SUPERMICR○®

SuperServer®
SSG-621E-ACR16H
SSG-621E-ACR16L

USER'S MANUAL

Revision 1.0

> ⚠ **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.

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

Please refer to the SSG-621E-ACR16H/L server specifications page on our website for updates on supported memory, processors and operating systems (http://www.supermicro. com).

Notes

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

- Supermicro product manuals: http://www.supermicro.com/support/manuals/

- Product drivers and utilities: https://www.supermicro.com/wdl

- Product safety info: http://www.supermicro.com/about/policies/safety_information.cfm

If you have any questions, please contact our support team at:

support@supermicro.com

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

Secure Data Deletion

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

Warnings

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

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

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

Contents

Chapter 3 Maintenance and Component Installation

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Chapter 1

Introduction

1.1 Overview

This chapter provides a brief outline of the features of the SSG-621E-ACR16H/L. This system is based on the X13DEI-T motherboard and the CSE-829HTS-R1K62LPBP2 chassis.

System Overview	
Motherboard	X13DEI-T
Chassis	CSE-829HTS-R1K62LPBP2
Processor	Dual Socket-E (LGA4677) 4th Gen Intel® Xeon® Scalable processors with up to 60 cores
Memory	Supports up to 4 TB memory capacity with 16 DIMMs of 256 GB 3DS RDIMM DDR5 ECC memory for up to 4800 MT/s
Storage	Twelve hot-swap 3.5" SAS3/SATA3 drive bays (six optional NVMe hybrid bays) Four internal 3.5" SAS3/SATA3 drive bays Two rear 2.5" hot-swap SATA3 drive bays Two internal NVMe PCIe 4.0 x2 M.2 (2280/22110) Two internal SATA3 DOM ports
Expansion Slots	Four PCIe 5.0 x16 slots Two PCIe 5.0 x8 slots
I/O Ports	Two 10 GbE LAN ports (Broadcom 57416) One rear COM port One rear VGA port Four rear USB 3.0 ports One dedicated IPMI LAN port
System Cooling	Four hot-swap 8-cm PWM fans
Power	Two redundant 1600 Watt power modules, 80Plus level Titanium
Form Factor	2U rackmount; (WxHxD) 17.2" x 3.5" x 27.75". (437 x 89 x 705 mm)

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

The following safety models associated with the SSG-621E-ACR16H/L have been certified as compliant with UL or CSA: 829H-R16X13, 829H-16, 829-16.

The only difference between the SSG-621E-ACR16H and the SSG-621E-ACR16L is the add-on SAS adapter card as shown below.

Server Models	
Server Model	**Add-on Card**
SSG-621E-ACR16H	AOC-S3916L-H16IR-32DD
SSG-621E-ACR16L	AOC-S3816L-L16IT

1.2 System Features

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

Control Panel   Service/AssetTag
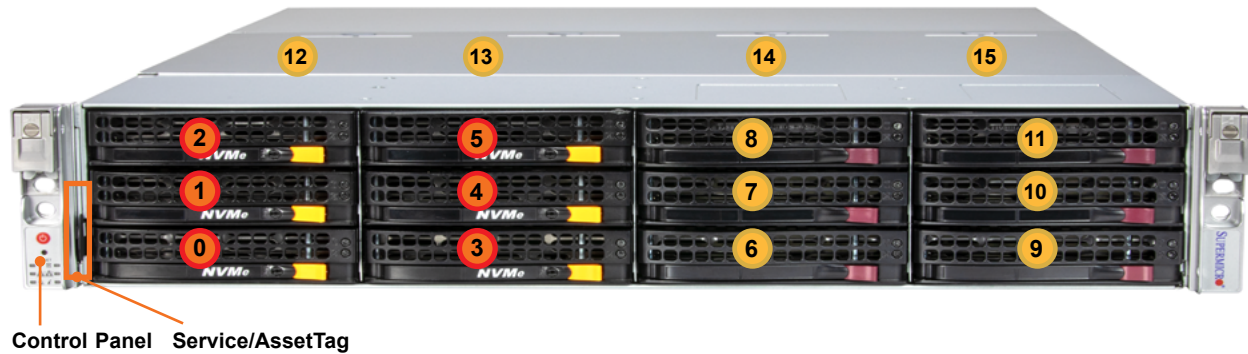
Figure 1-1. Front View

Logical Storage Drive Numbers	
Item	**Description**
0-5	Six 3.5" hot-swap SAS3/SATA3/NVMe* hybrid drive bays
6-11	Six 3.5" hot-swap SAS3/SATA3 drive bays
12-15	Four 3.5" hot-swap SAS3/SATA3 drive bays (internal)

*NVMe support requires additional parts (see optional part list).

Drive Carrier Indicators

Each drive carrier has two LED indicators: an activity indicator and a status indicator. For RAID configurations using a controller, the meaning of the status indicator is described in the table below. For OS RAID or non-RAID configurations, some LED indications are not supported, such as hot spare. For VROC configurations, refer to the VROC section in this manual.

Drive Carrier LED Indicators			
	Color	**Blinking Pattern**	**Behavior for Device**
Activity LED	Blue	Solid On	Idle SAS/NVMe drive installed
	Blue	Blinking	I/O activity
	Off		Idle SATA drive installed
Status LED	Red	Solid On	Failure of drive with RSTe support
	Red	Blinking at 1 Hz	Rebuild drive with RSTe support
	Red	Blinking with two blinks and one stop at 1 Hz	Hot spare for drive with RSTe support
	Red	On for five seconds, then off	Power on for drive with RSTe support
	Red	Blinking at 4 Hz	Identify drive with RSTe support
	Green	Solid on	Safe to remove NVMe drive
	Amber	Blinking at 1Hz	Do not remove NVMe drive

Control Panel
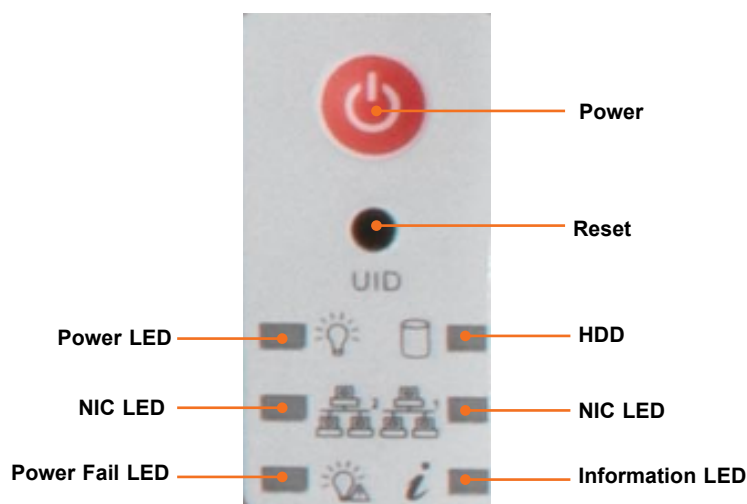
Figure 1-2. Control Panel

Control Panel Features	
Feature	**Description**
Power button	The main power switch applies or removes primary power from the power supply to the server but maintains standby power.
Reset Button	Reboots the system
Power LED	Indicates power is being supplied to the system power supply units. This LED is illuminated when the system is operating normally.
HDD	Indicates activity on the storage drives when flashing.
NIC LEDs	Indicates network activity on LANs when flashing.
Power Fail LED	Indicates a power supply module has failed.
Information LED	Alerts operator to several states, as noted in the table below.

Information LED	
Color, Status	**Description**
Red, continuously	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.
Blue, solid	UID has been activated locally to locate the server in a rack environment.
Blue, blinking	UID has been activated using the BMC to locate the server in a rack environment.

Rear View
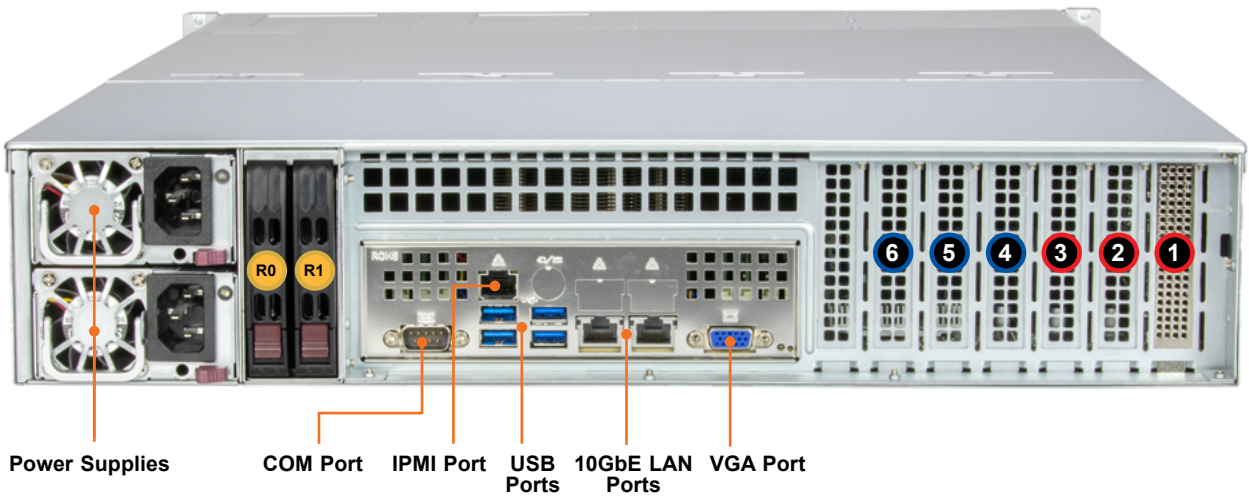
Figure 1-3. Rear View

System Features: Rear	
Feature	**Description**
R0 R1	Two 2.5" hot-swap SATA3 drive bays
Power Supplies	Dual redundant 1600 W power supplies
COM Port	Serial port (RS-232)
IPMI Port	Dedicated IPMI LAN port
USB Ports	Four USB 3.0 ports
LAN Ports	Two RJ45 10 GbE LAN ports
VGA Port	One video port

Expansion Slot Locations	
Slot Number	**Description**
1	PCIe 5.0 x8 [occupied by 3916 (SSG-621E-ACR16H) or 3816 (SSG-621E-ACR16L) SAS controller]
2 3	PCIe 5.0 x16
4 5	PCIe 5.0 x16
6	PCIe 5.0 x8

CPU1 ■ CPU2 ■

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	Amber LED
Power Supply Warning Events Where the power supply continues to operate; High temperature; Over voltage; under voltage, etc	OFF	1Hz Blink Amber
AC present only 12 vsb on (PS off)	1Hz Blink Green	OFF
Output ON and OK	Green	OFF
AC cord unplugged and in redundant mode	OFF	Amber

1.3 System Architecture

A few of the main component locations in the system are shown below

Main Component Locations
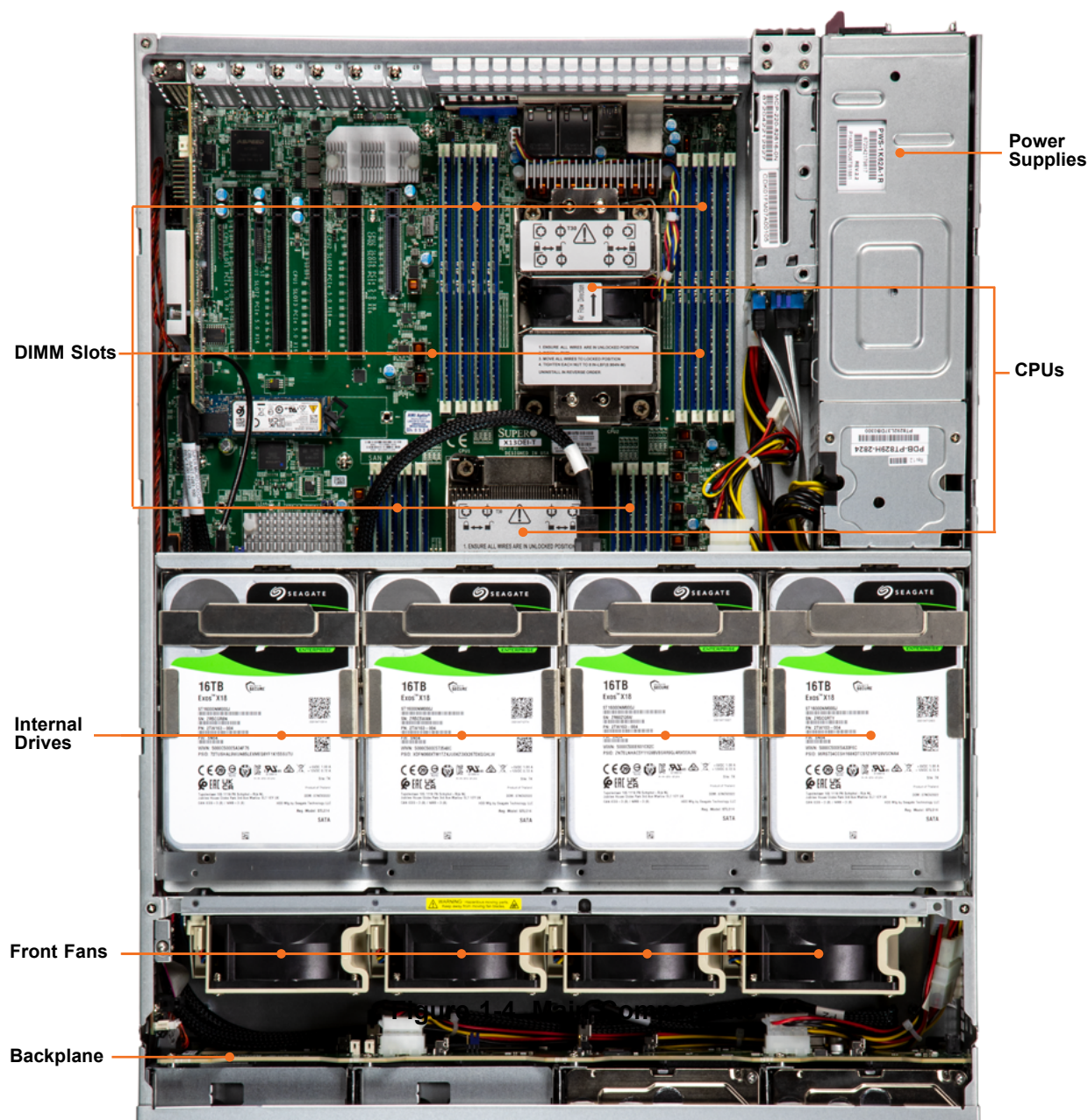
Figure 1-4. Main Component Locations

1.4 Motherboard Layout

Below is a layout of the X13DEI-T motherboard with jumper, connector and LED locations shown. See the table on the following page for descriptions. For detailed descriptions, pinout information and jumper settings, refer to Chapter 4 or the Motherboard Manual.
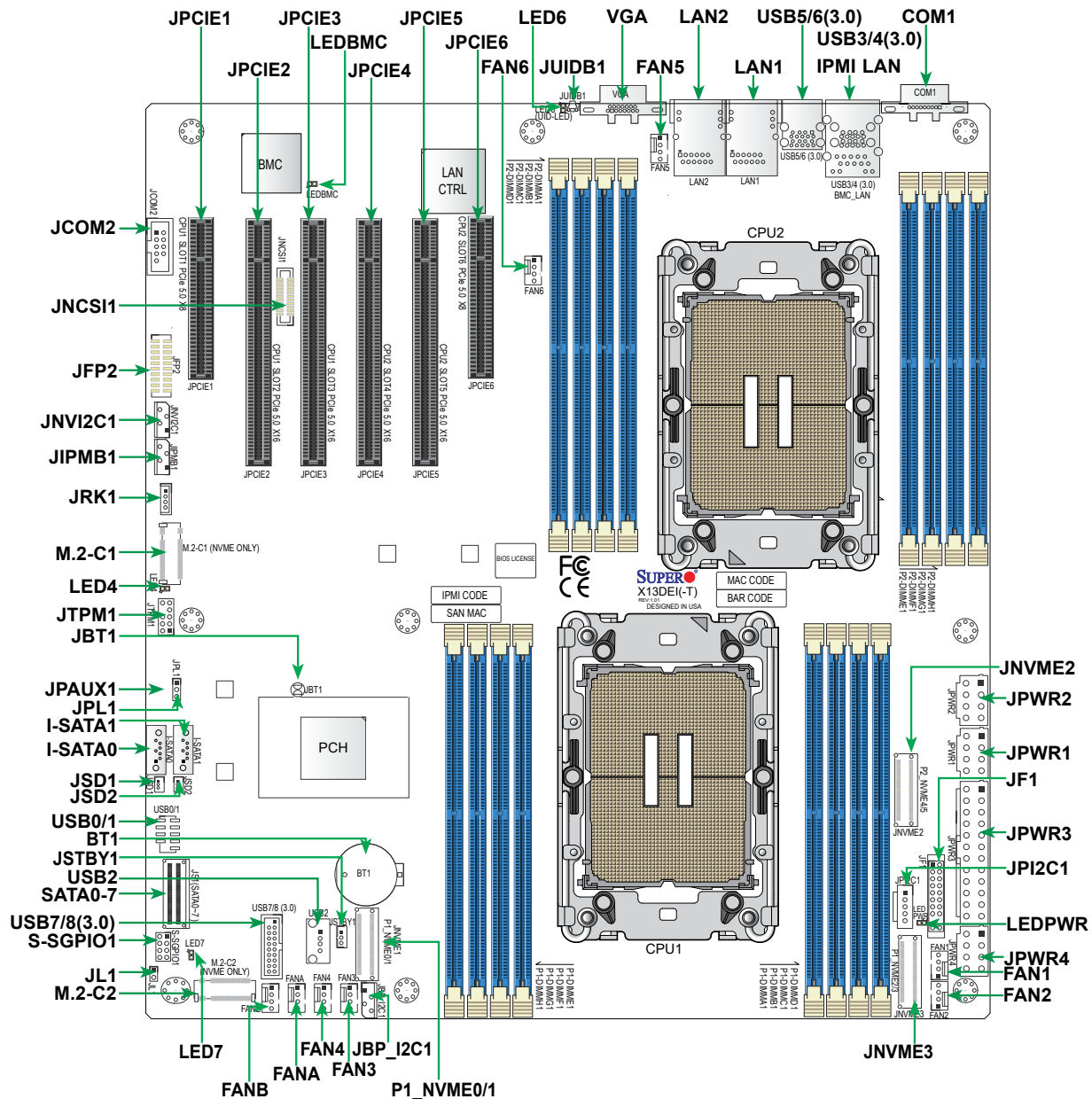
Figure 1-5. Motherboard Layout

Quick Reference Table

Jumper	Description	Default Setting
JBT1	CMOS Clear	Open (Normal)
JPAUX1	LAN1, LAN2 AUX Power Enable/Disable	Pins 1-2 (Enabled)
JPL1	LAN1, LAN2 Enable/Disable	Pins 1-2 (Enabled)

LED	Description	Status
LED4, LED7	M.2 LEDs (for M.2-C1, M.2-C2)	Blinking Green: Device Working
LED6	Unit Identifier (UID) LED	Solid Blue: Unit Identified
LEDBMC	BMC Heartbeat LED	Blinking Green: BMC Normal (Active), Solid Green: (During BMC Reset or during a Cold Reboot)
LEDPWR	Power LED	LED On: Onboard Power On

Connector	Description
BT1	Onboard CMOS Battery
COM1	Rear I/O COM Port
FAN1 - FAN6, FANA, FANB	CPU/System Fan Headers
IPMI LAN	Dedicated IPMI LAN Port
I-SATA0, I-SATA1	Intel PCH Powered I-SATA 3.0 Ports with support of SuperDOM devices *DOM: Disk on Module
JBP_I2C1	4-pin BMC External I^2C Header
JCOM2	Front Accessible COM Port Header
JF1	Front Control Panel Header
JFP2	Front Accessible VGA Connection Header
JIPMB1	4-pin BMC External I^2C Header (for Inlet Temperature Sensor)
JL1	Chassis Intrusion Header
JNCSI1	NC-SI (Network Controller Sideband Interface) Connector
JNVI2C1	NVMe SMBus I^2C Header with hot-plug support
JPCIE1 (SLOT1), JPCIE6 (SLOT6)	PCIe 5.0 x8 Slots (SLOT1: supported by CPU1, SLOT6: supported by CPU2)
JPCIE2/3 (SLOT2/3), JPCIE4/5 (SLOT4/5)	PCIe 5.0 x16 Slots (SLOT2/3: supported by CPU1, SLOT4/5: supported by CPU2)
JPI2C1	Power System Management Bus (SMBus) I^2C Header
JPWR1, JPWR2, JPWR4	8-pin Power Connectors
JPWR3	24-pin ATX Power Connector
JRK1	Intel VROC Key Header for NVMe RAID support
JS1 (SATA 0 - SATA7)	SlimSAS x8 Connector with support of eight Intel PCH SATA 3.0 connections (RAID 0, 1, 5, and 10 supported)
JSD1, JSD2	SATA DOM Power Connectors

Connector	Description
JSTBY1	5V Standby Power Header
JTPM1	Trusted Platform Module/Port 80 Header
JUIDB1	Unit Identifier (UID) Switch / BMC Reset Button
LAN1, LAN2	Ethernet LAN (RJ45) Port 1 and Port 2 (1G LAN support on X13DEI and 10G LAN support on X13DEI-T)
M.2-C1, M.2-C2	PCIe 4.0 x2 NVMe M.2 Slots supported by CPU1 (with support of M-Key 2280 and 22110)
P1_NVME0/1 (JNVME1) JNVME3	MCIO x8 Connectors supported by CPU1 with four PCIe 5.0 x4 NVMe connections
JNVME3	MCIO x8 Connector supported by CPU2 with two PCIe 5.0 x4 NVMe connections
S-SGPIO1	Serial General Purpose I/O Header (for I-SATA0/1 SuperDOM support)
USB0/1	USB 2.0 Header with support of two USB connections
USB2	Internal USB 2.0 Vertical Type-A Connector
USB3/4 (3.0)	Back Panel USB 3.0 Ports (5Gbps, Type-A)
USB5/6 (3.0)	Back Panel USB 3.0 Ports (5Gbps, Type-A)
USB7/8 (3.0)	USB 3.0 Header with support of two USB connections
VGA	Rear I/O VGA Port

Motherboard Block Diagram
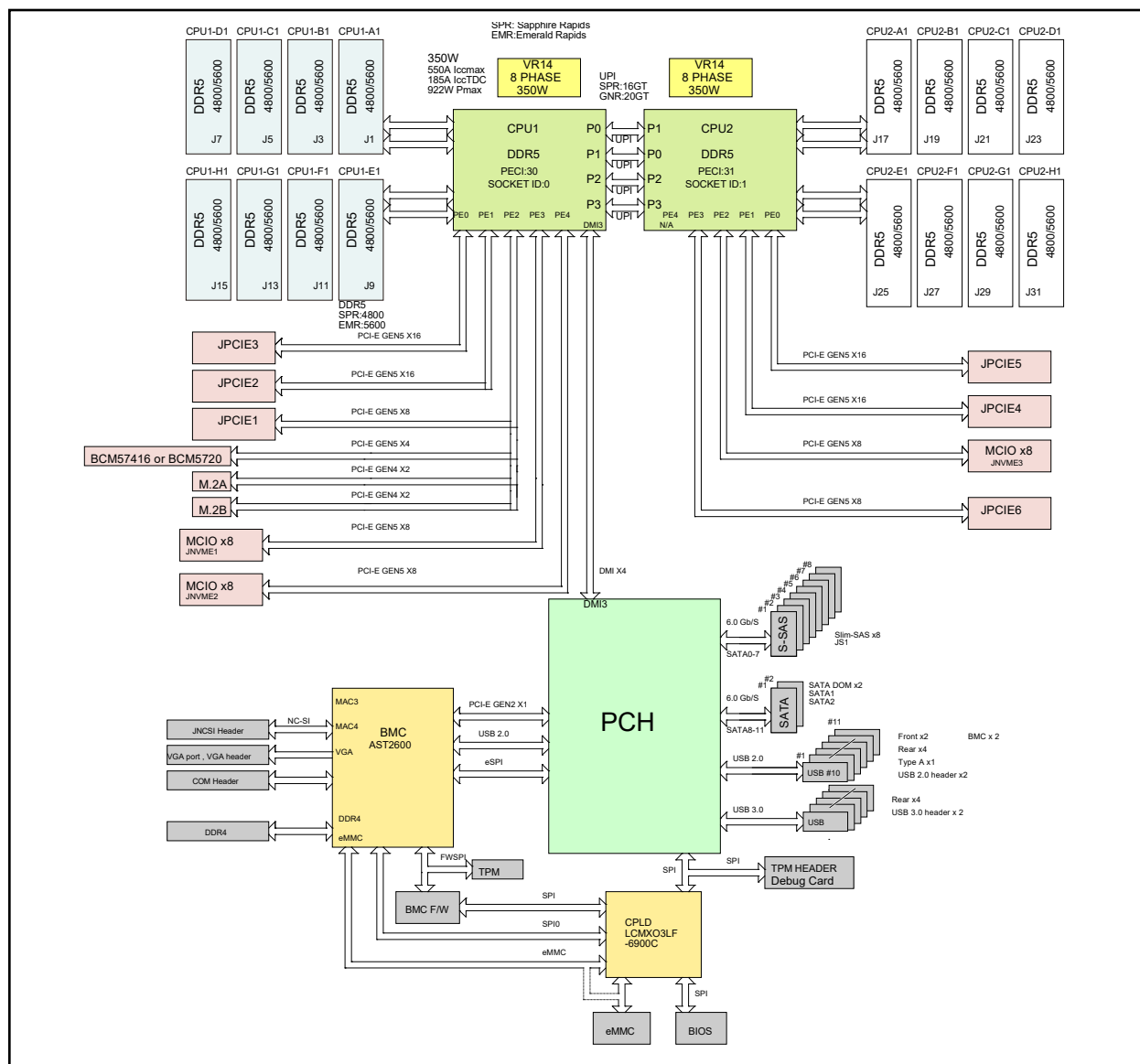
Figure 1-6. Motherboard Block Diagram

Chapter 2

Server Installation

2.1 Overview

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

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

2.2 Unpacking the System

Inspect the box in which the SuperServer SSG-631E-E1CR16H/L 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 server. It should be situated in a clean, dust-free area that is well ventilated. Avoid areas where heat, electrical noise and electromagnetic fields are generated. It will also require a grounded AC power outlet nearby. Be sure to read the precautions and considerations noted in Appendix A.

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 (~25 inches) and approximately 30 inches of clearance in the back of the rack to allow sufficient space for airflow and access when servicing.

- This product should be installed only in a Restricted Access Location (dedicated equipment rooms, service closets, etc.).

- This product is not suitable for use with visual display workplace devices according to §2 of the German Ordinance for Work with Visual Display Units.

Rack Precautions

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

- In single rack installations, stabilizers should be attached to the rack. In multiple rack installations, the racks should be coupled together.

- Always make sure the rack is stable before extending a server or other component from the rack.

- You should extend only one server or component at a time - extending two or more simultaneously may cause the rack to become unstable.

- Do not use a two-post "telco" type rack for 2U or larger servers.

Server 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 server components at the bottom of the rack first and then work your way up.

- Use a regulating uninterruptible power supply (UPS) to protect the server from power surges and voltage spikes and to keep your system operating in case of a power failure.

- Allow any drives and power supply modules to cool before touching them.

- When not servicing, always keep the front door of the rack and all covers/panels on the servers closed to maintain proper cooling.

Rack Mounting Considerations

Ambient Operating Temperature

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

Airflow

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

Mechanical Loading

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

Circuit Overloading

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

Reliable Ground

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

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

- This unit should be mounted at the bottom of the rack if it is the only unit in the rack.

- When mounting this unit in a partially filled rack, load the rack from the bottom to the top with the heaviest component at the bottom of the rack.

- If the rack is provided with stabilizing devices, install the stabilizers before mounting or servicing the unit in the rack.

- Slide rail mounted equipment is not to be used as a shelf or a work space.

2.4 Installing the Rails

There are a variety of rack units on the market, which may require a slightly different assembly procedure. This rail set fits a rack between 26.8" and 36.4" deep.

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

Identifying the Rails

The chassis package includes two rail assemblies. Each assembly consists of three sections: An inner rail that secures directly to the chassis, 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 chassis and labeled.
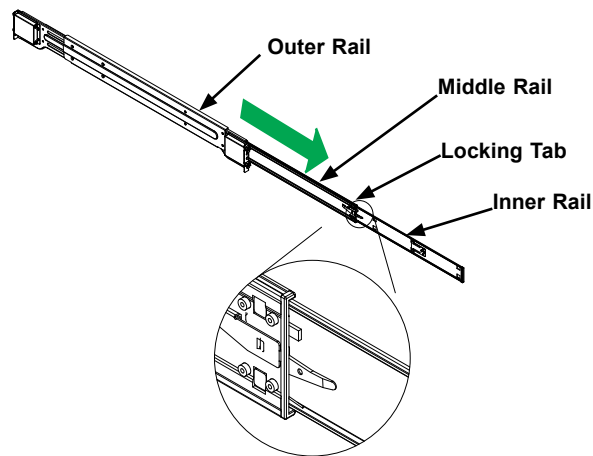
Figure 2-1. Identifying the Outer Rail, Middle Rail and Inner Rail
(Left Rail Assembly Shown)

Warning: When initially installing the server to a rack, test that the rail locking tabs engage to prevent the server from being overextended. Have a rack lift in place as a precaution in case the test fails.

Releasing the Inner Rail

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

To mount the rail onto the chassis, 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.
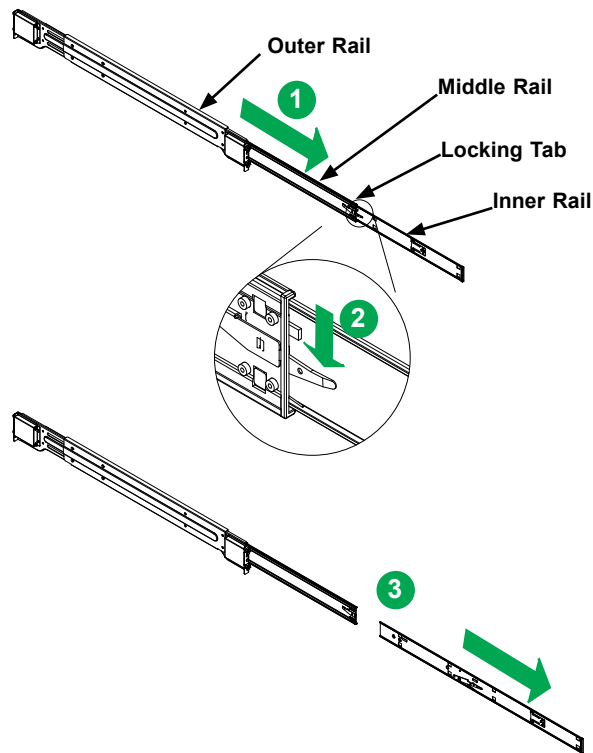
Figure 2-2. Extending and Releasing the Inner Rail

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

Installing the Inner Rails on the Chassis

Installing the Inner Rails

1. Identify the left and right inner rails. They are labeled.

2. Place the inner rail firmly against the side of the chassis, 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 chassis until the quick release bracket snaps into place, securing the rail to the chassis.

4. Optionally, you can further secure the inner rail to the chassis with screws.
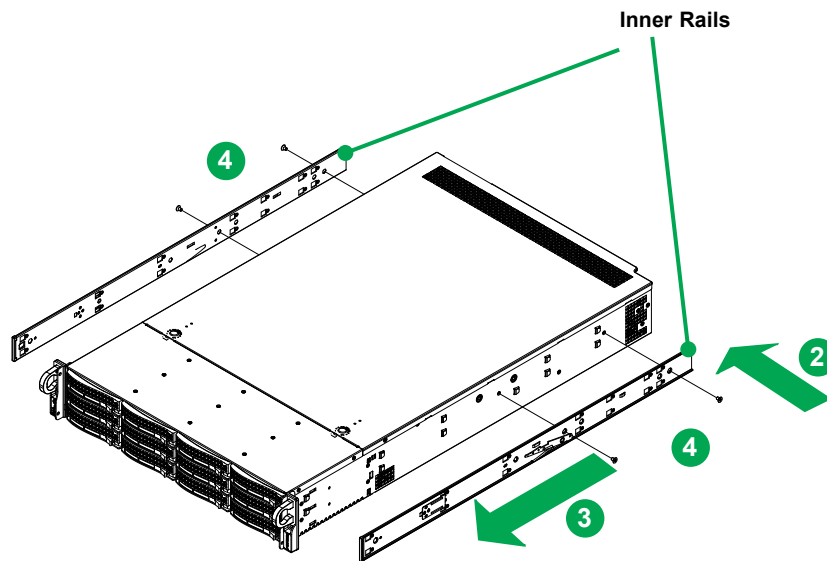
Figure 2-3. Installing the Inner Rails
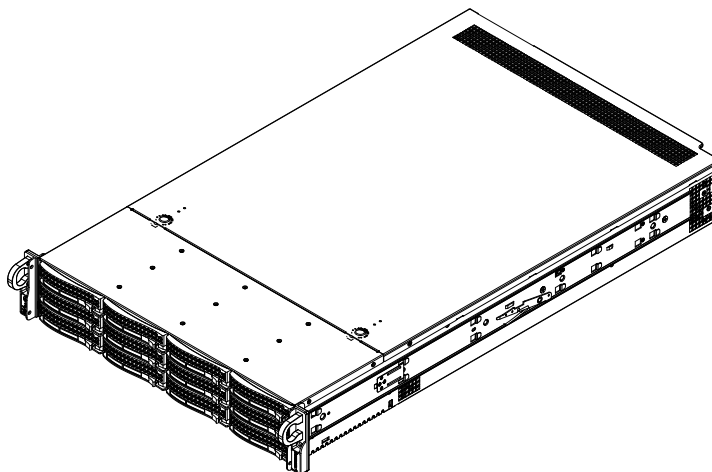
Figure 2-4. Inner Rails Installed on the Chassis

Installing the Outer Rails onto the Rack

Each end of the assembled outer rail includes a bracket with hooks and square, spring-loaded pegs to fit into the square holes in your rack.

Installing the Outer Rail

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.
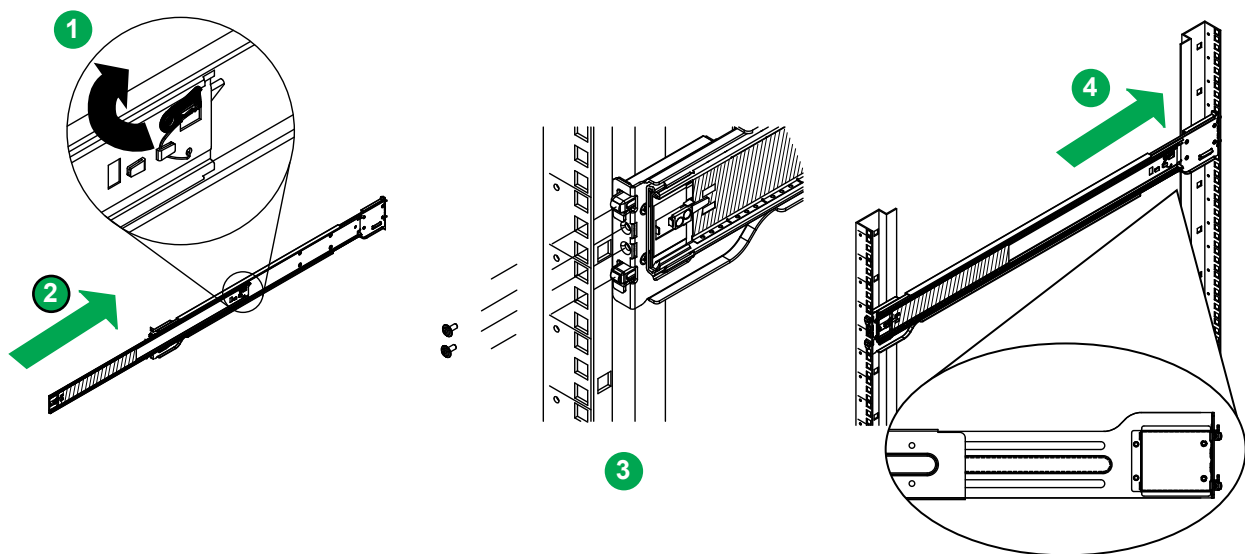
Figure 2-5. Extending and Mounting the Outer Rails

Note: The figure above is for illustrative purposes only. Always install servers at the bottom of the rack first.

Stability hazard. The rack stabilizing mechanism must be in place, or the rack must be bolted to the floor before you slide the unit out for servicing. Failure to stabilize the rack can cause the rack to tip over.

2.5 Installing the Chassis into a Rack

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

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

Installing the Chassis into a Rack

1. Extend the outer rails as illustrated.

2. Align the inner rails of the chassis with the outer rails on the rack.

3. Slide the inner rails into the outer rails, keeping the pressure even on both sides. When the chassis has been pushed completely into the rack, it should click into the locked position.

4. Optional screws may be used to hold the front of the chassis to the rack.
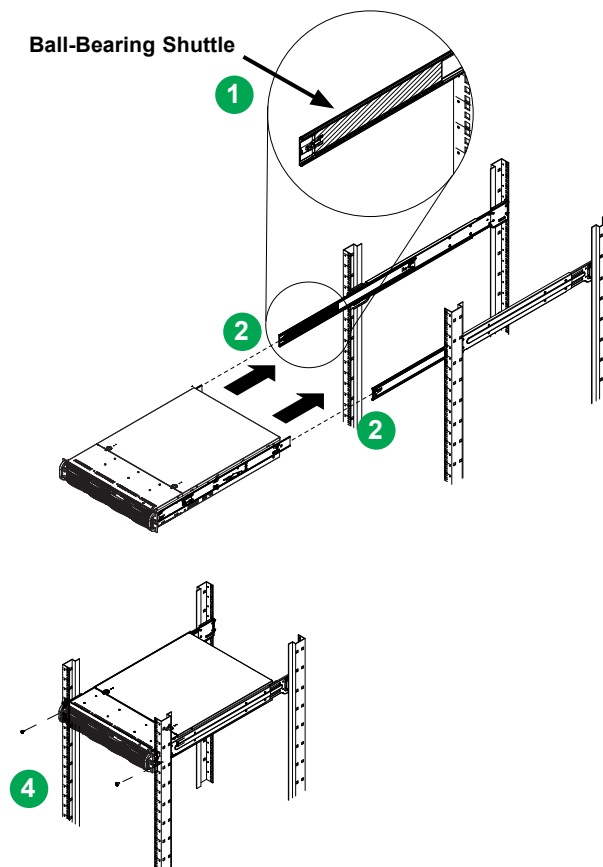
Figure 2-6. Installing the Server into the Rack

Note: Keep the ball bearing shuttle locked at the front of the middle rail during installation.

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

Removing the Chassis from the Rack

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

1. If necessary, loosen the thumb screws on the front of the chassis that hold it in the rack.

2. Pull the chassis forward out the front of the rack until it stops.

3. Press the release latches on each of the inner rails downward simultaneously and continue to pull the chassis forward and out of the rack.

Outer rail latch
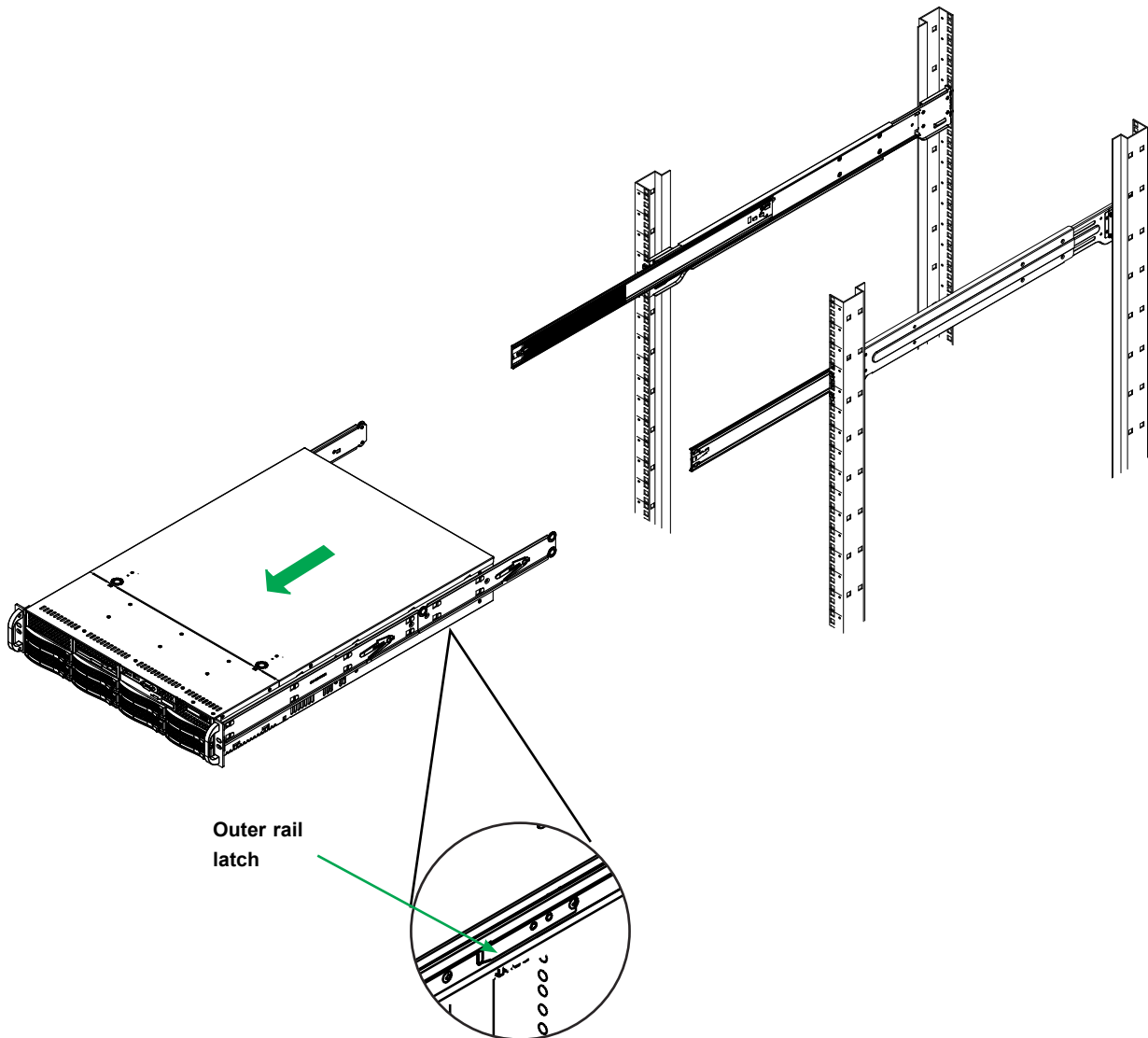
Figure 2-7. Removing the Chassis From the Rack

Warning: In any instance of pulling the system from the rack, always use a rack lift and follow all associated safety precautions.

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.

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 cords from the power supply modules.

3.2 Accessing the System

Some maintenance will require accessing the inside of the server.

Removing the System Fan and Top Loading Drive Bay Cover

1. Power down the server as described in section 4-1 and remove the two screws from the sides of the chassis cover.

2. Lift the cover off the chassis.

3. The four system fans and four 3.5" drive bays can be hot-swapped while system is running. To prevent over temperature, limit access time to two minutes or less.
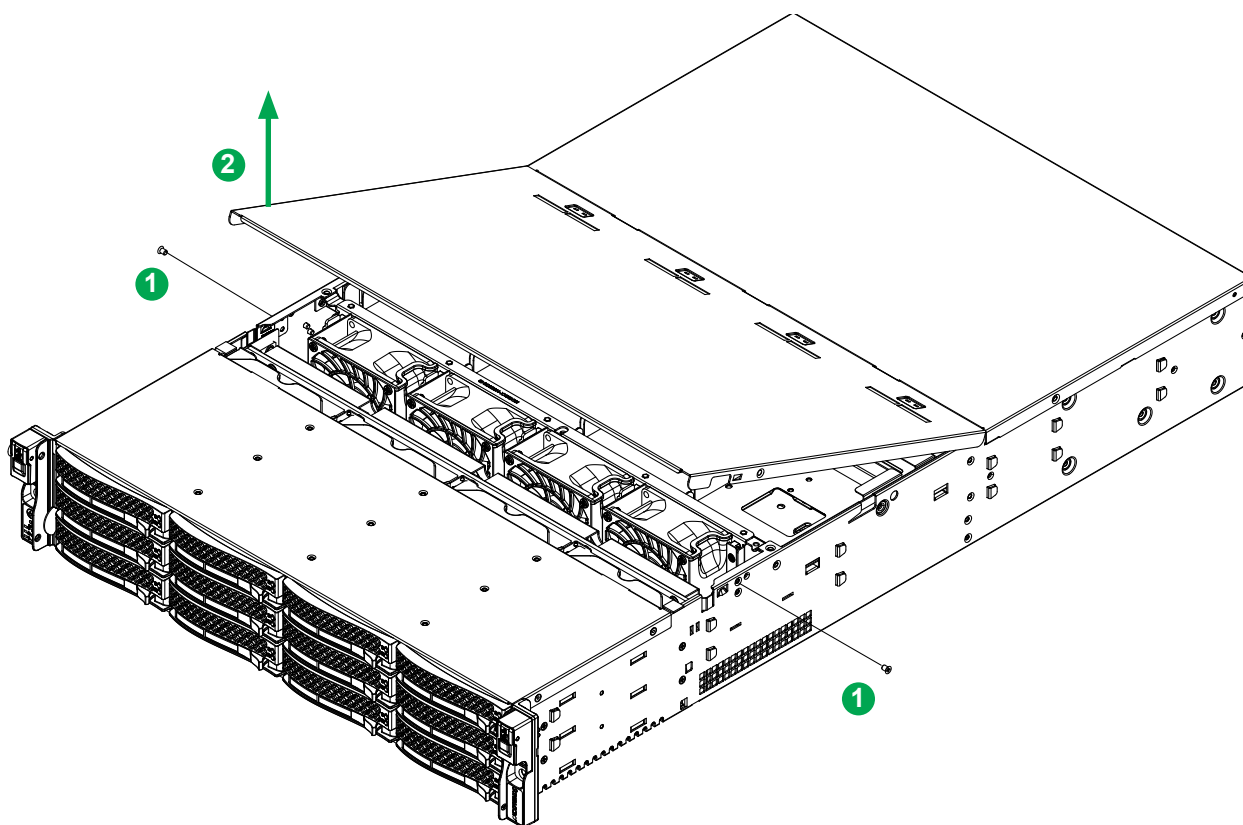
Figure 3-1. Removing the System Fan and Top Loading Drive Bay Cover

Removing the Rear Top Chassis Cover

1. Remove the system fan and top loading drive bay cover as described in the above section.

2. Remove the two screws from the sides of the chassis cover.

3. Slide the rear top cover toward the rear of the chassis.

4. Lift the rear top cover off the chassis.

Check that all ventilation openings on the top cover and the top of the chassis are clear and unobstructed.

Caution: Except for short periods of time, do not operate the server without the cover in place. The chassis cover must be in place to allow for proper airflow and to prevent overheating.
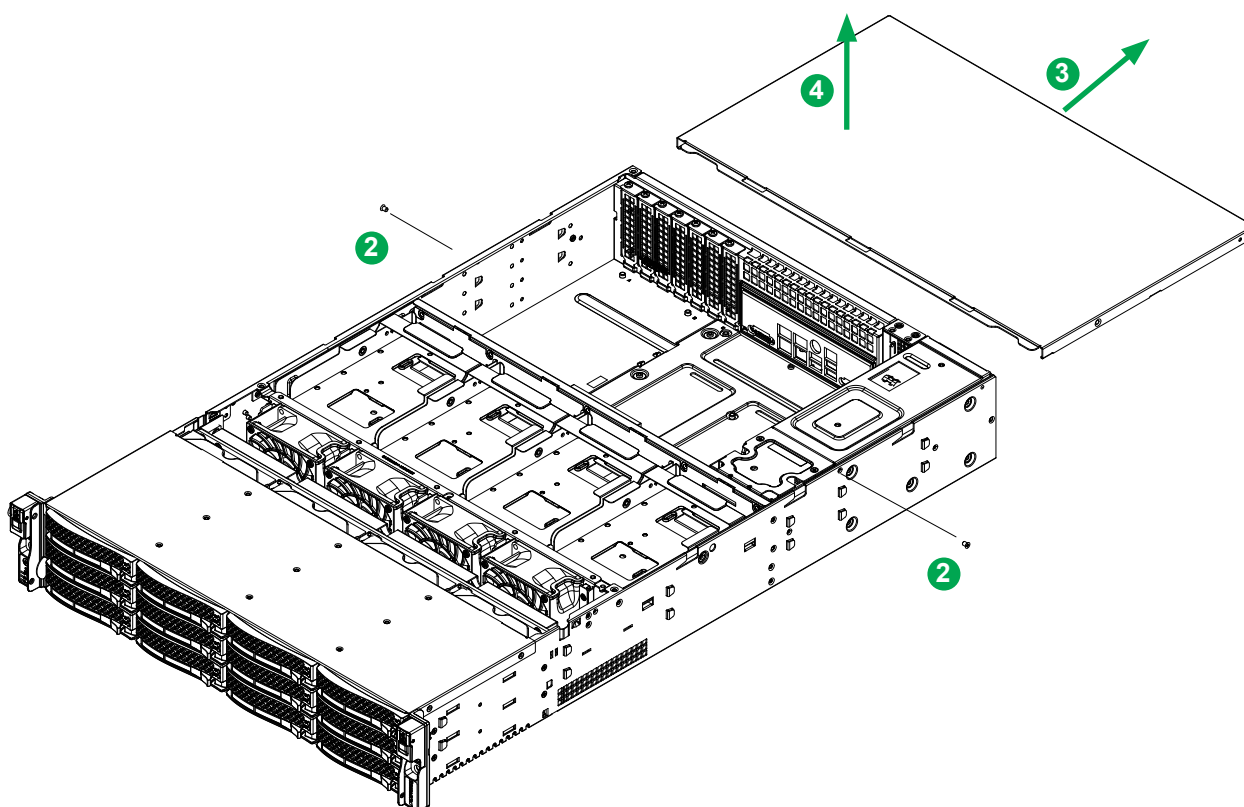
Figure 3-2. Removing the Chassis Cover

3.3 Processor and Heatsink Installation

The processor (CPU) and processor carrier should be assembled together first to form the processor carrier assembly. This will be attached to the heatsink to form the processor heatsink module (PHM) before being installed onto the CPU socket.

Notes:

- 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 CPU 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.

- When installing the processor and heatsink, ensure a torque driver set to the correct force is used for each screw.

- 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 illustration purposes only. Your components may look different.

- Please order the CPU carrier with the CPU heatsink.

CPU carrier for 4th Generation Intel Xeon Scalable Processors (XCC)	SKT-1333L-0000-FXC
CPU carrier for 4th Generation Intel Xeon Scalable Processors (MCC)	SKT-1424L-001B-FXC

The 4th Generation Intel Xeon Scalable Processor
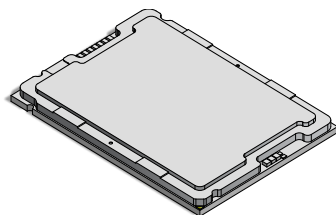
SP XCC
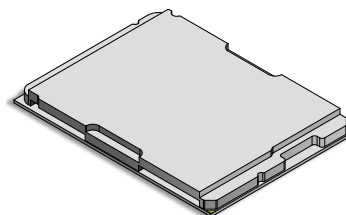
SP MCC

Overview of the Processor Carrier Assembly

The processor carrier assembly contains the Intel Xeon processor and a processor carrier.

1. Intel Xeon Processor
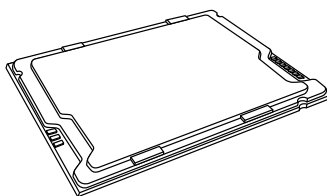
2. Processor Carrier
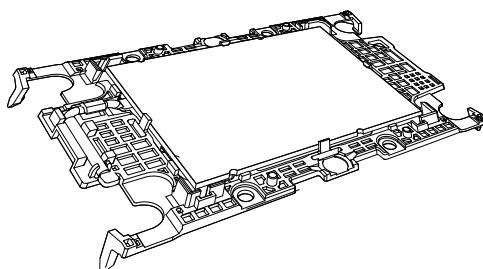
Overview of the CPU Socket

The CPU socket is protected by a plastic protective cover.

1. Plastic Protective Cover
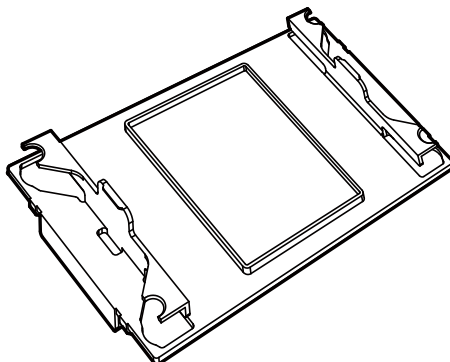
2. CPU Socket
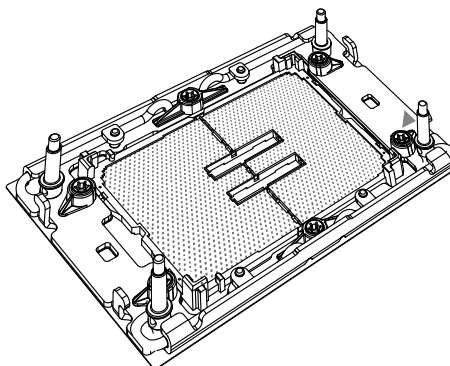
Overview of the Processor Heatsink Module

The Processor Heatsink Module (PHM) contains a heatsink, a processor carrier, and the Intel Xeon processor.

1. Heatsink with Thermal Grease
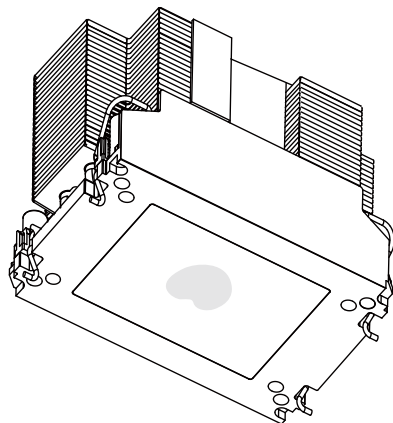
2. Processor Carrier
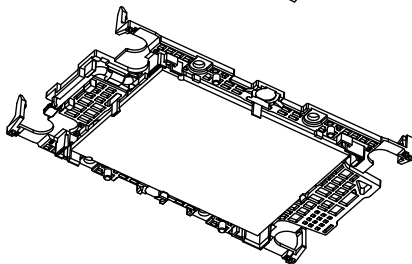
3. Intel Xeon Processor
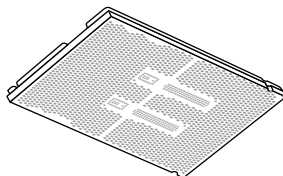
Processor Heatsink Module (PHM)
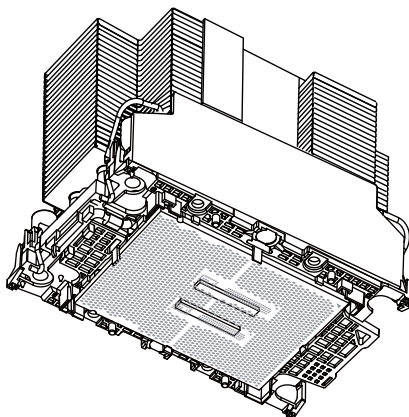
Bottom View

Creating the Processor Carrier Assembly

To install a processor into the processor carrier, follow the steps below:

1. Before installation, make sure the lever on the processor carrier is pressed down as shown below.

2. Hold the processor with the LGA lands (gold contacts) facing up. Locate the small, gold triangle in the corner of the processor and the corresponding hollowed triangle on the processor carrier. These triangles indicate pin 1. See the images below.

3. Use the triangles as a guide to carefully align and place one end of the processor into the latch marked A, and place the other end of processor into the latch marked B as shown below.

4. Examine all corners to ensure that the processor is firmly attached to the carrier.

Pin 1

Make sure the lever is pressed down before installing the processor.

A

B

Processor Carrier Assembly
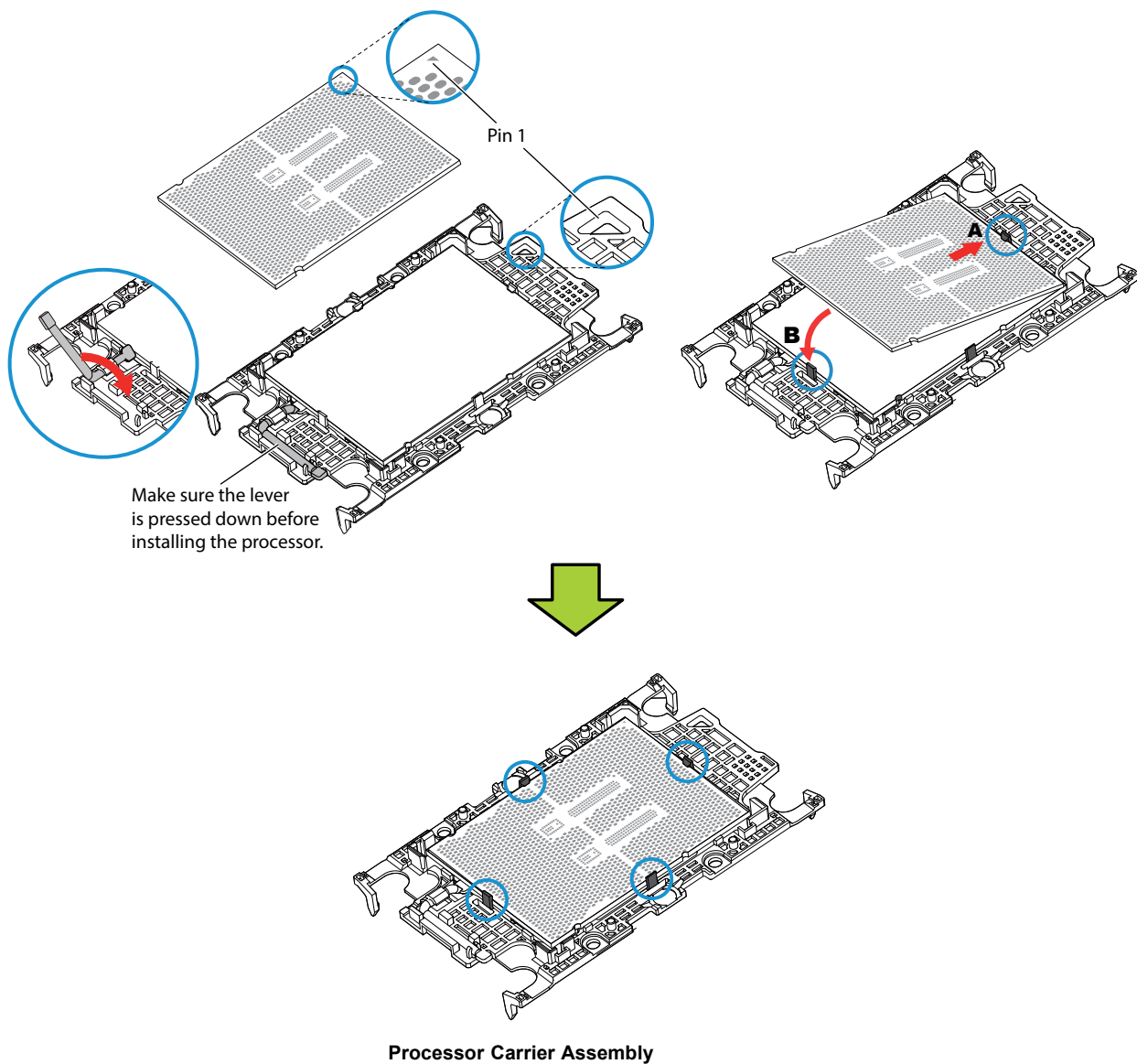
Assembling the Processor Heatsink Module

After creating the processor carrier assembly for the processor, mount it onto the heatsink to create the processor heatsink module (PHM):

1. Note the label on top of the heatsink, which marks the airflow direction. Turn the heatsink over and orient the heatsink so the airflow arrow is pointing towards the triangle on the processor.

2. If this is a new heatsink, the thermal grease has been pre-applied. Otherwise, apply the proper amount of thermal grease.

3. Hold the processor carrier assembly so the processor's gold contacts are facing up, then align the holes of the processor carrier assembly with the holes on the heatsink. Press the processor carrier assembly down until it snaps into place. The plastic clips of the processor carrier assembly will lock at the four corners.

4. Examine all corners to ensure that the plastic clips on the processor carrier assembly are firmly attached to the heatsink.

Processor Carrier Assembly (Upside Down)

Triangle on the CPU

Thermal grease

Triangle on the processor carrier

Airflow direction (Refer to the airflow arrow on the heatsink label to orient the heatsink)

Check each corner to ensure that the processor carrier is firmly attached to the heatsink.

35
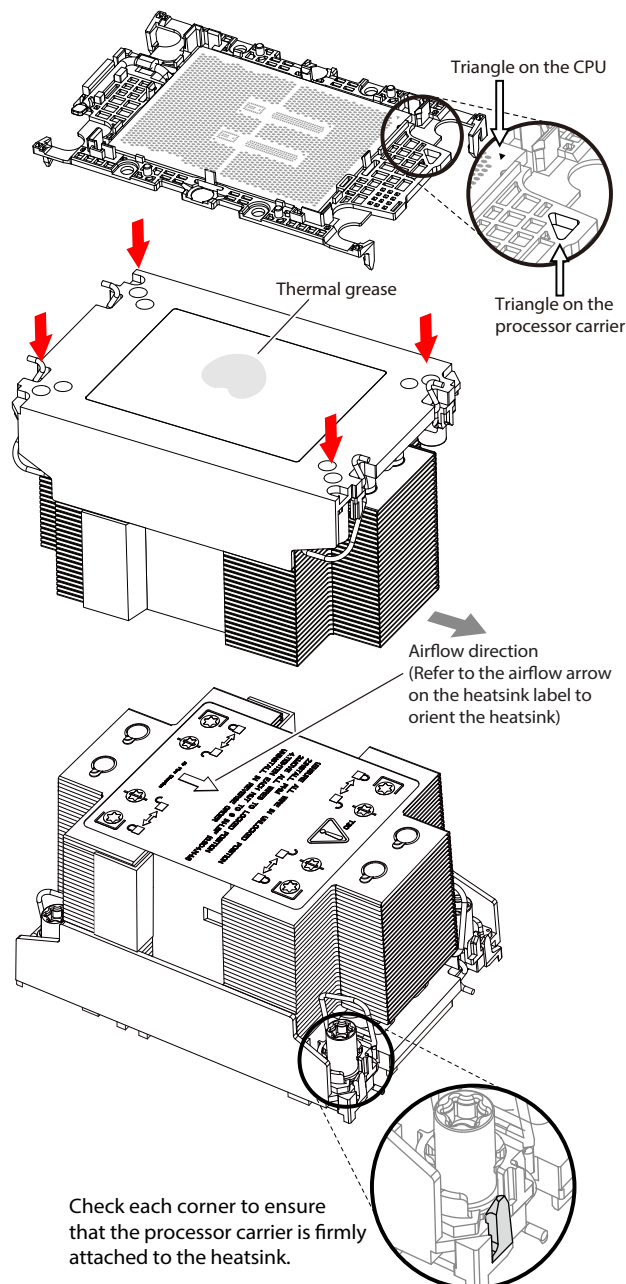
Preparing the CPU Socket for Installation

This motherboard comes with a plastic protective cover installed on the CPU socket. Remove it from the socket to install the Processor Heatsink Module (PHM). Gently pull up one corner of the plastic protective cover to remove it.
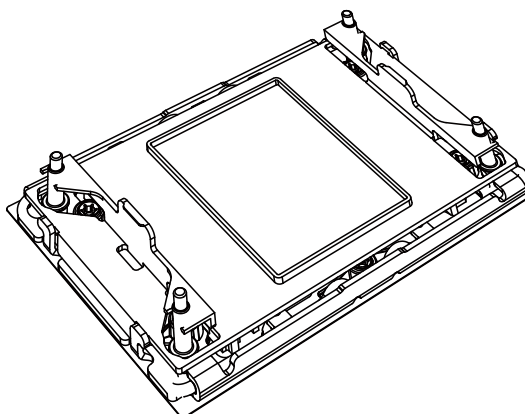
CPU Socket with Plastic Protective Cover
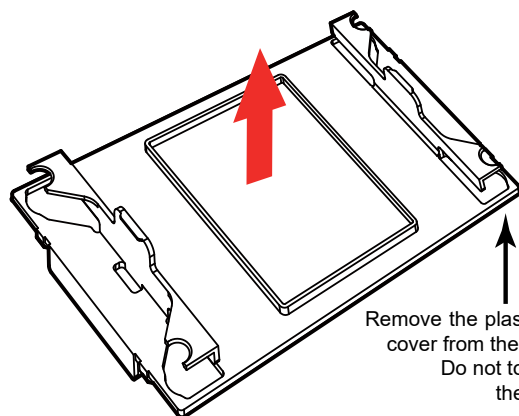
Remove the plastic protective
cover from the CPU socket.
Do not touch or bend
the socket pins.

Socket Pins
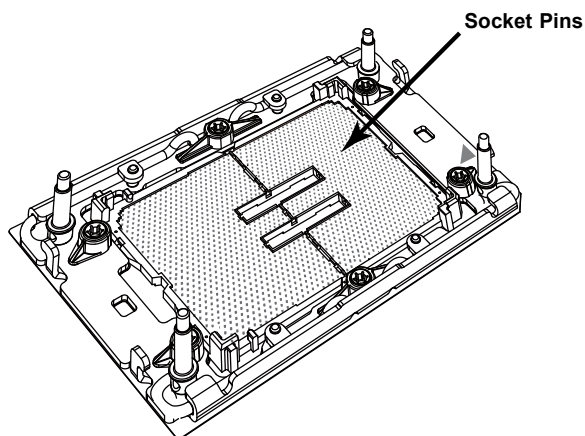
Installing the Processor Heatsink Module

After assembling the Processor Heatsink Module (PHM), install it onto the CPU socket:

1. Align pin 1 of the PHM with the printed triangle on the CPU socket. See the left image below.

2. Make sure all four holes of the heatsink are aligned with the socket, then gently place the heatsink on top of the CPU socket.

3. Press all four rotating wires outwards and make sure that the heatsink is securely latched into the CPU socket.

4. With a T30-bit torque driver, set to a force of 8.0 in-lbf (0.904 N-m) and gradually tighten the four screws to ensure even pressure. You can start with any screw, but make sure to tighten the screws in a diagonal pattern.

Important: Do not use a force greater than 8.0 in-lbf (0.904 N-m). Exceeding this force may over-torque the screw, causing damage to the processor, heatsink, and screw.

5. Examine all corners to ensure that the PHM is firmly attached to the socket.

Airflow direction

Pin 1

Printed Triangle

Mounte the Processor Heatsink Module onto the CPU socket (on the motherboard).

T30 Torque Driver

Use a torque of 8 in-lbf

8.0 IN-LBF
0.904 N-M

Press the rotating wires outwards to latch the PHM and then tighten the four screws.
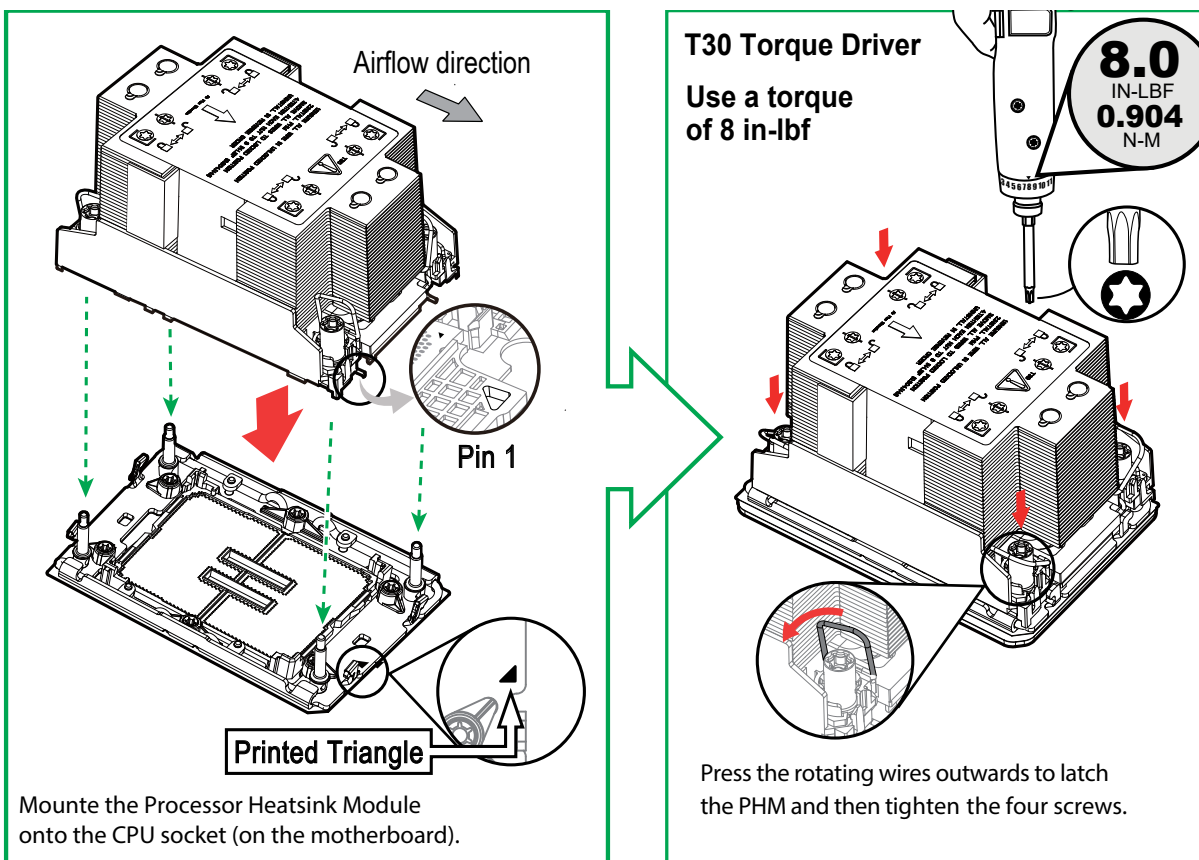
Removing the Processor Heatsink Module

Before removing the processor heatsink module (PHM) from the motherboard, shut down the system and then unplug the AC power cord from all power supplies.

Then follow the steps below:

1. Use a T30 bit driver to loosen the four screws. You can start with any screw, but make sure to loosen the screws in a diagonal pattern.

2. Press the four rotating wires inwards to unlatch the PHM from the socket.

3. Gently lift the PHM upwards to remove it from the socket.

4. To remove the CPU, move the lever to its unlocked position and gently remove the CPU.

Press the four rotating wires inwards to unlatch the PHM.

CPU Socket
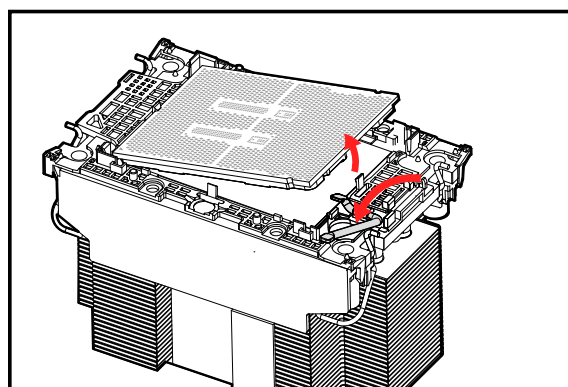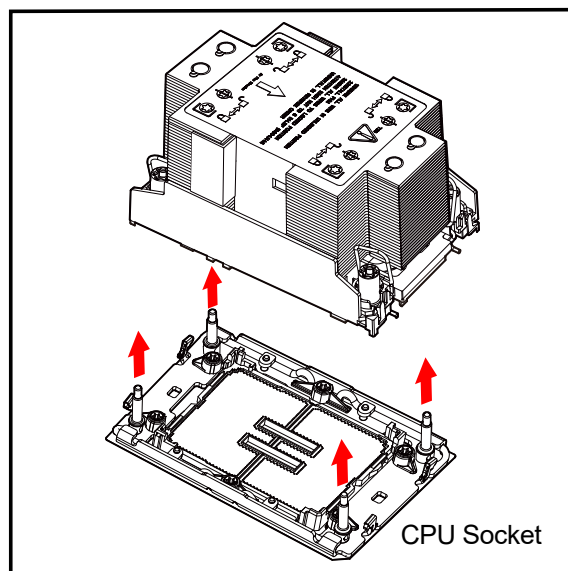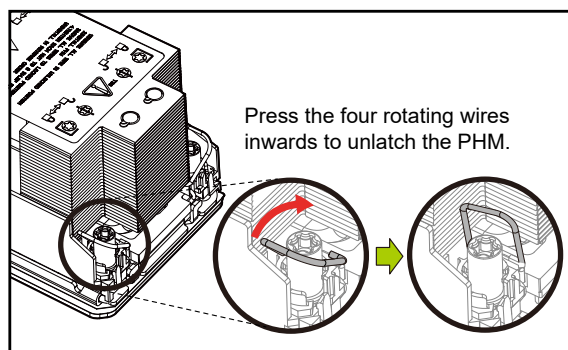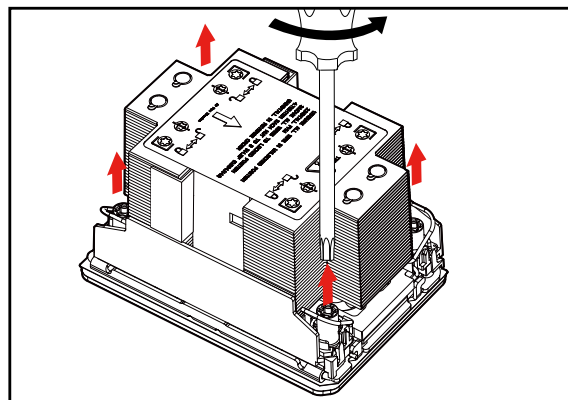
3.4 Memory

This motherboard supports up to 4 TB memory capacity with 16 DIMMs of 256 GB 3DS RDIMM/RDIMM DDR5 ECC memory.

Note: Memory speed and capacity support depends on the processors used in the system.

DIMM Population Guidelines for Optimal Performance

For optimal memory performance, follow the instructions listed in the tables below when populating memory modules.

Key Parameters for DIMM Configuration

Key Parameters for DIMM Configurations	
Parameters	**Possible Values**
Number of Channels per Socket	1, 2, 4, 6, 8
Number of DIMMs per Channel	1DPC (1 DIMM Per Channel) or 2DPC (2 DIMMs Per Channel)
DIMM Type	RDIMM and 3DS RDIMM
DIMM Construction	non-3DS RDIMM Raw Cards: A (2Rx4), C (1Rx4), D (1Rx8), E (2Rx8) 3DS RDIMM Raw Cards: A (4Rx4, 8Rx4) 9x4 RDIMM Raw Cards: B (2Rx4), F (1Rx4)

Compatible and Incompatible Type in a Channel and a System			
DIMM Type	**RDIMM**	**RDIMM 3DS**	**9x4 RDIMM**
RDIMM	Compatible	Incompatible	Incompatible
RDIMM 3DS	Incompatible	Compatible	Incompatible
9x4 RDIMM	Incompatible	Incompatible	Compatible

Memory Population Tables

DDR5 Memory Support for the 4th Generation Intel Xeon Scalable Processors				
Type	Ranks Per DIMM & Data Width (Stack)	DIMM Capacity (GB) (Memory Density:16Gb)	Speed (MT/s); Voltage (V); DIMM Per Channel (DPC)	
			1DPC (Note)	2DPC
			1.1V	
RDIMM	SRx8 (RC D)	16GB	4800	4400
	SRx4 (RC C)	32GB		
	SRx4 (RC F) 9x4	32GB		
	DRx8 (RC E)	32GB		
	DRx4 (RC A)	64GB		
	DRx4 (RC B) 9x4	64GB		
RDIMM 3DS	(4R/8R) x4 (RC A)	2H-128GB 4H-256GB		
LRDIMM/LRDIMM-3DS	N/A	N/A	Not Supported	Not Supported

Note: 1DPC applies to 1 SPC (Sockets Per Channel) or 2 SPC implementation.

Memory Population Table (with 16 DIMM Slots)

DDR5 Memory Population Table for X13DP Motherboards (with 16 DIMMs installed)	
1 CPU	*Memory Population Sequence*
1 CPU & 1 DIMM	P1-DIMMA1 or P1-DIMME1 or P1-DIMMB1 or P1-DIMMF1
1 CPU & 2 DIMMs	P1-DIMMA1 / P1-DIMMG1 or P1-DIMMC1 / P1-DIMME1
1 CPU & 4 DIMMs	P1-DIMMA1 / P1-DIMMC1 / P1-DIMME1 / P1-DIMMG1
1 CPU & 6 DIMM	P1-DIMMA1 / P1-DIMMC1 / P1-DIMMD1 / P1-DIMME1 / P1-DIMMF1 / P1-DIMMG1 or P1-DIMMA1 / P1-DIMMB1 / P1-DIMMC1 / P1-DIMME1 / P1-DIMMG1 / P1-DIMMH1 or P1-DIMMB1 / P1-DIMMC1 / P1-DIMMD1 / P1-DIMME1 / P1-DIMMF1 / P1-DIMMH1 or P1-DIMMA1 / P1-DIMMB1 / P1-DIMMD1 / P1-DIMMF1 / P1-DIMMG1 / P1-DIMMH1
1 CPU & 8 DIMMs	P1-DIMMA1 / P1-DIMMB1 / P1-DIMMC1 / P1-DIMMD1 / P1-DIMME1 / P1-DIMMF1 / P1-DIMMG1 / P1-DIMMH1
2 CPUs (Recommended)	*Memory Population Sequence*
2 CPUs & 2 DIMMs	**CPU1:** P1-DIMMA1, **CPU2:** P2-DIMMA1 or **CPU1:** P1-DIMME1, **CPU2:** P2-DIMME1 or **CPU1:** P1-DIMMB1, **CPU2:** P2-DIMMB1 or **CPU1:** P1-DIMMF1, **CPU2:** P2-DIMMF1
2 CPUs & 4 DIMMs	**CPU1:** P1-DIMMA1 / P1-DIMMG1, **CPU2:** P2-DIMMA1 / P2-DIMMG1 or **CPU1:** P1-DIMMC1 / P1-DIMME1, **CPU2:** P2-DIMMC1 / P2-DIMME1
2 CPUs & 8 DIMMs	**CPU1:** P1-DIMMA1 / P1-DIMMC1 / P1-DIMME1 / P1-DIMMG1 **CPU2:** P2-DIMMA1 / P2-DIMMC1 / P2-DIMME1 / P2-DIMMG1
2 CPUs & 12 DIMMs	**CPU1:** P1-DIMMA1/P1-DIMMC1/P1-DIMMD1/P1-DIMME1/P1-DIMMF1/P1-DIMMG1 **CPU2:** P2-DIMMA1/P2-DIMMC1/P2-DIMMD1/P2-DIMME1/P2-DIMMF1/P2-DIMMG1 **CPU1:** P1-DIMMA1/P1-DIMMB1/P1-DIMMC1/P1-DIMME1/P1-DIMMG1/P1-DIMMH1 **CPU2:** P2-DIMMA1/P2-DIMMB1/P2-DIMMC1/P2-DIMME1/P2-DIMMG1/P2-DIMMH1 **CPU1:** P1-DIMMB1/P1-DIMMC1/P1-DIMMD1/P1-DIMME1/P1-DIMMF1/P1-DIMMH1 **CPU2:** P2-DIMMB1/P2-DIMMC1/P2-DIMMD1/P2-DIMME1/P2-DIMMF1/P2-DIMMH1 **CPU1:** P1-DIMMA1/P1-DIMMB1/P1-DIMMD1/P1-DIMMF1/P1-DIMMG1/P1-DIMMH1 **CPU2:** P2-DIMMA1/P2-DIMMB1/P2-DIMMD1/P2-DIMMF1/P2-DIMMG1/P2-DIMMH1
2 CPUs & 16 DIMMs	**CPU1:** P1-DIMMA1/P1-DIMMB1/P1-DIMMC1/P1-DIMMD1/P1-DIMME1/P1-DIMMF1/P1-DIMMG1/P1-DIMMH1 **CPU2:** P2-DIMMA1/P2-DIMMB1/P2-DIMMC1/P2-DIMMD1/P2-DIMME1/P2-DIMMF1/P2-DIMMG1/P2-DIMMH1

Note: This memory configuration is recommended by Supermicro for optimal memory performance. Please use this configuration to maximize your memory performance.
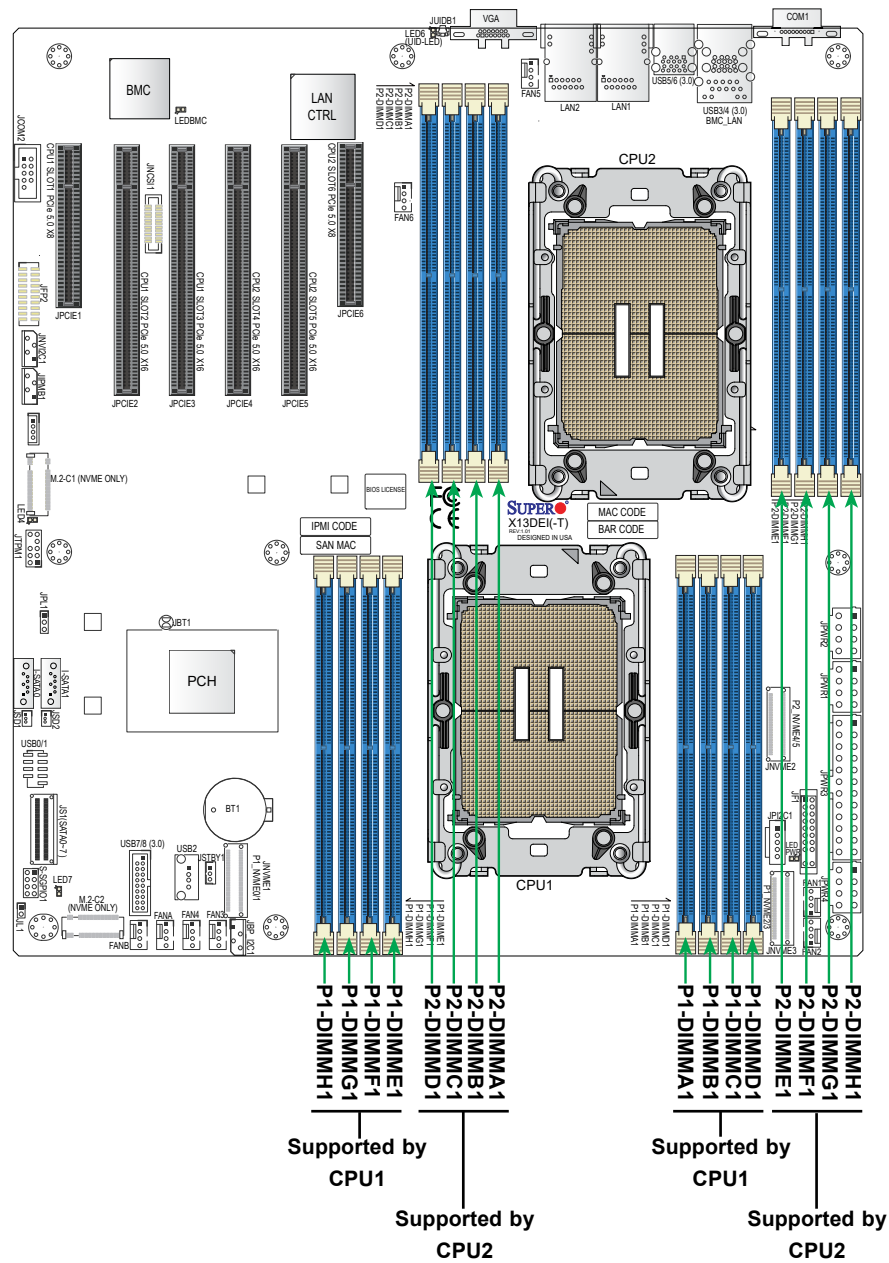
Figure 3-3. DIMM Slot Locations

DIMM Installation

1. Insert the desired number of DIMM modules based on the recommended DIMM population table at the beginning of this section (3.4 Memory).

2. Align the DIMM module key with the receptive point on the single-latch DIMM slot.

Receptive Point
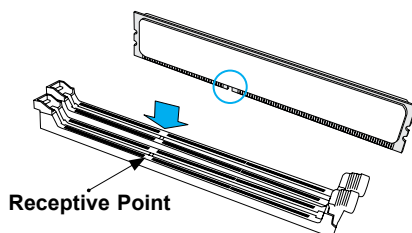
3. Push the release tab outwards to unlock the slot.

Notch
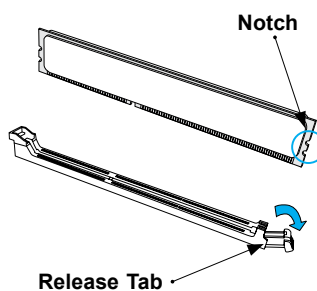
Release Tab

4. Press both ends of the module straight down into the slot until the module snaps into place.

Push both ends straight down into the memory slot.
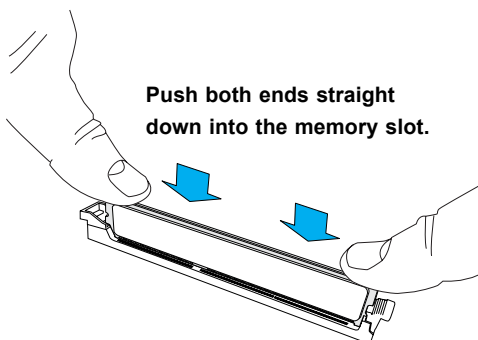
5. Push the release tab to the lock position to secure the module into the slot.
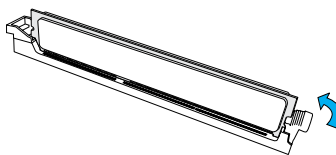
DIMM Removal

Reverse the steps above to remove the DIMM modules from the motherboard.

3.5 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. Begin by removing power from the system.

2. Remove the chassis top cover and the air shroud.

3. Push aside the small clamp that covers the edge of the battery. When the battery is released, lift it out of the holder.

4. To insert a new battery, slide one edge under the lip of the holder with the positive (+) side facing up. Then push the other side down until the clamp snaps over it.

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

LITHIUM BATTERY

BATTERY HOLDER
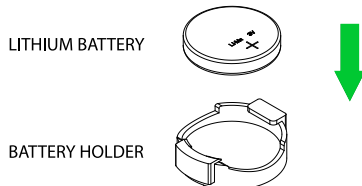
Figure 3-4. Installing the Onboard Battery

Warning: There is a danger of explosion if the onboard battery is installed upside down (which reverses its polarities). This battery must be replaced only with the same or an equivalent type recommended by the manufacturer (CR2032).

3.6 Storage Drives

The system supports twelve hot-swap 3.5" NVMe/SAS/SATA storage drives in hybrid bays. For compatible storage drives, use the X13DEI-T motherboard page.

The drives are mounted in toolless drive carriers that simplify their removal from the chassis. These carriers also help promote proper airflow.

Note: Enterprise level storage drives are recommended for use in Supermicro chassis and servers. For information on recommended drives, visit the Supermicro website product pages at www.supermicro.com/products.

Figure 3-5. Logical Drive Numbers

Logical Storage Drive Numbers	
Item	**Description**
0-5	Six 3.5" hot-swap SAS3/SATA3/NVMe* hybrid drive bays
6-11	Six 3.5" hot-swap SAS3/SATA3 drive bays
12-15	Four 3.5" hot-swap SAS3/SATA drive bays (internal)

*NVMe support requires additional parts (see optional part list).

Drive Carrier Indicators

Each drive carrier has two LED indicators: an activity indicator and a status indicator. See Section 1.2 for a table showing the meaning of each indicator.

Installing Drives

Removing a Hot-Swap Drive Carrier

1. Push the release button located beside the drive's LEDs.

2. Swing the handle fully out.

3. Grasp the handle and use it to pull the drive carrier out of its bay.
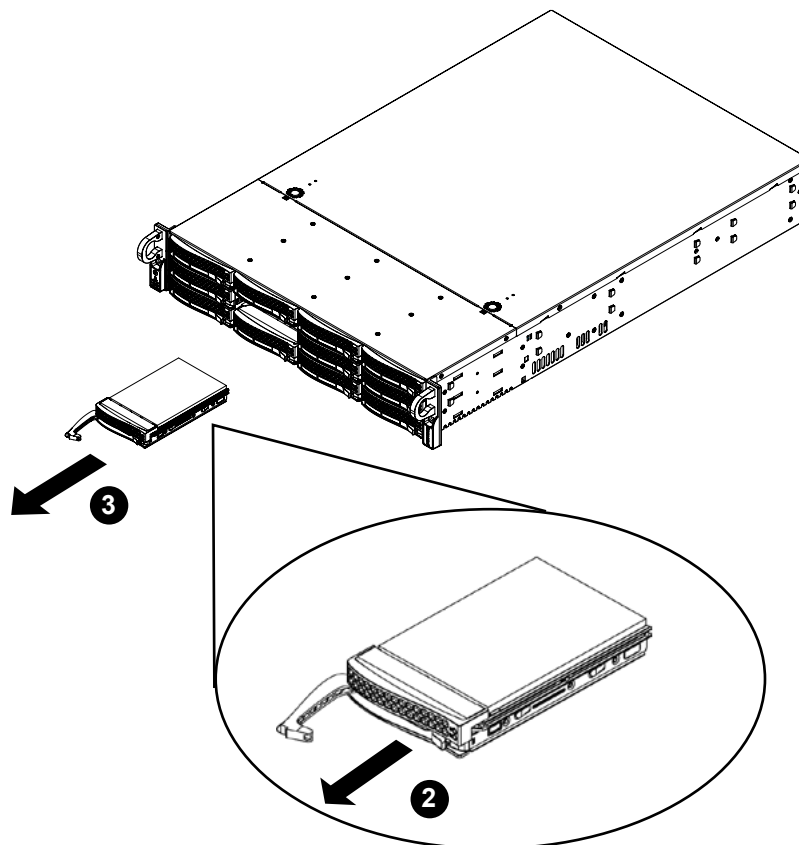
Figure 3-6. Removing a Drive Carrier from the System

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 midplane, which automatically makes the power and logic connections to the hard drive.
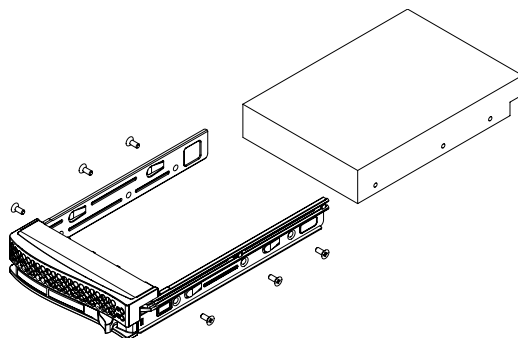
Figure 3-7. Mounting a Drive in a Carrier

Removing a Drive from a Drive Carrier

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

2. Replace the carrier back into the drive bay.

Drive Carrier Indicators

Each drive carrier has two LED indicators: an activity indicator and a status indicator. In RAID configurations, the status indicator lights to indicate the status of the drive. In non-RAID configurations, the status indicator remains off.
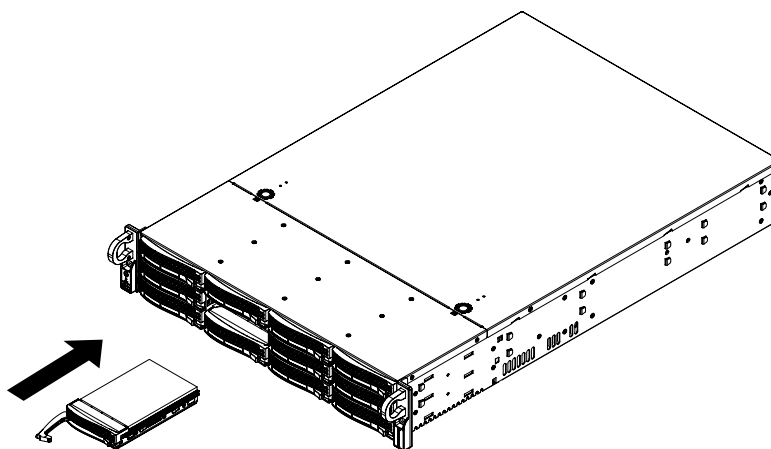
Figure 3-8. Installing a Drive Carrier into its Bay

Internal 3.5" Storage Drives

The SC829U chassis supports four internal hot-swap 3.5" drives which are mounted in individual drive trays contained in an internal chassis tray. After the chassis tray has been installed into the chassis, the power can stay on when removing or installing the drives from their trays.

Setting up the Internal Chassis Tray and Individual Trays

1. Power down the system and remove the chassis covers as described in Section 3.2.

2. Remove the two side screws securing the tray to the chassis and set them aside for later use.

3. Lift the hard chassis tray up and out of the chassis.
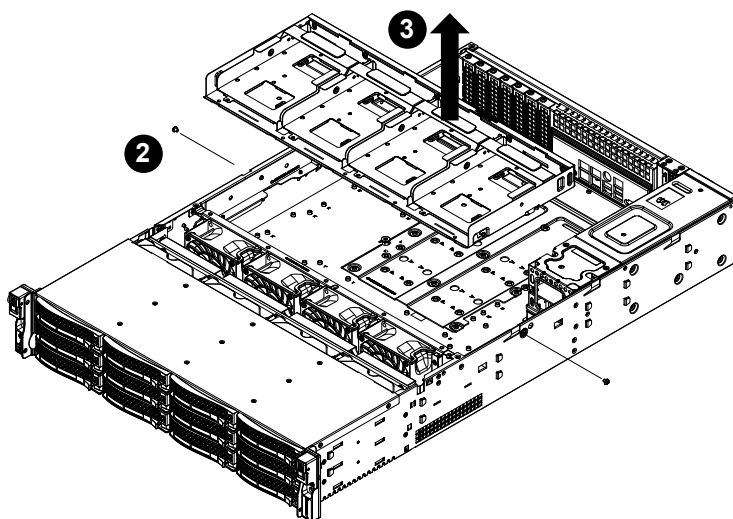
Figure 3-9. Removing the Chassis Tray

4. Remove the screws securing each drive tray to the chassis tray.
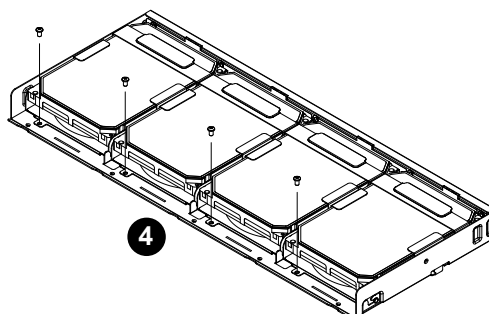
Figure 3-10. Removing Screws from the Individual Trays

5. Lift the individual trays up and out of the chassis tray.
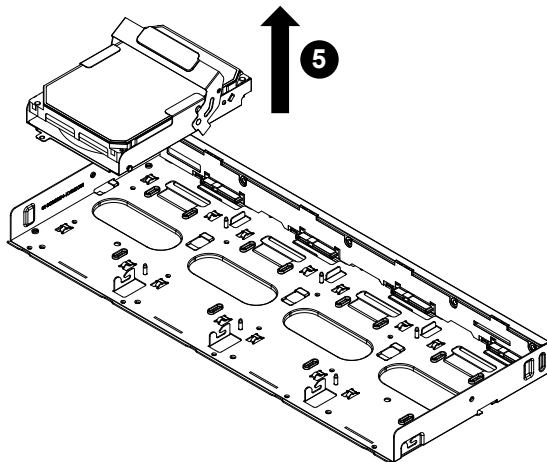
Figure 3-11. Removing a Drive Carrier from the Drive Tray

6. Place a drive into each of the individual trays and secure it with four screws.

7. Place the drives and individual trays into the chassis tray.
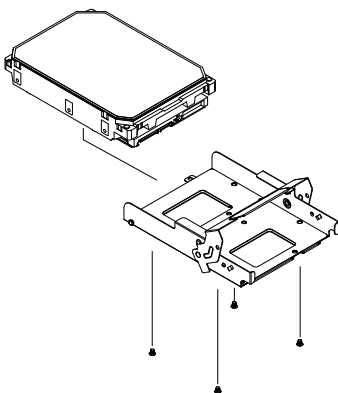
Figure 3-12. Installing a Drive into its Tray

8. Secure the individual trays into the chassis tray with four screws.
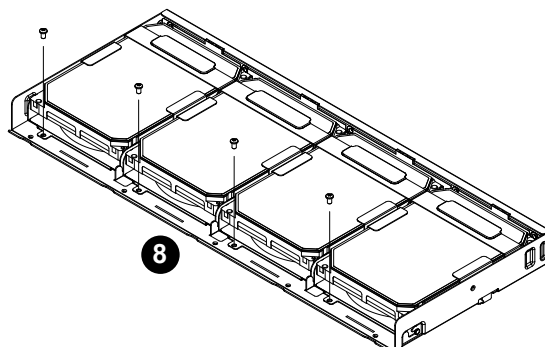
Figure 3-13. Installing Drives and Carriers into the Drive Tray

9. Place the loaded chassis tray into the chassis.
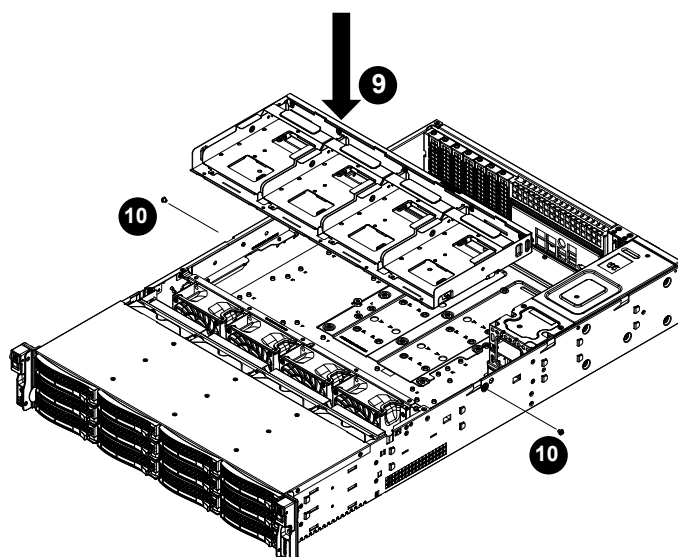
Figure 3-14. Installing the Drive Tray into the Chassis

10. Secure the chassis tray with the two side screws previously set aside.

11. Plug the power cords into the rear of the power supply, replace the top cover and power up the system.

After installing the chassis tray and individual trays, the internal hot-swappable drives may be removed without powering down the system.

Removing Internal Drives from the Chassis Tray

1. Confirm that the chassis tray and individual trays have been installed as directed in the previous section.

2. With the power running, remove the middle top cover as described in Section 3.2.

3. Lift the latch on the individual tray and slide the drive out toward the front of the chassis.

Installing Drives Into the Individual Trays

1. After removing the middle top cover and lifting the individual tray latch, insert a drive into the individual tray by sliding it toward the rear of the tray.

2. Close the latch and replace the middle top cover.

3.7 PCI Expansion Cards

The system accepts up to six PCIe expansion cards.
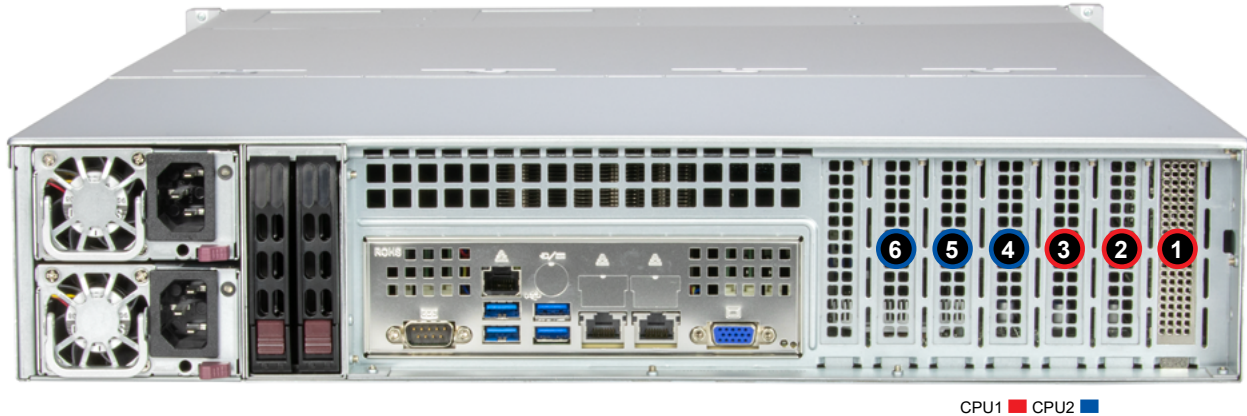
CPU1 ■ CPU2 ■

Figure 3-15. Expansion Slots

Expansion Slot Locations	
Slot Number	**Description**
1	PCIe 5.0 x8 [occupied by 3916 (SSG-621E-ACR16H) or 3816 (SSG-621E-ACR16L) SAS controller]
2 3	PCIe 5.0 x16
4 5	PCIe 5.0 x16
6	PCIe 5.0 x8

Installing an Expansion Card

1. Power down the system as described in section 3.1 and remove the cover.

2. Unscrew and remove the chassis slot cover.

3. Insert the expansion card into a slot on the motherboard while aligning the expansion card backplate with the open slot in the rear of the chassis. Secure with a screw.

4. Replace the cover and power.

3.8 System Cooling

Four 8-cm heavy duty fans provide the cooling for the system. Fan speed is controlled by system temperature using the BMC. If a fan fails, the remaining fans will ramp up to full speed and the system will continue to operate. Replace any failed fan at your earliest convenience with the same type and model.

Make sure the chassis top cover makes a good seal for proper air circulation.
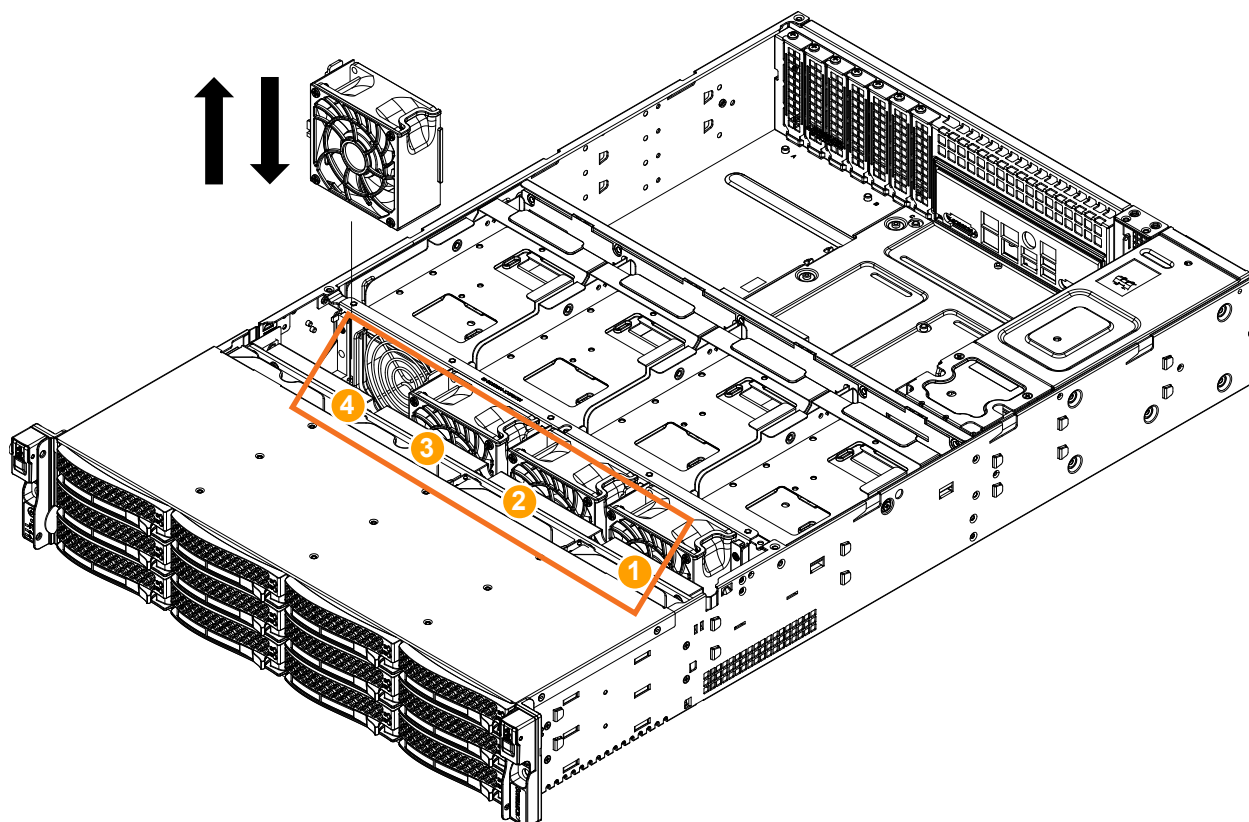
Figure 3-16. Fan Positions

Installing the Air Shroud

Air shrouds concentrate airflow to maximize fan efficiency. They do not require screws to install.

Installing the Standard Air Shroud

- Position the air shroud as illustrated in the figure below, sliding the front over the edge of the fan tray. Align the holes in the edge of the shroud with the hold in the fan tray.
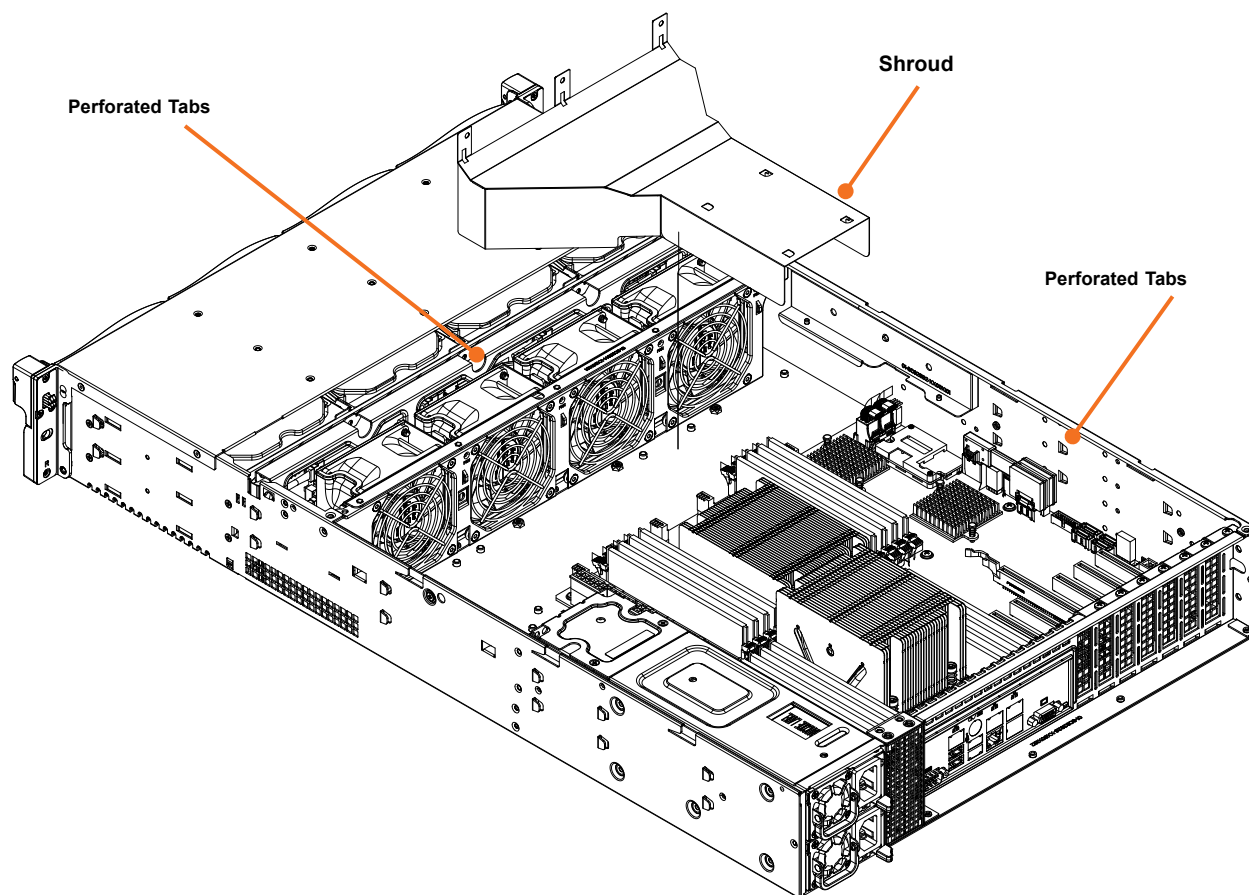
Figure 3-17. Installing the Air Shroud

3.9 Power Supply

The system includes two hot-plug, 1600 W power supply modules. These modules will automatically sense and operate at an input voltage between 100 to 240 VAC. 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.
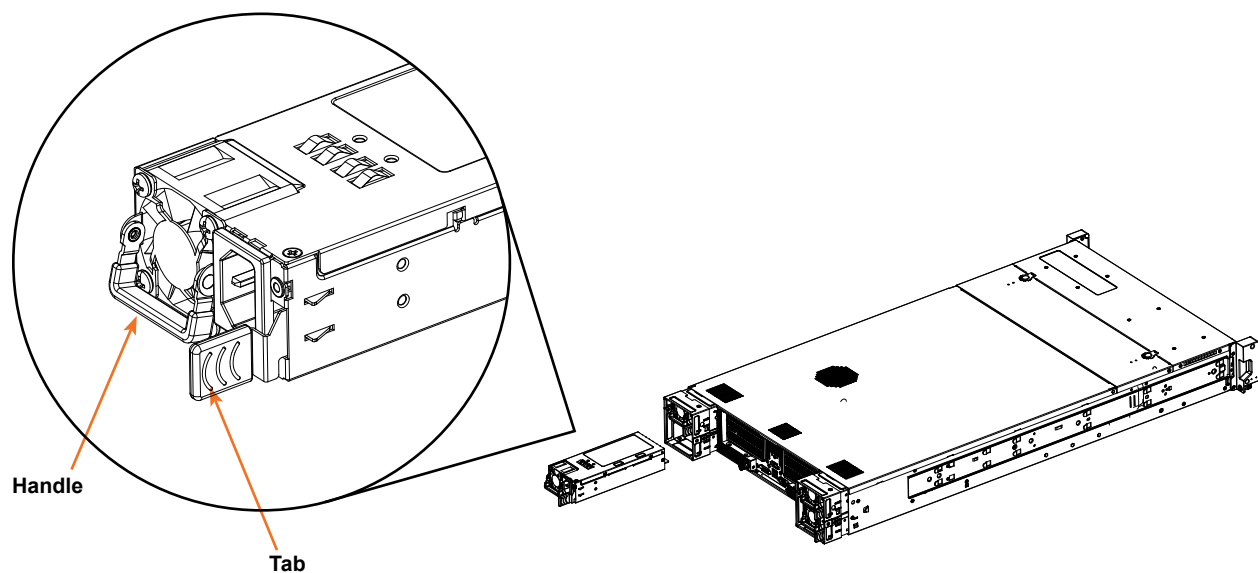
Figure 3-18. Installing a Power Supply Module

3.10 Cable Routing Diagram

Refer to the diagram below for a representation of how the main cables are routed throughout the system. When disconnecting cables to add or replace components, refer to this diagram when adding or replacing components so you can reroute them in the same manner. Proper cable routing is important in maintaining airflow through the system.

Rear SATA Cables

Front SAS/SATA Cables

NVMe Cables

Online Cable Matrix
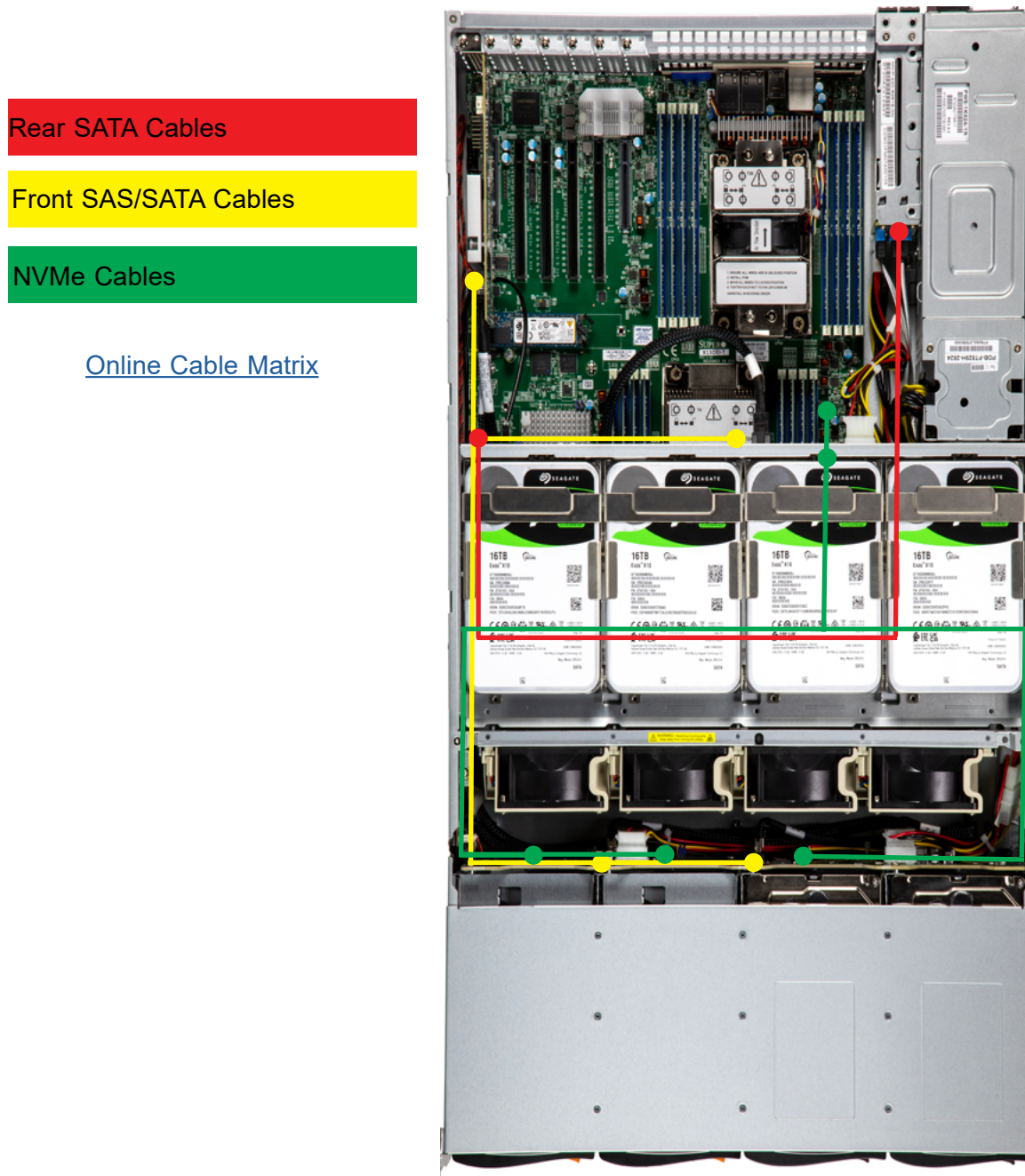
Figure 3-19. Cable Routing Diagram

3.11 BMC Reset

The BMC can be reset using the button on the chassis rear.

- Reset – Press and hold the button. After six seconds, the LED blinks at 2Hz. 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 4Hz while the defaults are configured. **Note**: All BMC settings including username and password will be removed except the FRU and network settings.

- Firmware update – When the BMC firmware is being updated, the UID LED blinks at 10Hz.

BMC Reset Options		
Event	**UID LED**	**BMC Heartbeat LED**
Reset	Blue, Blinks at 2Hz	Green, solid
Restore Defaults	Blue, Blinks at 4Hz	Off
Update	Blue, Blinks at 10Hz	

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

ATX Power Supply Connector

There is one 24-pin power supply connector (JPWR3) and three 8-pin 12 V DC power connectors (JPWR1, JPWR2 and JPWR4) on the motherboard to provide power to your system. Refer to the table below for pin definitions.

ATX Power 24-pin Connector Pin Definitions			
Pin#	Definition	Pin#	Definition
13	+3.3 V	1	+3.3 V
14	NC	2	+3.3 V
15	Ground	3	Ground
16	PS_ON	4	+5 V
17	Ground	5	Ground
18	Ground	6	+5 V
19	Ground	7	Ground
20	Res (NC)	8	PWR_OK
21	+5 V	9	5VSB
22	+5 V	10	+12 V
23	+5 V	11	+12 V
24	Ground	12	+3.3 V

Required Connection

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

4.2 Headers and Connectors

Fan Headers

There are eight 4-pin fan headers (FAN1-FAN6, FANA-FANB) on the motherboard. All these 4-pin fan headers are backwards compatible with the traditional 3-pin fans. However, fan speed control is available for 4-pin fans only by Thermal Management via the BMC interface.

Fan Header Pin Definitions	
Pin#	Definition
1	Ground
2	2.5A/+12V
3	Tachometer
4	PWM_Control

S-SGPIO Header

The S-SGPIO (Serial General Purpose Input/Output) header is used to communicate with the enclosure management chip on the backplane.

S-SGPIO Header Pin Definitions			
Pin#	Definition	Pin#	Definition
1	NC	2	NC
3	Ground	4	Data
5	Load	6	Ground
7	Clock	8	NC

NC = No Connection

TPM/Port 80 Header

The JTPM1 header is used to connect a Trusted Platform Module (TPM)/Port 80, which is available from Supermicro (optional). A TPM/Port 80 connector is a security device that supports encryption and authentication in storage drives. It allows the motherboard to deny access if the TPM associated with the storage drive is not installed in the system. Please go to the following link for more information on the TPM: https://www.supermicro.com/manuals/other/AOM-TPM-9670V_9670H.pdf.

Trusted Platform Module Header Pin Definitions			
Pin#	Definition	Pin#	Definition
1	+3.3V	2	SPI_CS#
3	RESET#	4	SPI_MISO
5	SPI_CLK	6	GND
7	SPI_MOSI	8	NC
9	+3.3 V Stdby	10	SPI_IRQ#

VROC RAID Key Header

A VROC RAID Key header is located at JRK1 on the motherboard. For NVMe RAID support, install a VROC RAID Key on JRK1 as shown in the illustration below.

Intel VROC Key Pin Definitions	
Pin#	Definition
1	Ground
2	3.3V Standby
3	Ground
4	PCH RAID Key

VROC Key

VROC Key Header (JRK1)
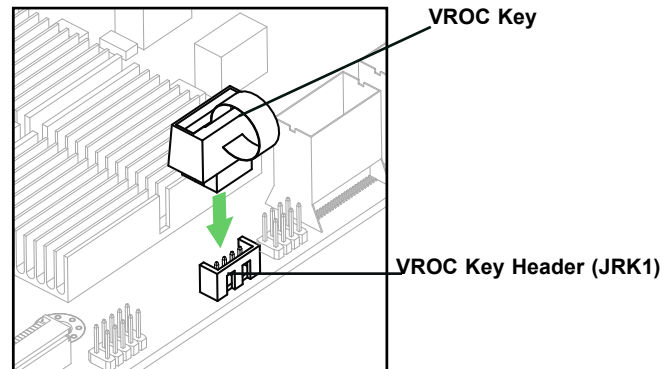
Standby Power

The Standby Power header is located at JSTBY1 on the motherboard. You must have a card with a Standby Power connector and a cable to use this feature.

Standby Power Pin Definitions	
Pin#	Definition
1	+5 V Standby
2	Ground
3	No Connection

Power SMB (I²C) Header

The Power System Management Bus (I²C) connector (JPI2C1) monitors the power supply, fan, and system temperatures.

Power SMB Header Pin Definitions	
Pin#	Definition
1	Clock
2	Data
3	PMBUS_Alert
4	Ground
5	+3.3 V

4-pin BMC External I²C Header

Two System Management Bus headers for BMC are located at JIPMB1 and JBP_I2C1. Connect the appropriate cable here to use the IPMB I²C connection on your system.

External I²C Header Pin Definitions	
Pin#	Definition
1	Data
2	Ground
3	Clock
4	No Connection

Chassis Intrusion

A Chassis Intrusion header is located at JL1 on the motherboard. Attach the appropriate cable from the chassis to inform you when the chassis is opened.

Chassis Intrusion Pin Definitions	
Pin#	Definition
1	Intrusion Input
2	Ground

NVMe SMBus Header

The NVMe SMBus (I²C) header (JNVI2C1) provides hot-plug support via a dedicated SMBus interface. This feature is only available for a Supermicro complete system with an SMCI-proprietary NVMe add-on card and a proper cable installed.

NVMe SMBus Header Pin Definitions	
Pin#	Definition
1	Data
2	Ground
3	Clock
4	VCCIO

PCIe 4.0 M.2 Slots

The X13DEI-T motherboard has two PCIe 4.0 M.2 slots. M.2 allows for a variety of card sizes, increased functionality, and spatial efficiency. The M.2 slots on the motherboard support PCIe 4.0 x2 M.2 NVMe SSDs in the 2280 and 22110 form factors.

NCSI Connector

The Network Controller Sideband Interface (NCSI) connector is located at JNCSI1. The connector is used to connect a Network Interface Card (NIC) to the motherboard to allow the onboard BMC to communicate with a network.

Note: For detailed instructions on how to configure Network Interface Card (NIC) settings, please refer to the Network Interface Card Configuration User's Guide posted on the web page under the link: http://www.supermicro.com/support/manuals/.

SATA 3.0 Ports

The X13DEI-T has two SATA 3.0 ports (I-SATA0~1) on the motherboard. These SATA ports are supported by the Intel® C741 chipset. I-SATA0/1 can be used with Supermicro SuperDOMs which are orange SATA DOM connectors with power pins built in, and do not require external power cables.

A slim SAS connector, located at JS1, supports eight SATA 3.0 connections (SATA0~7) on the motherboard. These SATA 3.0 ports are supported by the Intel® C741 chipset. Connecting a proper SATA cable to JS1 to use SATA 3.0 connections.

DOM Power Connector

Two power connectors for SATA DOM (Disk-On-Module) devices are located at JSD1 and JSD2. Connect appropriate cables here to provide power support for your Serial Link DOM devices.

DOM Power Connector Pin Definitions	
Pin#	Definition
1	5 V
2	Ground
3	Ground

MCIO NVMe Connectors

MCIO NVMe connectors, located at P1_NVME0/1, P1_NVME2/3 and P2_NVME4/5, provide six PCIe 5.0 x4 connections on the motherboard. P1_NVME0/1 and P1_NVME2/3 connections are supported by CPU1. P2_NVME4/5 are supported by CPU2. Use these MCIO connectors to support high-speed PCIe NVMe storage devices.

Note: When installing an NVMe device on a motherboard, please be sure to connect the first NVMe port (P1_NVME0/1) first for your system to work properly.

Front Control Panel

The front control panel header (JF1) contains header pins for various buttons and indicators that are normally located on a control panel at the front of the chassis. These connectors are designed specifically for use with Supermicro chassis. See the table below for the descriptions of the front control panel buttons and LED indicators.

JF1

	1	2	
Power Button	○	○	Ground
Reset Button	○	○	Ground
3.3V	○	○	Power Fail LED
UID LED	○	○	OH/PWR Fail/Fan Fail LED
3.3V Stby	○	○	NIC2 Active LED
3.3V Stby	○	○	NIC1 Active LED
3.3V Stby/UID SW	○	○	HDD LED
3.3V	○	○	PWR LED
X	○	○	X
NMI	○	○	Ground
	19	20	
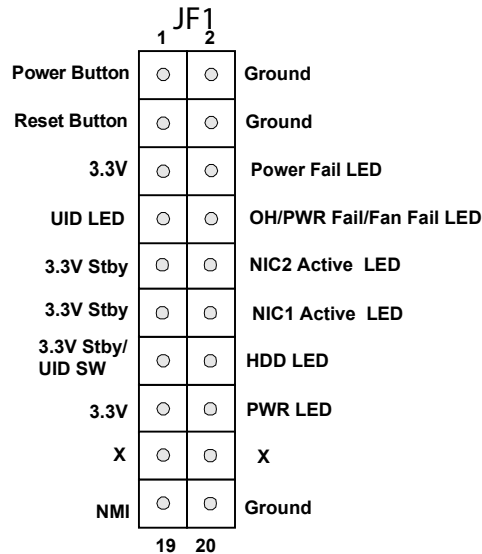
Figure 4-1. Front Control Panel Header (JF1)

Front Control Panel (JF1) LED Indicators						
Event	Power (LED1)	HDD (LED2)	LAN (LED3/4)	UID (LED5)	Information (LED5)	Power Fail (LED6)
Power On	Solid On					
HDD Activity		Blinking				
NIC Activity			Blinking			
Overheat					Solid On	
Fan Fail					Blinking at 1 Hz	
Power Fail					Blinking at 1/4 Hz	Solid On
Local UID On				Solid On		
Remote UID On				Blinking 1 Hz		
Checking	BMC/BIOS Blinking at 4 Hz					
Recovering/Updating	BMC Blinking at 4 Hz BMC 2 Blinks at 4 Hz, 1 Pause at 2 Hz (on-on-off-off(			BIOS/BMC Blinking at 10 Hz		
Flash Not Detected or Golden Image Check Failed	BMC/BIOS Blinking at 1 Hz					
CPLD Recovery Mode				Blinking at 10 Hz (MB UID LED)	Blinking at 10 Hz (FP Red LED)	

Power On & BMC/BIOS Status LED Button

The Power On and BMC/BIOS Status LED button is located on pins 1 and 2 of JF1. Momentarily contacting both pins will power on/off the system or display BMC/BIOS status.

Power Button & BIOS/BMC Status LED Indicator Pin Definitions (JF1)	
Pin#	Definition
1	Signal
2	Ground

Power Button LED Indicator Status	
Status	Event
Green: solid on	System power on
BMC/BIOS blinking green at 4 Hz	BMC/BIOS checking
BIOS blinking green at 4 Hz	BIOS recovery/update in progress
BMC blinking red x2 (2 blinks red) at 4 Hz, 1 pause at 2 Hz (on-on-off-off)	BMC recovery/update in progress
BMC/BIOS blinking green at 1 Hz	Flash not detected or golden image checking failure

Reset Button

The Reset Button connection is located on pins 3 and 4 of JF1. Momentarily contacting both pins will reset the system.

Reset Button Pin Definitions (JF1)	
Pin#	Definition
3	Reset
4	Ground

Power Fail LED

The Power Fail LED connection is located on pins 5 and 6 of JF1. When this LED turns solid red, it indicates a power failure.

Power Fail LED Pin Definitions (JF1)	
Pin#	Definition
5	3.3 V
6	PWR Fail for LED6 (Solid red on: PWR failure)

Information LED (OH/Fan Fail/PWR Fail/UID LED)

The Information LED (OH/Fan Fail/PWR Fail/UID LED) connection is located on pins 7 and 8 of JF1. The LED on pin 7 is active when the UID button (JUIDB1) on the rear I/O panel is pressed. The LED on pin 8 provides warnings of overheat, power failure, or fan failure.

Information LED-Blue+ (OH/Fan Fail/PWR Fail LED for LED5/blue UID LED) (Pin 7 & Pin 8 of JF1) LED Indicator Status	
Status	**Description**
Solid red (on)	An overheat condition has occurred.
Blinking red (1 Hz)	Fan failure: check for an inoperative fan.
Blinking red (0.25 Hz)	Power failure: check for a non-operational power supply
Blinking red (10 Hz) (FP red LED)	CPLD recovery mode error(s)
Solid blue	Local UID is activated. Use this function to locate a unit in a rack mount environment that might be in need of service.
Blinking blue (1 Hz)	Remote UID is on. Use this function to identify a unit from a remote location that might be in need of service.
BIOS/BMC blinking blue (10 Hz)	BIOS/BMC: recovery and/or update in progress
Red Info LED blinking (10 Hz) and MB UID LED blue blinking (10 Hz)	CPLD: recovery and/or update in progress

NIC1/NIC2 (LAN1/LAN2)

The NIC (Network Interface Controller) LED connection for LAN port 1 is located on pins 11 and 12 of JF1, and LAN port 2 is on pins 9 and 10.

LAN1/LAN2 LED Pin Definitions (JF1)			
Pin#	Definition	Pin#	Definitin
9	NIC 2 Activity LED	10	NIC 2 Link LED
11	NIC 1 Activity LED	12	NIC 1 Link LED

LAN1/LAN2 LED LED Indicator Status	
Color	State
NIC 2: Blinking green	LAN 2: Active
NIC 1: Blinking green	LAN 1: Active

ID_UID Switch/HDD LED

The UID Switch/HDD LED connection is located on pins 13 and 14 of JF1. The UID switch is used for a chassis that supports a front UID switch. The front UID switch functions in the same way as the rear UID switch; both are for input only and cannot be used for output.

When this LED is blinking green, it indicates HDD is active. Attach a cable to pins 13 and 14 to show ID_UID status and storage drive activity.

ID_UID/HDD LED Pin Definitions (JF1)	
Pins	Definition
13	ID_UID/3.3 V Stdby
14	HDD Activity

ID_UID/HDD LED Pin Definitions (JF1)	
Color	State
Blinking Green	HDD Active

Front Panel Power LED

The Front Panel Power LED connection is located on pins 15 and 16 of JF1.

FP Power LED Pin Definitions (JF1)	
Pins	**Definition**
15	3.3 V
16	FP PWR LED

NMI Button

The non-maskable interrupt (NMI) button header is located on pins 19 and 20 of JF1.

NMI Button Pin Definitions (JF1)	
Pins	**Definition**
19	NMI
20	Ground

4.3 Input/Output Ports

See the figure below for the locations and descriptions of the I/O ports on the rear of the motherboard.
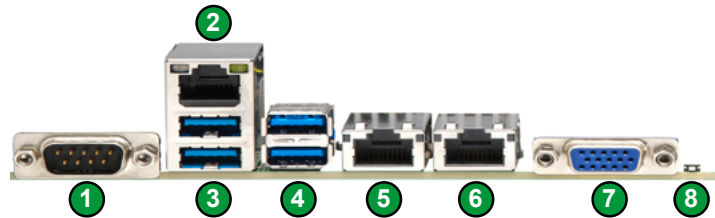
Figure 4-2. Rear I/O Ports

Rear I/O Ports			
#	**Description**	**#**	**Description**
1.	COM Port 1	5.	10 GbE LAN1
2.	Dedicated IPMI LAN	6.	10 GbE LAN2
3.	USB3/4 (3.0)	7.	VGA Port
4.	USB5/6 (3.0)	8.	UID/BMC Reset Switch

VGA Connections

There are two VGA connections in your system. The rear VGA port is located at VGA on the rear I/O panel, and the front VGA header is located at JFP2 on the motherboard. These VGA connections provide analog interface support between the computer and the video displays.

COM Ports

Two COM (communication) ports that support serial link interface are on this motherboard. COM1 is located on the rear I/O panel. COM2 is located at JCOM2 next to PCIe Slot 1 (JPCIE1).

COM2 (JCOM2) Pin Definitions			
Pin#	**Definition**	**Pin#**	**Definition**
1	SP_DCD2	6	SP_DSR2
2	SP_RXD2	7	SP_RTS2
3	SP_TXD2	8	SP_CTS2
4	SP_DTR2	9	SP_R12
5	Ground		

LAN Ports (LAN1/LAN2 & BMC LAN)

Two Ethernet LAN ports (LAN1/LAN2) and an IPMI dedicated LAN (BMC_LAN) are located on the rear I/O panel. The LAN1/LAN2 ports support a 10GbE LAN connection (via the Broadcom 5720 LAN controller). The dedicated IPMI LAN, located above the USB2/3 ports on the rear I/O panel, provides LAN support for the BMC (Baseboard Management Controller). All of these LAN ports accept RJ45 cables. Please refer to the LED Indicator section for LAN LED information.

Note: To prevent the BCM57416 LAN controller from overheating, the system will disable the LAN2 function in S5 mode.

Universal Serial Bus (USB) Ports and Headers

There are four USB 3.0 ports (USB3/4 and USB5/6) on the rear I/O panel. One 10-pin black USB 2.0 header (USB0/1) and one USB 3.0 header (USB7/8) are located on the motherboard, and each supports two USB connections for front access. There is also one vertical Type-A USB 2.0 connector (USB2) on the motherboard. These USB ports and headers can be used for USB support via USB cables (not included).

USB 2.0 Header (USB0/1) Pin Definitions			
Pin#	Definition	Pin#	Definition
1	+5 V	2	+5 V
3	USB_N	4	USB_N
5	USB_P	6	USB_P
7	GND	8	GND
9	Key	10	NC

Internal USB 2.0 Vertical Header (USB2) Pin Definitions	
Pin#	Definition
1	+5 V
2	USB_N
3	USB_P
4	GND

Rear I/O Panel USB 3.0 Ports (USB3/4) Pin Definitions			
Pin#	Definition	Pin#	Definition
1	VBUS	10	VBUS
2	USB_N	11	USB_N
3	USB_P	12	USB_P
4	GND	13	GND
5	USB3_RN	14	USB3_RN
6	USB3_RP	15	USB3_RP
7	GND	16	GND
8	USB3_TN	17	USB3_TN
9	USB3_TP	18	USB3_TP

Rear I/O Panel USB 3.0 Ports (USB5/6) Pin Definitions			
Pin#	Definition	Pin#	Definition
A1	VBUS	B1	VBUS
A2	USB_N	B2	USB_N
A3	USB_P	B3	USB_P
A4	GND	B4	GND
A5	USB3_RN	B5	USB3_RN
A6	USB3_RP	B6	USB3_RP
A7	GND	B7	GND
A8	USB3_TN	B8	USB3_TN
A9	USB3_TP	B9	USB3_TP

USB 3.0 Header (USB7/8) Pin Definitions			
Pin#	Definition	Pin#	Definition
1	VBUS	20	NC
2	USB3_RN	19	VBUS
3	USB3_RP	18	USB3_RN
4	GND	17	USB3_RP
5	USB3_TN	16	GND
6	USB3_TP	15	USB3_TN
7	GND	14	USB3_TP
8	USB_N	13	GND
9	USB_P	12	USB_N
10	GND	11	USB_P

UID (Unit Idenfication)/BMC Reset Switch and UID/BMC Reset LED Indicators

A UID LED/BMC Reset switch (JUIDB1) is located on the rear side of the motherboard. This switch has dual functions. It can be used to identify a system unit that is in need of service, and it can also be used to reset the BMC settings.

When functioning as a BMC reset switch, JUIDB1 will trigger a cold reboot when the user presses and holds the switch for six seconds. It will also restore the BMC to the manufacturer's default when the user presses and holds the switch for 12 seconds.

When functioning as a UID LED switch, JUIDB1 will turn both rear UID LED (LED6) and front UID LED (pin 7/pin 8 of JF1) on and off when the user presses the switch on/off.

To achieve these dual purposes, the UID LED/BMC Reset switch works in conjunction with the BMC Heartbeat LED (LEDBMC) and front/rear UID LEDs. Please note that UID can also be triggered via BMC on the motherboard. For more details, refer to the BMC User's Guide posted on our website at http://www.supermicro.com for more information on BMC.

4.4 Jumpers

Explanation of Jumpers

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

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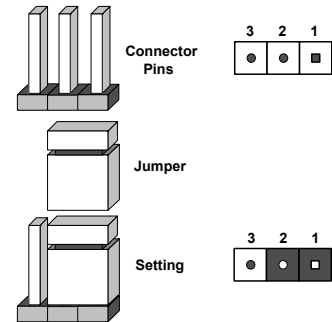
CMOS Clear

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

To Clear CMOS

1. First power down the system and unplug the power cord(s).

2. Remove the cover of the chassis to access the motherboard and remove the battery from the motherboard.

3. Short the CMOS pads, JBT1, with a metal object such as a small screwdriver for at least four seconds.

4. Remove the screwdriver (or shorting device).

5. Re-install the battery.

6. Replace the cover, reconnect the power cord(s), and power on the system.

> **Notes**: Clearing CMOS will also clear all passwords. Do not use the PW_ON connector to clear CMOS.

LAN Port Enable/Disable

Jumper JPL1 allows the user to enable the onboard LAN1 and LAN2 ports. The default setting is pins 1-2 to enable the connection.

LAN Enable/Disable Jumper Settings	
Jumper Setting	**Definition**
Pins 1-2	Enabled
Pins 2-3	Disabled

4.5 LED Indicators

Unit ID LED

The rear UID LED indicator is located at LED6. This UID indicator provides easy identification of a system that may need service.

UID LED LED Indicator	
LED Color	**Definition**
Blue: On	System Identified

LAN LEDs

Two LAN ports (LAN1 and LAN2) are located on the rear I/O panel of the motherboard. Each Ethernet LAN port has two LEDs. One LED indicates activity, while the other LED may be green, amber, or off to indicate the speed of the connection.

LAN1/2 Activity LED (Right) LED State		
Color	**Status**	**Definition**
Green	Flashing	Active

LAN1/2 Link LED (Left) LED State	
LED Color	**Definition**
Green	10 Gbps
Yellow/Amber	1 Gbps

BMC LAN LEDs

In addition to LAN1 and LAN2, a BMC LAN is also located on the rear I/O panel. The LED on the right indicates activity, and the LED on the left indicates the speed of the connection.

BMC LAN LEDs		
LED	**Color/State**	**Definition**
Link (Left)	Green: Solid Amber: Solid	100 Mbps 1 Gbps
Activity (Right)	Amber: Blinking	Active

BMC Heartbeat LED

A BMC Heartbeat LED is located at LEDBMC on the motherboard. When LEDBMC is blinking green, the BMC is functioning normally.

M.2 LED Indicators

Two M.2 LED indicators are located at LED4 and LED7 on the motherboard. When LED4 is blinking, M.2-C1 functions normally, while LED7 is blinking, M.2-C2 functions properly.

M.2 LED State	
LED Color	**Definition**
Green: Blinking	M.2 device working

Onboard Power LED

The Onboard Power LED is located at LEDPWR on the motherboard. When this LED is on, the system power is on.

Onboard Power LED Indicator	
LED Color	**Definition**
Off	System Power Off (power cable not connected)
Green	System Power On

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 can be a USB flash or media drive.

2. Retrieve the proper RST/RSTe driver. 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 startup.
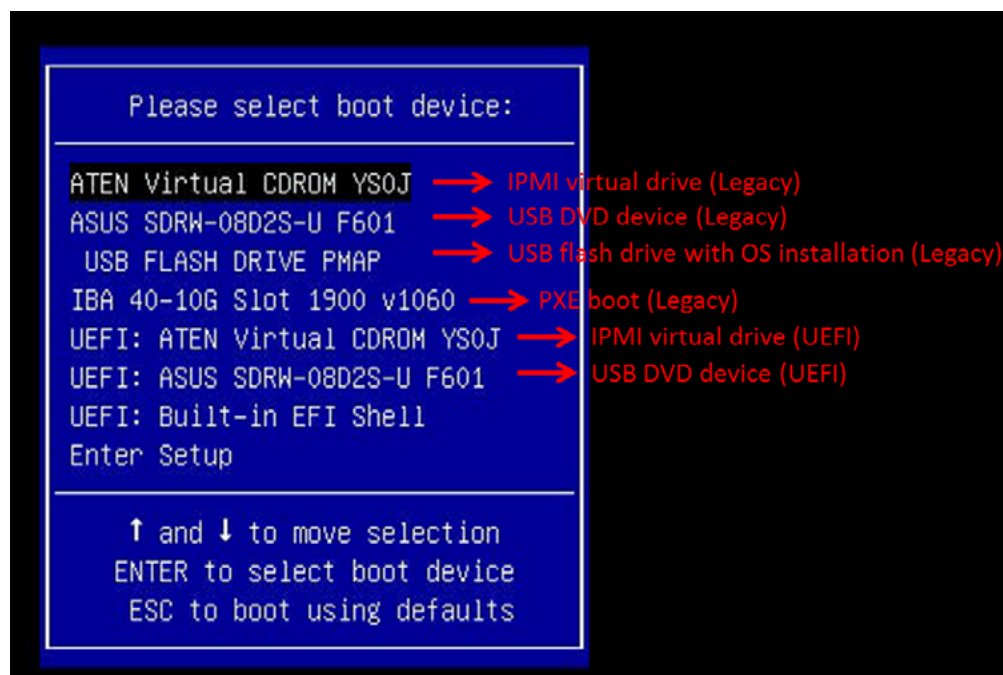
Figure 5-1. Select Boot Device

4. During Windows Setup, continue to the dialog 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.
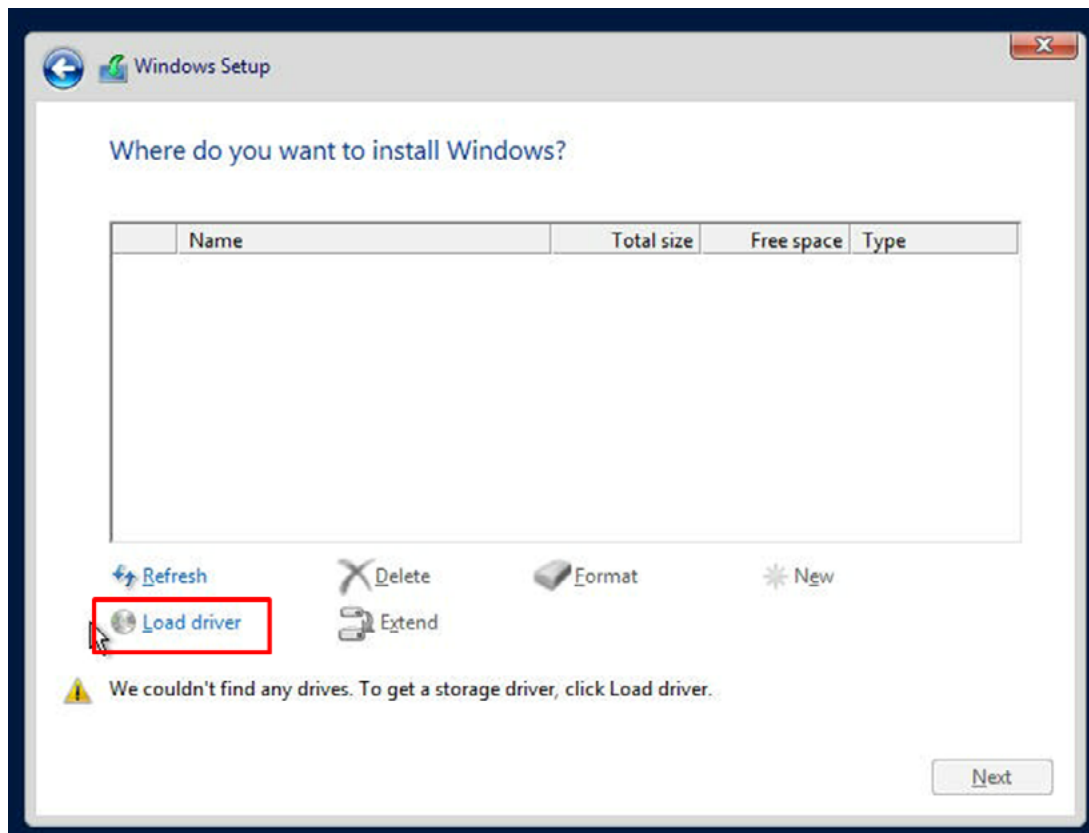
Figure 5-2. Load Driver Link

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

- For RAID, choose the SATA/sSATA RAID driver indicated then choose the storage drive on which you want to install it.

- For non-RAID, choose the SATA/sSATA AHCI driver indicated 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.

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 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 & Tool Installation Screen

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

5.3 BMC

The motherboard 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:

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

Chapter 6

Optional Components

This chapter describes optional system components.

6.1 Optional Parts List

Optional Parts List	
Description	**Part Number**
CacheVault for Broadcom SAS Controller	BTR-CVPM05
Supercap and PCI bracket	MCP-240-00203-0N

CacheVault for Broadcom SAS Controller

CacheVault for Broadcom 3916 BBU for 3908/3916 RAID card.

Supercap and PCI Bracket

Supercap and PCIe bracket plastic holder for BBU.

6.2 Intel Virtual RAID on CPU (VROC)

Intel® Virtual RAID on CPU (Intel VROC) is an enterprise RAID solution for NVMe SSDs directly attached to Intel Xeon Scalable processors. Intel Volume Management Device (VMD) is an integrated controller inside the CPU PCIe root complex.

* A single processor supports up to 12 NVMe SSDs and up to 6 RAID arrays.

* A dual processor system supports up to 24 NVMe SSDs and 12 RAID arrays.

Strip sizes are 4K, 8K, 16K, 32K, 64K, 128K.

Requirements and Restrictions

* **Intel VROC is only available when the system is configured for UEFI boot mode.**

* To enable the **mdadm** command and support for RSTe, install the patch from

    * Linux: https://downloadcenter.intel.com/download/28158/Intel-Virtual-RAID-on-CPU-Intel-VROC-and-Intel-Rapid-Storage-Technology-enterprise-Intel-RSTe-Driver-for-Linux

    * Windows: https://downloadcenter.intel.com/download/28108/Intel-Virtual-RAID-on-CPU-Intel-VROC-and-Intel-Rapid-Storage-Technology-enterprise-Intel-RSTe-Driver-for-Windows

* To enable Intel VROC, a hardware key must be inserted on the motherboard, and the appropriate processor's Virtual Management Devices must be enabled in the BIOS setup.

* It is possible to enable Intel VROC without a hardware key installed, but only RAID0 will be enabled.

* Intel VROC is not compatible with secure boot. This feature must be disabled.

* When creating bootable OS RAID1 devices, you must have both devices on the same CPU, and a VMD on that CPU.

* Spanning drives when creating RAID devices is not recommended to due to performance issues, even though it is supported.

Supported SSDs and Operating Sytems

To see the latest support information: https://www.intel.com/content/www/us/en/support/articles/000030310/memory-and-storage/ssd-software.html

Additional Information

Additional information is available on the product page for the Supermicro add-on card and the linked manuals.

www.supermicro.com/products/accessories/addon/AOC-VROCxxxMOD.cfm

Hardware Key

The Intel VROC hardware key is a license key that detects the Intel VROC SKU and activates the function accordingly. The key must be plugged into the Supermicro motherboard (connector JRK1). The key options are:

Intel® VROC Keys			
VROC Package	Description	Part Number	Intel MM Number
Standard	RAID 0, 1, 10 Supports 3rd party SSDs	AOC-VROCSTNMOD	951605
Premium	RAID 0, 1, 5, 10 Supports 3rd party SSDs	AOC-VROCPREMOD	951606
Intel SSD only	RAID 0, 1, 5, 10 Supports Intel SSDs only	AOC-VROCINTMOD	956822

Figure 6-1. Intel VROC RAID Key and Motherboard Connector JRK1

Configuring Intel VMD

VMD must be enabled on PCIe ports which have NVMe drives attached to them in order for those drives to be added to a VROC RAID configuration. The default BIOS setting for the NVMe Mode Switch is **Auto** which automatically enables VMD on all installed NVMe drives.

NVMe Mode Switch :

- **Auto**   Enables VMD for all NVMe ports if VROC Key is installed.

- **VMD**   Enables VMD for all NVMe ports despite the lack of the VROC Key.

- **Manual** Allows the user to select specific NVMe ports on which to enable VMD.

The NVMe Mode Switch can be viewed or selected at **BIOS > Advanced > Chipset Configuration > North Bridge > IIO Configuration > Intel® VMD Technology**.

Note: Without a VROC Key, there is no RAID support with the **Auto** switch. Only RAID 0 is supported with the **VMD** and **Manual** switches.

Configuring VMD Manually

The steps for manually configuring VMD on specific NVMe ports in UEFI BIOS are shown below. Example screenshots may differ from your server.

1. Reboot the server and press [DEL] key to access the BIOS options.

2. Switch to **Advanced > Chipset Configuration > North Bridge > IIO Configuration > Intel® VMD Technology**.

3. Select **VMD Mode Switch**, then select **Manual**.
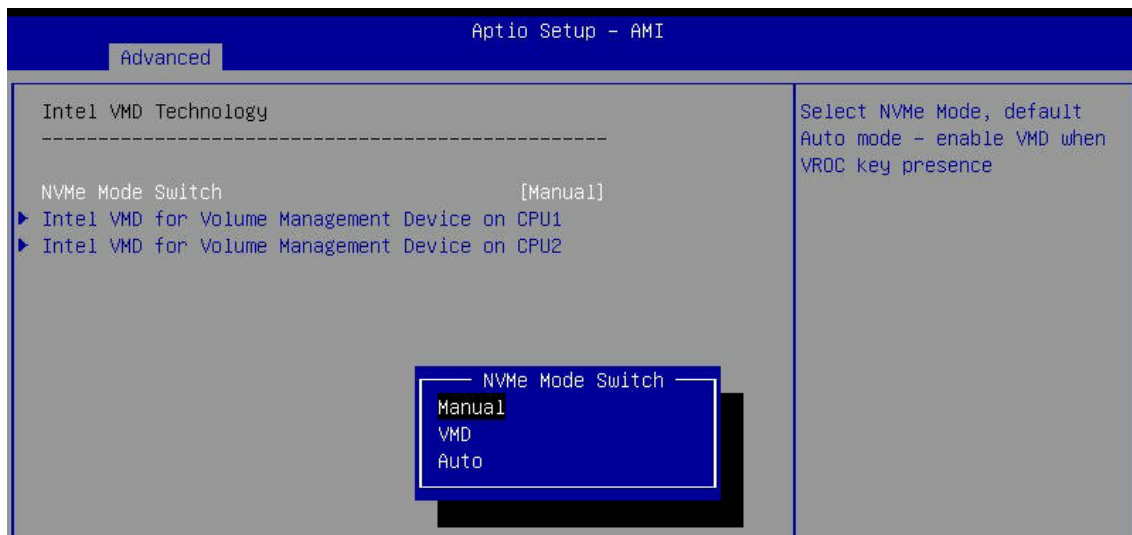
Figure 6-2. BIOS, Selecting VMD Mode

4. This system supports eight NVMe devices. There are two M.2 NVMe and four NVMe SSDs connected to CPU1. There are two NVMe SSDs connected to CPU2. We are going to enable VMD on all eight NVMe devices.

   Caution: VMD must only be enabled on NVMe port resources shown below. If VMD is enabled on other PCIe ports, the functionality of those ports will be impacted.
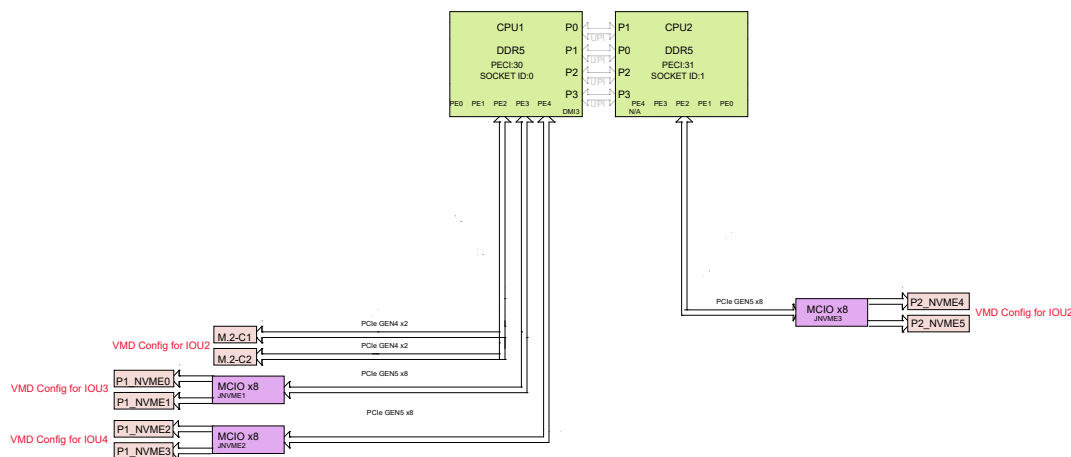
Figure 6-3. NVMe Port Resources

Intel VMD BIOS Settings for X13 SuperStorage Systems				
Model	CPU1 NVMe Ports	NVMe Slot	CPU2 NVMe Ports	NVMe Slot
SSG-621E-ACR12H/L	VMD Config for IOU 2	M.2-C1 M.2-C2	VMD Config for IOU 2	P2_NVME4 P2_NVME5
	VMD Config for IOU 3	P1_NVME0 P1_NVME1	-	-
	VMD Config for IOU 4	P1_NVME2 P2_NVME3	-	-
SSG-621E-ACR16H/L	VMD Config for IOU 2	M.2-C1 M.2-C2	VMD Config for IOU 2	P2_NVME4 P2_NVME5
	VMD Config for IOU 3	P1_NVME0 P1_NVME1	-	-
	VMD Config for IOU 4	P1_NVME2 P2_NVME3	-	-
SSG-631E-ACR16H/L	VMD Config for IOU 2	M.2-C1 M.2-C2	-	-
SSG-641E-E1CR24H/L	VMD Config for IOU 2	M.2-C1 M.2-C2	VMD Config for IOU 2	P2_NVME4 P2_NVME5
	VMD Config for IOU 3	P1_NVME0 P1_NVME1	-	-
	VMD Config for IOU 4	P1_NVME2 P2_NVME3	-	-
SSG-641E-E1CR36H/L	VMD Config for IOU 2	M.2-C1 M.2-C2	VMD Config for IOU 2	P2_NVME4 P2_NVME5
	VMD Config for IOU 3	P1_NVME0 P1_NVME1	-	-
	VMD Config for IOU 4	P1_NVME2 P2_NVME3	-	-

Caution: VMD must only be enabled on NVMe port resources shown above. If VMD is enabled on other PCIe ports, the functionality of those ports will be impacted.

5. Select **Intel VMD for Volume Management Device on CPU1**.

```
                              Aptio Setup – AMI
        Advanced

   Intel VMD Technology                                     Note: In order to create
   -------------------------------------------------        NVMe RAID, you must have a
                                                            VROC key installed on the
   NVMe Mode Switch                        [Manual]         platform; otherwise, the
 ▶ Intel VMD for Volume Management Device on CPU1           NVMe RAID settings will be
 ▶ Intel VMD for Volume Management Device on CPU2           cleared after the end of
                                                            the trial period.
```

Figure 6-4. Intel VMD for Volume Management Device on CPU 1

6. Under VMD Config for IOU 2, select the **Enable/Disable VMD** option. Change from **Disable** to **Enable**.

7. Select the **M.2-C1 VMD** option. Change from **Disable** to **Enable**.

8. Select the **M.2-C2 VMD** option. Change from **Disable** to **Enable**.

9. Select the **Hot Plug Capable** option. Change from **Disable** to **Enable**.

Figure 6-5. NVMe Port Resources, CPU1 IOU2
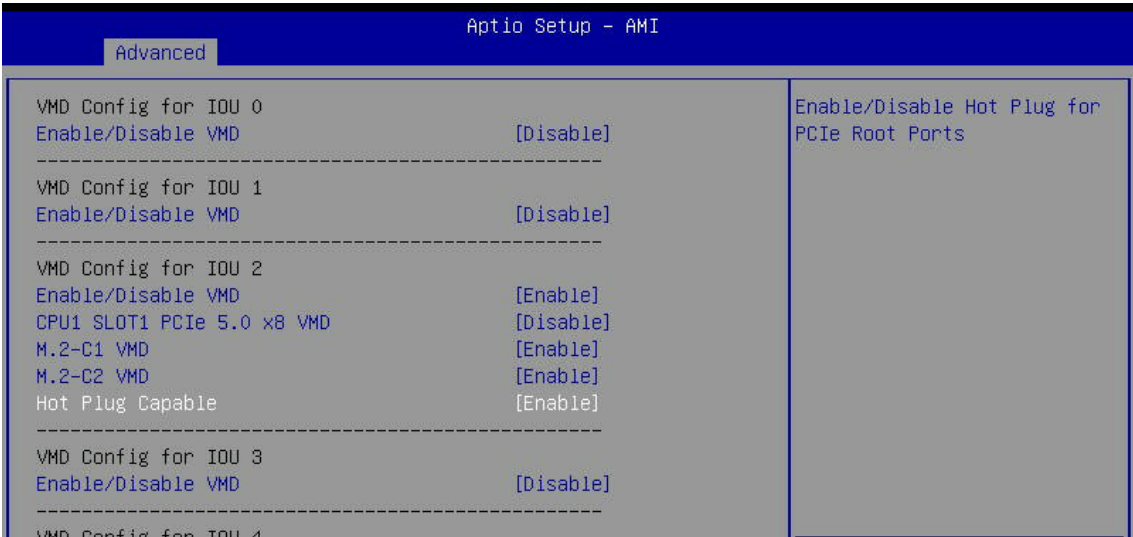
Figure 6-6. Enabling NVMe Port Resources in BIOS

10. Under VMD Config for IOU 3, select the **Enable/Disable VMD** option. Change from **Disable** to **Enable**.

11. Select the **P1_NVME0 VMD** option. Change from **Disable** to **Enable**.

12. Select the **P1_NVME1 VMD** option. Change from **Disable** to **Enable**.

13. Select the **Hot Plug Capable** option. Change from **Disable** to **Enable**.

Figure 6-7. NVMe Port Resources, CPU1 IOU3
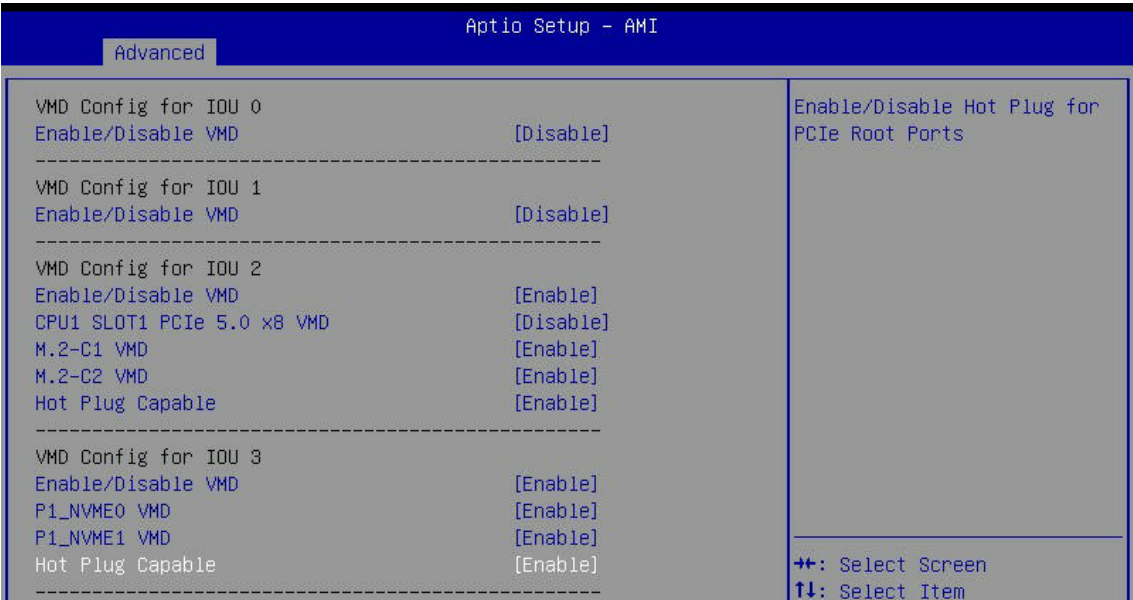
Figure 6-8. Enabling NVMe Port Resources in BIOS

14. Under VMD Config for IOU 4, select the **Enable/Disable VMD** option. Change from **Disable** to **Enable**.

15. Select the **P1_NVME2 VMD** option. Change from **Disable** to **Enable**.

16. Select the **P1_NVME3 VMD** option. Change from **Disable** to **Enable**.

17. Select the **Hot Plug Capable** option. Change from **Disable** to **Enable**.
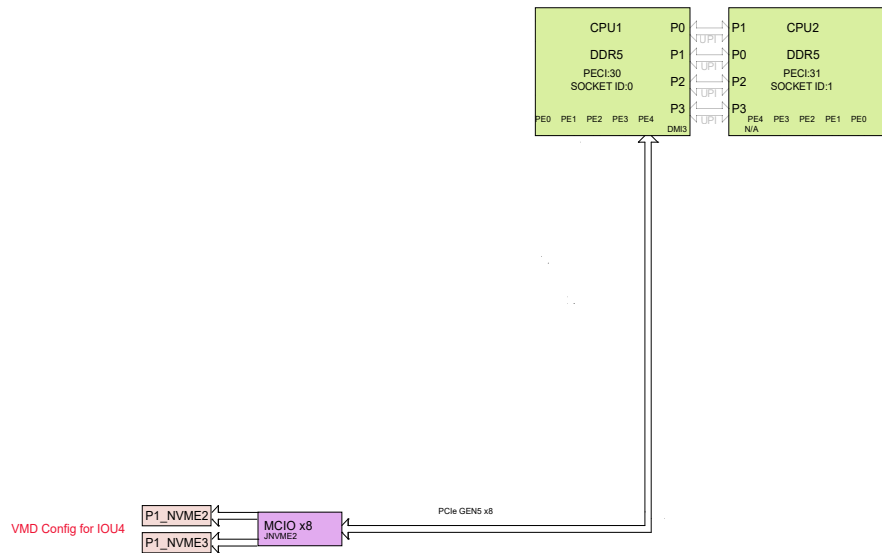
Figure 6-9. NVMe Port Resources, CPU1 IOU4
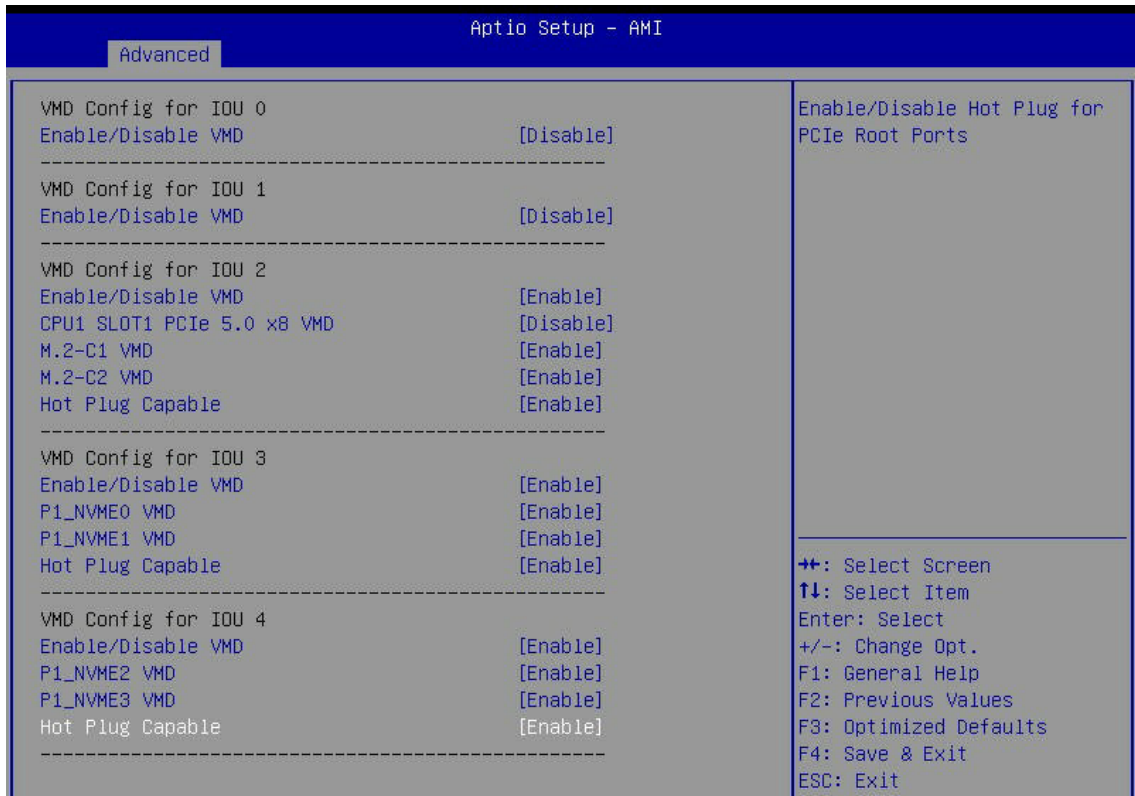
Figure 6-10. Enabling NVMe Port Resources in BIOS

18. Press [ESC] to return to the previous page.

19. Select **Intel VMD for Volume Management Device on CPU2.**

```
                             Aptio Setup – AMI
        Advanced

    Intel VMD Technology                                  Note: In order to create
    --------------------------------------------------    NVMe RAID, you must have a
                                                          VROC key installed on the
    NVMe Mode Switch                        [Manual]      platform; otherwise, the
  ▶ Intel VMD for Volume Management Device on CPU1        NVMe RAID settings will be
  ▶ Intel VMD for Volume Management Device on CPU2        cleared after the end of
                                                          the trial period.
```
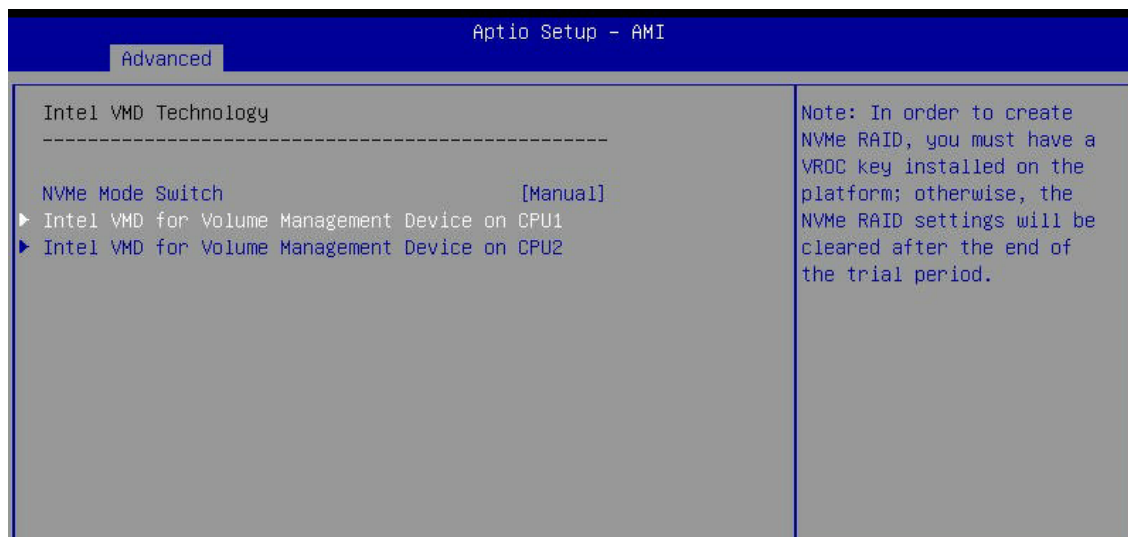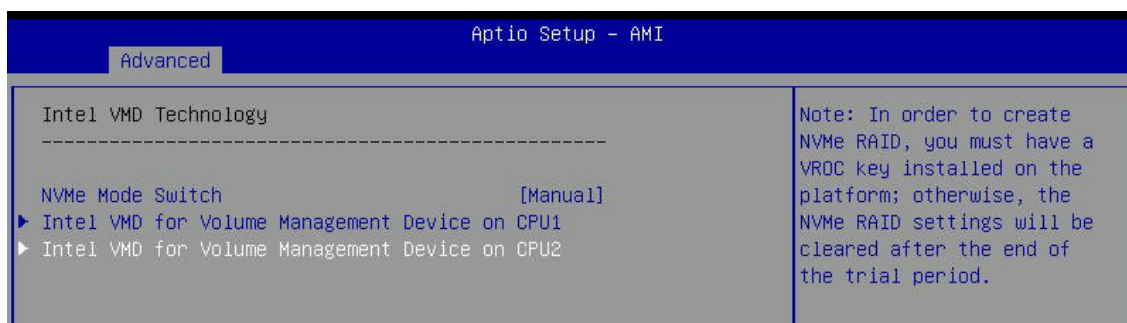
Figure 6-11. Intel VMD for Volume Management Device on CPU 2

20. Under VMD Config for IOU 2, select the **Enable/Disable VMD** option. Change from **Disable** to **Enable**.

21. Select the **P2_NVME4 VMD** option. Change from **Disable** to **Enable**.

22. Select the **P2_NVME5 VMD** option. Change from **Disable** to **Enable**.

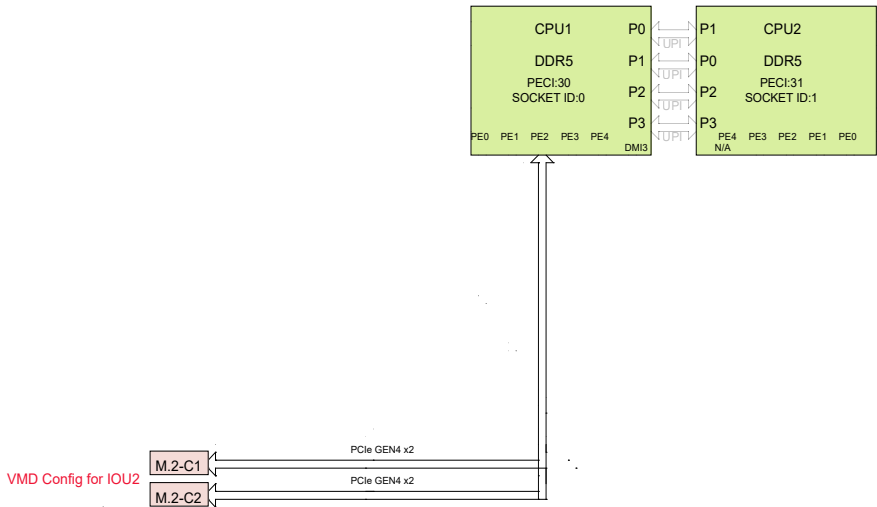23. Select the **Hot Plug Capable** option. Change from **Disable** to **Enable**.
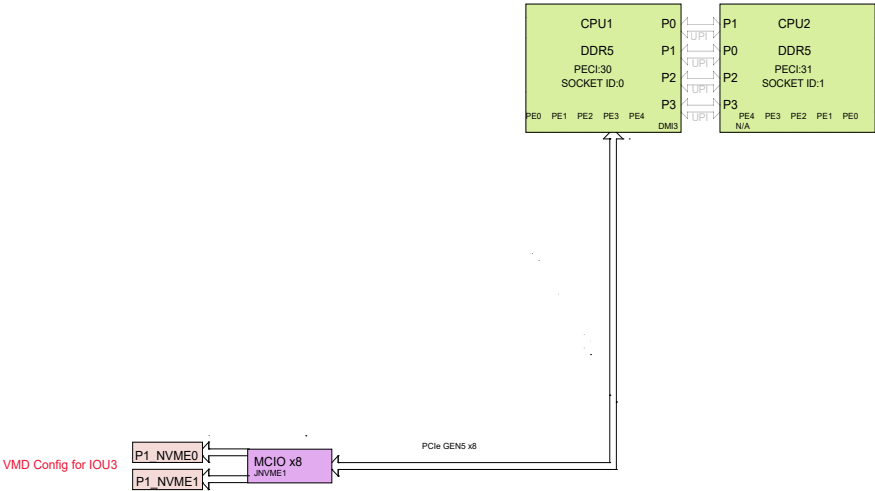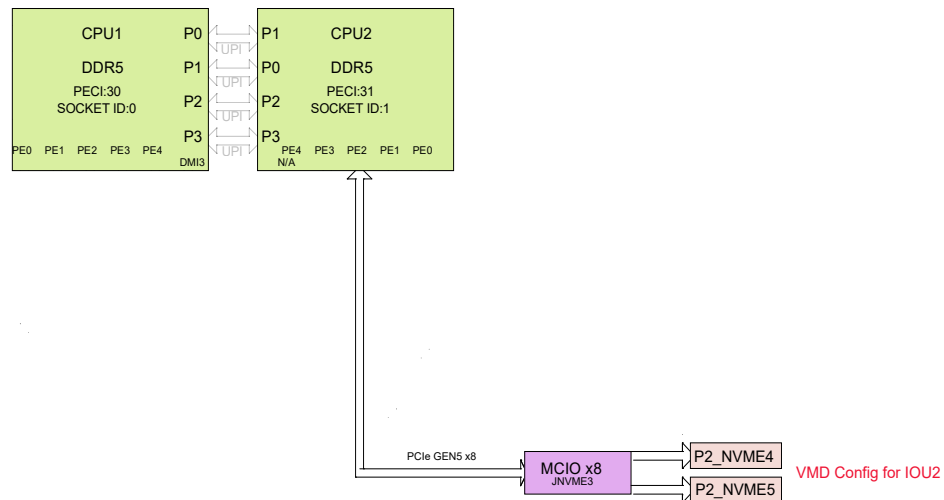
Figure 6-12. NVMe Port Resources, CPU2 IOU2
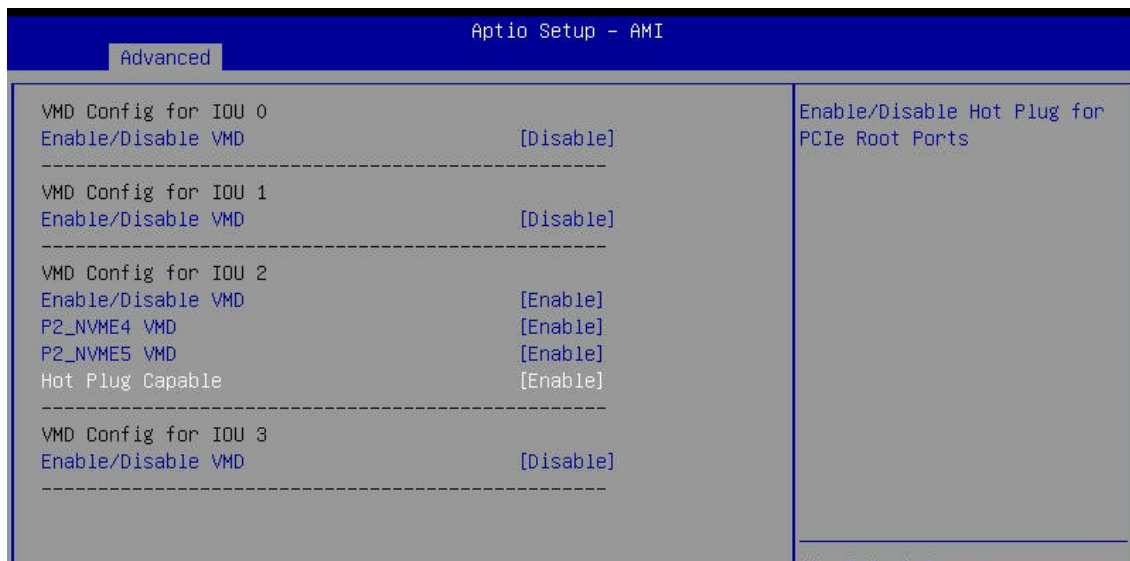
Figure 6-13. Enabling NVMe Port Resources in BIOS

24. Press [F4] to save the configuration and reboot the system and press [DEL] to enter the BIOS.

Note: Disabling the VMD controller without first deleting the associated existing RAID volume can lead to unexpected behavior. This action is strongly not recommended.

Note: The effects of physically changing or swapping a CPU on the VMD controller enablement has not yet been thoroughly tested or documented.

Creating NVMe RAID Configurations

1. Open **Advanced > Intel(R) Virtual RAID on CPU > All Intel VMD Controllers > Create RAID Volume**.
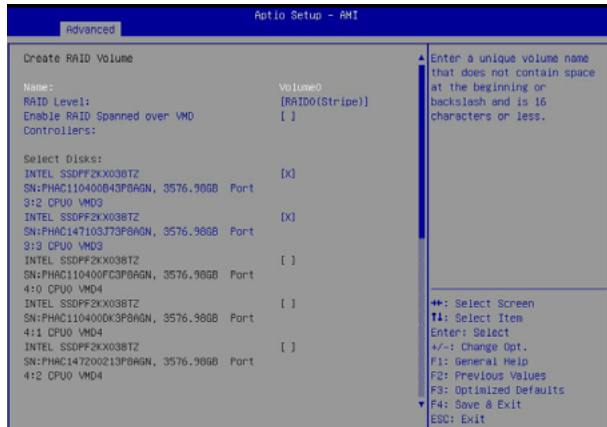
Figure 6-14. Created Volume *without* enabling RAID spanned over VMD controller

2. Set **Name**.

3. Set **RAID Level**.

4. If cross-controller RAID is required, select **Enable RAID spanned over VMD Controller**.

5. Select specific disks for RAID with an [X].

   - RAID0: Select at least two disks

   - RAID1: Select only two disks

   - RAID5: Select at least three disks

   - RAID10: Select only four disks

6. Select **Strip Size** (Default 64KB).

7. Select **Create Volume**.

8. If another RAID is needed, start again at step 1.

Status Indications

An LED indicator on the drive carrier shows the RAID status of the drive.

Drive Carrier Status LED Indicator	
Status	State (red)
Normal function	Off
Locating	4 Hz blinking
Fault	Solid on
Rebuilding	1 Hz blinking

IBPI SFF 8489 Defined Status LED States

Hot Swap Drives

Intel VMD enables hot-plug and hot-unplug for NVMe SSDs, whether from Intel or other manufacturers. Under vSphere ESXi, several steps are necessary to avoid potential stability issues. See the information at link [1] below.

Hot-unplug

1. Prevent devices from being re-detected during rescan:

```
esxcli storage core claiming autoclaim --enabled=false
```

2. Unmount the VMFS volumes on the device. Check [2] for details.

3. Detach the device. Check [3] for details.

4. Physically remove the device.

Hot-plug

• Physically install the device.

ESXi will automatically discover NVMe SSDs, but a manual scan may be required in some cases.

Related Information Links

[1] https://kb.vmware.com/s/article/2151404

[2] https://docs.vmware.com/en/VMware-vSphere/6.5/com.vmware.vsphere.storage.doc/GUID-1B56EF97-F60E-4F21-82A7-8F2A7294604D.html

[3] https://docs.vmware.com/en/VMware-vSphere/6.5/com.vmware.vsphere.storage.doc/GUID-F2E75F67-740B-4406-9F0C-A2D99A698F2A.html

Chapter 7

Troubleshooting and Support

7.1 Information Resources

Website

A great deal of information is available on the Supermicro website, supermicro.com.
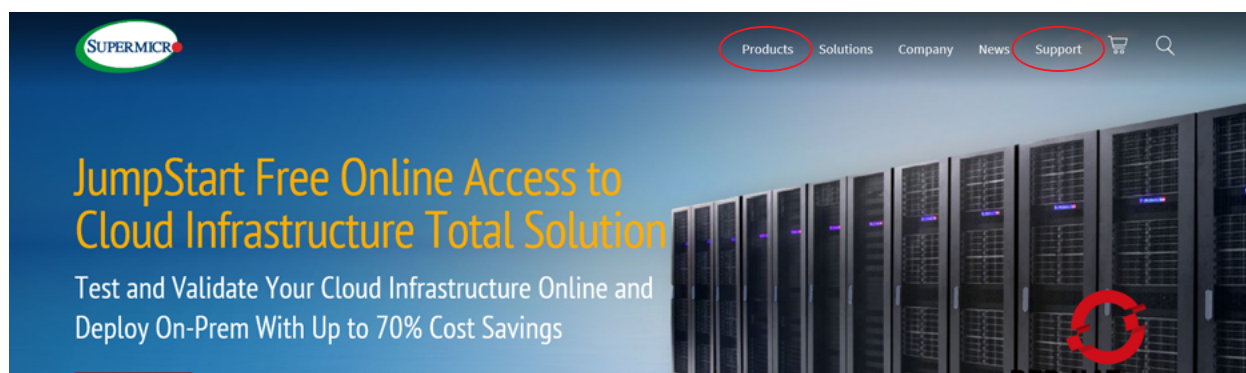
Figure 7-1. Supermicro Website

- Specifications for servers and other hardware are available by the Products option.

- The Support option offers downloads (manuals, BIOS/BMC, drivers, etc.), FAQs, RMA, warranty, and other service extensions.

Direct Links for the SSG-621E-ACR16H/L System

SSG-621E-ACR16H, SSG-621E-ACR16L specifications page

X13DEI-T, 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

Add-on card descriptions

TPM User Guide

General Memory Configuration Guide

IPMI User Guide

SuperDoctor5 Large Deployment Guide

Direct Links (continued)

For validated memory, use our Product Resources page

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/en/solutions/management-software/bmc-resources.
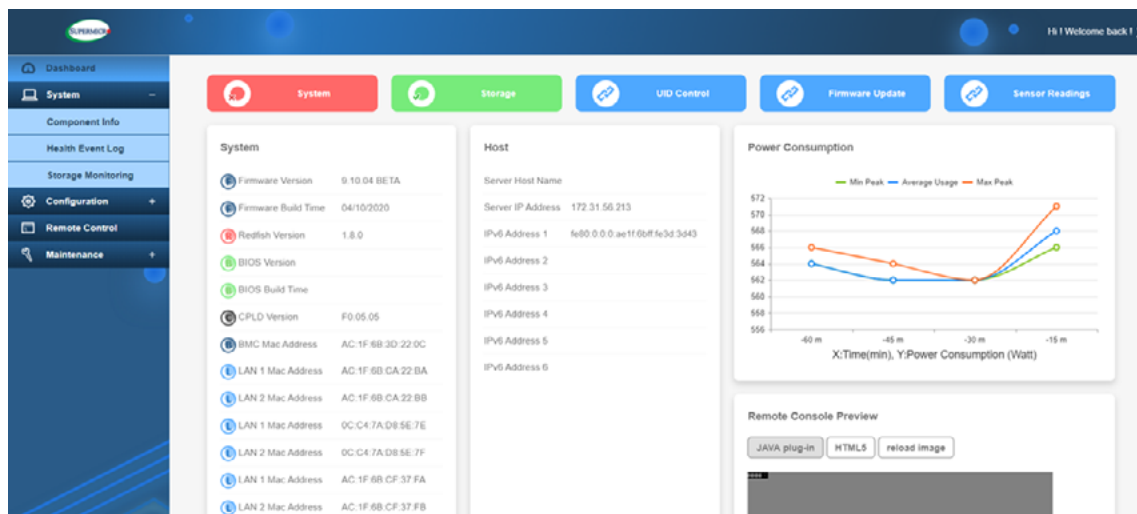
Figure 7-2. BMC Sample

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 section in this chapter. Power down the system before changing any non hot-swap hardware components.

General Technique

If you experience unstable operation or get no boot response, try:

1. With power off, remove all but one DIMM and other added components, such as add-on cards, from the motherboard. Make sure the motherboard is not shorted to the chassis.

2. Set all jumpers to their default positions.

3. Power up. If the system boots, check for memory errors and add-on card problems.

No Power

• Make sure that there are no short circuits between the motherboard and the chassis.
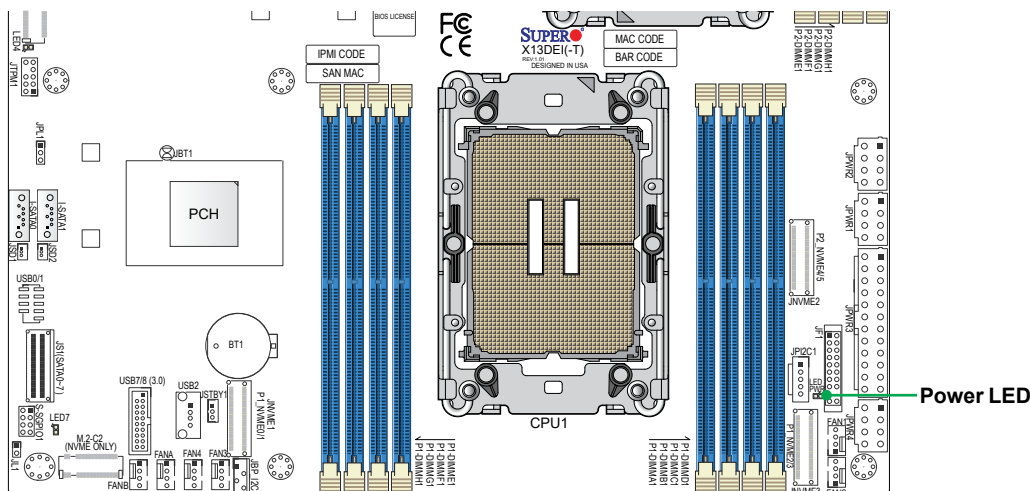
Figure 7-3. Location of the MB Power LED

• Make sure that the power connectors are properly connected.

• Check that the 115/230 VAC switch, if available, on the power supply is properly set.

• Turn the power switch on and off to test the system, if applicable.

• 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.

No Video

- Be sure that your peripherals and devices work properly.

- If there is no video when the power is on, please turn off your system and remove all add-on cards and cables.

System Boot Failure

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

- 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 below.

Memory Errors

- Make sure that the DIMM modules are properly and fully installed.

- 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.

- Check for bad DIMM modules or slots by swapping modules between slots and noting the results.

Losing the System Setup Configuration

- Always replace power supplies with the exact same model that came with the system. A poor quality power supply may cause the system to lose the CMOS setup configuration.

- Check that the motherboard battery still supplies approximately 3 VDC. If it does not, replace it.

If the above steps do not fix the setup configuration problem, contact your vendor for repairs.

When the System Becomes Unstable

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

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

- Memory: Make sure that the memory modules are supported. Refer to the product page on our website at www.supermicro.com. Test the modules using **memtest86** or a similar utility.

- Storage drives: Make sure that all drives work properly. Replace if necessary.

- System cooling: Check that all heatsink fans and system fans work properly. Check the hardware monitoring settings in the BMC to make sure that the CPU and system temperatures are within the normal range. Also check the Control panel Overheat LED.

- Adequate power supply: Make sure that the power supply provides adequate power to the system. Make sure that all power connectors are connected. Refer to the Supermicro website for the minimum power requirements.

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

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

- Source of installation: Make sure that the devices used for installation are working properly, including boot devices.

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

- Use 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.

- Identify a bad component by isolating it. Check and change one component at a time.

  - Remove a component in question from the chassis, and test it in isolation. Replace it if necessary.

  - Or swap in a new component for the suspect one.

  - Or install the possibly defective component into a known good system. If the new system works, the component is likely not the cause or the problem.

7.4 BIOS Error Beep (POST) Codes

During the POST (Power-On Self-Test) routines, which are performed each time the system is powered on, errors may occur.

Non-fatal errors are those which, in most cases, allow the system to continue the boot-up process. The error messages normally appear on the screen.

Fatal errors are those which will not allow the system to continue the boot-up procedure. If a fatal error occurs, you should consult with your system manufacturer for possible repairs.

These fatal errors are usually communicated through a series of audible beeps. The table below lists some common errors and their corresponding beep codes encountered by users.

BIOS Error Beep (POST) Codes		
Beep Code	**Error Message**	**Description**
1 short	Refresh	Circuits have been reset (Ready to power up)
5 short, 1 long	Memory error	No memory detected in system
5 long, 2 short	Display memory read/write error	Video adapter missing or with faulty memory
1 long continuous	System OH	System overheat condition

Additional BIOS POST Codes

The AMI BIOS supplies additional checkpoint codes, which are documented online at http://www.supermicro.com/support/manuals/ ("AMI BIOS POST Codes User's Guide").

When BIOS performs the Power On Self Test, it writes checkpoint codes to I/O port 0080h. If the computer cannot complete the boot process, a diagnostic card can be attached to the computer to read I/O port 0080h (Supermicro p/n AOC-LPC80-20).

For information on AMI updates, please refer to http://www.ami.com/products/.

7.5 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/en/solutions/management-software/bmc-resources.

Check IPMI Error Log

1. Access the BMC web interface.

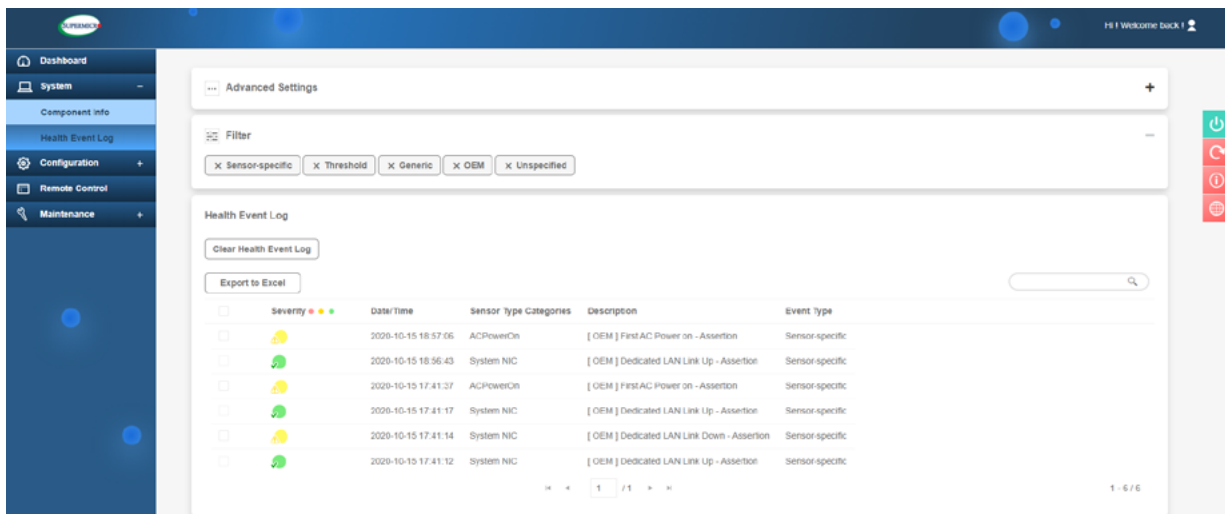2. Click the **Server Health** tab, then **Event Log** to verify an IERR error.

Figure 7-4. BMC Event Log

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

7.6 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 or media drive can be used for this purpose. However, a USB 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 disc 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.
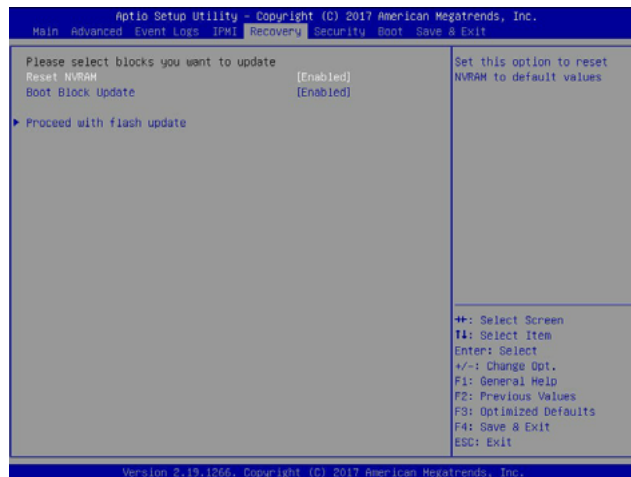
4. When the screen as shown above displays, use the arrow keys to select the item "Proceed with flash update" and press the <Enter> key. You will see the BIOS recovery progress as shown in the screen below.

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

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

6. Using a different system, extract the BIOS package into a USB flash drive.
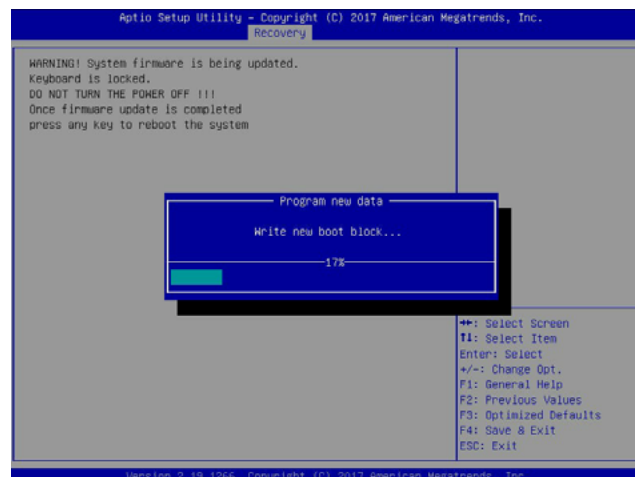
7. Press <Del> continuously during system boot to enter the BIOS Setup utility. From the top of the tool bar, select Boot to enter the submenu. From the submenu list, select Boot
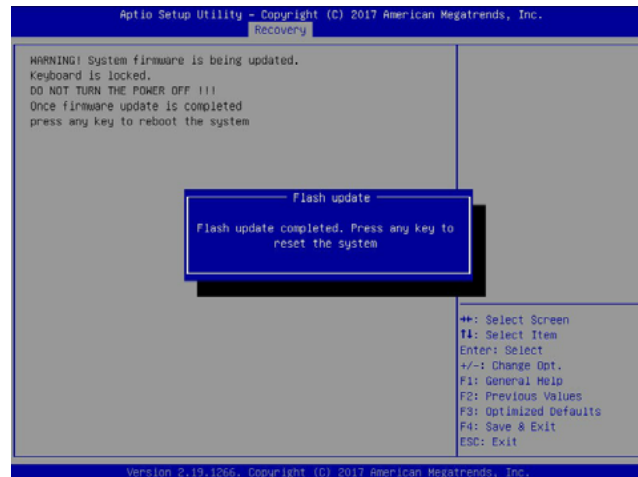
Option #1 as shown below. Then, set Boot Option #1 to [UEFI AP:UEFI: Built-in EFI Shell]. Press <F4> to save the settings and exit the BIOS Setup utility.

8. 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.
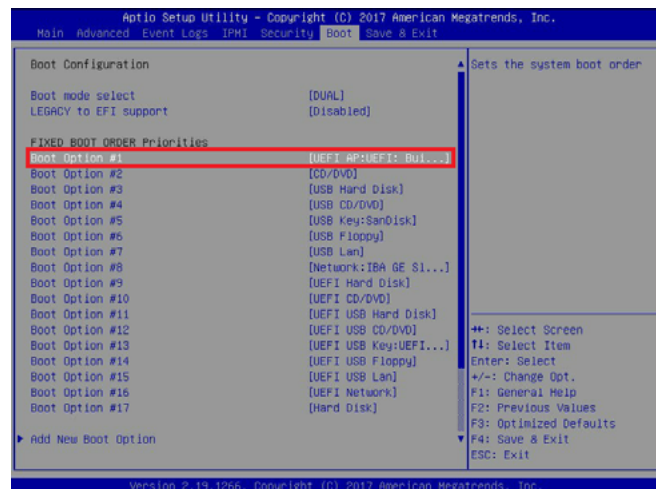
Note: *Do not interrupt this process* until the BIOS flashing is complete.

9. 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.

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

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

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

7.7 CMOS Clear

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

To Clear CMOS

1. First power down the system 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 system.

Notes: Clearing CMOS will also clear all passwords.

Do not use the PW_ON connector to clear CMOS.

JBT1 contact pads

7.8 Where to Get Replacement Components

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

7.9 Reporting an Issue

Technical Support Procedures

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

   • System, motherboard, and chassis model numbers and PCB revision number

   • BIOS release date/version (this can be seen on the initial display when your system first boots up)

   • System 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.

Contacting Supermicro

Headquarters

Address:	Super Micro Computer, Inc.
	980 Rock Ave.
	San Jose, CA 95131 U.S.A.
Tel:	+1 (408) 503-8000
Fax:	+1 (408) 503-8008
Email:	marketing@supermicro.com (General Information)
	Sales-USA@supermicro.com (Sales Inquiries)
	Government_Sales-USA@supermicro.com (Gov. Sales Inquiries)
	support@supermicro.com (Technical Support)
	RMA@supermicro.com (RMA Support)
	Webmaster@supermicro.com (Webmaster)
Website:	www.supermicro.com

Europe

Address:	Super Micro Computer B.V.
	Het Sterrenbeeld 28, 5215 ML
	's-Hertogenbosch, The Netherlands
Tel:	+31 (0) 73-6400390
Fax:	+31 (0) 73-6416525
Email:	Sales_Europe@supermicro.com (Sales Inquiries)
	Support_Europe@supermicro.com (Technical Support)
	RMA_Europe@supermicro.com (RMA Support)
Website:	www.supermicro.nl

Asia-Pacific

Address:	Super Micro Computer, Inc.
	3F, No. 150, Jian 1st Rd.
	Zhonghe Dist., New Taipei City 235
	Taiwan (R.O.C)
Tel:	+886-(2) 8226-3990
Fax:	+886-(2) 8226-3992
Email:	Sales-Asia@supermicro.com.tw (Sales Inquiries)
	Support@supermicro.com.tw (Technical Support)
	RMA@supermicro.com.tw (RMA Support)
Website:	www.supermicro.com.tw

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 وُي أى تتسبب ف اصابة جسذ ةٌ هذا الزهز عٌ خطز !تحذ زٌ .
قبل أى تعول على أي هعذات،كي على علن بالوخاطز ال ُجوة عي الذوائز
الكهزبائ ةٍ
وكي على درا ةٌ بالووارسات النقائ ةٍ لو عٌ وقع أي حادث
استخذم رقن الب إى الو صُص 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 افمناطق 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
מפתח, מנעול וכד(כלי אבטחה בלבד.)

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

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

電池の取り扱い

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

警告

电池更换不当会有爆炸危险。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

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

Warnung

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

Attention

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

¡Advertencia!

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

אזהרה!

קיימת סכנת פיצוץ של הסוללה במידה והוחלפה בדרך לא תקינה. יש להחליף את הסוללה בסוג התואם מחברת יצרן מומלצת.

סילוק הסוללות המשומשות יש לבצע לפי הוראות היצרן.

هناك خطر من انفجار في حالة اسحبذال البطارية بطريقة غير صحيحة فعليل

اسحبذال البطارية

فقط بنفس النع أو ما يعادلها مما أوصث به الشرمة المصنعة

جخلص من البطاريات المسحعملة وفقا لحعليمات الشرمة الصانعة

경고!

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

Waarschuwing

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

Redundant Power Supplies

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

冗長電源装置

このユニットは複数の電源装置が接続されている場合があります。

ユニットの電源を切るためには、すべての接続を取り外さなければなりません。

警告
此部件连接的电源可能不止一个，必须将所有电源断开才能停止给该部件供电。

警告
此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 خطز مه التيار الكهزبائي أوالطاقة المجددة 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 للقواويه المحلية والطبية المتعلقة بالكهرباء

경고!

현 지역 및 국가의 전기 규정에 따라 장비를 설치해야 합니다.

Waarschuwing

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

Product Disposal

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

製品の廃棄

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

警告

本产品的废弃处理应根据所有国家的法律和规章进行。

警告

本產品的廢棄處理應根據所有國家的法律和規章進行。

Warnung

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

¡Advertencia!

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

Attention

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

סילוק המוצר

אזהרה!

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

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

경고!

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

Waarschuwing

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

Fan Warning

WARNING
Hazardous moving parts.
Keep away from moving fan blades.

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
危险的可移动性零件。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 והמאווררים 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 조립품 외관의 열려있는 부분들로부터 손가락 및 스크류드라이버, 다른 물체들이 가까이 하지 않도록 배치해 주십시오.

Waarschuwing

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

Power Cable and AC Adapter

Warning! When installing the product, use the provided or designated connection cables, power cables and AC 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.

כבלים חשמליים ומתאמי AC

אזהרה!

כאשר מתקינים את המוצר, שי להשתמש בכבלים, ספקים ומתאמים אשר AC נרכשו או שמאתוה וצורל כבל שומיש . עקתהו לבכה לש הנוכנ הדימ ללוכ, תוימוקמה תוחיטבה תושירדל ומאתוה רשאו, הנקתהה למשחה ירישכמב שומישה יקוחל מאתהב. למשחה רצק וא הלקתל םורגל לולע, רחא גוסמ םאתמ וא לבכ לש דוק מהילע עיפומ רשאכ) CSA-ב וא UL -ב םיכמסומה םילבכב שמתשהל רוסיא םייק, תוחיטבה יקוחו .דבלב Supermicro י"ע םאתוה רשא רצומב קר אלא, רחא ילמשח רצומ לכ רובע UL/CSA)

عند تركيب المنتج، قم باستخدام التوصيلات المتوفرة أو المحددة قم أو 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 والتي تحمل علامة (UL/CSA) مع أي معدات أخرى غير المنتجات المعنية والمحددة من قبل Supermicro.

전원 케이블 및 AC 어댑터

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

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

Stroomkabel en AC-Adapter

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

Appendix B

System Specifications

Processors

Dual Socket-E (LGA4677) 4th Gen Intel® Xeon® Scalable processors with up to 60 cores

Chipset

Intel® C741

BIOS

AMI BIOS

ACPI 3.0 or later, PCI firmware 4.0 support, BIOS rescue hot-key, SPI dual/quad speed support, RTC (Real Time Clock) wakeup, and SMBIOS 3.0 or later

Memory

Supports up to 4 TB memory capacity with 16 DIMMs of 256 GB 3DS RDIMM DDR5 ECC memory for up to 4800 MT/s

Storage Drives

Twelve hot-swap 3.5" SAS3/SATA3 drive bays (six optional NVMe hybrid bays)
Four internal 3.5" SAS3/SATA3 drive bays
Two rear 2.5" hot-swap SATA3 drive bays
Two internal NVMe PCIe 4.0 x2 M.2 (2280/22110)
Two internal SATA3 DOM ports

PCI Expansion Slots

Four PCIe 5.0 x16 slots
Two PCIe 5.0 x8 slots
Note: one of the slots is pre-populated

Input/Output

Two 10 GbE LAN ports (Broadcom 57416)
One rear COM port
One rear VGA port
Four rear USB 3.0 ports
One dedicated IPMI LAN port

Motherboard

X13DEI-T

Chassis

CSE-829HTS-R1K62LPBP2; 2U rackmount; (WxHxD) 17.2" x 3.5" x 27.75". (437 x 89 x 705 mm)

System Cooling

Four hot-swap 8-cm PWM intake fans

Power Supply

Two 1600 Watt redundant modules, 80Plus Titanium level (PWS-1K62A-1R)
Input:
 1000 W at 100-127 VAC
 1600 W at 240 VDC (CCC only)
 50-60 Hz
Output
 Max: 83 A / Min: 0A (100 VAC-127 Vac)
 Max: 133 A / Min: 0A (200 VAC-240 Vac)
 +125 Vsb Max: 2.1 A, Min: 0 A

Operating Environment

Operating Temperature: 10º to 35º C (50º to 95º F)
Non-operating Temperature: -40º to 60º C (-40º to 140º F)
Operating Relative Humidity: 8% to 90% (non-condensing)
Non-operating Relative Humidity: 5% to 95% (non-condensing)

Regulatory Compliance

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

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 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

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

Perchlorate Warning

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

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

VCCI－A