SuperServer®
SYS-211GT-HNTF
SYS-211GT-HNC8F

USER'S MANUAL

Revision 1.0b

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Preface

About this Manual

This manual is written for professional system integrators and PC technicians. It provides information for the installation and use of the A+ Server. Installation and maintenance should be performed by certified service technicians only.

Please refer to the SYS-211GT-HNTF/HNC8F server specifications page on our website for updates on supported memory, processors and operating systems (http://www.supermicro.com).

Notes

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

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

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

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

Secure Data Deletion

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

Warnings

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

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

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

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Chapter 1

Introduction

1.1 Overview

This chapter provides a brief outline of the functions and features of the SuperServer SYS-211GT-HNTF/HNC8F. This is a GrandTwin™ system based on the X13SET-G/GC motherboard and the CSE-GT214BF-R2K21BP2 chassis.

The following provides an overview of the specifications and capabilities of the system.

System Overview	
Motherboard	SYS-211GT-HNTF: X13SET-G SYS-211GT-HNC8F: X13SET-GC
Chassis	CSE-GT214BF-R2K21BP2
Processor	Supports 4th and 5th Generation Intel Xeon Scalable Processors (LGA 4677 in Socket E) with up to 60 cores (4th Generation) or 64 cores (5th Generation) and a thermal design power (TDP) of up to 350 W
Memory	Up to 4 TB of ECC RDIMM and RDIMM 3DS DDR5 memory with speeds of up to 4800 MT/s
Drive Support	SYS-211GT-HNTF: Sixteen 2.5" hot-swap drive carriers for NVMe/SATA drives SYS-211GT-HNC8F: Sixteen 2.5" hot-swap drive carriers for NVMe/SAS/SATA drives
Expansion Slots	Optional PCIe 5.0 x16 slot to support limited devices: GPU-IATS-M75 or S3908L-H8IR-16DD
I/O Ports	Each GrandTwin I/O module integrates a network solution and the I/O ports, including: Two USB 3.0 ports One VGA port One dedicated BMC LAN port
System Cooling	Two 8-cm mid chassis fans per system, one CPU air shroud per node, one CPU heatsink per node
Power	Two redundant power supply modules 2200 W (Titanium Level)
Form Factor	2U rackmount, (WxHxD) 17.67 x 3.46 x 28" (449 x 88 x 711.2 mm)

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

The following safety models associated with the SYS-211GT-HNTF/HNC8F have been certified as compliant with UL or CSA: GT214BF-4N. GT214BF-R22X13.

1.2 System Features

System: Front View

The CSE-GT214BF is a 2U chassis that supports four hot-plug nodes. Refer to Appendix B for additional specifications. The chassis front offers access to the storage drives, a control panel for each node, four pullout service tags, and two thumbscrews.

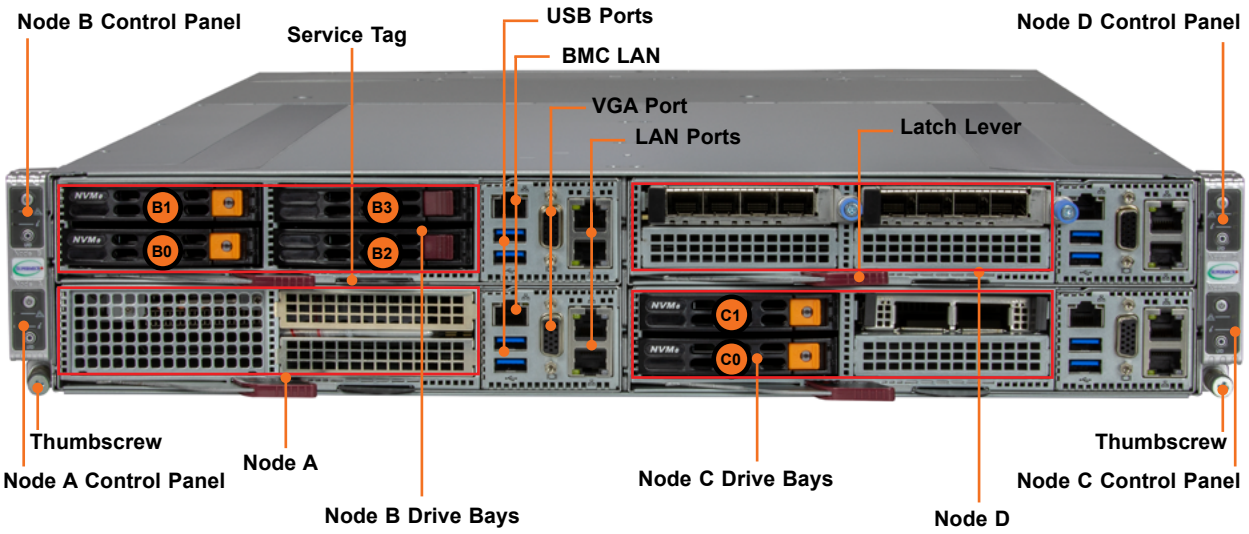


Figure 1-1. System Front View

Front Chassis Features	
Feature	**Description**
Control Panel	Four control panels with labels located as follows: node A bottom left, node B top left, node C bottom right, and node D top right.
Service Tag	Pull-out service tags with BMC password labels for each node.
Drive Bays	16 hot-swappable drive bays (four per node) (optional)
BMC LAN	One BMC dedicated LAN port
USB Ports	Two USB 3.0 ports
VGA Port	One video port
LAN Ports	Two LANs integrated Network connections depend on GrandTwin IO solution
Thumbscrews	Two thumbscrews to secure the server onto the rack

Control Panel

Power switches and status LEDs are located on the control panel on the front of the chassis.

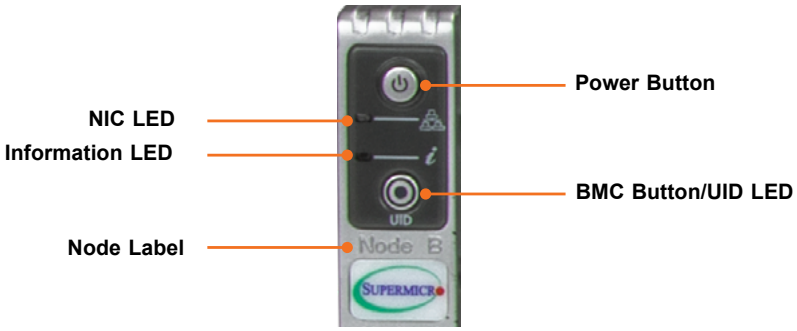


Figure 1-2. Control Panel (per node)

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.
NIC LED	Indicates network activity on the LAN when flashing.
Information LED	Universal information LED (see table below for details).
BMC Button/ UID LED (Node B)	The BMC reset button resets the BMC firmware when pressed. The unit identification (UID) button turns on or off the blue light function of the Information LED and a blue LED on the rear of the chassis. These are used to locate the server in large racks and server banks.
Node Label (Node B)	Label with the name of the node that is connected to the control panel. Labels for nodes A and C are above their control panel. Labels for nodes B and D are below their control panel.

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

System: Rear View

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

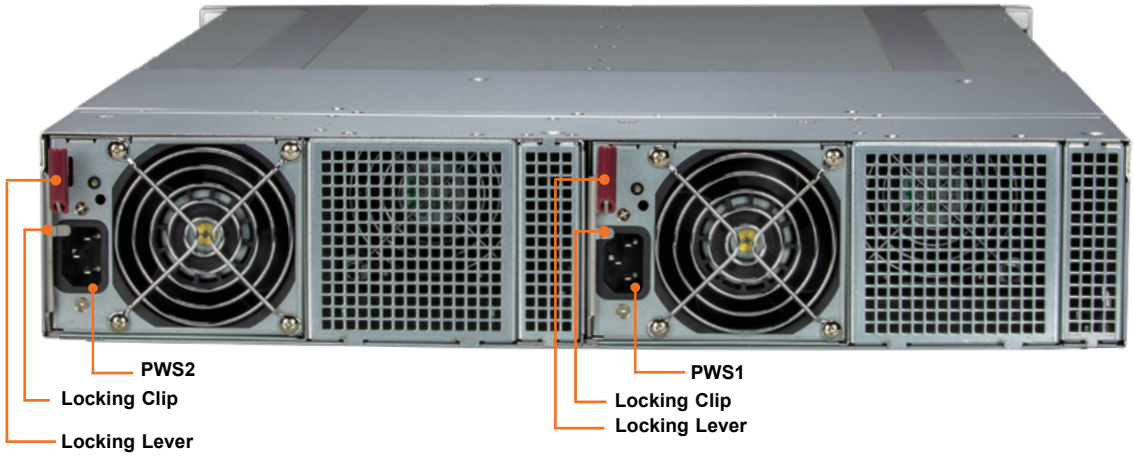


Figure 1-3. System Rear View

Rear Chassis Features	
Feature	**Description**
Power Supplies	Two 2200 W Titanium level redundant power supply modules PWS2 on the left, and PWS1 on the right

Network Ports

Network ports are provided by the GrandTwin IO card, which offers several choices of connection speeds and types.

Note: The GrandTwin IO card is sold separately, but must be added to meet the minimum complete system requirements. For the complete support list, please check the Supermicro website.

GrandTwin I/O Card Networking Add-on Card Options		
Speed	**Ports**	**Add-on Card Part Number**
10 GbE	Dual-port RJ45	AOC-GTG-I2T
10 GbE	Dual-port RJ45	AOC-GTG-B2T
25 GbE	Dual-port SFP28	AOC-G25G-M2S

Figure 1-4. AOC-GTG-I2T

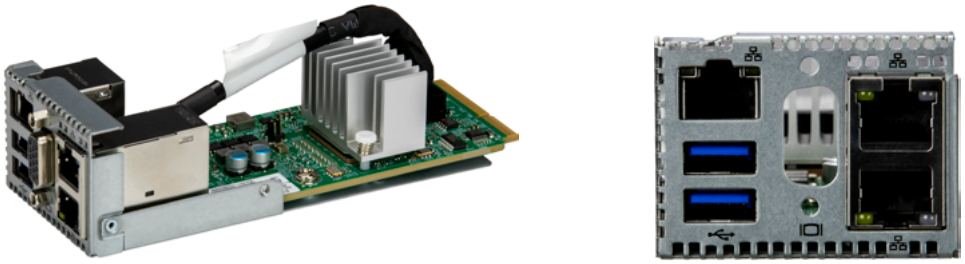


Figure 1-5. AOC-GTG-B2T

Figure 1-6. AOC-G25G-M2S

1.3 Motherboard Layout

Below is a layout of the X13SET-G/GC with jumper, connector and LED locations shown. See the table on the following page for descriptions. For detailed descriptions, pinout information and jumper settings, refer to Chapter 4.

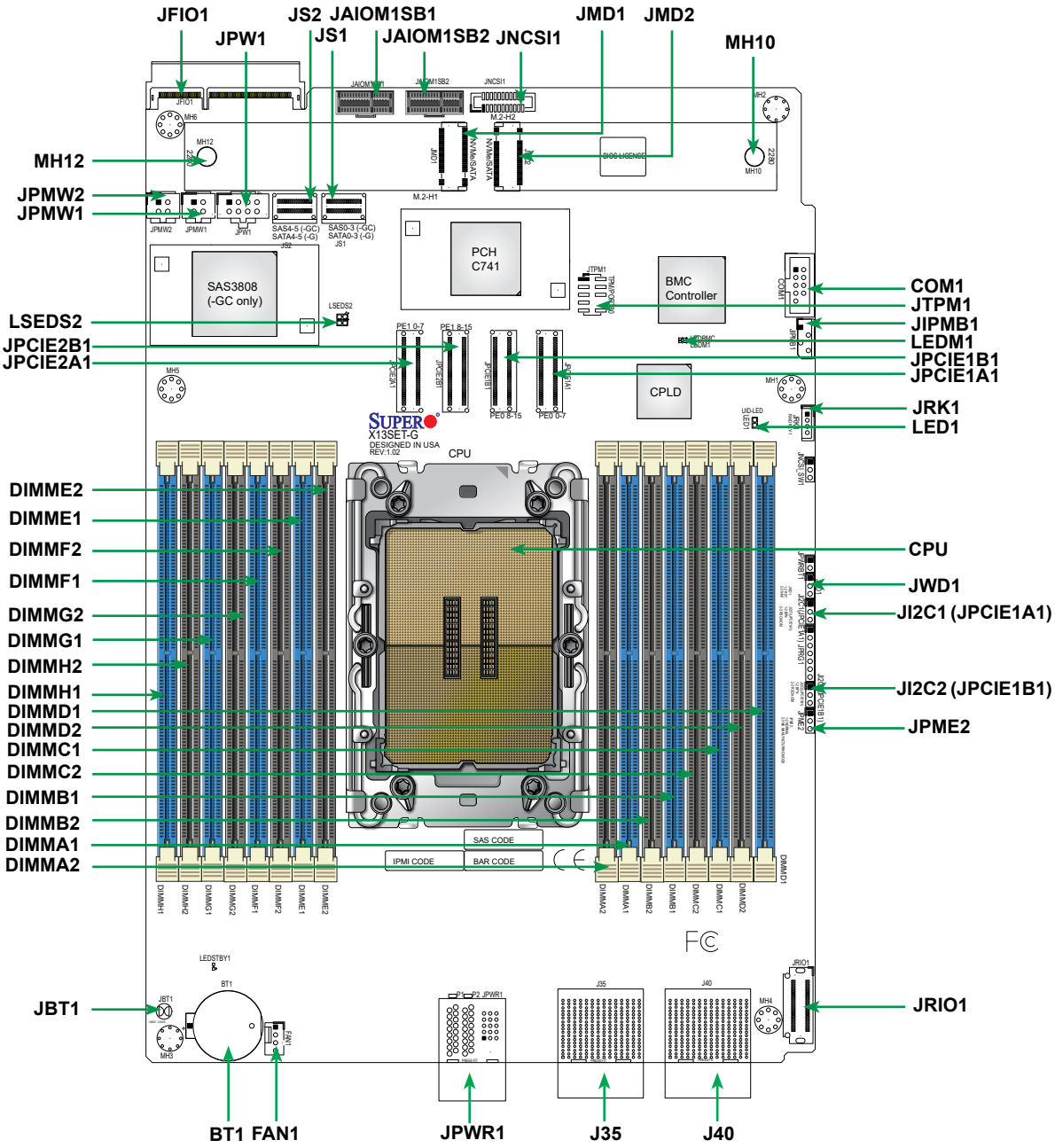


Figure 1-7. Motherboard Layout

Notes:

- Components not documented are for internal testing only.
- Use only the correct type of onboard CMOS battery as specified by the manufacturer. Do not install the onboard battery upside down to avoid possible explosion.

Quick Reference Table

Jumper	Description	Default Setting
JBT1	CMOS Clear	Open (Normal)
JI²C1, JI²C2	Backplane or Riser Card/AIOM Enable	Pins 1-2 (RSC/AIOM)
JPME2	ME Manufacturing Mode	Pins 1-2 (Normal)
JWD1	Watch Dog Timer	Pins 1-2 (Reset)

LED	Description	Status
LED1	UID LED	Solid Blue: Unit Identified
LEDM1	BMC Heartbeat	Blinking Green: BMC Normal
LSEDS2	SAS Heartbeat	Blinking Green: SAS Active

Connector	Description
BT1	Onboard Battery
COM1	COM Header
FAN1	CPU/System Fan Header (FAN1: CPU Fan)
J35, J40	Molex Impel Plus Connectors
JAIOM1SB1	AIOM1 Sideband Signals Header
JAIOM1SB2	AIOM2 Sideband Signals Header
JFIO	Grand Twin Front IPMI And Onboard NIC Module Connector
JIPMB1	System Management Bus Header (for IPMI only)
JMD1, JMD2	M.2 Slots (PCIe3.0 x4 and SATA)
JNCSI1	NC-SI (Network Controller Sideband Interface) Connector
JPCIE1A1	PE0 0-7 PCIe Connector
JPCIE1B1	PE0 8-15 PCIe Connector
JPCIE2A1	PE1 0-7 PCIe Connector
JPCIE2B1	PE1 8-15 PCIe Connector
JPMW1, JPMW2	Power Connectors for PCIe or GPU
JPW1	Power Connector for Storage Backplane
JPWR1	BPN-PDB-GT214 Connector for Power Supply
JRIO1	Connector for Rear I/O Module
JRK1	Intel RAID Key Header
JS1	X13SET-G: SATA0-3, X13SET-GC: SAS0-3
JS2	X13SET-G: SATA4-5, X13SET-GC: SAS4-5
JTPM1	Trusted Platform Module/Port 80 Connector
MH10, MH12	M.2 Mounting Holes

Note: the only difference between the two motherboard models is the inclusion of a LSI3808 controller for onboard SAS ports on the X13SET-GC.

Block Diagram

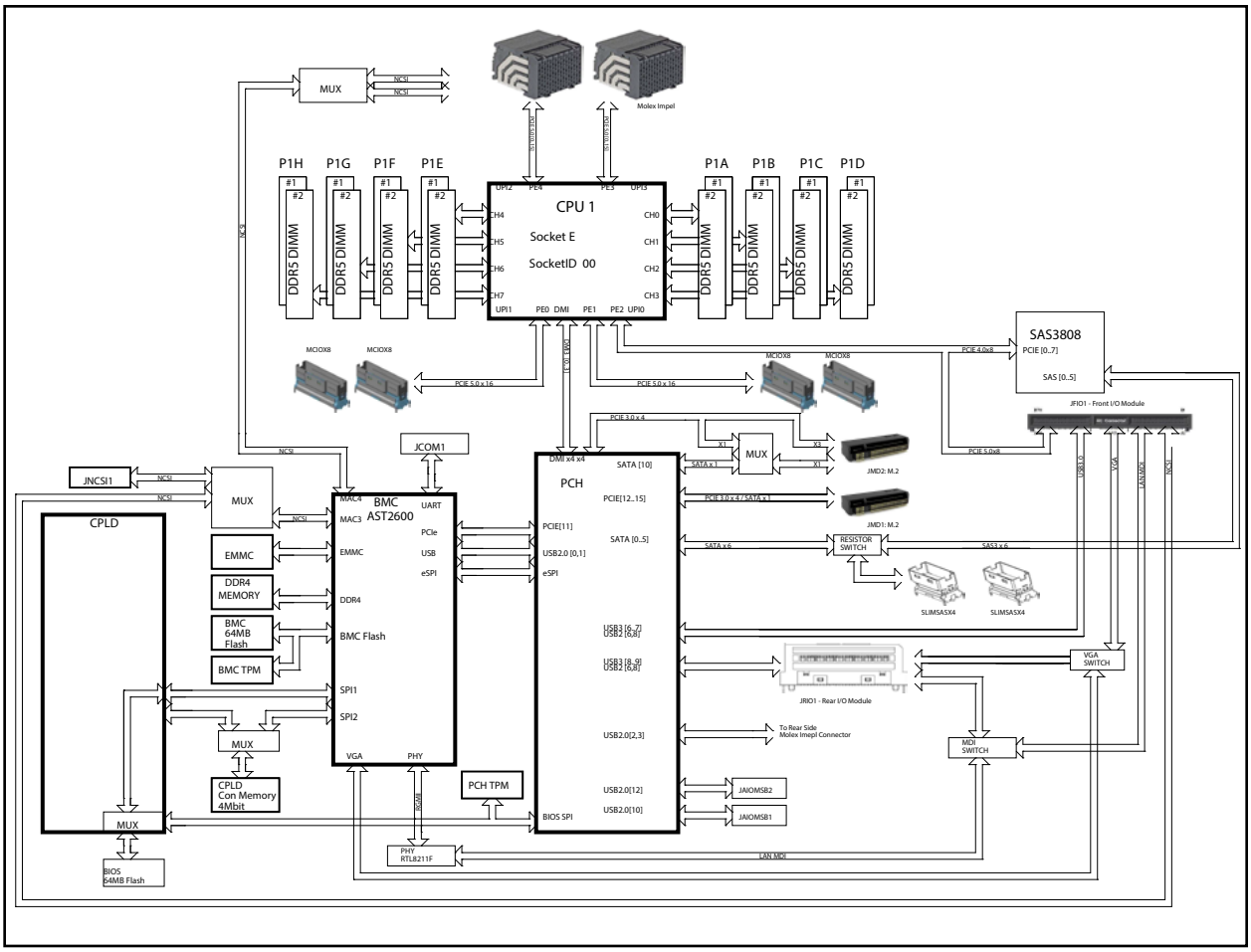


Figure 1-8. Chipset Block Diagram

Note: This is a general block diagram and may not exactly represent the features on your motherboard. See the previous pages for the actual specifications of your motherboard.

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 4 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 SYS-211GT-HNTF/HNC8F 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 (approximately 25 inches) and approximately 30 inches of clearance in the back of the rack to allow sufficient space for airflow and access when servicing.
- This product should be installed only in a Restricted Access Location (dedicated equipment rooms, service closets, etc.).

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

Rack Precautions

- Ensure that the leveling jacks on the bottom of the rack are extended to the floor so that the full weight of the rack rests on them.
- In single rack installations, stabilizers should be attached to the rack. In multiple rack installations, the racks should be coupled together.
- Always make sure the rack is stable before extending a server or other component from the rack.
- You should extend only one server or component at a time - extending two or more simultaneously may cause the rack to become unstable.

Server Precautions

- 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 Rack Mounting Instructions

This section provides information on installing the chassis into a rack unit with the rails provided. There are a variety of rack units on the market, which may mean that the assembly procedure will differ slightly from the instructions provided. You should also refer to the installation instructions that came with the rack unit you are using. **Note:** This rail will fit a rack between 28" and 33.5" deep.

Overview of the Rack Rails

The package includes two rail assemblies. Each is specifically designed for the left or right side of the chassis, and so marked. Each rail consists of two sections: a front section which secures to the front post of the rack and a rear section which adjusts in length and secures to the rear post of the rack.

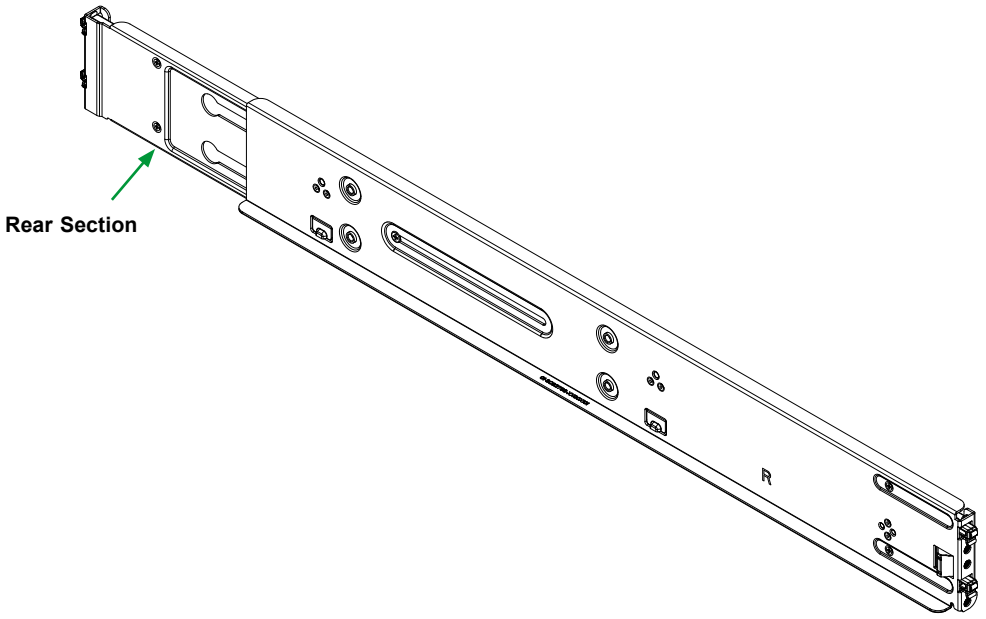


Figure 2-1. Rackmount Rail
(Right rail assembly shown)

Adjusting the Rail Length

Each rail assembly has a locking screw to adjust the length of the rail to fit the depth of your rack.

Installing the Rails on a Rack

1. Loosen the adjusting screw to allow the rear section to slide in the front section.
2. Push the small hooks on the front section of the rail into the holes on the front post of the rack and then down, until the spring-loaded pegs snap into the rack holes. Secure the rail to the rack with screws.
3. Pull out the rear section of the outer rail, adjusting the length until it fits within the posts of the rack and align the small hooks with the appropriate holes on the rear post of the rack. Be sure the rail is level, then mount the rear section onto the rack. Secure the rail with screws.
4. Tighten the adjusting screw.

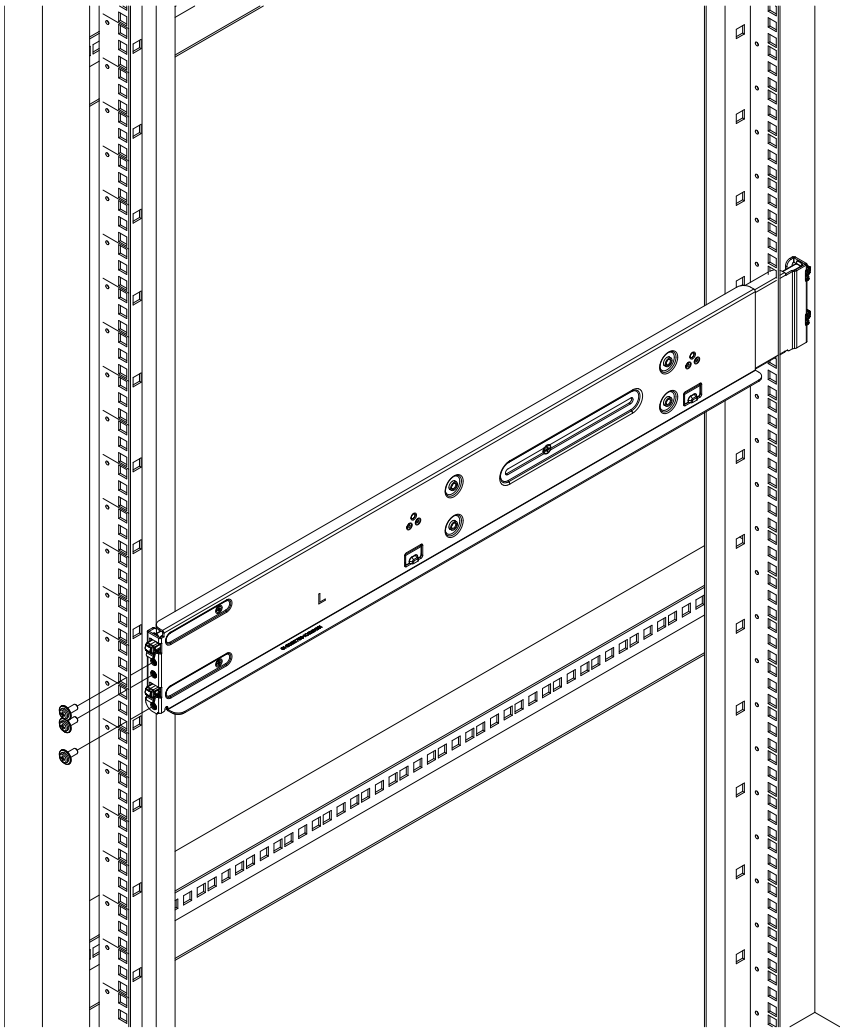


Figure 2-2. Attaching the Rail Front to the Rack
(Left rail shown)

Note: Figures are for illustrative purposes only. Always install servers into racks from the bottom up.

Chassis Installation

Slide the chassis into the rack so that the bottom of the chassis slides onto the bottom lip of the rails.

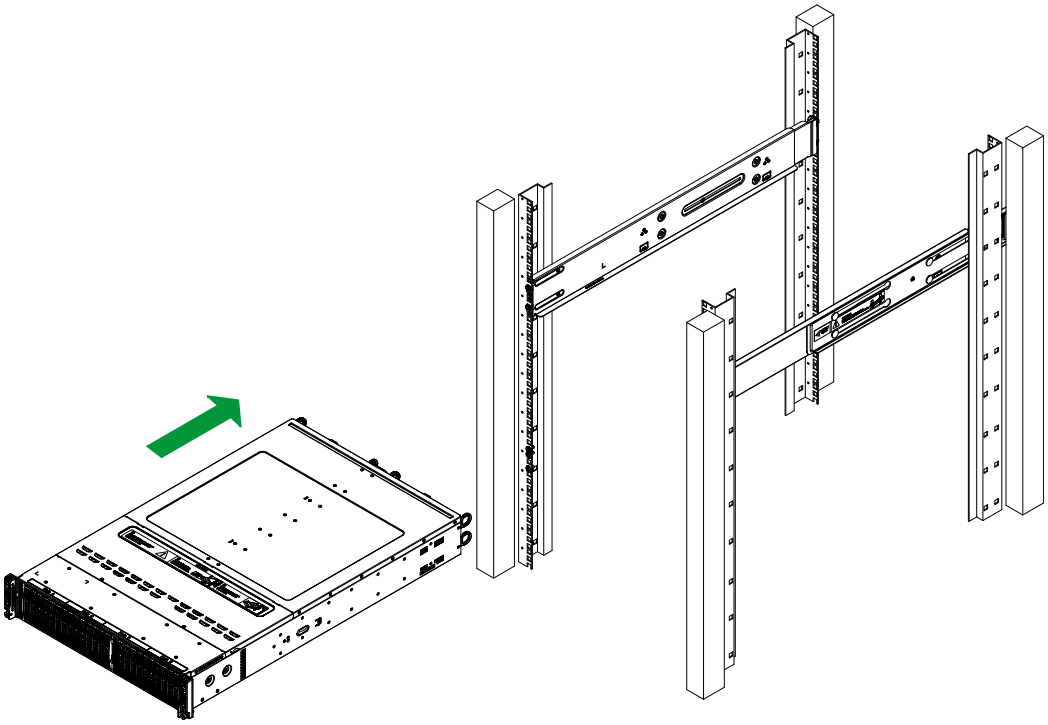


Figure 2-3. Sliding the Chassis into the Rack

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.

Note: system shown above may differ in appearance from your system.

Chapter 3

Maintenance and Component Installation

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

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

3.1 Removing Power

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

Removing Power from a Node

Use the operating system to power down the node.

Removing Power from the System

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

3.2 Accessing the System

Removing a Computing Node Drawer

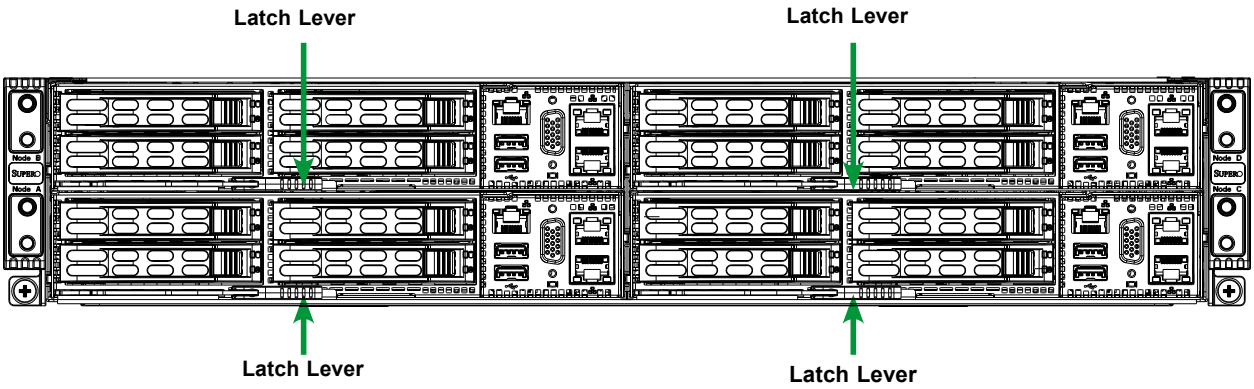


Figure 3-1. Removing a Node Tray

Removing a Node

1. Use the operating system to power down the node.
2. Remove any cables attached to the node.
3. Pull out the latch lever and use it to slide the node out from the chassis front.

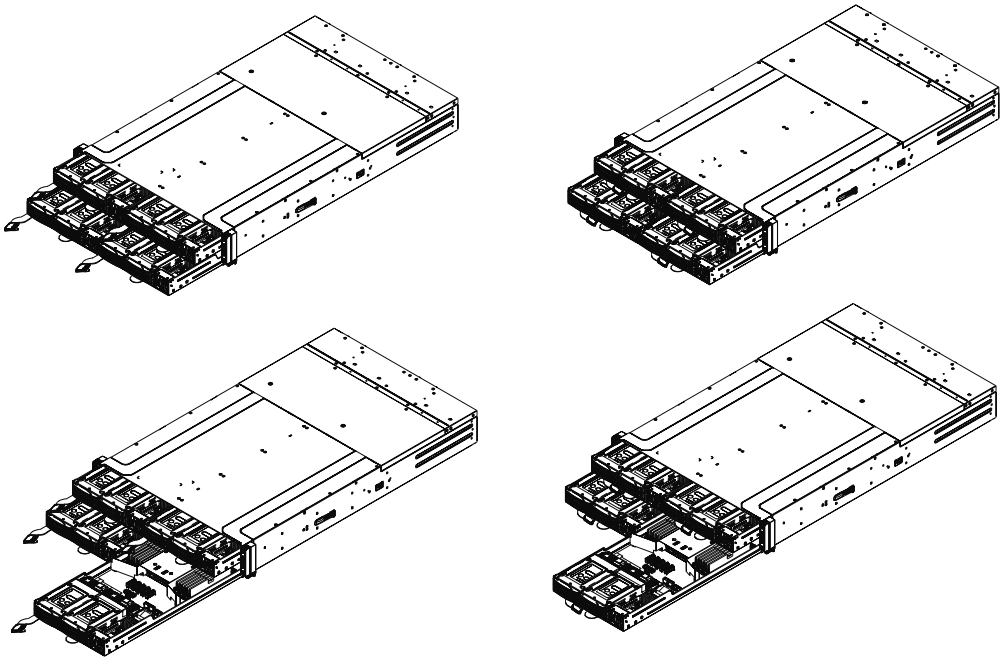


Figure 3-2. Removing a Node

Removing the Chassis Cover

You can access some chassis components, such as fans, by removing the cover.

Removing the Chassis Cover

1. Remove the four screws securing the cover to the chassis.
2. Slide the cover toward the rear of the chassis.
3. Lift the top cover off of the chassis.

Caution: Except for short periods of time, do not operate the server without the cover in place. It provides proper airflow to prevent overheating.

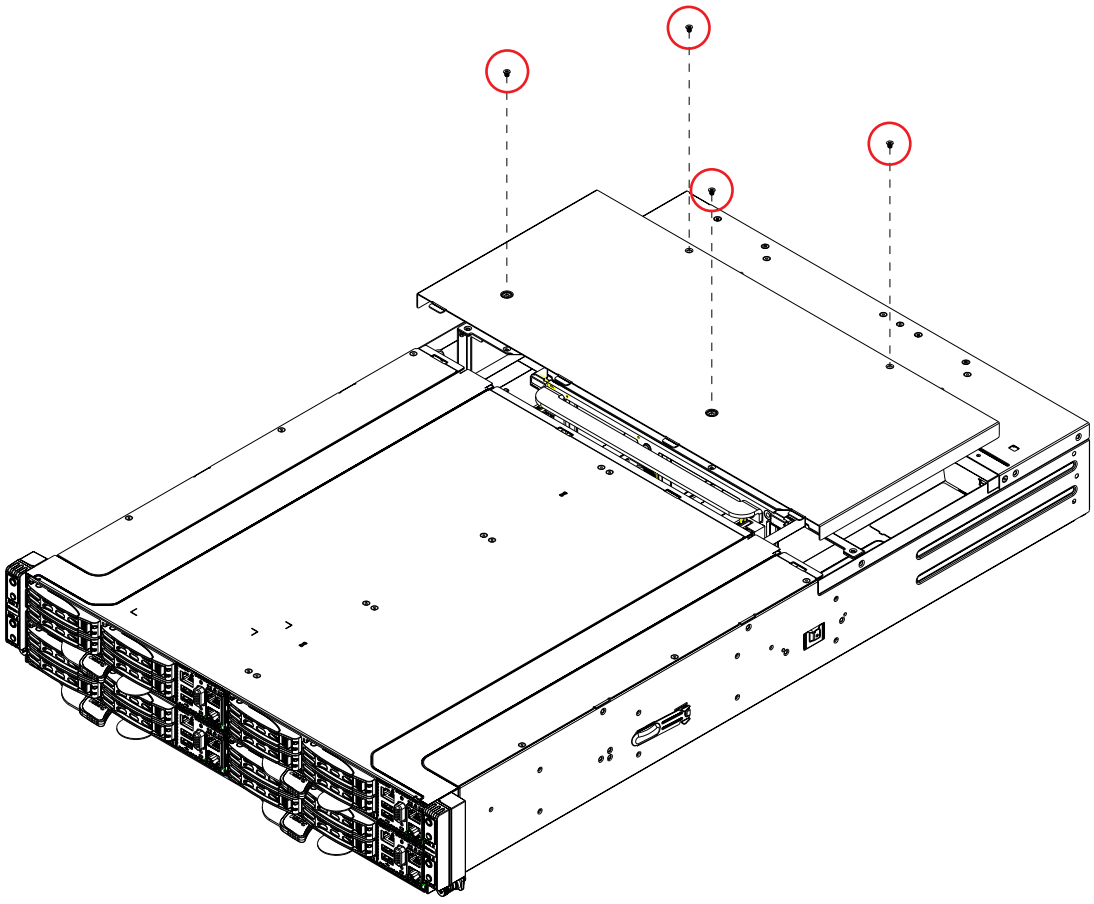


Figure 3-3. Removing the Chassis Cover

3.3 Static-Sensitive Devices

Electrostatic Discharge (ESD) can damage electronic components. To prevent damage to your motherboard, it is important to handle it very carefully. The following measures are generally sufficient to protect your equipment from ESD.

Precautions

- Use a grounded wrist strap designed to prevent static discharge.
- Touch a grounded metal object before removing the board from the antistatic bag.
- Handle the board by its edges only; do not touch its components, peripheral chips, memory modules or gold contacts.
- When handling chips or modules, avoid touching their pins.
- Put the motherboard and peripherals back into their antistatic bags when not in use.
- For grounding purposes, make sure that your chassis provides excellent conductivity between the power supply, the case, the mounting fasteners and the motherboard.
- Use only the correct type of CMOS onboard battery as specified by the manufacturer. Do not install the CMOS battery upside down, which may result in a possible explosion.

Unpacking

The motherboard is shipped in antistatic packaging to avoid static damage. When unpacking the motherboard, make sure that the person handling it is static protected.

3.4 Processor and Heatsink Installation

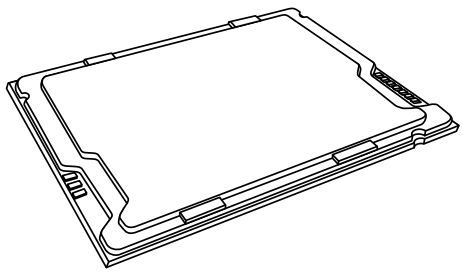
The processor (CPU) and processor carrier should be assembled together first to form the processor carrier assembly. This will be attached to the heatsink to form the processor heatsink module (PHM) before being installed onto the CPU socket.

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 and 5th Generation Intel Xeon Scalable Processors (XCC)	SKT-1333L-0000-FXC
CPU carrier for 4th and 5th Generation Intel Xeon Scalable Processors (MCC)	SKT-1424L-001B-FXC
CPU carrier for 4th Generation Intel Xeon Scalable Processors (HBM)	SKT-1425H-001C-FXC

The 4th and 5th Generation Intel Xeon Scalable Processor

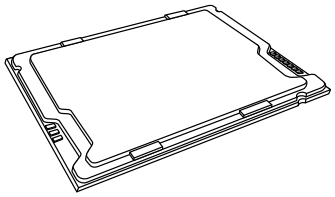


Intel Xeon Processor

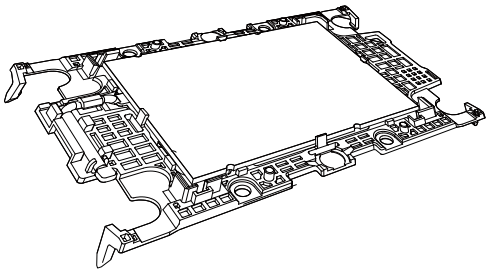
Overview of the Processor Carrier Assembly

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

1. Intel Xeon Processor



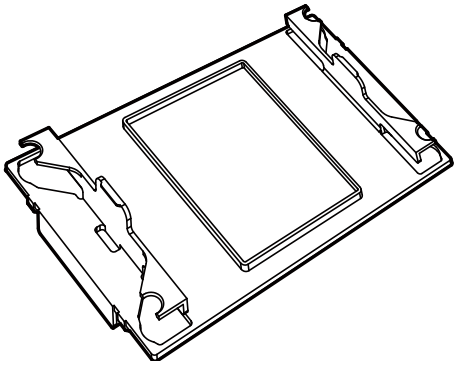
2. Processor Carrier



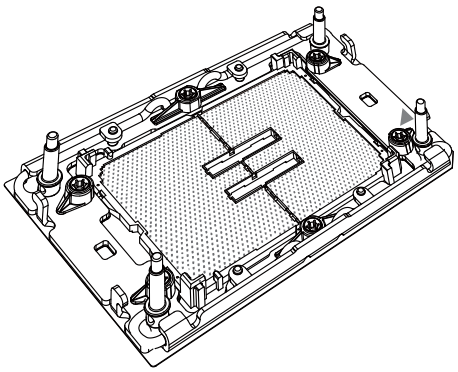
Overview of the CPU Socket

The CPU socket is protected by a plastic protective cover.

1. Plastic Protective Cover



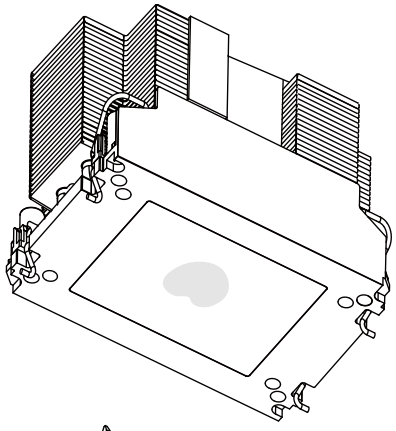
2. CPU Socket



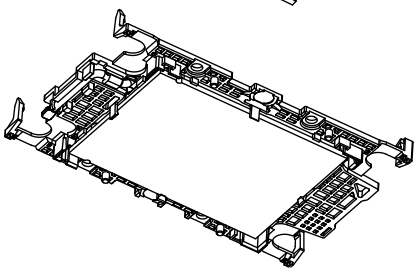
Overview of the Processor Heatsink Module

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

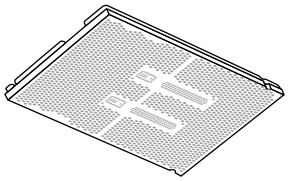
1. Heatsink with Thermal Grease



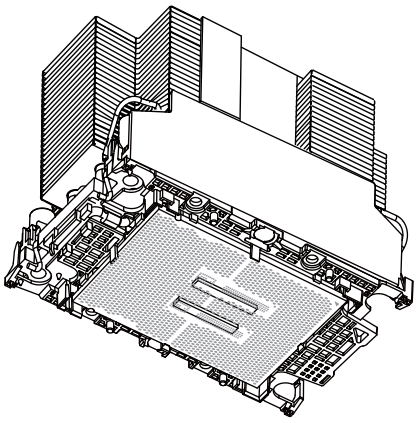
2. Processor Carrier



3. Intel Xeon Processor



Processor Heatsink Module (PHM)

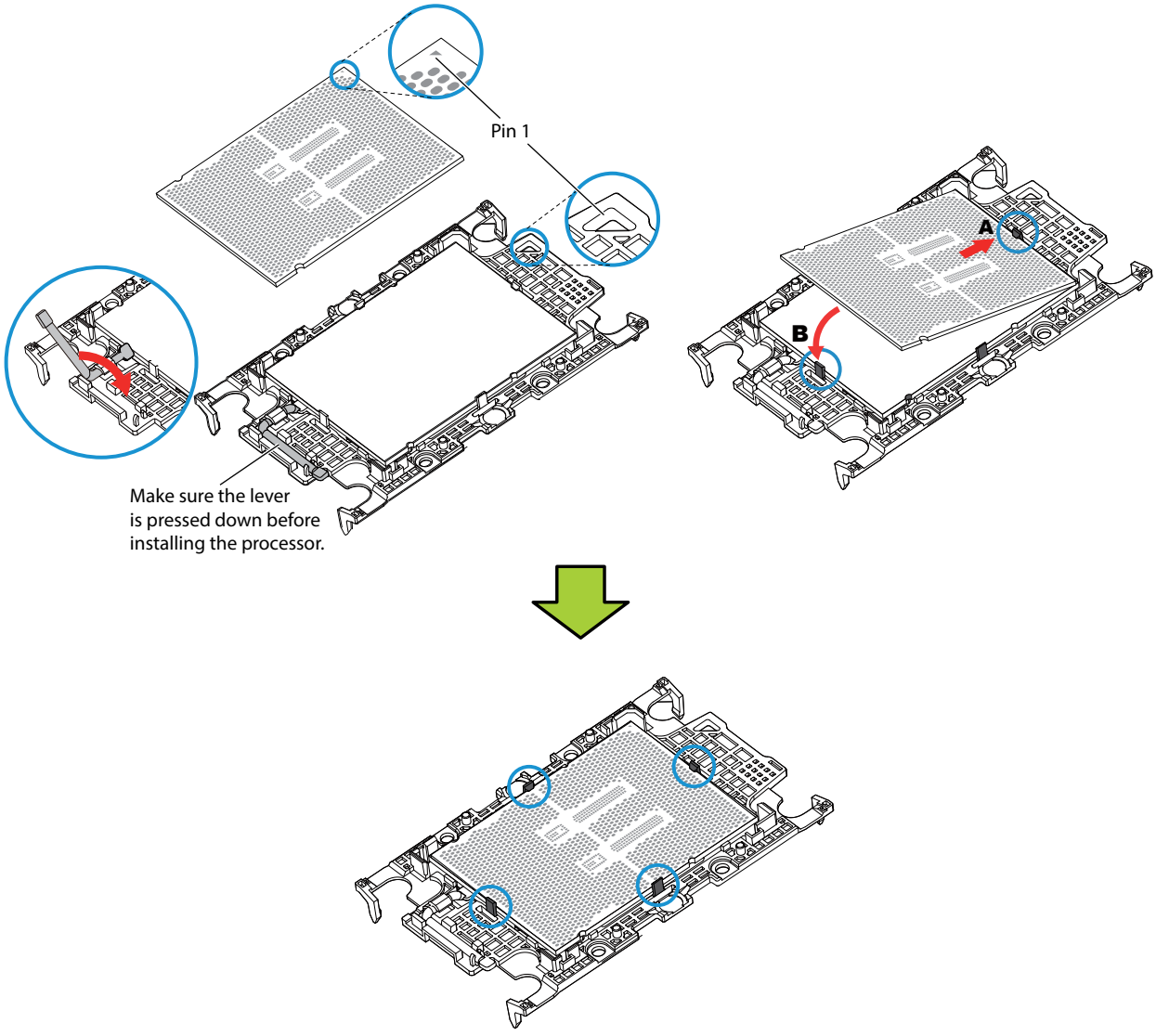


Bottom View

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.



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):

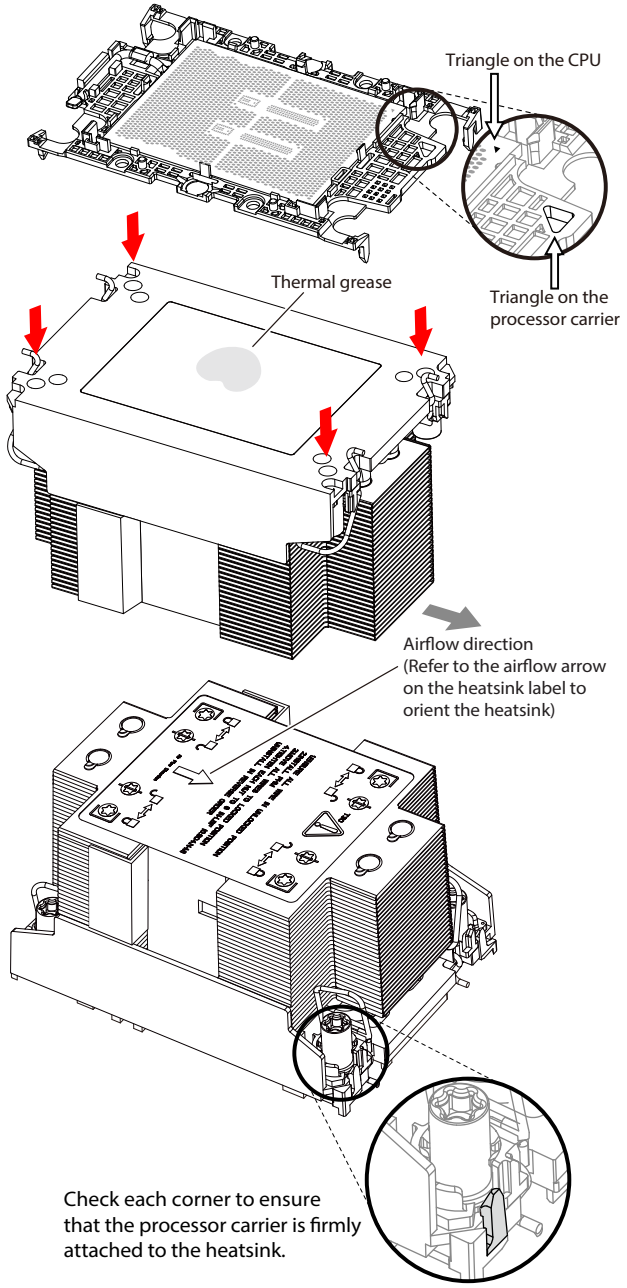
1. Note the label on top of the heatsink, which marks the airflow direction. Turn the heatsink over and orient the heatsink so the airflow arrow is pointing towards the triangle on the processor.

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.

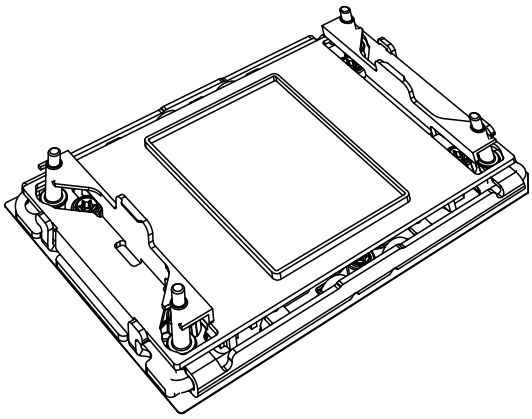
4. Examine all corners to ensure that the plastic clips on the processor carrier assembly are firmly attached to the heatsink.

Processor Carrier Assembly
(Upside Down)

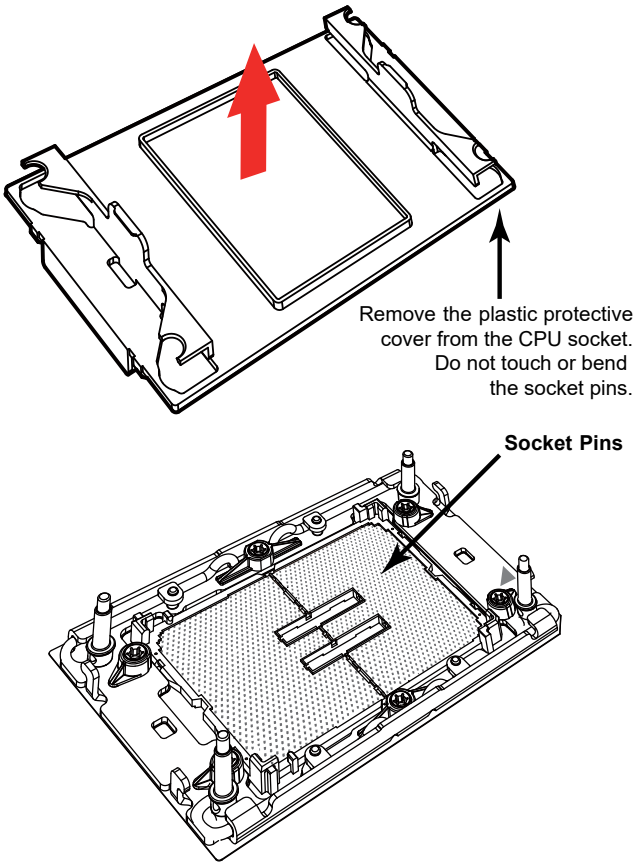


Preparing the CPU Socket for Installation

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



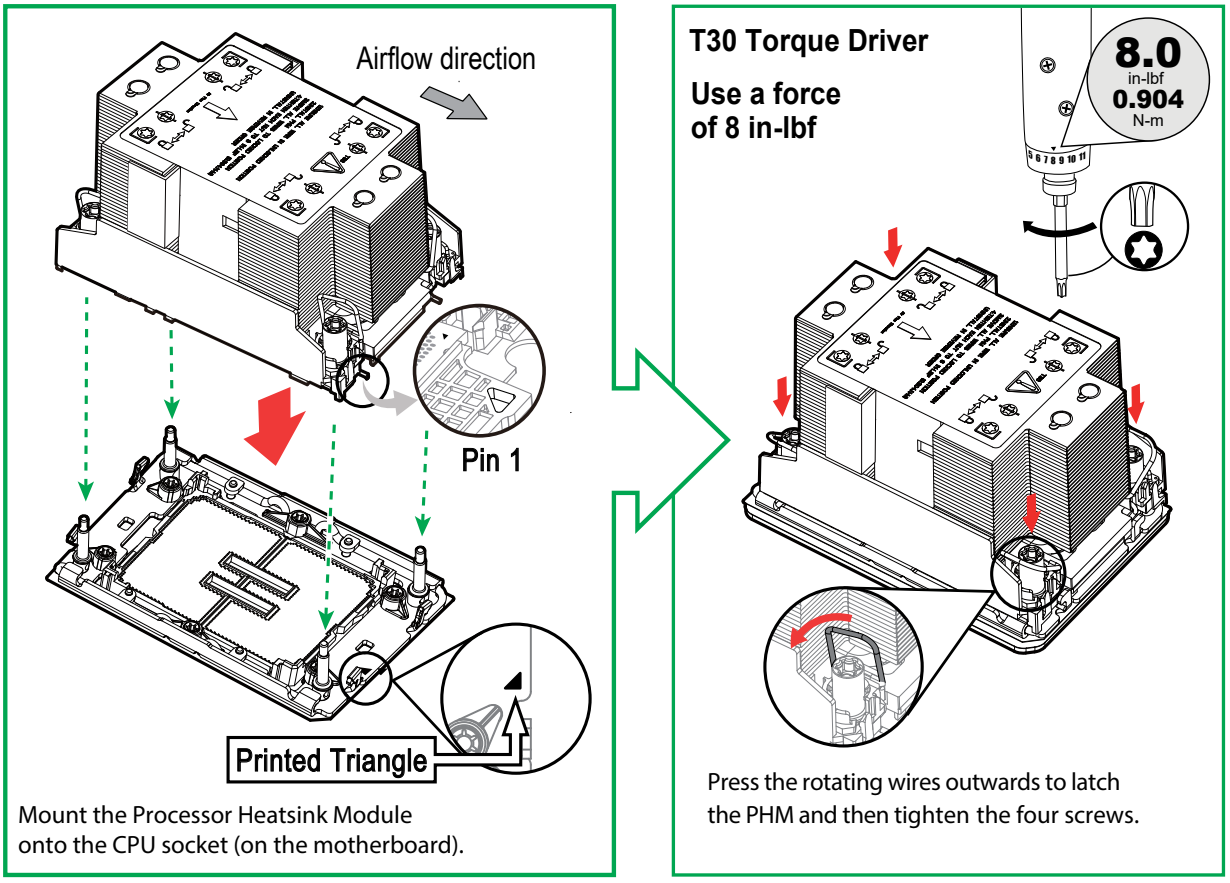
Installing the Processor Heatsink Module

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), 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.

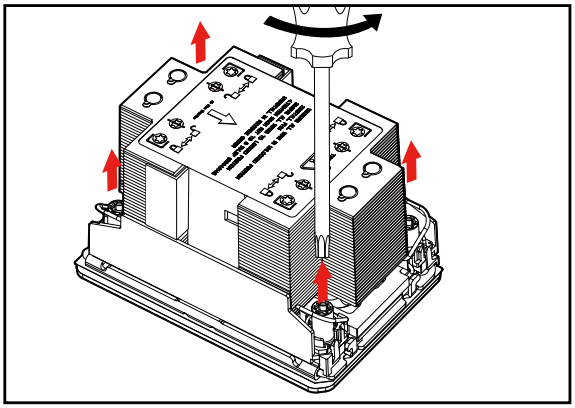


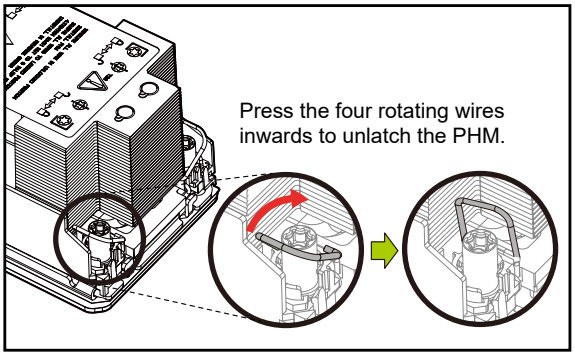
Removing the Processor Heatsink Module

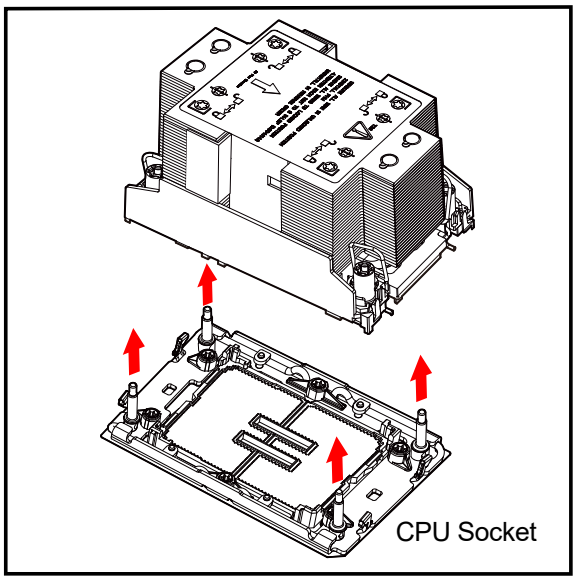
Before removing the processor heatsink module (PHM) from the motherboard, shut down the system and then unplug the AC power cord from all power supplies.

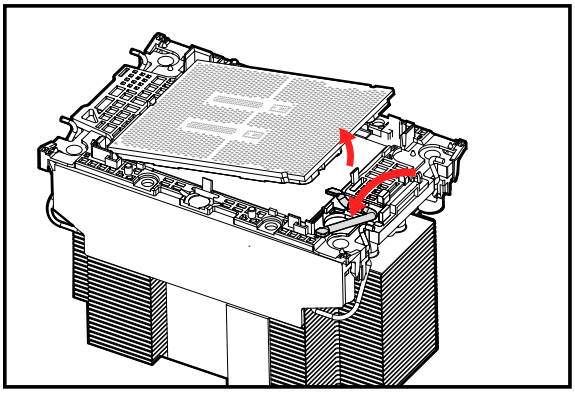
Then follow the steps below:

1. Use a T30 Torx-bit screwdriver 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.









3.5 Memory

Note: Check the Supermicro website for recommended memory modules.

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

Memory Support

The X13SET-G/GC motherboard supports up to 4 TB of ECC RDIMM and RDIMM 3DS DDR5 memory in 16 memory slots. The 4th Generation Intel Xeon Scalable Processor memory has speeds of up to 4800 MT/s (4400 MT/s when fully populated), while the 5th Generation Intel Xeon Scalable Processor memory has speeds of up to 5600 MT/s (4400 MT/s when fully populated). Refer to the table below for the recommended DIMM population order.

1 CPU, 16 DIMM Slots	
Number of DIMMs	**Memory Population Sequence**
1	DIMMA1 DIMME1 DIMMB1 DIMMF1
2	DIMMA1 / DIMMG1 DIMMC1 / DIMME1
4	DIMMA1 / DIMMG1 / DIMMC1 / DIMME1
6	DIMMA1 / DIMMG1 / DIMMC1 / DIMME1 / DIMMD1 / DIMMF1 DIMMA1 / DIMMG1 / DIMMC1 / DIMME1 / DIMMB1 / DIMMH1 DIMMC1 / DIMME1 / DIMMB1 / DIMMH1 / DIMMD1 / DIMMF1 DIMMA1 / DIMMG1 / DIMMB1 / DIMMH1 / DIMMD1 / DIMMF1
8	DIMMA1 / DIMMG1 / DIMMB1 / DIMMH1 / DIMMD1 / DIMMF1 / DIMMC1 /DIMME1
12	DIMMA1 / DIMMA2 / DIMMB1 / DIMMC1 / DIMMC2 / DIMMD1 / DIMME1 / DIMME2 / DIMMF1 / DIMMG1 / DIMMG2 / DIMMH1 DIMMA1 / DIMMB1 / DIMMB2 / DIMMC1 / DIMMD1 / DIMMD2 / DIMME1 / DIMMF1 / DIMMF2 / DIMMG1 / DIMMH1 / DIMMH2
16	DIMMA1 / DIMMA2 / DIMMB1 / DIMMB2 / DIMMC1 / DIMMC2 / DIMMD1 / DIMMD2 / DIMME1 / DIMME2 / DIMMF1 / DIMMF2 / DIMMG1 / DIMMG2 / DIMMH1 / DIMMH2

1 HBM CPU, 16 DIMM Slots	
Number of DIMMs	**Memory Population Sequence**
0	
1	DIMMA1 DIMME1
2	DIMMA1 / DIMMG1 DIMMC1 / DIMME1
4	DIMMA1 / DIMMG1 / DIMMC1 / DIMME1
8	DIMMA1 / DIMMG1 / DIMMC1 / DIMME1 / DIMMD1 / DIMMF1 / DIMMB1 / DIMMH1
16	DIMMA1 / DIMMA2 / DIMMB1 / DIMMB2 / DIMMC1 / DIMMC2 / DIMMD1 / DIMMD2 / DIMME1 / DIMME2 / DIMMF1 / DIMMF2 / DIMMG1 / DIMMG2 / DIMMH1 / DIMMH2

Compatible and Incompatible DIMM Types 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

DDR5 Memory Support for the 4th Generation Intel® Xeon® Scalable Processors-SP					
Type	**Ranks Per DIMM and Data Width (Stack)**	**DIMM Capacity (GB)**		**Speed (MT/s)**	
				One DIMM per Channel [1]	**Two DIMMs per Channel**
		Memory Density 16 Gb	**Memory Density 24 Gb[2]**	**1.1 Volts**	
RDIMM	SRx8 (RC D)	16 GB	24 GB	4800*	4400*
	SRx4 (RC C)	32 GB	48 GB		
	SRx4 (RC F) 9x4	32 GB	NA		
	DRx8 (RC E)	32 GB	48 GB		
	DRx4 (RC A)	64 GB	96 GB		
	DRx4 (RC B) 9x4	64 GB	NA		
RDIMM 3DS	(4R/8R) x4 (RC A)	2H-128 GB 4H-256 GB	NA		

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

Notes:

- 1DPC applies to 1SPC or 2SPC implementations (SPC – sockets per channel).
- 24 Gb XCC only with limited configs: 1DPC all DIMM types, 2DPC 96 GB only. Only 8 and 16 DIMM configurations, no failbacks.
- Memory speed will be 4800 MT/s 1DPC and 4400 MT/s 2DPC.
- Mixing DRAM Density (16 Gb/24 Gb) and/or frequency is not allowed.

DDR5 Memory Support for the 5th Generation Intel® Xeon® Scalable Processors-SP					
Type	**Ranks Per DIMM and Data Width (Stack)**	**DIMM Capacity (GB)**		**Speed (MT/s)**	
				One DIMM per Channel [1]	**Two DIMMs per Channel**
		Memory Density 16 Gb	**Memory Density 24 Gb**	**1.1 Volts**	
RDIMM	SRx8 (RC D)	16 GB	24 GB[2]	5600*	4400*
	SRx4 (RC C)	32 GB	48 GB[2]		
	SRx4 (RC F) 9x4	NA	NA		
	DRx8 (RC E)	32 GB	48 GB[2]		
	DRx4 (RC A)	64 GB	96 GB		
	DRx4 (RC B) 9x4	NA	NA		
RDIMM 3DS	(4R/8R) x4 (RC A)	2H-128 GB 4H-256 GB	NA		

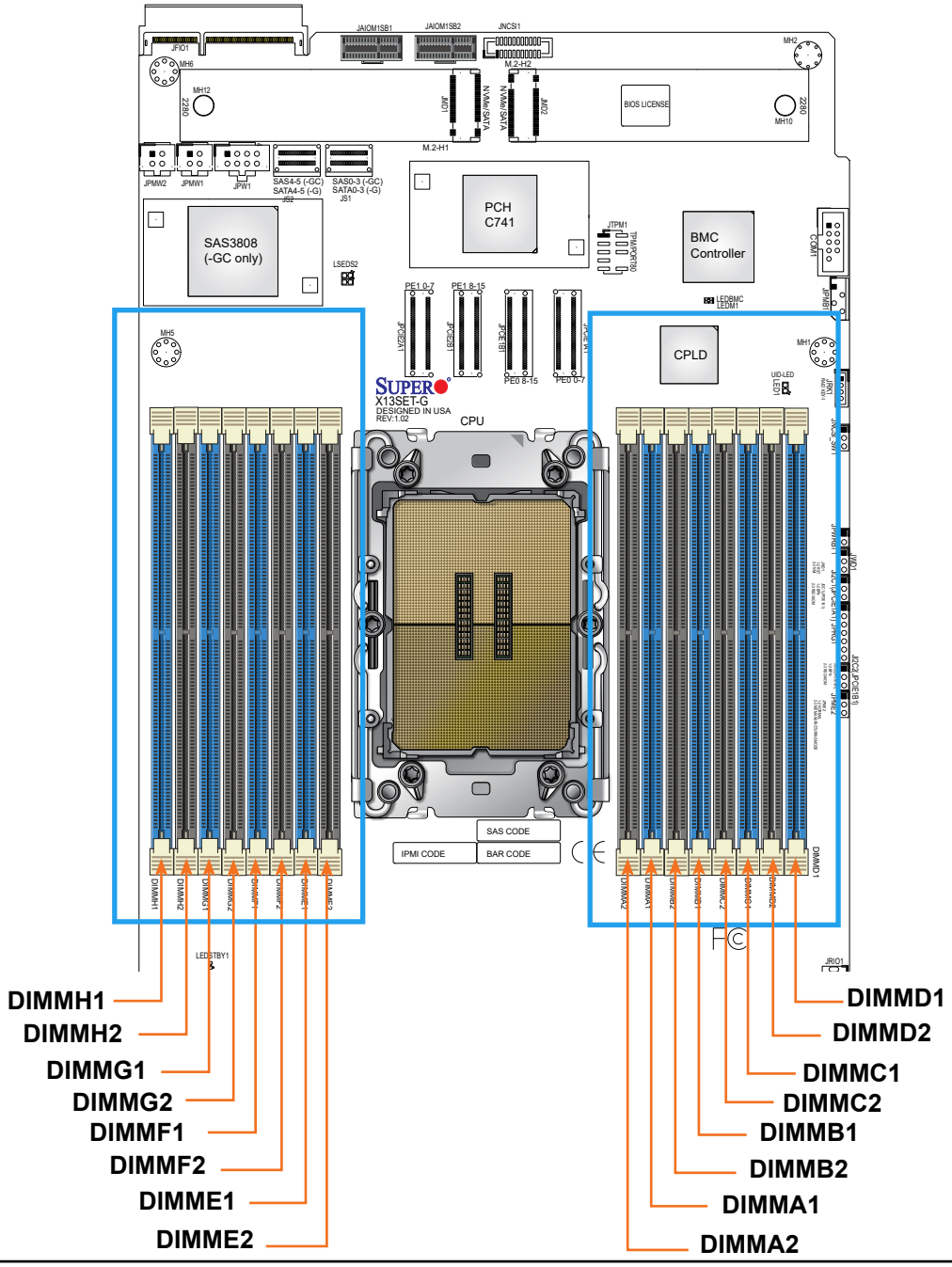
*Memory speed and capacity support depends on the processors used in the system.

Notes:

- 1DPC applies to 1SPC or 2SPC implementations (SPC – sockets per channel).
- 24 Gb, 24 GB, and 48 GB DRAM density is not supported in 2DPC.
- Memory speed will be 5600 MT/s 1DPC and 4400 MT/s 2DPC.
- For 1DPC 5600 speed, DDR5-5600 DIMMs are required.
- Mixing DRAM Density (16 Gb/24 Gb) and/or Frequency is not allowed.

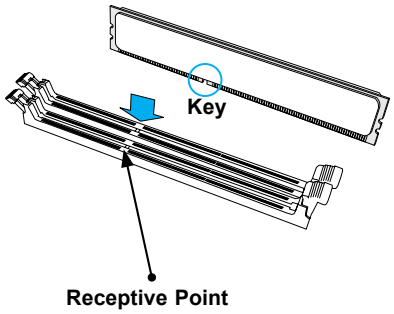
General Guidelines for Optimizing Memory Performance

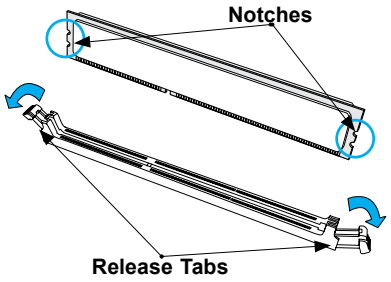
- It is recommended to use DDR5 memory of the same type, size, and speed.
- Mixed DIMM speeds can be installed. However, all DIMMs will run at the speed of the slowest DIMM.
- To achieve the best memory performance, a balanced memory population is recommended.
- The motherboard will not support an odd number of modules (except for a single DIMM module necessary for board operation. To achieve the best memory performance, a balanced (even number) memory population is recommended.

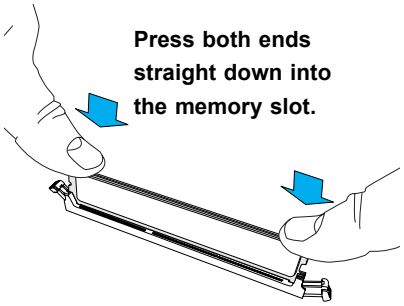


DIMM Installation

1. Insert the desired number of DIMMs into the memory slots, there is no specific sequence or order required.
2. Push the release tabs outwards on both ends of the DIMM slot to unlock it.
3. Align the key of the DIMM module with the receptive point on the memory slot.
4. Align the notches on both ends of the module against the receptive points on the ends of the slot.
5. Press both ends of the module straight down into the slot until the module snaps into place.
6. Press the release tabs to the lock positions to secure the DIMM module into the slot.







DIMM Removal

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

Motherboard Battery

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

Replacing the Battery

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

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

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

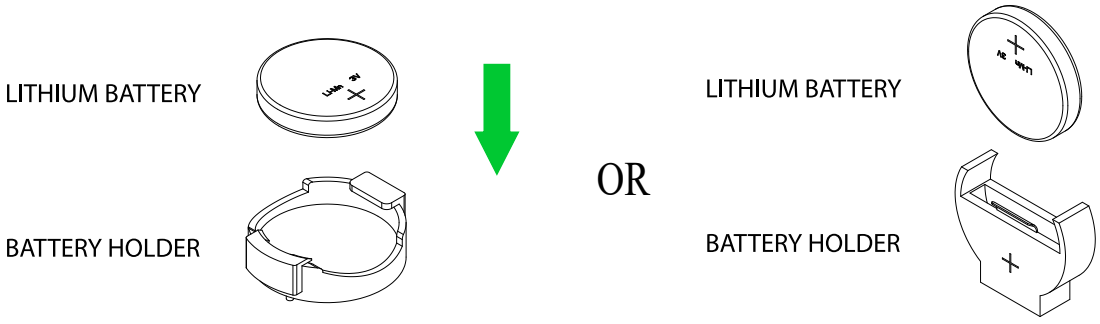


Figure 3-5. Installing the Onboard Battery

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

3.6 Chassis Components

Storage Drives

The CSE-GT214BF chassis supports up to 16 storage drives (up to four 2.5" drives per node) in drive carriers to simplify their removal from the chassis. These carriers also help promote proper airflow.

To support different storage drive solution, the system needs to install either the SATA enablement kit (MCP-450-21404-ASM/ MCP-450-21405-ASM) or NVMe enablement kit (MCP-450-21408-ASM). Each above kit supports two drives, and the user can install up to two enablement kits into one node.

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.

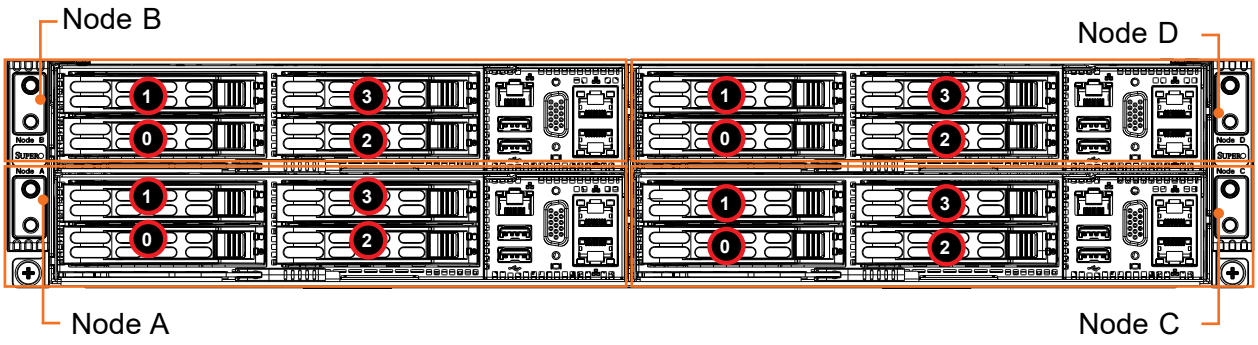
Drive Carrier LED Indicators			
	Color	**Blinking Pattern**	**Behavior for Device**
Activity LED	Blue	Solid On	Idle NVMe drive installed
	Blue	Blinking	I/O activity
	Blue	Off	Idle SATA drive installed
Status LED	Green	Solid Green LED	Safe to remove NVMe device
	Amber	Blinking at 1Hz	Do not remove NVMe device

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

Drive Configuration

The CSE-GT214BF chassis contains four separate computing node drawers, each with its own motherboard. Each node controls a set of four drives (optional storage kit required). If a node drawer is pulled out of the chassis, the drives associated with that node will power down.

Node Drawer Locations	
Node B controls drives B0, B1, B2, and B3	Node D controls drives D0, D1, D2, and D3
Node A controls drives A0, A1, A2, and A3	Node C controls drives C0, C1, C2, and C3

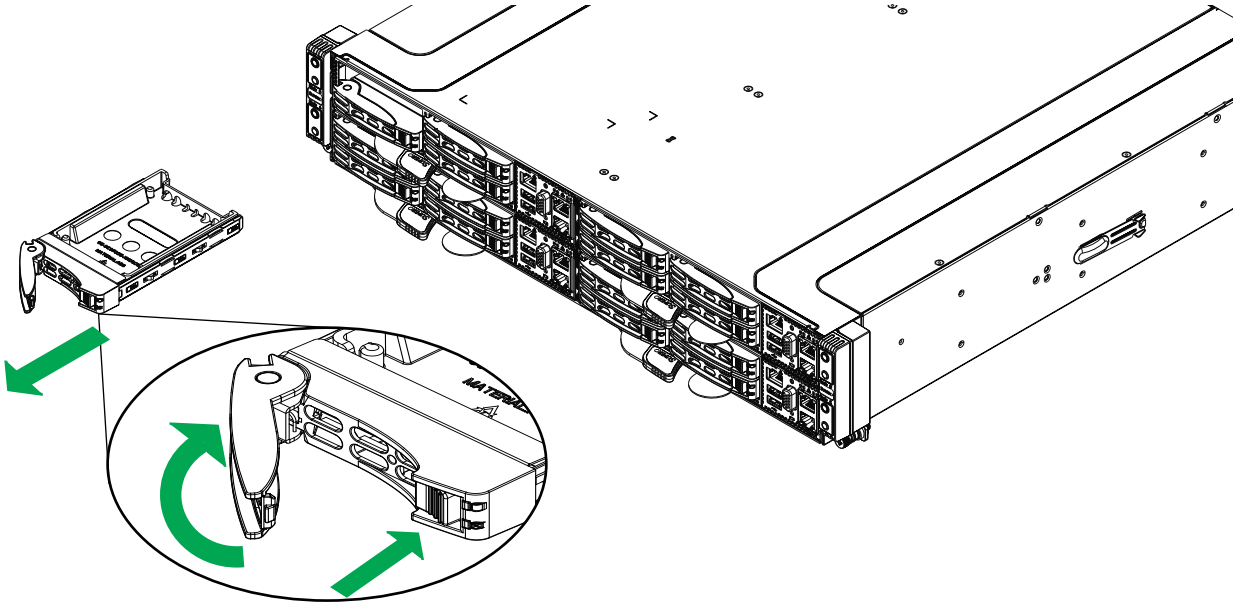


Removing/Installing Drives

Removing a Drive Carrier from the Chassis

1. Press the release button on the drive carrier. This extends the drive carrier handle.
2. Use the handle to pull the carrier out of the chassis.

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



2.5" Drive Cage Removal/Installation

If you configured your system with 2.5" drives, the drive cage is mounted inside the node as shown below.

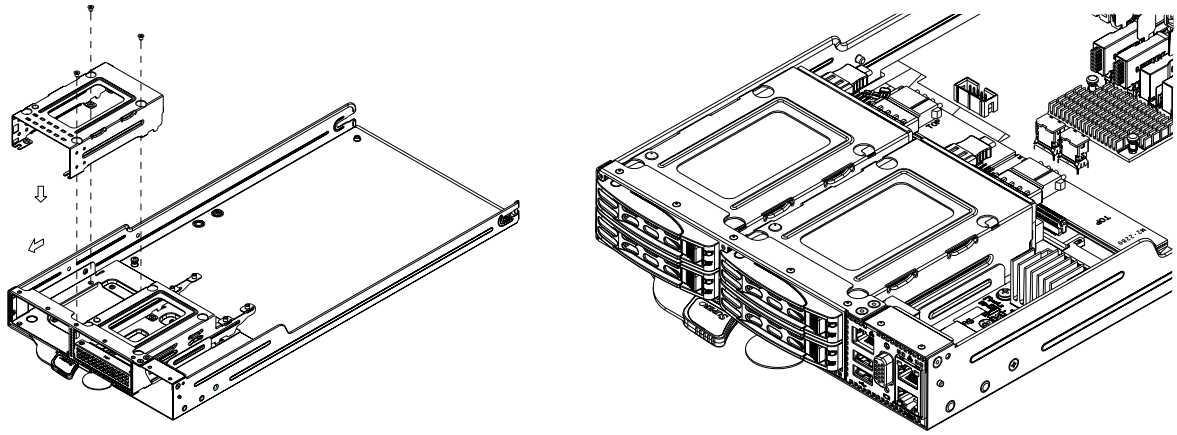


Figure 3-6. Removing a Drive Carrier

Installing a 2.5" Drive

1. Place the drive carrier on a flat surface.
2. Remove the dummy drive, which comes pre-installed in the drive carrier, by removing the two locking tabs securing the dummy drive to the carrier.
3. Lift the dummy drive up and out of the carrier.

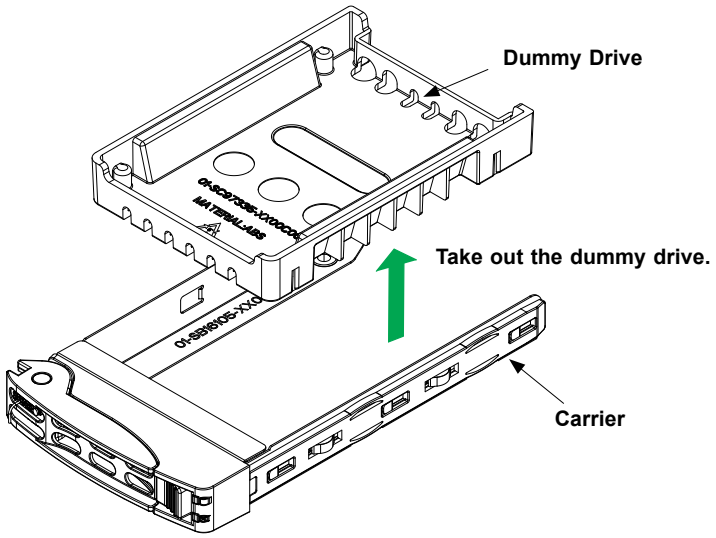


Figure 3-7. Removing a Dummy Drive from the Drive Carrier

4. Insert a new drive into the carrier with the printed circuit board side facing downward and the connector oriented at the rear of the carrier.
5. Align the drive in the carrier so that the mounting holes in the drive align with the mounting holes in the carrier. Note that there are holes in the carrier marked “SATA” to aid in correct installation of the drive.
6. Secure the drive to the carrier with the two locking tabs.

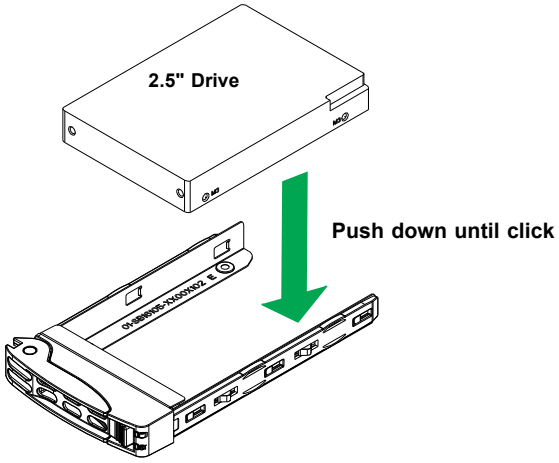


Figure 3-8. Securing the Drive to the Carrier

7. Insert the drive carrier into the chassis drive bay, keeping the carrier oriented so that the hard drive is on the top of the carrier and the release button is on the right side. When the carrier reaches the back of the drive bay, the release handle will retract.

8. Push the handle in until the drive carrier clicks into the locked position.

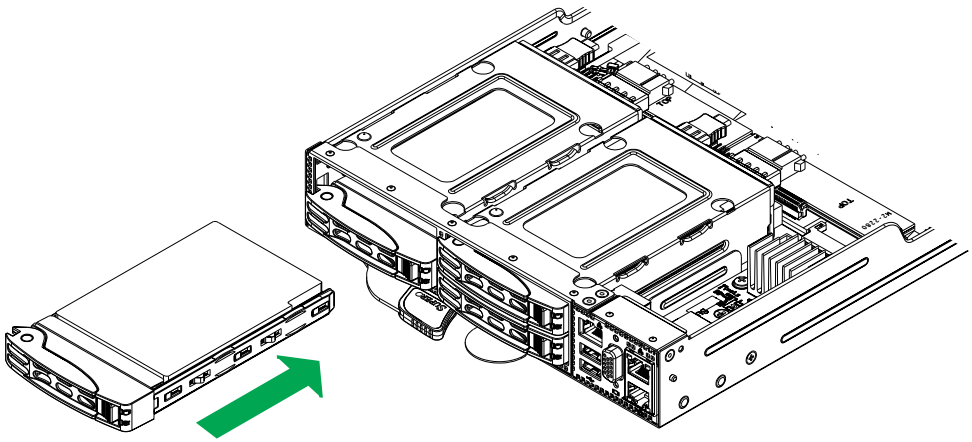


Figure 3-9. Inserting the Drive Carrier

Removing a 2.5" Drive

1. After removing the carrier from the system, push up from the bottom of the drive to remove it from the carrier.

2. Replace with a new drive and insert the carrier back into the open drive bay.

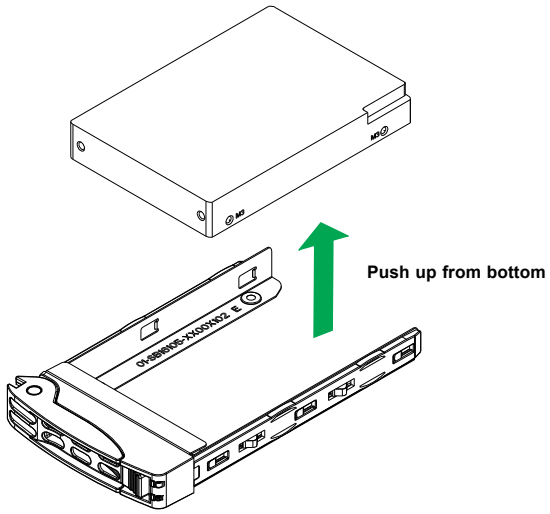


Figure 3-10. Removing a 2.5" Drive from a Carrier

Hot-Swap for NVMe Drives

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

Ejecting a Drive

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

Note that *Device* and *Group* are categorized by the CPLD design architecture. The SYS-211GT-HNTF/HNC8F server has one Device and one Group.

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

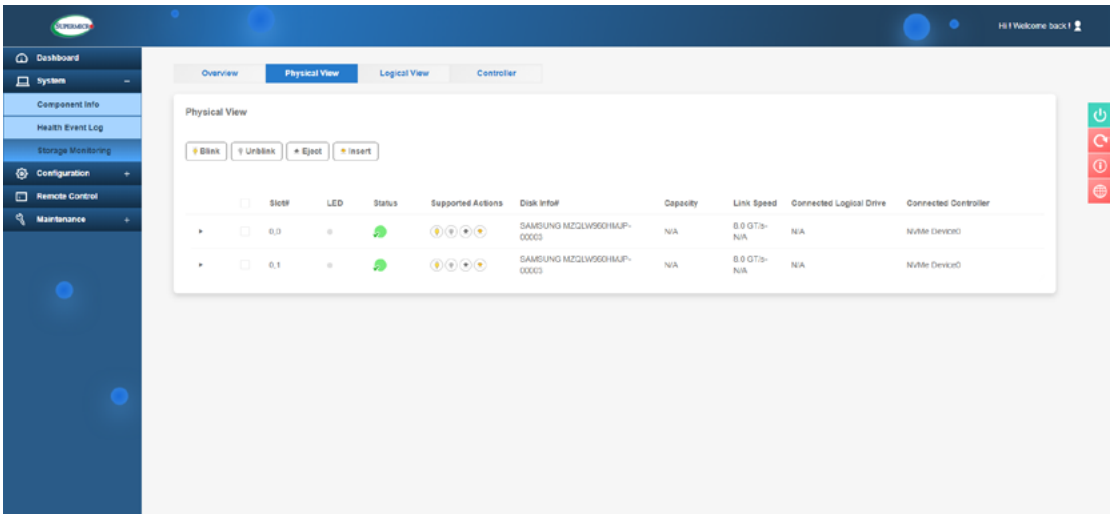


Figure 3-11. BMC Screenshot

Replacing the Drive

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

Checking the Temperature of an NVMe Drive

There are two ways to check using BMC.

Checking a Drive

- **BMC** > **Storage Monitoring** > **Physical View** – Shows the temperatures of all NVMe drives.
- **BMC** > **Sensor Reading** – Shows the single highest temperature among all the NVMe drives.

AIOM Card

The Supermicro Advanced Input/Output Module (AIOM) card provides options for network connection. It is inserted into an AIOM slot on the motherboard tray (optional AIOM kit required).

Removing the AIOM Card

1. Press the release tab and loosen the thumbscrew on the AIOM card.
2. Grasp the release tab and the thumbscrew and pull the AIOM out of the motherboard tray.

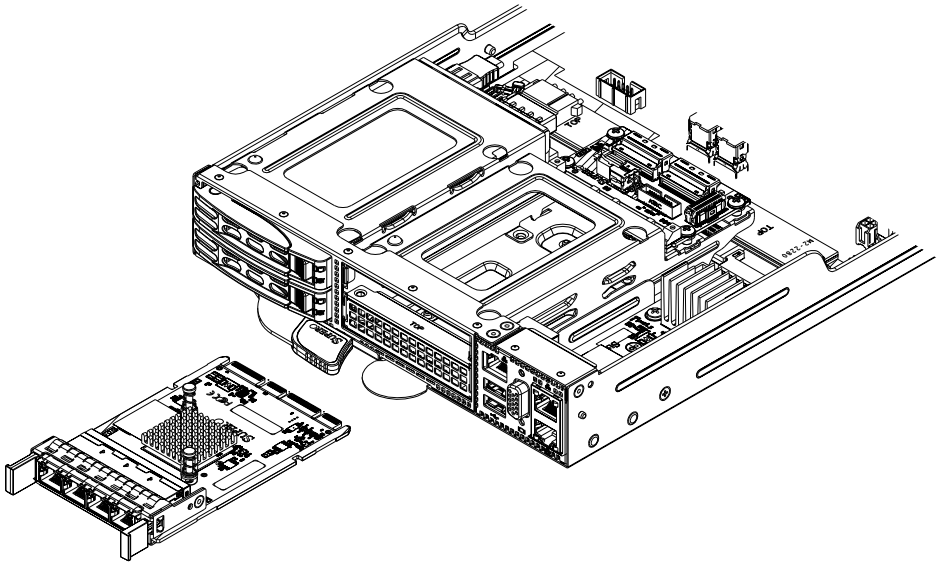


Figure 3-12. AIOM Card Position

Installing the AIOM Card

1. Insert the AIOM card into the motherboard tray slot as shown until the release tab retracts.
2. Tighten the thumbscrew.

I/O Card

The I/O card provides options for input/output connections for different devices. It is inserted into the I/O slot on the motherboard tray.

Removing the I/O Card

1. Loosen and remove the screw on the right side of the motherboard tray.
2. Gently pull the I/O card out of the motherboard tray.

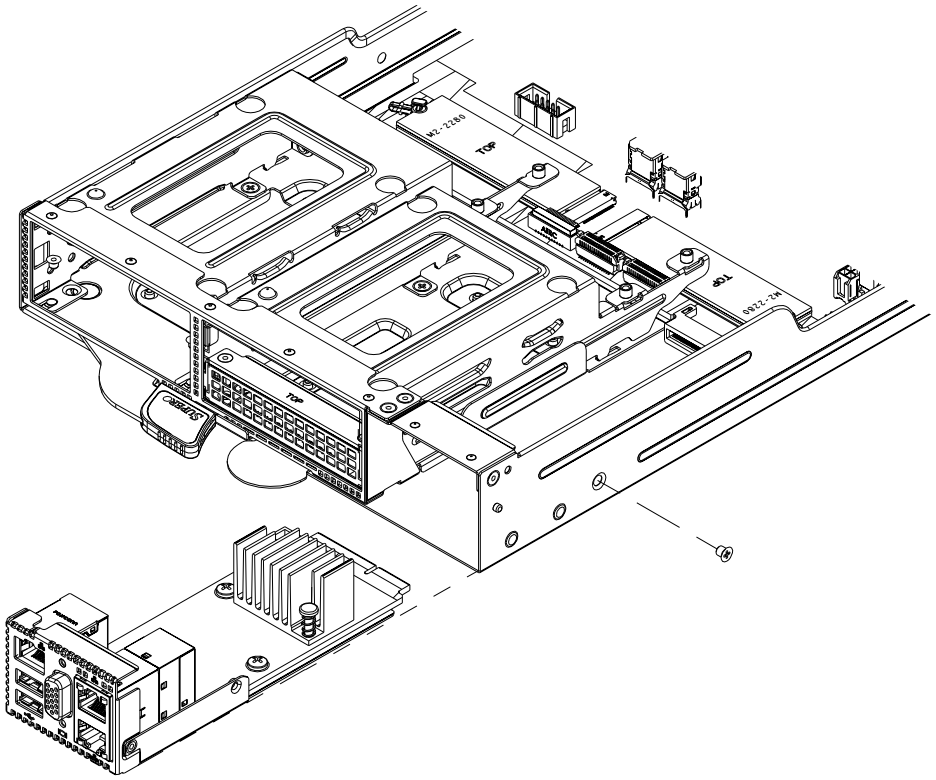


Figure 3-13. I/O Card Position at Rear

Installing the I/O Card

1. Insert the I/O card into the motherboard tray.
2. Install and tighten the screw on the side of the motherboard tray.

3.7 System Cooling

Fans

Fan speed is controlled by a system temperature setting in BMC. If a fan fails, the remaining fans will ramp up to full speed. Replace any failed fan at your earliest convenience with the same type and model.

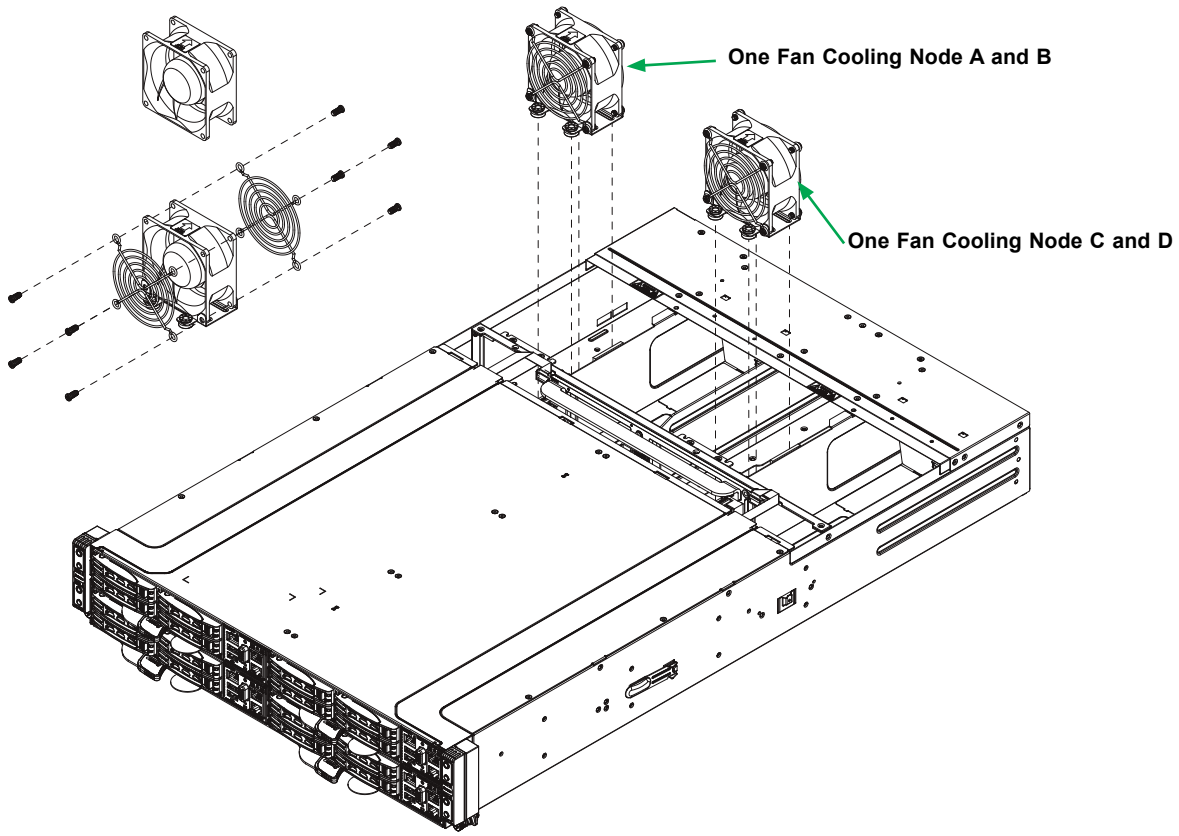


Figure 3-14. Removing System Fans

Changing a System Fan

1. Determine which fan is failing. If possible, use BMC. If not, remove the chassis cover while the power is on, and examine the fans to determine which one has failed.
2. Remove power from the system as described in Section 3.1.
3. Remove the fan cable from the midplane for the failed fan.
4. Lift the fan housing up and out of the chassis.
5. Push the fan up from the bottom.
6. Put the new fan back into the chassis and reconnect the cable.
7. Power on the system to confirm that the fan is working properly before replacing the chassis cover.

Installing the Air Shroud

The system requires air shrouds for each node to maximize airflow efficiency. The motherboard, any expansion cards, and all components must be installed in the node tray. Place the air shroud as pictured and secure with the screws.

Installing the Air Shroud

1. First, ensure the CPU, CPU heatsinks, and configured DIMMs are installed.
2. Align the mountings screw holes in the plastic air shroud with those in the node interior and lower the air shroud into the node until it is firmly seated.
3. Secure the air shroud with the two tall standoffs provided. Be careful that the air shroud legs at either end do not interfere with any motherboard components such as cables.
4. Secure the cable protector with the two screws tightened on top of the two tall standoffs in order to cover or manage any loose cables that interfere with the air shroud placement.

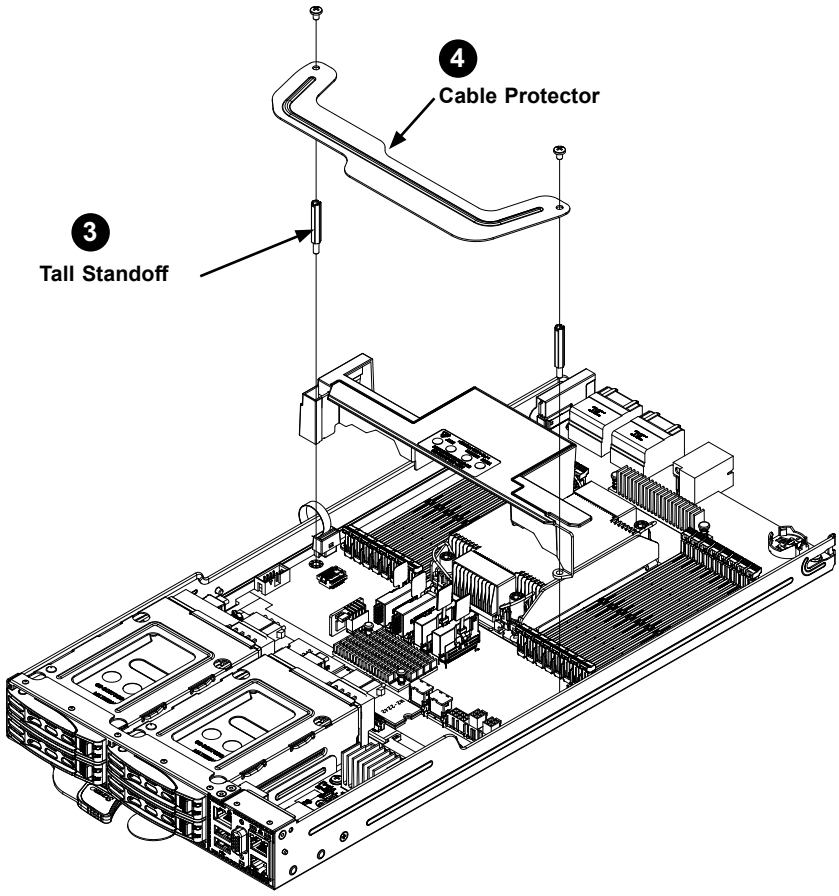


Figure 3-15. Installing the Air Shroud

3.8 Power Supply

The chassis features dual redundant power supplies. Please exchange the power modules within one minute. New units can be ordered directly from Supermicro or authorized distributors.

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

Replacing the Power Supply

1. Use the operating system to power down all nodes.
2. Unplug the AC cord from the module to be replaced.
3. Release the locking clip to unlock the power supply module
4. Pull out the locking lever and remove the unit. To release the lever, squeeze the two metal plates of the lever with your thumb and fingers, and then pull the module out.
5. Replace the failed power module with the same model.

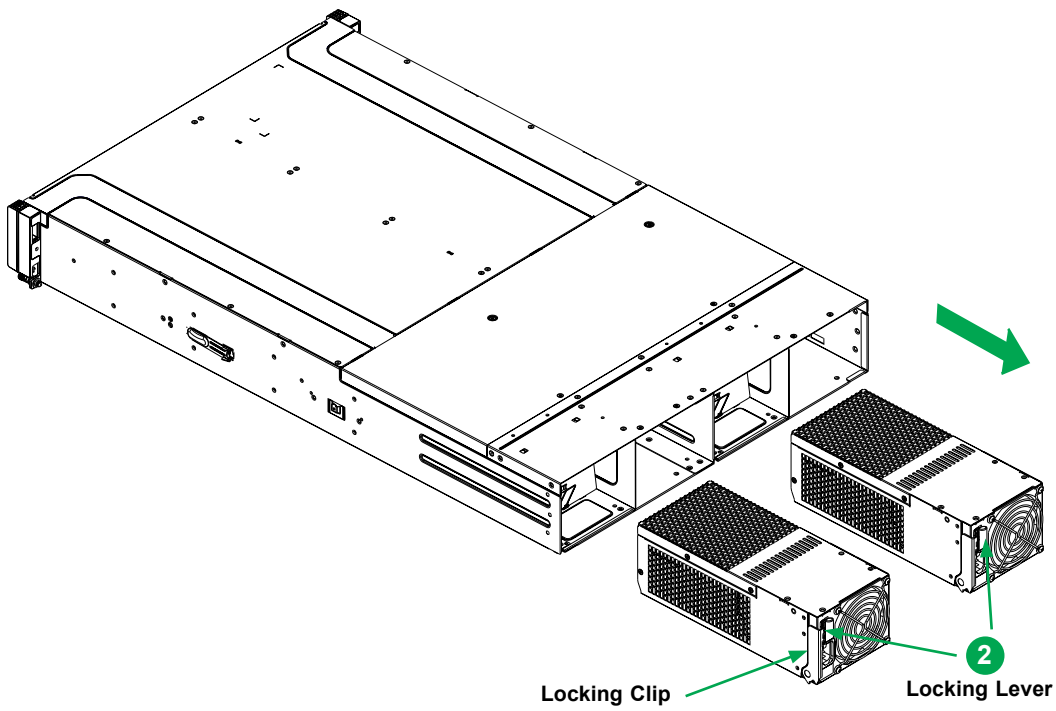


Figure 3-16. Power Supply Release Tab

6. Push the new power supply module into the power bay until it clicks.
7. Plug the AC power cord back into the module.

3.9 Cable Routing Diagram

Refer to the diagrams below for representations of how the main cables are routed throughout the system in various optional configurations. When disconnecting cables to add or replace components, refer to these diagrams so you can reroute them in the same manner. Proper cable routing is important in maintaining proper airflow through the system.

4x SATA/SAS U.2

SAS/SATA
CBL-SAST-1217QT4S2-100

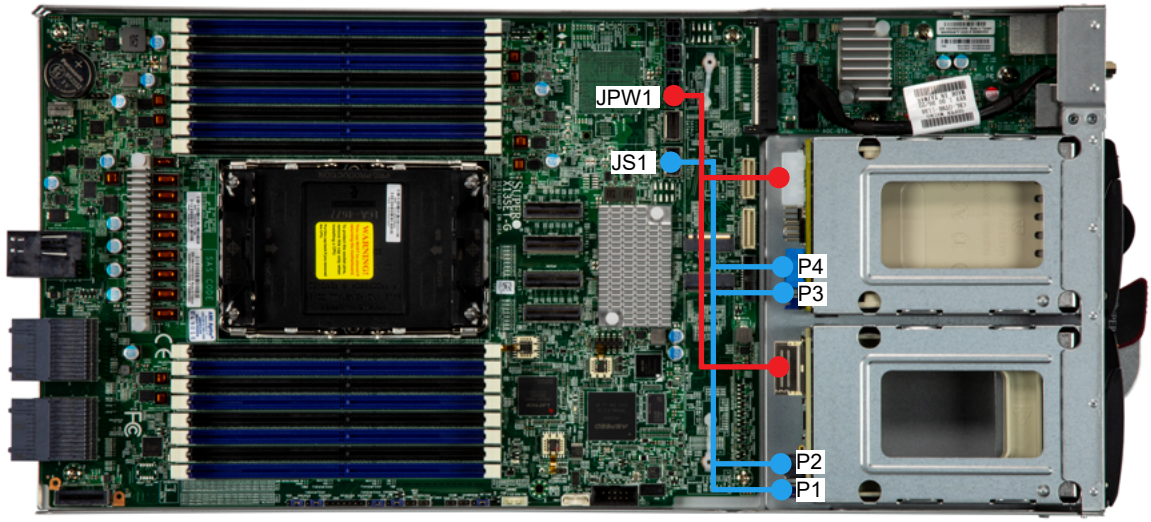
Power
CBL-PWEX-0990Y-20

Online Cable Matrix

Logical drive numbers with backplane settings as shown below.

Backplane 1 Jumper Settings	
Jumper	**Setting**
J52	Pins 2-3
J53	Pins 2-3

Backplane 2 Jumper Settings	
Jumper	**Setting**
J52	Pins 1-2
J53	Pins 2-3



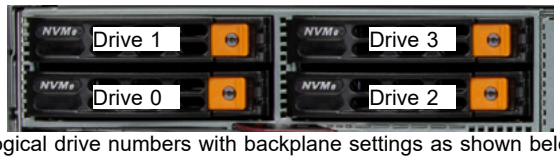
SAS/SATA Enablement Kit (MCP-450-21404-ASM)		
Part Number	**Description**	**Qty**
Tray		
MCP-220-00147-0B	2.5" tool-less Gen 3 drive tray	4
Cable		
CBL-PWEX-0990Y-20	MicroFit 2x4,PH3.0 to 2 1X4,PH5.08, 20cm, 4A/pin,20AWG	1
CBL-SAST-1217QT4S2-100	SlimSAS x4 to 4 7p SATA+2 2x4 SB,13/16cm, 100 Ohm	1
HD Backplane		
BPN-SAS3-826TQ-B2B	2-Port 12Gbps backplane for 2x2.5" SAS/SATA HDD/SSD	2

4x NVMe

NVMe
CBL-MCIO-1218M5-1

Power
CBL-PWEX-1131-20

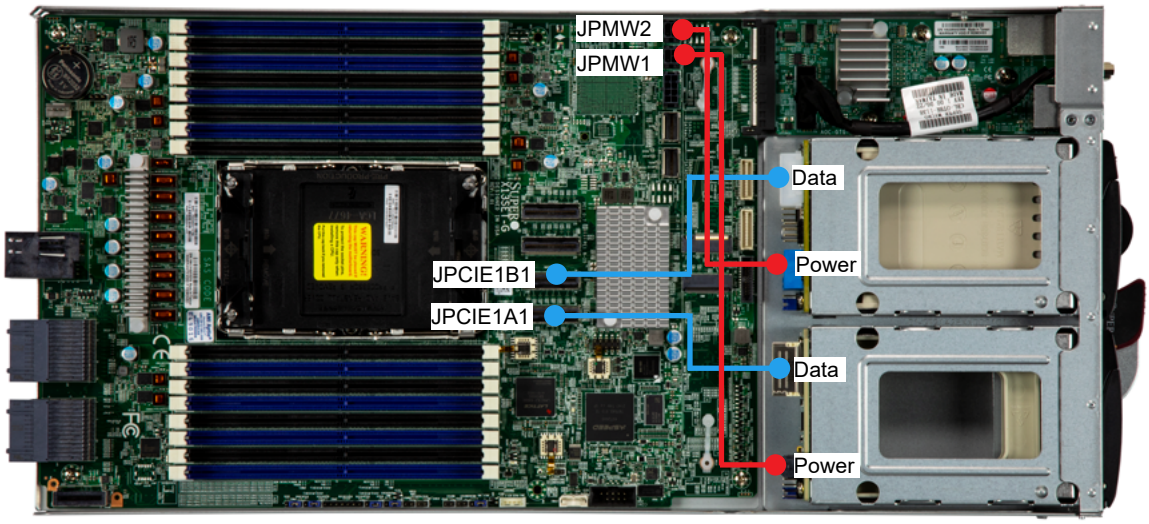
Online Cable Matrix



Logical drive numbers with backplane settings as shown below.

Backplane 1 Jumper Settings	
Jumper	**Setting**
J3	Pins 1-2
J4	Pins 1-2

Backplane 2 Jumper Settings	
Jumper	**Setting**
J3	Pins 1-2
J4	Pins 2-3



NVMe Enablement Kit (MCP-450-21408-ASM)		
Part Number	**Description**	**Qty**
Tray		
MCP-220-00167-0B	2.5" tool-less Gen 3 NVMe drive tray	4
Cable		
CBL-PWEX-1131-20	MicroHi (2x2 to 2x2), PH3.0, 20cm, 9.5A/p, 18AWG	2
CBL-MCIO-1218M5-1	MCIO x8 (STR to STR),18cm,85 Ohm	2
HD Backplane		
BPN-NVME5-826N-B2B	2-Port backplane for PCIe Gen 5 U.2 NVMe SSD Storage Backplane	2

2x NVMe + 1x AIOM

AIOM Data
CBL-MCIO-1218M5-1

AIOM Power
CBL-OTHR-1115

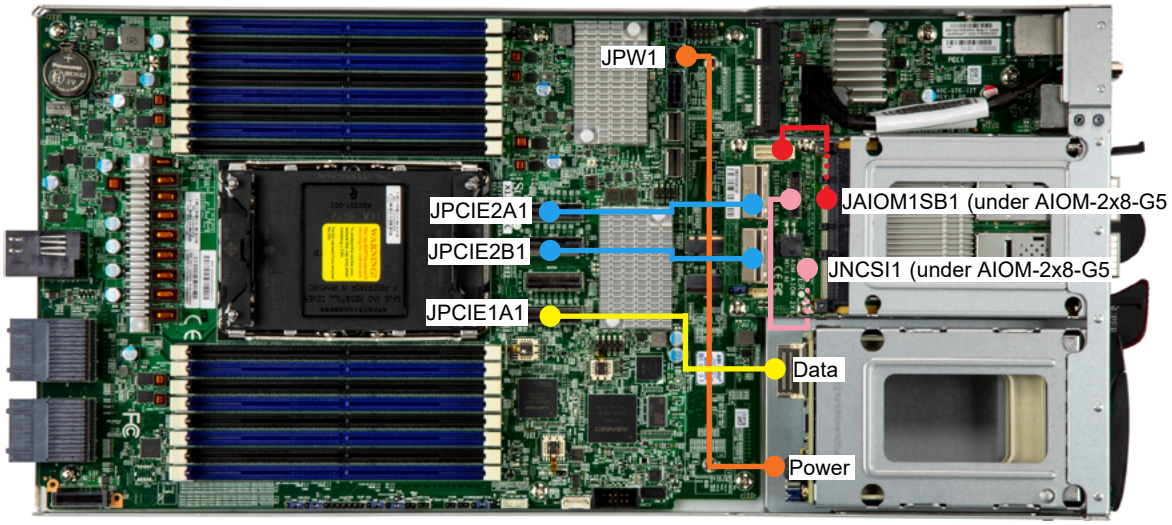
AIOM NCSI
CBL-OTHR-0795A-14

NVMe Data
CBL-MCIO-1218M5-1

NVMe Power
CBL-PWEX-1131-20

Logical drive numbers with jumper settings as shown on previous page.

Online Cable Matrix



NVMe Enablement Kit (MCP-450-21408-ASM)		
Part Number	**Description**	**Qty**
Tray		
MCP-220-00167-0B	2.5" tool-less Gen 3 NVMe drive tray	2
Cable		
CBL-PWEX-1131-20	MicroHi (2x2 to 2x2), PH3.0, 20cm, 9.5A/p, 18AWG	1
CBL-MCIO-1218M5-1	MCIO x8 (STR to STR),18cm,85 Ohm	1
HD Backplane		
BPN-NVME5-826N-B2B	2-Port backplane for PCIe Gen 5 U.2 NVMe SSD Storage Backplane	1

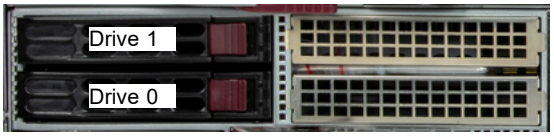
AIOM Enablement Kit (MCP-450-21411-ASM)		
Part Number	**Description**	**Qty**
Cage		
MCP-220-21404-0B	AIOM cage	1
Cable		
CBL-OTHR-0795A-14	FLAT, IDC 2X11F/P1.27 at both ends,NCSI,14CM,P15-16	1
CBL-MCIO-1218M5-1	MCIO x8 (STR to STR), 18cm, 85 Ohm	2
CBL-OTHR-1115	2x15 to 2x15,18cm 28AWG,1A/pin	1
Add-on Card		
AOM-AIOM-2X8-G5-P	AIOM adaptor board (cable solution), PCIe Gen 5	1

2x SATA/SAS U.2

SAS/SATA
CBL-SAST-1217QT4S2-100

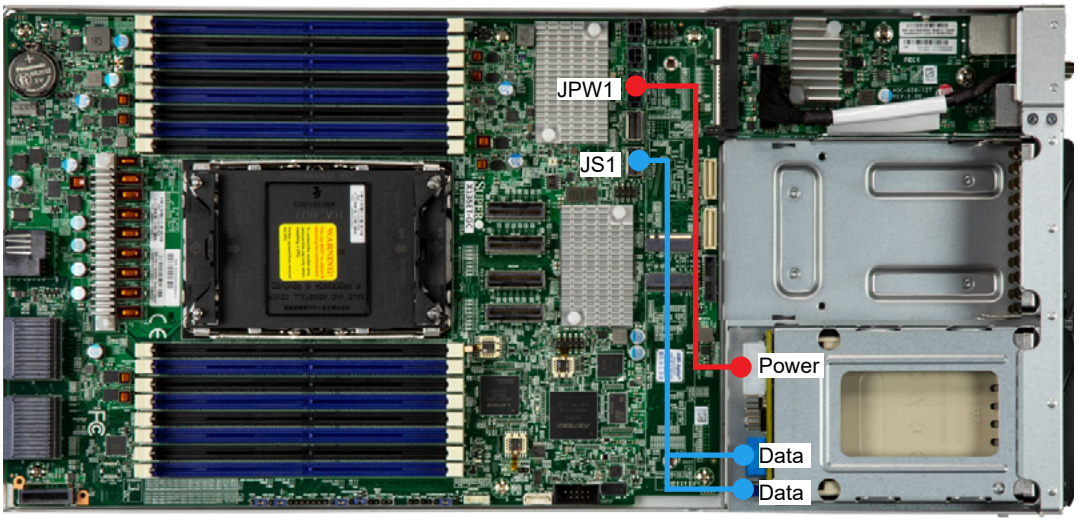
Power
CBL-PWEX-0990Y-20

Online Cable Matrix



Logical drive numbers with backplane settings as shown below.

Backplane Jumper Settings	
Jumper	**Setting**
J52	Pins 2-3
J53	Pins 2-3



SAS/SATA U.2 Enablement Kit (MCP-450-21405-ASM)		
Part Number	**Description**	**Qty**
Tray		
MCP-220-00147-0B	2.5" tool-less Gen 3 drive tray	2
Cable		
CBL-PWEX-0990Y-20	MicroFit 2x4,PH3.0 to 2 1X4,PH5.08, 20cm, 4A/pin,20AWG	1
CBL-SAST-1217QT4S2-100	SlimSAS x4 to 4 7p SATA+2 2x4 SB,13/16cm, 100 Ohm	1
HD Backplane		
BPN-SAS3-826TQ-B2B	2-Port 12Gbps backplane for 2x2.5" SAS/SATA HDD/SSD	1

2x SATA/SAS U.2 + 1x AIOM

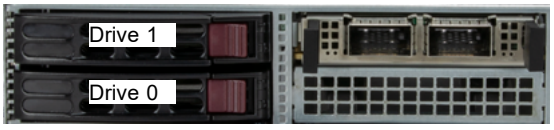
SAS/SATA Data
CBL-SAST-1217QT4S2-100

SAS/SATA Power
CBL-PWEX-0990Y-20

AIOM NSCI
CBL-OTHR-0795A-14

AIOM Power
CBL-OTHR-1115

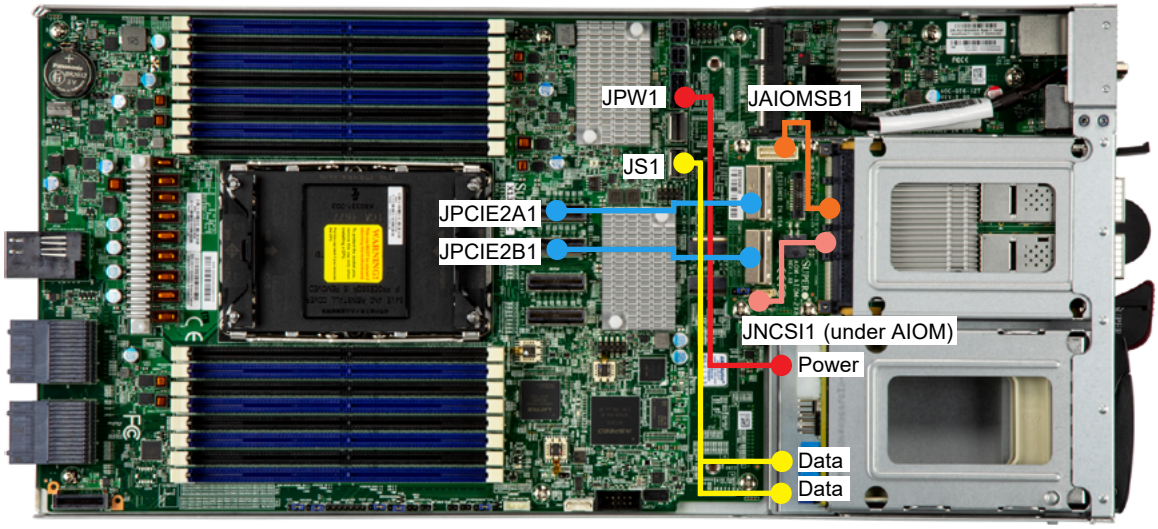
AIOM Data
CBL-MCIO-1218M5-1



Logical drive numbers with backplane settings shown below.

Backplane Jumper Settings	
Jumper	**Setting**
J52	Pins 2-3
J53	Pins 2-3

Online Cable Matrix



SAS/SATA U.2 Enablement Kit (MCP-450-21405-ASM)		
Part Number	**Description**	**Qty**
Tray		
MCP-220-00147-0B	2.5" tool-less Gen 3 drive tray	2
Cable		
CBL-PWEX-0990Y-20	MicroFit 2x4,PH3.0 to 2 1X4,PH5.08, 20cm, 4A/pin,20AWG	1
CBL-SAST-1217QT4S2-100	SlimSAS x4 to 4 7p SATA+2 2x4 SB,13/16cm, 100 Ohm	1
HD Backplane		
BPN-SAS3-826TQ-B2B	2-Port 12Gbps backplane for 2x2.5" SAS/SATA HDD/SSD	1

AIOM Enablement Kit (MCP-450-21411-ASM)		
Part Number	**Description**	**Qty**
Bracket/Cage		
MCP-220-21404-0N	AIOM cage	1
MCP-120-21406-0N	AIOM dummy bracket	1
Cable		
CBL-OTHR-0795A-14	FLAT, IDC 2X11F/P1.27 at both ends,NCSI,14CM,P15-16	1
CBL-OTHR-1115	2x15 to 2x15, 18cm 28AWG, 1A/pin	1
CBL-MCIO-1218M5-1	MCIO x8 (STR to STR), 18cm, 85 Ohm	2
Add-on Card		
AIOM-AIOM-2x8-GP5-P	AIOM adaptor board (cable solution), PCIe Gen 5	1

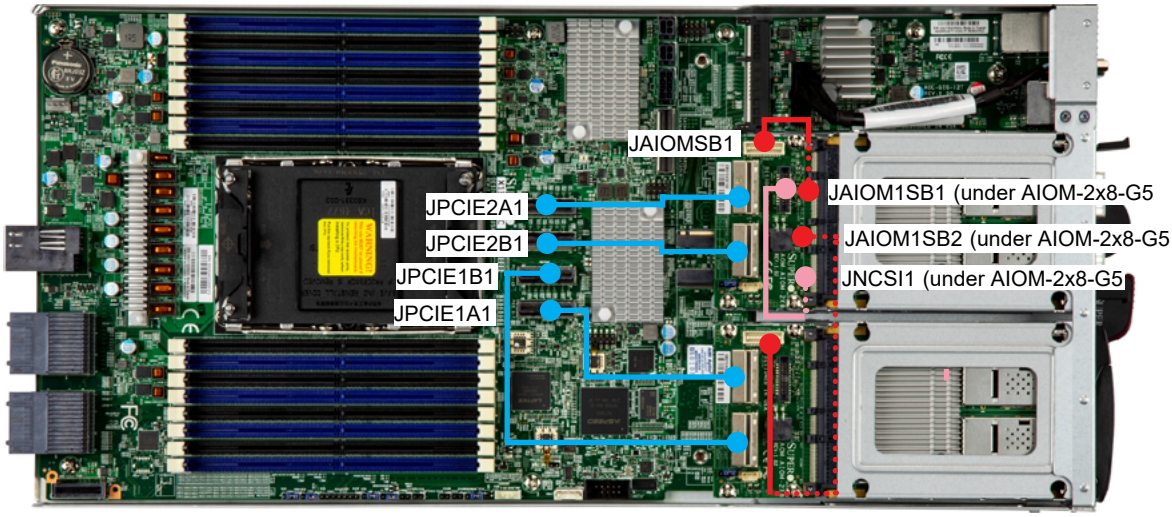
2x AIOM

AIOM Data
CBL-MCIO-1218M5-1

AIOM Power
CBL-OTHR-1115

AIOM NCSI
CBL-OTHR-0795A-14

Online Cable Matrix



AIOM Enablement Kit (MCP-450-21411-ASM)		
Part Number	**Description**	**Qty**
Bracket/Cage		
MCP-220-21404-0B	AIOM cage	1
MCP-120-21406-0N	AIOM dummy bracket	1
Cable		
CBL-OTHR-0795A-14	FLAT, IDC 2X11F/P1.27 at both ends,NCSI,14CM,P15-16	1
CBL-OTHR-1115	2x15 to 2x15, 18cm 28AWG, 1A/pin	1
CBL-MCIO-1218M5-1	MCIO x8 (STR to STR), 18cm, 85 Ohm	2
Add-on Card		
AIOM-AIOM-2x8-GP5-P	AIOM adaptor board (cable solution), PCIe Gen 5	1

1x Low Profile Add-on Card + 2x NVMe

NVMe Data
CBL-MCIO-1218M5-1

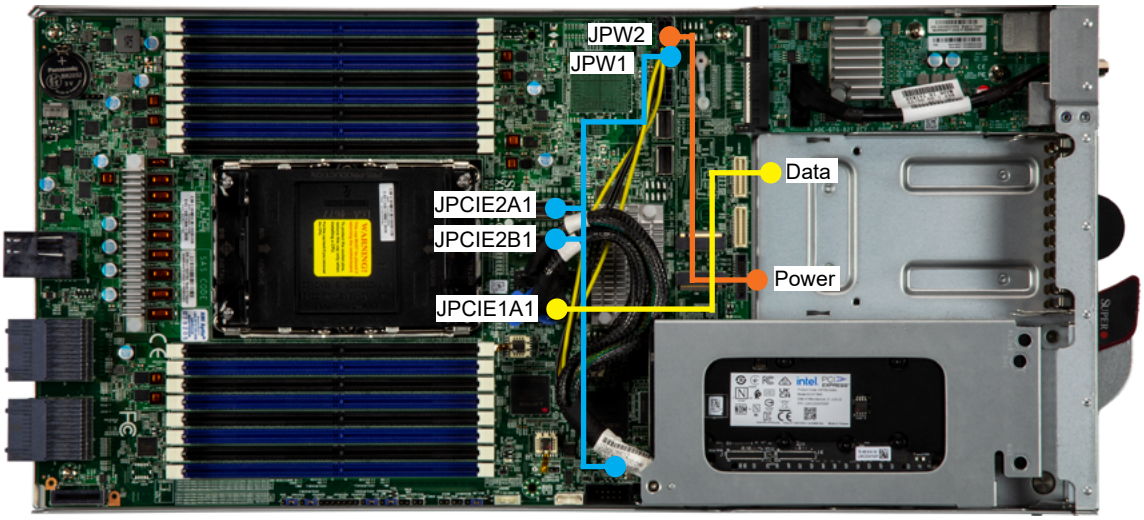
NVMe Power
CBL-PWEX-1131-20

AOC Data & Power
CBL-ASMC-1316DM5YP

Online Cable Matrix

Logical drive numbers with backplane settings shown below.

Backplane Jumper Settings	
Jumper	**Setting**
J3	Pins 1-2
J4	Pins 1-2



NVMe Enablement Kit (MCP-450-21408-ASM)		
Part Number	**Description**	**Qty**
Tray		
MCP-220-00167-0B	2.5" tool-less Gen 3 NVMe drive tray	2
Cable		
CBL-PWEX-1131-20	MicroHi (2x2 to 2x2), PH3.0, 20cm, 9.5A/p, 18AWG	1
CBL-MCIO-1218M5-1	MCIO x8 (STR to STR),18CM,85 Ohm	1
HD Backplane		
BPN-NVME5-826N-B2B	2-Port backplane for PCIe Gen 5 U.2 NVMe SSD Storage Backplane	1

Low Profile Add-on Card Parts		
Part Number	**Description**	**Qty**
Riser Cage		
MCP-240-21404-0N	Riser cage for internal low-profile card	1
Cable		
CBL-ASMC-1316DM5YP	MCIO x8 (STR to STR),18CM,85 Ohm	1

3.10 BMC Reset

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

- Reset – Press and hold the button. After six seconds, the LED blinks at 2 Hz. The BMC resets and the reset duration is ~250 ms. Then the BMC starts to boot.
- Restore factory default configuration – Hold the button for twelve seconds. The LED blinks at 4 Hz while defaults are configured.

Note: All BMC settings including username and password will be removed except the FRU and network settings.

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

Chapter 4

Motherboard Connections

This section describes the connections, jumpers and LED indicators on the motherboard and provides pinout definitions. Not all connections are required. A motherboard layout indicating component locations may be found in Chapter 1.

Please review the Safety Precautions in Appendix A before installing or removing components.

4.1 Power Connections

Power Connectors

JPWR1 is a 12 V connector that connects to the back and middle plane, BPN-PDB-GT214. The power supply also connects to BPN-PDB-GT214 to provide power to the motherboard.

4.2 Headers and Connectors

COM Header

The motherboard has one COM header (COM1) that provides a serial connection.

COM Header (COM1) Pin Definitions

Pin#	Definition	Pin#	Definition
1	DCD	2	DSR
3	RXD	4	RTS
5	TXD	6	CTS
7	DTR	8	RI
9	Ground	10	N/A

4-pin External BMC I²C Header

A System Management Bus header for IPMI 2.0 is located at JIPMB1. Connect a cable to this header to use the IPMB I²C connection on your system. Refer to the table below for pin definitions.

External I²C Header Pin Definitions

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

Fan Headers

There is one 4-pin fan header (FAN1) on the motherboard. The 4-pin fan header is backwards compatible with the traditional 3-pin fans. However, fan speed control is available for 4-pin fans only by Thermal Management via the IPMI 2.0 interface. Refer to the table below for pin definitions.

Fan Header Pin Definitions

Pin#	Definition
1	Ground (Black)
2	2.5A/+12V (Red)
3	Tachometer
4	PWM_Control

Intel RAID Key Header

The JRK1 header allows you to enable RAID functions for NVMe connections. Refer to the table below for pin definitions.

Intel RAID Key Header Pin Definitions

Pin#	Definition
1	GND
2	PU 3.3V Stdby
3	GND
4	PCH RAID KEY

M.2 Slots

This motherboard has two M.2 slots (JMD1, JMD2). M.2 was formerly known as Next Generation Form Factor (NGFF) and serves to replace mini PCIe. M.2 allows for a variety of card sizes, increased functionality, and spatial efficiency. The M.2 slots on the motherboard supports PCIe 3.0 x4 or SATA from the PCH, one in the 2280 form factors.

NC-SI Connector

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

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

SAS and SATA Ports

This motherboard has two SlimSAS connectors located at JS1 and JS2 to support six SATA (SATA0-SATA5) devices.

TPM/Port 80 Header

A Trusted Platform Module (TPM)/Port 80 header is located at JTPM1 to provide TPM support and Port 80 connection. Use this header to enhance system performance and data security. Refer to the table below for pin definitions. Go to the following link for more information on the TPM: http://www.supermicro.com/manuals/other/TPM.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	+3.3V Stdby	10	SPI_IRQ#

Molex Impel Plus Connectors

J35 and J40 are PCIe connectors that connect to the PCIe backplane. The connectors can support AIOM backplanes and NVMe backplanes.

MCIO Connectors

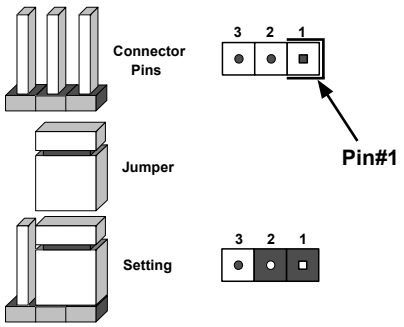
JPCIE1A1, JPCIE1B1, JPCIE2A1 and JPCIE2B1 are PCIe connectors that connect to the PCIe backplane. These connectors can support AIOM backplanes, NVMe backplanes and riser cards.

4.3 Jumper Settings

How Jumpers Work

To modify the operation of the motherboard, jumpers can be used to choose between optional settings. Jumpers create shorts between two pins to change the function of the connector. Pin #1 is identified with a thicker border line on the printed circuit board. See the diagram below for an example of jumping pins 1 and 2. Refer to the motherboard layout page for jumper locations.

Note: On two-pin jumpers, "Closed" means the jumper is on and "Open" means the jumper is off the pins.



Clear CMOS (JBT1)

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

To Clear CMOS

1. First power down the system and unplug the power cord(s).
2. Remove the cover of the chassis to access the motherboard.
3. Remove the CMOS 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 CMOS battery on the motherboard.
7. Replace the cover, reconnect the power cord(s), and power on the system.

Note: Clearing CMOS will also clear all passwords.

Do not use the PW_ON connector to clear CMOS.


JBT1 contact pads

Backplane or Riser Card/AIOM Enable

Use the JI²C1 (JPCIEA1) and JI²C2 (JPCIEB1) jumpers to enable backplane or riser card/AIOM features. The backplane supports NVMe while the riser card/AIOM supports standard PCIe devices and AIOM cards. Refer to the table below for jumper settings.

JI²C1 (JPCIEA1) and JI²C2 (JPCIEB1) Jumper Settings	
Jumper Setting	**Definition**
Pins 0-1	Backplane
Pins 1-2	RSC/AIOM

ME Manufacturing Mode

Close JPME2 to bypass SPI flash security and force the system to use the Manufacturing Mode, which will allow the user to flash the system firmware from a host server to modify system settings. Refer to the table below for jumper settings.

Manufacturing ME Mode Jumper Settings	
Jumper Setting	**Definition**
Pins 1-2	Normal (Default)
Pins 2-3	Manufacturing Mode

Watch Dog

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

Note: When Watch Dog is enabled, users need to write their own application software to disable it.

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

4.4 LED Indicators

BMC Heartbeat LED

LEDM1 is the BMC Heartbeat LED. When the LED is blinking green, BMC is working. Refer to the table below for the LED status.

BMC Heartbeat LED	
LED Color	**Definition**
Green: Blinking	BMC Normal
Red	BMC Error

SAS Heartbeat LED

LESDS2 is the SAS Heartbeat LED. When the LED is solid red, there is an error with the SAS. Refer to the table below for the LED status.

SAS Activity LED Indicator	
LED Color	**Definition**
Green: Blinking	SAS Active
Red	SAS Error

UID LED

LED1 is the Unit Identifier LED. When you press the UID switch, the UID LED will be turned on. Press the UID switch again to turn off the LED indicator. The UID Indicator provides easy identification of a system unit that may be in need of service.

Note: UID can also be triggered via IPMI on the motherboard. For more information on IPMI, please refer to the IPMI User's Guide posted on our website at http://www.supermicro.com/support/manuals/.

UID LED Pin Definitions	
Color	**Status**
Blue: On	Unit Identified

Chapter 5

Software

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

5.1 Microsoft Windows OS Installation

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. 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 or media 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.

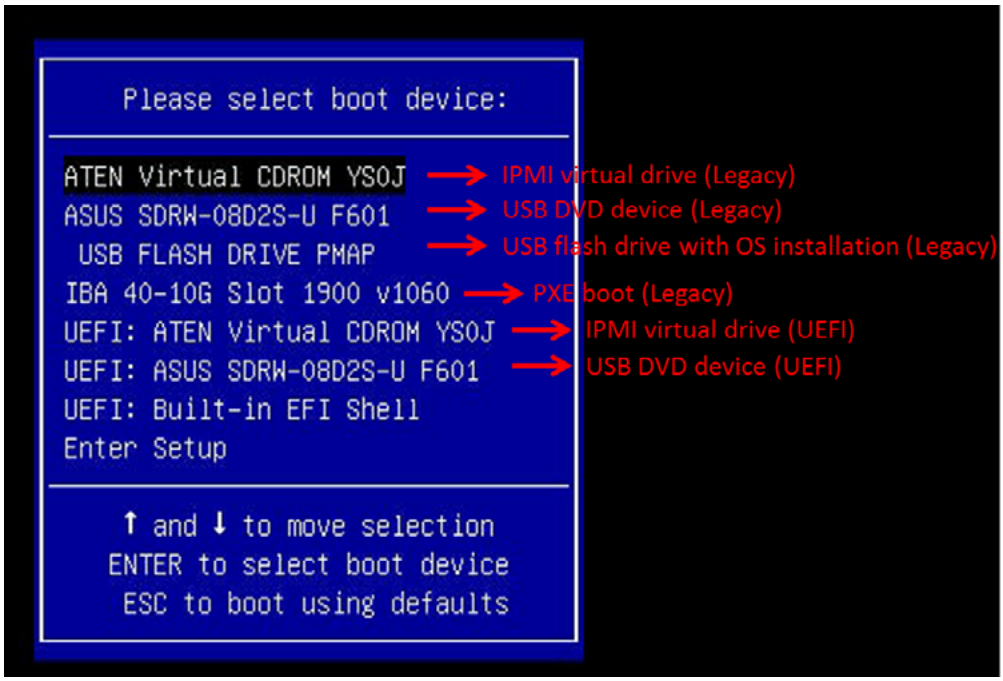


Figure 5-1. Select Boot Device

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.

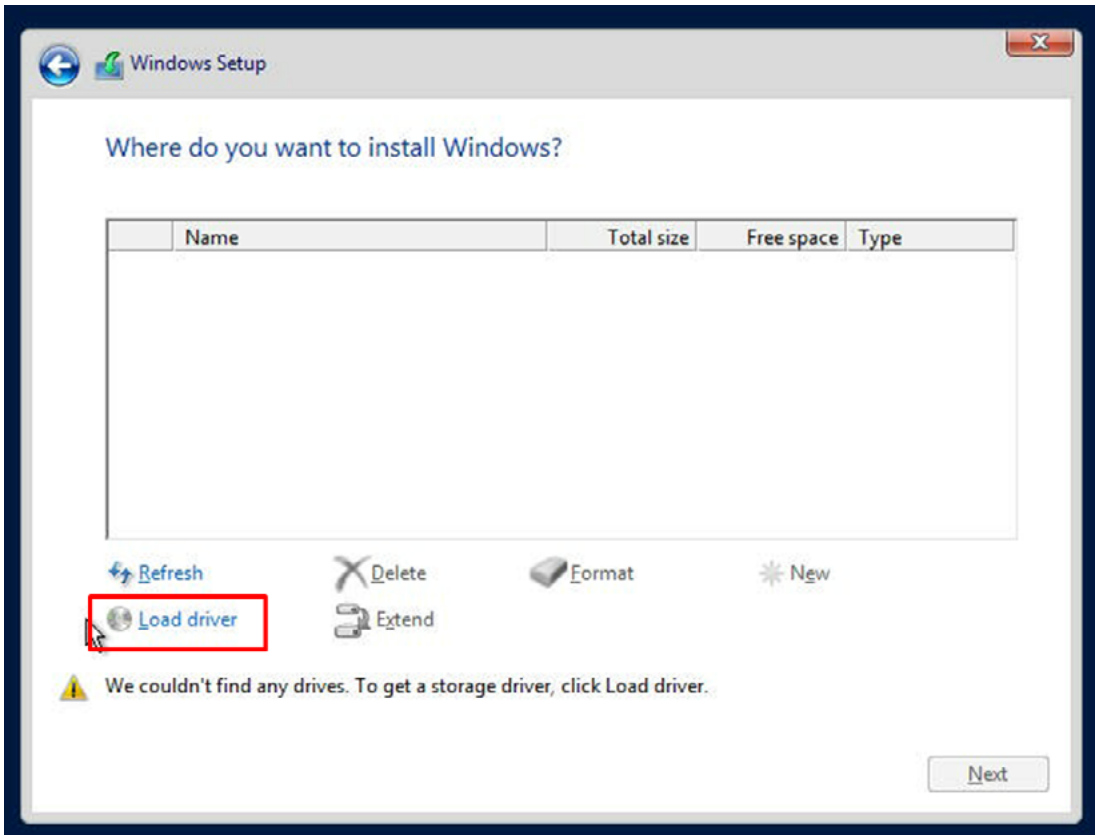


Figure 5-2. Load Driver Link

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

- 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/. 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.

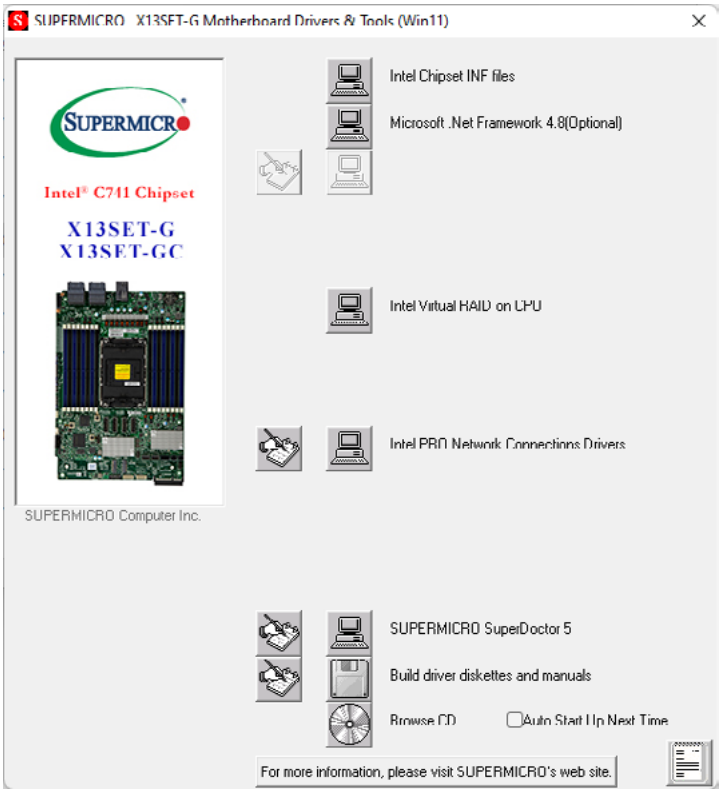


Figure 5-3. Driver and Tool Installation Screen

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

5.3 SuperDoctor®5

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

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

SuperDoctor® Manual and Resources

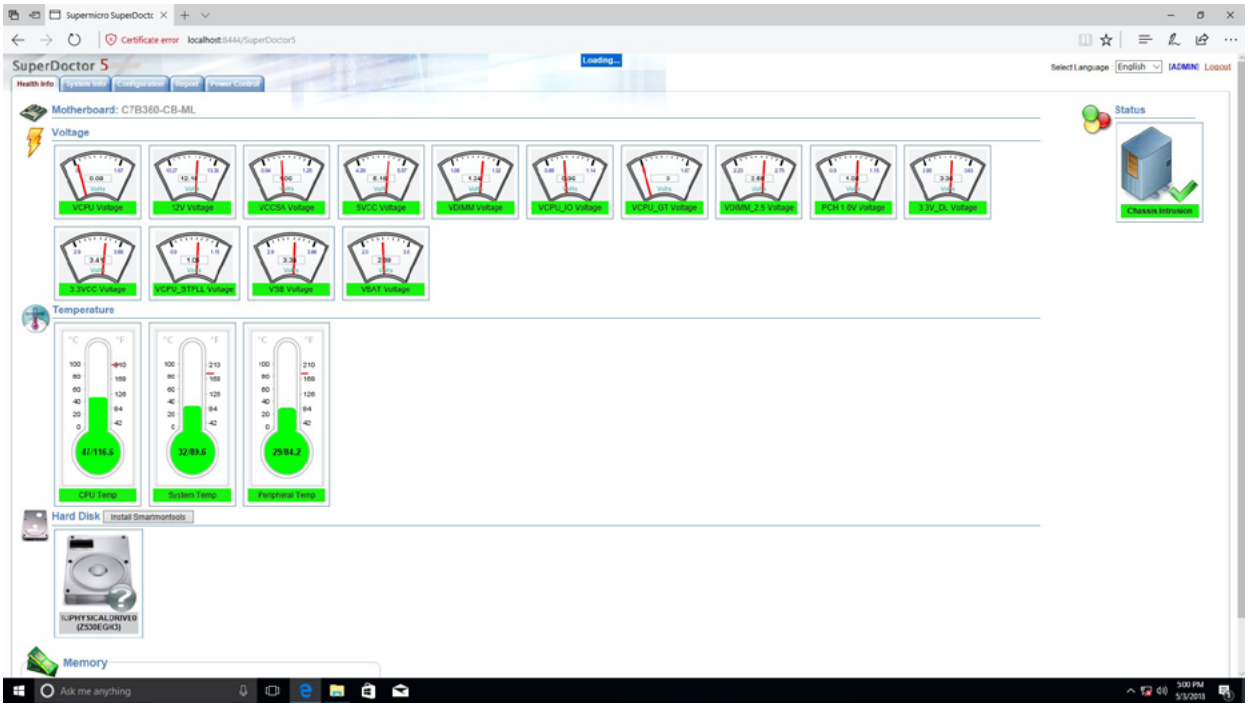


Figure 5-4. SuperDoctor 5 Interface Display Screen (Health Information)

5.4 IPMI

The X13SET-G/GC supports the Intelligent Platform Management Interface (IPMI). IPMI provides remote access, monitoring and management through the baseboard management controller (BMC) and other management controllers distributed among different system modules.There are several BIOS settings that are related to IPMI. For general documentation and information on IPMI, visit our website at: http://www.supermicro.com/products/nfo/IPMI.cfm.

BMC ADMIN User Password

For security, each system is assigned a unique default BMC password for the ADMIN user. This can be found on a sticker on the chassis and a sticker on the motherboard. The sticker also displays the BMC MAC address.

Figure 5-5. BMC Password Label

See Chapter 1 for the location of the label.

Chapter 6

Optional Components

This chapter describes optional system components and installation procedures.

6.1 Optional Parts List

Optional Parts List		
Description	**Part Number**	**Quantity (Max.)**
AIOM Enablement Kit	MCP-450-21411-ASM	1
NVMe Enablement Kit	MCP-450-21408-ASM	2
SAS/SATA Enablement Kit (2-port kit)	MCP-450-21405-ASM	1
SAS/SATA Enablement Kit (4-port kit)	MCP-450-21404-ASM	1
PCIe option for GPU support	AOC-S3908L-H8IR-16DD-P AOC-VACC100G1	1 1
GrandTwin I/O Module 2x10 GbE (Broadcom BCM57416)	AOC-GTG-B2T-O	1
GrandTwin I/O Module 2x10 GbE (Intel X710-AT2)	AOC-GTG-I2T-O	1
GrandTwin I/O Module 2x25 GbE	AOC-G25G-M2S-O	1
HDD Dummy Tray	MCP-120-21401-0N	2
SPI Capable TPM 2.0	AOM-TPM-9670V-S	n/a

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

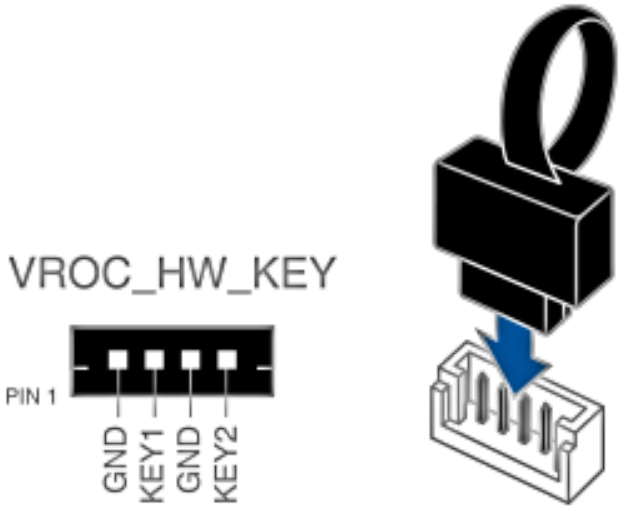


Figure 6-1. Intel® VROC RAID Key and Motherboard Connector JRK1

Enabling NVMe RAID

RAID for NVMe SSDs must be enabled through the UEFI BIOS.

1. Install the patch as described in the Restrictions and Requirements section on a previous page.
2. Reboot the server.
3. Press [DEL] key to enter BIOS.
4. Switch to **Advanced > Chipset Configuration > North Bridge > IIO Configuration > Intel® VMD Technology > CPU3 & CPU4**.
5. **Enable** the VMD according to the following rules.
   - For U.2 NVMe, enable all the sub-items under each PStack, based on the your model server:
   - For M.2 NVMe or NVMe AIC, enable the VMD according to which AOC card/slot it used.

   Examples for some U.2 configurations follow.
6. Press [F4] to save the configuration and reboot the system.
7. Press [DEL] to enter BIOS.
8. Switch to **Advanced > Intel(R) Virtual RAID on CPU > All Intel VMD Controllers > Create RAID Volume**.
9. Set **Name**.
10. Set **RAID Level**.
11. If cross-controller RAID is required, select **Enable RAID spanned over VMD Controller** as shown in Figure 6-4.
12. Select specific disks for RAID with an [X].
    - RAID0: Select at least two [2 - 24] disks
    - RAID1: Select only two disks
    - RAID5: Select at least three [3 - 24] disks
    - RAID10: Select only four disks

Figure 6-2. BIOS VMD Setting Examples

13. Select **Strip Size** (Default 64KB).
14. Select **Create Volume**.
15. If another RAID is needed, start again at step 6.
16. Press [F4] to save and reboot.

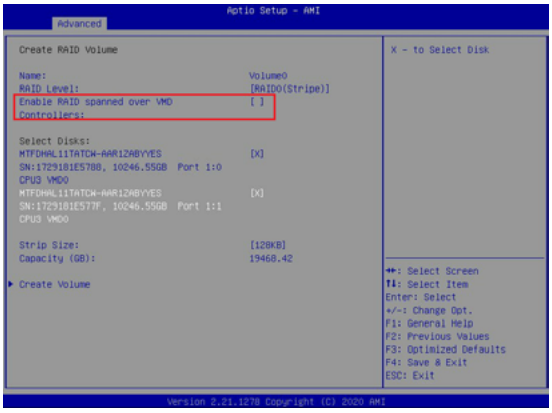


Figure 6-3. Created Volume *without* enabling RAID spanned over VMD Controller

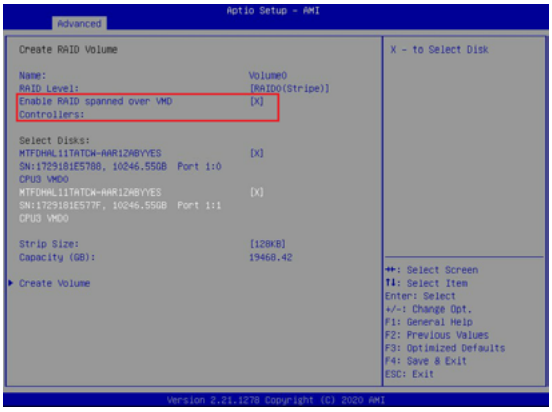


Figure 6-4. Created Volume *with* enabling RAID spanned over VMD Controller

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 blink
Fault	Solid on
Rebuilding	1 Hz Blink

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.

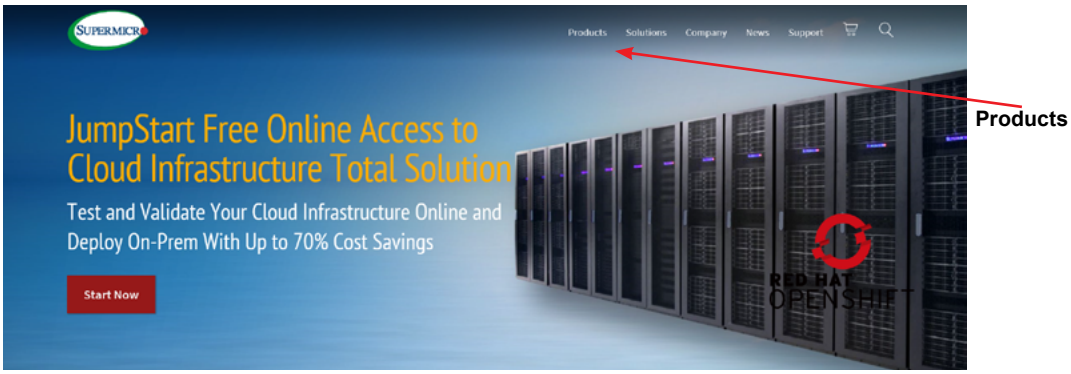


Figure 7-1. Supermicro Website

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

Direct Links for the SYS-211GT-HNTF/HNC8F System

SYS-211GT-HNTF and SYS-211GT-HNC8F specifications page

X13SET-G and X13SET-GC web pages 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: X13

SuperDoctor5 Large Deployment Guide

For validated memory, see our Product Resources page

Direct Links (continued)

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

Security Center for recent security notices

Supermicro Phone and Addresses

7.2 Baseboard Management Controller Interface

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

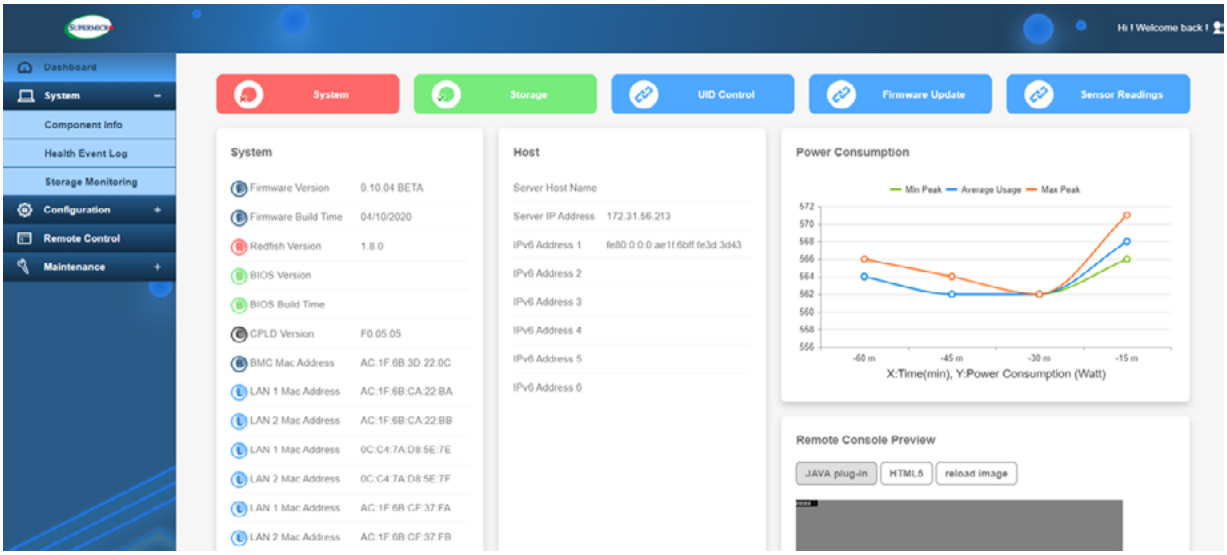


Figure 7-2. BMC Sample

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 or Returning Merchandise for Service section(s) in this chapter. Power down the system before changing any non hot-swap hardware components.

No Power

1. Make sure that there are no short circuits between the motherboard and the chassis.
2. Make sure that the power connectors are properly connected.
3. Check that the 115 V/230 V switch, if available, on the power supply is properly set.
4. Turn the power switch on and off to test the system, if applicable.
5. Check the CPU socket for bent pins and make sure the CPU is fully seated.
6. 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

If the power is on but you have no video, remove all the add-on cards and cables. Then power up the system again to see if you then have video.

System Boot Failure

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

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

1. Make sure that the DIMM modules are properly and fully installed.
2. Confirm that you are using the correct memory. Also, it is recommended that you use the same memory type and speed for all DIMMs in the system. See Section 3.3 for memory details.
3. Check for bad DIMM modules or slots by swapping modules between slots and noting the results.
4. Check the power supply voltage 115V/230V switch.

Losing the System's Setup Configuration

1. 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.
2. The battery on your motherboard may be old. Check to verify that it still supplies approximately 3VDC. If it does not, replace it with a new one.
3. If the above steps do not fix the setup configuration problem, contact your vendor for repairs.

When the System Becomes Unstable

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

1. CPU/BIOS support: Make sure that your CPU is supported and that you have the latest BIOS installed in your system.
2. Memory support: Make sure that the memory modules are supported by testing the modules using memtest86 or a similar utility.

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

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

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

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

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

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

1. Source of installation: Make sure that the devices used for installation are working properly, including boot devices such as CD.

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

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

4. Identifying bad components by isolating them: If necessary, remove a component in question from the chassis, and test it in isolation to make sure that it works properly. Replace a bad component with a good one.

5. Check and change one component at a time instead of changing several items at the same time. This will help isolate and identify the problem.

6. To find out if a component is good, swap this component with a new one to see if the system will work properly. If so, then the old component is bad. You can also install the component in question in another system. If the new system works, the component is good and the old system has problems.

7.4 Crash Dump Using BMC

In the event of a processor internal error (IERR) that crashes your system, you may want to provide information to support staff. You can download a crash dump of status information using BMC.

Check BMC Error Log

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

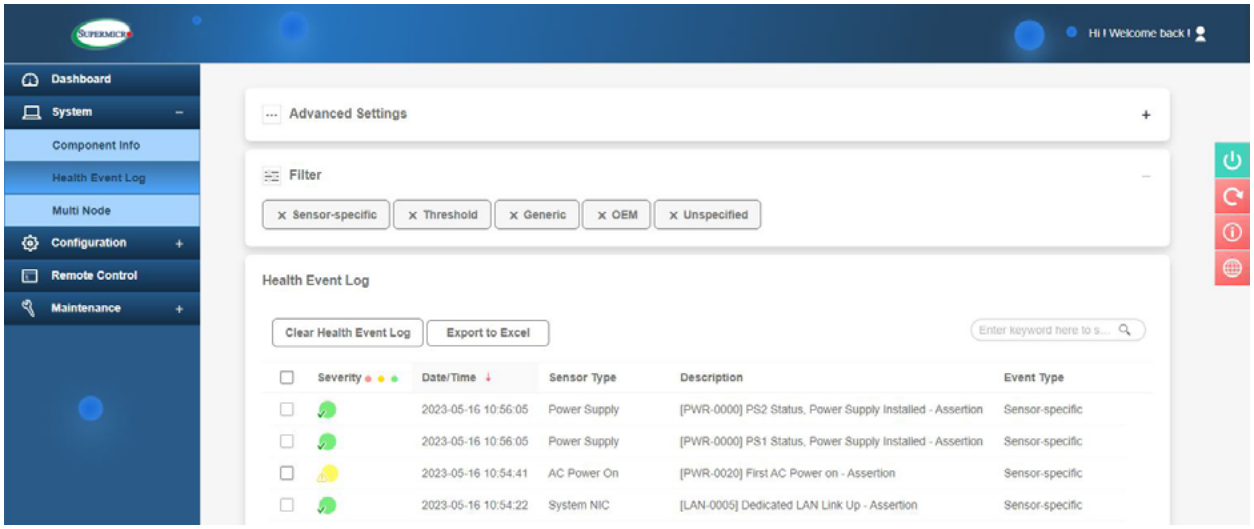


Figure 7-4. BMC Event Log

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

7.5 UEFI BIOS Recovery

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

Overview

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

Recovering the UEFI BIOS Image

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

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

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

Recovering the Main BIOS Block with a USB Device

This feature allows the user to recover the main BIOS image using a USB-attached device without additional utilities used. A USB flash device such as a USB Flash Drive, or a USB CD/DVD ROM/RW device can be used for this purpose. However, a USB storage drive cannot be used for BIOS recovery at this time.

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

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

1. Using a different machine, copy the "Super.ROM" binary image file into the Root "\" directory of a USB device or a writable CD/DVD.

   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.

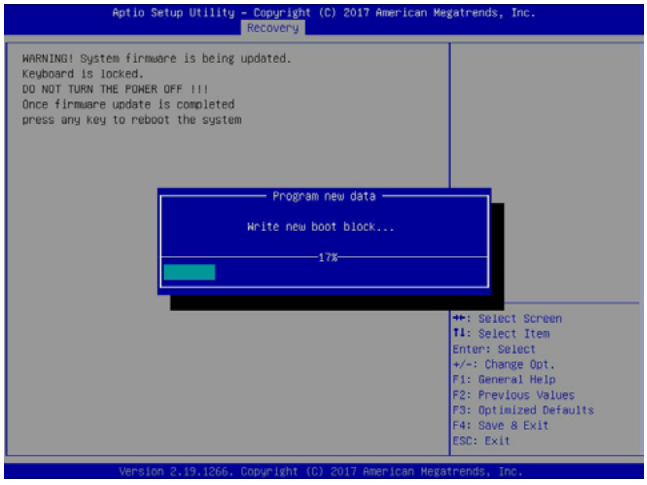
Note: At this point, you may decide if you want to start the BIOS recovery. If you decide to proceed with BIOS recovery, follow the procedures below.

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.

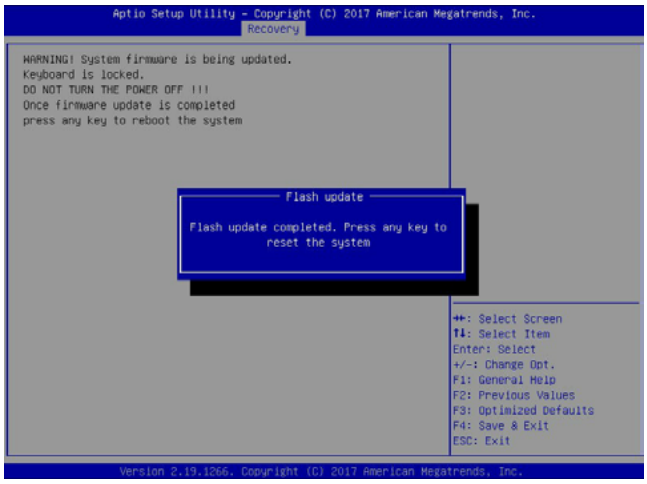
   Note: *Do not interrupt the BIOS flashing process until it has completed*.

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.

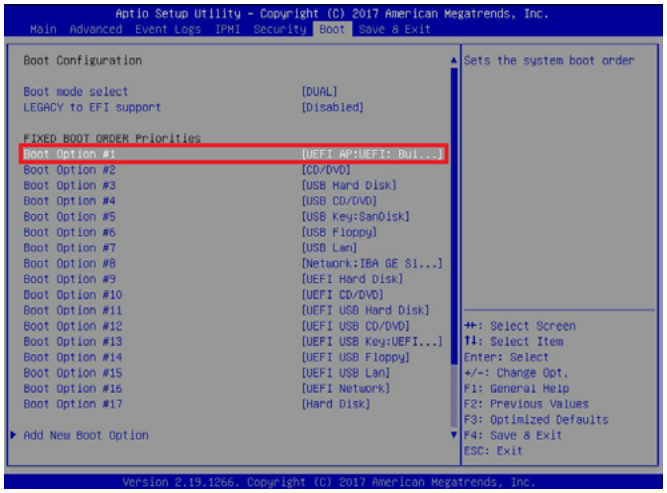


7. Press <Del> continuously during system boot to enter the BIOS Setup utility. From the top of the tool bar, select Boot to enter the submenu. From the submenu list, select Boot

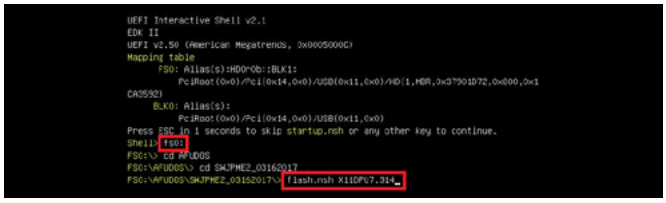


Option #1 as shown below. Then, set Boot Option #1 to [UEFI AP:UEFI: Built-in EFI Shell]. Press <F4> to save the settings and exit the BIOS Setup utility.

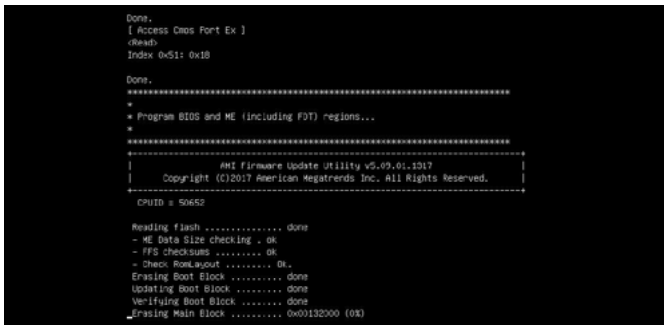
8. When the UEFI Shell prompt appears, type fs# to change the device directory path. Go to the directory that contains the BIOS package you extracted earlier from Step 6. Enter flash.nsh BIOSname.### at the prompt to start the BIOS update process.



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

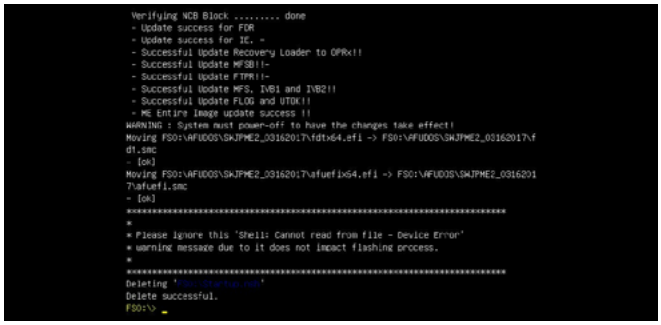


9. The screen above indicates that the BIOS update process is complete. When you see the screen above, unplug the AC power cable from the power supply, clear CMOS, and plug



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.

7.6 CMOS Clear

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

To Clear CMOS

1. First power down the system completely.
2. Remove the cover of the chassis to access the motherboard.
3. Remove the onboard battery from the motherboard.
4. Short the CMOS pads with a metal object such as a small screwdriver for at least four seconds.
5. Remove the screwdriver or shorting device.
6. 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

7.7 Where to Get Replacement Components

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

7.8 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.

7.9 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.

7.10 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 وٌكي أى تتسبب ف اصابة جسذ ةٌ هذا الزهز عٌ خطز !تحذ زٌ .
قبل أى تعول على أي هعذات،كي على علن بالوخاطز ال ٌأجوة عي الذوائز
الكهزبائ ةٍ
وكي على درا ةٌ بالووارسات البقائ ةٍ لو عٌ وقع أي حادث
استخذم رقن الب إٍى الو صٌص ف هًا ةٌ كل تحذ زٌ للعشر تزجوتها

안전을 위한 주의사항

경고!

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

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

BELANGRIJKE VEILIGHEIDSINSTRUCTIES

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

BEWAAR DEZE INSTRUCTIES

Installation Instructions

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

設置手順書

システムを電源に接続する前に、設置手順書をお読み下さい。

警告

将此系统连接电源前,请先阅读安装说明。

警告

將系統與電源連接前，請先閱讀安裝說明。

Warnung

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

¡Advertencia!

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

Attention

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

יש לקרוא את הוראות התקנה לפני חיבור המערכת למקור מתח.

اقر إرشادات التركيب قبل توصيل النظام إلى مصدر للطاقة

시스템을 전원에 연결하기 전에 설치 안내를 읽어주십시오.

Waarschuwing

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

Circuit Breaker

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

サーキット・ブレーカー

この製品は、短絡（過電流）保護装置がある建物での設置を前提としています。

保護装置の定格が250 V、20 Aを超えないことを確認下さい。

警告

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

警告

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

Warnung

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

¡Advertencia!

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

Attention

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

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

هذا المنتج يعتمد على معداث الحمايت مه الدوائرالقصيرة التي تم تثبيتها في
المبنى
تأكد من أن تقييم الجهاز الوقائي ليس أكثر من : 20A, 250V

경고!

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

Waarschuwing

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

Power Disconnection Warning

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

電源切断の警告

システムコンポーネントの取り付けまたは取り外しのために、シャーシー内部にアクセスするには、

システムの電源はすべてのソースから切断され、電源コードは電源モジュールから取り外す必要があります。

警告

在你打开机箱并安装或移除内部器件前,必须将系统完全断电,并移除电源线。

警告

在您打開機殼安裝或移除內部元件前，必須將系統完全斷電，並移除電源線。

Warnung

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

¡Advertencia!

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

Attention

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

אזהרה מפני ניתוק חשמלי

!אזהרה

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

يجب فصم اننظاو من جميع مصادر انطاقت وإزانت سهك انكهرباء من وحدة امداد انطاقت قبم

انصل إنى اىمناطق 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 ققم ومفتاح

경고!

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

Waarschuwing

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

Battery Handling

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

電池の取り扱い

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

警告

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 النبع 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 خطر مه التيار الكهزبائي أوالطاقة المجبدة على اللحة
عندما يكن النظام يعمل كه حذرا عند خدمة هذا الجهاس

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

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

Comply with Local and National Electrical Codes

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

地方および国の電気規格に準拠
機器の取り付けはその地方および国の電気規格に準拠する必要があります。

警告
设备安装必须符合本地与本国电气法规。

警告
設備安裝必須符合本地與本國電氣法規。

Warnung
Die Installation der Geräte muss den Sicherheitsstandards entsprechen.

¡Advertencia!
La instalacion del equipo debe cumplir con las normas de electricidad locales y nacionales.

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

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

تركيب المعدات الكهربائية يجب أن يمتثل للقاويه المحلية والسطية المتعلقة
بالكهرباء

경고!
현 지역 및 국가의 전기 규정에 따라 장비를 설치해야 합니다.

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

Product Disposal

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

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

警告
本产品的废弃处理应根据所有国家的法律和规章进行。

警告
本產品的廢棄處理應根據所有國家的法律和規章進行。

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

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

Attention

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

סילוק המוצר

אזהרה!

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

التخلص النهائي من هذا المنتج ينبغي التعامل معه وفقا لجميع القانين واللائح البطنية عند

경고!

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

Waarschuwing

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

Fan Warning

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

ファンの警告

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

警告!

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

警告

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

Warnung

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

¡Advertencia!

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

Attention

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

אזהרה!

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

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

경고!

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

Waarschuwing

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

Power Cable and AC Adapter

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

電源コードとACアダプター

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

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

警告

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

警告

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

Warnung

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

¡Advertencia!

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

Attention

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

AC ימאתמו סיילמשח סילבכ

!הרהזא

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

تحذير!

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

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

Processor Support*

Supports 4th and 5th Generation Intel Xeon Scalable Processors (LGA 4677 in Socket E) with up to 60 cores (4th Generation) or 64 cores (5th Generation) and a thermal design power (TDP) of up to 350 W

Chipset*

Intel C741 PCH

BIOS*

256 Mb SPI AMI® BIOS

Memory*

Up to 4 TB of ECC RDIMM and RDIMM 3DS DDR5 memory with speeds of up to 4800 MT/s

Storage Drives*

Front hot-swap drives:
Supports up to four SATA/SAS/NVMe drives depending on selected enablement kits (SAS with SYS-211GT-HNC8F only)
M.2 drives:
Two M.2 in 2280 (PCIe 5.0 x4 & SATA)

Motherboard*

SYS-211GT-HNTFL X13SET-G: 12.42" x 8.53" (315.5 x 216.7 mm)
SYS-211GT-HNC8F: X13SET-GC: 12.42" x 8.53" (315.5 x 216.7 mm)

Chassis

CSE-GT214BF-R2K21BP2; 2U rackmount, 17.67 x 3.46 x 28 in. (449 x 87.9 x 711.2 mm)

System Cooling

Two 80-mm mid chassis fans per system, one fan integrated inside the power supply; one CPU heatsink per node, one CPU air shroud per node

Dummy Tray

MCP-120-21405-0N
To avoid overheating, please ensure a dummy tray is inserted into any unused drive bays.

Power Supply

Model: PWS-2K21A-BR, 2200 W redundant module, 80Plus Titanium level
AC Input Voltages: 100-240 VAC
Rated Input Current:
1200 W: 100-127 VAC
1800 W: 200-220 VAC
1980 W: 220-230 VAC
2090 W: 230-240 VAC (TUV/CB)
2200 W: 220-240 VAC (WL/cUL only)
2090 W: 180-220 VAC (UL/cUL only)
2090 W: 230-240 VDC (CCC only)
Rated Input Frequency: 50-60 Hz
Rated Output Power: +12 V
Max: 100 A / Min: 0A (100-127 VAC)
Max: 150 A / Min: 0A (200-220 VAC)
Max: 165 A / Min: 0A (220-230 Vac)
Max: 174.17 A / Min: 0 A (230-240 VAC)
Max: 174.17 A / Min: 0 A (180-220 VAC, UL/cUL only)
Max: 183.33 A / Min: 0 A (220-240 VAC, UL/cUL only)
Max: 174.17 A / Min: 0 A (230-240 VAC, CCC only)
Standby +12 Vsb: Max: 2.1 A / Min: 0 A

*per node

Operating Environment

Operating Temperature: 10º to 35º C (50º to 95º F)
Non-operating Temperature: -30º to 60º C (-22º to 140º F)
Operating Relative Humidity: 8% to 80% (non-condensing)
Non-operating Relative Humidity: 8% to 90% (non-condensing)

Regulatory Compliance

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

Applied Directives, Standards

Electromagnetic Compatibility Regulations 2016
FCC Part 15
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)

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

Perchlorate Warning

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

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

VCCI－A