A+ Workstation®
AS -2115HV-TNRT

USER'S MANUAL

Revision 1.0a

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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 workstation. Installation and maintenance should be performed by certified service technicians only.

Please refer to the AS -2115HV-TNRT workstation specifications page on our website for updates on supported memory, processors and operating systems (http://www.supermicro.com).

Notes

For your workstation 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:
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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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Chapter 1

Introduction

1.1 Overview

This chapter provides a brief outline of the functions and features of the A+ Workstation AS -2115HV-TNRT. This workstation is based on the H13SRH motherboard and the CSE-HS201-R000NFP chassis. The following provides an overview of the specifications and capabilities of the system.

System Overview	
Motherboard	H13SRH
Chassis	CSE-HS201-R000NFP
Processor Support	Single AMD Ryzen Threadripper PRO 7000 WX-Series Processor in an sTR5 socket with a thermal design power (TDP) of up to 350 W.
Memory	Supports up to 2 TB ECC RDIMM/3DS RDIMM memory with speeds of up to 5200 MT/s (1DPC) or higher with overclocking support in eight ECC DDR5 DIMM slots
Drive Support	Eight 2.5" hot-swap NVMe/SATA/SAS drive bays Two M.2 NVMe PCIe 4.0 x4 in the 2280 and 22110 (default) form factors for boot drive
Expansion Slots	Four PCIe 5.0 x16 (in x16) FH/10.5″L double-width slots or eight PCIe 5.0 x8 (in x16) FHFL slots
I/O Ports	One AIOM slot for flexible networking (OCP 3.0 compatible) One RJ45 dedicated BMC LAN port Two rear USB 3.0 ports One VGA port
Workstation Cooling	Six 6-cm heavy duty fans with optimal fan speed control One air shroud
Power	Two redundant power supplies (default 2600 W) Optional 1600 W or 2000 W redundant DC power supplies (Full redundancy based on configuration and application load)
Form Factor	2U: 3.5 x 17.2 x 31.74 in / 88.9 x 437 x 806.2 mm (HxWxD)

Note: A Quick Reference Guide can be found on the product page of the Supermicro website.

The following safety models associated with the AS -2115HV-TNRT have been certified as compliant with UL or CSA: HS201-R26H13, HS201-R20H13, HS201-R16H13.

1.2 System Features

The following views of the workstation display the main features. Refer to Appendix B for additional specifications.

Front View

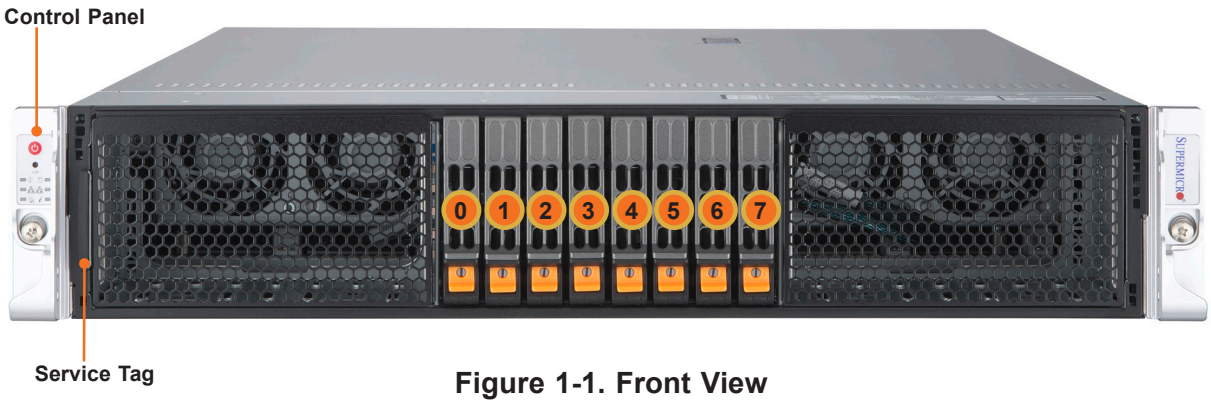


Figure 1-1. Front View

System Features: Front	
Feature	**Description**
Control Panel	One control panel (see Control Panel on the next page for details)
Service Tag	Service Tag with BMC Password Reset

Logical Storage Drive Numbers	
Item	**Description**
0 _ 7	Eight hot-swap 2.5" NVMe/SATA/SAS drive bays*

*Additional components are needed to enable the drive options.

Control Panel

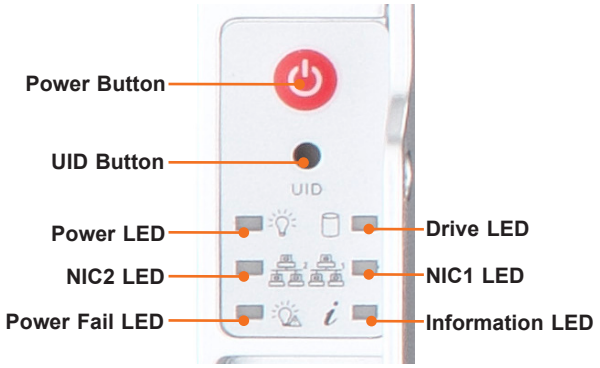


Figure 1-2. Control Panel

Control Panel Features	
Feature	**Description**
Power Button	The main power button is used to apply or remove power from the power supply to the workstation. Turning off workstation power with this button removes the main power but maintains standby power. To perform many maintenance tasks, you must also unplug the workstation before servicing.
UID Button	Press and hold the button to toggle the UID function in the information LED. Reset— Press and hold the button. After 6 seconds, the BMC resets. Restore factory default configuration— Hold the button for 12 seconds.
Power LED	Steady on: DC power (Main Power) on Blinking at 4 Hz – Checking BIOS/BMC integrity Blinking at 4 Hz and "i" LED is blue – BIOS firmware updating Two blinks at 4 Hz, one pause 2 Hz and "i" LED blue – BMC firmware updating
Drive LED	Indicates activity on the drive when flashing.
NIC2 LED	Indicates network activity on even numbered LAN ports. A1 (ports 2 & 4) and A2 (ports 2 & 4).
NIC1 LED	Indicates network activity on odd numbered LAN ports. A1 (ports 1 & 3) and A2 (ports 1 & 3).
Power Fail LED	Indicates a power supply module has failed.
Universal Information LED	See table below for details.

Information LED	
Color, Status	**Description**
Red, solid	An overheat condition has occurred.
Red, blinking at 1 Hz	Fan failure, check for an inoperative fan.
Red, blinking at 0.25 Hz	Power failure, check for a non-operational power supply.
Red, solid, with Power LED blinking green	Fault detected
Blue and red, blinking at 10 Hz	Recovery mode
Blue, solid	UID has been activated locally to locate the workstation in a rack environment.
Blue, blinking at 1 Hz	UID has been activated using the BMC to locate the workstation in a rack environment.
Blue, blinking at 2 Hz	BMC is resetting
Blue, blinking at 4 Hz	BMC is setting factory defaults
Blue, blinking at 10 Hz with Power LED blinking green	BMC/BIOS firmware is updating

Rear View

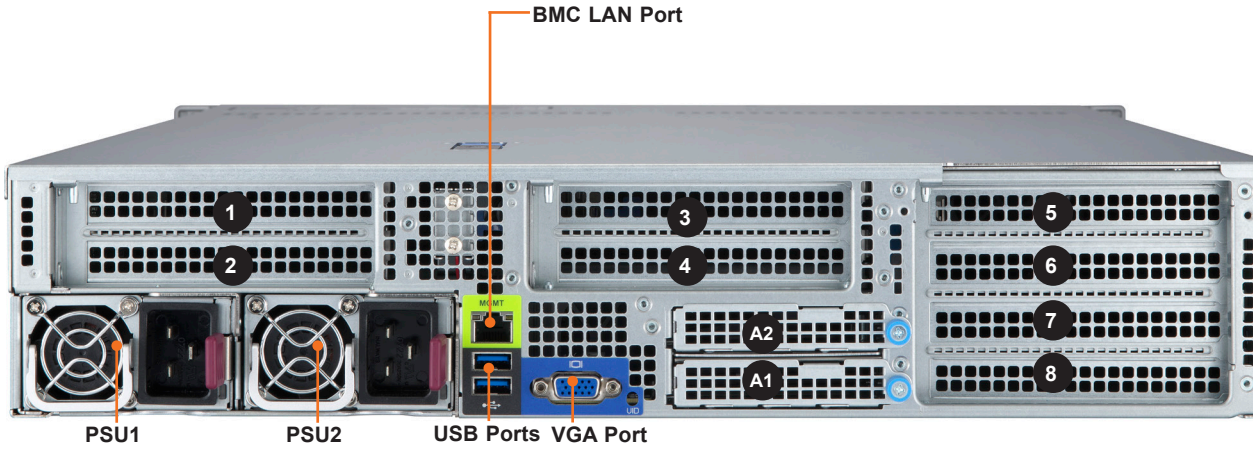


Figure 1-3. Rear View

System Features: Rear	
Feature	**Description**
Power Supplies (PSU1 and PSU2)	Up to two 2600 W Titanium Level redundant power supply modules
USB	Two USB 3.2 ports
BMC LAN	One RJ45 dedicated BMC LAN port
VGA	One VGA port

Expansion Slot Locations	
Slot	**Description**
A1	PCIe 5.0 x16 AIOM Slot (NCSI)
A2 (see Note below)	PCIe 5.0 x16 AIOM Slot (NCSI)

Note: Slot A2 is not available for the eight NVMe configuration.

Expansion Slot Locations		
Slot	**Option 1**	**Option 2**
1	PCIe 5.0 x16 (FH, 10.5"L)	PCIe 5.0 x8 (FH, 10.5"L)
2	Not available	PCIe 5.0 x8 (FH, 10.5"L)
3	PCIe 5.0 x16 (FH, 10.5"L)	PCIe 5.0 x8 (FH, 10.5"L)
4	Not available	PCIe 5.0 x8 (FH, 10.5"L)

Expansion Slot Locations			
Slot	**Option 1**	**Option 2**	**Option 3**
5	PCIe 5.0 x16 (FH, 10.5"L)	PCIe 5.0 x16 (FH, 10.5"L)	PCIe 5.0 x8 (FH, 10.5"L)
6	Not available	Not available	PCIe 5.0 x8 (FH, 10.5"L)
7	PCIe 5.0 x8 (FH, 10.5"L)	PCIe 5.0 x16 (FH, 10.5"L)	PCIe 5.0 x8 (FH, 10.5"L)
8	PCIe 5.0 x8 (FH, 10.5"L)	Not available	PCIe 5.0 x8 (FH, 10.5"L)

Power Supply Indicators		
Power Supply Condition	**Green LED**	**Amber LED**
No AC Power to Power Supply	OFF	OFF
Power Supply critical events causing a shutdown/ failure/ OCP/ OVP/ Fan Fail/ OTP/ UVP	OFF	ON
Power Supply Warning Events Where the power supply continues to operate; High temperature; Over voltage; under voltage, etc.	OFF	1 Hz Blinking
AC present only 12 VSB ON (PS OFF)	1 Hz Blinking	OFF
Output ON and OK	ON	OFF
AC cord unplugged and in redundant mode	OFF	ON

1.3 System Architecture

This section covers the locations of the system's main components, a system block diagram, and a motherboard layout with the connectors.

Main Components

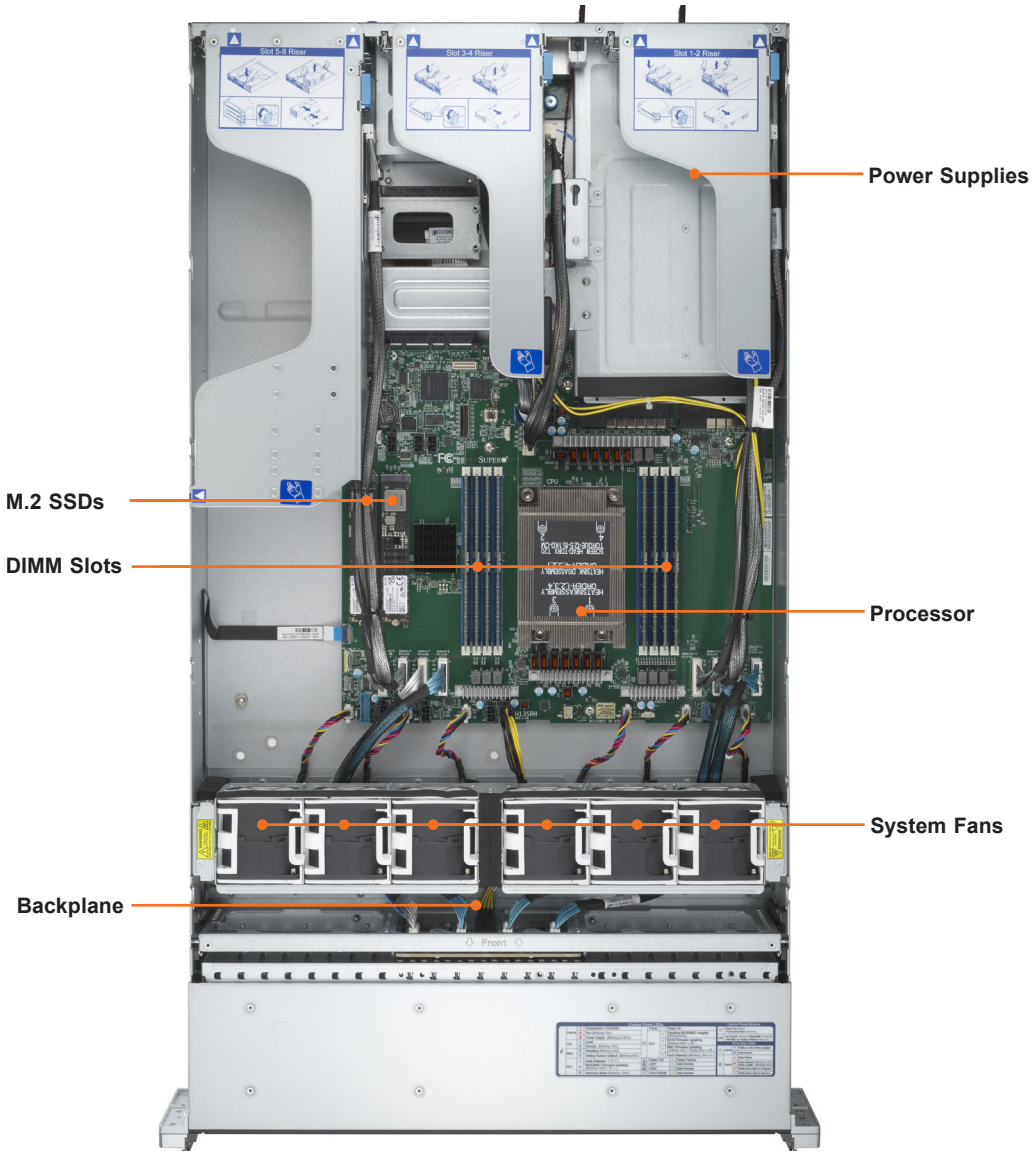


Figure 1-4. Main Component Locations

System Features: Top	
Feature	**Description**
Power Supplies	Two redundant power supplies, PWS-2K63A-1R, 2600 W (Titanium Level)
M.2 SSDs	Two PCIe 4.0 x4 M.2 SSDs
Service Tag	Service tag with serial number and BMC ADMIN password
DIMM slots	Eight DDR5 DIMM slots
Processor	Single AMD Ryzen Threadripper PRO 7000 WX-Series Processor in an sTR5 socket
System Fans	Six 6-cm counter-rotating PWM fans, FAN-0250L4
Backplane	Storage backplane for eight SATA/NVMe/SAS drives, BPN-NVME5-HS219N-S8

System Block Diagram

The block diagram below shows the connections and relationships between the subsystems and major components of the overall system.

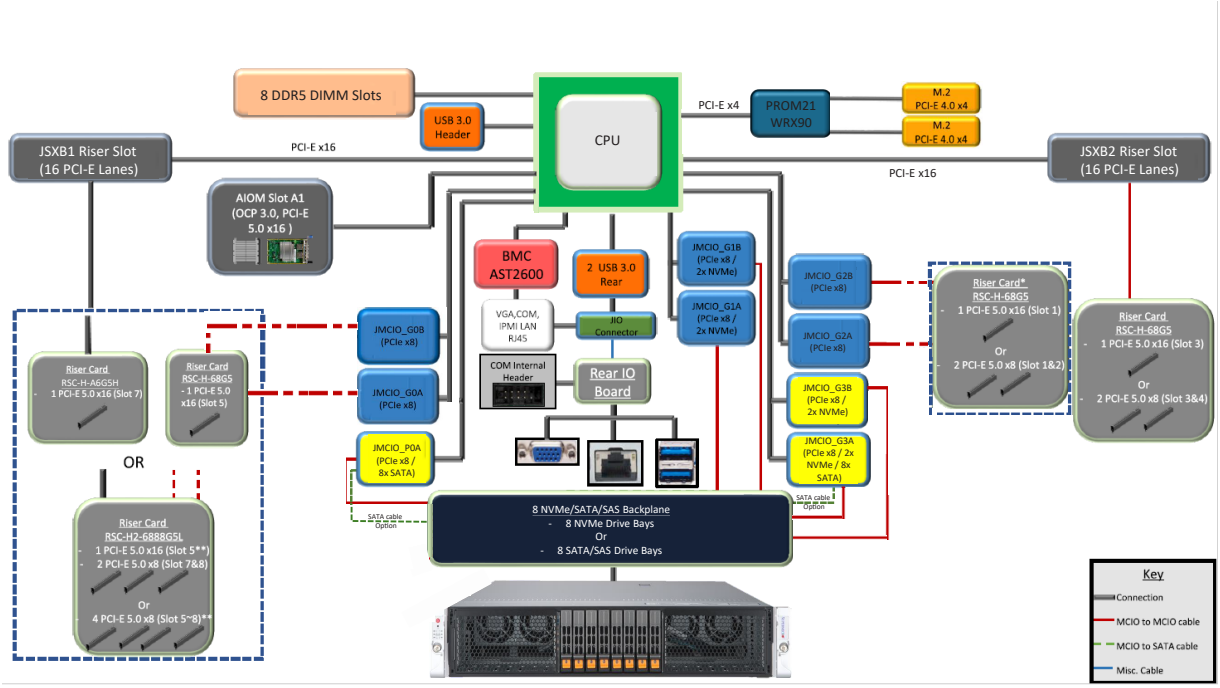


Figure 1-5. System Block Diagram

1.4 Motherboard Layout

Below is a layout of the H13SRH motherboard with the 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 or the Motherboard Manual.

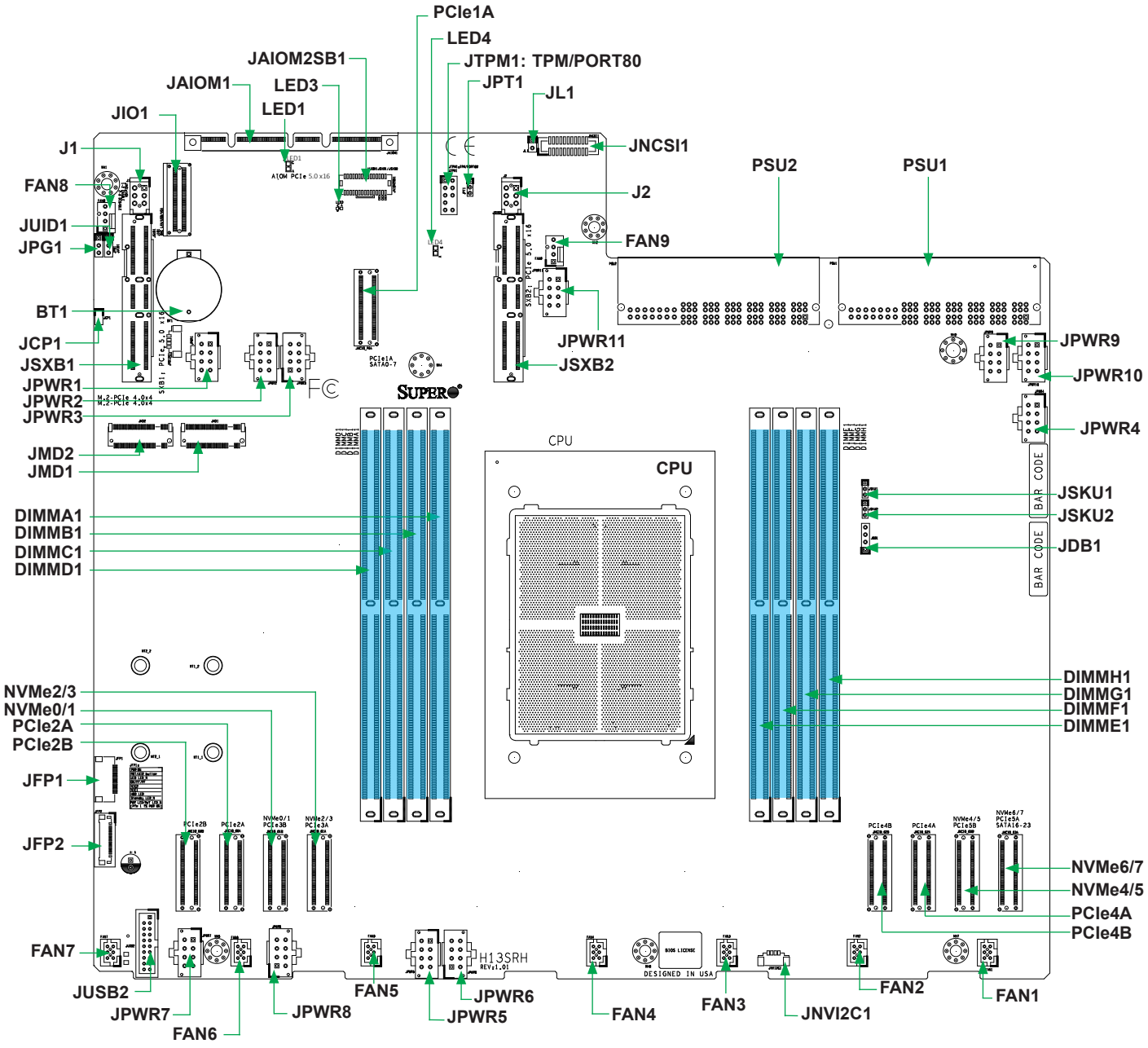


Figure 1-6. Motherboard Layout

Quick Reference Table

Jumper	Description	Default Setting
JUID1	UID function and reset	Pins 1-2 (UID)
JPG1	VGA Enable/Disable	Pins 1-2 (Enable)
JPT1	TPM Enable/Disable	Pins 1-2 (Enable)
JSKU1 and JSKU2	8 NVMe (Enable: Pins 1-2 for both JSKU1 and JSKU2)	Enable
	8 SATA (Enable: Pins 1-2 for JSKU1 and 2-3 for JSKU2)	Disable
	4 NVMe + 4 SATA (Enable: Pins 2-3 for JSKU1 and 1-2 for JSKU2)	Disable

LED	Description	Status
LED1	BMC Heartbeat LED	Green: Blinking (BMC Normal) Green: Fast Blinking (BMC Initializing)
LED4	Power LED	Solid Green: Power On

Connector	Description
BT1	Onboard Battery
FAN1-FAN7	System Fan
FAN8-FAN10	12 V 4-pin Power Connector (for optional system fan)
JAIOM1	Supermicro® Advanced I/O Module (AIOM PCIe 5.0 x16) Slot
JAIOM2SB1	Second AIOM Sideband Signal
JFP1, JFP2	Front Control Panel Headers 1 and 2
JIO1	Front BMC and Onboard VGA/USB/LAN Module Connector
JMCIO_P0A	PCIe1A/SATA0-7
JMCIO_G0A/G0B, JMCIO_G2A/G2B	PCIe2A/2B, PCIe4A/4B
JMCIO_G1A/G1B	NVMe0-3, PCIe3A/3B
JMCIO_G3B	NVMe4-5, PCIe5B
JMCIO_G3A	NVMe6-7, PCIe5A, SATA16-23
JMD1-2	Two M.2 PCIe 4.0 x4 support 2280/22110
JNCSI1	NCSI Connector
JPWR1-11	12 V 8-Pin Power Connector for a GPU, Backplane, or Add-on Card
JSXB1-2	Slot1-2 PCIe 5.0 x16
JTPM1	TPM (Trusted Platform Module)/Port 80
JUSB2	USB 3.2 Header
PSU1/PSU2	Motherboard Main Power Supply Connector

Note: Jumpers, connectors, switches, and LED indicators that are not described in the preceding tables are for manufacturing testing purposes only, and are not covered in this manual.

Motherboard Block Diagram

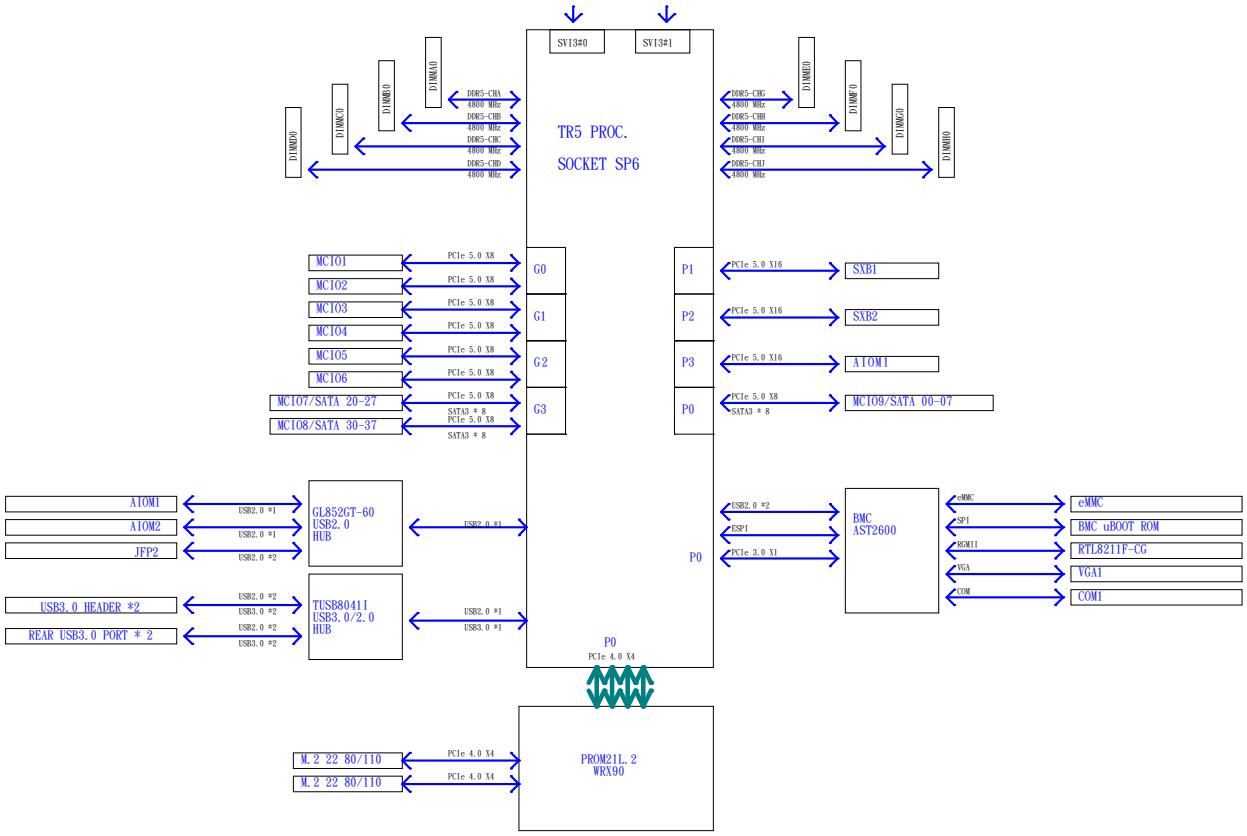


Figure 1-7. Motherboard Block Diagram

Chapter 2

Workstation Installation

2.1 Overview

This chapter provides advice and instructions for mounting your workstation in a rack. If your workstation 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 Unpacking the Workstation

Inspect the box in which the workstation 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.

Decide on a suitable location for the rack unit that will hold the workstation. 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 or in Appendix A.

2.3 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 (approximately 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 workstation or other component from the rack.
- You should extend only one workstation or component at a time - extending two or more simultaneously may cause the rack to become unstable.

System Precautions

- 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 workstation components at the bottom of the rack first and then work your way up.
- Use a regulating uninterruptible power supply (UPS) to protect the workstation 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 workstation 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 workspace.

Slide rail mounted equipment is not to be used as a shelf or a workspace.

Warning: Do not pick up the workstation with the front handles. They are designed to pull the system from a rack only.

2.4 Installing the Rails

This section provides information on installing the workstation into a rack unit with the rails provided. There are a variety of rack units on the market, which may mean that the assembly procedure will differ slightly from the instructions provided. You should also refer to the installation instructions that came with the rack unit you are using.

Note: This rail will fit a rack between 26.8" and 36.4" deep.

Identifying the Rails

The workstation package includes two rail assemblies. Each assembly consists of three sections: An inner rail that secures directly to the workstation, an outer rail that secures to the rack, and a middle rail which extends from the outer rail. These assemblies are specifically designed for the left and right side of the workstation and labeled.

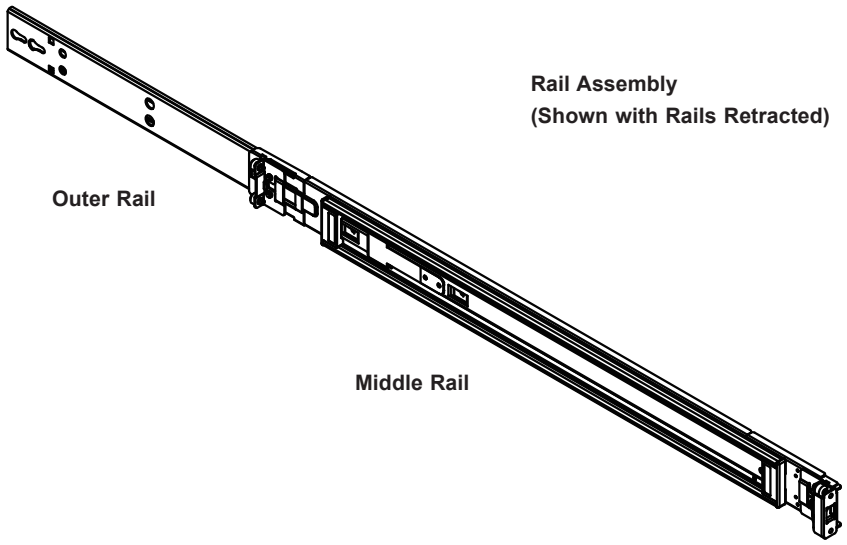


Figure 2-1. Identifying the Outer Rail, Middle Rail, and Inner Rail (Left Rail Assembly Shown)

Note: Both front workstation rails and the rack rails have a locking tab, which serves two functions. First, it locks the workstation into place when installed and pushed fully into the rack (its normal operating position. In addition, these tabs lock the chassis in place when fully extended from the rack. This prevents the workstation from coming completely out of the rack when pulled out for servicing.

Releasing the Inner Rail

Each inner rail has a locking latch. This latch prevents the workstation from coming completely out of the rack when it is pulled out for servicing.

To mount the rail onto the workstation, first release the inner rail from the outer rails.

1. Pull the inner rail out of the outer rail until it is fully extended as illustrated below.
2. Press the locking tab down to release the inner rail.
3. Pull the inner rail all the way out.

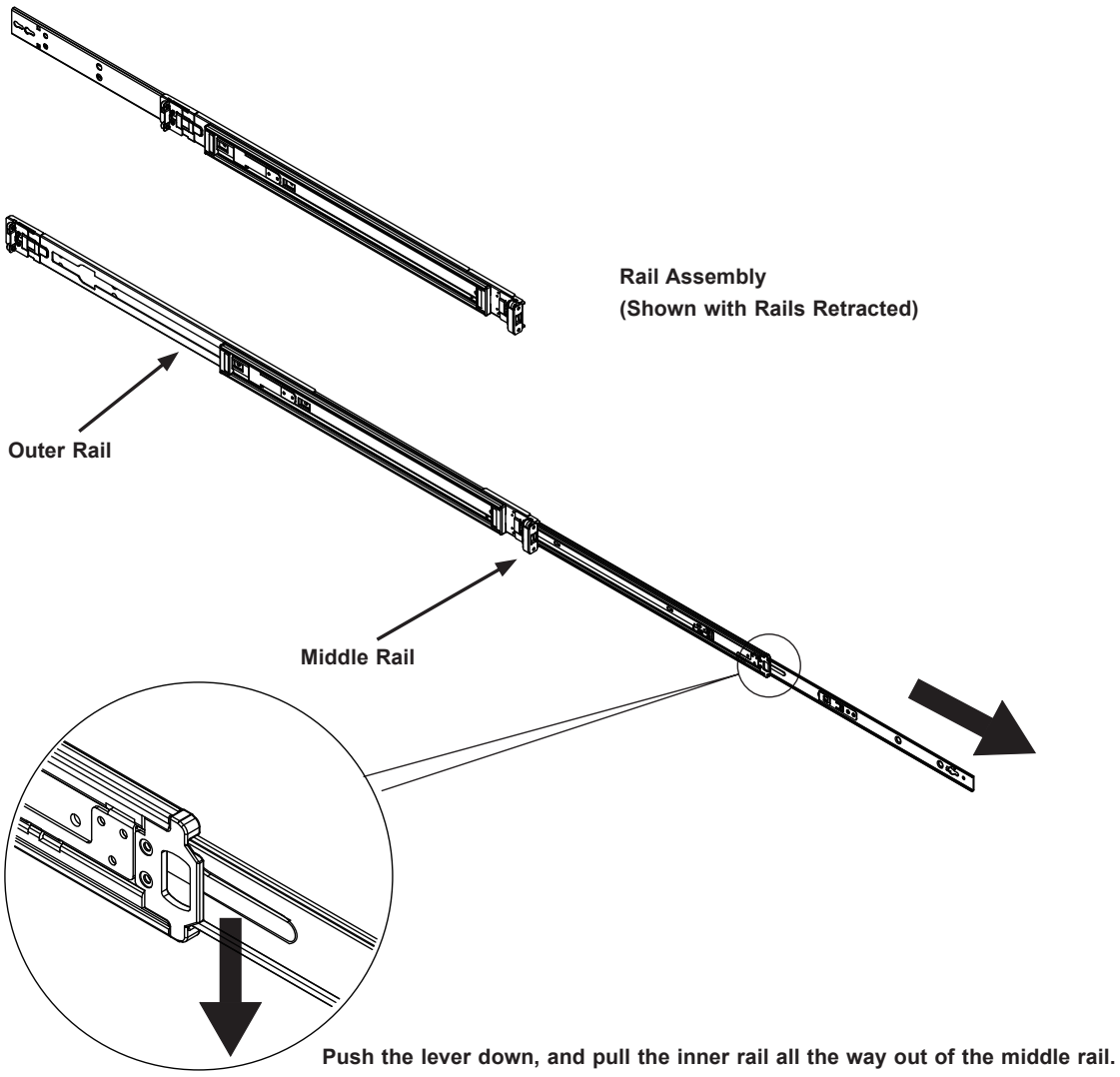


Figure 2-2. Extending and Releasing the Inner Rail

Installing the Inner Rails

Begin the rack mounting procedure by installing the inner rails to the workstation.

1. Identify the left and right inner rails. They are labeled.
2. Place the inner rail firmly against the side of the workstation, aligning the hooks on the side of the chassis with the holes in the inner rail.
3. Slide the inner rail forward toward the front of the workstation and under the hooks until the quick release bracket snaps into place, securing the rail to the workstation.
4. Optionally, you can further secure the inner rail to the workstation with a screw.

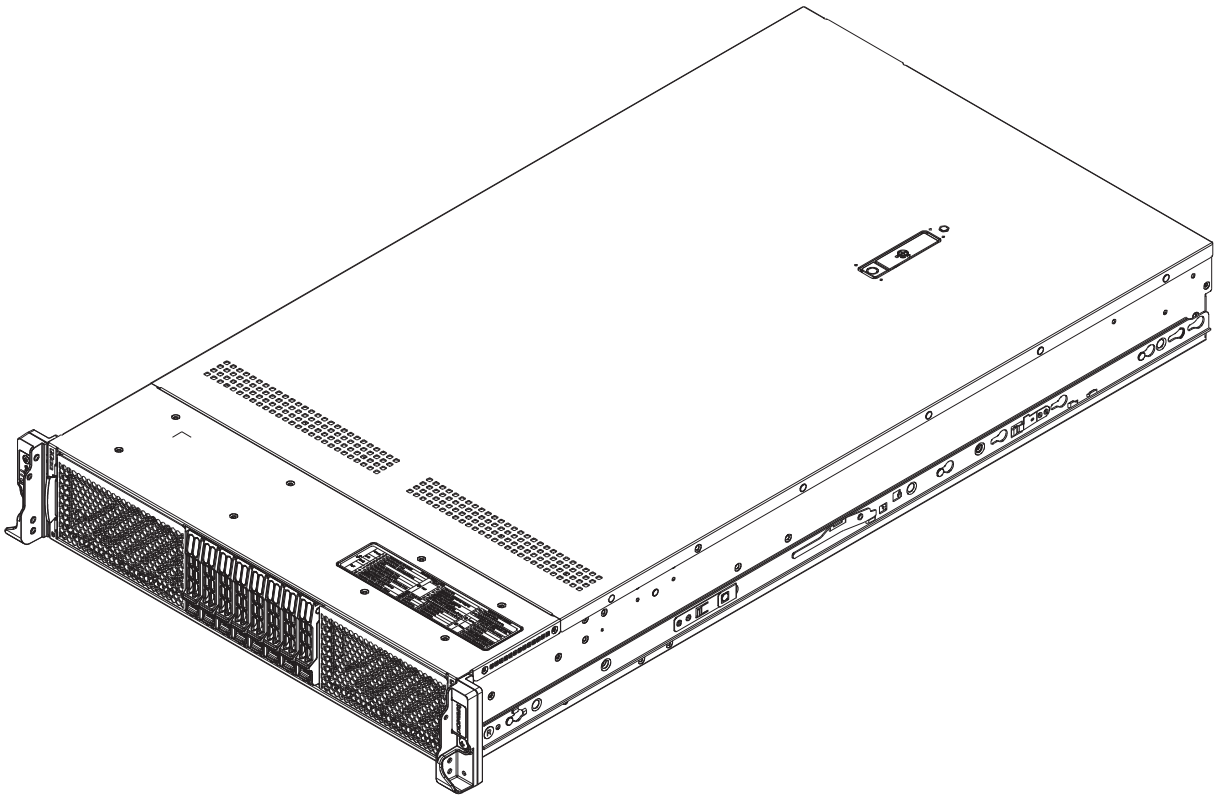


Figure 2-3. Inner Rails Installed on the Chassis

Warning: Do not pick up the chassis with the front handles. They are designed to pull the system from a rack only.

Installing the Outer Rails onto the Rack

Installing the Outer Rails

1. Press upward on the locking tab at the rear end of the middle rail.
2. Push the middle rail back into the outer rail.
3. Hang the hooks on the front of the outer rail onto the square holes on the front of the rack. If desired, use screws to secure the outer rails to the rack.
4. Pull out the rear of the outer rail, adjusting the length until it just fits within the posts of the rack.
5. Hang the hooks of the rear section of the outer rail onto the square holes on the rear of the rack. Take care that the proper holes are used so the rails are level. If desired, use screws to secure the rear of the outer rail to the rear of the rack.
6. Repeat for the other outer rail.

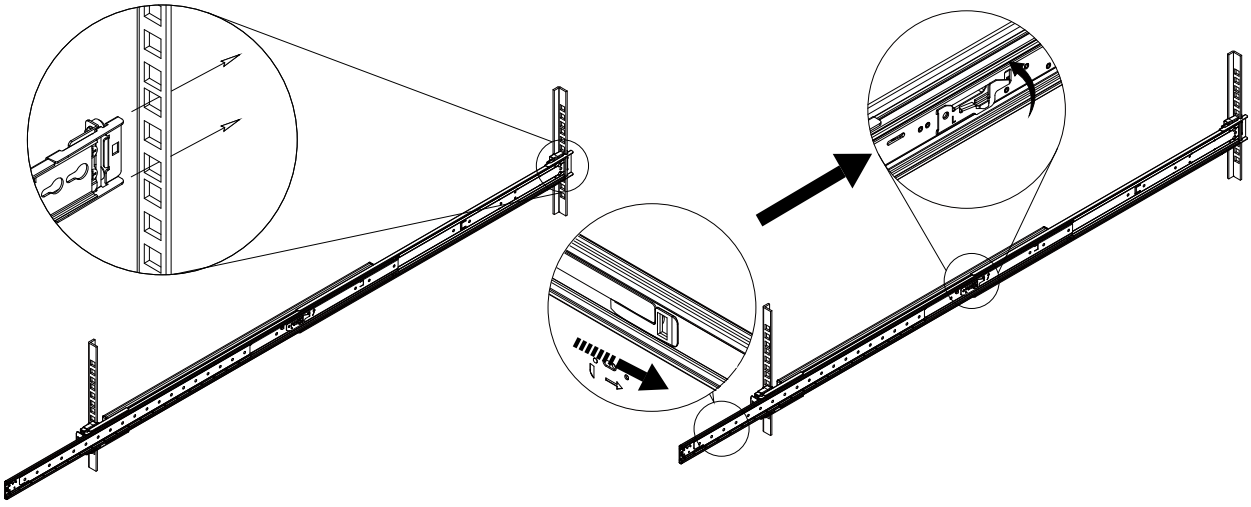


Figure 2-4. Extending and Mounting the Outer Rails

2.5 Installing the Workstation into a Rack

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

Warning: Mounting the workstation into the rack requires at least two people to support the system during installation. Please follow safety recommendations printed on the rails.

Installing the Workstation into a Rack

1. Extend the middle rails as illustrated. Make sure the ball bearing retainer is at the front of the middle rail.
2. Align the inner rails of the chassis with the extended middle rails. Push the inner rails into the middle rails until the locking lever reaches the front of the middle rails.
3. Hold down the locking lever and continue to push the chassis all the way into the rack.
4. Optional screws may be used to hold the front of the chassis to the rack.

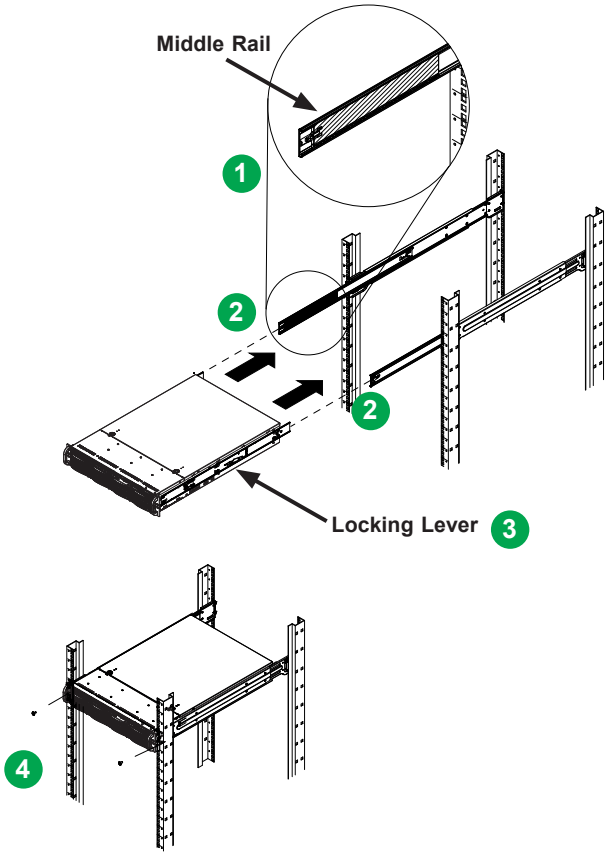


Figure 2-5. Installing the Workstation into the Rack

Note: Figure is for illustrative purposes only. Always install workstations to the bottom of a rack first.

Removing the Workstation from the Rack

Caution! It is dangerous for a single person to off-load the heavy system from the rack without assistance. Be sure to have sufficient assistance supporting the system when removing it from the rack. Use multiple people and a lift.

1. Pull the system forward out the front of the rack until it stops.
2. Press the locking lever on each of the inner rails downward simultaneously and continue to pull the system forward and out of the rack.

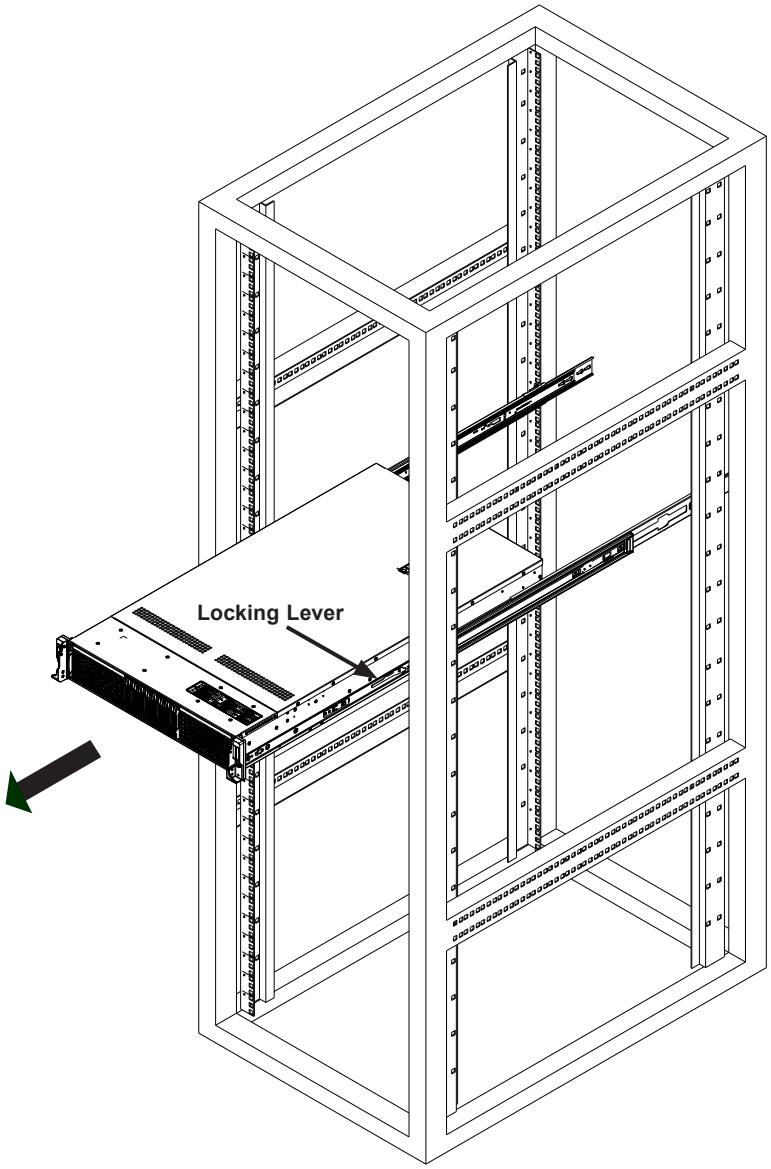


Figure 2-6. Removing the Workstation From the Rack

Note: Figure is for illustrative purposes only. Always install workstations to the bottom of a rack first.

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

Use the following procedure to ensure that power has been removed from the system. This step is necessary when removing or installing non hot-swap components or when replacing a non-redundant power supply.

1. Use the operating system to power down the system.
2. After the system has completely shut-down, disconnect the AC power cords from the power strip or outlet.
3. Disconnect the power cord from the power supply module.

3.2 Accessing the System

The AS -2115HV-TNRT features a removable top cover, which allows easy access to the inside of the chassis.

Removing the Top Cover

1. Begin by removing power from the system as described in Section 3.1.
2. Press the release lever.
3. Slide the cover back, toward the rear of the chassis.
4. Lift the cover up and off of the chassis. See Figure 3-1.

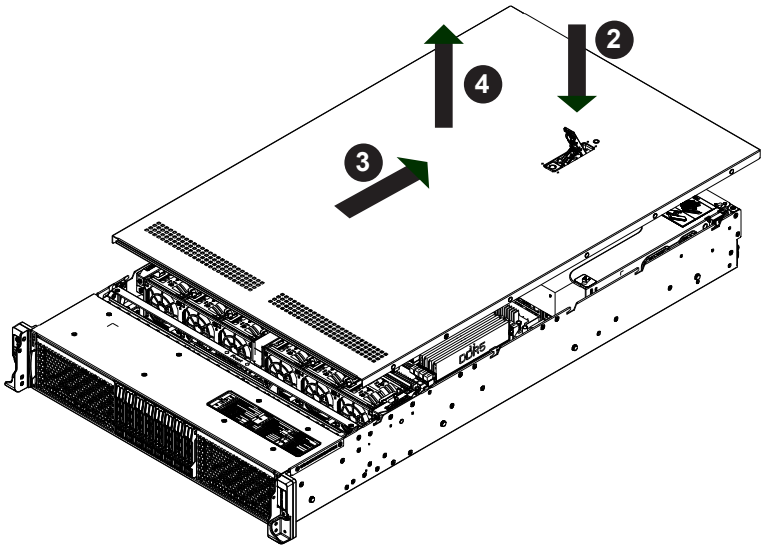


Figure 3-1. Removing the Chassis Cover

3.3 Processor and Heatsink Installation

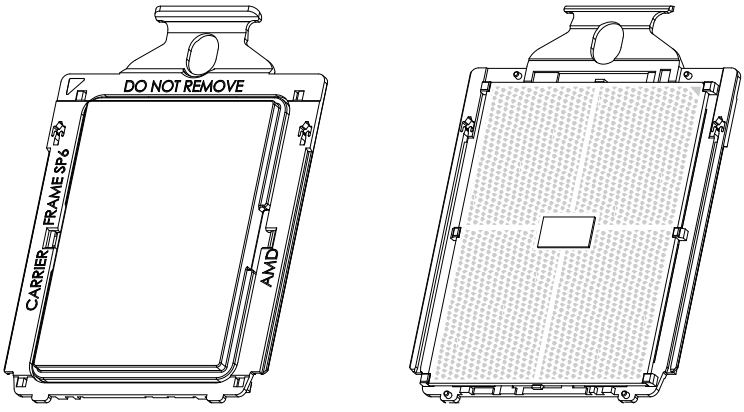
Warning: When handling the processor package, avoid placing direct pressure on the label area of the fan.

Important:

- Use ESD protection.
- Shut down the system and then unplug the AC power cord from all power supplies.
- Check that the plastic protective cover is on the processor socket and none of the socket pins are bent. If they are, contact your retailer.
- When handling the processor, avoid touching or placing direct pressure on the LGA lands (gold contacts). Improper installation or socket misalignment can cause serious damage to the processor or socket, which may require manufacturer repairs.
- Thermal grease is pre-applied on a new heatsink. No additional thermal grease is needed.
- Refer to the Supermicro website for updates on processor support.
- All graphics in this manual are for illustrative purposes only. Your components may look different.
- Installing the processor does not require a screwdriver. Do not unscrew the processor socket.
- Installing the heatsink requires a Phillips #1 screwdriver.
- When installing the processor and heatsink, ensure a torque driver set to the correct force is used for each screw.

The AMD Ryzen Threadripper PRO 7000 WX-Series

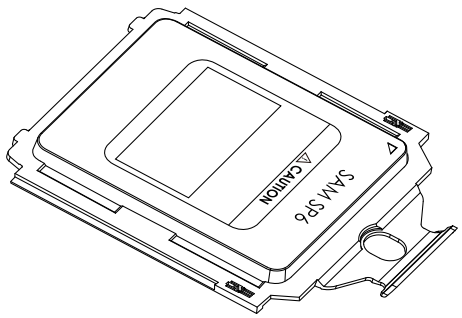
Note: The processor is shipped from the factory with the carrier frame pre-assembled.



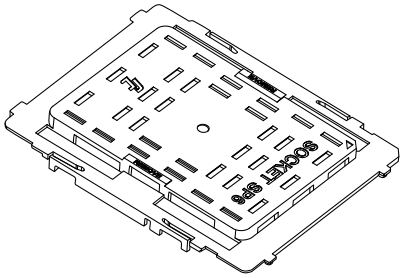
Overview of the Processor Socket

The processor socket is protected by a Pick-and-Place (PnP) Cover Cap and pre-installed with an external cap.

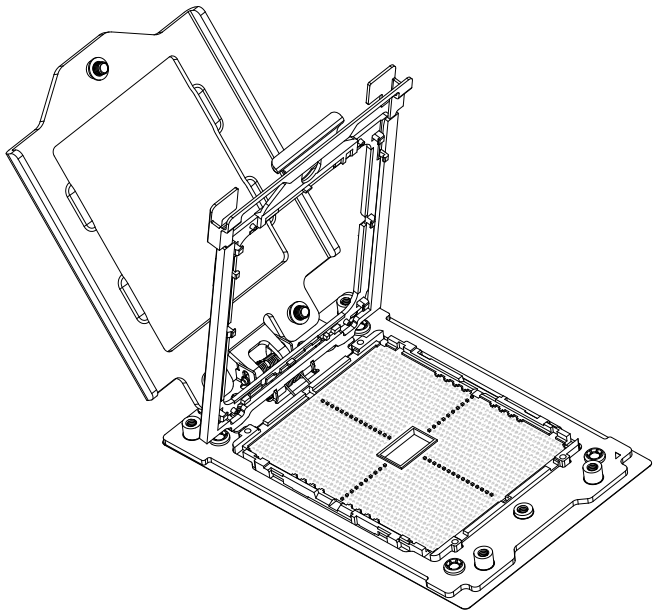
1. External Cap



2. PnP Cover Cap

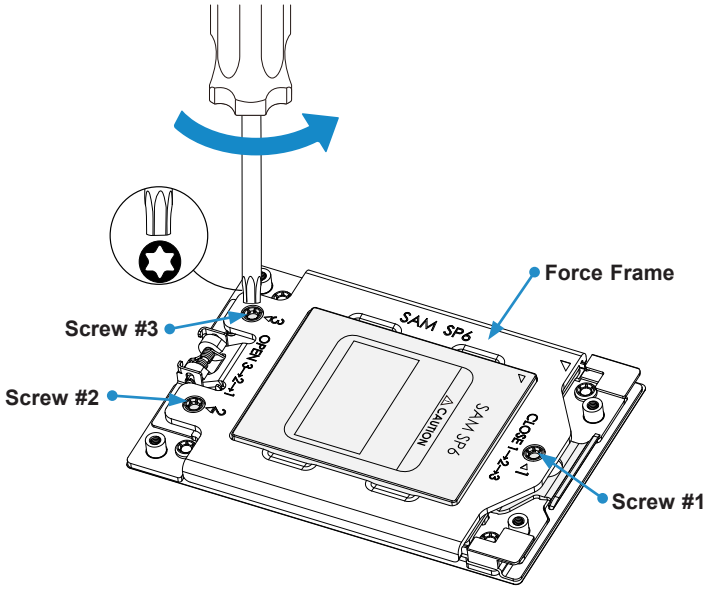


3. Socket sTR5

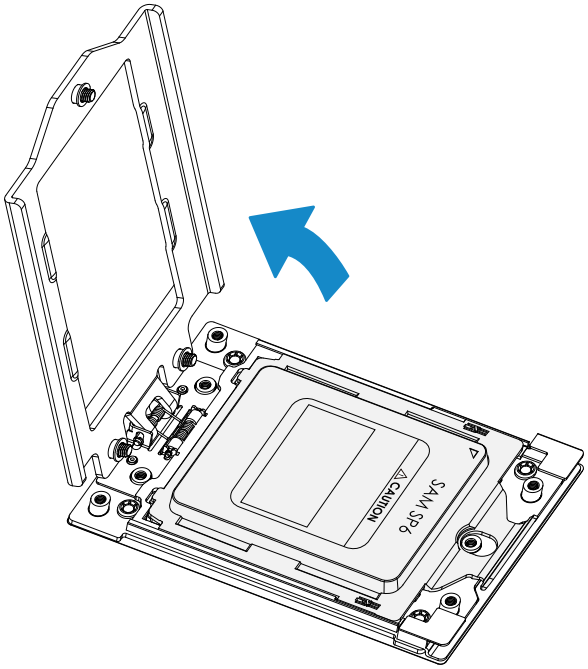


Installing the Processor

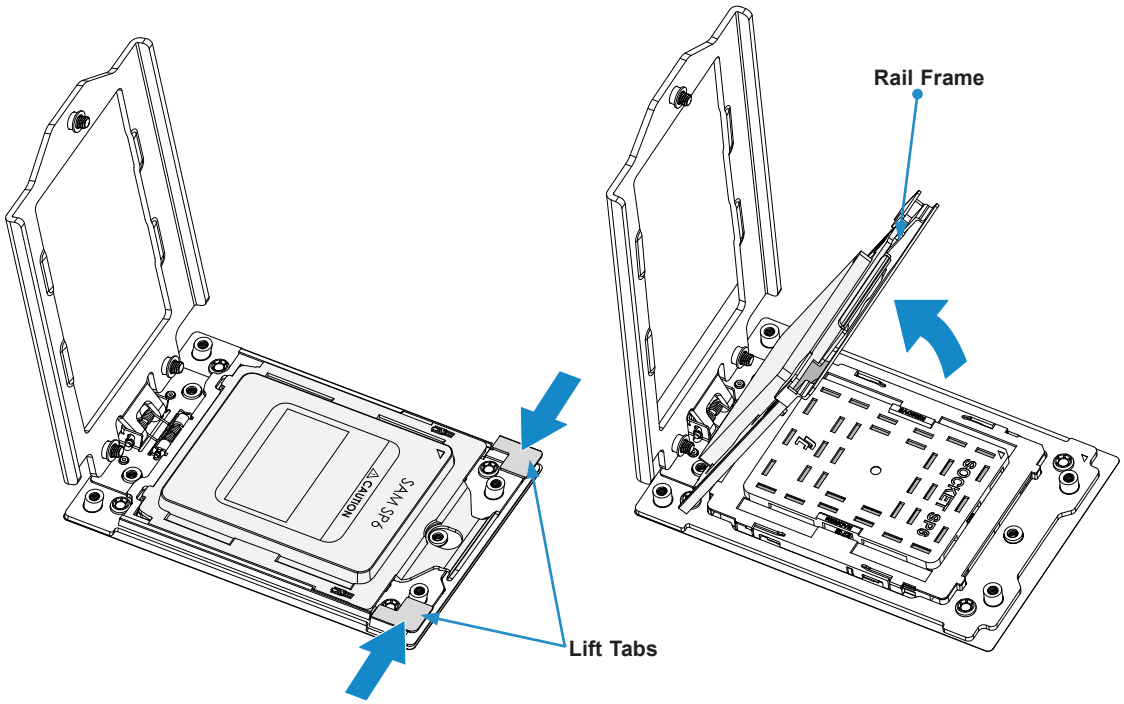
1. Use a screw driver to remove the screws holding down the force frame in the sequence of 3-2-1 to prevent damage to the processor. The screws are numbered on the force frame next to each screw hole.



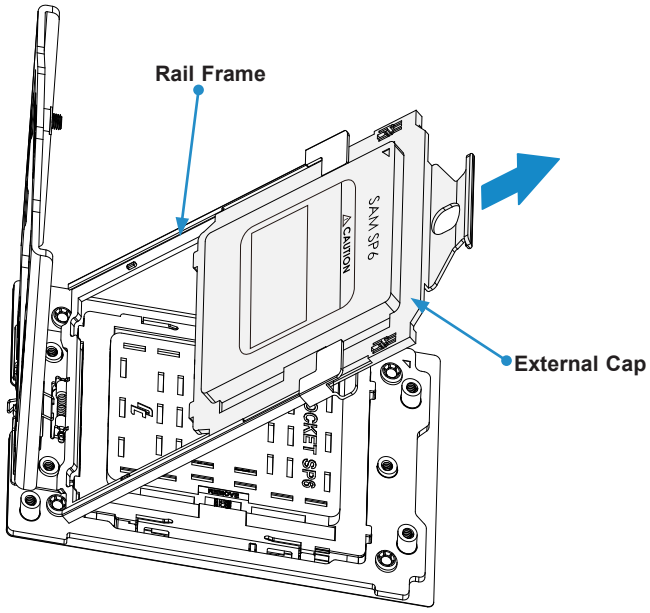
2. The spring-loaded force frame will rise up after the last screw (#1) securing it is removed. Gently lift it up to its stopped position.



3. Grip the two finger lift tabs of the rail frame and lift it up to open it.

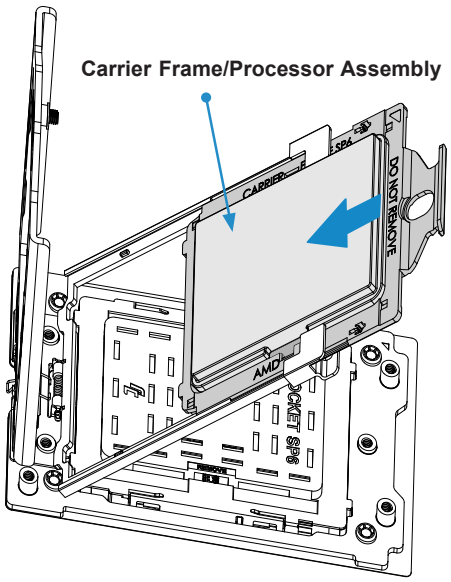


4. Remove the external cap from the rail frame by pulling it out of the rail guides on the rail frame.



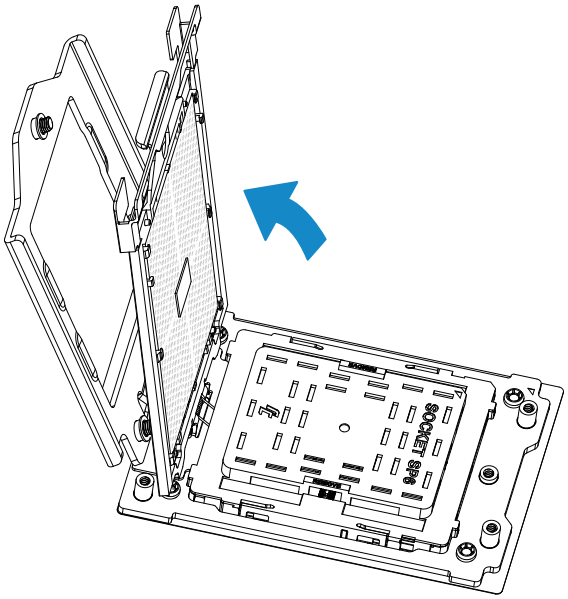
5. Grip the handle of the carrier frame/processor assembly from its shipping tray, and while gripping the handle, align the flanges of the carrier frame onto the rails of the rail frame so its pins will be at the bottom when the rail frame is lowered later.

6. Hold the two finger lift tabs of the rail frame, and slide the carrier frame/processor assembly downwards to the bottom of the rail frame. Ensure the flanges are secure on the rails as you lower it downwards.

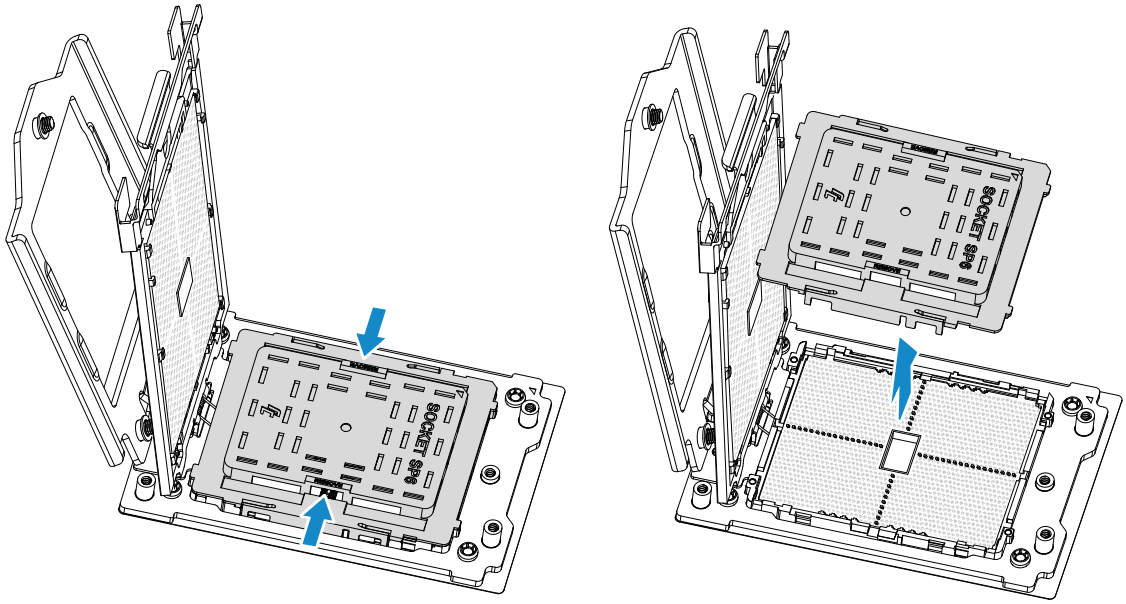


Note: You can only slide the carrier frame/processor assembly in one direction with the handle at the top. Make sure that it is properly inserted.

7. Lift up the rail frame till it securely rests in the upright position. Be careful not to touch the processor pad.

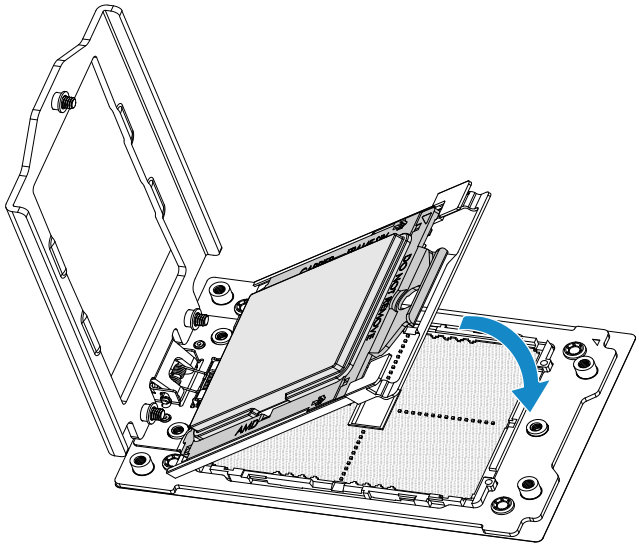


8. Remove the PnP cover cap from the socket.

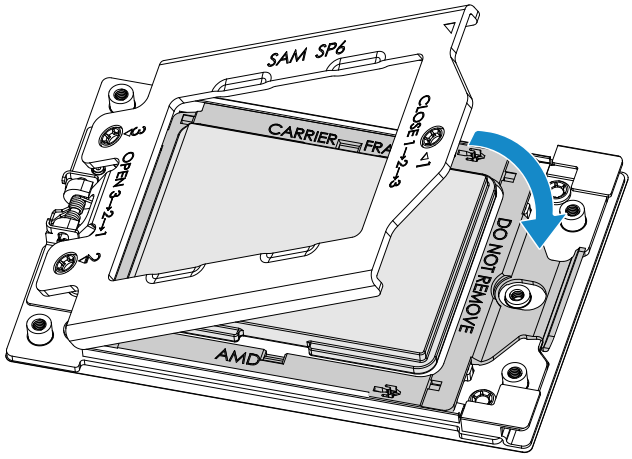


Warning! The exposed socket contacts are extremely vulnerable and can be damaged easily. Do not touch or drop objects onto the contacts, and be careful removing the PnP cover cap and when placing the rail frame over the socket.

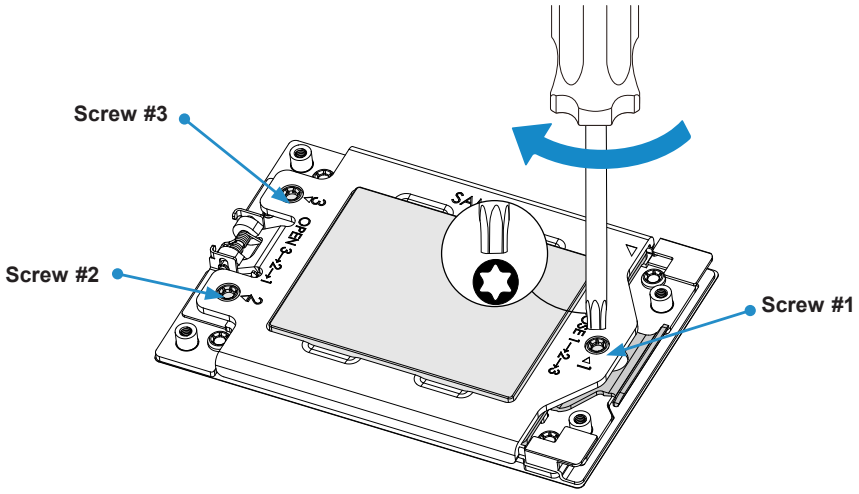
9. Gently lower the rail frame down onto the socket until it clicks into place. If it doesn't close properly, do not force it as it may damage your processor. Instead, open the rail frame again, and double-check that the processor is aligned properly.



10. Re-screw the screws in the sequence of 1-2-3. When finished, the socket force frame will secure the processor.

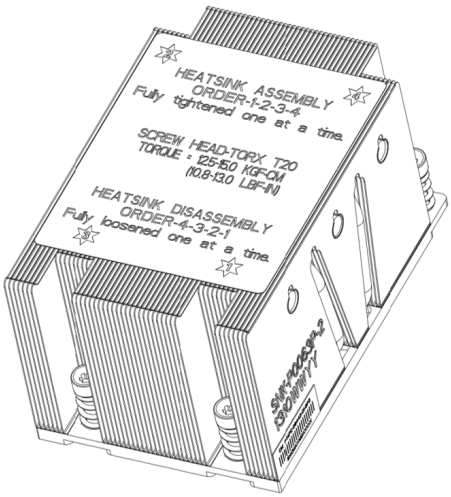


11. Gently lower the force frame down onto the rail frame and hold it in place until it is seated in the socket housing. Note that the force frame is spring loaded and has to be held in place before it is secured.



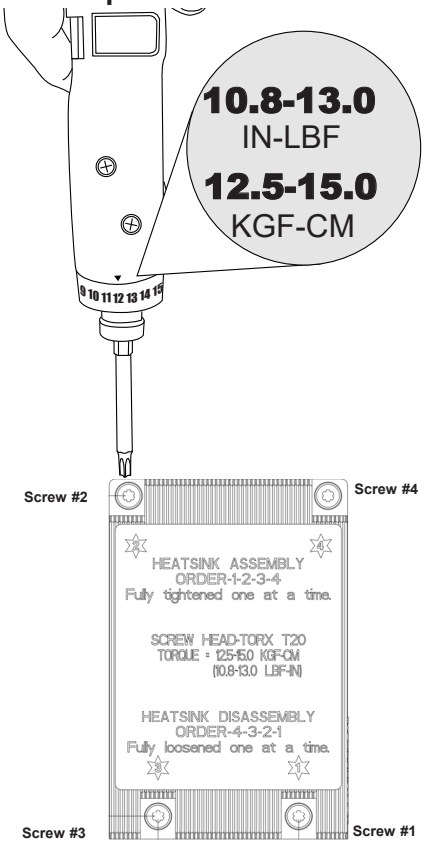
Installing the Heatsink

1. 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 the CPU package on the socket frame.



2. As illustrated, tighten the four screws down on the heatsink in a diagonal pattern till it is secured. The heatsink will now be secured and you have finished installing the processor and heatsink onto the motherboard.

Important: Use a T20 bit torque driver with a torque of 12.5-15.0 kgf-cm (10.8-13.0 in-lbf) to prevent damage to the processor.



3.4 Memory Support and 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 H13SRH supports up to 2 TB ECC RDIMM/3DS RDIMM memory with speeds of up to 5200 MT/s (1DPC) or higher with overclocking support in eight ECC DDR5 DIMM slots.

Note 1: The memory speed and capacity support depend on the processor on your motherboard.

Note 2: Memory addressing up to 1 TB/channel is subject to AMD Infrastructure Roadmap for sTR5 socket processors.

Recommended Memory Channels								
Channel								Nodes per Socket (NPS)
DIMMA	DIMMC	DIMMB	DIMMD	DIMME	DIMMG	DIMMF	DIMMH	
8 Channels								
V	V	V	V	V	V	V	V	NPS4, NPS2, NPS1
6 Channels								
V	V	V		V	V	V		NPS2, NPS1
4 Channels								
V	V			V	V			NPS4, NPS2, NPS1
2 Channels								
V				V				NPS2, NPS1
1 Channel								
V								NPS1

DIMM Module Population

When populating the motherboard with DIMM modules, please keep in mind the following:

- It is recommended to use DDR5 memory of the same type, size, and speed.
- To achieve the best memory performance, a balanced memory population is recommended.

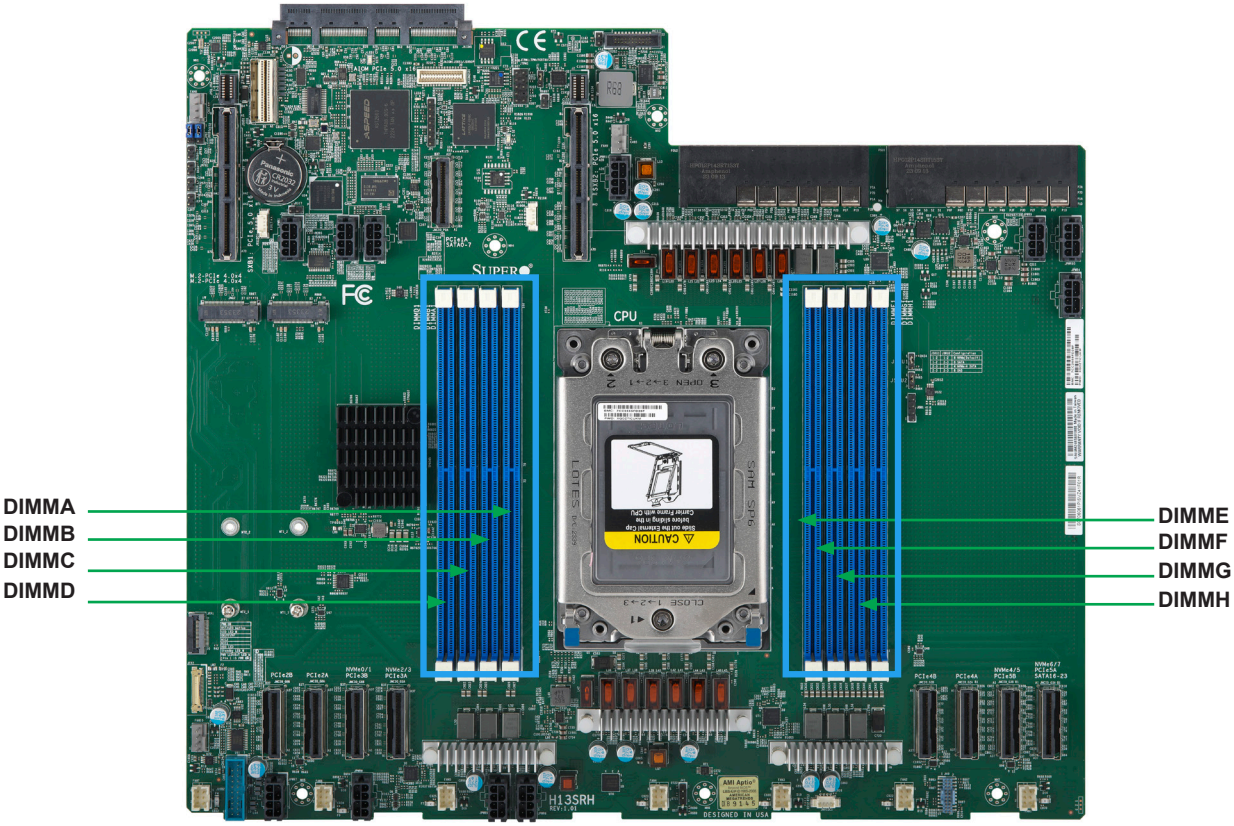
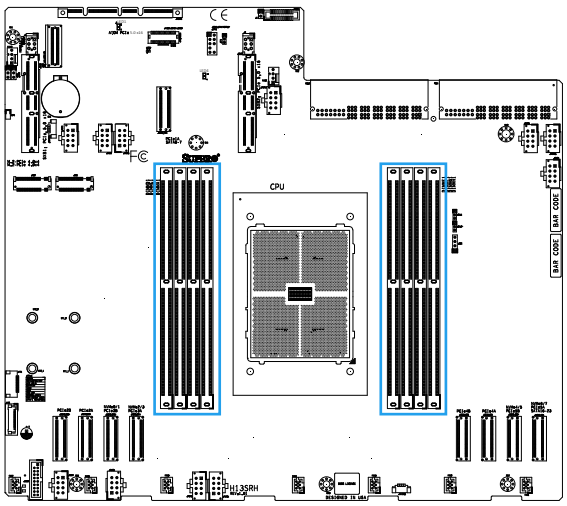


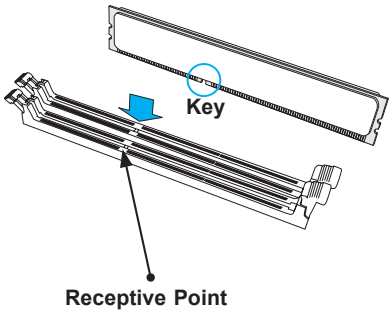
Figure 3-2. DIMM Numbering

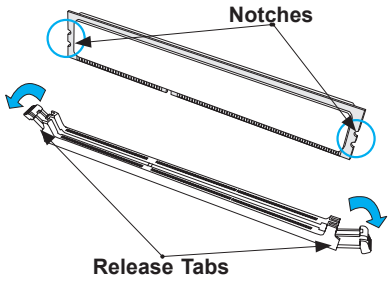
DIMM Installation

Note: The DDR5 DIMM module is NOT hot-swappable and be sure to disconnect power for a minimum of 20 seconds before inserting or removing it.

1. Insert the desired number of DIMMs into the memory slots based on the recommended DIMM population table in this user's manual. See Memory Support for details on memory population guidelines.
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.



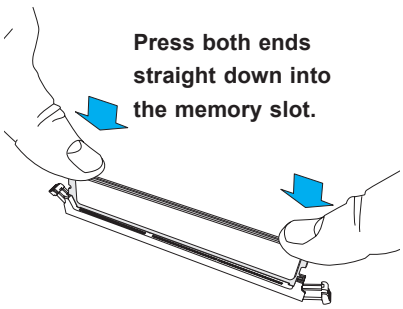




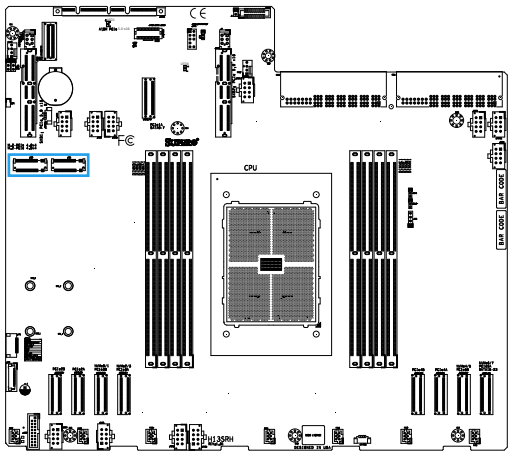
DIMM Removal

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.

Note: Removing a DDR5 DIMM module at a slant angle will cause module damages. It is strongly recommended that you lift the module straight up out of the slot.



3.5 M.2 Installation

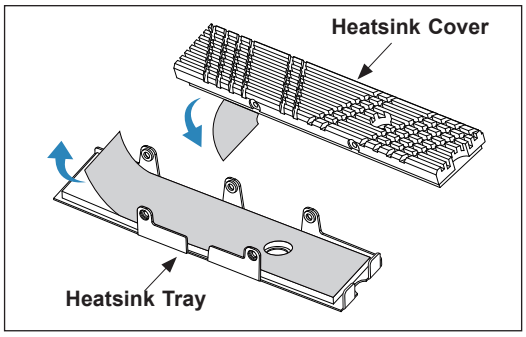


This motherboard has two M.2 M-key slots that support the 2280 and 22110 M.2 devices. One standoff is pre-installed into the position of 22110 mounting hole. Refer to the illustration on the right for the locations of M.2 slots and mounting holes. Follow the steps below to install the M.2 device.

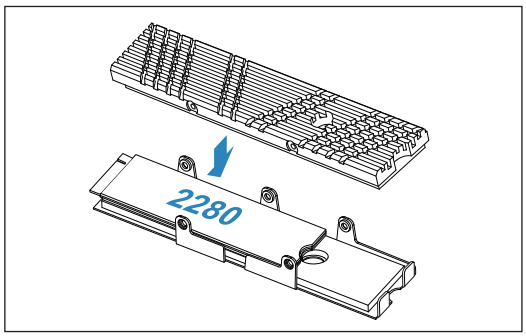
Note: It is strongly recommended that you install an optional Supermicro M.2 heatsink (p/n SNK-C0156L) on the M.2 device.

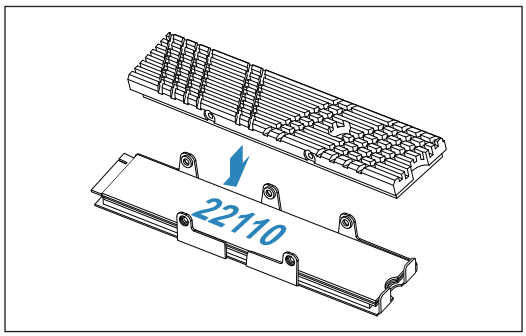
M.2 Heatsink Installation (Optional)

1. Remove the thermal pad protective films from the cover and the tray of the M.2 heatsink.

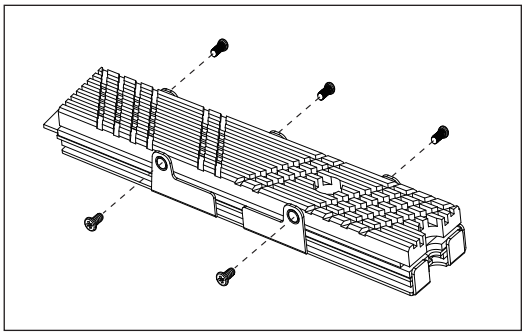


2. Place the M.2 device into the tray, then put the heatsink cover in place. Be careful to align the holes on the tray with the holes on the cover.



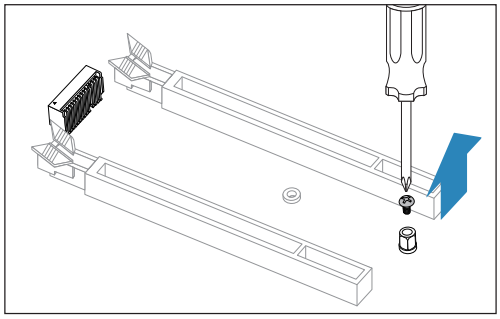


3. Tighten the screws to secure the heatsink assembly.

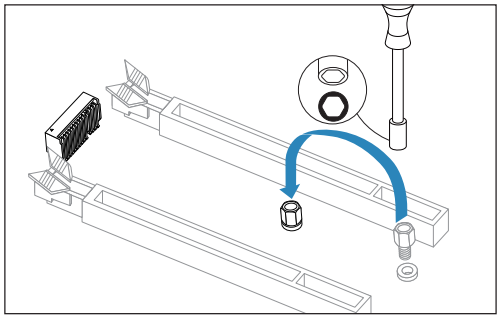


2280 M.2 Device Installation

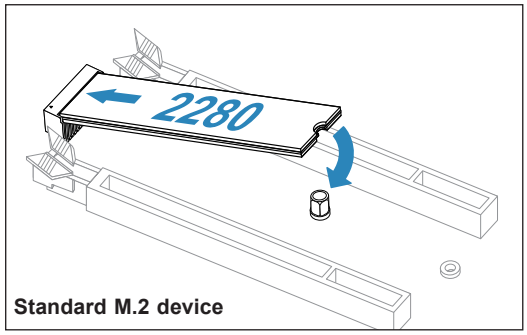
1. Locate the pre-installed standoff on the 22110 mounting hole. Remove the standoff screw and set it aside.



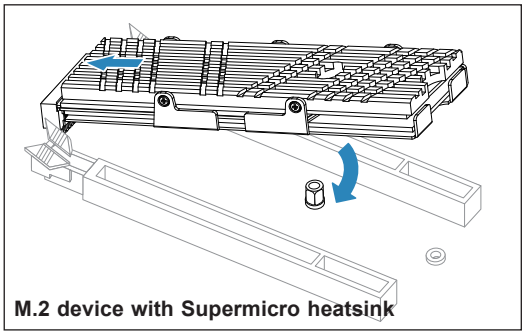
2. Using a hex socket screwdriver, remove and then reinstall the standoff to the position of the 2280 mounting hole.



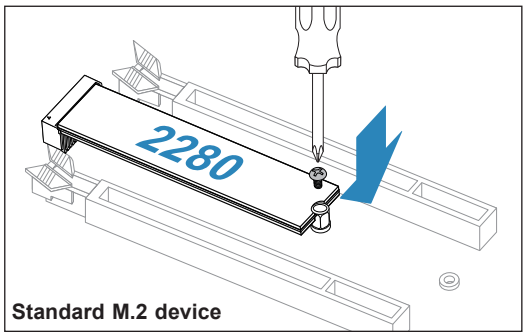
3. Insert the M.2 device or the heatsink assembly into the M.2 socket at a 30-degree angle and press it down.



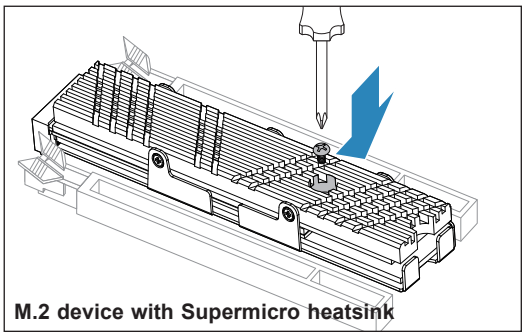
Standard M.2 device


M.2 device with Supermicro heatsink

4. Tighten the standoff screw to secure the M.2 device or the heatsink assembly into place. Do not overtighten so as to avoid damaging the M.2 device.

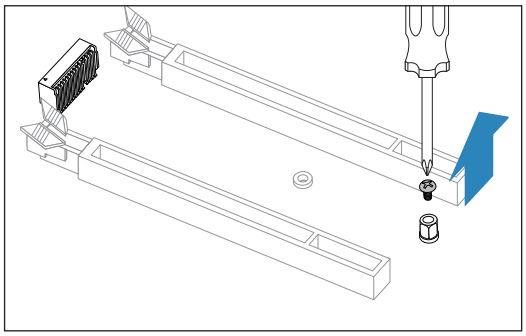


Standard M.2 device

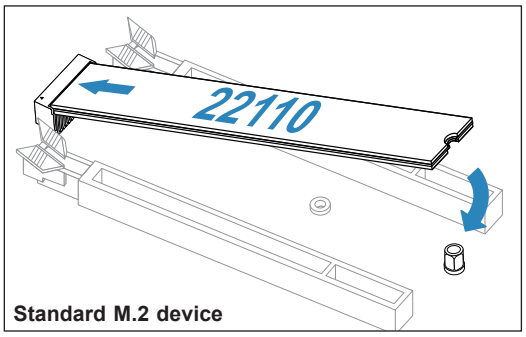

M.2 device with Supermicro heatsink

22110 M.2 Device Installation

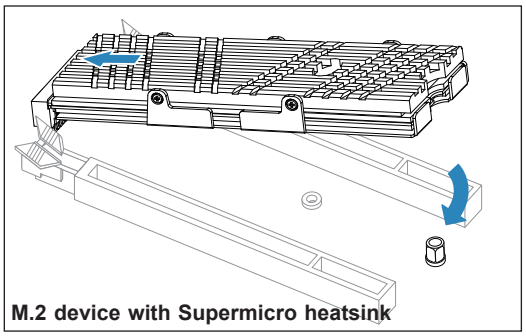
1. Locate the pre-installed standoff. Remove the standoff screw and set it aside.



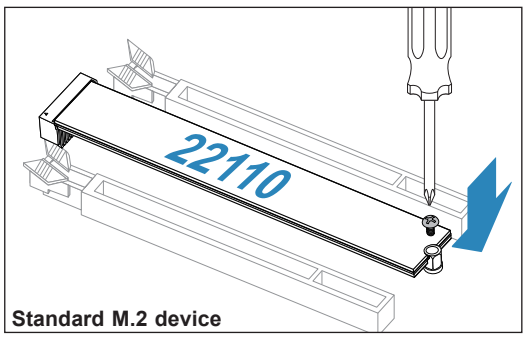
2. Insert the M.2 device or the heatsink assembly into the M.2 socket at a 30-degree angle and press it down.



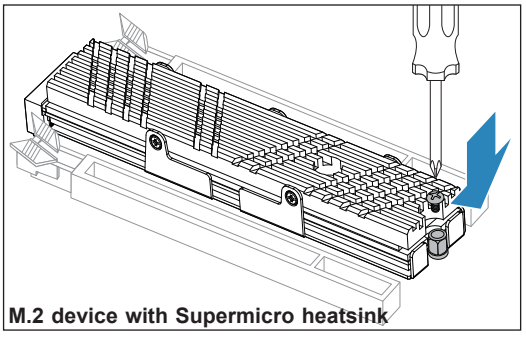
Standard M.2 device


M.2 device with Supermicro heatsink

3. Tighten the standoff screw to secure the M.2 device or the heatsink assembly into place. Do not overtighten so as to avoid damaging the M.2 device.



Standard M.2 device


M.2 device with Supermicro heatsink

3.6 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

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 hazardous waste management agency to dispose of your used battery properly.

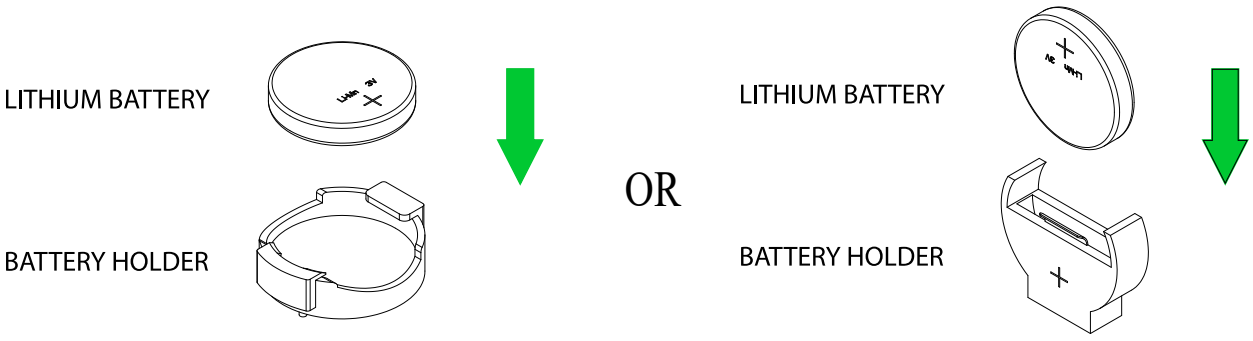


Figure 3-3. Battery Installation

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).

3.7 Storage Drives

Drives

The AS -2115HV-TNRT has eight 2.5" drive bays located at the front of the chassis. All eight slots support orderly hot-swap and hot-plug. A drive can be removed or inserted without removing power. However, before physically removing a drive from a live system, follow the necessary steps to remove the logical drive from the operating system. To maintain proper airflow, re-install the drive carrier, even if no physical drives are installed.

Figure 3-4. Physical Drives

Removing a Hot-Swap Drive Carrier

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

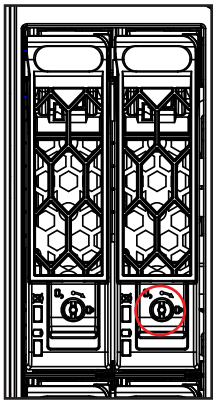


Figure 3-5. Unlocking the Handle

2. Swing the handle fully out.
3. Grasp the handle and use it to pull the drive carrier out of its bay.

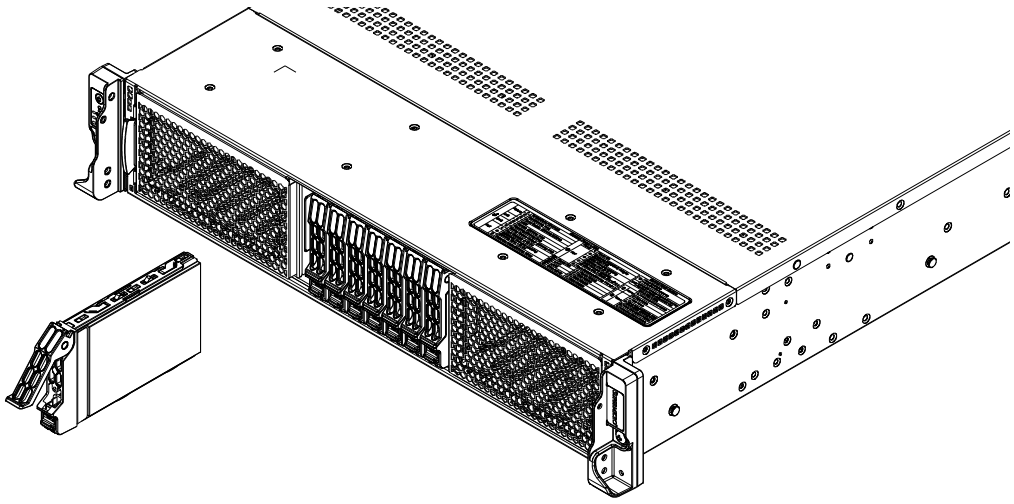


Figure 3-6. Removing a Drive Carrier

Mounting a Drive in a Drive Carrier

1. To add a new drive, install it into the carrier with the printed circuit board side facing down so that the mounting holes align with those in the carrier.

2. Secure the drive to the carrier with the screws provided, then push the carrier completely into the drive bay. You should hear a *click* when the drive is fully inserted. This indicates that the carrier has been fully seated and connected to the backplane, which automatically makes the power and logic connections to the hard drive.

Removing a Drive from a Drive Carrier

1. Remove the screws that secure the drive to the carrier and separate the drive from the carrier.

2. Replace the carrier back into the drive bay.

3.8 System Cooling

Fans

Six 6-cm heavy-duty fans provide cooling for the system. The electrical connections are automatically made when a fan is inserted into its slot.

Changing a System Fan

1. Determine which fan has failed using the remote management utility.
2. Remove power as described in Section 3.1.
3. Remove the chassis cover as described in Section 3.2.
4. Squeeze the fan tabs of the failed fan and lift the fan housing up and out of the chassis.
5. To install a fan, push it into the proper location until it clicks.
6. Reinstall the cover and power up the system.

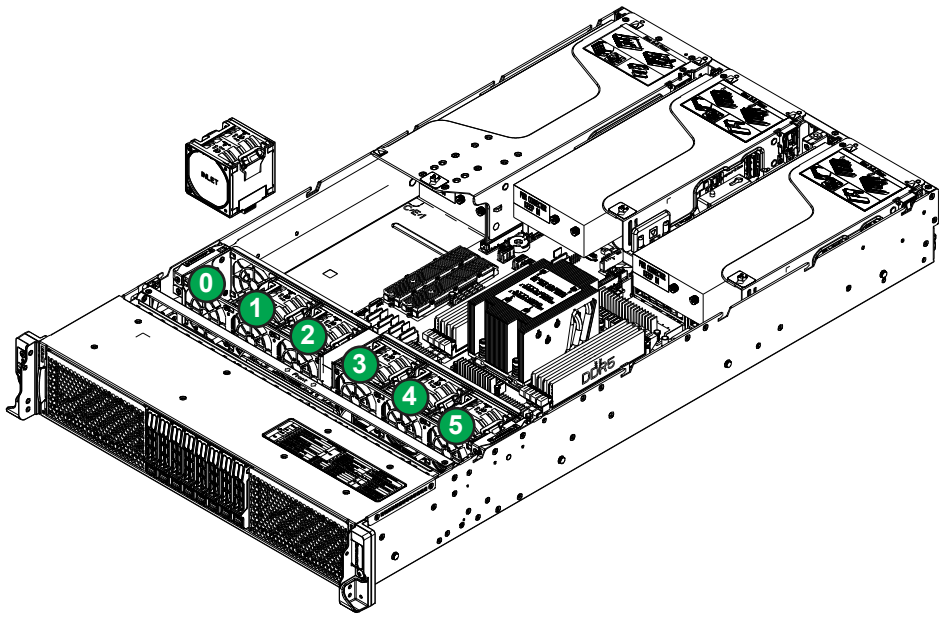


Figure 3-7. Installing a Fan

Air Shrouds

Air shroud concentrate airflow to maximize fan efficiency.

Installing the Air Shroud

One air shroud cools the CPU and DIMM slots.

1. Remove power as described in Section 3.1.
2. Remove the chassis top cover as described in Section 3.2.
3. Place the air shroud over the CPU and DIMM slots, as illustrated below.
4. Reinstall the cover and power up the system.

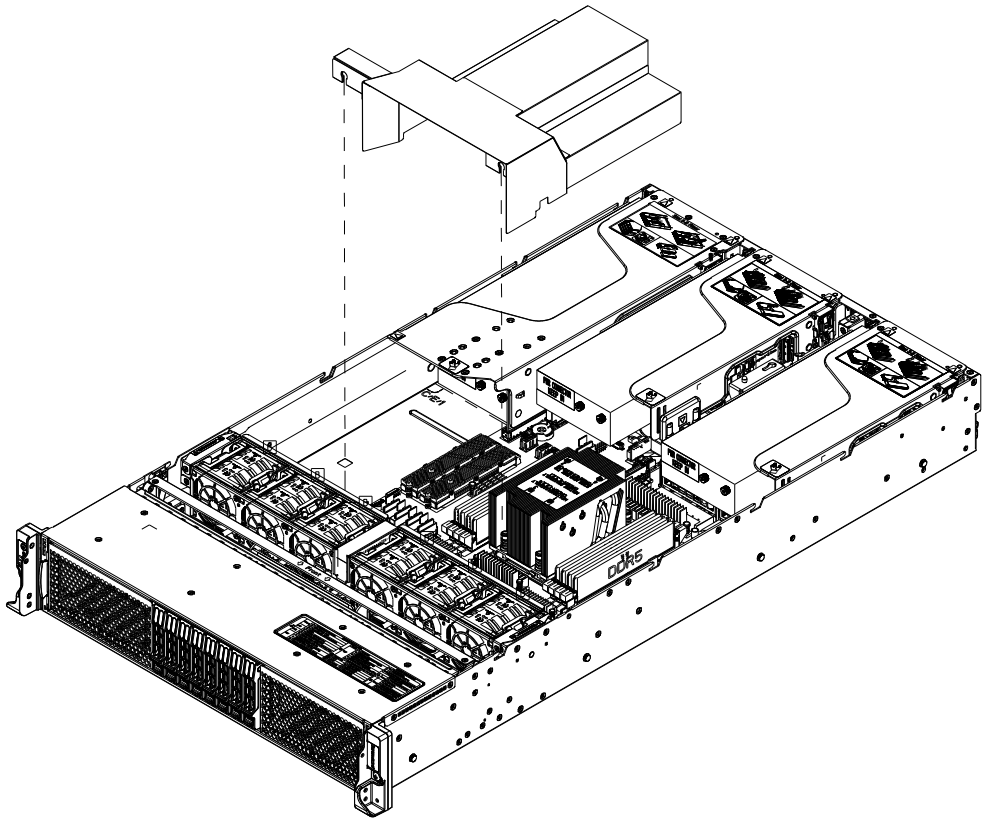


Figure 3-8. Installing Air Shroud

3.9 Expansion Cards

The system accepts up to eight PCIe 5.0 x8 or up to four PCIe 5.0 x16 full-height 10.5"L expansion cards, mounted on riser cards and brackets.

Figure 3-9. Expansion Card Slots

Expansion Card Slot Configurations

Enabling any of the eight expansion card slots in this system requires optional parts that are sold separately. See below for expansion card slot configuration ordering information.

Each expansion card slot is assigned to specific motherboard PCIe x8 MCIO connectors or PCIe x16 slots. The following table shows the possible expansion card slot configuration options and the corresponding motherboard PCIe connector assignment.

Expansion Card Slot Configurations		
Slot Configurations	**Slot Width**	**Motherboard Connection**
Up to eight PCIe x8 slots	Slot 1: PCIe x8	Cable connection from JMCIO_G2A
	Slot 2: PCIe x8	Cable connection from JMCIO_G2B
	Slot 3: PCIe x8	Cable connection from JSXB2 PCIe 5.0 x16
	Slot 4: PCIe x8	
	Slot 5: PCIe x8	Cable connection from JMCIO_G0A
	Slot 6: PCIe x8	Cable connection from JMCIO_G0B
	Slot 7: PCIe x8	Edge connection from JSXB1 PCIe 5.0 x16
	Slot 8: PCIe x8	
Up to four PCIe x16 slots	Slot 1: PCIe x16	Cable connection from JMCIO_G2A + JMCIO_G2B
	Slot 2: No connection	No connection
	Slot 3: PCIe x16	Cable connection from JSXB2 PCIe 5.0 x16
	Slot 4: No connection	No connection
	Slot 5: PCIe x16	Cable connection from JMCIO_G0A + JMCIO_G0B
	Slot 6: No connection	No connection
	Slot 7: PCIe x16	Edge connection from JSXB1 PCIe 5.0 x16
	Slot 8: No connection	No connection

Installing an Expansion Card

Follow the procedure below to install expansion cards.

Installing an Expansion Card

1. Remove power as described in Section 3.1.
2. Remove the chassis cover as described in Section 3.2.
3. Remove any MCIO cables connected to the riser card and pull up the riser card brackets.
4. Looking from the node rear, open the clip of each slot on the right.
5. Remove the blank PCI shield from the chassis.
6. Remove the riser card from the chassis.
7. Plug the expansion card into the riser card.
8. Insert the riser card and expansion card back into the chassis.
9. Connect any cables, if necessary.
10. Reinstall the chassis cover and power up the system.

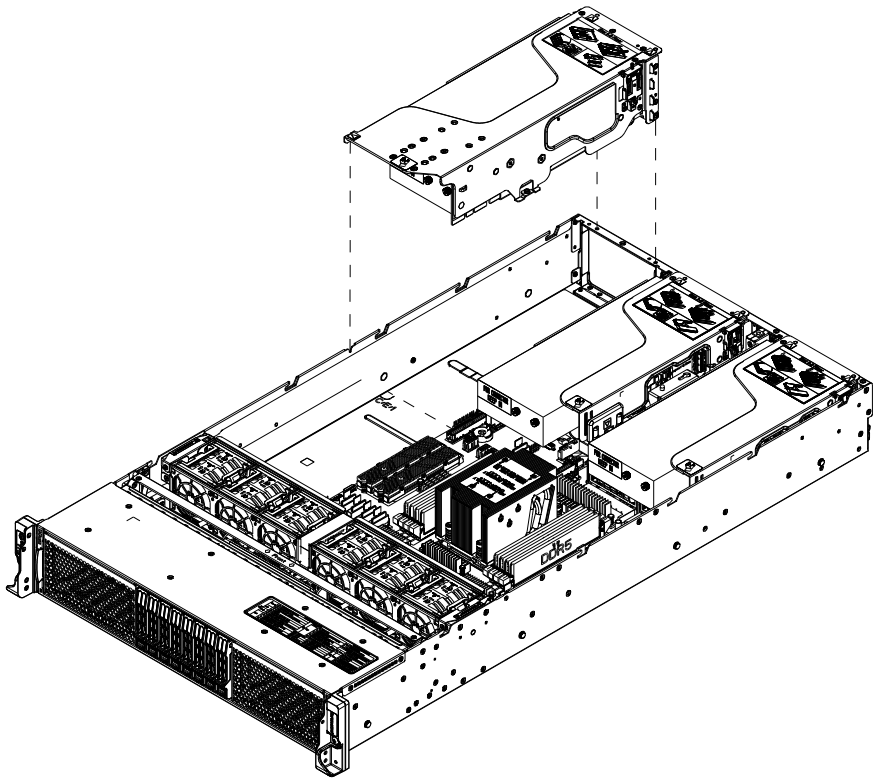


Figure 3-10. Installing Riser Cards

3.10 Power Supply

The system includes two hot-plug power supply modules. These modules will automatically sense and operate at an input voltage between 100 V to 240 V. Note that different input voltages will result in different maximum power output levels.

In the event of a power module failure, the other power module will continue to power the system on its own. Failed power supply modules can be replaced without powering down the system. Replacement modules can be ordered directly from Supermicro.

An amber light on the power supply is illuminated when the power is switched off. A green light indicates that the power supply is operating.

Replacing the Power Supply

1. Unplug the AC power cord from the failed power supply module.
2. Push and hold the release tab on the back of the power supply.
3. Grasp the handle of the power supply and pull it out of its bay.
4. Push the new power supply module into the power bay until it clicks into the locked position.
5. Plug the AC power cord back into the power supply module.

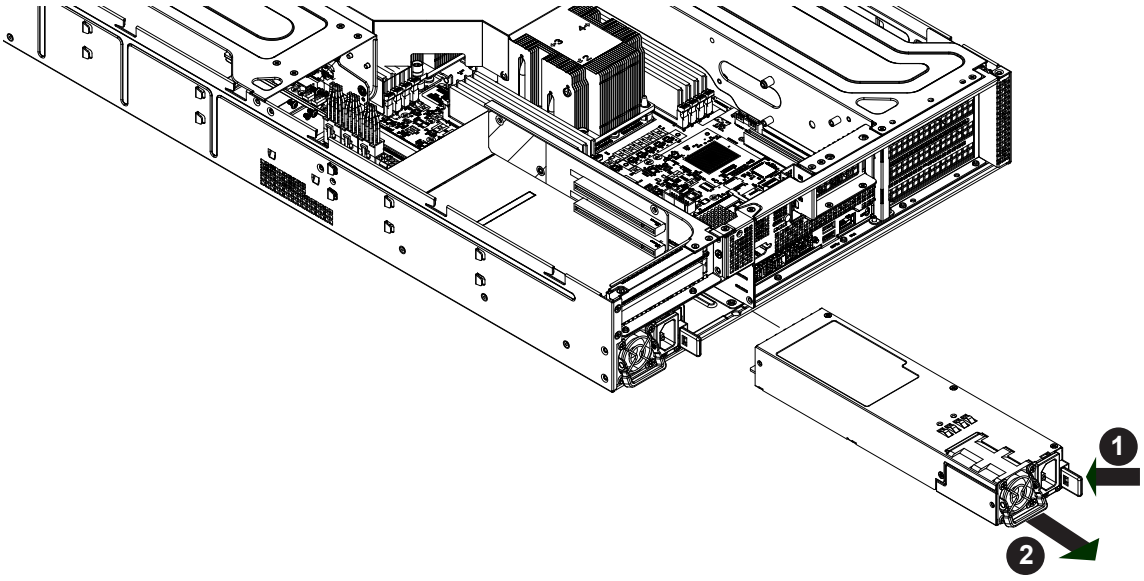


Figure 3-11. Removing/Replacing a Power Supply

Warning: Each power cord shall be connected to a socket outlet with earthing connection.

3.11 AIOM Network Cards

The system supports up to two OCP 3.0 compatible Supermicro AIOM networking slots (the second AIOM (A2) is optional and will require additional parts).

Figure 3-12. AIOM Chassis Slot

AIOM Configuration			
Item	**Mechanical**	**Electrical**	**Thermal**
A1	Small Form Factor, OCP 3.0	x16	Up to 20 W*
A2 (Optional)	Small Form Factor, OCP 3.0	x16	Up to 20 W*

*AIOM cards exceeding the 20 W Slot Power Envelope may require restricted conditions to meet thermal specifications of the AIOM card. Contact your Supermicro account representative for more information.

Installing AIOM Cards

1. Remove power as described in Section 3.1.
2. Remove the blank cover plate (A1, A2), unscrewing the thumbscrew.
3. Slide the AIOM card in the opening until it seats in the connector slot.
4. Secure with the thumbscrew.

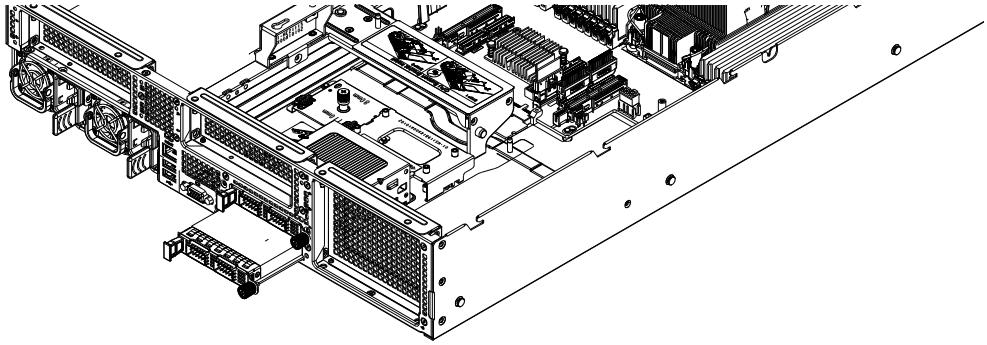
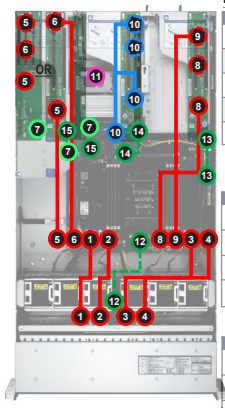


Figure 3-13. Installing an AIOM Card

3.12 Cable Routing Diagrams

The below diagrams indicate the cable routing for the storage, PCIe, IO, and power cables. When disconnecting cables to add or replace components, refer to the diagram so you can reroute them in the same manner. If cables are not connected or routed properly it may lead to device detection or performance issues.

8 NVME + 4 PCIe x16 or 8 PCIe x8



Front Storage Cables

	Cable	Description	MB Port	Backplane/Riser Port
1	CBL-MCIO-1326M5	NVMe 0-1	JMCIO_G1B	BP NVMe0/1
2	CBL-MCIO-1330M5	NVMe 2-3	JMCIO_G1A	BP NVMe2/3
3	CBL-MCIO-1332M5	NVMe 4-5	JMCIO_G3B	BP NVMe4/5
4	CBL-MCIO-1330M5	NVMe 6-7	JMCIO_G3A	BP NVMe6/7
12	CBL-PWEX-1142B-20	BP Power	JPWR6	JPWR1

Rear PCIe Slot Cables

1st Riser (slot 1 or 1+2)

	Cable	Description	MB Port	Riser Port
8	CBL-MCIO-1335M5R	PCIe x16 (Slot 1)	JMCIO_G2B	**RSC1** JPCIE1B1
9	CBL-MCIO-1245M5R		JMCIO_G2A	**RSC1** JPCIE1A1
11	CBL-GNZ5-1307	AIOM x16 (AIOM 1)	JAIOM1	N/A
13	CBL-PWEX-1136YB-25	**RSC1** power	JPWR9	JPWR1

OR

	Cable	Description	MB Port	Riser Port
8	CBL-MCIO-1240M5	PCIe x8 (Slot 1 & 2)	JMCIO_G2B	**RSC1** JPCIE2A1
9	CBL-MCIO-1245M5R		JMCIO_G2A	**RSC1** JPCIE1A1
11	CBL-GNZ5-1307	AIOM x16 (AIOM 1)	JAIOM1	N/A
13	CBL-PWEX-1136YB-25	**RSC1** power	JPWR9	JPWR1

\+ 2nd Riser (slot 3 or 3+4)

	Cable	Description	MB Port	Riser Port
10	CBL-GNZ4-1227M5YRR16	PCIe x16 (Slot 3)	JSXB2 PCIe 5.0 x16	**RSC2** JPCIE1A1 and JPCIE1B1
11	CBL-GNZ5-1307	AIOM x16 (AIOM 1)	JAIOM1	N/A
14	CBL-PWEX-1136YB-25	**RSC2** power	JPWR11	JPWR1

OR

	Cable	Description	MB Port	Riser Port
10	CBL-GNZ4-1227M5YR21	PCIe x8 (Slot 3 & 4)	JSXB2 PCIe 5.0 x16	**RSC2** JPCIE1A1 and JPCIE2A1
11	CBL-GNZ5-1307	AIOM x16 (AIOM 1)	JAIOM1	N/A
14	CBL-PWEX-1136YB-25	**RSC2** power	JPWR11	JPWR1

\+ 3rd Riser (slot 5+7 or 5+7+8 or 5~8)

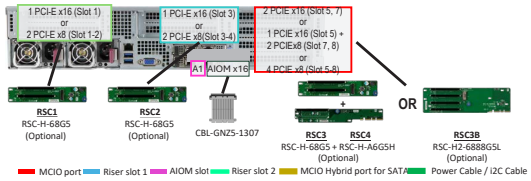
	Cable	Description	MB Port	Riser Port
7	N/A	**RSC3 + RSC4** 2x PCIe x16 (slot 5 & 7)	JSXB1 PCIe 5.0 x16	**RSC4** Gold Finger
5	CBL-MCIO-1335M5R		JMCIO_G0B	**RSC3** JPCIE1B1
6	CBL-MCIO-1245M5R		JMCIO_G0A	**RSC3** JPCIE1A1
15	CBL-PWEX-1136YB-25	**RSC3** power	JPWR1	JPWR1
11	CBL-GNZ5-1307	AIOM x16 (AIOM 1)	JAIOM1	N/A

OR

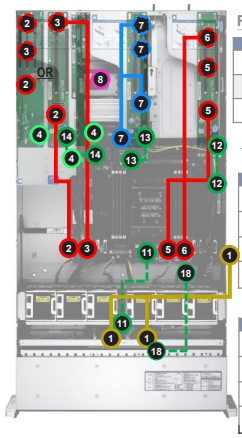
	Cable	Description	MB Port	Riser Port
7	N/A	**RSC3B** 1x PCIe x16 (Slot 5) + 2x PCIe x8 (Slot 7, 8)	JSXB1 PCIe 5.0 x16	**RSC3B** Gold Finger
5	CBL-MCIO-1240M5		JMCIO_G0B	**RSC3B** JPCIE2B1
6	CBL-MCIO-1245M5-Z		JMCIO_G0A	**RSC3B** JPCIE2A1
11	CBL-GNZ5-1307	AIOM x16 (AIOM 1)	JAIOM1	N/A

OR

	Cable	Description	MB Port	Riser Port
7	N/A	**RSC3B** 4x PCIe x8 (Slot 5~8)	JSXB1 PCIe 5.0 x16	**RSC3B** Gold Finger
5	CBL-MCIO-1245M5-Z		JMCIO_G0B	**RSC3B** JPCIE1A1
6	CBL-MCIO-1245M5-Z		JMCIO_G0A	**RSC3B** JPCIE2A1
11	CBL-GNZ5-1307	AIOM x16 (AIOM 1)	JAIOM1	N/A



8 SATA + 4 PCIe x16 or 8 PCIe x8



Front Storage Cables

	Cable	Description	MB Port	Backplane/Riser Port
1	CBL-MCIO-124354Y	SATA 0-7	JMCIO_G3A	BP SAS/SATA 0-3/4-7
11	CBL-PWEX-1142B-20	BP Power	JPWR6	JPWR1
18	CBL-CDAT-1062	i2C Cable	JNVI2C1	JIPMB1

Rear PCIe Slot Cables

1st Riser (slot 1 or 1+2)

	Cable	Description	MB Port	Riser Port
5	CBL-MCIO-1335M5R	PCIe x16 (Slot 1)	JMCIO_G2B	**RSC1** JPCIE1B1
6	CBL-MCIO-1245M5R		JMCIO_G2A	**RSC1** JPCIE1A1
8	CBL-GNZ5-1307	AIOM x16 (AIOM 1)	JAIOM1	N/A
12	CBL-PWEX-1136YB-25	**RSC1** power	JPWR9	JPWR1

OR

	Cable	Description	MB Port	Riser Port
5	CBL-MCIO-1240M5	PCIe x8 (Slot 1 & 2)	JMCIO_G2B	**RSC1** JPCIE2A1
6	CBL-MCIO-1245M5R		JMCIO_G2A	**RSC1** JPCIE1A1
8	CBL-GNZ5-1307	AIOM x16 (AIOM 1)	JAIOM1	N/A
12	CBL-PWEX-1136YB-25	**RSC1** power	JPWR9	JPWR1

\+ 2nd Riser (slot 3 or 3+4)

	Cable	Description	MB Port	Riser Port
7	CBL-GNZ4-1227M5YRR16	PCIe x16 (Slot 3)	JSXB2 PCIe 5.0 x16	**RSC2** JPCIE1A1 and JPCIE1B1
8	CBL-GNZ5-1307	AIOM x16 (AIOM 1)	JAIOM1	N/A
13	CBL-PWEX-1136YB-25	**RSC2** power	JPWR11	JPWR1

OR

	Cable	Description	MB Port	Riser Port
7	CBL-GNZ4-1227M5YR21	PCIe x8 (Slot 3 & 4)	JSXB2 PCIe 5.0 x16	**RSC2** JPCIE1A1 and JPCIE2A1
8	CBL-GNZ5-1307	AIOM x16 (AIOM 1)	JAIOM1	N/A
13	CBL-PWEX-1136YB-25	**RSC2** power	JPWR11	JPWR1

\+ 3rd Riser (slot 5+7 or 5+7+8 or 5~8)

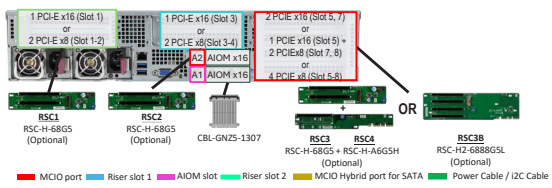
	Cable	Description	MB Port	Riser Port
4	N/A	**RSC3 + RSC4** 2x PCIe x16 (slot 5 & 7)	JSXB1 PCIe 5.0 x16	**RSC4** Gold Finger
2	CBL-MCIO-1335M5R		JMCIO_G0B	**RSC3** JPCIE1B1
3	CBL-MCIO-1245M5R		JMCIO_G0A	**RSC3** JPCIE1A1
14	CBL-PWEX-1136YB-25	**RSC3** power	JPWR3	JPWR1
8	CBL-GNZ5-1307	AIOM x16 (AIOM 1)	JAIOM1	N/A

OR

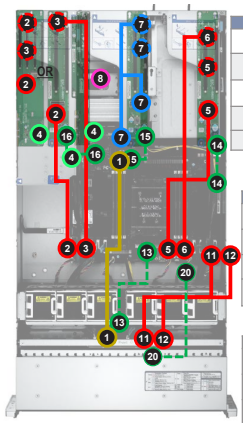
	Cable	Description	MB Port	Riser Port
4	N/A	**RSC3B** 1x PCIe x16 (Slot 5) + 2x PCIe x8 (Slot 7, 8)	JSXB1 PCIe 5.0 x16	**RSC3B** Gold Finger
2	CBL-MCIO-1240M5		JMCIO_G0B	**RSC3B** JPCIE2B1
3	CBL-MCIO-1245M5-Z		JMCIO_G0A	**RSC3B** JPCIE2A1
8	CBL-GNZ5-1307	AIOM x16 (AIOM 1)	JAIOM1	N/A

OR

	Cable	Description	MB Port	Riser Port
4	N/A	**RSC3B** 4x PCIe x8 (Slot 5~8)	JSXB1 PCIe 5.0 x16	**RSC3B** Gold Finger
2	CBL-MCIO-1245M5-Z		JMCIO_G0B	**RSC3B** JPCIE1A1
3	CBL-MCIO-1245M5-Z		JMCIO_G0A	**RSC3B** JPCIE2A1
8	CBL-GNZ5-1307	AIOM x16 (AIOM 1)	JAIOM1	N/A



4 NVME + SATA + 4 PCIe x16 or 8 PCIe x8



Front Storage Cables

	Cable	Description	MB Port	Backplane/Riser Port
1	CBL-MCIO-1243S4Y	SATA 0-3	JMCIO_P0A	BP SAS/SATA 0-3
11	CBL-MCIO-1332M5	NVMe 0-1	JMCIO_G3B	BP NVMe4/5
12	CBL-MCIO-1330M5	NVMe 2-3	JMCIO_G3A	BP NVMe6/7
13	CBL-PWEX-1142B-20	BP Power	JPWR6	JPWR1
20	CBL-CDAT-1062	i2C Cable	JNVI2C1	JIPMB1

Rear PCIe Slot Cables

1st Riser (slot 1 or 1+2)

	Cable	Description	MB Port	Riser Port
5	CBL-MCIO-1335M5R	PCIe x16 (Slot 1)	JMCIO_G2B	**RSC1** JPCIE1B1
6	CBL-MCIO-1245M5R		JMCIO_G2A	**RSC1** JPCIE1A1
8	CBL-GNZ5-1307	AIOM x16 (AIOM 1)	JAIOM1	N/A
14	CBL-PWEX-1136YB-25	**RSC1** power	JPWR9	JPWR1

OR

	Cable	Description	MB Port	Riser Port
5	CBL-MCIO-1240M5	PCIe x8 (Slot 1 & 2)	JMCIO_G2B	**RSC1** JPCIE2A1
6	CBL-MCIO-1245M5R		JMCIO_G2A	**RSC1** JPCIE1A1
8	CBL-GNZ5-1307	AIOM x16 (AIOM 1)	JAIOM1	N/A
14	CBL-PWEX-1136YB-25	**RSC1** power	JPWR9	JPWR1

\+

2nd Riser (slot 3 or 3+4)

	Cable	Description	MB Port	Riser Port
7	CBL-GNZ4-1227M5YRR16	PCIe x16 (Slot 3)	JSXB2 PCIe 5.0 x16	**RSC2** JPCIE1A1 and JPCIE1B1
8	CBL-GNZ5-1307	AIOM x16 (AIOM 1)	JAIOM1	N/A
15	CBL-PWEX-1136YB-25	**RSC2** power	JPWR11	JPWR1

OR

	Cable	Description	MB Port	Riser Port
7	CBL-GNZ4-1227M5YR21	PCIe x8 (Slot 3 & 4)	JSXB2 PCIe 5.0 x16	**RSC2** JPCIE1A1 and JPCIE2A1
8	CBL-GNZ5-1307	AIOM x16 (AIOM 1)	JAIOM1	N/A
15	CBL-PWEX-1136YB-25	**RSC2** power	JPWR11	JPWR1

\+

3rd Riser (slot 5+7 or 5+7+8 or 5~8)

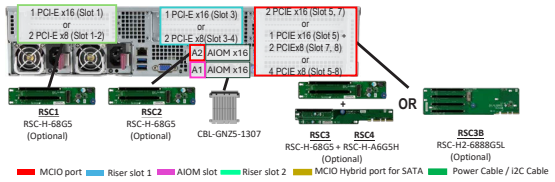
	Cable	Description	MB Port	Riser Port
4	N/A	**RSC3 + RSC4** 2x PCIe x16 (slot 5 & 7)	JSXB1 PCIe 5.0 x16	**RSC4** Gold Finger
2	CBL-MCIO-1335M5R		JMCIO_G0B	**RSC3** JPCIE1B1
3	CBL-MCIO-1245M5R		JMCIO_G0A	**RSC3** JPCIE1A1
16	CBL-PWEX-1136YB-25	**RSC3** power	JPWR3	JPWR1
8	CBL-GNZ5-1307	AIOM x16 (AIOM 1)	JAIOM1	N/A

OR

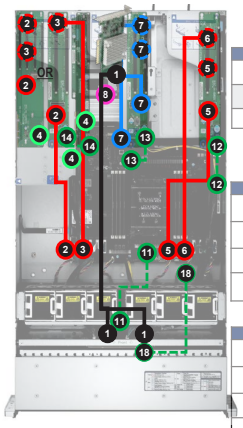
	Cable	Description	MB Port	Riser Port
4	N/A	**RSC3B** 1x PCIe x16 (Slot 5) + 2x PCIe x8 (Slot 7, 8)	JSXB1 PCIe 5.0 x16	**RSC3B** Gold Finger
2	CBL-MCIO-1240M5		JMCIO_G0B	**RSC3B** JPCIE2B1
3	CBL-MCIO-1245M5-Z		JMCIO_G0A	**RSC3B** JPCIE2A1
8	CBL-GNZ5-1307	AIOM x16 (AIOM 1)	JAIOM1	N/A

OR

	Cable	Description	MB Port	Riser Port
4	N/A	**RSC3B** 4x PCIe x8 (Slot 5~8)	JSXB1 PCIe 5.0 x16	**RSC3B** Gold Finger
2	CBL-MCIO-1245M5-Z		JMCIO_G0B	**RSC3B** JPCIE1A1
3	CBL-MCIO-1245M5-Z		JMCIO_G0A	**RSC3B** JPCIE2A1
8	CBL-GNZ5-1307	AIOM x16 (AIOM 1)	JAIOM1	N/A



8 SAS + 4 PCIe x16 or 8 PCIe x8



Front Storage Cables

	Cable	Description	MB Port	Backplane/Riser Port
1	CBL-SAST-1264F-100	SAS 0-7	SAS AOC	BP SAS/SATA 0-3/4-7
11	CBL-PWEX-1142B-20	BP Power	JPWR6	JPWR1
18	CBL-CDAT-1062	i2C Cable	JNVI2C1	JIPMB1

Rear PCIe Slot Cables

1st Riser (slot 1 or 1+2)

	Cable	Description	MB Port	Riser Port
5	CBL-MCIO-1335M5R	PCIe x16 (Slot 1)	JMCIO_G2B	**RSC1** JPCIE1B1
6	CBL-MCIO-1245M5R		JMCIO_G2A	**RSC1** JPCIE1A1
8	CBL-GNZ5-1307	AIOM x16 (AIOM 1)	JAIOM1	N/A
12	CBL-PWEX-1136YB-25	**RSC1** power	JPWR9	JPWR1

OR

	Cable	Description	MB Port	Riser Port
5	CBL-MCIO-1240M5	PCIe x8 (Slot 1 & 2)	JMCIO_G2B	**RSC1** JPCIE2A1
6	CBL-MCIO-1245M5R		JMCIO_G2A	**RSC1** JPCIE1A1
8	CBL-GNZ5-1307	AIOM x16 (AIOM 1)	JAIOM1	N/A
12	CBL-PWEX-1136YB-25	**RSC1** power	JPWR9	JPWR1

\+

2nd Riser (slot 3 or 3+4)

	Cable	Description	MB Port	Riser Port
7	CBL-GNZ4-1227M5YRR16	PCIe x16 (Slot 3)	JSXB2 PCIe 5.0 x16	**RSC2** JPCIE1A1 and JPCIE1B1
8	CBL-GNZ5-1307	AIOM x16 (AIOM 1)	JAIOM1	N/A
13	CBL-PWEX-1136YB-25	**RSC2** power	JPWR11	JPWR1

OR

	Cable	Description	MB Port	Riser Port
7	CBL-GNZ4-1227M5YR21	PCIe x8 (Slot 3 & 4)	JSXB2 PCIe 5.0 x16	**RSC2** JPCIE1A1 and JPCIE2A1
8	CBL-GNZ5-1307	AIOM x16 (AIOM 1)	JAIOM1	N/A
13	CBL-PWEX-1136YB-25	**RSC2** power	JPWR11	JPWR1

\+

3rd Riser (slot 5+7 or 5+7+8 or 5~8)

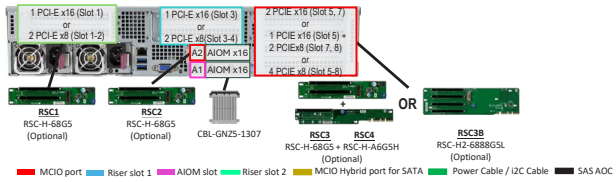
	Cable	Description	MB Port	Riser Port
4	N/A	**RSC3 + RSC4** 2x PCIe x16 (slot 5 & 7)	JSXB1 PCIe 5.0 x16	**RSC4** Gold Finger
2	CBL-MCIO-1335M5R		JMCIO_G0B	**RSC3** JPCIE1B1
3	CBL-MCIO-1245M5R		JMCIO_G0A	**RSC3** JPCIE1A1
14	CBL-PWEX-1136YB-25	**RSC3** power	JPWR3	JPWR1
8	CBL-GNZ5-1307	AIOM x16 (AIOM 1)	JAIOM1	N/A

OR

	Cable	Description	MB Port	Riser Port
4	N/A	**RSC3B** 1x PCIe x16 (Slot 5) + 2x PCIe x8 (Slot 7, 8)	JSXB1 PCIe 5.0 x16	**RSC3B** Gold Finger
2	CBL-MCIO-1240M5		JMCIO_G0B	**RSC3B** JPCIE2B1
3	CBL-MCIO-1245M5-Z		JMCIO_G0A	**RSC3B** JPCIE2A1
8	CBL-GNZ5-1307	AIOM x16 (AIOM 1)	JAIOM1	N/A

OR

	Cable	Description	MB Port	Riser Port
4	N/A	**RSC3B** 4x PCIe x8 (Slot 5~8)	JSXB1 PCIe 5.0 x16	**RSC3B** Gold Finger
2	CBL-MCIO-1245M5-Z		JMCIO_G0B	**RSC3B** JPCIE1A1
3	CBL-MCIO-1245M5-Z		JMCIO_G0A	**RSC3B** JPCIE2A1
8	CBL-GNZ5-1307	AIOM x16 (AIOM 1)	JAIOM1	N/A



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. More detail can be found in the Motherboard Manual Please review the Safety Precautions in Appendix A before installing or removing components.

4.1 Power Connections

12 V 8-pin Auxiliary Power Connector (JPWR1-11)

JPWR1-11 is an 8-pin Micro-Hi power input to provide power to GPU. Refer to the table below for pin definitions.

12 V 8-pin Power Connector Pin Definitions

Pin#	Definition	Pin#	Definition
1	Ground	5	+12 V
2	Ground	6	+12 V
3	Ground	7	+12 V
4	Ground	8	+12 V

4.2 Connector

NC-SI Connector

A Network-Controller Sideband Interface (NC-SI) header is located at JNCSI1 on the motherboard. The NCSI header is used to connect a Network Interface Card (NIC) to the motherboard so that the BMC is able to poll the temperature reading from it.

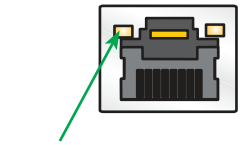
4.3 LED Indicators

BMC LAN Port LEDs

A dedicated BMC LAN is located on the rear I/O panel and has two LED indicators. The LED on the right indicates connection and activity, while the LED on the left indicates the speed of connection. The Link LED may amber, green, or off to indicate the speed of the connection. Refer to the tables below for more information.

Link LED, Connection Link Speed Indicator	
LED Color	**Definition**
Amber	1 Gb/s
Green	100 Mb/s
Off	10 Mb/s

Activity LED		
Color	**State**	**Definition**
None	No Connection	
Yellow	Solid On	Link
Yellow	Flashing	Active



Link LED

UID LED Indicator (LED3)

The rear LED3 is located next to the UID button. The front UID LED is located on the front panel. When you press the UID button, both rear LED8 and front UID LED indicators will turn on. Press the UID button again to turn off the LED indicators. Use this UID Indicator to 'mark' the system, so the system can be easily identified whether on the front or back (e.g., a system rack with multiple units installed).

UID LED Indicator		
Color	**State**	**Definition**
None	Off	UID Off
Blue	Solid On	Unit Identified by Local Site
Blue	Slow Blinking	Unit Identified by Remote Site
Blue	Slow Blinking	System Recovery

BMC Heartbeat LED (LED1)

A BMC Heartbeat LED is located at LED1 on the motherboard. When LED1 is blinking, the BMC is functioning normally. See the table below for more information.

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

Chapter 5

Software

After the hardware has been installed, you can install the Operating System (OS), configure RAID settings, and install the drivers.

5.1 Microsoft Windows OS Installation

If you will be using RAID, you must configure RAID settings before installing the Windows OS and the RAID driver. Refer to the RAID Configuration User Guides posted on our website at www.supermicro.com/support/manuals.

Installing the OS

1. Create a method to access the Microsoft Windows installation ISO file. That might be a USB flash or media drive.
2. Retrieve the proper drivers. Go to the Supermicro web page for your motherboard and click on "Download the Latest Drivers and Utilities", select the proper driver, and copy it to a USB flash drive.
3. Boot from a bootable device with Windows OS installation. You can see a bootable device list by pressing **F11** during the system bootup.

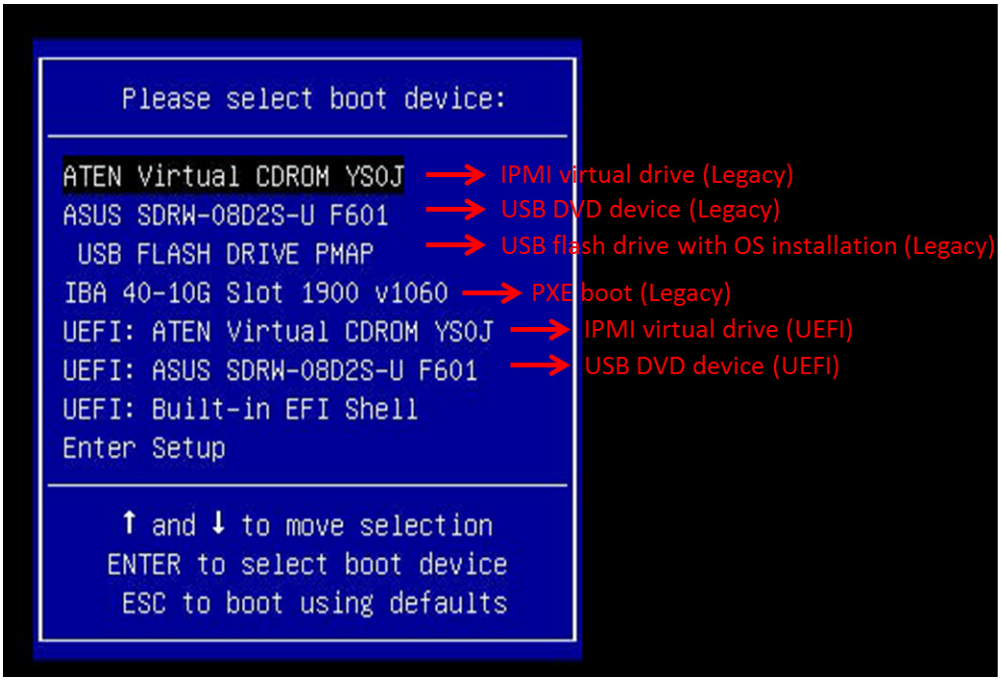


Figure 5-1. Select Boot Device

4. During Windows Setup, continue to the dialog box where you select the drives on which to install Windows. If the disk you want to use is not listed, click on “Load driver” link at the bottom left corner.

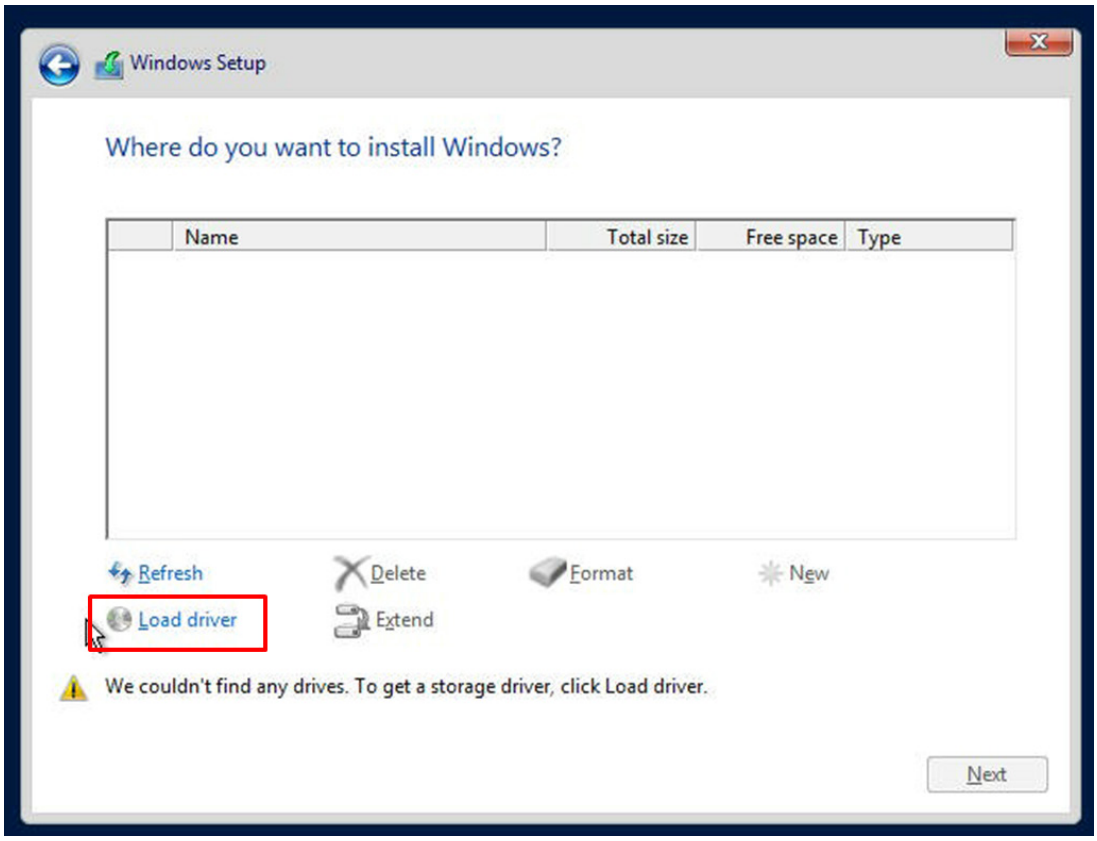


Figure 5-2. Load Driver Link

To load the driver, browse the USB flash drive for the proper driver files.

- Choose the SATA/sSATA AHCI driver indicated and then choose the storage drive on which you want to install it.

5. Once all devices are specified, continue with the installation.

6. After the Windows OS installation has completed, the system will automatically reboot multiple times for system updates.

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 website, go into the CDR_Images (in the parent directory of the above link) and locate the ISO file for your motherboard. Download this file to a USB flash or a media drive. (You may also use a utility to extract the ISO file if preferred.)

Another option is to go to the Supermicro website at http://www.supermicro.com/products/. Find the product page for your motherboard, and "Download the Latest Drivers and Utilities". Insert the flash drive or disk, and the screenshot shown below should appear.

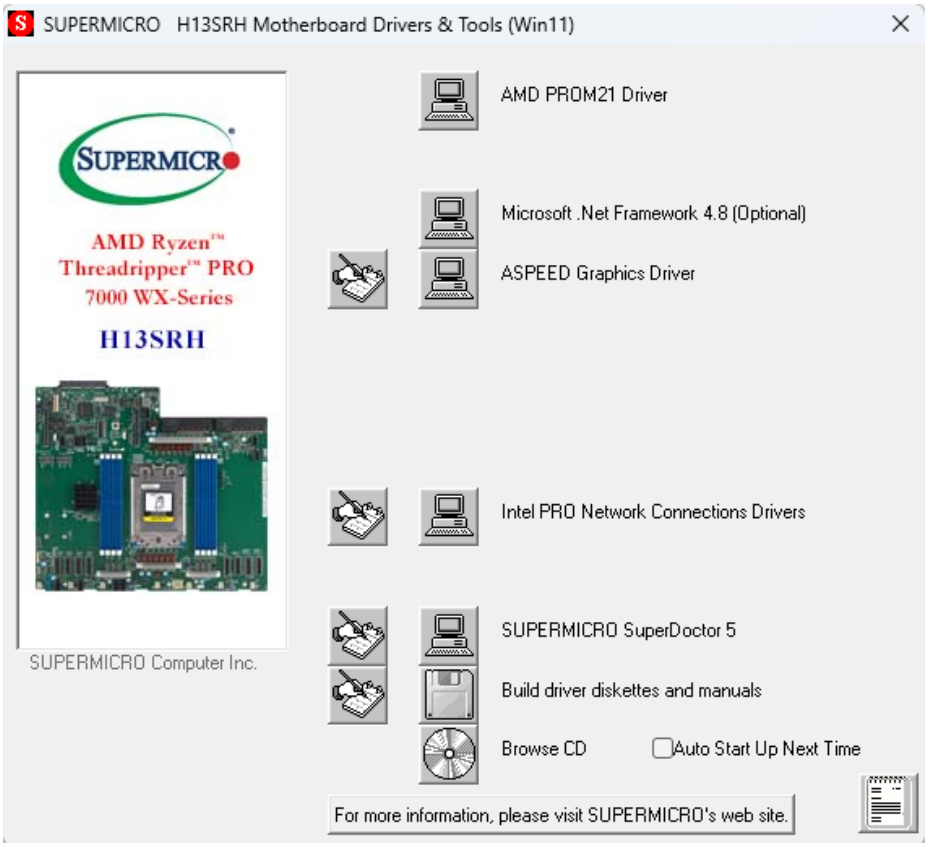


Figure 5-3. Driver and Tool Installation Screen

Note: Click the icons showing handwriting 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 reboot 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 BMC. SuperDoctor 5 Management Server monitors HTTP, FTP, and SMTP services to optimize the efficiency of your operation.

SuperDoctor® Manual and Resources

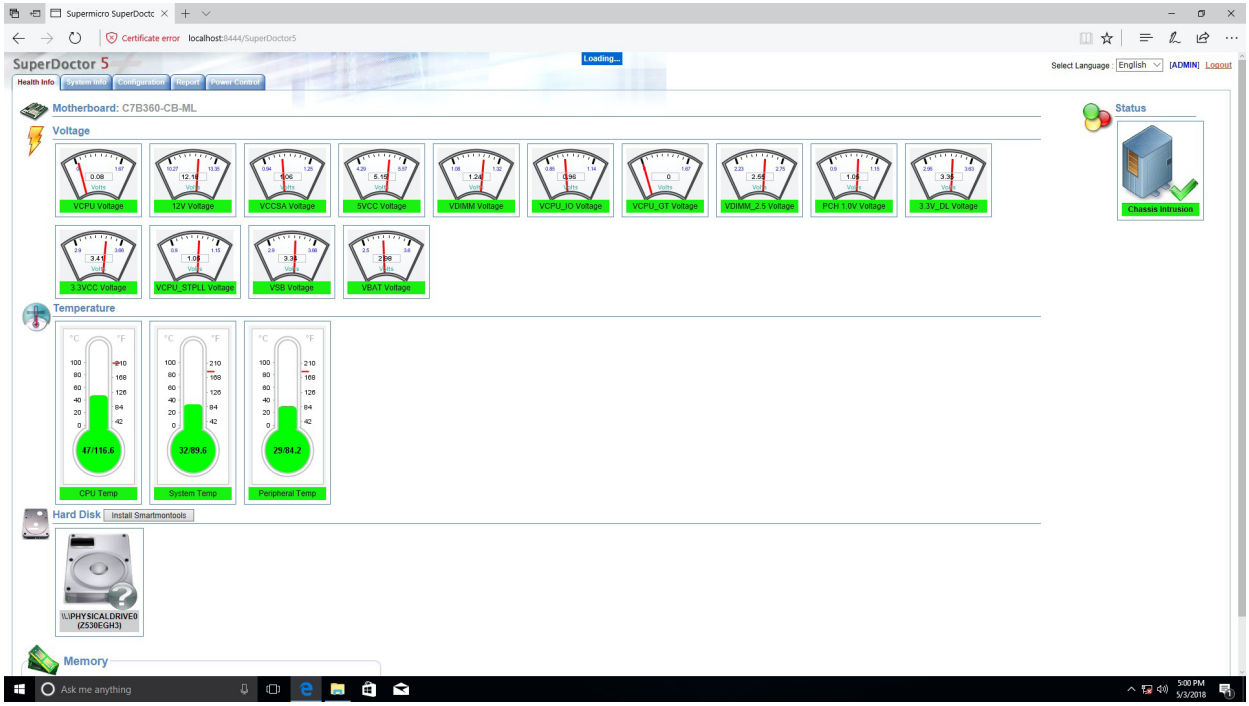


Figure 5-4. SuperDoctor 5 Interface Display Screen (Health Information)

5.4 IPMI

The H13SRH 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 BMC.

For general documentation and information on BMC, visit our website at:
https://www.supermicro.com/en/solutions/management-software/bmc-resources

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.

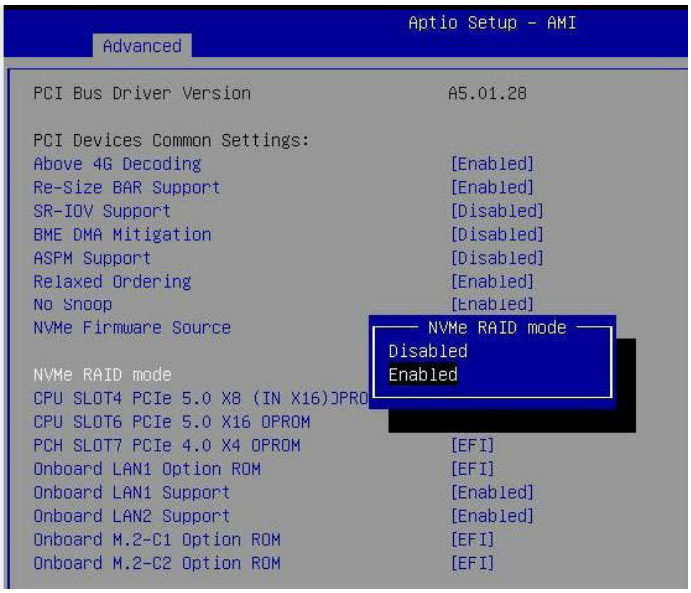
Figure 5-5. BMC Password Label

See Chapter 1 for the locations of the labels.

5.5 Installing Windows Operating System with Onboard M.2 RAID

Prerequisites

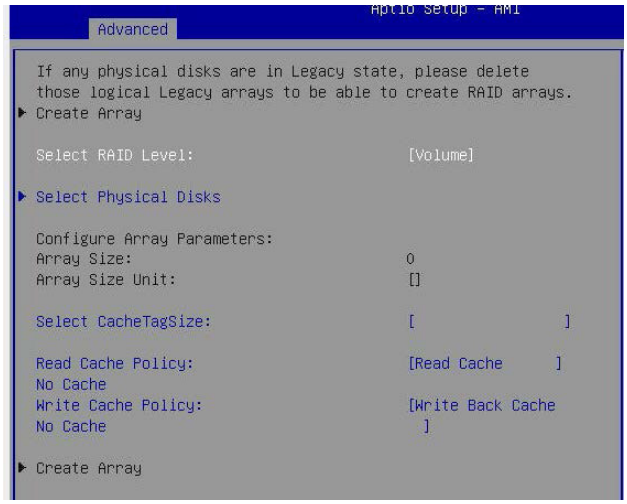
1. Go to https://rufus.ie/, download and use the RUFUS utility to create a USB bootable drive with the Windows 10 or 11 ISO image supporting UEFI.
2. Download and unzip the AMD RAID driver in a USB thumb drive from https://www.supermicro.com/wdl/driver/AMD/NVMe_RAID/Raid_PKG_S0i3_win_9.3.2_00158.zip
3. Install at least two NVMe drives in the sytem.
4. After the M.2 NVMe drives are installed, press the <Del> key to enter the BIOS menu, go to Advanced and then PCIe/PCI/PnP, use the arrow keys to enable the NVMe RAID Mode item, and press the <F4> key to save and exit the BIOS.



5. Press the <Del> key to enter the BIOS menu, go to Advanced, RaidXpert2 Configuration Utility, Array Management, and then Create Array.

6. Change these items:

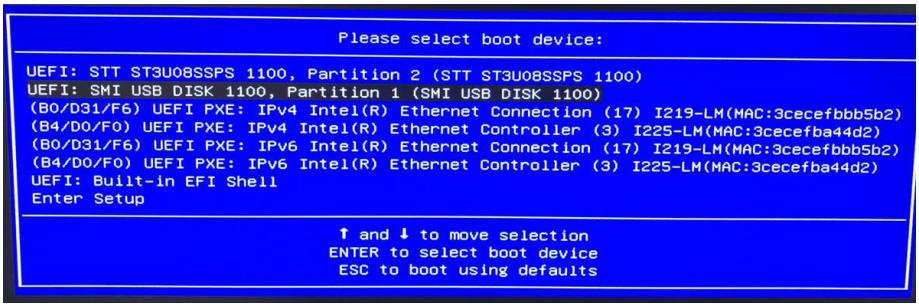
- Select RAID Level
- Select Physical Disks
- Select CacheTagSize
- Read Cache Policy
- Write Cache Policy



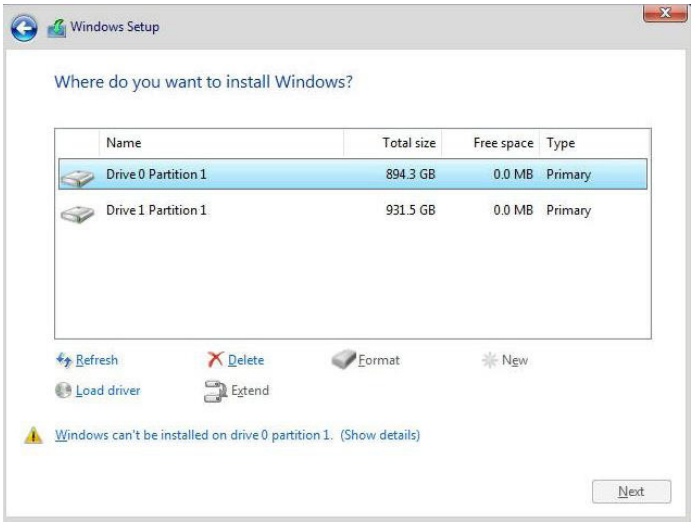
7. Use the arrow keys to select Create Array, and then select Save and Exit to save the changes and exit BIOS.

8. To check if the RAID drives are properly set up, press the <Del> key to enter the BIOS menu, go to Advanced, RAIDXpert2 Configuration Utility, Array Management, and then Manage Array Properties.

9. Plug in the thumb drive, turn on the system, press the <F11> key to enter the boot menu during system bootup, and select SMI USB DISK.

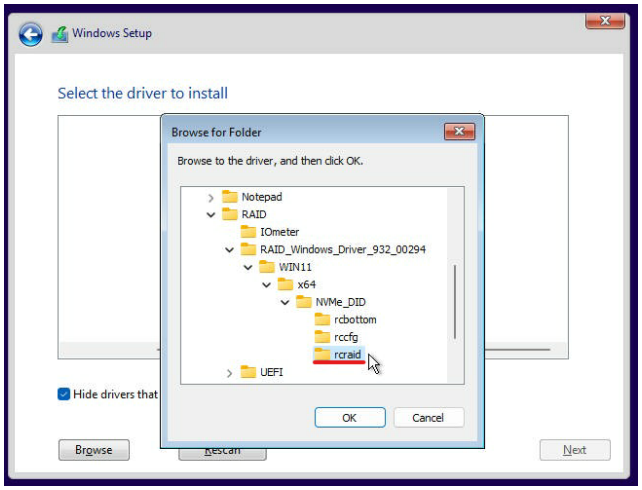


10. Follow the onscreen instructions, select Custom: Install Windows only (advanced), select Load Driver and then click Next.

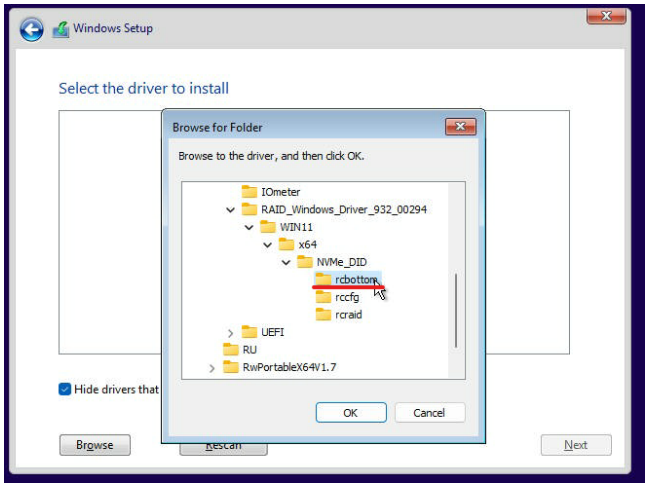


11. Click the Browse button, follow the below sequence to install the drivers. Select the rcraid/rcbottom/rccfg folder, and then click OK.

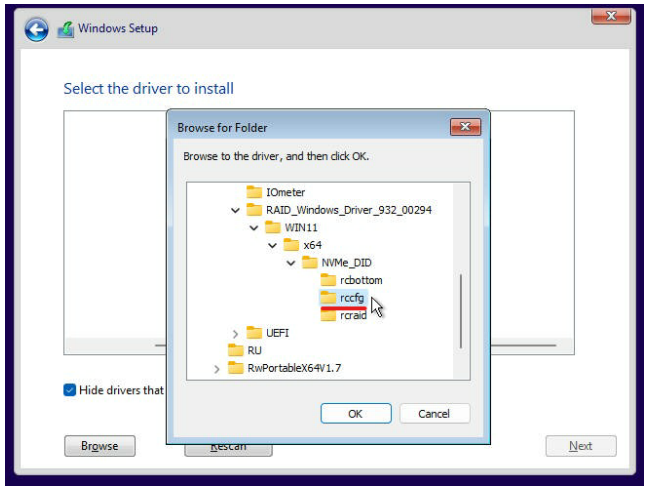
- **rcraid**



- **rcbottom**

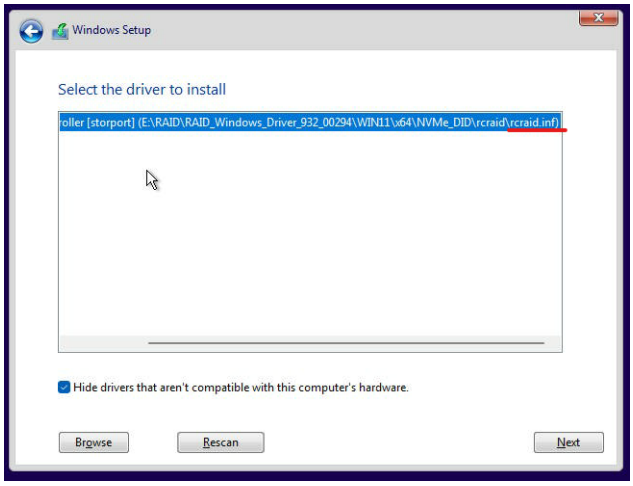


- **rccfg**

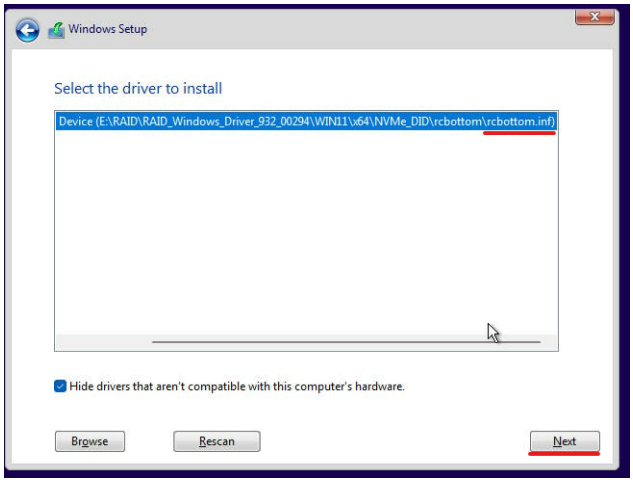


12. Select the driver and then click the Next button.

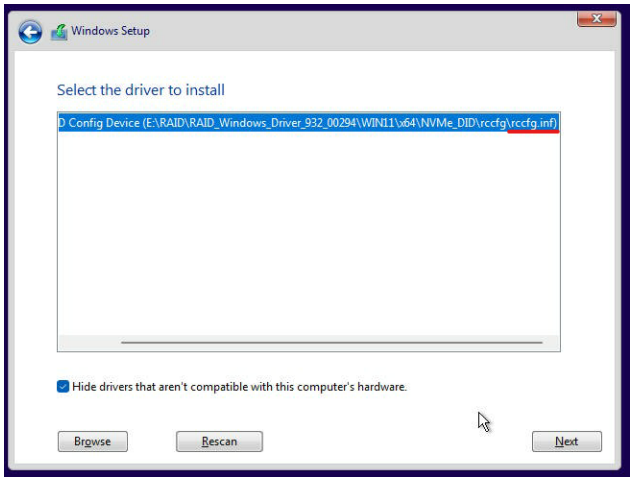
- **rcraid**



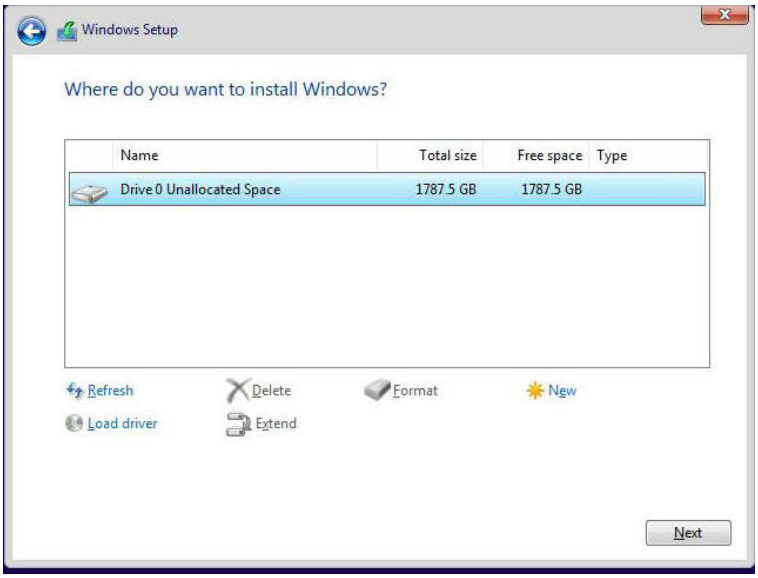
- **rcbottom**



- **rcconfigure**



13. After the driver is installed, the RAID drive appears available in the list. Click the Next button and follow the onscreen instructions to complete the Windows installation.



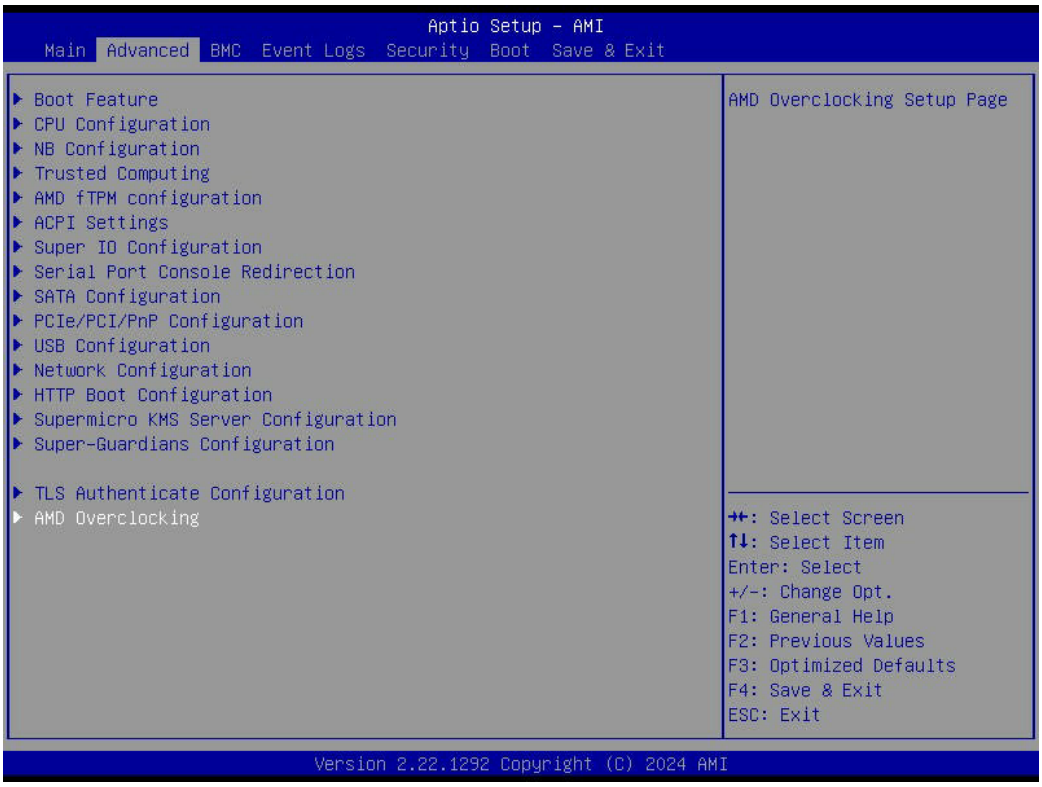
14. After the Windows is installed, the Windows Boot Manager item should be one of the boot device options in the boot menu.

5.6 CPU and Expo DDR Overclocking

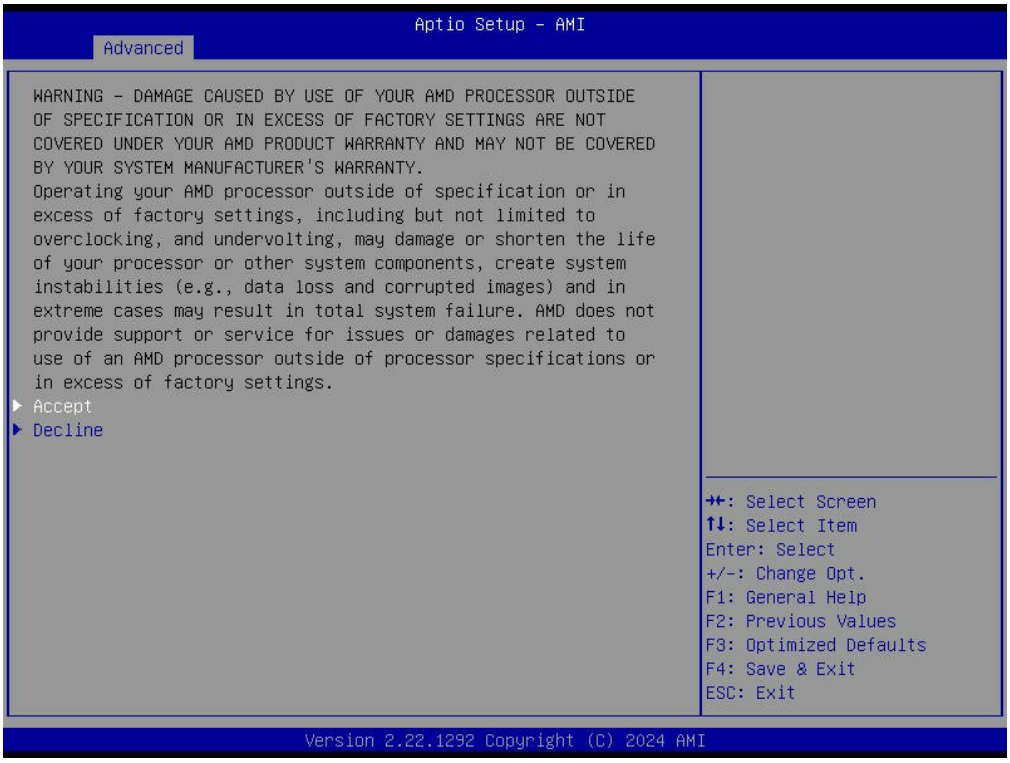
The overclocking feature is disabled by default. For a quick and easy CPU overclocking process, you can take the following steps as a reference.

Steps for CPU Overclocking

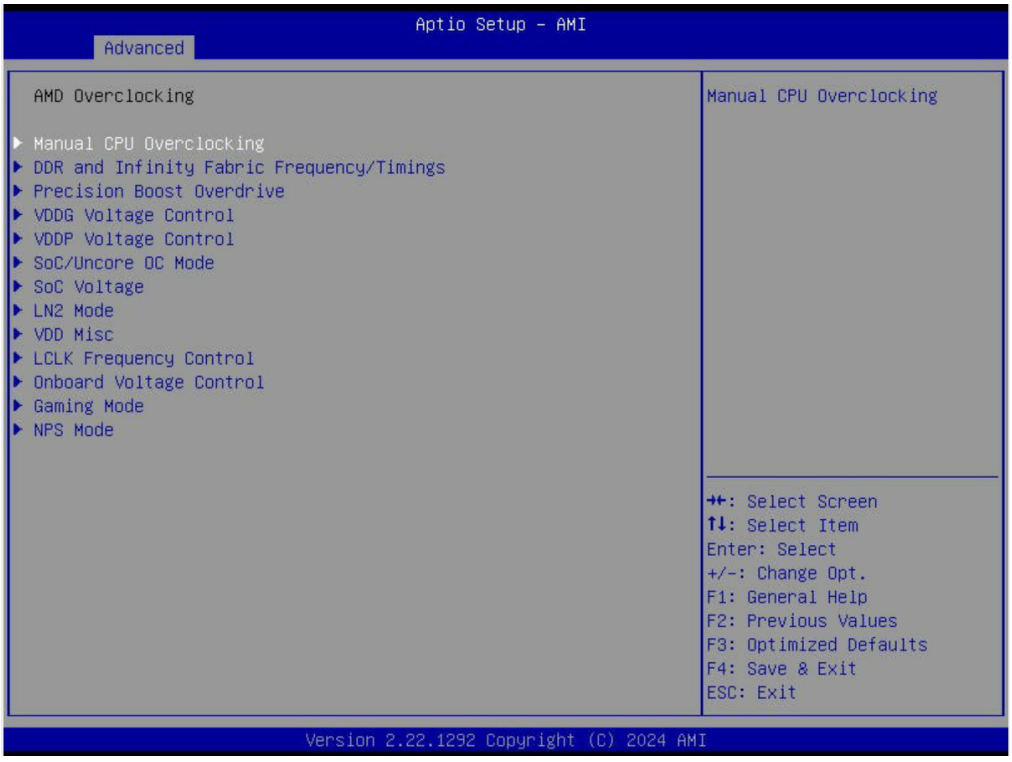
1. Enter the BIOS Advanced Setup Configurations, select **AMD Overclocking**.



2. Select **Accept**.

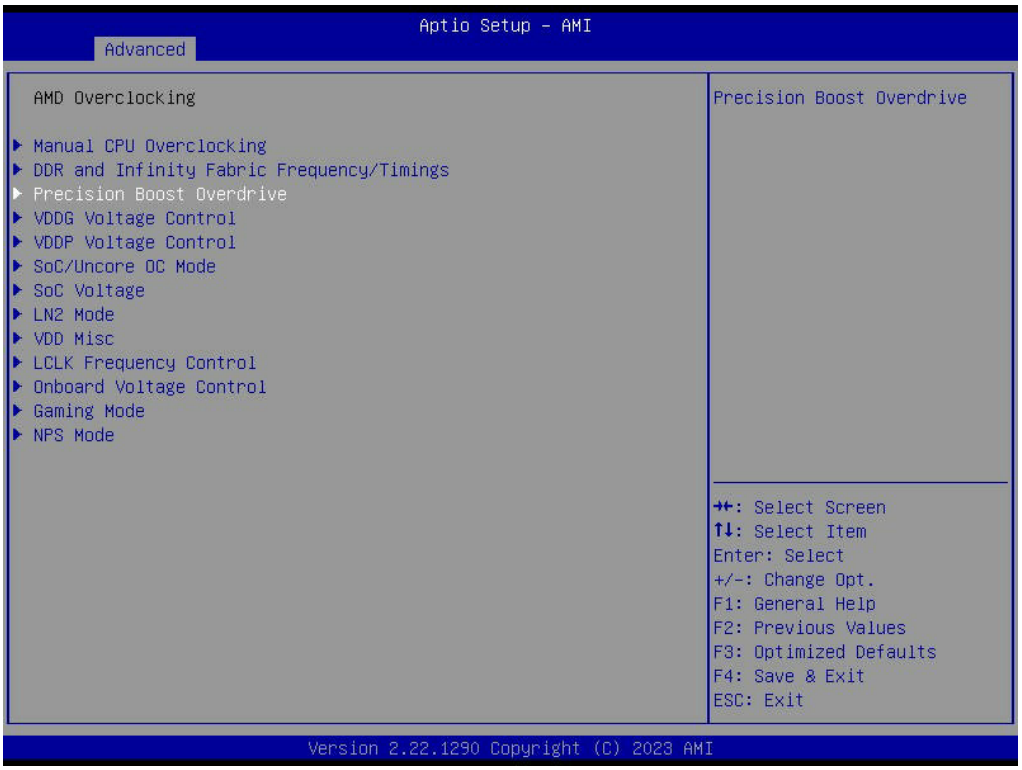


3. Select **Manual CPU Overclocking**.

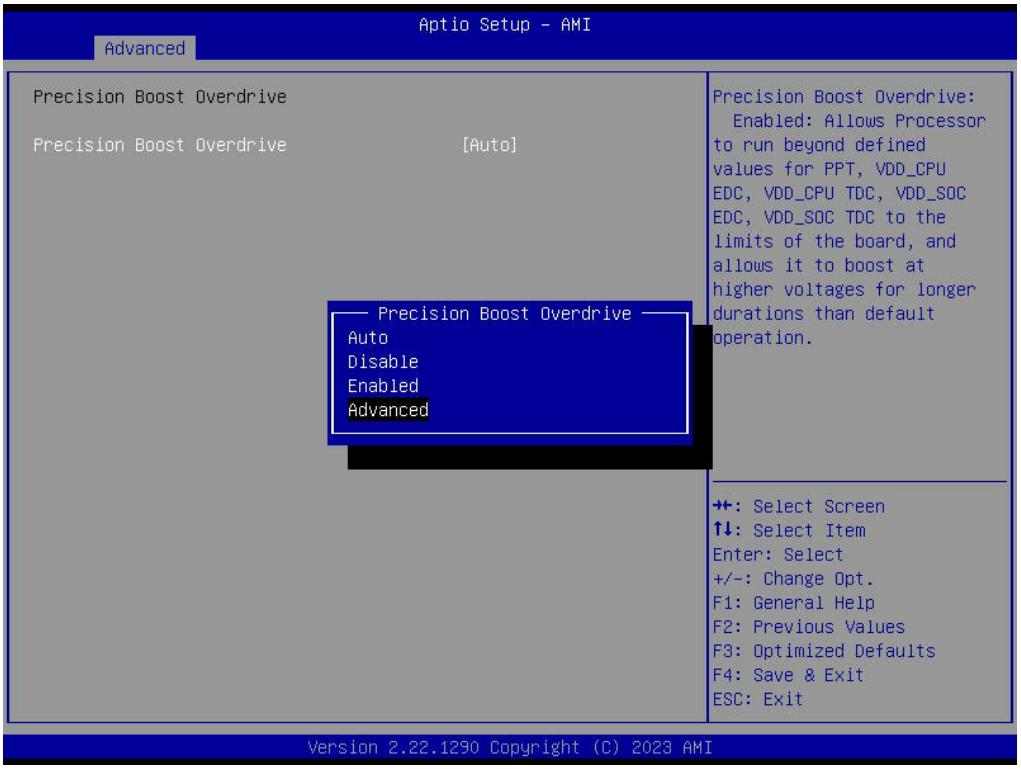


4. Set Peak Current Control to **Disable**.

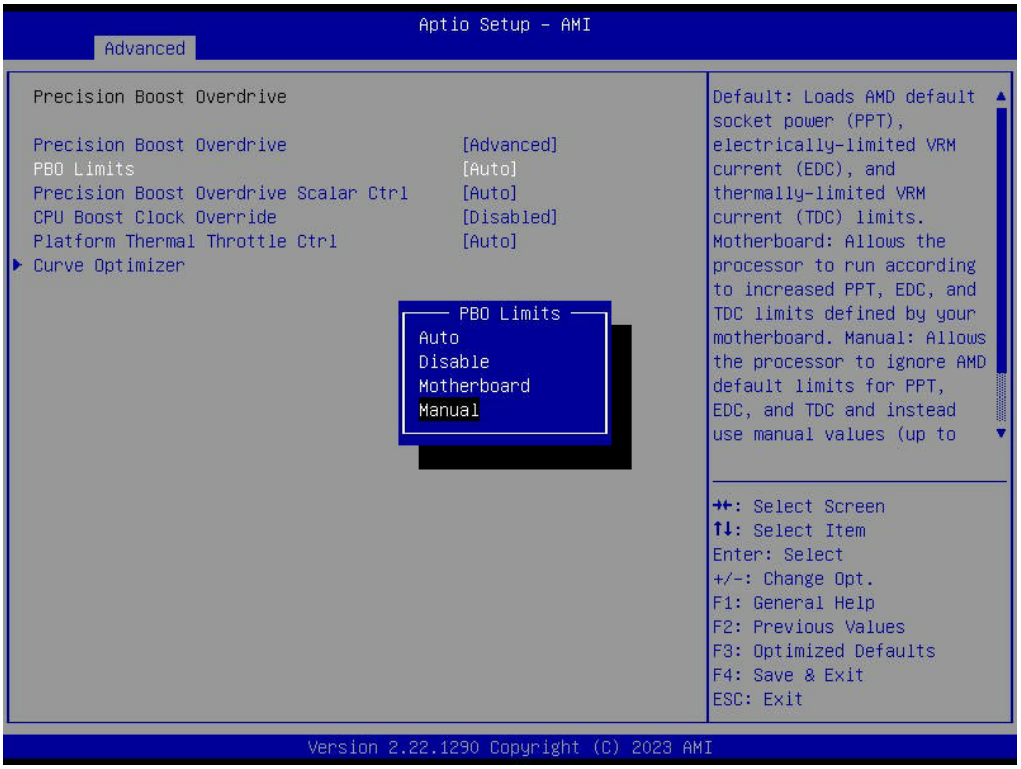
5. Select **Precision Boost Overdrive**.



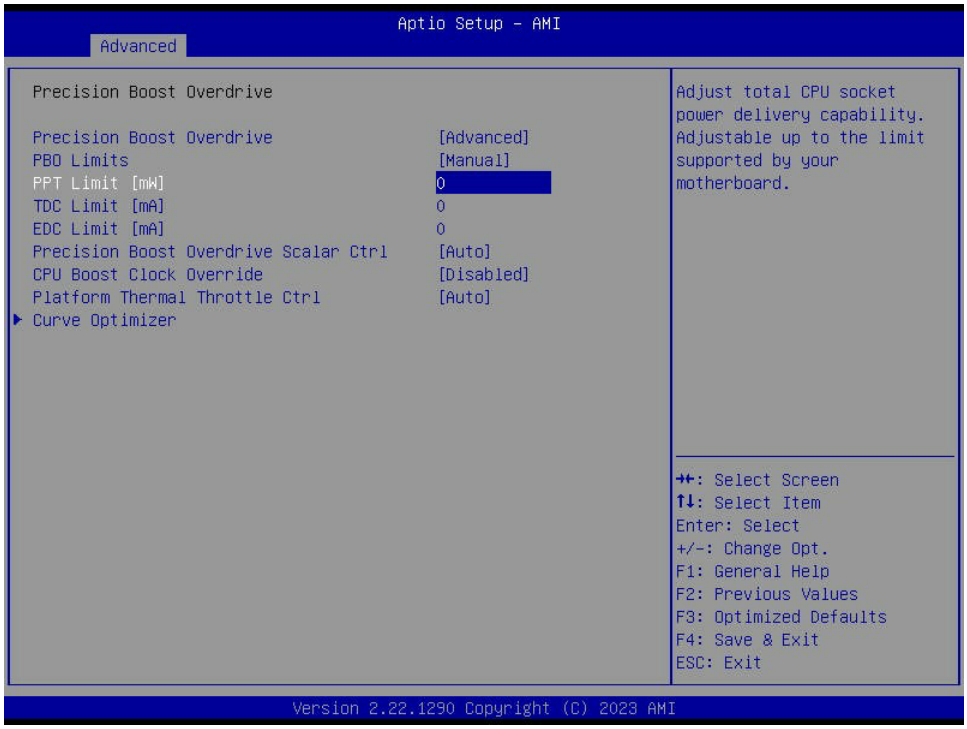
6. Select **Advanced**.



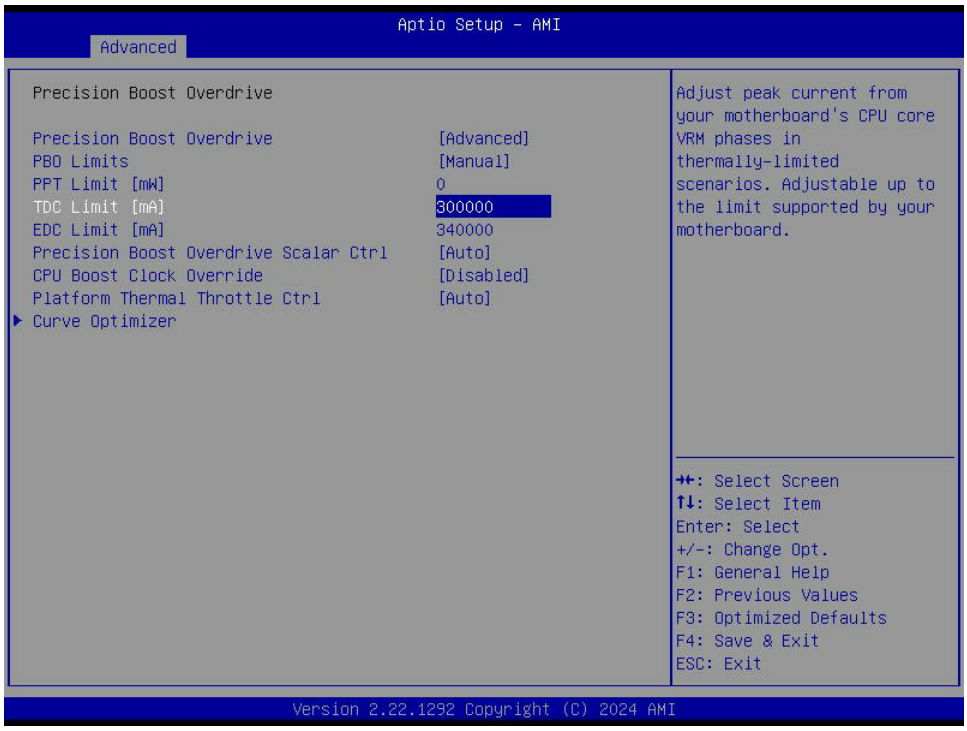
7. Select **PBO Limits**, and then **Manual**.



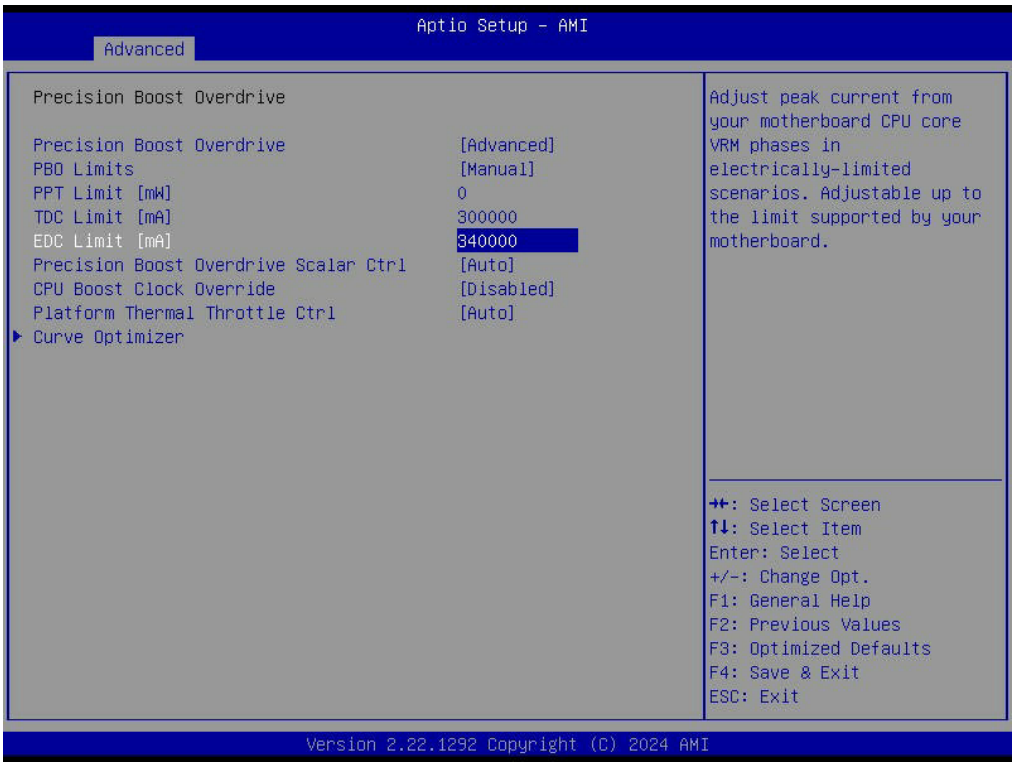
8. Select **PPT Limit [mW]**, the value is adjustable up to the limit supported by your motherboard.



9. Select **TDC Limit [mA]**, the value is **300000**.



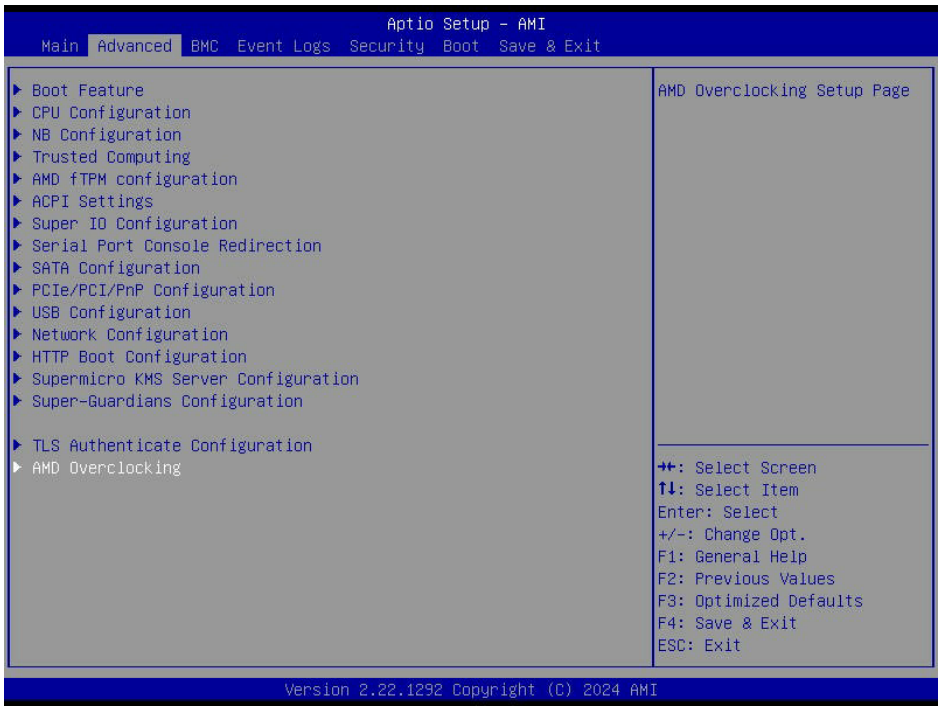
10. Select **EDC Limit [mA]**, the value is **340000**.



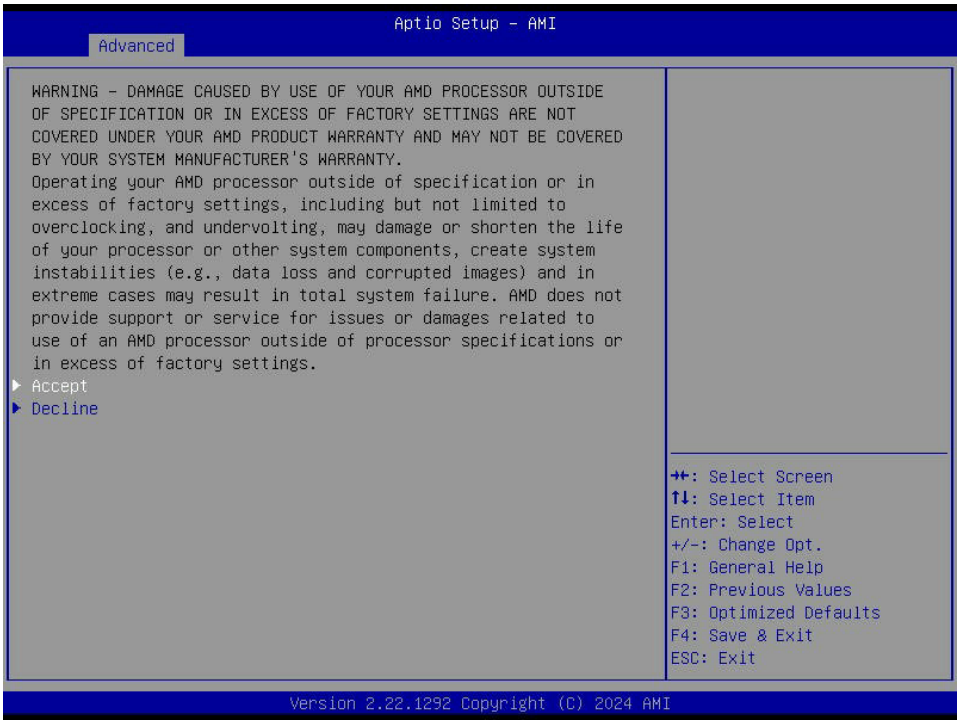
Warning: Please be aware that overclocking performance is not guaranteed by AMD and Supermicro, and it carries inherent risks, including potential hardware damage. Neither company provides CPU and memory warranties or support for systems overclocked beyond factory specifications. Exercise caution and understand the consequences before proceeding. If you have questions, please contact us for more information.

Steps for Expo DDR Overclocking

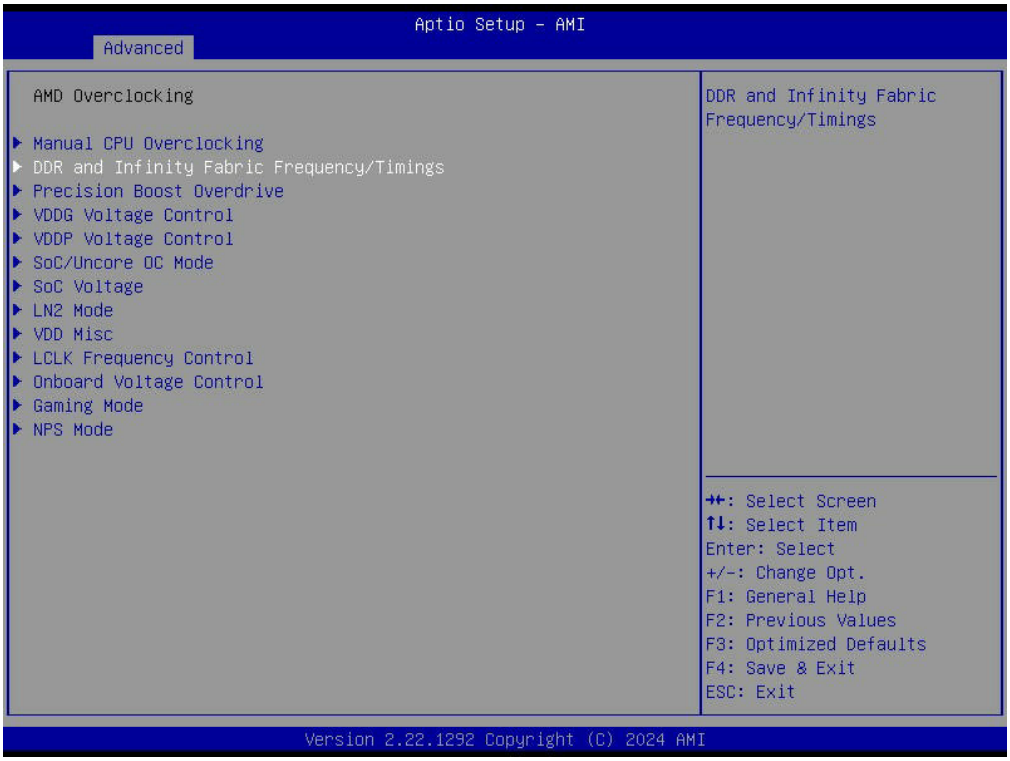
1. Enter the BIOS Advanced Setup Configurations, select **AMD Overclocking**.



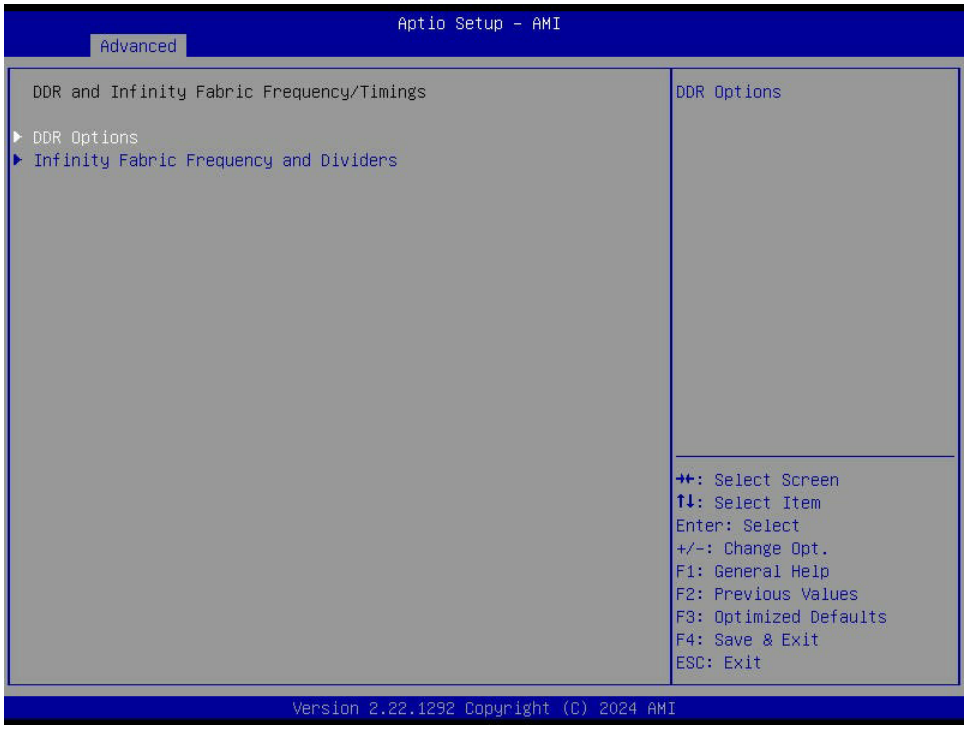
2. Select **Accept**.



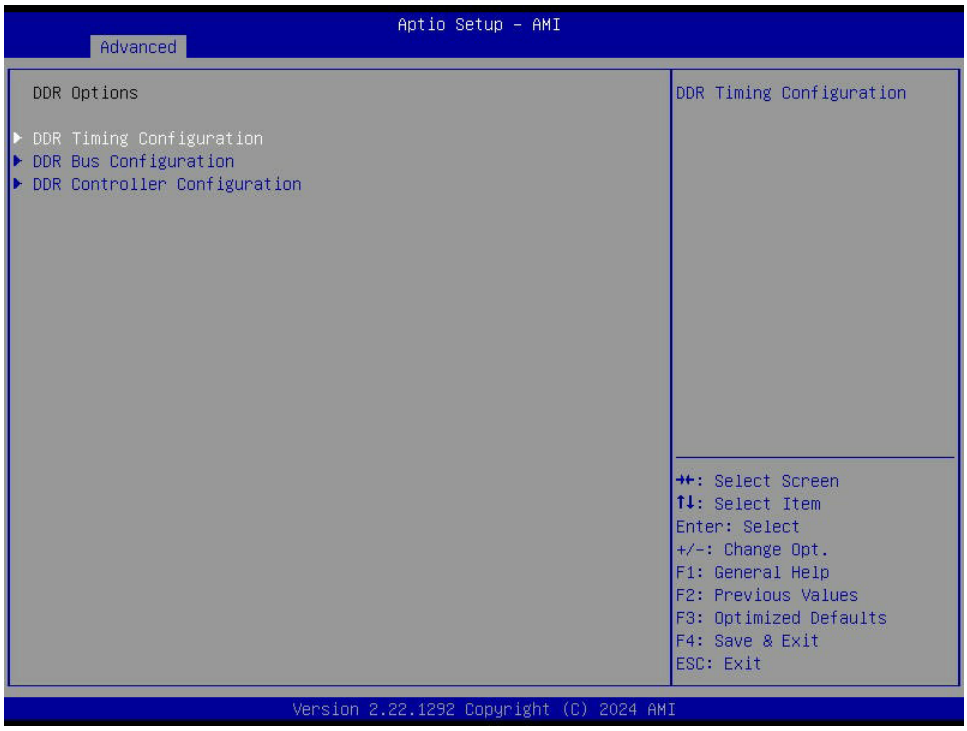
3. Select **DDR and Infinity Fabric Frequency/Timings**.



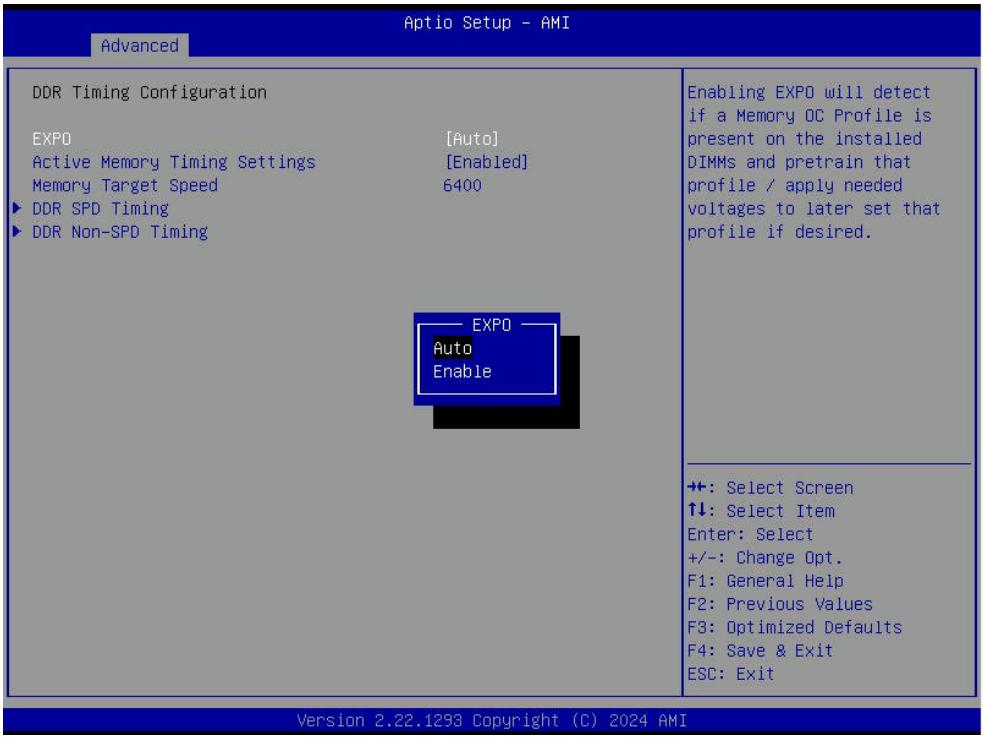
4. Select **DDR Options**.



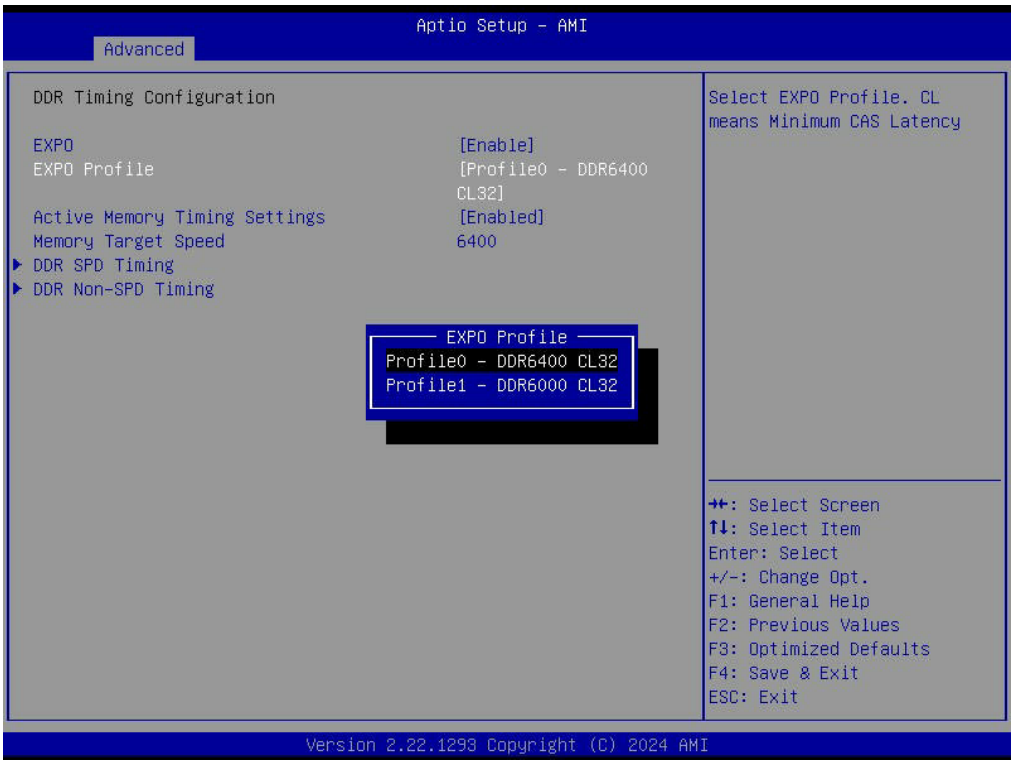
5. Select **DDR Timing Configuration**



6. Select **EXPO**



7. **Enable** EXPO, and select **Profiles with Memory speed setting**.



Chapter 6

Optional Components

This chapter describes alternate configurations and optional system components.

Optional Parts
Storage Protocals
PCIe Options
Power Options
Cable Management Arm

6.1 Storage Protocols Supported

The storage drive bays can be configured to support either SATA, SAS, or NVMe drives by adding optional parts to the system.

SATA – The system supports up to eight SATA drives from on-board connector. Additional cables are required.

SAS – The system can support up to eight SAS drives with supported add-on storage controller card(s).

NVMe – The system supports eight NVMe drives from on-board connector. Additional cables are required.

6.2 Storage Control Cards

Storage Control Card Options	
AOC SKU	**Description**
AOC-S3908L-H8iR-16DD	SAS RAID Adapter (RAID 0, 1, 5, 6, 10, 50, 60), eight internal SAS3 ports, Supports up to 16 physical devices with expander, One SlimSAS and eight black (100-Ohm) connector
AOC-S3808L-L8iT	SAS Host Bus Adapter (IT mode), eight internal SAS3 ports, Supports up to 122 physical devices with expander, One SlimSAS and eight black (100-Ohm) connectors

6.3 PCIe Options

AS -2115HV-TNRT Drive Bay Configuration Options

Option 1: 8 NVMe		
Drive Bay #	**Drive Type**	**Part Numbers**
Drive Bays 0-7	NVMe	CBL-MCIO-1326M5 CBL-MCIO-1330M5 (x2) CBL-MCIO-1332M5

Option 2: 8 SATA		
Drive Bay #	**Drive Type**	**Part Numbers**
Drive Bays 0-7	SATA	CBL-MCIO-1243S4Y CBL-CDAT-1062

Option 3: 4 NVME + 4 SATA		
Drive Bay #	**Drive Type**	**Part Numbers**
Drive Bays 0-3	SATA	CBL-MCIO-1243S4Y CBL-CDAT-1062
Drive Bays 4-7	NVMe	CBL-MCIO-1330M5 CBL-MCIO-1332M5

Option 4: 8 SAS		
Drive Bay #	**Drive Type**	**Part Numbers**
Drive Bays 0-7	SAS	CBL-SAST-1264F-100 CBL-CDAT-1062 SAS AOC (3908/3808, etc)

AS -2115HV-TNRT PCIe Slot Configuration Options

Slots 1-2 Configuration Options

Option 1: 1 PCIe x16 Slot		
Slot #	**Slot Config**	**Part Numbers**
Slot 1	PCIe 5.0 x16	MCP-240-21108-0N RSC-H-68G5 CBL-PWEX-1136YB-25 CBL-MCIO-1245M5R CBL-MCIO-1335M5R LBL-4001
Slot 2	Not avilable	

Option 2: 2 PCIe x8 Slots		
Slot #	**Slot Config**	**Part Numbers**
Slot 1	PCIe 5.0 x8	MCP-240-21108-0N RSC-H-68G5 CBL-PWEX-1136YB-25 CBL-MCIO-1245M5R CBL-MCIO-1240M5
Slot 2	PCIe 5.0 x8	

Slots 3-4 Configuration Options

Option 1: 1 PCIe x16 Slot		
Slot #	**Slot Config**	**Part Numbers**
Slot 3	PCIe 5.0 x16	MCP-240-21108-0N MCP-120-20118-0N RSC-H-68G5 CBL-PWEX-1136YB-25 LBL-4001 CBL-GNZ4-1227M5YRR16
Slot 4	Not Available	

Option 2: 2 PCIe x8 Slots		
Slot #	**Slot Config**	**Part Numbers**
Slot 3	PCIe 5.0 x8	MCP-240-21108-0N MCP-120-20118-0N RSC-H-68G5 CBL-PWEX-1136YB-25 CBL-GNZ4-1227M5YR21
Slot 4	PCIe 5.0 x8	

Slots 5-8 Configuration Options

Option 1: 2 PCIe x16 Slots		
Slot #	**Slot Config**	**Part Numbers**
Slot 5	PCIe 5.0 x16	MCP-240-21908-0N RSC-H-68G5 RSC-H-A6G5H CBL-MCIO-1335M5R CBL-MCIO-1245M5R CBL-PWEX-1136YB-25 LBL-4001
Slot 6	Not Available	
Slot 7	PCIe 5.0 x16	
Slot 8	Not Available	

Option 2: 1 PCIe x16 Slot & 2 PCIe x8 Slots		
Slot #	**Slot Config**	**Part Numbers**
Slot 5	PCIe 5.0 x16	MCP-240-21908-0N RSC-H2-6888G5L CBL-MCIO-1245M5-Z CBL-MCIO-1240M5 LBL-4001
Slot 6	Not Available	
Slot 7	PCIe 5.0 x8	
Slot 8	PCIe 5.0 x8	

Option 3: 4 PCIe x8 Slots		
Slot #	**Slot Config**	**Part Numbers**
Slot 5	PCIe 5.0 x8	MCP-240-21908-0N RSC-H2-6888G5L CBL-MCIO-1245M5-Z (x2)
Slot 6	PCIe 5.0 x8	
Slot 7	PCIe 5.0 x8	
Slot 8	PCIe 5.0 x8	

Slot A1 (AIOM/OCP NIC Slot1) comes with the system.

Slot A2 (AIOM/OCP NIC Slot2) is optional and cannot be used in eight NVME configuration. To enable this slot, add MCP-120-20123-0N, CBL-CDAT-1060-30, two CBL-MCIO-1240M5, and AOM-AIOM-2X8-G5.

6.4 Power Supply Configurations

Power Supply Module Options		
Watts	**Part Number**	**80Plus Level**
1600	PWS-1K63A-1R	Titanium
2000	PWS-2K07A-1R	Titanium
2600	PWS-2K63A-1R (Default)	Titanium

6.5 Cable Management Arm

The system supports a cable management arm (CMA), which keeps the rear cables organized and clear of the rail mechanisms when the system is extended out the front of the rack for maintenance.

The CMA attaches to the rack mounting rails using four connectors. They are labeled on the connectors 1, 2, 3, and 4.

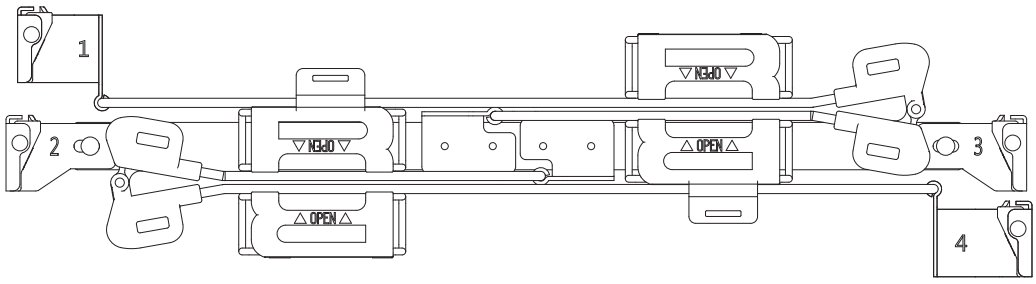


Figure 7-1. Cable Management Arm

Cable Arm Details		
Optional Part	**Part Number**	**Description**
Cable Arm	MCP-290-00168-0N	7.5" deep cable arm
Rail Set	MCP-290-11902-0N	35.25" ball-bearing rail set,without auto latch for Hyper 1U & 2U Project

Installing the Cable Management Arm

1. Slide CMA connector #1 forward onto the two posts on the rear of the right inner rail (right side when viewed from the front). It snaps into place.
2. Slide CMA connector #2 forward onto the two posts on the rear of the right middle rail. It snaps into place.

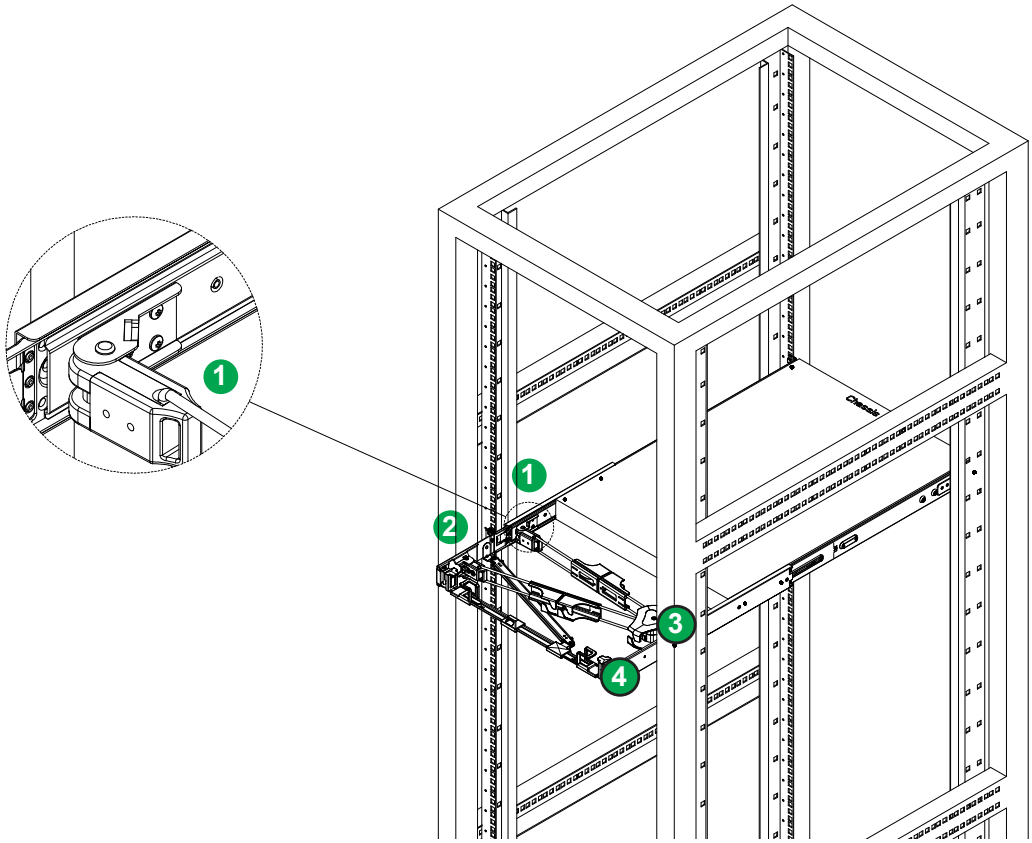


Figure 7-2. Installing the Connectors

1. Slide CMA connector #3 forward onto the two posts on the rear of the left middle rail. It snaps into place.
2. For CMA connector #4, align the metal tabs with the slots on the rear of the left outer rail and push it forward. It snaps into place.
3. Route the cables through the holding brackets, leaving enough slack.

Removing the Cable Management Arm

1. Remove cables from the CMA.
2. For CMA connector #4, pull the metal release tab toward the center of the rack and slide the connector toward the rear to release it.
3. For CMA connectors #3, #2, and #1, depress the front edge of the yellow plastic rocker lock and slide the connector toward the rear to release it.

Chapter 7

Troubleshooting and Support

7.1 Information Resources

Website

A great deal of information is available on the Supermicro website.

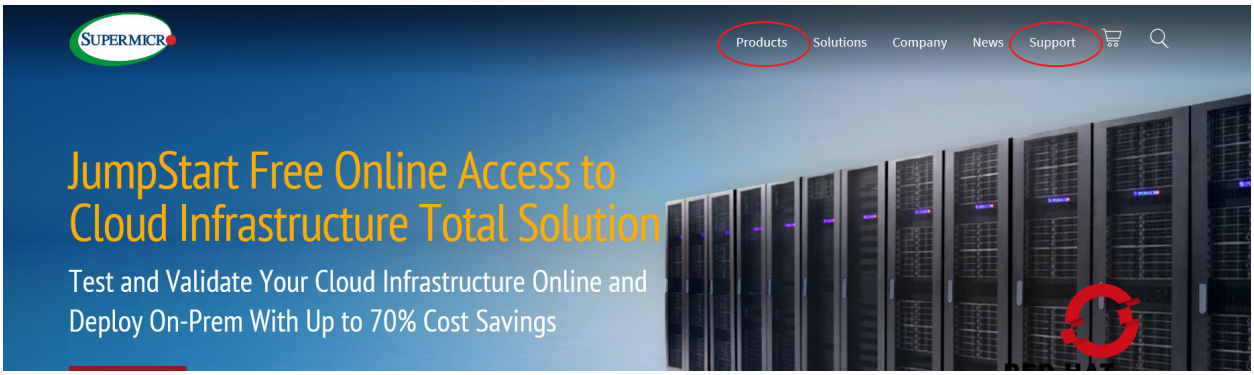


Figure 7-1. Supermicro Website

- Specifications for workstations and other hardware are available by clicking Products.
- The **Support** option offers downloads (manuals, BIOS/BMC, drivers, etc.), FAQs, RMA, warranty, and other service extensions.

Direct Links for the AS -2115HV-TNRT Workstation

AS -2115HV-TNRT specifications page

H13SRH motherboard page for links to the Quick Reference Guide, User Manual, validated storage drives, etc.

Direct Links for General Support and Information

Frequently Asked Questions

TPM User Guide

BMC User Guide

SuperDoctor5 Large Deployment Guide

Direct Links (continued)

Product Matrices page for links to tables summarizing specs for systems, motherboards, power supplies, riser cards, add-on cards, etc.

Security Center for recent security notices

Supermicro Phone and Addresses

7.2 Baseboard Management Controller (BMC)

The system supports the Baseboard Management Controller (BMC). BMC is used to provide remote access, monitoring, and management. There are several BIOS settings that are related to BMC.

For general documentation and information on BMC, please visit our website at: https://www.supermicro.com/manuals/other/BMC_IPMI_X13_H13.pdf.

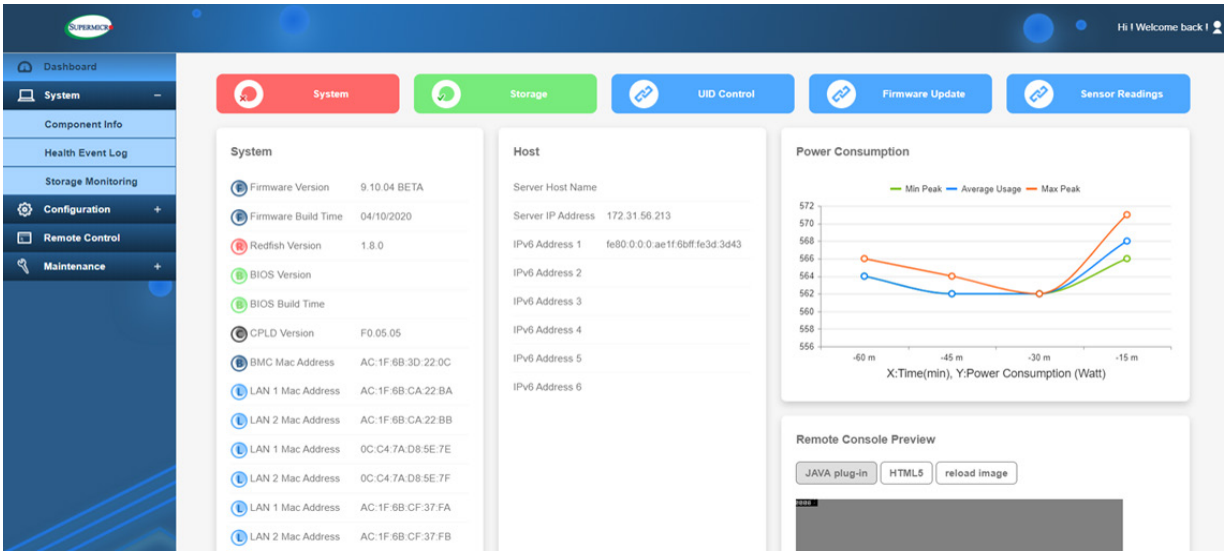


Figure 7-2. BMC Dashboard

7.3 Troubleshooting Procedures

Use the following procedures to troubleshoot your system. If you have followed all of the procedures below and still need assistance, refer to the 'Technical Support Procedures' and/or 'Returning Merchandise for Service' section(s) in this chapter. Always disconnect the AC power cord before adding, changing or installing any non hot-swap hardware components.

Before Power On

1. Check that the BMC_HB LED is blinking before the motherboard is turned on.
2. Check that the PWROK LED on the motherboard is on.
3. Make sure that the power connector is connected to your power supply.
4. Make sure that no short circuits exist between the motherboard and chassis.
5. Disconnect all cables from the motherboard, including those for the keyboard and mouse.
6. Remove all add-on cards.
7. Install a CPU, a heatsink*, and at least one DIMM on the motherboard. Check all jumper settings properly. *Make sure that the heatsink is fully seated.
8. Use the correct type of onboard CMOS battery (CR2032) as recommended by the manufacturer. To avoid possible explosion, do not install the CMOS battery upside down.

No Power

1. Make sure that no short circuits exist between the motherboard and the chassis.
2. Verify that all jumpers are set to their default positions.
3. The CMOS battery on your motherboard may be old. Check to verify that it still supplies approximately 3 VDC. If it does not, replace it with a new one.

No Video

1. Check that the VGA cable is connected properly, and the monitor is on.
2. Check if you follow the guidelines to install the memory module (see DIMM Module Population in Chapter 3).
3. Reseat the memory DIMM modules.

Note: If you are a system integrator, VAR or OEM, a POST diagnostics card is recommended.

System Boot Failure

If the system does not display POST (Power-On-Self-Test) or does not respond after the power is turned on, check the following:

4. Clear the CMOS settings by unplugging the power cord and contacting both pads on the CMOS Clear Jumper (JBT1).
5. Remove all components from the motherboard, especially the DIMM modules.
6. Turn on the system with only one DIMM module installed. If the system boots, check for bad DIMM modules or slots by following the Memory Errors Troubleshooting procedure in this Chapter.

Memory Errors

1. Make sure that the DIMM modules are properly and fully installed.
2. Confirm that you are using the correct memory. Also, it is recommended that you use the same memory type and speed for all DIMMs in the system. See Section 3.4 for memory details.
3. Check for bad DIMM modules or slots by swapping modules between slots and noting the results.

The System Cannot Retain the Setup Configuration

1. Make sure that you are using a high quality power supply. A poor quality power supply may cause the system to lose the CMOS setup information. Refer to Section 3.10 for details on power supplies.
2. The battery on your motherboard may be old. Check to verify that it still supplies approximately 3 VDC. If it does not, replace it with a new one.
3. If the above steps do not fix the setup configuration problem, contact your vendor for repairs.

When the System Becomes Unstable

A. If the system becomes unstable during or after OS installation, check the following:

1. CPU/BIOS support: Make sure that your CPU is supported and that you have the latest BIOS installed in your system.

2. Memory support: Make sure that the memory modules are supported by testing the modules using memtest86 or a similar utility.

   Note: Refer to the product page on our website at http://www.supermicro.com for memory and CPU support and updates.

3. Drive support: Make sure that all drives work properly. Replace the bad drives with good ones.

4. System cooling: Check the system cooling to make sure that all heatsink fans and CPU/system fans, etc., work properly. Check the hardware monitoring settings in the IPMI to make sure that the CPU and system temperatures are within the normal range. Also check the front panel Overheat LED and make sure that it is not on.

5. Adequate power supply: Make sure that the power supply provides adequate power to the system. Make sure that all power connectors are connected. Please refer to our website for more information on the minimum power requirements.

6. Proper software support: Make sure that the correct drivers are used.

B. If the system becomes unstable before or during OS installation, check the following:

1. Source of installation: Make sure that the devices used for installation are working properly, including boot devices such as USB flash or media drives.

2. Cable connection: Check to make sure that all cables are connected and working properly.

3. Using the minimum configuration for troubleshooting: Remove all unnecessary components (starting with add-on cards first), and use the minimum configuration (but with a CPU and a memory module installed) to identify the trouble areas. Refer to the steps listed in Section A above for proper troubleshooting procedures.

7.4 Crash Dump Using BMC

In the event of a processor internal error (IERR) that crashes your system, you may want to provide information to support staff. You can download a crash dump of status information using BMC. The BMC manual is available at https://www.supermicro.com/manuals/other/BMC_IPMI_X13_H13.pdf.

Check BMC Error Log

1. Access the BMC web interface.
2. Click the **Server Health** tab, then **Event Log** to verify an IERR error.

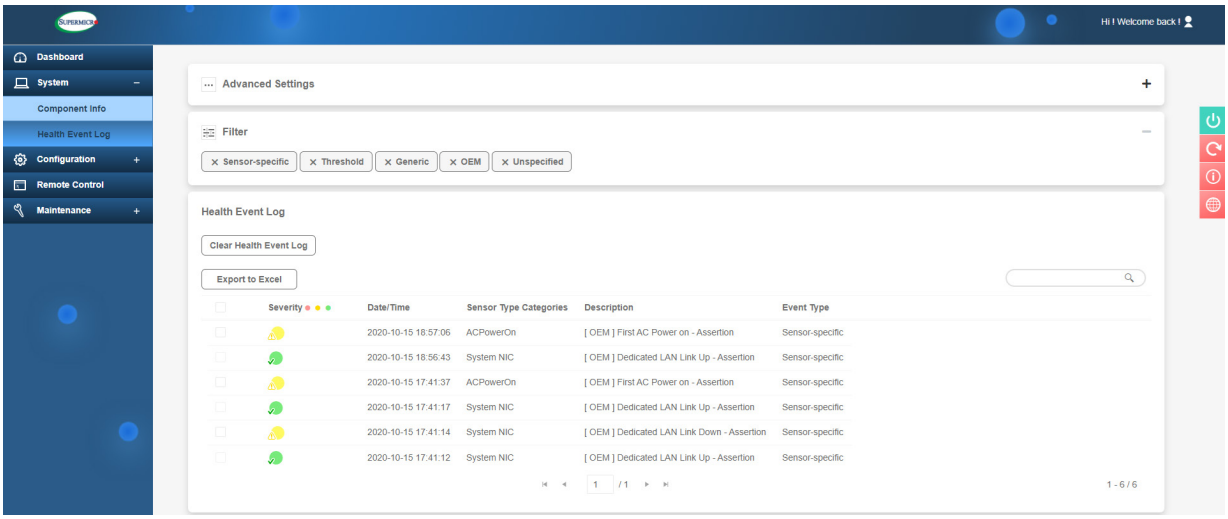


Figure 7-3. BMC Event Log

In the event of an IERR, the BMC executes a crash dump. You must download the crash dump and save it.

7.5 UEFI BIOS Recovery

Warning: Do not upgrade the BIOS unless your system has a BIOS-related issue. Flashing the wrong BIOS can cause irreparable damage to the system. In no event shall Supermicro be liable for direct, indirect, special, incidental, or consequential damages arising from a BIOS update. If you do update the BIOS, do not shut down or reset the system while the BIOS is updating to avoid possible boot failure.

Overview

The Unified Extensible Firmware Interface (UEFI) provides a software-based interface between the operating system and the platform firmware in the pre-boot environment. The UEFI specification supports an architecture-independent mechanism that will allow the UEFI OS loader stored in an add-on card to boot the system. The UEFI offers clean, hands-off management to a computer during system boot.

Recovering the UEFI BIOS Image

A UEFI BIOS flash chip consists of a recovery BIOS block and a main BIOS block (a main BIOS image). The recovery block contains critical BIOS codes, including memory detection and recovery codes for the user to flash a healthy BIOS image if the original main BIOS image is corrupted. When the system power is turned on, the recovery block codes execute first. Once this process is complete, the main BIOS code will continue with system initialization and the remaining POST (Power-On Self-Test) routines.

Note 1: Follow the BIOS recovery instructions below for BIOS recovery when the main BIOS block crashes.

Note 2: When the BIOS recovery block crashes, you will need to follow the procedures to make a Returned Merchandise Authorization (RMA) request. Also, you may use the Supermicro Update Manager (SUM) Out-of-Band (https://www.supermicro.com.tw/products/nfo/SMS_SUM.cfm) to reflash the BIOS.

Recovering the Main BIOS Block with a USB Device

This feature allows the user to recover the main BIOS image using a USB-attached device without additional utilities used. A USB flash device device can be used for this purpose. However, a USB disk drive cannot be used for BIOS recovery at this time.

The file system supported by the recovery block is FAT (including FAT12, FAT16, and FAT32) which is installed on a bootable or non-bootable USB-attached device. However, the BIOS might need several minutes to locate the SUPER.ROM file if the media size becomes too large due to the huge volumes of folders and files stored in the device.

To perform UEFI BIOS recovery using a USB-attached device, follow the instructions below.

1. Using a different machine, copy the "Super.ROM" binary image file into the Root "\" directory of a USB flash or media drive.

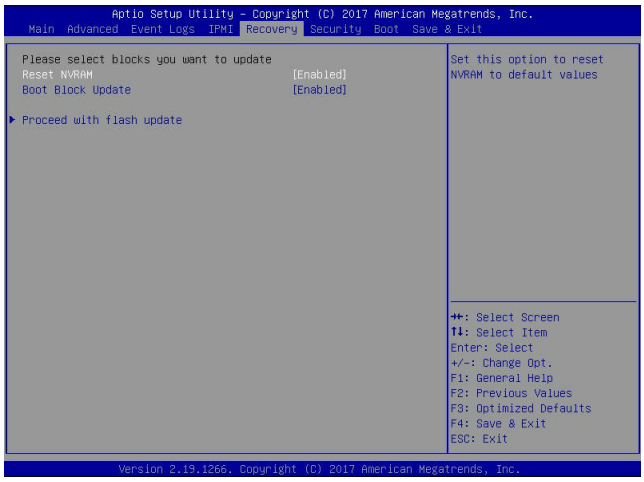
   Note 1: If you cannot locate the "Super.ROM" file in your drive disk, visit our website at www.supermicro.com to download the BIOS package. Extract the BIOS binary image into a USB flash device and rename it "Super.ROM" for the BIOS recovery use.

   Note 2: Before recovering the main BIOS image, confirm that the "Super.ROM" binary image file you download is the same version or a close version meant for your motherboard.

2. Insert the USB device that contains the new BIOS image ("Super.ROM") into your USB drive and reset the system when the following screen appears.

3. After locating the healthy BIOS binary image, the system will enter the BIOS Recovery menu as shown below.

Note: At this point, you may decide if you want to start the BIOS recovery. If you decide to proceed with BIOS recovery, follow the procedures below.

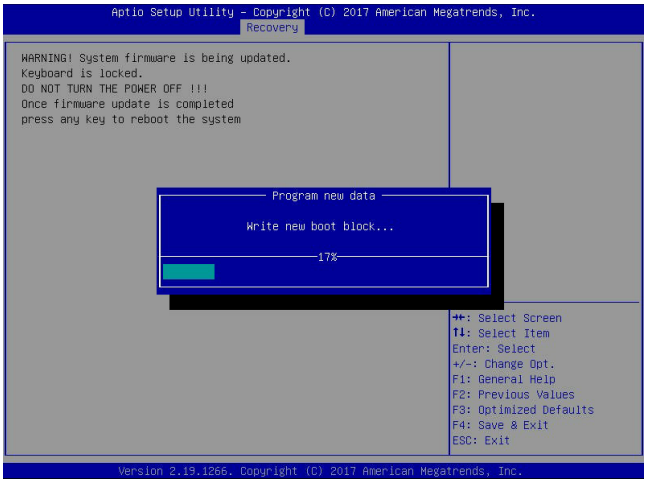


1. When the screen as shown above displays, use the arrow keys to select the item "Proceed with flash update" and press the <Enter> key. You will see the BIOS recovery progress as shown in the screen below.

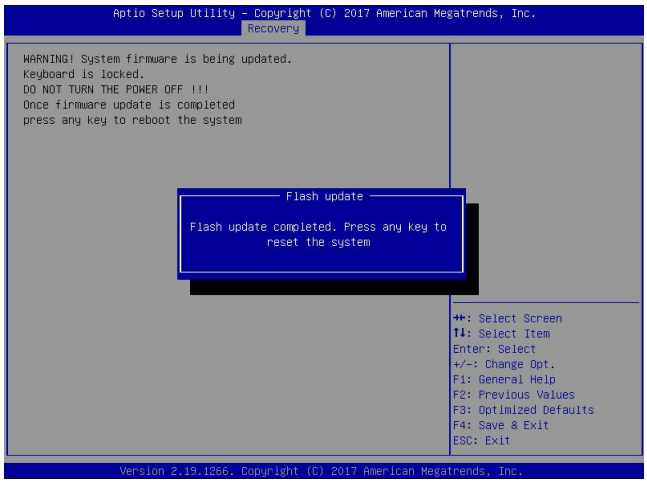
   Note: *Do not interrupt the BIOS flashing process until it has completed*.

2. After the BIOS recovery process is complete, press any key to reboot the system.

3. Using a different system, extract the BIOS package into a USB flash drive.

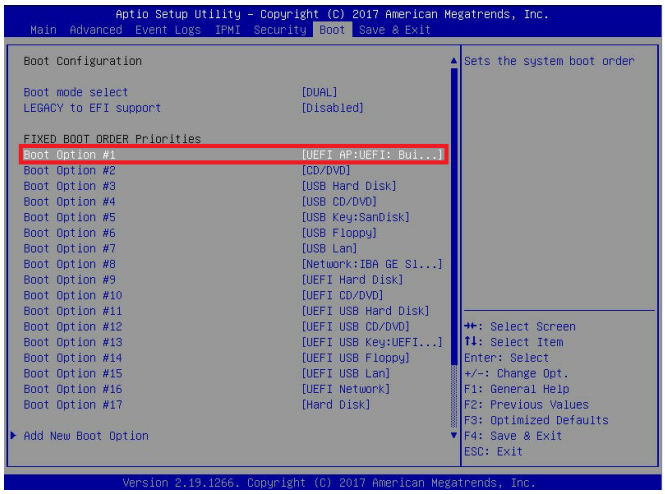


1. Press <Del> continuously during system boot to enter the BIOS Setup utility. From the top of the tool bar, select Boot to enter the submenu. From the submenu list, select Boot

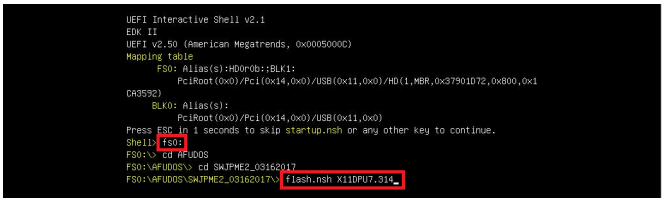


Option #1 as shown below. Then, set Boot Option #1 to [UEFI AP:UEFI: Built-in EFI Shell]. Press <F4> to save the settings and exit the BIOS Setup utility.

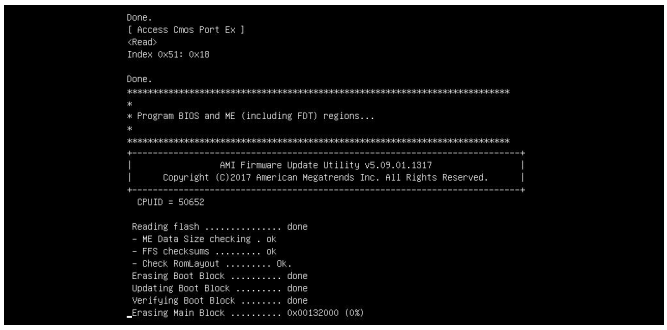
2. When the UEFI Shell prompt appears, type fs# to change the device directory path. Go to the directory that contains the BIOS package you extracted earlier from Step 6. Enter flash.nsh BIOSname.### at the prompt to start the BIOS update process.



Note: *Do not interrupt this process* until the BIOS flashing is complete.

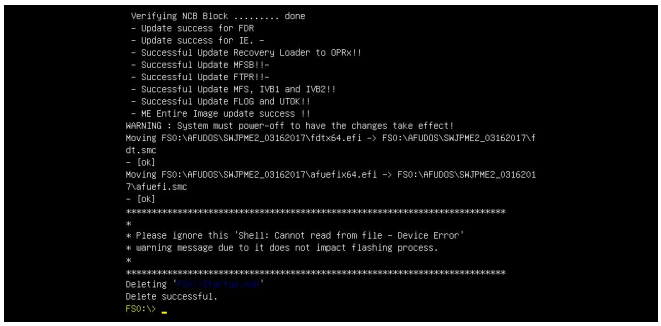


1. The screen above indicates that the BIOS update process is complete. When you see the screen above, unplug the AC power cable from the power supply, clear CMOS, and plug



the AC power cable in the power supply again to power on the system.

2. Press <Del> continuously to enter the BIOS Setup utility.



3. Press <F3> to load the default settings.

4. After loading the default settings, press <F4> to save the settings and exit the BIOS Setup utility.

7.6 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 workstation completely.
2. Remove chassis cover 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 battery.
7. Replace the cover, reconnect the power cords and power on the workstation.

Notes: Clearing CMOS will also clear all passwords.

Do not use the PW_ON connector to clear CMOS.

JBT1 contact pads

7.7 Where to Get Replacement Components

If you need replacement parts for your workstation, 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" tab.

7.8 BMC

The BMC can be reset using the button on the front control panel or on the chassis rear.

- Reset—Press and hold the button. After six seconds, the LED blinks at 2 Hz. The BMC resets and the reset duration is approximately 250 ms. Then the BMC starts to boot.
- Restore factory default configuration—Hold the button for twelve seconds. The LED blinks at 4 Hz while defaults are configured.
- Firmware update—the UID LED blinks at 10 Hz during a firmware update.

BMC Reset Options	
Event	**LED (Green)**
Reset	Blinks at 2 Hz
Restore Defaults	Blinks at 4 Hz
Update	Blinks at 10 Hz

7.9 Reporting an Issue

Technical Support Procedures

Before contacting Technical Support, please take the following steps. If your workstation was purchased through a distributor or reseller, please contact them for troubleshooting services. They have the best knowledge of your specific workstation configuration.

1. Please review the Troubleshooting Procedures in this manual and Frequently Asked Questions on our website before contacting Technical Support.
2. BIOS upgrades can be downloaded from our website. **Note**: Not all BIOS can be flashed depending on the modifications to the boot block code.
3. If you still cannot resolve the problem, include the following information when contacting us for technical support:
   - Workstation, motherboard, and chassis model numbers and PCB revision number
   - BIOS release date/version (this can be seen on the initial display when your workstation first boots up)
   - Workstation configuration

An example of a Technical Support form is posted on our website. Distributors: For immediate assistance, please have your account number ready when contacting our technical support department by email.

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.

Vendor Support Filing System

For issues related to Intel, use the Intel IPS filing system:

https://www.intel.com/content/www/us/en/design/support/ips/training/welcome.html

For issues related to Red Hat Enterprise Linux, since it is a subscription based OS, contact your account representative.

7.10 Feedback

Supermicro values your feedback as we strive to improve our customer experience in all facets of our business. Please email us at techwriterteam@supermicro.com to provide feedback on our manuals.

Appendix A

Standardized Warning Statements for AC Systems

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。

此警告符号代表危险。

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 הצהרות אזהרה

הצהרות 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.

ا كً ف حالة وٌكي أى تتسبب ف اصابة جسذ ةٌ هذا الزهز عٌ خطز !تحذ زٌ .
قبل أى تعول على أي هعذات،كي على علن بالوخاطز ال أٌجوة عي الذوائز
الكهزبائ ةٍ
وكي على درا ةٌ بالووارسات البقائ ةٍ لو عٌ وقع أي حادث
استخذم رقن الب إٍى الو صٌص ف هًا ةٌ كل تحذ زٌ 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 معداث الحمايت مه الدوائرالقصيرة 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 electrische installatie. Controleer of het beveiligde aparaat 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 (except for hot-swap 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、シャーシー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 chassis pour installer ou enlever des composants de systéme.

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 فصم اننظاو من جميع مصادر انطاقت وإزانت سهك انكهرباء من وحدة امداد
انطاقت قبم
انصل إنى انمناطق انداخهيت نههيكم نتثبيج أو إزانت مكناث الجهاز

경고!

시스템에 부품들을 장착하거나 제거하기 위해서는 섀시 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 authorized personnel and qualified service persons 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す。

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

Nur autorisiertes Personal und qualifizierte Servicetechniker dürfen dieses Gerät installieren, austauschen oder warten..

¡Advertencia!

Sólo el personal autorizado y el personal de servicio calificado deben poder instalar, reemplazar o dar servicio a este equipo.

Attention

Seul le personnel autorisé et le personnel de maintenance qualifié doivent être autorisés à installer, remplacer ou entretenir cet équipement..

אזהרה!

יש לאפשר רק צוות מורשה ואנשי שירות מוסמכים להתקין, להחליף או לטפל בציוד זה.

ينبغي السماح فقط للموظفين المعتمدين وأفراد الخدمة المؤهلين بتركيب هذا الجهاز أو استبداله أو صيانته.

경고!

승인된 직원과 자격을 갖춘 서비스 담당자만이 이 장비를 설치, 교체 또는 서비스할 수 있습니다.

Waarschuwing

Alleen geautoriseerd personeel en gekwalificeerd onderhoudspersoneel mag deze apparatuur installeren, vervangen of onderhouden..

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

此裝置僅限安裝於進出管制區域，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 installée 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 انحذة نترك بُها ف مناطق محظورة تم .
،مَكن انصبل إن منطقت محظورة فقط من خلال استخذاو أداة خاصت
أو أ وس هُت أخري نلالأمما قفم 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

CAUTION: There is risk of explosion if the battery is replaced by an incorrect type. 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

バッテリーを間違ったタイプに交換すると爆発の危険があります。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

如果更换的电池类型不正确，则存在爆炸危险。请只使用同类电池或制造商推荐的功能相当的电池更换原有电池。请按制造商的说明处理废旧电池。

警告

如果更換的電池類型不正確，則有爆炸危險。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

Es besteht Explosionsgefahr, wenn die Batterie durch einen falschen Typ ersetzt wird. Ersetzen Sie die Batterie nur durch den gleichen oder vom Hersteller empfohlenen Batterietyp. Entsorgen Sie die benutzten Batterien nach den Anweisungen des Herstellers.

ATTENTION

Il existe un risque d'explosion si la batterie est remplacée par un type incorrect. 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 riesgo de explosión si la batería se reemplaza por un tipo incorrecto. 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 אם הסוללה תוחלף בסוג שגוי. יש להחליף
את הסוללה בסוג התואם מחברת יצרן מומלצת.
סילוק הסוללות המשומשות יש לבצע לפי הוראות היצרן.

هناك خطر الانفجار إذا تم استبدال البطارية بنوع غير صحيح.
اسحبذال البطارية
فقط بنفس النع أو ما يعادلها مما أوصث به الشرمة المصنعة
جخلص من البطاريات المسحعملة وفقا لحعليمات الشرمة الصانعة

경고!

배터리를 잘못된 종류로 교체하면 폭발의 위험이 있습니다. 기존 배터리와 동일하거나 제조사에서 권장하는 동등한 종류의 배터리로만 교체해야 합니다. 제조사의 안내에 따라 사용된 배터리를 처리하여 주십시오.

WAARSCHUWING

Er bestaat explosiegevaar als de batterij wordt vervangen door een verkeerd type. 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
此裝置連接的電源可能不只一個，必須切斷所有電源才能停止對該裝置的供電。

Warnung

Dieses Gerät kann mehr als eine Stromzufuhr haben. Um sicherzustellen, dass der Einheit kein trom 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!

ליחדה 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

当系统正在进行时，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，背板上有危險的電壓或能量，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 مه التيار الكهزبائي أوالطاقة المجبدة على اللحة
عندما يكن النظام يعمل كه حذرا عند خدمة هذا الجهاس

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 instalacion 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 للقاويه 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 القانين واللائح البطنية 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.

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！危险的可移动性零件。请务必与转动的风扇叶片保持距离。 当您从机架移除风扇装置，风扇可能仍在转动。小心不要将手指、螺丝起子和其他物品太靠近风扇

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 ell montaje del ventilador del chasis. Mandtenga los dedos, los destornilladores y todos los objetos lejos de las aberturas del ventilador

Attention

Pieces mobiles dangereuses. Se tenir a l'ecart 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 בפעולהכאשר מסירים את חלקי
המאוורר מהמארז, יתכן והמאוררים עדיין עובדים. יש להרחיק למרחק בטוח את
האצבעות וכלי עבודה שונים מהפתחים בתוך המאוורר

تحذير! أجزاء متحركة خطرة. ابتعد عن شفرات المروحة المتحركة.من الممكن أن
المراوح لا تزال تدورعند 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. 섀시로부터 팬 조립품을 제거할 때 팬은 여전히 회전하고 있을 수 있습니다. 팬 조림품 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 adaptors. Using any other cables and adaptors 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 cord) 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 Adapater, 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 certifies- 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 ימאתמו סיילמשח סילבכ

!הרהזא

ךרוצל ומאתוה וא ושכרנ רשא AC סימאתמו סיקפס ,סילבכב שמתשהל שי ,רצומה תא סיניקתמ רשאכ לכב שומיש . עקתהו לבכה לש הנוכנ הדימ ללוכ ,תוימוקמה תוחיטבה תושירדל ומאתוה רשאו ,הנקתהה למשחה יריש כמב שומישה יקוחל סאתהב .ילמשח רצק וא הלקתל סורגל לולע ,רחא גוסמ סאתמ וא לבכ לש דוק סהילע עיפומ רשאכ) CSA-ב וא UL -ב סיכמסומה סילבכב שמתשהל רוסיא סייק ,תוחיטבה יקוחו .דבלב Supermicro י"ע סאתוה רשא רצומב קר אלא ,רחא ילמשח רצומ לכ רובע UL/CSA)

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

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
Single AMD Ryzen Threadripper PRO 7000 WX-Series Processor in an sTR5 socket with a thermal design power (TDP) of up to 350 W.
Chipset
X690 (PROM21)
BIOS
• 256Mb SPI AMI BIOS® SM Flash UEFI BIOS • ACPI 6.4, SMBIOS 3.5.0, Plug-and-Play (PnP), RTC (Real Time Clock) wakeup, Riser Card Auto-Detection Support
Memory
Supports up to 2 TB ECC RDIMM/3DS RDIMM memory with speeds of up to 5200 MT/s (1DPC) or higher with overclocking support in eight ECC DDR5 DIMM slots
Storage Drives
Eight 2.5" hot-swap NVMe/SATA/SAS drive bays Two M.2 NVMe PCIe 4.0 x4 in the 2280 and 22110 (default) form factors for boot drive
PCI Expansion Slots
Four PCIe 5.0 x16 (in x16) FH/10.5″L double-width slots or eight PCIe 5.0 x8 (in x16) FHFL slots
Input/Output
One AIOM slot for flexible networking (OCP 3.0 compatible) One RJ45 dedicated BMC LAN port Two rear USB 3.0 ports One VGA port
Motherboard
H13SRH; 17.0 x 11.5 in (431.8 mm x 292.1 mm) (WxL)
Chassis
CSE-HS201-R000NFP; 2U Rackmount, 3.5 x 17.2 x 31.74 in / 88.9 x 437 x 806.2 mm (HxWxD)
Workstation Cooling
Six 6-cm cooling fans heavy duty fans with optimal fan speed control One air shroud

Power Supply

Model: PWS-2K63A-1R, 2600 W redundant modules, 80Plus Titanium level*
*Full redundancy based on configuration and application load
AC Input
2600 W: 200-240 Vac / 15 A-12.5 A / 50-60 Hz
+12 V
Max: 216 A
12 VSB
Max: 3.5 A

Model: PWS-2K07A-1R, 2000 W redundant modules, 80Plus Titanium level*
*Full redundancy based on configuration and application load
AC Input
1000 W: 100-127 Vac / 12 A-9 A / 50-60 Hz
2000 W: 220-240 Vac / 11 A-10 A / 50-60 Hz
+12 V
Max: 83.3 A (100 Vac-127 Vac)
Max: 166 A (220 Vac-240 Vac)
12 VSB
Max: 3.5 A

Model: PWS-1K63A-1R, 1600 W redundant modules, 80Plus Titanium level*
*Full redundancy based on configuration and application load
AC Input
1000 W: 100-127 Vac / 12 A-9 A / 50-60 Hz
1600 W: 200-240 Vac / 9 A-7.5 A / 50-60 Hz
+12 V
Max: 83.3 A (100 Vac-127 Vac)
Max: 133.3 A (200 Vac-240 Vac)
12 VSB
Max: 3.5 A

Operating Environment

Operating Temperature: 10º to 35º C (50º to 95º F)*
Non-operating Temperature: -40º to 70º C (-40º to 158º F)
Operating Relative Humidity: 8% to 90% (non-condensing)
Non-operating Relative Humidity: 5% to 95% (non-condensing)
*Operating Temperature based on configurations

Regulatory Compliance

FCC, ICES, CE, UKCA, VCCI, RCM, 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/EN 55032
BS/EN 55035
CISPR 32
CISPR 24/CISPR 35
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

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

Green Environment:
Delegated Directive (EU) 2015/863
Directive 2011/65/EU (RoHS)
REACH Regulation EC 1907/2006
WEEE Directive 2012/19/EU
California Proposition 65

Warning! This product can expose you to chemicals including lead, known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, go to www.P65Warnings.ca.gov.

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 ー A

BSMI/RoHS

限用物質含有情況標示聲明書
Declaration of the Presence Condition of the Restricted Substances Marking

設備名稱：工作站 / WorkStation
Equipment name

型號（型式）： HS201-R26H13 (系列型號: HS201-R20H13, HS201-R16H13, AS -2115HV-TNRT)
Type designation (Type)

單元Unit	限用物質及其化學符號 Restricted substances and its chemical symbols					
	鉛Lead (Pb)	汞Mercury (Hg)	鎘Cadmium (Cd)	六價鉻 Hexavalent chromium (Cr^{+6})	多溴聯苯 Polybrominated biphenyls (PBB)	多溴二苯醚 Polybrominated diphenyl ethers (PBDE)
機殼 (Chassis)	○	○	○	○	○	○
機殼風扇 (Chassis Fan)	-	○	○	○	○	○
線材 (Cable)	○	○	○	○	○	○
主機板 (Motherboard)	-	○	○	○	○	○
電源供應器 (Power Supply)	-	○	○	○	○	○
硬碟 (M.2, HDD)	-	○	○	○	○	○
電源背板 (PDB)	-	○	○	○	○	○
附加卡 (Add on Card)	-	○	○	○	○	○

備考1.〝超出0.1 wt %〞及〝超出0.01 wt %〞係指限用物質之百分比含量超出百分比含量基準值。

Note 1：“Exceeding 0.1 wt %” and “exceeding 0.01 wt %” indicate that the percentage content of the restricted substance exceeds the reference percentage value of presence condition.

備考2.〝○〞係指該項限用物質之百分比含量未超出百分比含量基準值。

Note 2：“○” indicates that the percentage content of the restricted substance does not exceed the percentage of reference value of presence.

備考3.〝-〞係指該項限用物質為排除項目。

Note 3：The “−” indicates that the restricted substance corresponds to the exemption.

警告: 為避免電磁干擾, 本產品不應安裝或使用於住宅環境。

輸入額定:

PWS-1K63A-1R
100-127V ~, 60-50Hz, 12-9A (X2)
200-240V ~, 60-50Hz, 9-7.5A (X2)

PWS-2K07A-1R
100-127V ~, 60-50Hz, 12-9A (X2)
200-240V ~, 60-50Hz, 10-9.8A (X2)

PWS-2K63-1R
200-240V ~, 60-50Hz, 15-12.5A (X2)

*使用者不能任意拆除或替換內部配備
*報驗義務人之姓名或名稱：美超微電腦股份有限公司
*報驗義務人之地址：新北市中和區建一路 150 號 3 樓