe Spread Spectrum for your system.

Relaxed Ordering

Select Enabled to allow certain PCI-E transactions to violate the strict ordering rules of PCI-E so that a transaction can be completed before other transactions that have already been queued in order to enhance PCI-E performance. The options are **Disabled** and Enabled.

VGA Priority

Use this setting to select between onboard or offboard VGA support. The options are **Onboard** and Offboard.

NVMe Firmware Source

Use this setting to select between the AMI Native firmware support or the device vendor-defined firmware support. The options are **Vendor Defined Firmware** and AMI Native Support.

SLOT1 PCI-E 4.0 x16 OPROM

This setting enables or disables the listed PCI/PCIX/PCIe Slot OPROM option. The options include Disabled, **Legacy** and EFI.

SLOT2 PCI-E 4.0 x16 OPROM

This setting enables or disables the listed PCI/PCIX/PCIe Slot OPROM option. The options include Disabled, **Legacy** and EFI.

SLOT3 PCI-E 4.0 x16 OPROM

This setting enables or disables the listed PCI/PCIX/PCIe Slot OPROM option. The options include Disabled, **Legacy** and EFI.

SLOT4 PCI-E 4.0 x16 OPROM

This setting enables or disables the listed PCI/PCIX/PCIe Slot OPROM option. The options include Disabled, **Legacy** and EFI.

SLOT5 PCI-E 4.0 x16 OPROM

This setting enables or disables the listed PCI/PCIX/PCIe Slot OPROM option. The options include Disabled, **Legacy** and EFI.

Onboard LAN1 Option ROM

Use this setting to select which firmware function is to be loaded for onboard LAN1 on the system. Options include Disabled, **PXE**, iSCSI and EFI.

Onboard LAN2 Option ROM

Use this setting to select which firmware function is to be loaded for onboard LAN1 on the system. Options include **Disabled** and PXE.

Onboard NVMe1 Option ROM

Select EFI to allow the user to boot the computer using an EFI (Extensible Firmware Interface) device installed on the NVME connector specified by the user. Select Legacy to allow the user to boot the computer using a legacy device installed on the NVME connector specified by the user. The options include Disabled, Legacy and **EFI**.

Onboard NVMe2 Option ROM

Select EFI to allow the user to boot the computer using an EFI (Extensible Firmware Interface) device installed on the NVME connector specified by the user. Select Legacy to allow the user to boot the computer using a legacy device installed on the NVME connector specified by the user. The options include Disabled, Legacy and **EFI**.

Onboard NVMe3 Option ROM

Select EFI to allow the user to boot the computer using an EFI (Extensible Firmware Interface) device installed on the NVME connector specified by the user. Select Legacy to allow the user to boot the computer using a legacy device installed on the NVME connector specified by the user. The options include Disabled, Legacy and **EFI**.

Onboard NVMe4 Option ROM

Select EFI to allow the user to boot the computer using an EFI (Extensible Firmware Interface) device installed on the NVME connector specified by the user. Select Legacy to allow the user to boot the computer using a legacy device installed on the NVME connector specified by the user. The options include Disabled, Legacy and **EFI**.

Onboard NVMe5 Option ROM

Select EFI to allow the user to boot the computer using an EFI (Extensible Firmware Interface) device installed on the NVME connector specified by the user. Select Legacy to allow the user to boot the computer using a legacy device installed on the NVME connector specified by the user. The options include Disabled, Legacy and **EFI**.

Onboard NVMe6 Option ROM

Select EFI to allow the user to boot the computer using an EFI (Extensible Firmware Interface) device installed on the NVME connector specified by the user. Select Legacy to allow the user to boot the computer using a legacy device installed on the NVME connector specified by the user. The options include Disabled, Legacy and **EFI**.

Onboard Video Option ROM

Use this setting to select which firmware function is to be loaded for onboard video option ROM on the system. The options include Disabled, **Legacy** and EFI.

► Network Stack Configuration

Network Stack

This setting allows you to enable or disable the UEFI Network Stack. The options are Disabled and **Enabled**.

IPv4 PXE Support

This setting allows you to enable or disable IPv4 PXE boot support. If disabled, IPv4 PXE boot support will not be available. The options are Disabled and **Enabled**.

IPv4 HTTP Support

This setting allows you to enable or disable IPv4 HTTP boot support. If disabled, IPv4 HTTP boot support will not be available. The options are **Disabled** and Enabled.

IPv6 PXE Support

This setting allows you to enable or disable IPv6 PXE boot support. If disabled, IPv6 PXE boot support will not be available. The options are Disabled and **Enabled**.

IPv6 HTTP Support

This setting allows you to enable or disable IPv6 HTTP boot support. If disabled, IPv6 HTTP boot support will not be available. The options are **Disabled** and Enabled.

PXE boot wait time

This setting allows you to set in a number field the wait time to press <ESC> to abort the PXE boot. The default value is **0**.

Media detect count

This setting allows you set in a number field the number of times presence of media will be checked. The default value is **1**.

►USB Configuration

USB Configuration

USB Module Version

USB Controllers

USB Devices

Legacy USB Support

Select Enabled to support onboard legacy USB devices. Select Auto to disable legacy support if there are no legacy USB devices present. Select Disable to have all USB devices available for EFI applications only. The options include **Enabled**, Disabled and Auto.

XHCI Hand-off

This is a work-around solution for operating systems that do not support XHCI (Extensible Host Controller Interface) hand-off. The XHCI ownership change should be claimed by the XHCI driver. The options include **Enabled** and Disabled.

Port 60/64 Emulation

Select Enabled for I/O port 60h/64h emulation support, which in turn, will provide complete legacy USB keyboard support for the operating systems that do not support legacy USB devices. The options include Disabled and **Enabled**.

►SATA Configuration

This section displays the detected SATA devices installed on the system.

SATA Enable

This setting enables or disables the on chip SATA controller. The options are Disabled, Enabled, and **Auto**.

SATA Hotplug

This setting enables or disables the on chip SATA hot plug feature. The options are Disabled, and **Enabled**.

▶SATA Information

This section displays information on the detected SATA devices:

- SATA0 ~ SATA3

▶KMIP Server Configuration

KMIP Server IP address

KMIP TCP Port number

TimeZone

Clinet UserName

Client Password

▶CA Certificate

The options include Update, Delete, and Export.

▶Client Certificate

The options include Update, Delete, and Export.

▶Client Private Key

The options include Update, Delete, and Export.

▶HTTP Boot Configuration

HTTP Boot One Time

The default setting is Disabled.

Input the description

Boot URI

A new Boot Option will be created according to this Boot URI. It is only supported on Dual or EFI Boot Mode.

► Network Configuration

MAC: B03FAF2B6059F - IPv4 Network Configuration

Configured

The options include **Disabled** and **Enabled**.

****If the item above is set to Enabled, the following item will become available for configuration:***

Enable DHCP

This feature allows the user to select the source of the IP address for this computer. If **Disabled** is selected, you will need to know the local IP address of this computer and enter it to the system manually in the field. If **Enabled** is selected, the system will search for a DHCP (Dynamic Host Configuration Protocol) server in the network that it is attached to and request the next available IP address for this computer. The options include **Disabled** and **Enabled**.

****If the item above is set to Disabled, the following items will become available for configuration:***

Local IP Address

This item sets and displays the Local IP address for this computer. This should be in decimal and in dotted quad form.

Local NetMask

This item sets the sub-network that this computer belongs to. The value of each three-digit number separated by dots should not exceed 255.

Local Gateway

This item sets the Gateway IP address for this computer. This should be in decimal and in dotted quad form (i.e., 172.31.0.1).

Local DNS Servers

This item sets the address for the local DNS servers for this computer. This should be in decimal and in dotted quad form (i.e., 172.31.0.1).

Save Changes and Exit

Use this item to save the changes above and exit.

▶ VLAN Configuration (MAC: ACIF6BBB6FB0)

Use this item to save the changes above and exit.

▶ VLAN Configuration (MAC: ACIF6BBB6FB1)

▶ Enter Configuration Menu

Create new VLAN

VLAN ID

This option is an input field used to enter a unique numeric VLAN ID. The valid range is from 0~4096.

Priority

This option is an input field used to enter a unique numeric VLAN 802.1Q priority. The valid range is from 0~7.

Add VLAN

Click this option to create the new VLAN.

Configuration VLAN List

VLAN ID: 0, Priority:0

The options include **Disabled** and Enabled.

Remove VLAN

Click this option to remove an existing VLAN.

▶ MAC:AC1F6BBB6FB1-IPv4 Network Configuration

Configured

The options include **Disabled** and Enabled.

****If the item above is set to Enabled, the following item will become available for configuration:***

Enable DHCP

This feature allows the user to select the source of the IP address for this computer. If Disabled is selected, you will need to know the local IP address of this computer and enter it to the system manually in the field. If Enabled is selected, the system will search for a DHCP (Dynamic Host Configuration Protocol) server in the network that it is attached to and request the next available IP address for this computer. The options include **Disabled** and Enabled.

**If the item above is set to Disabled, the following items will become available for configuration:*

Local IP Address

This item sets and displays the Local IP address for this computer. This should be in decimal and in dotted quad form.

Local NetMask

This item sets the sub-network that this computer belongs to. The value of each three-digit number separated by dots should not exceed 255.

Local Gateway

This item sets the Gateway IP address for this computer. This should be in decimal and in dotted quad form (i.e., 172.31.0.1).

Local DNS Servers

This item sets the address for the local DNS servers for this computer. This should be in decimal and in dotted quad form (i.e., 172.31.0.1).

Save Changes and Exit

Use this item to save the changes above and exit.

▶MAC:AC1F6BBB6FB1-IPv6 Network Configuration**▶Enter Configuration Menu****Interface Name****Interface Type****MAC address****Host addresses****Route Table****Gateway addresses****DNS addresses****Interface ID****DAD Transmit Count****Policy**

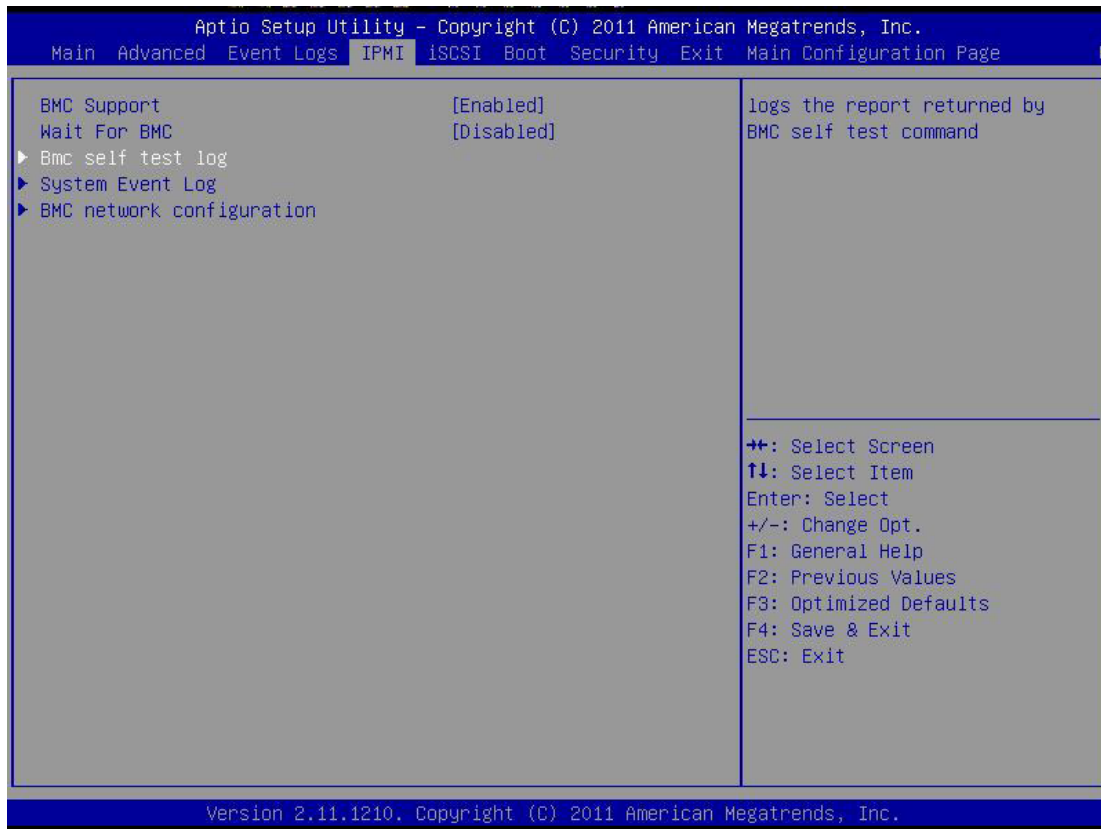
Options include **automatic** and manual.

Save Changes and Exit

Use this item to save the changes above and exit.

6.4 IPMI

Use this feature to configure Event Log settings.



► System Event Log

SEL Components

Select Enabled for all system event logging at bootup. The options include Disabled and Enabled.

Erasing Settings

Erase SEL

Select Yes, On next reset to erase all system event logs upon next system reboot. Select Yes, On every reset to erase all system event logs upon each system reboot. Select No to keep all system event logs after each system reboot. The options include **No**, Yes, On next reset, and Yes, On every reset.

When SEL is Full

This feature allows the user to decide what the BIOS should do when the system event log is full. Select Erase Immediately to erase all events in the log when the system event log is full. The options include **Do Nothing** and Erase Immediately.

►BMC Network Configuration

Update IPMI LAN Configuration

Select Yes for the BIOS to implement all IP/MAC address changes at the next system boot. The options include **No** and Yes.

****If the item above set to Yes, the following item will become available for user's configuration:***

Configuration Address Source

This feature allows the user to select the source of the IP address for this computer. If Static is selected, you will need to know the IP address of this computer and enter it to the system manually in the field. If DHCP is selected, the BIOS will search for a DHCP (Dynamic Host Configuration Protocol) server in the network that is attached to and request the next available IP address for this computer. The options include Static and **DHCP**.

VLAN

This item configures the virtual LAN settings. The options include **Disabled** and Enabled.

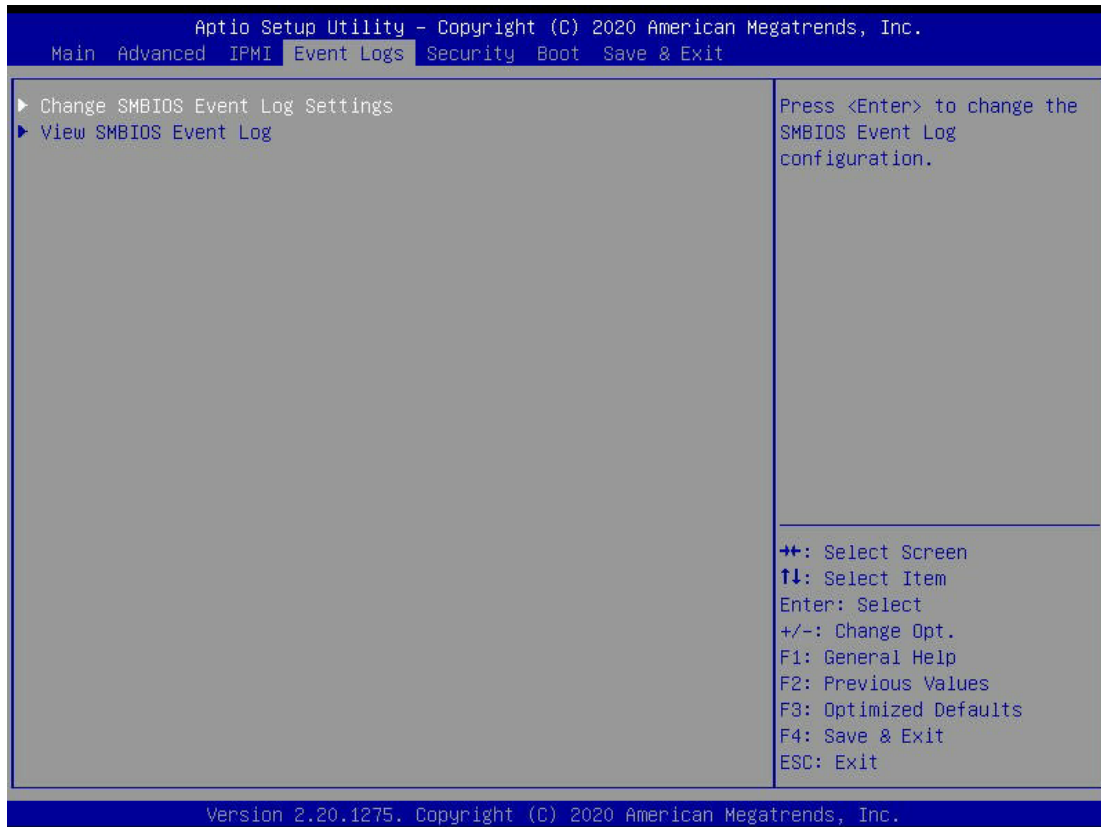
IPv6 Support

Use this feature to enable IPv6 support. The options include Enabled and **Disabled**.

6.5 Event Logs

Use this feature to configure Event Log settings.

Note: After you've made a change on a setting below, please be sure to reboot the system for the change to take effect.



▶ Change SMBIOS Event Log Settings

Enabling/Disabling Options

SMBIOS Event Log

Select Enabled to enable SMBIOS (System Management BIOS) Event Logging during system boot. The options are Disabled and **Enabled**.

Erasing Settings

Erase Event Log

Select No to keep the event log without erasing it upon next system bootup. Select Yes, Next Reset to erase the event log upon next system reboot. The options are **No**, Yes, Next reset, and Yes, Every eset.

When Log is Full

Select Erase Immediately to immediately erase all errors in the SMBIOS event log when the event log is full. Select Do Nothing for the system to do nothing when the SMBIOS event log is full. The options are **Do Nothing** and Erase Immediately.

SMBIOS Event Log Standard Settings

Log System Boot Event

Select Enabled to log system boot events. The options are Enabled and **Disabled**.

MECI (Multiple Event Count Increment)

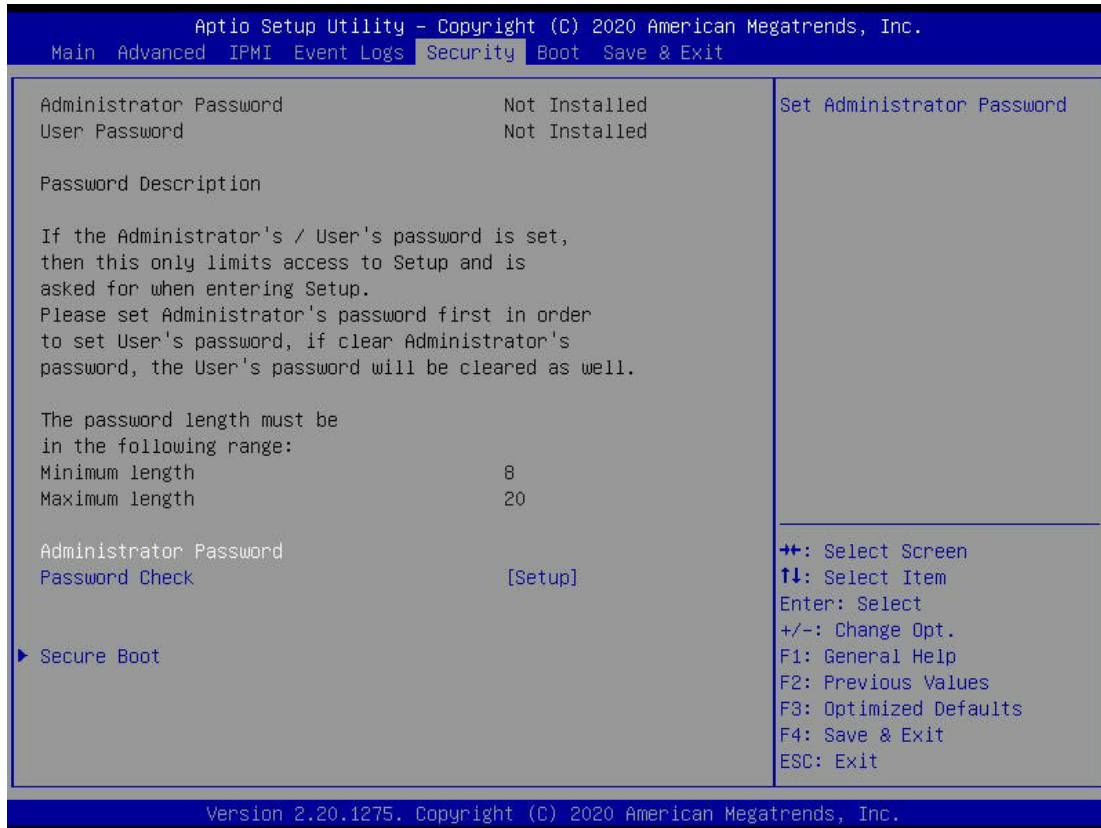
Enter the increment value for the multiple event counter. Enter a number between 1 to 255. The default setting is **1**.

METW (Multiple Event Count Time Window)

This feature is used to determine how long (in minutes) should the multiple event counter wait before generating a new event log. Enter a number between 0 to 99. The default setting is **60**.

6.6 Security Settings

This menu allows the user to configure the following security settings for the system.



Administrator Password

Use this feature to set the administrator password which is required to enter the BIOS setup utility. The length of the password should be from 3 characters to 20 characters long.

Password Check

Select Setup for the system to check for a password at Setup. Select Always for the system to check for a password at system boot and upon entering the BIOS Setup utility. The options are **Setup** and Always.

► Secure Boot

When you select this submenu and press the <Enter> key, the following items will display:

- System Mode
- Vendor Keys

- Sucre Boot

Secure Boot

Select Enabled to use Secure Boot settings. The options are **Disabled** and Enabled.

Secure Boot Mode

Use this feature to select the desired secure boot mode for the system. The options are Standard and **Custom**.

CMS Support

If this feature is set to Enabled, legacy devices will be supported by the system. The options are Disabled and **Enabled**.

►Key Management

Provision Factory Defaults

The options are **Disabled** and Enabled.

►Restore Factory Keys

Select Yes to restore manufacturer default keys used to ensure system security. The options are **Yes** and No.

►Reset To Setup Mode

Select Yes to reset the system to the Setup Mode. The options are **Yes** and No.

►Export Secure Boot Variables

This feature is used to copy the NVRAM content of Secure Boot variables to a storage device.

►Enroll Efi Image

Select this feature and press <Enter> to specify an EFI (Extensible Firmware Interface) image for the system to use when it operates in the Secure Boot mode.

Device Guard Ready

▶ Remove 'UEFI CA' from DB

Select Yes to remove UEFI CA from the database. The options are **Yes** and No.

▶ Restore DB defaults

Select Yes to restore database variables to the manufacturer default settings. The options are **Yes** and No.

Secure Boot Variable/Size/Keys/Key Source

▶ Platform Key (PK)

This feature allows the user to enter and configure a set of values to be used as platform firmware keys for the system. The sizes, keys numbers, and key sources of the platform keys will be indicated as well. Select Update to update the platform key.

▶ Key Exchange Keys

This feature allows the user to enter and configure a set of values to be used as Key-Exchange-Keys for the system. The sizes, keys numbers, and key sources of the Key-Exchange-Keys will be indicated as well. Select Update to update your "Key Exchange Keys". Select Append to append your "Key Exchange Keys".

▶ Authorized Signatures

This feature allows the user to enter and configure a set of values to be used as Authorized Signatures for the system. These values also indicate the sizes, keys numbers, and the sources of the authorized signatures. Select Update to update your "Authorized Signatures". Select Append to append your "Authorized Signatures". The settings are **Update**, and Append.

▶ Forbidden Signatures

This feature allows the user to enter and configure a set of values to be used as Forbidden Signatures for the system. These values also indicate sizes, keys numbers, and key sources

of the forbidden signatures. Select Update to update your "Forbidden Signatures". Select Append to append your "Forbidden Signatures". The settings are **Update**, and Append.

► **Authorized TimeStamps**

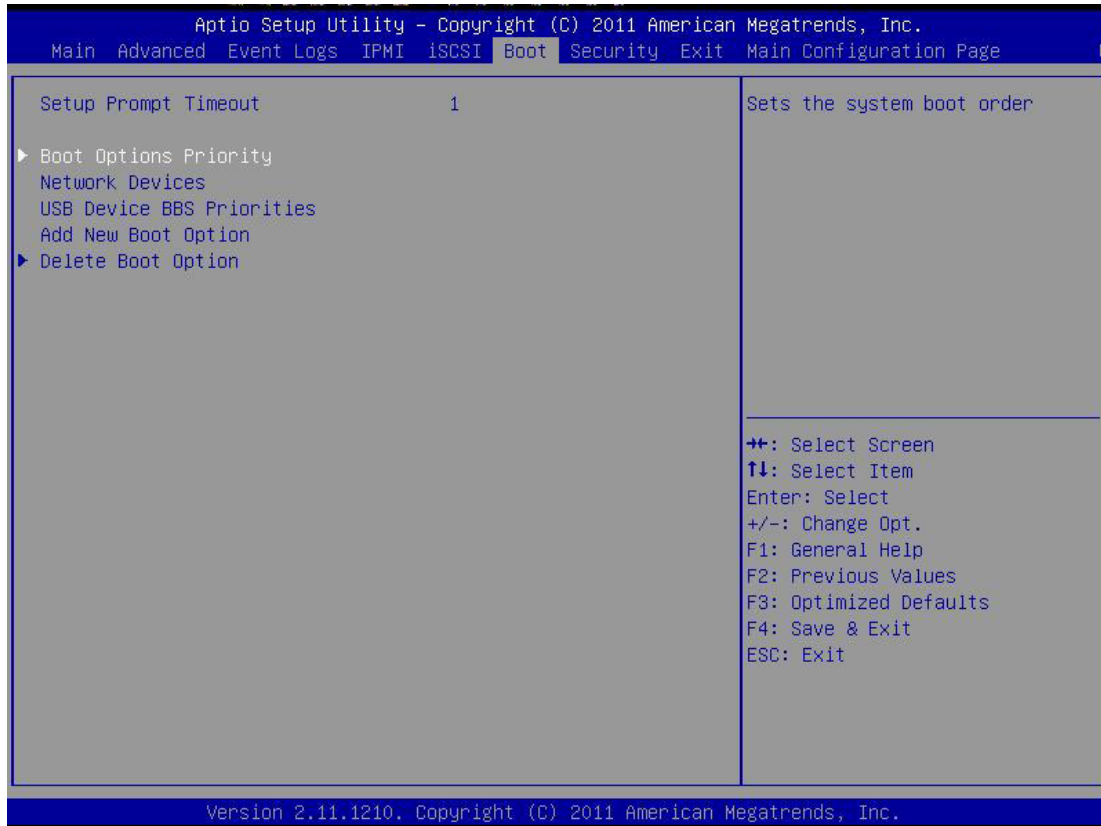
This feature allows the user to set and save the timestamps for the authorized signatures which will indicate the time when these signatures are entered into the system. Select Update to update your "Authorized TimeStamps". Select Append to append your "Authorized TimeStamps". The settings are **Update**, and Append.

► **Os Recovery Signatures**

This feature allows the user to set and save the authorized signatures used for OS recovery. Select Update to update your "OS Recovery Signatures". Select Append to append your "OS Recovery Signatures". The settings are **Update**, and Append.

6.7 Boot Settings

Use this feature to configure Boot Settings:



Boot Mode Select

Use this feature to select the type of devices from which the system will boot. The options are Legacy, UEFI (Unified Extensible Firmware Interface), and **Dual**.

LEGACY to EFI Support

Select Enabled for the system to boot from an EFI OS when the Legacy OS fails. The options are **Disabled** and Enabled.

FIXED BOOT ORDER Priorities

This feature prioritizes the order of a bootable device from which the system will boot. Press <Enter> on each item sequentially to select devices.

When the item above -"Boot Mode Select" is set to **Dual** (default), the following items will be displayed for user's configuration:

Boot Option #1 - Boot Option #17

When the item above -"Boot Mode Select" is set to Legacy, the following items will be displayed for configuration:

- Boot Option #1 - Boot Option #8

When the item above -"Boot Mode Select" is set to UEFI, the following items will be displayed for configuration:

- Boot Option #1 - Boot Option #9

► **Delete Boot Option**

Use this feature to select a boot device to delete from the boot priority list.

Delete Boot Option

Use this feature to remove an EFI boot option from the boot priority list.

► **UEFI Application Boot Priorities**

Use this feature to specify the boot device Priority sequence from available UEFI application.

► **UEFI NETWORK Drive BBS Priorities**

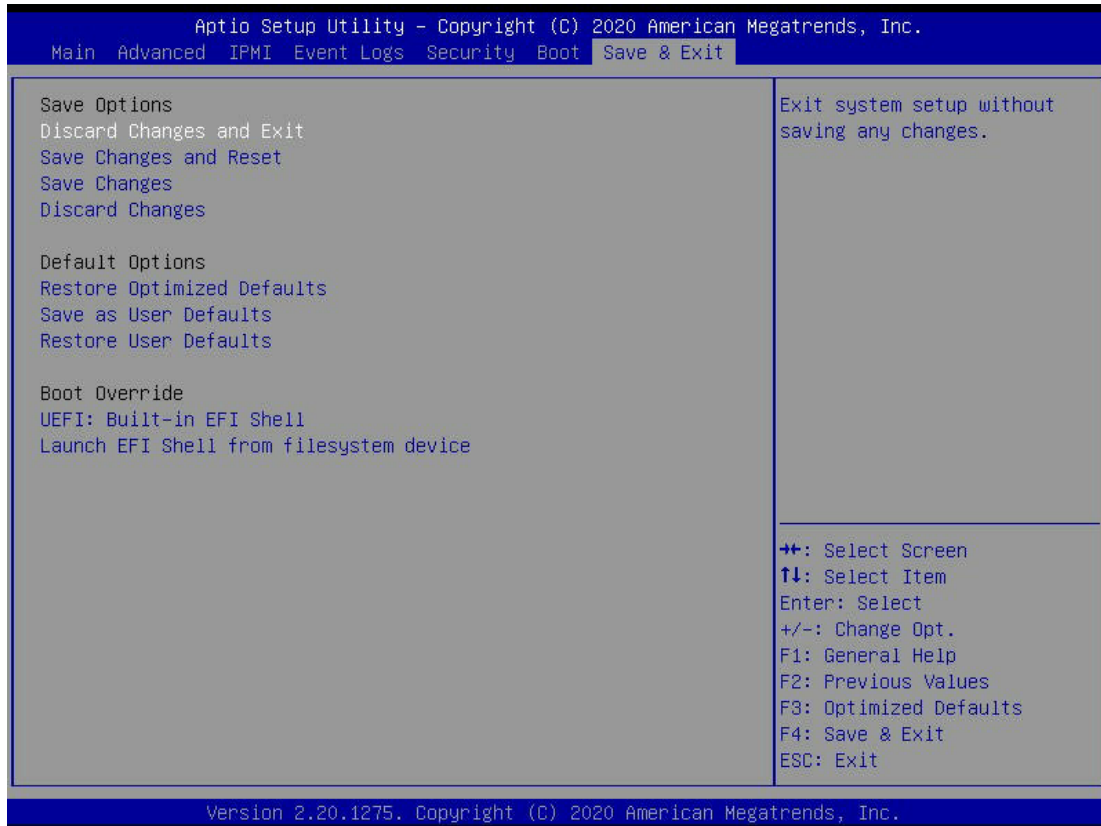
Use this feature to specify the boot device priority sequence from available UEFI NETWORK drives.

► **NETWORK Drive BBS Priorities**

Use this feature to specify the boot device priority sequence from available NETWORK drives.

6.8 Save & Exit

Select the Save & Exit menu from the BIOS setup screen to configure the settings below.



Save Options

Discard Changes and Exit

Select this option to exit from the BIOS setup utility without making any permanent changes to the system configuration and reboot the computer.

Save Changes and Reset

When you have completed the system configuration changes, select this option to leave the BIOS setup utility and reboot the computer for the new system configuration parameters to become effective.

Save Changes

When you have completed the system configuration changes, select this option to save all changes made. This will not reset (reboot) the system.

Discard Changes

Select this option and press <Enter> to discard all the changes you've made and return to the AMI BIOS setup utility.

Default Options

Restore Optimized Defaults

To set this feature, select Restore Defaults from the Exit menu and press <Enter> to load manufacturer default settings which are intended for maximum system performance but not for maximum stability.

Save as User Defaults

To set this feature, select Save as User Defaults from the Exit menu and press <Enter>. This enables the user to save all changes to the BIOS setup for future use.

Restore User Defaults

To set this feature, select Restore User Defaults from the Exit menu and press <Enter>. Use this feature to retrieve user-defined default settings that were saved previously.

Boot Override

This feature allows the user to override the Boot priorities sequence in the Boot menu, and immediately boot the system with a device specified by the user instead of the one specified in the boot list. This is a one-time override.

UEFI: Built-in EFI Shell

Launch EFI Shell from filesystem device

Appendix A

Standardized Warning Statements for AC Systems

A.1 About Standardized Warning Statements

The following statements are industry standard warnings, provided to warn the user of situations which have the potential for bodily injury. Should you have questions or experience difficulty, contact Supermicro's Technical Support department for assistance. Only certified technicians should attempt to install or configure components.

Read this appendix in its entirety before installing or configuring components in the Supermicro chassis.

These warnings may also be found on our website at http://www.supermicro.com/about/policies/safety_information.cfm.

Warning Definition



Warning! This warning symbol means danger. You are in a situation that could cause bodily injury. Before you work on any equipment, be aware of the hazards involved with electrical circuitry and be familiar with standard practices for preventing accidents.

警告の定義

この警告サインは危険を意味します。

人身事故につながる可能性がありますので、いずれの機器でも動作させる前に、電気回路に含まれる危険性に注意して、標準的な事故防止策に精通して下さい。

此警告符号代表危險。

您正处于可能受到严重伤害的工作环境中。在您使用设备开始工作之前，必须充分意识到触电的危险，并熟练掌握防止事故发生的标准工作程序。请根据每项警告结尾的声明号码找到此设备的安全性警告说明的翻译文本。

此警告符號代表危險。

您正處於可能身體可能會受損傷的工作環境中。在您使用任何設備之前，請注意觸電的危險，並且要熟悉預防事故發生的標準工作程序。請依照每一注意事項後的號碼找到相關的翻譯說明內容。

Warnung

WICHTIGE SICHERHEITSHINWEISE

Dieses Warnsymbol bedeutet Gefahr. Sie befinden sich in einer Situation, die zu Verletzungen führen kann. Machen Sie sich vor der Arbeit mit Geräten mit den Gefahren elektrischer Schaltungen und den üblichen Verfahren zur Vorbeugung vor Unfällen vertraut. Suchen Sie mit der am Ende jeder Warnung angegebenen Anweisungsnummer nach der jeweiligen Übersetzung in den übersetzten Sicherheitshinweisen, die zusammen mit diesem Gerät ausgeliefert wurden.

BEWAHREN SIE DIESE HINWEISE GUT AUF.

INSTRUCCIONES IMPORTANTES DE SEGURIDAD

Este símbolo de aviso indica peligro. Existe riesgo para su integridad física. Antes de manipular cualquier equipo, considere los riesgos de la corriente eléctrica y familiarícese con los procedimientos estándar de prevención de accidentes. Al final de cada advertencia encontrará el número que le ayudará a encontrar el texto traducido en el apartado de traducciones que acompaña a este dispositivo.

GUARDE ESTAS INSTRUCCIONES.

IMPORTANTES INFORMATIONS DE SÉCURITÉ

Ce symbole d'avertissement indique un danger. Vous vous trouvez dans une situation pouvant entraîner des blessures ou des dommages corporels. Avant de travailler sur un équipement, soyez conscient des dangers liés aux circuits électriques et familiarisez-vous avec les procédures couramment utilisées pour éviter les accidents. Pour prendre connaissance des traductions des avertissements figurant dans les consignes de sécurité traduites qui accompagnent cet appareil, référez-vous au numéro de l'instruction situé à la fin de chaque avertissement.

CONSERVEZ CES INFORMATIONS.

תקנון הזהרות אזהרה

הזהרות הבאות הן אזהרות על פי תקני התעשייה, על מנת להזהיר את המשתמש מפני חבלה פיזית אפשרית. במידה ויש שאלות או היתקלות בבעיה כלשהי, יש ליצור קשר עם מחלקת תמיכה טכנית של סופרמיקרו. טכנאים מוסמכים בלבד רשאים להתקין או להגדיר את הרכיבים. יש לקרוא את הנספח במלואו לפני התקנת או הגדרת הרכיבים במארזי סופרמיקרו.

اَكْ ف حالة وُكِي اَي تتسبب ف اصابة جسدهُ هذا الزهز عُ خطر! تحذُرُ .
 قبل اَي تعول على اَي هعدات، كي على علن بالوخاطز ال اُجوة عي الذوائر
 الكهزبائِة
 وكي على دراةُ بالووارسات النقاىِة لو عُ وقع اَي حادث
 استخدم رقن الب اى الو صُص ف هاةُ كل تحذُرُ للعشر تزجوتها

안전을 위한 주의사항

경고!

이 경고 기호는 위험이 있음을 알려 줍니다. 작업자의 신체에 부상을 야기 할 수 있는 상태에 있게 됩니다. 모든 장비에 대한 작업을 수행하기 전에 전기회로와 관련된 위험요소들을 확인하시고 사전에 사고를 방지할 수 있도록 표준 작업절차를 준수해 주시기 바랍니다.

해당 번역문을 찾기 위해 각 경고의 마지막 부분에 제공된 경고문 번호를 참조하십시오

BELANGRIJKE VEILIGHEIDSINSTRUCTIES

Dit waarschuwings symbool betekent gevaar. U verkeert in een situatie die lichamelijk letsel kan veroorzaken. Voordat u aan enige apparatuur gaat werken, dient u zich bewust te zijn van de bij een elektrische installatie betrokken risico's en dient u op de hoogte te zijn van de standaard procedures om ongelukken te voorkomen. Gebruik de nummers aan het eind van elke waarschuwing om deze te herleiden naar de desbetreffende locatie.

BEWAAR DEZE INSTRUCTIES

Installation Instructions



Warning! Read the installation instructions before connecting the system to the power source.

設置手順書

システムを電源に接続する前に、設置手順書をお読み下さい。

警告

将此系统连接电源前,请先阅读安装说明。

警告

將系統與電源連接前，請先閱讀安裝說明。

Warnung

Vor dem Anschließen des Systems an die Stromquelle die Installationsanweisungen lesen.

¡Advertencia!

Lea las instrucciones de instalación antes de conectar el sistema a la red de alimentación.

Attention

Avant de brancher le système sur la source d'alimentation, consulter les directives d'installation.

יש לקרוא את הוראות התקנה לפני חיבור המערכת למקור מתח.

اقر إرشادات التركيب قبل توصيل النظام إلى مصدر للطاقة

시스템을 전원에 연결하기 전에 설치 안내를 읽어주십시오.

Waarschuwing

Raadpleeg de installatie-instructies voordat u het systeem op de voedingsbron aansluit.

Circuit Breaker



Warning! This product relies on the building's installation for short-circuit (overcurrent) protection. Ensure that the protective device is rated not greater than: 250 V, 20 A.

サーキット・ブレーカー

この製品は、短絡(過電流)保護装置がある建物での設置を前提としています。

保護装置の定格が250 V、20 Aを超えないことを確認下さい。

警告

此产品的短路(过载电流)保护由建筑物的供电系统提供,确保短路保护设备的额定电流不大于250V,20A。

警告

此產品的短路(過載電流)保護由建築物的供電系統提供,確保短路保護設備的額定電流不大於250V,20A。

Warnung

Dieses Produkt ist darauf angewiesen, dass im Gebäude ein Kurzschluss- bzw. Überstromschutz installiert ist. Stellen Sie sicher, dass der Nennwert der Schutzvorrichtung nicht mehr als: 250 V, 20 A beträgt.

¡Advertencia!

Este equipo utiliza el sistema de protección contra cortocircuitos (o sobrecorrientes) del edificio. Asegúrese de que el dispositivo de protección no sea superior a: 250 V, 20 A.

Attention

Pour ce qui est de la protection contre les courts-circuits (surtension), ce produit dépend de l'installation électrique du local. Vérifiez que le courant nominal du dispositif de protection n'est pas supérieur à :250 V, 20 A.

מוצר זה מסתמך על הגנה המותקנת במבנים למניעת קצר חשמלי. יש לוודא כי המכשיר המגן מפני הקצר החשמלי הוא לא יותר מ-250VDC, 20A

هذا المنتج يعتمد على معدات الحماية من الدوائر القصيرة التي تم تثبيتها في المبنى
تأكد من أن تقييم الجهاز الوقائي ليس أكثر من : 20A, 250V

경고!

이 제품은 전원의 단락(과전류)방지에 대해서 전적으로 건물의 관련 설비에 의존합니다. 보호장치의 정격이 반드시 250V(볼트), 20A(암페어)를 초과하지 않도록 해야 합니다.

Waarschuwing

Dit product is afhankelijk van de kortsluitbeveiliging (overspanning) van uw elektrische installatie. Controleer of het beveiligde apparaat niet groter gedimensioneerd is dan 250V, 20A.

Power Disconnection Warning



Warning! The system must be disconnected from all sources of power and the power cord removed from the power supply module(s) before accessing the chassis interior to install or remove system components.



電源切断の警告

システムコンポーネントの取り付けまたは取り外しのために、シャーシ内部にアクセスするには、システムの電源はすべてのソースから切断され、電源コードは電源モジュールから取り外す必要があります。

警告

在你打开机箱并安装或移除内部器件前,必须将系统完全断电,并移除电源线。

警告

在您打開機殼安裝或移除內部元件前，必須將系統完全斷電，並移除電源線。

Warnung

Das System muss von allen Quellen der Energie und vom Netzanschlusskabel getrennt sein, das von den Spg.Versorgungsteilmodulen entfernt wird, bevor es auf den Chassisinnenraum zurückgreift, um Systemsbestandteile anzubringen oder zu entfernen.

¡Advertencia!

El sistema debe ser disconnected de todas las fuentes de energía y del cable eléctrico quitado de los módulos de fuente de alimentación antes de tener acceso el interior del chasis para instalar o para quitar componentes de sistema.

Attention

Le système doit être débranché de toutes les sources de puissance ainsi que de son cordon d'alimentation secteur avant d'accéder à l'intérieur du chasis pour installer ou enlever des composants de système.

אזהרה מפני ניתוק חשמלי

אזהרה!

יש לנתק את המערכת מכל מקורות החשמל ויש להסיר את כבל החשמלי מהספק לפני גישה לחלק הפנימי של המארז לצורך התקנת או הסרת רכיבים.

يجب فصل انظاؤ من جميع مصادر انطاقت وإزانت سهك انكهرباء من وحدة امداد انطاقت قيم

انصل إلى امنطاقت انداخييت نههيكم نتشيج أو إزانت مكناث الجهاز

경고!

시스템에 부품들을 장착하거나 제거하기 위해서는 새시 내부에 접근하기 전에 반드시 전원 공급장치로부터 연결되어있는 모든 전원과 전기코드를 분리해주어야 합니다.

Waarschuwing

Voordat u toegang neemt tot het binnenwerk van de behuizing voor het installeren of verwijderen van systeem onderdelen, dient u alle spanningsbronnen en alle stroomkabels aangesloten op de voeding(en) van de behuizing te verwijderen

Equipment Installation



Warning! Only trained and qualified personnel should be allowed to install, replace, or service this equipment.

機器の設置

トレーニングを受け認定された人だけがこの装置の設置、交換、またはサービスを許可されていません。

警告

只有经过培训且具有资格的人员才能进行此设备的安装、更换和维修。

警告

只有經過受訓且具資格人員才可安裝、更換與維修此設備。

Warnung

Das Installieren, Ersetzen oder Bedienen dieser Ausrüstung sollte nur geschultem, qualifiziertem Personal gestattet werden.

¡Advertencia!

Solamente el personal calificado debe instalar, reemplazar o utilizar este equipo.

Attention

Il est vivement recommandé de confier l'installation, le remplacement et la maintenance de ces équipements à des personnels qualifiés et expérimentés.

אזהרה!

צוות מוסמך בלבד רשאי להתקין, להחליף את הציוד או לתת שירות עבור הציוד.

والمدربيه لتزكيب واستبدال أو خدمة هذا الجهاز يجب أن يسمح فقط للمظفيه المؤهليه

경고!

훈련을 받고 공인된 기술자만이 이 장비의 설치, 교체 또는 서비스를 수행할 수 있습니다.

Waarschuwing

Deze apparatuur mag alleen worden geïnstalleerd, vervangen of hersteld door geschoold en gekwalificeerd personeel.

Restricted Area



Warning! This unit is intended for installation in restricted access areas. A restricted access area can be accessed only through the use of a special tool, lock and key, or other means of security. (This warning does not apply to workstations).

アクセス制限区域

このユニットは、アクセス制限区域に設置されることを想定しています。

アクセス制限区域は、特別なツール、鍵と錠前、その他のセキュリティの手段を用いてのみ出入りが可能です。

警告

此部件应安装在限制进出的场所，限制进出的场所指只能通过使用特殊工具、锁和钥匙或其它安全手段进出的场所。

警告

此装置仅限安装於進出管制區域，進出管制區域係指僅能以特殊工具、鎖頭及鑰匙或其他安全方式才能進入的區域。

Warnung

Diese Einheit ist zur Installation in Bereichen mit beschränktem Zutritt vorgesehen. Der Zutritt zu derartigen Bereichen ist nur mit einem Spezialwerkzeug, Schloss und Schlüssel oder einer sonstigen Sicherheitsvorkehrung möglich.

¡Advertencia!

Esta unidad ha sido diseñada para instalación en áreas de acceso restringido. Sólo puede obtenerse acceso a una de estas áreas mediante la utilización de una herramienta especial, cerradura con llave u otro medio de seguridad.

Attention

Cet appareil doit être installé dans des zones d'accès réservés. L'accès à une zone d'accès réservé n'est possible qu'en utilisant un outil spécial, un mécanisme de verrouillage et une clé, ou tout autre moyen de sécurité.

אזור עם גישה מוגבלת

אזהרה!

יש להתקין את היחידה באזורים שיש בהם הגבלת גישה. הגישה ניתנת בעזרת 'כלי אבטחה בלבד' (מפתח, מנעול וכד.).

تخصيص هذه انحدة نترك بُها ف مناطق محظورة تم .

،ممكن اننصل إن منطقت محظورة فقط من خلال استخذاو أداة خاصت أو أ وس هُت أخري نلالأمما ققم ومفتاح

경고!

이 장치는 접근이 제한된 구역에 설치하도록 되어있습니다. 특수도구, 잠금 장치 및 키, 또는 기타 보안 수단을 통해서만 접근 제한 구역에 들어갈 수 있습니다.

Waarschuwing

Dit apparaat is bedoeld voor installatie in gebieden met een beperkte toegang. Toegang tot dergelijke gebieden kunnen alleen verkregen worden door gebruik te maken van speciaal gereedschap, slot en sleutel of andere veiligheidsmaatregelen.

Battery Handling



Warning! There is the danger of explosion if the battery is replaced incorrectly. Replace the battery only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions

電池の取り扱い

電池交換が正しく行われなかった場合、破裂の危険性があります。交換する電池はメーカーが推奨する型、または同等のものを使用下さい。使用済電池は製造元の指示に従って処分して下さい。

警告

電池更換不當會有爆炸危險。請只使用同類電池或制造商推薦的功能相當的電池更換原有電池。請按製造商的說明處理廢舊電池。

警告

電池更換不當會有爆炸危險。請使用製造商建議之相同或功能相當的電池更換原有電池。請按照製造商的說明指示處理廢棄舊電池。

Warnung

Bei Einsetzen einer falschen Batterie besteht Explosionsgefahr. Ersetzen Sie die Batterie nur durch den gleichen oder vom Hersteller empfohlenen Batterietyp. Entsorgen Sie die benutzten Batterien nach den Anweisungen des Herstellers.

Attention

Danger d'explosion si la pile n'est pas remplacée correctement. Ne la remplacer que par une pile de type semblable ou équivalent, recommandée par le fabricant. Jeter les piles usagées conformément aux instructions du fabricant.

¡Advertencia!

Existe peligro de explosión si la batería se reemplaza de manera incorrecta. Reemplazar la batería exclusivamente con el mismo tipo o el equivalente recomendado por el fabricante. Desechar las baterías gastadas según las instrucciones del fabricante.

אזהרה!

קיימת סכנת פיצוץ של הסוללה במידה והוחלפה בדרך לא תקינה. יש להחליף את הסוללה בסוג התואם מחברת יצרן מומלצת. סילוק הסוללות המשומשות יש לבצע לפי הוראות היצרן.

هناك خطر من انفجار في حالة اسحبذال البطارية بطريقة غير صحيحة فعليل
اسحبذال البطارية
فقط بنفس النوع أو ما يعادلها مما أوصت به الشركة المصنعة
جخلص من البطاريات المسحعملة وفقا لعمليات الشركة الصانعة

경고!

배터리가 올바르게 교체되지 않으면 폭발의 위험이 있습니다. 기존 배터리와 동일하거나 제조사에서 권장하는 동등한 종류의 배터리로만 교체해야 합니다. 제조사의 안내에 따라 사용된 배터리를 처리하여 주십시오.

Waarschuwing

Er is ontplofingsgevaar indien de batterij verkeerd vervangen wordt. Vervang de batterij slechts met hetzelfde of een equivalent type die door de fabrikant aanbevolen wordt. Gebruikte batterijen dienen overeenkomstig fabrieksvoorschriften afgevoerd te worden.

Redundant Power Supplies



Warning! This unit might have more than one power supply connection. All connections must be removed to de-energize the unit.

冗長電源装置

このユニットは複数の電源装置が接続されている場合があります。

ユニットの電源を切るためには、すべての接続を取り外さなければなりません。

警告

此部件连接的电源可能不止一个，必须将所有电源断开才能停止给该部件供电。

警告

此装置连接的电源可能不只一个，必须切断所有电源才能停止对该装置的供电。

Warnung

Dieses Gerät kann mehr als eine Stromzufuhr haben. Um sicherzustellen, dass der Einheit kein Strom zugeführt wird, müssen alle Verbindungen entfernt werden.

¡Advertencia!

Puede que esta unidad tenga más de una conexión para fuentes de alimentación. Para cortar por completo el suministro de energía, deben desconectarse todas las conexiones.

Attention

Cette unité peut avoir plus d'une connexion d'alimentation. Pour supprimer toute tension et tout courant électrique de l'unité, toutes les connexions d'alimentation doivent être débranchées.

אם קיים יותר מספק אחד

אזהרה!

ליחידה יש יותר מחיבור אחד של ספק. יש להסיר את כל החיבורים על מנת לרוקן את היחידה.

قد يكون لهذا الجهاز عدة اتصالات بوحدات امداد الطاقة .

يجب إزالة كافة الاتصالات لعسل الوحدة عن الكهرباء

경고!

이 장치에는 한 개 이상의 전원 공급 단자가 연결되어 있을 수 있습니다. 이 장치에 전원을 차단하기 위해서는 모든 연결 단자를 제거해야만 합니다.

Waarschuwing

Deze eenheid kan meer dan één stroomtoevoeraansluiting bevatten. Alle aansluitingen dienen verwijderd te worden om het apparaat stroomloos te maken.

Backplane Voltage



Warning! Hazardous voltage or energy is present on the backplane when the system is operating. Use caution when servicing.

バックプレーンの電圧

システムの稼働中は危険な電圧または電力が、バックプレーン上にかかっています。

修理する際には注意ください。

警告

当系統正在进行时，背板上有很危险的电压或能量，进行维修时务必小心。

警告

當系統正在進行時，背板上危險的電壓或能量，進行維修時務必小心。

Warnung

Wenn das System in Betrieb ist, treten auf der Rückwandplatine gefährliche Spannungen oder Energien auf. Vorsicht bei der Wartung.

¡Advertencia!

Cuando el sistema está en funcionamiento, el voltaje del plano trasero es peligroso. Tenga cuidado cuando lo revise.

Attention

Lorsque le système est en fonctionnement, des tensions électriques circulent sur le fond de panier. Prendre des précautions lors de la maintenance.

מתח בפנל האחורי

אזהרה!

קיימת סכנת מתח בפנל האחורי בזמן תפעול המערכת. יש להיזהר במהלך העבודה.

هناك خطر من التيار الكهربائي أو الطاقة المتجددة على اللوحة
عندما يكون النظام يعمل كه حذرا عند خدمة هذا الجهاز

경고!

시스템이 동작 중일 때 후면판 (Backplane)에는 위험한 전압이나 에너지가 발생 합니다.
서비스 작업 시 주의하십시오.

Waarschuwing

Een gevaarlijke spanning of energie is aanwezig op de backplane wanneer het systeem in gebruik is. Voorzichtigheid is geboden tijdens het onderhoud.

Comply with Local and National Electrical Codes



Warning! Installation of the equipment must comply with local and national electrical codes.

地方および国の電気規格に準拠

機器の取り付けはその地方および国の電気規格に準拠する必要があります。

警告

设备安装必须符合本地与本国电气法规。

警告

設備安裝必須符合本地與本國電氣法規。

Warnung

Die Installation der Geräte muss den Sicherheitsstandards entsprechen.

¡Advertencia!

La instalación del equipo debe cumplir con las normas de electricidad locales y nacionales.

Attention

L'équipement doit être installé conformément aux normes électriques nationales et locales.

תיאום חוקי החשמל הארצי
אזהרה!
התקנת הציוד חייבת להיות תואמת לחוקי החשמל המקומיים והארציים.

تركيب المعدات الكهربائية يجب أن يمتثل للقوايه المحلية والبطية المتعلقة
بالكهرباء

경고!

현 지역 및 국가의 전기 규정에 따라 장비를 설치해야 합니다.

Waarschuwing

Bij installatie van de apparatuur moet worden voldaan aan de lokale en nationale elektriciteitsvoorschriften.

Product Disposal



Warning! Ultimate disposal of this product should be handled according to all national laws and regulations.

製品の廃棄

この製品を廃棄処分する場合、国の関係する全ての法律・条例に従い処理する必要があります。

警告

本产品的废弃处理应根据所有国家的法律和规章进行。

警告

本產品的廢棄處理應根據所有國家的法律和規章進行。

Warnung

Die Entsorgung dieses Produkts sollte gemäß allen Bestimmungen und Gesetzen des Landes erfolgen.

¡Advertencia!

Al deshacerse por completo de este producto debe seguir todas las leyes y reglamentos nacionales.

Attention

La mise au rebut ou le recyclage de ce produit sont généralement soumis à des lois et/ou directives de respect de l'environnement. Renseignez-vous auprès de l'organisme compétent.

סילוק המוצר

אזהרה!

סילוק סופי של מוצר זה חייב להיות בהתאם להנחיות וחוקי המדינה.

التخلص النهائي من هذا المنتج ينبغي التعامل معه وفقا لجميع القوانين واللوائح الوطنية عند

경고!

이 제품은 해당 국가의 관련 법규 및 규정에 따라 폐기되어야 합니다.

Waarschuwing

De uiteindelijke verwijdering van dit product dient te geschieden in overeenstemming met alle nationale wetten en reglementen.

Hot Swap Fan Warning



Warning! Hazardous moving parts. Keep away from moving fan blades. The fans might still be turning when you remove the fan assembly from the chassis. Keep fingers, screwdrivers, and other objects away from the openings in the fan assembly's housing.

ファン・ホットスワップの警告

警告!回転部品に注意。運転中は回転部(羽根)に触れないでください。シャーシから冷却ファン装置を取り外した際、ファンがまだ回転している可能性があります。ファンの開口部に、指、ドライバー、およびその他のものを近づけないで下さい。

警告!

警告! 危險的可移動性零件。請務必與轉動的风扇叶片保持距離。當您從機架移除風扇裝置，風扇可能仍在轉動。小心不要將手指、螺絲起子和其他物品太靠近風扇

警告

危險的可移動性零件。請務必與轉動的風扇葉片保持距離。當您從機架移除風扇裝置，風扇可能仍在轉動。小心不要將手指、螺絲起子和其他物品太靠近風扇。

Warnung

Gefährlich Bewegende Teile. Von den bewegenden Lüfterblätter fern halten. Die Lüfter drehen sich u. U. noch, wenn die Lüfterbaugruppe aus dem Chassis genommen wird. Halten Sie Finger, Schraubendreher und andere Gegenstände von den Öffnungen des Lüftergehäuses entfernt.

¡Advertencia!

Riesgo de piezas móviles. Mantener alejado de las aspas del ventilador. Los ventiladores podran dar vuelta cuando usted quite el montaje del ventilador del chasis. Mantenga los dedos, los destornilladores y todos los objetos lejos de las aberturas del ventilador

Attention

Pieces mobiles dangereuses. Se tenir a l'écart des lames du ventilateur Il est possible que les ventilateurs soient toujours en rotation lorsque vous retirerez le bloc ventilateur du châssis. Prenez garde à ce que doigts, tournevis et autres objets soient éloignés du logement du bloc ventilateur.

אזהרה!

חלקים נעים מסוכנים. התרחק מלהבי המאוורר בפעולה כאשר מסירים את חלקי המאוורר מהמארז, יתכן והמאווררים עדיין עובדים. יש להרחיק למרחק בטוח את האצבעות וכלי עבודה שונים מהפתחים בתוך המאוורר

تحذير! أجزاء متحركة خطيرة. ابتعد عن شفرات المروحة المتحركة. من الممكن أن المراوح لا تزال تدور عند إزالة كتلة المروحة من الهيكل يجب إبقاء الأصابع ومفكات البراغي وغيرها من الأشياء بعيدا عن الفتحات في كتلة المروحة.

경고!

움직이는 위험한 부품. 회전하는 송풍 날개에 접근하지 마세요. 새시로부터 팬 조립품을 제거할 때 팬은 여전히 회전하고 있을 수 있습니다. 팬 조립품 외관의 열려있는 부분들로부터 손가락 및 스크류드라이버, 다른 물체들이 가까이 하지 않도록 배치해 주십시오.

Waarschuwing

Gevaarlijk bewegende onderdelen. Houd voldoende afstand tot de bewegende ventilatorbladen. Het is mogelijk dat de ventilator nog draait tijdens het verwijderen van het ventilatorsamenstel uit het chassis. Houd uw vingers, schroevendraaiers en eventuele andere voorwerpen uit de buurt van de openingen in de ventilatorbehuizing.

Power Cable and AC Adapter



Warning! When installing the product, use the provided or designated connection cables, power cables and AC adapters. Using any other cables and adapters could cause a malfunction or a fire. Electrical Appliance and Material Safety Law prohibits the use of UL or CSA -certified cables (that have UL/CSA shown on the code) for any other electrical devices than products designated by Supermicro only.

電源コードとACアダプター

製品を設置する場合、提供または指定および購入された接続ケーブル、電源コードとACアダプターを、該当する地域の条例や安全基準に適合するコードサイズやプラグと共に使用下さい。他のケーブルやアダプタを使用すると故障や火災の原因になることがあります。

電気用品安全法は、ULまたはCSA認定のケーブル(UL/CSAマークがコードに表記)を Supermicro が指定する製品以外に使用することを禁止しています。

警告

安装此产品时,请使用本身提供的或指定的或采购的连接线,电源线和电源适配器。包含遵照当地法规和安全要求的合规的电源线尺寸和插头。使用其它线材或适配器可能会引起故障或火灾。除了Supermicro所指定的产品,电气用品和材料安全法律规定禁止使用未经UL或CSA认证的线材。(线材上会显示UL/CSA符号)。

警告

安裝此產品時,請使用本身提供的或指定的或採購的連接線,電源線和電源適配器。包含遵照當地法規和安全要求的合規的電源線尺寸和插頭。使用其它線材或適配器可能會引起故障或火災。除了Supermicro所指定的產品,電氣用品和材料安全法律規定禁止使用未經UL或CSA認證的線材。(線材上會顯示UL/CSA符號)。

Warnung

Nutzen Sie beim Installieren des Produkts ausschließlich die von uns zur Verfügung gestellten Verbindungskabeln, Stromkabeln und/oder Adapter, die Ihre örtlichen Sicherheitsstandards einhalten. Der Gebrauch von anderen Kabeln und Adapter können Fehlfunktionen oder Feuer verursachen. Die Richtlinien untersagen das Nutzen von UL oder CAS zertifizierten Kabeln (mit UL/CSA gekennzeichnet), an Geräten oder Produkten die nicht mit Supermicro gekennzeichnet sind.

¡Advertencia!

Cuando instale el producto, utilice la conexión provista o designada o procure cables, Cables de alimentación y adaptadores de CA que cumplan con los códigos locales y los requisitos de seguridad, incluyendo el tamaño adecuado del cable y el enchufe. El uso de otros cables y adaptadores podría causar un mal funcionamiento o un incendio. La Ley de Seguridad de Aparatos Eléctricos y de Materiales prohíbe El uso de cables certificados por UL o CSA (que tienen el certificado UL / CSA en el código) para cualquier otros dispositivos eléctricos que los productos designados únicamente por Supermicro.

Attention

Lors de l'installation du produit, utilisez les cables de connection fournis ou désigné ou achetez des cables, cables de puissance et adaptateurs respectant les normes locales et les conditions de securite y compris les tailles de cables et les prises electriques appropries. L'utilisation d'autres cables et adaptateurs peut provoquer un dysfonctionnement ou un incendie. Appareils électroménagers et la Loi sur la Sécurité Matériel interdit l'utilisation de câbles certifiés- UL ou CSA (qui ont UL ou CSA indiqué sur le code) pour tous les autres appareils électriques sauf les produits désignés par Supermicro seulement.

AC כבלים חשמליים ומתאמי

!אזהרה

אשר נרכשו או הותאמו לצורך ההתקנה, ואשר הותאמו לדרישות AC כאשר מתקינים את המוצר, יש להשתמש בכבלים, ספקים ומתאמים הבטיחות המקומיות, כולל מידה נכונה של הכבל והתקע. שימוש בכל כבל או מתאם מסוג אחר, עלול לגרום לתקלה או קצר חשמלי. בהתאם כאשר מופיע עליהם קוד) UL-CSA או ב UL - לחוקי השימוש במכשירי החשמל וחוקי הבטיחות, קיים איסור להשתמש בכבלים המוסמכים ב Supermicro עבור כל מוצר חשמלי אחר, אלא רק במוצר אשר הותאם ע"י UL/CSA של

עند تركيب المنتج، قم باستخدام التوصيلات المتوفرة أو المحددة أو قم بشراء الكابلات الكهربائية ومحوّلات التيار المتردد مع الالتزام بقوانين ومتطلبات السلامة المحلية بما في ذلك حجم الموصل والقابس السليم. استخدام أي كابلات ومحوّلات أخرى قد يتسبب في عطل أو حريق. يحظر قانون السلامة للأجهزة الكهربائية والمعدات استخدام الكابلات المعتمدة Supermicro مع أي معدات أخرى غير المنتجات المعينة والمحددة من قبل (UL/CSA) والتي تحمل علامة CSA أو UL من قبل

전원 케이블 및 AC 어댑터

경고! 제품을 설치할 때 현지 코드 및 적절한 굵기의 코드와 플러그를 포함한 안전 요구 사항을 준수하여 제공되거나 지정된 연결 혹은 구매 케이블, 전원 케이블 및 AC 어댑터를 사용하십시오.

다른 케이블이나 어댑터를 사용하면 오작동이나 화재가 발생할 수 있습니다. 전기 용품 안전법은 UL 또는 CSA 인증 케이블 (코드에 UL / CSA가 표시된 케이블)을 Supermicro 가 지정한 제품 이외의 전기 장치에 사용하는 것을 금지합니다.

Stroomkabel en AC-Adapter

Waarschuwing! Bij het aansluiten van het Product uitsluitend gebruik maken van de geleverde Kabels of een andere geschikte aan te schaffen Aansluitmethode, deze moet altijd voldoen aan de lokale voorschriften en veiligheidsnormen, inclusief de juiste kabeldikte en stekker. Het gebruik van niet geschikte Kabels en/of Adapters kan een storing of brand veroorzaken. Wetgeving voor Elektrische apparatuur en Materiaalveiligheid verbied het gebruik van UL of CSA -gecertificeerde Kabels (met UL/CSA in de code) voor elke andere toepassing dan de door Supermicro hiervoor beoogde Producten.

Appendix B

System Specifications

Processors

Dual AMD EPYC 7002/7003 processor in SP3 sockets
Eight NVIDIA A100 (SXM4) GPUs
Four PLX switches
(Note: AMD EPYC 7003 series processor support requires BIOS version 2.0 or newer.)

BIOS

256Mb SPI AMI BIOS® SM Flash UEFI BIOS

Memory

Up to 8TB of ECC DDR4 3200 MHz speed, RDIMM/LRDIMM/3DS/NVDIMM memory in thirty-two slots

Storage Drives

Six front hot-swap NVMe (four hybrid and two NVMe only) 2.5" drive bays
Optional rear four hot-swap NVMe U.2 2.5" drive bays (Note: See Chapter 3 page 48 for recommendations)
Two onboard NVMe M.2 on the motherboard

PCI Expansion Slots

Eight PCIe 4.0 x16 slots on the switch tray
One PCIe 4.0 x16 LP and one PCIe 4.0 x8 LP on the motherboard tray

Input/Output

Networking AIOM
One dedicated IPMI LAN Port

Motherboard

H12DGO-6 16.86" (L) x 15.11" (W) (428.24 mm x 383.79 mm)

Chassis

CSE-438G (WxHxD) 17.6 x 6.9 x 35.4 in. (446 x 174 x 900 mm)

Weight

Net weight: 166.0 lbs (75.3 kg)
Gross weight: 225.0 lbs (102.1 kg)

System Cooling

GPU Node: four heavy-duty hot-swap fans
CPU Node: eight internal counter-rotating fans, two CPU heatsinks, one air shroud

Security

Trusted Platform Module (TPM) support

Power Supply

4124GO-NART: Model: PWS-2K21G-2R; 80Plus Titanium level

Total Output Power:

1000W with 100 - 127Vac input

1800W with 200 - 220Vac input

1980W with 200 - 230Vac input

2090W with 230 - 240Vac input

2200W with 220 - 240Vac input (for UL/cUL only)

2090W with 230 - 240Vdc input (for CQC only)Input:

100-127Vac / 12 – 9.5A

200-220Vac / 10 -- 9.5A

220-230Vac / 10 – 9.5A

230-240Vac / 10 -- 9.8A

220-240Vac / 11.8 -- 9.6A (UL/cUL only)

230-240Vdc / 10 -- 9.8A (CQC only)

4120GO-NART+: PWS-3K02G-2R; 80Plus Titanium level

Total Output Power:

2880W with 200 - 207Vac input

3000W with 207.1 - 240Vac input

3000W with 240Vdc inputInput:

200-207 Vac / 16 - 15.7A / 50-60 Hz

207.1-240 Vac / 16 - 14.5A / 50-60 Hz

Operating Environment

Operating Temperature: 10° to 35° C (50° to 95° F)

Non-operating Temperature: -40° to 60° C (-40° to 140° F)

Operating Relative Humidity: 8% to 90% (non-condensing)

Non-operating Relative Humidity: 5% to 95% (non-condensing)

Regulatory Compliance

FCC, ICES, CE, VCCI, RCM, UKCA, NRTL, CB

Applied Directives, Standards

EMC/EMI: 2014/30/EU (EMC Directive)
Electromagnetic Compatibility Regulations 2016
FCC Part 15 Subpart B
ICES-003
VCCI-CISPR 32
AS/NZS CISPR 32
BS/EN55032
BS/EN55035
BS/EN 61000-3-2
BS/EN 61000-3-3
BS/EN 61000-4-2
BS/EN 61000-4-3
BS/EN 61000-4-4
BS/EN 61000-4-5
BS/EN 61000-4-6
BS/EN 61000-4-8
BS/EN 61000-4-11

Green Environment:
2011/65/EU (RoHS Directive)
EC 1907/2006 (REACH)
2012/19/EU (WEEE Directive)

Product Safety: 2014/35/EU (LVD Directive)
Electrical Equipment (Safety) Regulations 2016
UL/CSA 62368-1 (USA and Canada)
BS/IEC/EN 62368-1

Perchlorate Warning

California Best Management Practices Regulations for Perchlorate Materials: This Perchlorate warning applies only to products containing CR (Manganese Dioxide) Lithium coin cells. "Perchlorate Material-special handling may apply. See www.dtsc.ca.gov/hazardouswaste/perchlorate"

この装置は、クラスA機器です。この装置を住宅環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。

VCCI — A