



SuperServer[®]
SYS-210GT-HNTF
SYS-210GT-HNC8F



USER'S MANUAL

Revision 1.0

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Manual Revision 1.0

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

Please refer to the SYS-210GT-H Series 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-210GT-HNTF and SYS-210GT-HNC8F. The two models are based on the same CSE-GT214BF-R2K21BP chassis and use different motherboards (SYS-210GT-HNTF uses X12SPT-G, and SYS-210GT-HNC8F uses X12SPT-GC).

The following provides an overview of the specifications and capabilities.

System Overview	
Motherboard (per node)	X12SPT-G and X12SPT-GC
Chassis	CSE-GT214BF-R2K21BP
Processor Support	Supports a 3rd Generation Intel Xeon Scalable Processor (Socket P+) with up to 40 cores and a thermal design power (TDP) of 270W
Chipset	Intel PCH C621A (LBG-R)
Memory (per node)	Eight channel memory, 16-DIMM. DDR4 -3200MHz, ECC, RDIMM (3DS), LRDIMM (3DS)
Drive Support (per node)	Front hot-swappable drives: Support up to four SATA/SAS/NVMe drives depending on selected enablement kits. M.2 drives: Two M.2 in 2280 (PCIe3.0 x4 & SATA) Internal connector: VROC key header
Networking (per node)	Optional one AIOM network interface card
I/O Ports (per node)	Each GrandTwin I/O module integrates Network solution and I/O ports, including: Two USB 3.0 ports One VGA port One BMC BMC Network port
System Cooling	Two 8-cm mid chassis fans One CPU heatsink per node One fan integrated inside the power supply
Power	Two redundant 2200W modules, 80Plus Level Titanium
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-210GT-HNTF](#) and [SYS-210GT-HNC8F](#) have been certified as compliant with CSA or UL models: GT214BF-4N and GT214BF-R22X12.

1.2 System Features

The CSE-GT214BF-R2K21BP is a 2U chassis that supports four hot-pluggable nodes. Refer to [Appendix B](#) for additional specifications.

Front View

The chassis front offers access to the storage drives, a control panel for each node, a pull-out service tag and two thumbscrews.

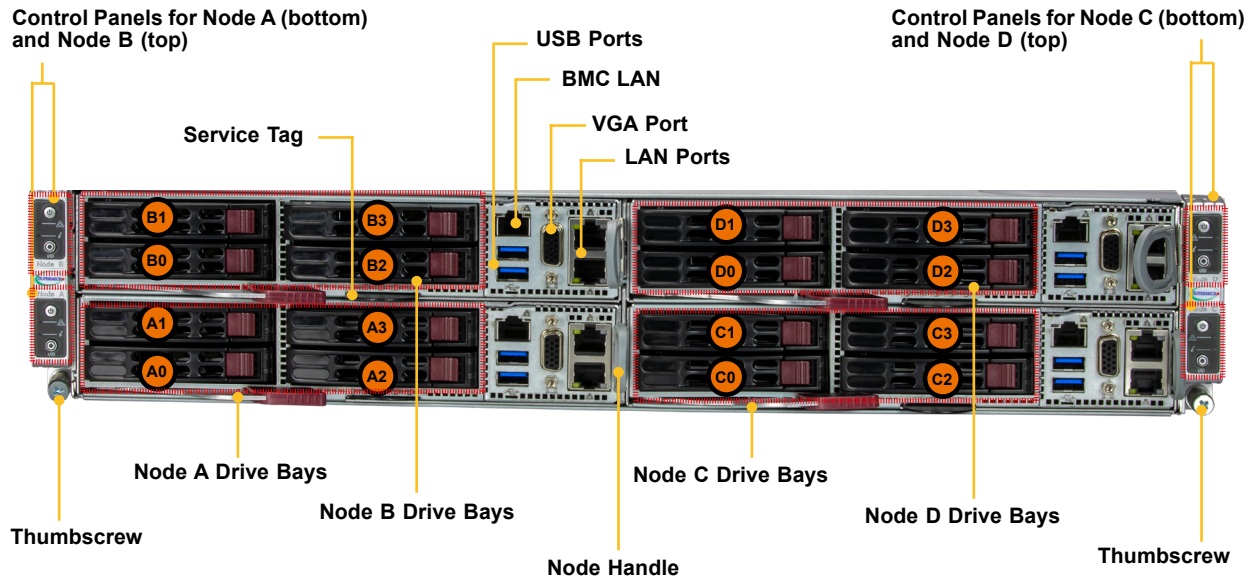


Figure 1-1. Front View

System Features: Front	
Feature	Description
Control Panels	Four control panels with labels are 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)
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
Node Handles	One handle per node supporting node tray removal
Thumbscrews	Two thumbscrews to secure the server onto the rack

Control Panel

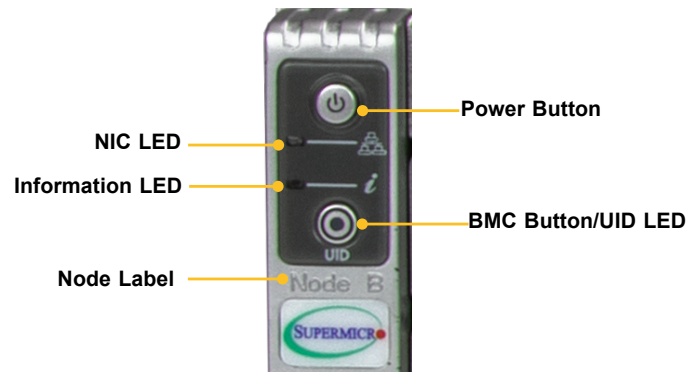


Figure 1-2. Control Panel

Control Panel Features	
Feature	Description
Power Button	The main power switch applies or removes primary power from the power supply to the server but maintains standby power.
NIC LED	Indicates network activity on the LAN when flashing.
Information LED	Universal information LED (see table below for details).
BMC Button/UID LED	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	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 1Hz	Fan failure, check for an inoperative fan.
Red, blinking at 0.25Hz	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 1Hz	UID has been activated using the BMC to locate the server in a rack environment.
Blue, blinking at 2Hz	BMC is resetting
Blue, blinking at 4Hz	BMC is setting factory defaults
Blue, blinking at 10Hz with Power LED blinking green	BMC/BIOS firmware is updating

Rear View

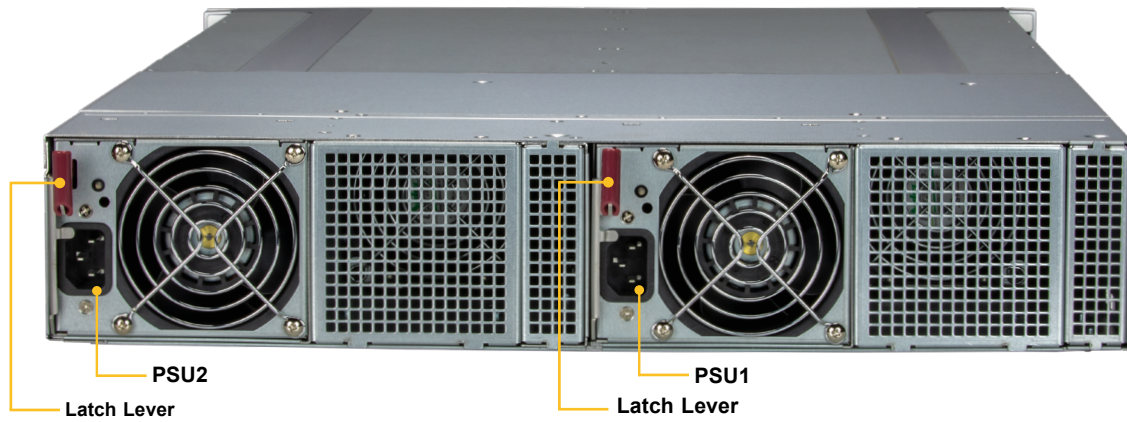


Figure 1-3. System: Rear View

System Features: Rear		
Watts	Part Number	80Plus Level
2200	PWS-2K21A-BR	Titanium

AIOM Network Ports

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

AIOM Networking Add-on Card Options		
Speed	Ports	Add-on Card Part Number
100 GbE	2x QSFP28	AOC-A100G-b2CG
	2x QSFP28	AOC-A100G-m2CG

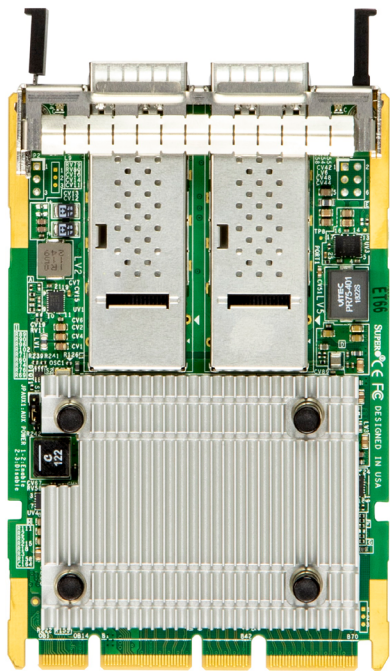


Figure 1-4. AOC-A100G-b2CG

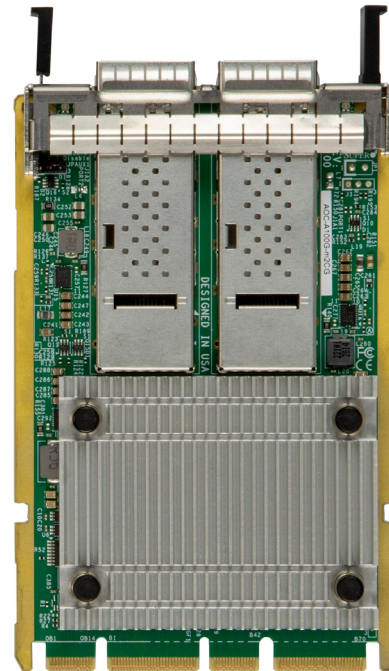
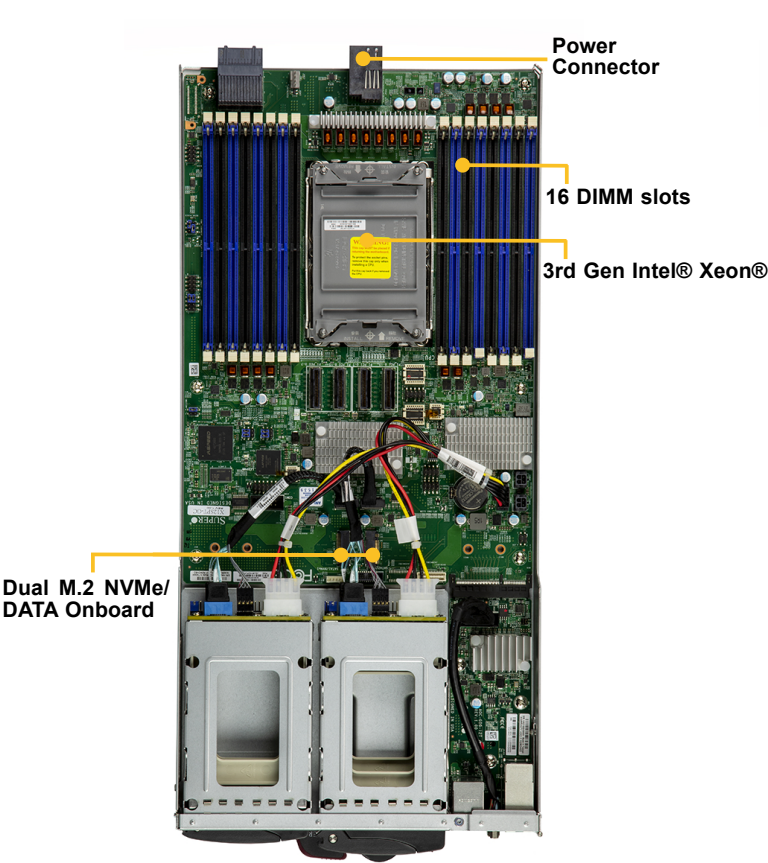


Figure 1-5. AOC-A100G-m2CG

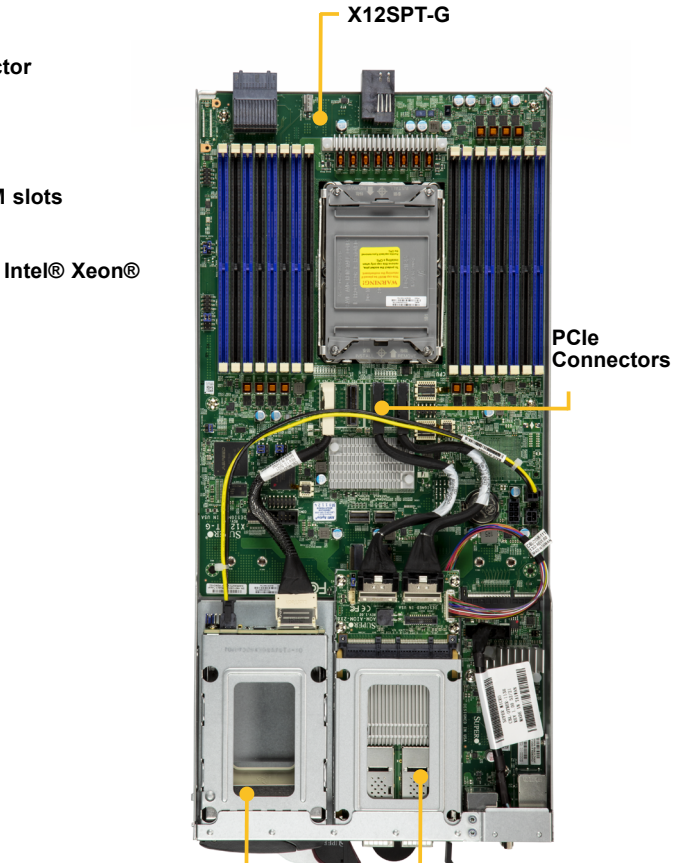
Node Trays

The chassis contains four separate computing node drawers, each with its own motherboard.



Single Node

Figure 1-6. SYS-210GT-HNTF Node Tray



Single Node

Figure 1-7. SYS-210GT-HNTF AIOM Node Tray

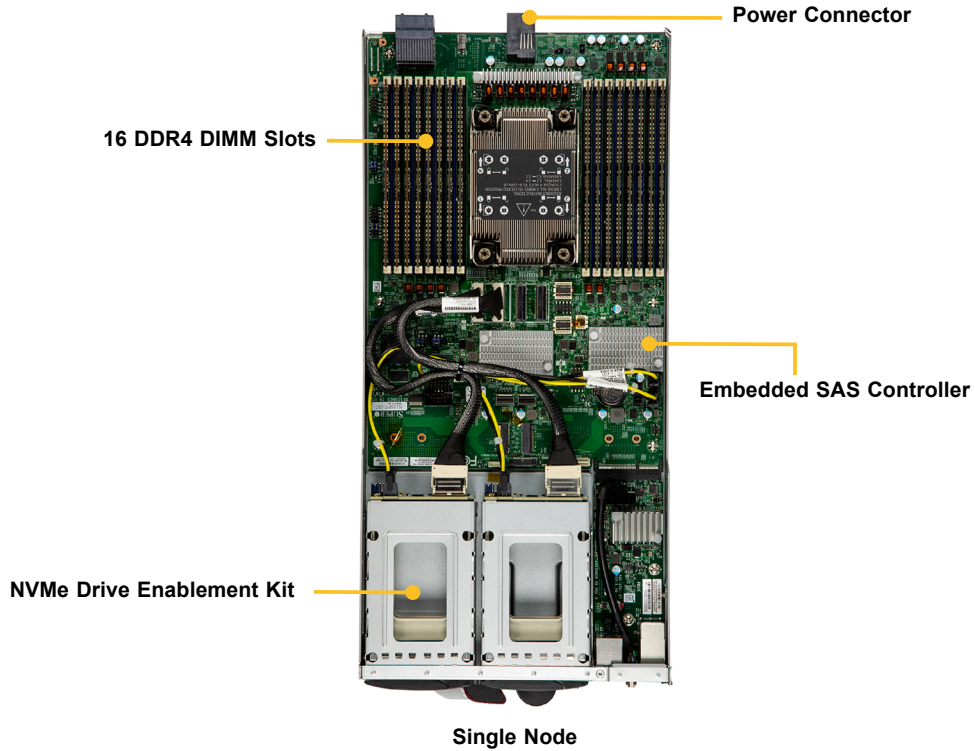


Figure 1-8. SYS-210GT-HNC8F NVMe Node Tray

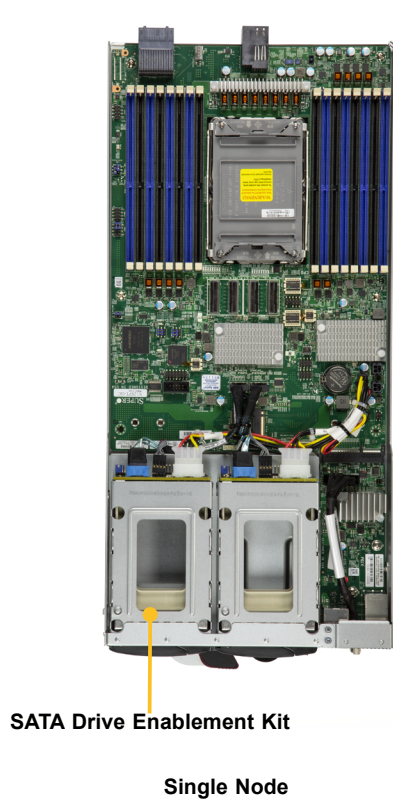


Figure 1-9. SYS-210GT-HNC8F SATA Node Tray

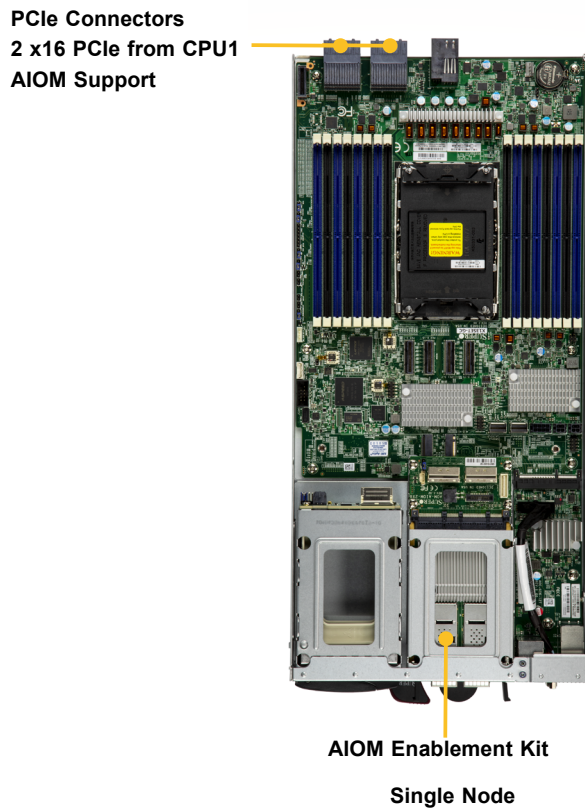


Figure 1-10. SYS-210GT-HNC8F AIOM Node Tray

1.3 System Architecture

This section covers the printed circuit board (PCB) locations and system block diagrams.

Main Components

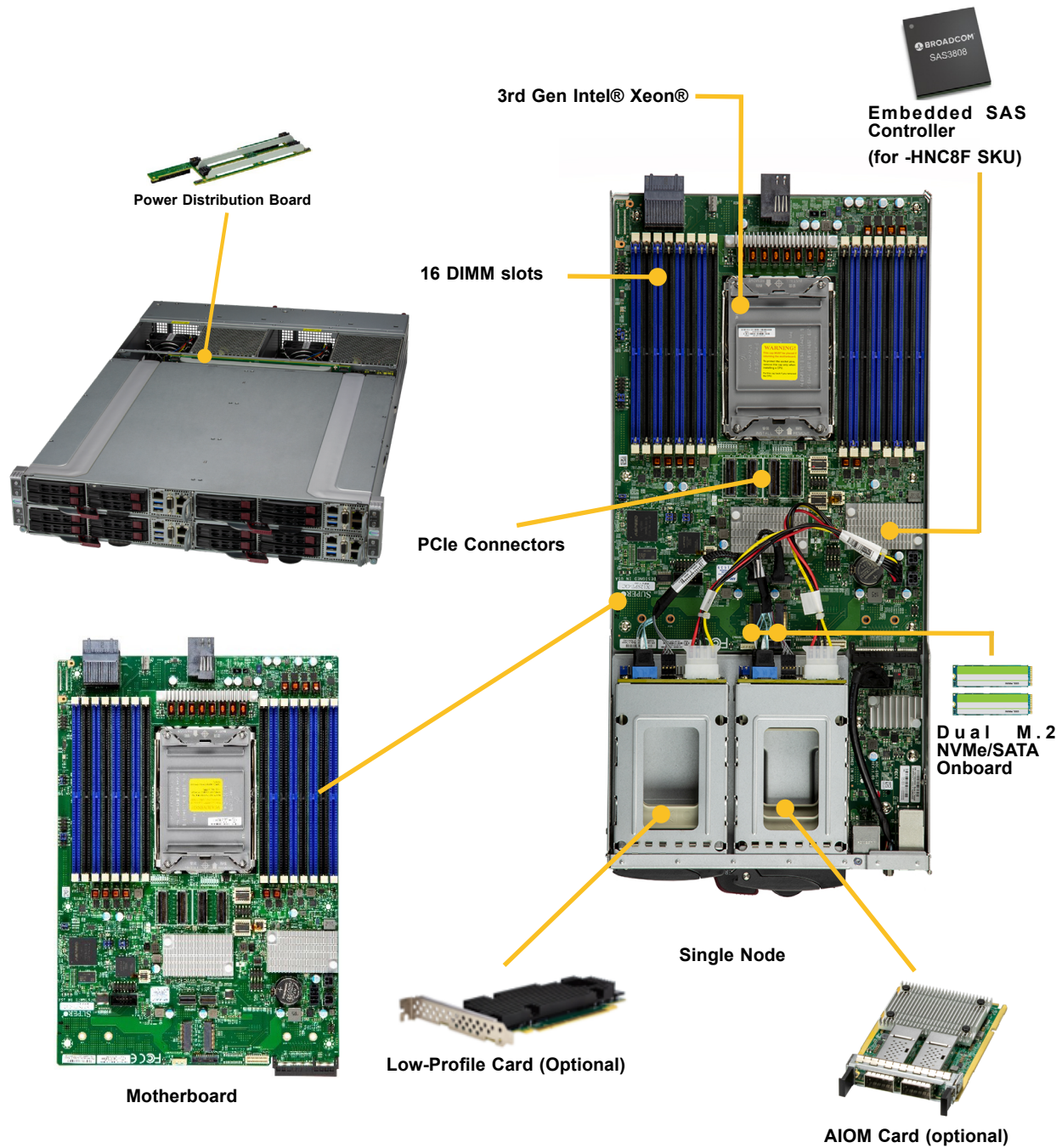


Figure 1-11. Main Component Locations

1.4 Motherboard Layout

Below is a layout of the X12SPT-G and X12SPT-GC motherboards with jumper, connector and LED locations shown. See the table on the following page for descriptions. For detailed descriptions, pinout information and jumper settings, refer to [Chapter 4](#) or the [Motherboard Manual](#).

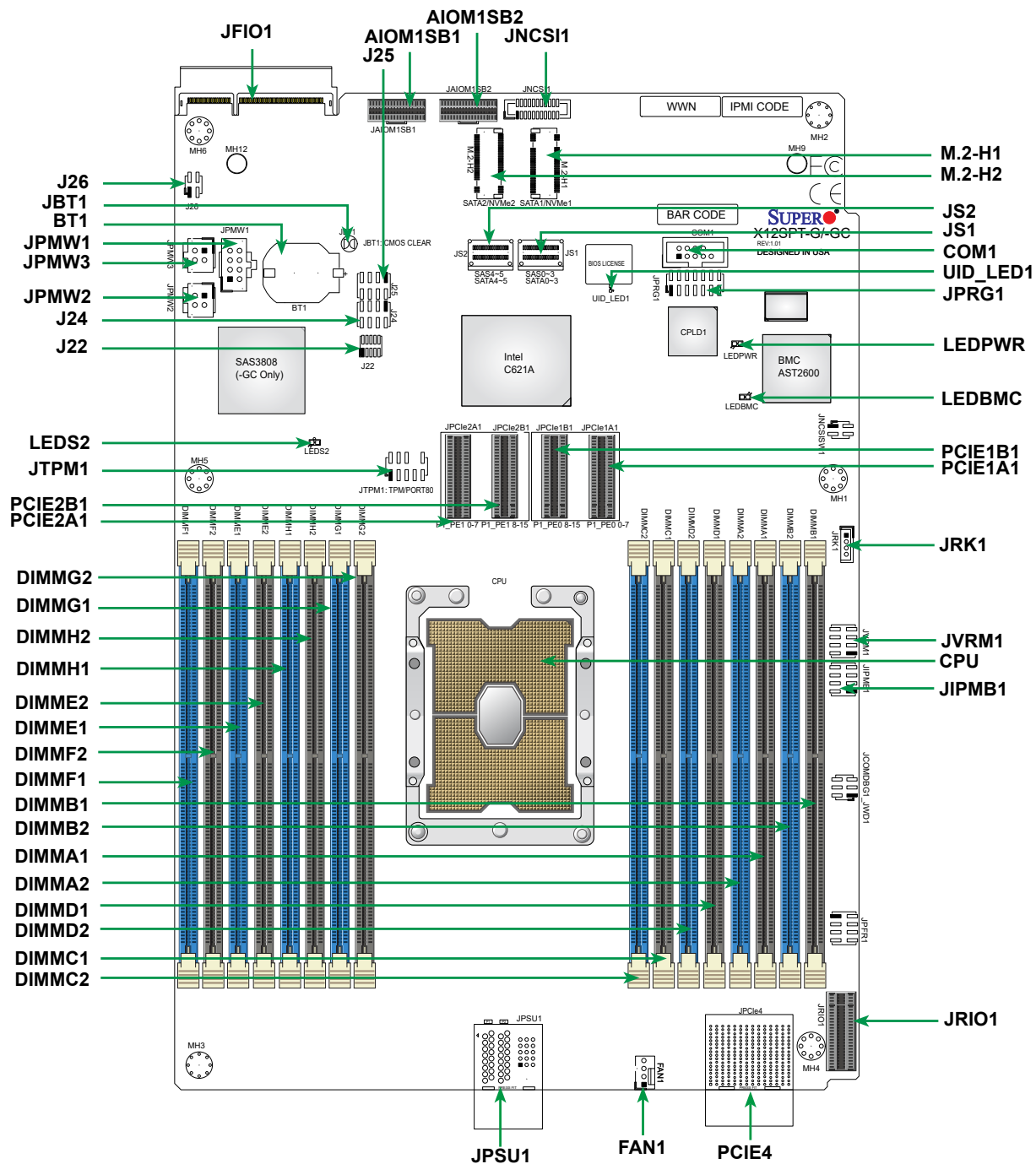


Figure 1-13. Motherboard Layout

Quick Reference Table

Jumper	Description	Default Setting
JBT1	CMOS Clear	Open (Normal)
JVRM1	Jumper for switching VRM SMBus Controllers	Pins 1-3/2-4 (BMC)
LED	Description	Status
LEDBMC	BMC Heartbeat	Blinking Green: BMC Normal
LEDPWR	Power LED	Solid Green: Power On
LEDS2	SAS Error LED	Solid Red: SAS Error
UID_LED1	UID LED	Solid Blue: Unit Identified
Connector	Description	
AIOM1SB1	AIOM1 Sideband Signals Header	
AIOM1SB2	AIOM2 Sideband Signals Header	
BT1	Onboard Battery	
COM1	COM Header	
FAN1	CPU/System Fan Header (FAN1: CPU Fan)	
J22	SAS PSOC FW Update Header	
J24	SAS38008 PSOC UART Header	
J25	SAS38008 RMC and SDB UART Header	
J26	SAS38008 SBL Disable	
JFIO1	Grand Twin Front IPMI and Onboard NIC Module Connector	
JIPMB1	8-pin External I2C Header (For an IPMI card)	
JNCSI1	Network Controller Sideband Interface (NC-SI) Connector	
JPMW1	8-pin GPU and NVMe power connector	
JPWR2-JPWR3	4-pin GPU and NVMe power connectors	
JPRG1	CPLD FW Update Header	
JPSU1	Grand Twin Power Supply Connector	
JRIO1	Grand Twin Rear IPMI Module Connector	
JRK1	Intel RAID Key Header	
JS1	SAS0-3/SATA0-3	
JS2	SAS4-5/SATA4-5	
JTPM1	Trusted Platform Module/Port 80 Connector	
MH9-MH12	M.2 Mounting Holes	
M.2-H1, M.2-H2	M.2 PCIe 3.0x4/SATA3 Slot (supports M-Key 2280)	
PCIE1A1	PE0 0-7 PCIe Connector	
PCIE1B1	PE0 8-15 PCIe Connector	
PCIR2A1	PE1 0-7 PCIe Connector	
PCIE2B1	PE1 8-15 PCIe Connector	

Motherboard Block Diagram

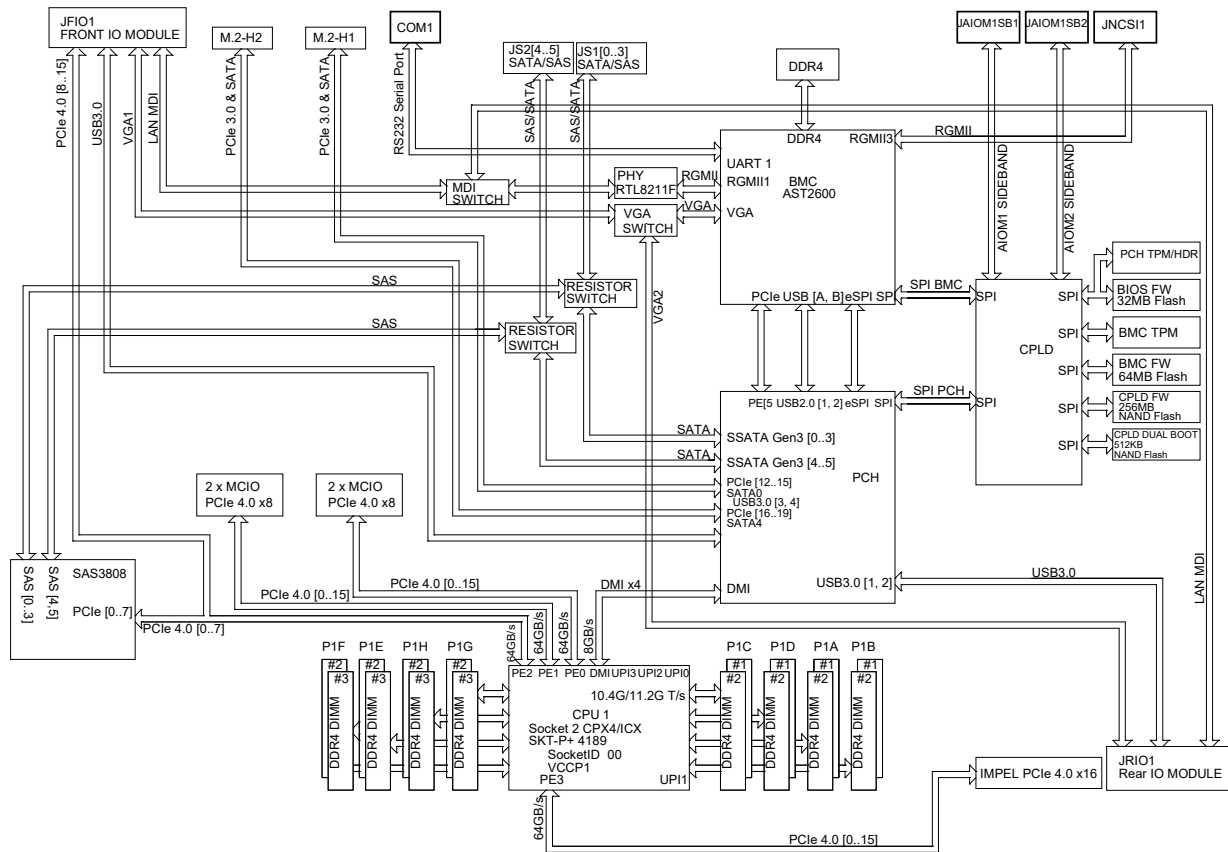


Figure 1-14. Motherboard Block Diagram

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 3](#) for details on installing those specific components.

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

2.2 Unpacking the System

Inspect the box in which the SuperServer SYS-210GT-H Series was shipped, and note if it was damaged in any way. If any equipment appears damaged, file a damage claim with the carrier who delivered it.

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

2.3 Preparing for Setup

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

Choosing a Setup Location

- The system should be situated in a clean, dust-free area that is well ventilated. Avoid areas where heat, electrical noise and electromagnetic fields are generated.
- Leave enough clearance in front of the rack so that you can open the front door completely (~25 inches) and approximately 30 inches of clearance in the back of the rack to allow sufficient space for airflow and access when servicing.
- This product should be installed only in a Restricted Access Location (dedicated equipment rooms, service closets, etc.).

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

Rack Precautions

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

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.
- To maintain proper cooling, always keep all chassis panels closed and all SATA carriers installed when not being serviced.

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.



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.



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



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.

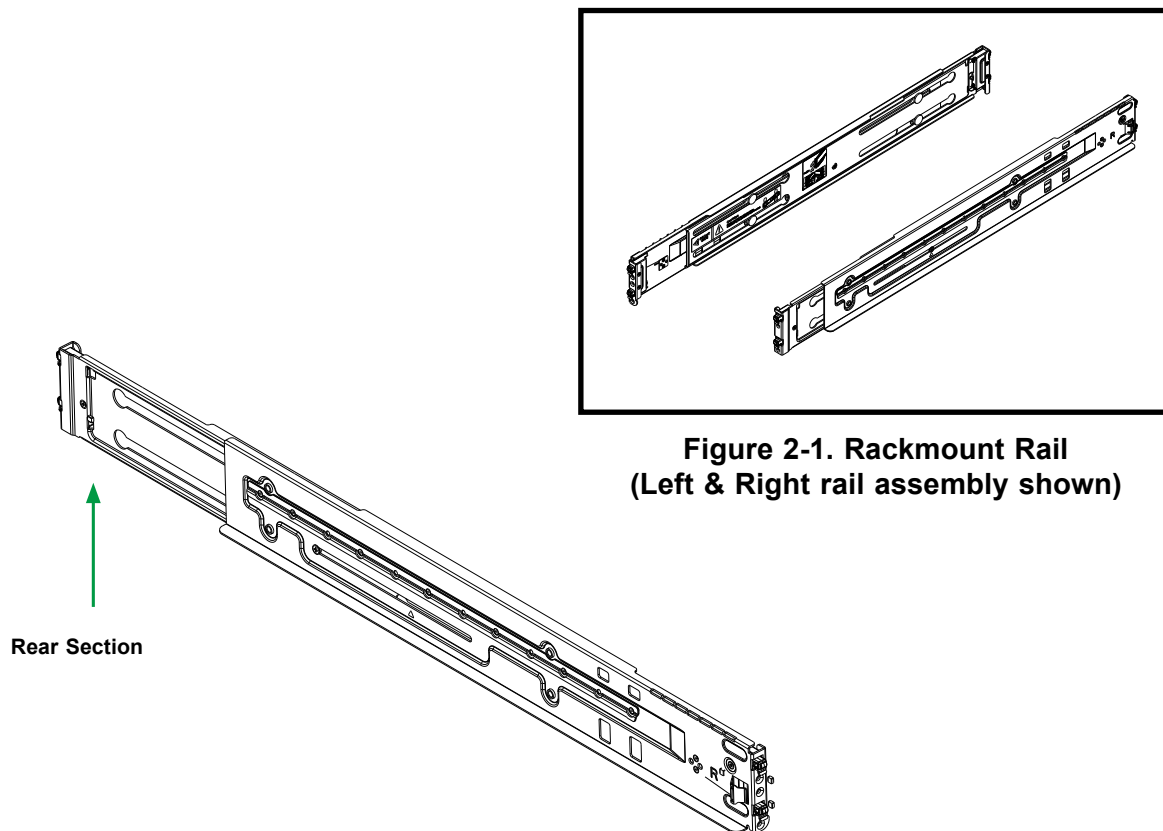


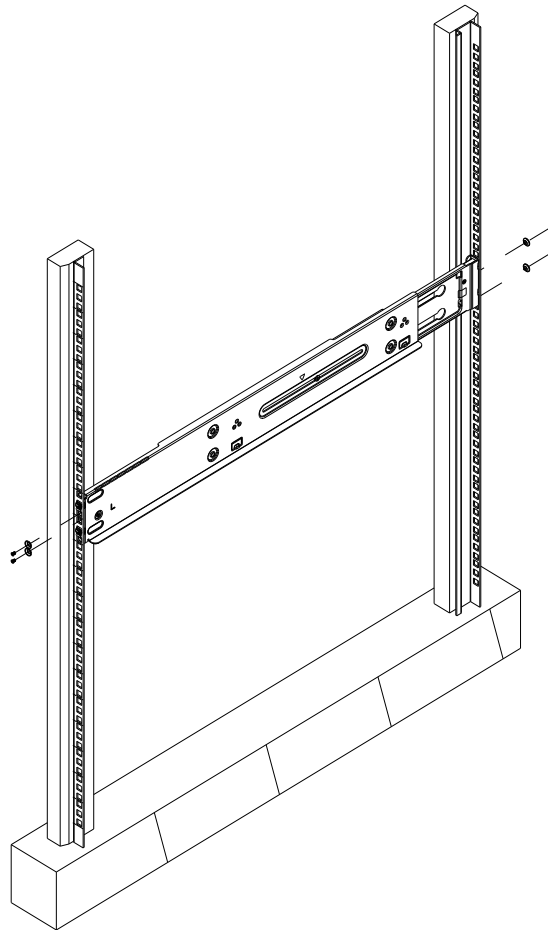
Figure 2-1. Rackmount Rail
(Left & Right rail assembly shown)

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.

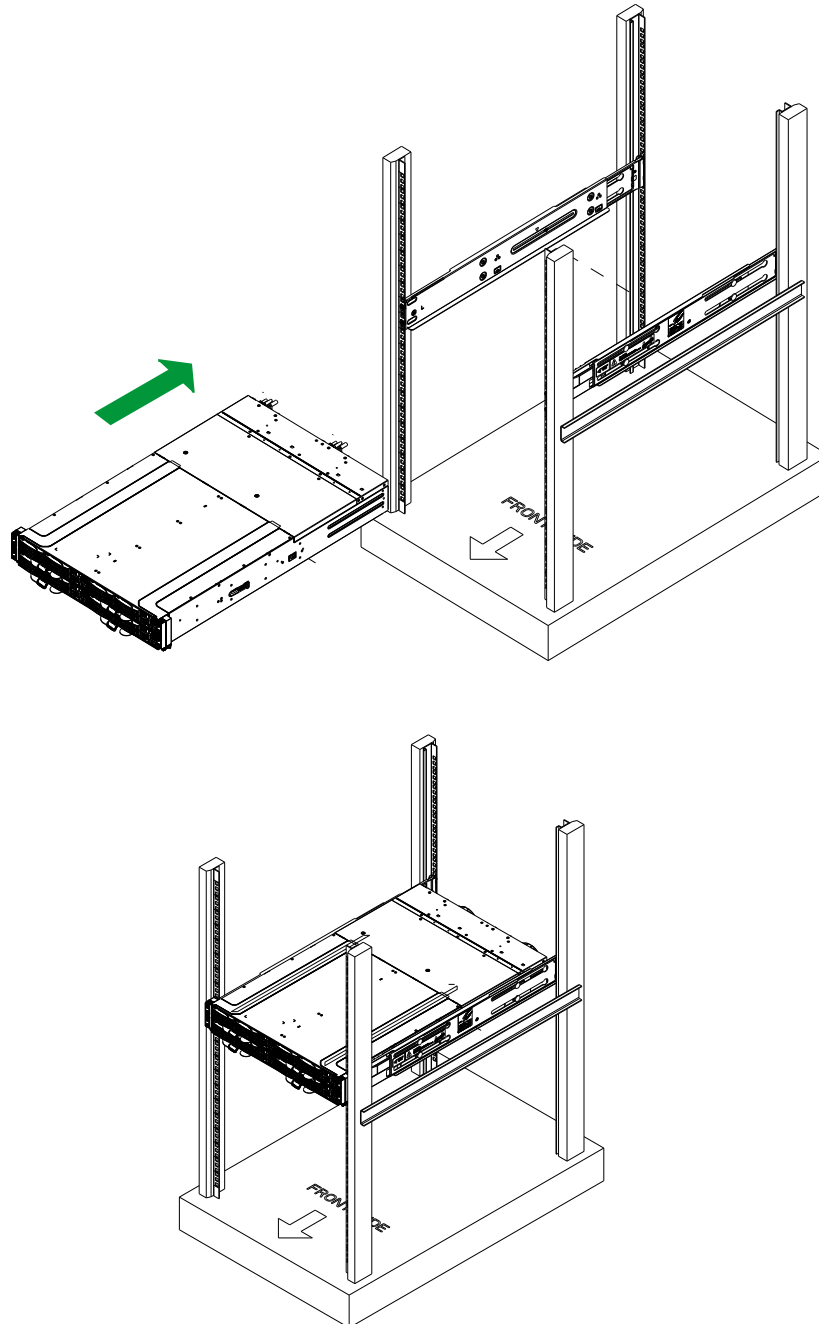


Figure 2-3. Sliding the Chassis into the Rack



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.

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

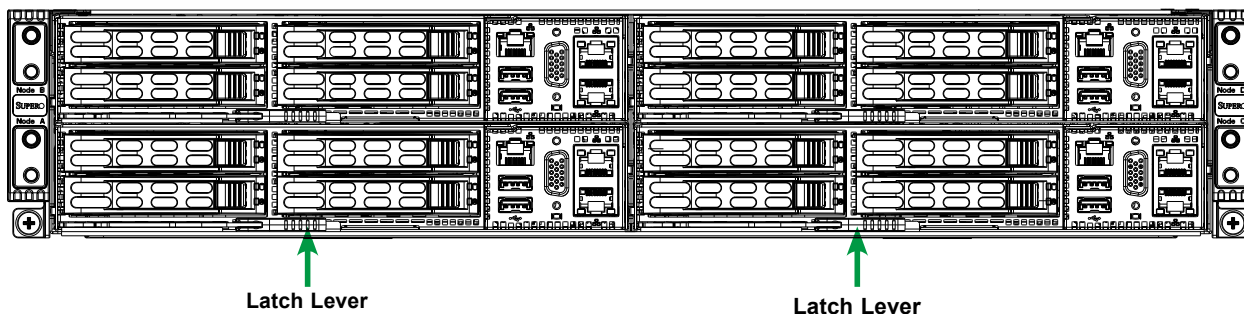
- Use the operating system to power down the node.

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



Removing a Node

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

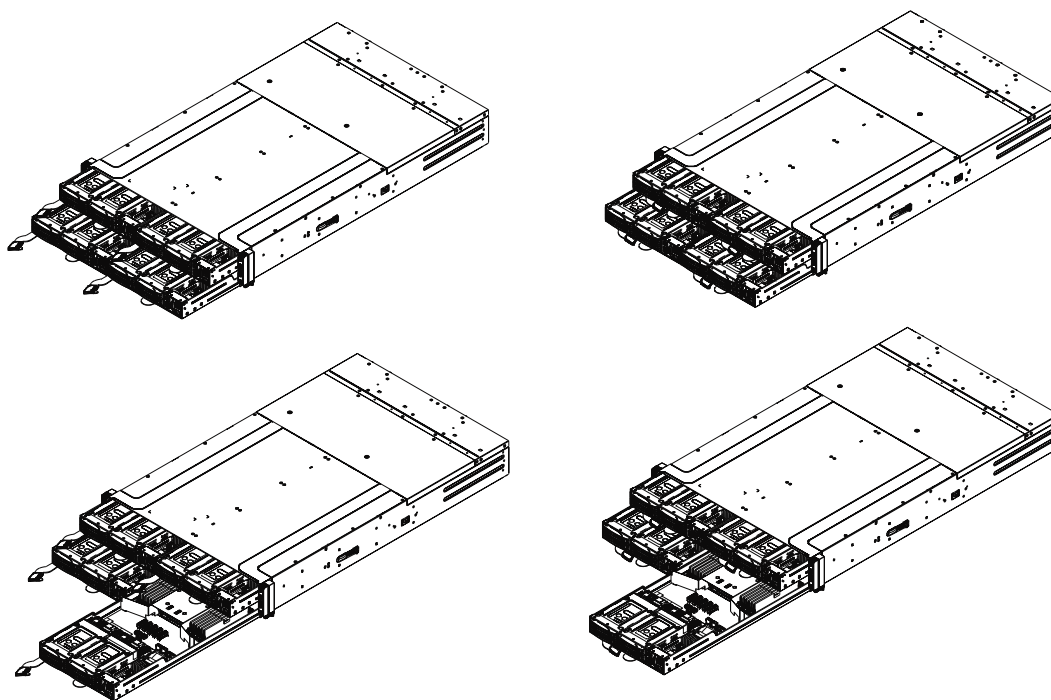


Figure 3-1. Removing a Node Tray

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.

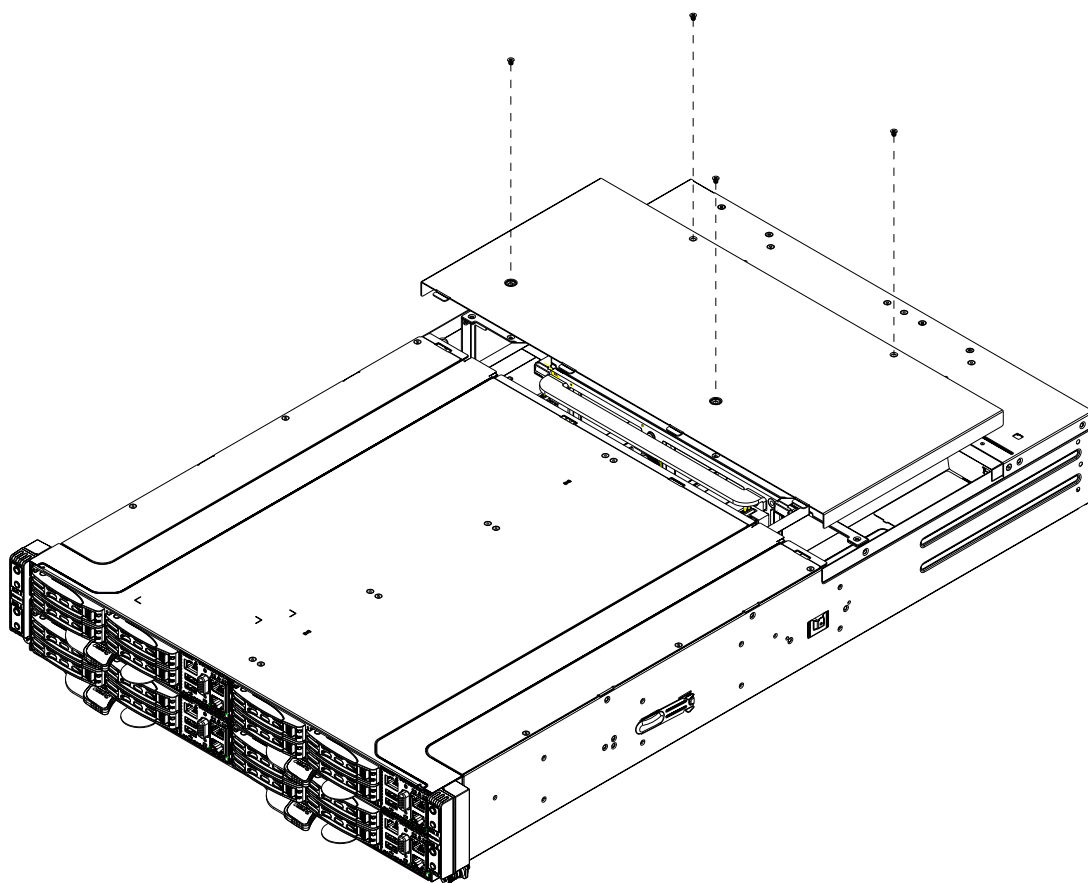


Figure 3-2. Removing the Chassis Cover

3.3 Processor and Heatsink

Prepare the system for processor and heatsink installation or removal. Follow the static-sensitive device precautions when working with the processor and heatsink.

Prepare the System

1. Remove power from the system.
2. Remove the chassis cover and any components that are obstructing the CPU socket.
3. Check that the plastic protective cover is on the CPU socket and that none of the socket pins are bent. If they are, contact your retailer.
4. Refer to the Supermicro website for updates on processor and memory support.

Note: All graphics in this manual are for illustration only. Your components may look different.

ESD Precautions

Electrostatic Discharge (ESD) can damage electronic components. Handle the motherboard carefully. The following measures are generally sufficient to protect your equipment from ESD.

- Use a grounded wrist strap designed to prevent static discharge.
- Touch a grounded metal object before removing the motherboard from the antistatic bag.
- Handle the motherboard 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.
- 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 the socket, and may require manufacturer repairs.
- Put the motherboard and peripherals back into their antistatic bags when not in use.
- For grounding purposes, make sure that your computer chassis provides excellent conductivity between the power supply, the case, the mounting fasteners and the motherboard.
- Use only the correct type of onboard CMOS battery. Do not install the onboard battery upside down to avoid possible explosion.

Installation Overview

After preparing the system and following ESD precautions, there are four steps to installing the processor and heatsink onto the motherboard.

1. Attach the processor to a plastic carrier to create the processor carrier assembly.
2. Attach the processor carrier assembly to the heatsink to create the processor heatsink module (PHM).
3. Prepare the socket for PHM installation.
4. Install the PHM.

Removal Overview

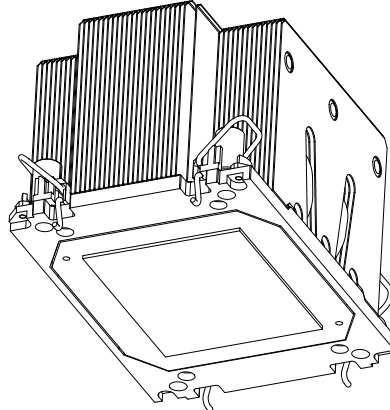
After preparing the system and following ESD precautions, there are three steps to removing the processor and heatsink from the motherboard.

1. Remove the PHM from the motherboard.
2. Remove the processor carrier assembly from the heatsink.
3. Remove the processor from the carrier.

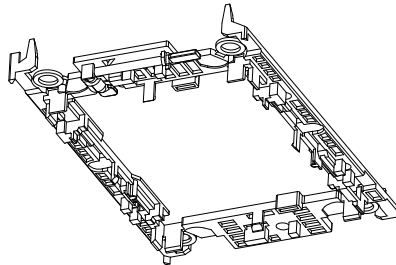
Overview of the Processor Heatsink Module

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

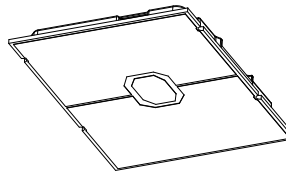
1. Heatsink with Thermal Grease



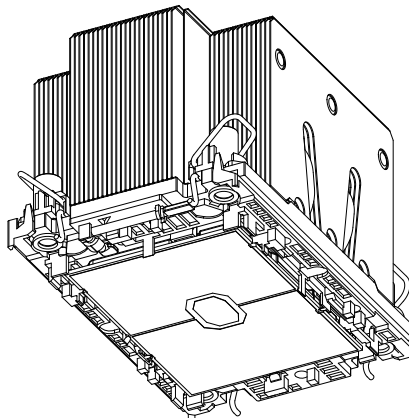
2. Processor Carrier



3. Processor



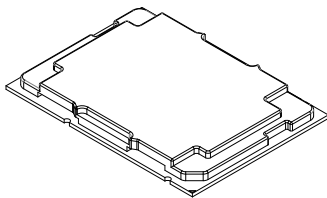
Processor Heatsink Module



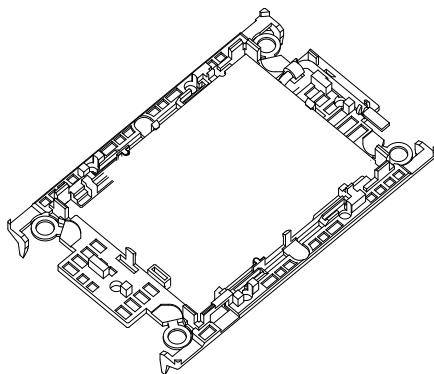
Overview of the Processor Carrier Assembly

The processor carrier assembly contains the 3rd Generation Intel Xeon Scalable Processor and a processor carrier.

1. Processor



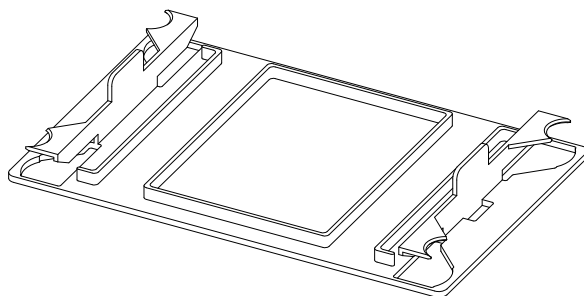
2. Processor Carrier



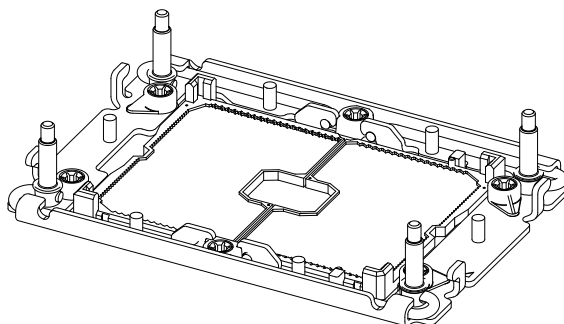
Overview of the CPU Socket

The CPU socket is protected by a plastic protective cover.

1. Plastic Protective Cover



2. CPU Socket



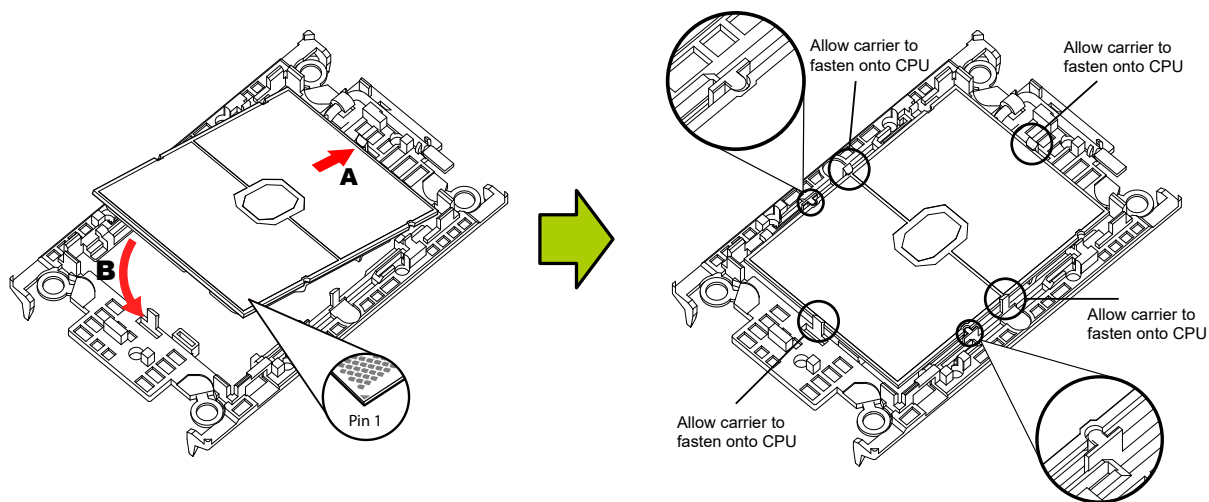
Creating the 3rd Generation Intel Xeon Scalable Processor Carrier Assembly

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

1. 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. The triangles can be found on the top and bottom of the processor. See the images below.
2. Using the triangles as a guide, carefully align and place Point A of the processor into the carrier. Then gently snap in the other side of the carrier for the processor to fasten into Point B.

Note: The 3rd Generation Intel Xeon Scalable Processor carrier contains four metal rings on each corner.

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



Processor Carrier Assembly

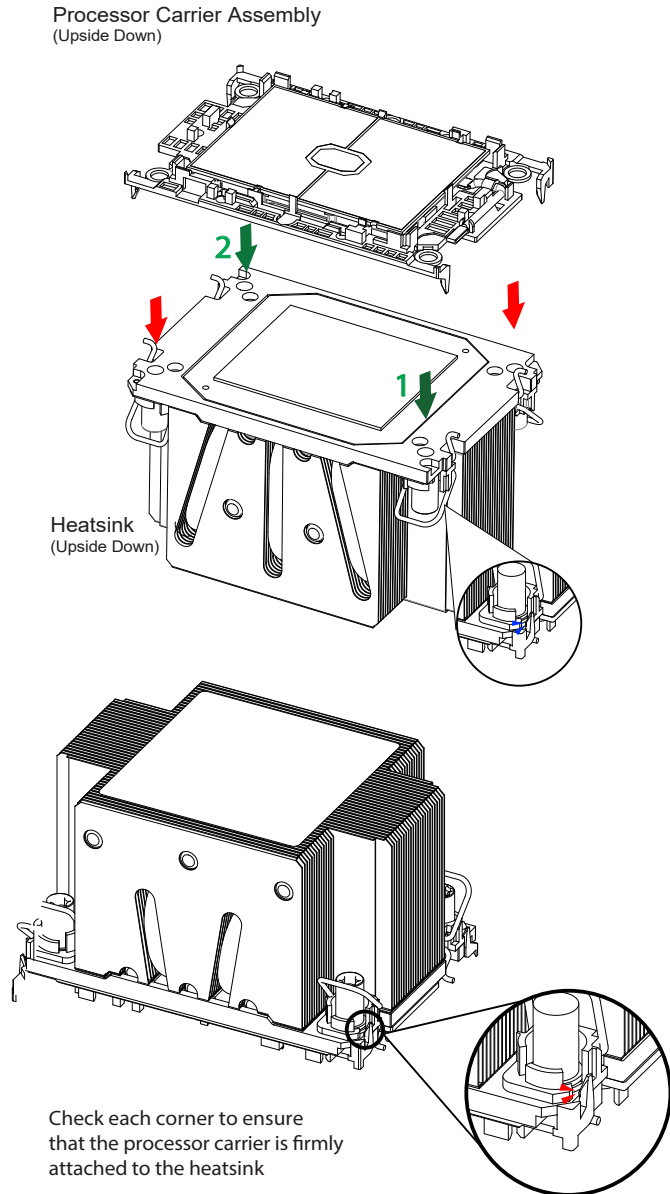
Note: The following CPU carriers have been successfully tested in our labs and are available from Supermicro. Please order the CPU carriers with the CPU heatsink.

Intel 3rd Generation Xeon Scalable Processors	SKT-1205L-P4IC-FXC
	SKT-1205L-P4IC-TYC

Assembling the Processor Heatsink Module

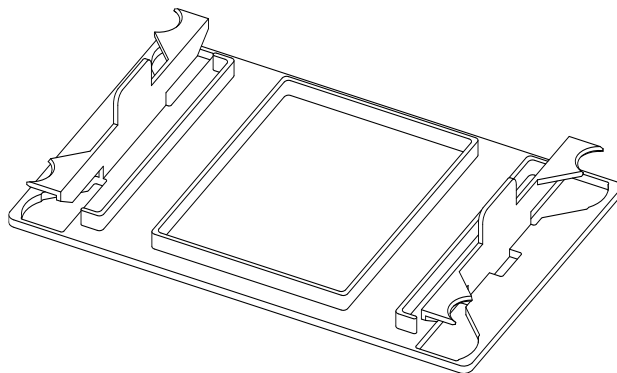
After creating the processor carrier assembly for the processor, mount it onto the heatsink to create the processor heatsink module (PHM):

1. Note the label on top of the heatsink, which marks the heatsink mounting holes as 1, 2, 3, and 4. If this is a new heatsink, the thermal grease has been pre-applied on the underside. Otherwise, apply the proper amount of thermal grease.
2. Turn the heatsink over with the thermal grease facing up. Hold the processor carrier assembly so the processor's gold contacts are facing up, then align the triangle on the assembly with hole 1 of the heatsink. Press the processor carrier assembly down. The plastic clips of the assembly will lock outside of holes 1 and 2, while the remaining clips will snap into their corresponding holes.
3. Examine all corners to ensure that the plastic clips on the processor carrier assembly are firmly attached to the heatsink.

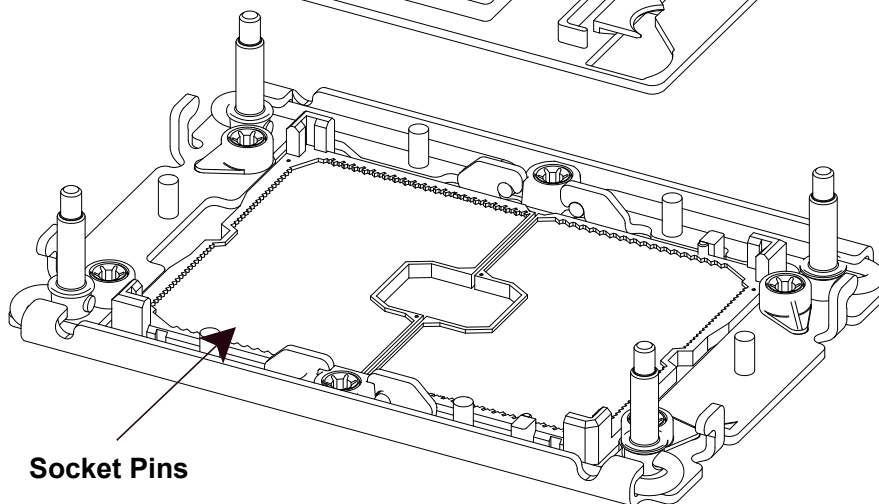
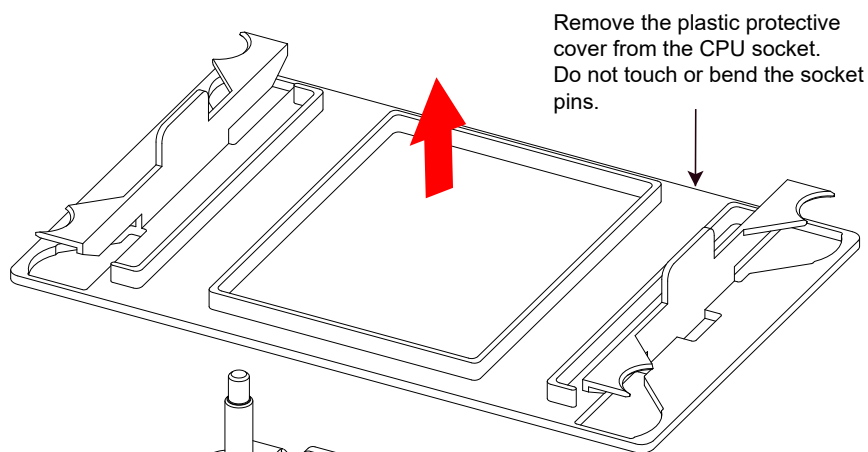


Preparing the CPU Socket for Installation

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.



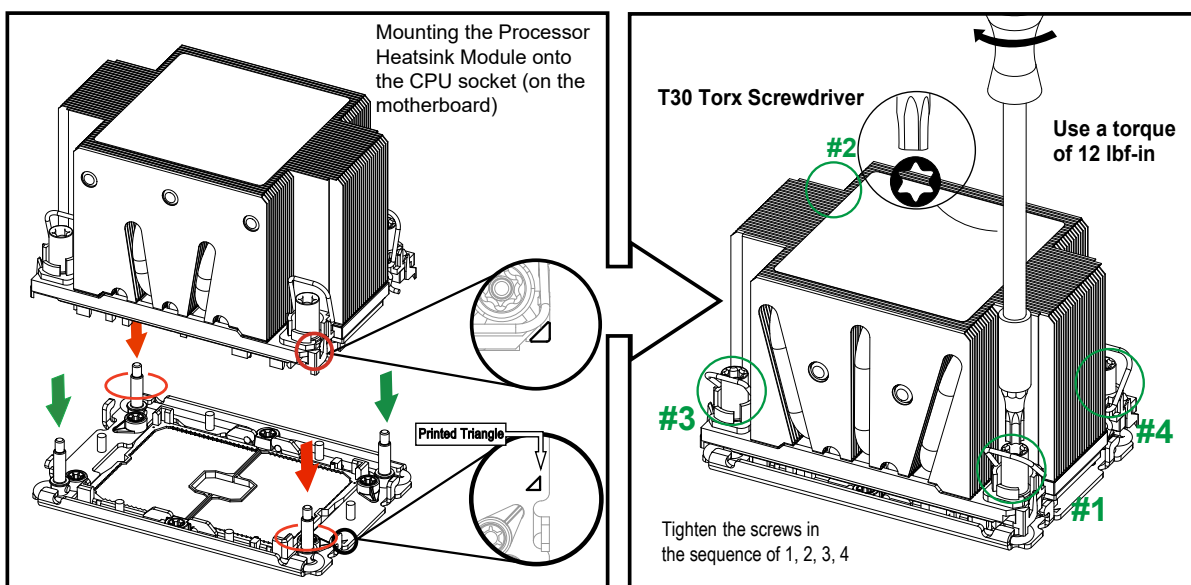
CPU Socket with Plastic Protective Cover



Installing the Processor Heatsink Module

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

1. Align hole 1 of the heatsink 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 before gently placing the heatsink on top.
3. With a T30 Torx-bit screwdriver, gradually tighten screws #1 - #4 to ensure even pressure. The order of the screws is shown on the label on top of the heatsink. To avoid damaging the processor or socket, do not use a force greater than 12 lbf-in when tightening the screws.
4. Examine all corners to ensure that the PHM is firmly attached to the socket.

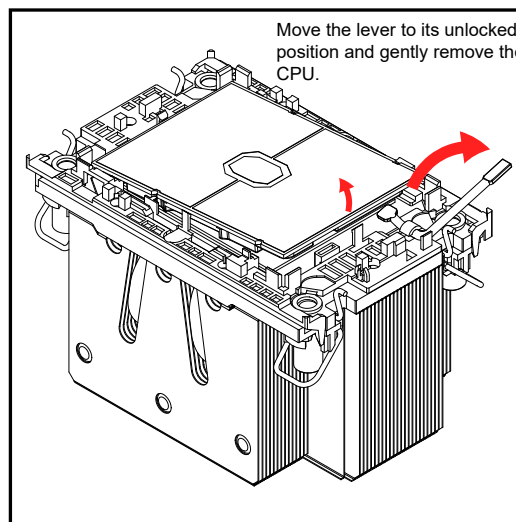
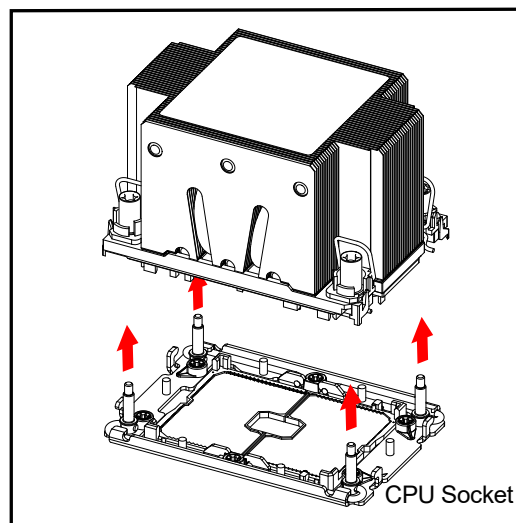
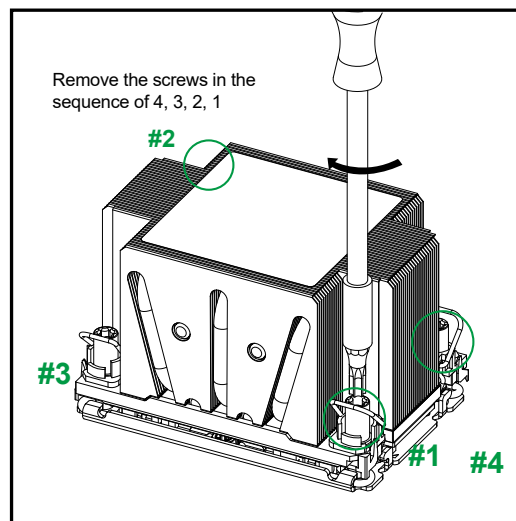


Removing the Processor Heatsink Module

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 in a backwards sequence of #4, #3, #2, and #1.
2. Gently lift the PHM upwards to remove it from the socket.
3. Move the lever to its unlocked position and gently remove the CPU.



3.4 Motherboard Installation

All motherboards have standard mounting holes to fit different types of chassis. Make sure that the locations of all the mounting holes for both the motherboard and the chassis match. Although a chassis may have both plastic and metal mounting fasteners, metal ones are highly recommended because they ground the motherboard to the chassis. Make sure that the metal standoffs click in or are screwed in tightly.

Tools Needed



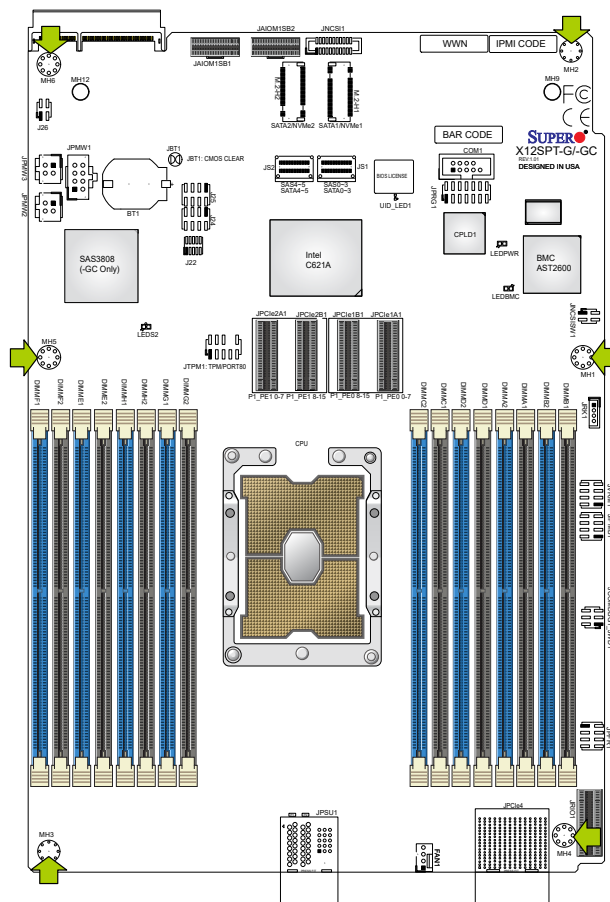
**Phillips
Screwdriver
(1)**



**Phillips Screws
(6)**



**Standoffs (6)
Only if Needed**



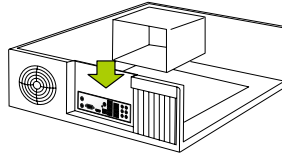
Location of Mounting Holes

Note 1: To avoid damaging the motherboard and its components, please do not use a force greater than 8 lbf-in on each mounting screw during motherboard installation.

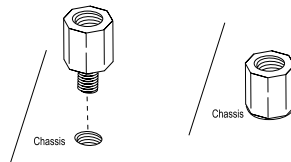
Note 2: Some components are very close to the mounting holes. Please take precautionary measures to avoid damaging these components when installing the motherboard to the chassis.

Installing the Motherboard

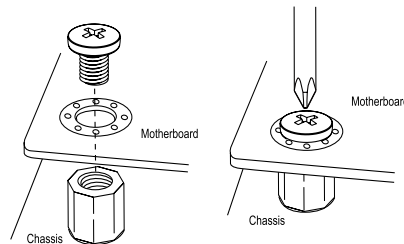
1. Install the I/O shield into the back of the chassis, if applicable.



2. Locate the mounting holes on the motherboard. See the previous page for the location.



3. Locate the matching mounting holes on the chassis. Align the mounting holes on the motherboard against the mounting holes on the chassis.



4. Install standoffs in the chassis as needed.
5. Install the motherboard into the chassis carefully to avoid damaging other motherboard components.
6. Using the Phillips screwdriver, insert a pan head #6 screw into a mounting hole on the motherboard and its matching mounting hole on the chassis.
7. Repeat Step 6 to insert #6 screws into all mounting holes.
8. Make sure that the motherboard is securely placed in the chassis.

Note: Images displayed are for illustration only. Your chassis or components might look different from those shown in this manual.

3.5 Memory Support and Installation

Note: Check the Supermicro website for recommended memory modules.

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

Memory Support

The X12SPT-G/-GC supports 4TB of ECC RDIMM 3DS and LRDIMM 3DS DDR4 memory with speeds of 3200/2933/2666 MHz in 16 memory slots and up to 2TB Intel Optane PMem 200 Series with speeds up to 3200 MHz (see the notes below).

Note 1: Intel® Optane™ Persistent Memory (PMem) 200 Series is supported by the 3rd Gen Intel Xeon Scalable (83xx/63xx/53xx/4314 Series) Processors.

Note 2: Memory speed support depends on the processors used in the system.

DDR4 Memory Support for the 3rd Gen Intel Xeon Scalable Processors

DDR4 Memory Support for the 3rd Gen Intel Xeon Scalable Processors					
Type	Ranks Per DIMM & Data Width	DIMM Capacity (GB)		Speed (MT/s); Voltage (V); Slots Per Channel (SPC) and DIMMs Per Channel (DPC)	
				1DPC (1-DIMM Per Channel)	2DPC (2-DIMM Per Channel)
		8GB	16GB	1.2V	1.2V
RDIMM	SRx8	8GB	16GB	3200	3200
	SRx4	16GB	32GB		
	DRx8	16GB	32GB		
	DRx4	32GB	64GB		
RDIMM 3Ds	(4R/8R)x4	2H-64GB 4H-128GB	2H-128GB 4H-256GB		
LRDIMM	QRx4	64GB	128GB	3200	3200
LRDIMM-3Ds	(4R/8R)x4	4H-128GB	2H-128GB 4H-256GB	3200	3200

Key Parameters for DIMM Configurations

Parameters	Possible Values
Number of Channels	8
Number of DIMMs per Channel	1DPC (1 DIMM Per Channel) or 2DPC (2 DIMMs Per Channel)
DIMM Type	RDIMM (w/ECC), 3DS RDIMM, LRDIMM, 3DS LRDIMM
DIMM Construction	non-3DS RDIMM Raw Cards: A/B (2Rx4), C (1Rx4), D (1Rx8), E (2Rx8) 3DS RDIMM Raw Cards: A/B (4Rx4) non-3DS LRDIMM Raw Cards: D/E (4Rx4) 3DS LRDIMM Raw Cards: A/B (8Rx4)

Memory Population Table (w/16 Slots)

DDR4 Memory Population Table for X12SP 16-DIMM Motherboards	
Number of DIMMs	Memory Population Sequence
1	P1-DIMMA1
2 (Note)	P1-DIMMA1/P1-DIMME1
4 (Note)	P1-DIMMA1/P1-DIMME1/P1-DIMMC1/P1-DIMMG1
6 (Note)	P1-DIMMA1/P1-DIMME1/P1-DIMMC1/P1-DIMMG1/P1-DIMMB1/P1-DIMMF1
8 (Note)	P1-DIMMA1/P1-DIMME1/P1-DIMMC1/P1-DIMMG1/P1-DIMMB1/P1-DIMMF1/P1-DIMMD1/P1-DIMMH1
12 (Note)	P1-DIMMA1/P1-DIMME1/P1-DIMMC1/P1-DIMMG1/P1-DIMMB1/P1-DIMMF1/P1-DIMMA2/P1-DIMME2/P1-DIMMC2/P1-DIMMG2/P1-DIMMB2/P1-DIMMF2
16 (Note)	P1-DIMMA1/P1-DIMME1/P1-DIMMC1/P1-DIMMG1/P1-DIMMB1/P1-DIMMF1/P1-DIMMD1/P1-DIMMH1/P1-DIMMA2/P1-DIMME2/P1-DIMMC2/P1-DIMMG2/P1-DIMMB2/P1-DIMMF2/P1-DIMMD2/P1-DIMMH2

Note: This memory configuration is recommended by Supermicro for optimal memory performance. Use this configuration to maximize your memory performance.

PMem 200 Series Population table for X12SPT-G/-GC Motherboards (w/16 Slots)

Note: Intel® Optane™ Persistent Memory (PMem) 200 Series is supported by the 3rd Gen Intel Xeon Scalable (83xx/63xx/53xx/4314 Series) Processors.

PMem 200 Series Population Table for X12SPT 16-DIMM Motherboards (within 1 CPU socket)																			
DDR4+ PMem	Mode	AD Inter-leave	P1-DIMMF1	P1-DIMMF2	P1-DIMME1	P1-DIMME2	P1-DIMMH1	P1-DIMMH2	P1-DIMMG1	P1-DIMMG2	P1-DIMMC2	P1-DIMMC1	P1-DIMMD2	P1-DIMMD1	P1-DIMMA2	P1-DIMMA1	P1-DIMMB2	P1-DIMMB1	
4+4	AD MM	One - x4	<i>PMem</i>	-	DDR4	-	<i>PMem</i>	-	DDR4	-	-	DDR4	-	<i>PMem</i>	-	DDR4	-	<i>PMem</i>	
		One - x4	DDR4	-	<i>PMem</i>	-	DDR4	-	<i>PMem</i>	-	-	<i>PMem</i>	-	DDR4	-	<i>PMem</i>	-	DDR4	
6+1	AD	One - x1	DDR4	-	DDR4	-	-	-	DDR4	-	-	DDR4	-	<i>PMem</i>	-	DDR4	-	DDR4	
			-	-	DDR4	-	DDR4	-	DDR4	-	-	DDR4	-	DDR4	-	DDR4	-	<i>PMem</i>	
			DDR4	-	DDR4	-	<i>PMem</i>	-	DDR4	-	-	-	DDR4	-	-	-	DDR4	-	DDR4
			<i>PMem</i>	-	DDR4	-	DDR4	-	DDR4	-	-	DDR4	-	-	DDR4	-	DDR4	-	-
			DDR4	-	DDR4	-	DDR4	-	-	-	-	-	<i>PMem</i>	-	DDR4	-	DDR4	-	DDR4
			DDR4	-	-	-	DDR4	-	DDR4	-	-	-	DDR4	-	DDR4	-	<i>PMem</i>	-	DDR4
			DDR4	-	DDR4	-	DDR4	-	<i>PMem</i>	-	-	-	-	-	DDR4	-	DDR4	-	DDR4
			DDR4	-	<i>PMem</i>	-	DDR4	-	DDR4	-	DDR4	-	-	DDR4	-	DDR4	-	-	-
8+1	AD	One - x1	DDR4	-	DDR4	-	DDR4	-	DDR4	-	-	DDR4	-	DDR4	<i>PMem</i>	DDR4	-	DDR4	
			DDR4	-	DDR4	-	DDR4	-	DDR4	-	<i>PMem</i>	DDR4	-	DDR4	-	DDR4	-	DDR4	
			DDR4	-	DDR4	<i>PMem</i>	DDR4	-	DDR4	-	-	-	DDR4	-	DDR4	-	DDR4	-	DDR4
			DDR4	-	DDR4	-	DDR4	-	DDR4	-	<i>PMem</i>	-	DDR4	-	DDR4	-	DDR4	-	DDR4
			DDR4	-	DDR4	-	DDR4	-	DDR4	-	-	-	DDR4	<i>PMem</i>	DDR4	-	DDR4	-	DDR4
			DDR4	-	DDR4	-	DDR4	-	DDR4	-	-	-	DDR4	-	DDR4	-	DDR4	<i>PMem</i>	DDR4
			DDR4	<i>PMem</i>	DDR4	-	DDR4	-	DDR4	-	-	-	DDR4	-	DDR4	-	DDR4	-	DDR4
			DDR4	-	DDR4	-	DDR4	<i>PMem</i>	DDR4	-	-	-	DDR4	-	DDR4	-	DDR4	-	DDR4
8+4	AD MM	One - x4	DDR4	-	DDR4	<i>PMem</i>	DDR4	-	DDR4	<i>PMem</i>	<i>PMem</i>	DDR4	-	DDR4	<i>PMem</i>	DDR4	-	DDR4	
		Two - x2	DDR4	-	DDR4	<i>PMem</i>	DDR4	<i>PMem</i>	DDR4	-	-	DDR4	<i>PMem</i>	DDR4	<i>PMem</i>	DDR4	-	DDR4	
		Two - x2	DDR4	<i>PMem</i>	DDR4		DDR4	-	DDR4	<i>PMem</i>	<i>PMem</i>	DDR4	-	DDR4	-	DDR4	<i>PMem</i>	DDR4	
		One - x4	DDR4	<i>PMem</i>	DDR4	-	DDR4	<i>PMem</i>	DDR4	-	-	DDR4	<i>PMem</i>	DDR4	-	DDR4	<i>PMem</i>	DDR4	
8+8	AD, MM,	One - x8	DDR4	<i>PMem</i>	DDR4	<i>PMem</i>	DDR4	<i>PMem</i>	DDR4	<i>PMem</i>	<i>PMem</i>	DDR4	<i>PMem</i>	DDR4	<i>PMem</i>	DDR4	<i>PMem</i>	DDR4	
12+2	AD	One - x2	<i>PMem</i>	-	DDR4	DDR4	DDR4	DDR4	DDR4	DDR4	DDR4	DDR4	DDR4	DDR4	DDR4	DDR4	-	<i>PMem</i>	
			DDR4	DDR4	DDR4	DDR4	<i>PMem</i>	-	DDR4	DDR4	DDR4	DDR4	-	<i>PMem</i>	DDR4	DDR4	DDR4	DDR4	
			DDR4	DDR4	<i>PMem</i>	-	DDR4	DDR4	DDR4	DDR4	DDR4	DDR4	DDR4	DDR4	-	<i>PMem</i>	DDR4	DDR4	DDR4
			DDR4	DDR4	DDR4	DDR4	DDR4	DDR4	<i>PMem</i>	-	-	-	<i>PMem</i>	DDR4	DDR4	DDR4	DDR4	DDR4	

Legend (for the table above)	
DDR4 Type and Capacity	
DDR4	See Validation Matrix (DDR4 DIMMs validated with PMem)
Capacity	
PMem	Any Capacity (Uniformly for all channels for a given configuration)

- Mode definitions: AD = App Direct Mode, MM = Memory Mode.
- No mixing of PMem and NVDIMMs within the platform.
- For MM, NM/FM ratio is between 1:4 and 1:16. (NM = Near Memory (DRAM); FM = Far Memory (PMem)).
- Matrix targets configs for optimized PMem to DRAM cache ratio in MM mode.
- For each individual population, different PMem rearrangements among channels are permitted so long as the configuration doesn't break X12DP Memory population rules.
- Ensure the same DDR4 DIMM type and capacity are used for each DDR4 + PMem population.
- If the system detects an unvalidated configuration, then the system issues a BIOS warning. The CLI functionality is limited in non-POR configurations, and select commands will not be supported.

General Guidelines for Optimizing Memory Performance

- It is recommended to use DDR4 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.

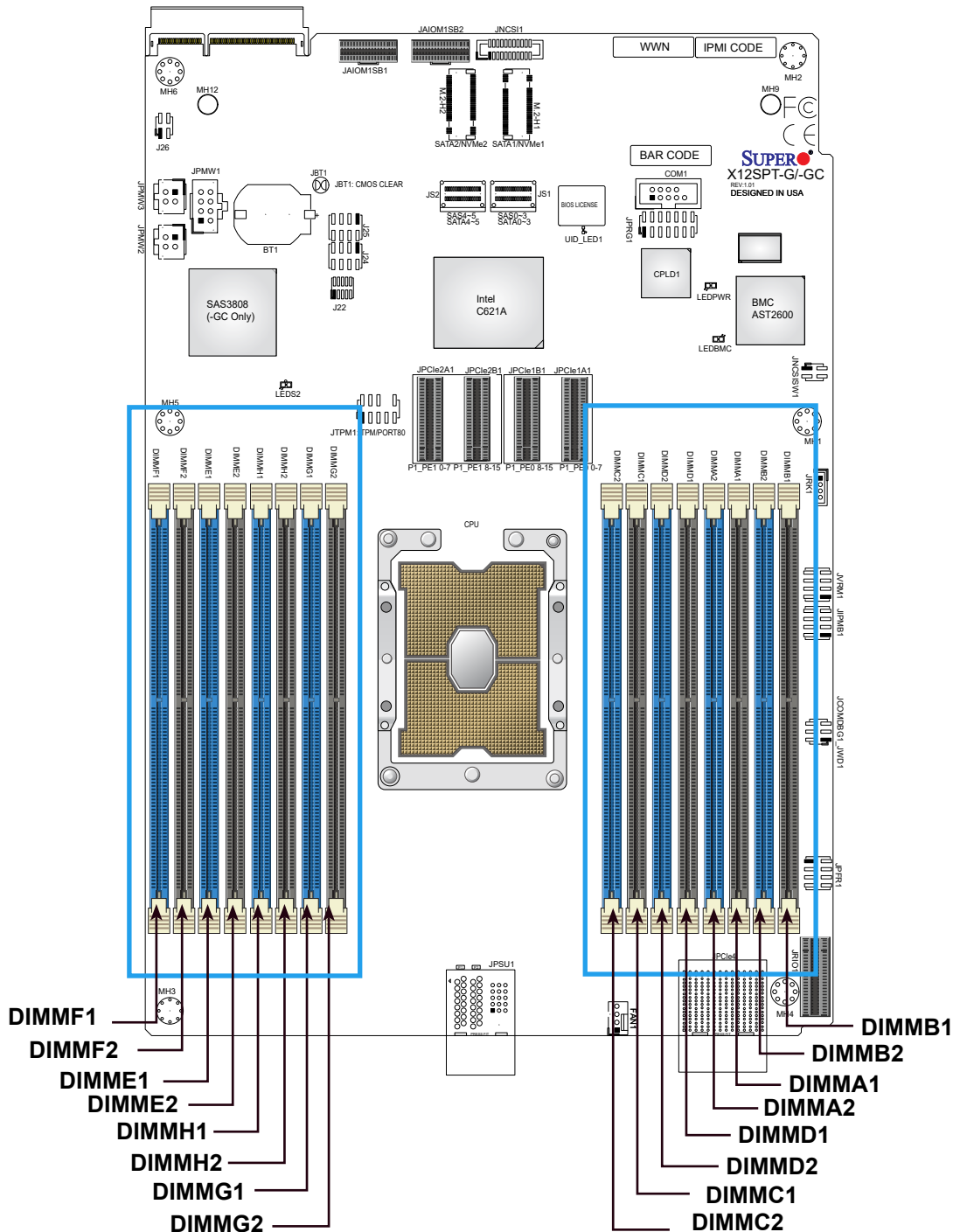
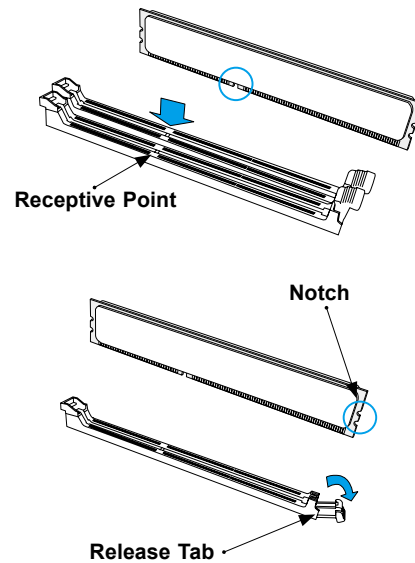
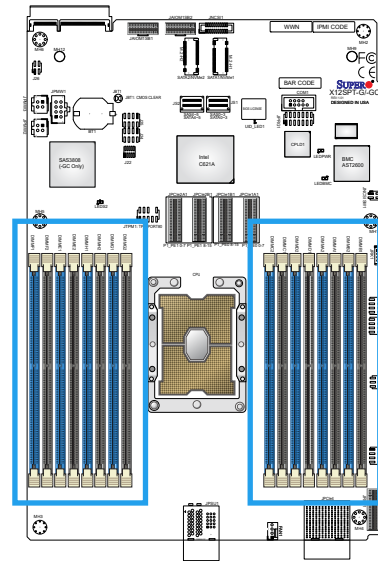


Figure 3-3. DIMM Slots

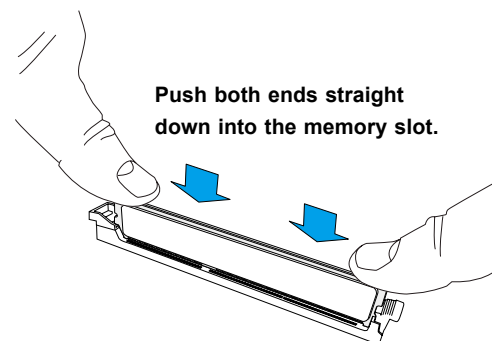
DIMM Installation

1. Insert DIMM modules in the following order: DIMMC1, DIMMD1, DIMMA1, DIMMB1, DIMMG1, DIMMH1, DIMME1, DIMMF1, and insert the desired number of DIMMs into the memory slots based on the Recommended Memory Population Guide table on page 30.
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. Push 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.



3.5 Motherboard Battery

Battery Removal

To remove the onboard battery, follow the steps below:

1. Power off your system and unplug your power cable.
2. Locate the onboard battery as shown below.
3. Using a tool such as a pen or a small screwdriver, push the battery lock outwards to unlock it. Once unlocked, the battery will pop out from the holder.
4. Remove the battery.

Proper Battery Disposal

Warning: Please 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.

Battery Installation

1. To install an onboard battery, follow steps 1 and 2 above and continue below:
2. Identify the battery's polarity. The positive (+) side should be facing up.
3. Insert the battery into the battery holder and push it down until you hear a click to ensure that the battery is securely locked.

Warning: When replacing a battery, be sure to only replace it with the same type.

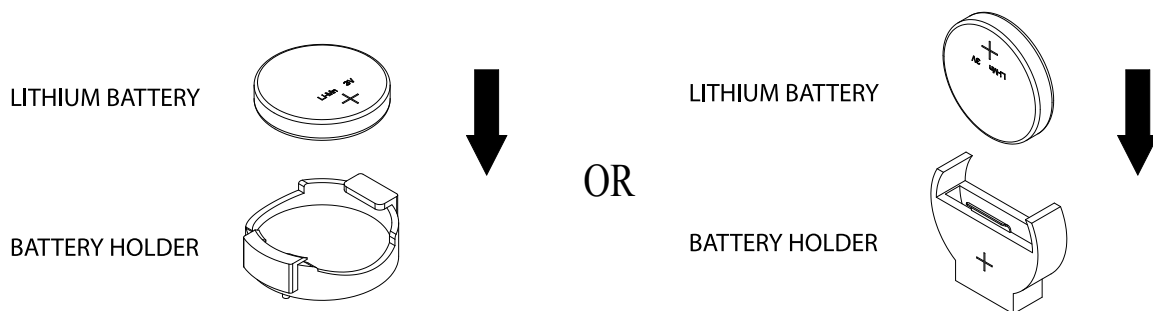


Figure 3-4. Installing the Onboard Battery

3.6 Storage Drives

The SYS-210GT-HNTF and SYS-210GT-HNC8F support update to 16 drives per node (up to 4 drives per node).

To support different storage drive solution, the system needs to install either the SATA/SAS enablement kit (MCP-450-21405-ASM) or NVMe enablement kit (MCP-450-21402-ASM). Each above kit supports 2 drives, and the use can install up to 2 enablement kits into one node.

- HNTF: Supports either SAS/SATA enablement kit or NVMe enablement kit
- HNC8F: Supports only the SAS/SATA enablement kit

Drive Carriers

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

Drive Carrier LED Indicator			
	Color	Blinking Pattern	Behavior for Device
Activity LED	Blue	Solid On	SAS/NVMe drive installed
	Blue	Blinking	I/O activity
Status LED	Red	Solid On	Failure of drive with RSTe support
	Red	Blinking at 1 Hz	Rebuild drive with RSTe support
	Red	Blinking with two blinks and one stop at 1 Hz	Hot spare for drive with RSTe support (not supported in VMD mode)
	Red	On for five seconds, then off	Power on for drive with RSTe support
	Red	Blinking at 4 Hz	Identify drive with RSTe support
	Green	Solid On	Safe to remove NVMe device (not supported in VMD mode)
	Amber	Blinking at 1 Hz	Attention state---do not remove NVMe device (not supported in VMD mode)

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

Drive Configuration

The CSE-GT214BF-R2K21BP chassis contains four separate computing node drawers, each with its own motherboard. Each node controls a set of four drives. 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 B1, B2, B3, and B4	Node D controls drives D1, D2, D3, and D4
Node A controls drives A1, A2, A3, and A4	Node C controls drives C1, C2, C3, and C4

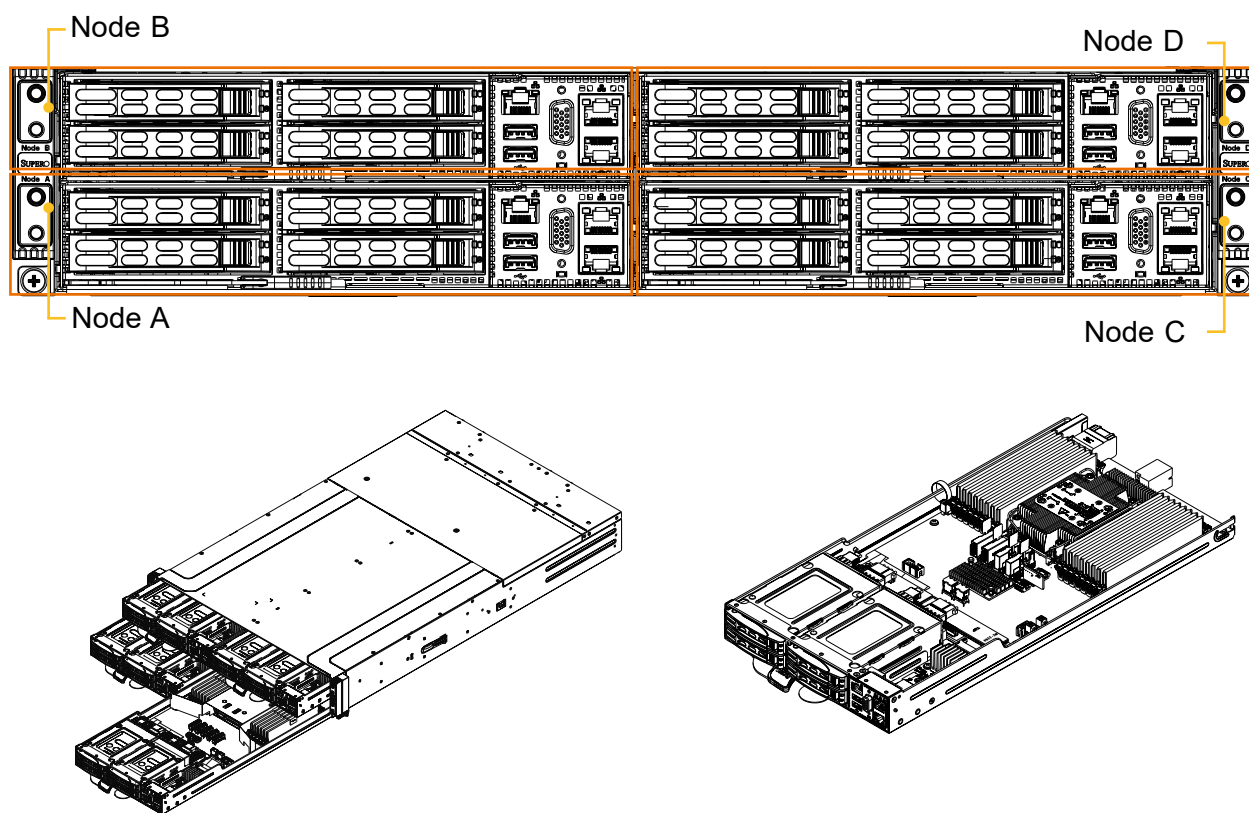


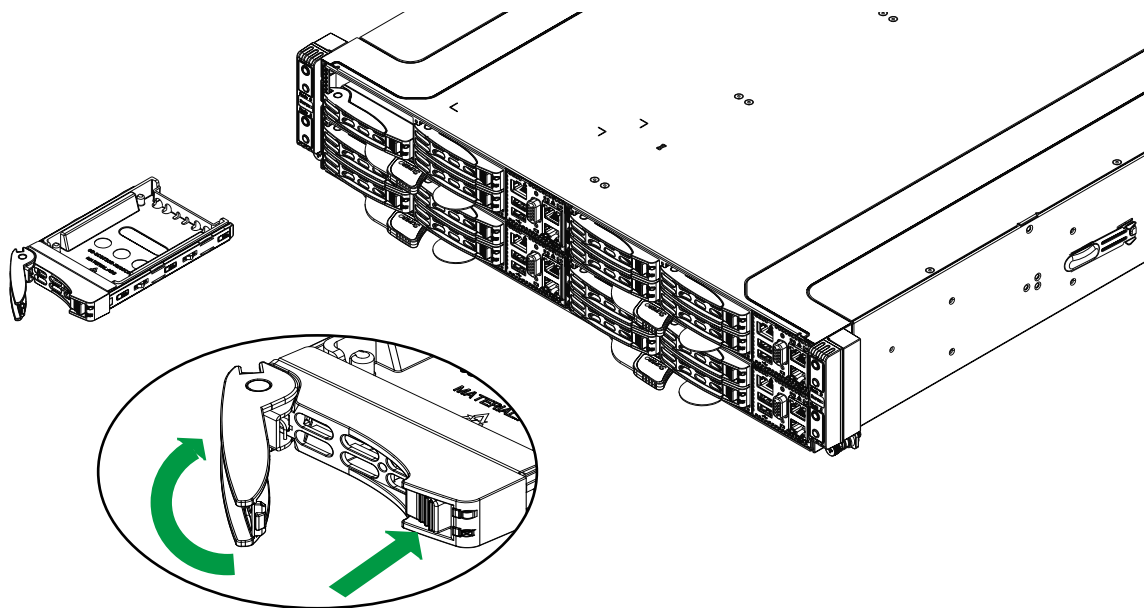
Figure 3-5. Storage Drives and the Corresponding Nodes

Installing Drives

Removing Drive Carriers 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.
3. Remove the dummy drive from the carrier.

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.



Rear-Mounted Drives

The chassis will also support four rear-mounted 2.5" storage drives. They may be mounted inside a drive cage in the rear, as shown below.

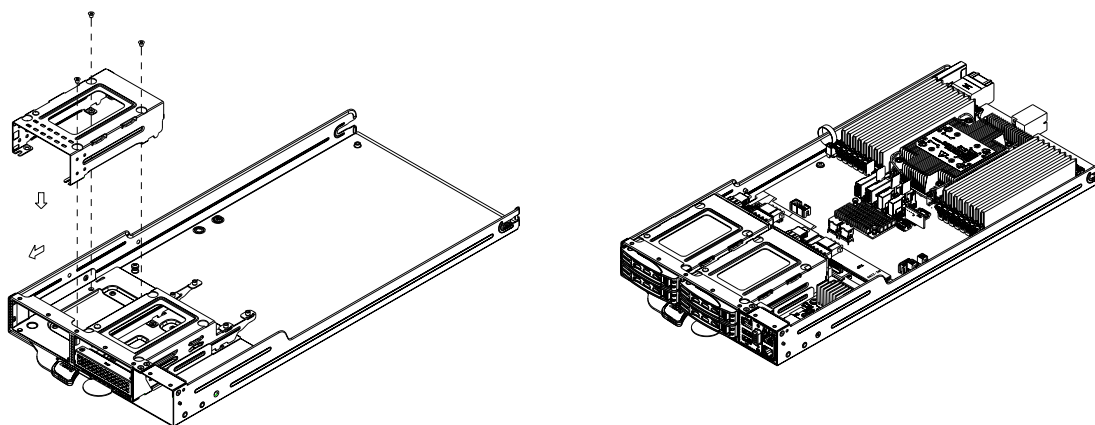


Figure 3-6. Removing a Drive Carrier

Installing a Drive

1. Install a new drive into the carrier with the printed circuit board side facing down so that the mounting holes in the drive align with those in the carrier.
2. Secure the drive into the carrier with the screws.

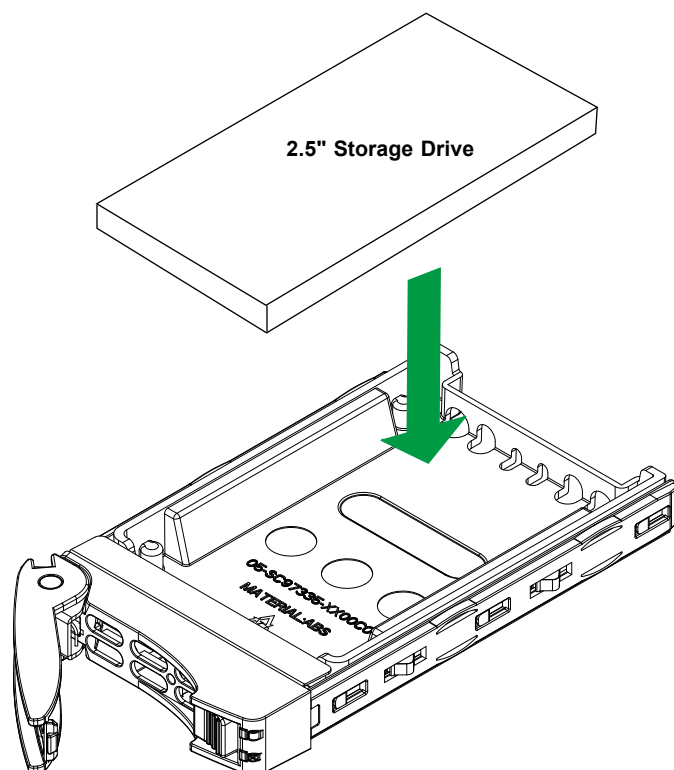
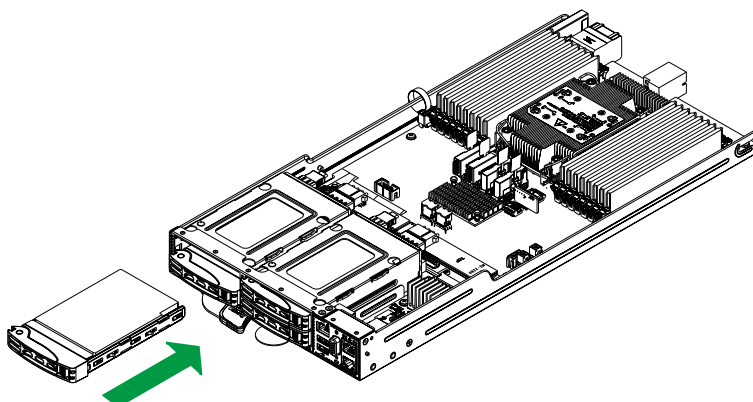


Figure 3-7. Installing the Storage Drive

3. Insert the drive and carrier into its bay with the release button on the right. When the carrier reaches the rear of the bay, the release handle starts to retract.
4. Push the upper part of the drive carrier handle until it clicks into the locked position.



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.

Note: If you are using VROC, see the VROC appendix in this manual instead.

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-210GT-HNTF and SYS-210GT-HNC8F servers have one Device and one Group.

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

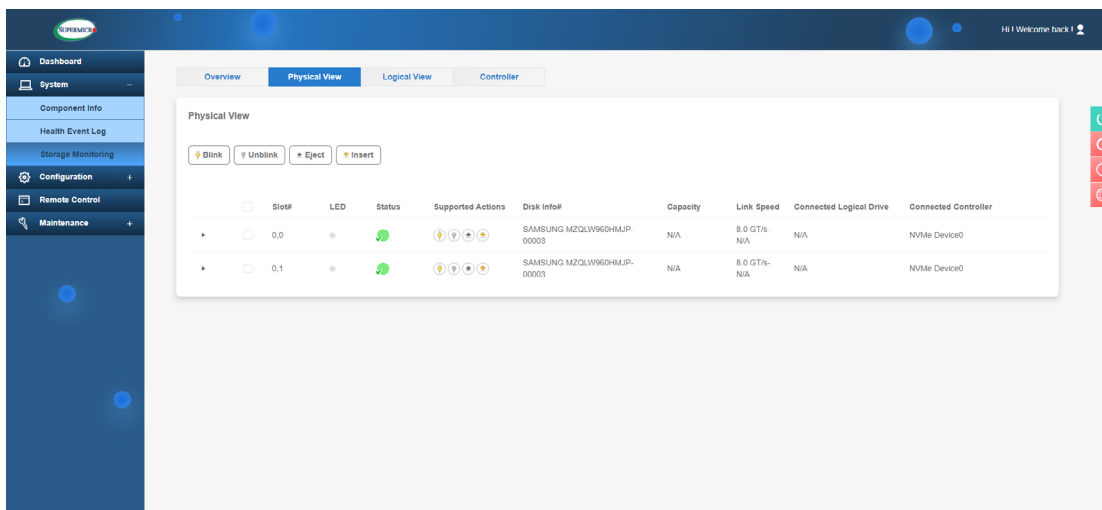


Figure 3-8. BMC Screenshot

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 > Server Health > NVMe SSD** – Shows the temperatures of all NVMe drives, as in Figure 3-11.
- **BMC > Server Health > Sensor Reading > NVME_SSD** – 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.

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.

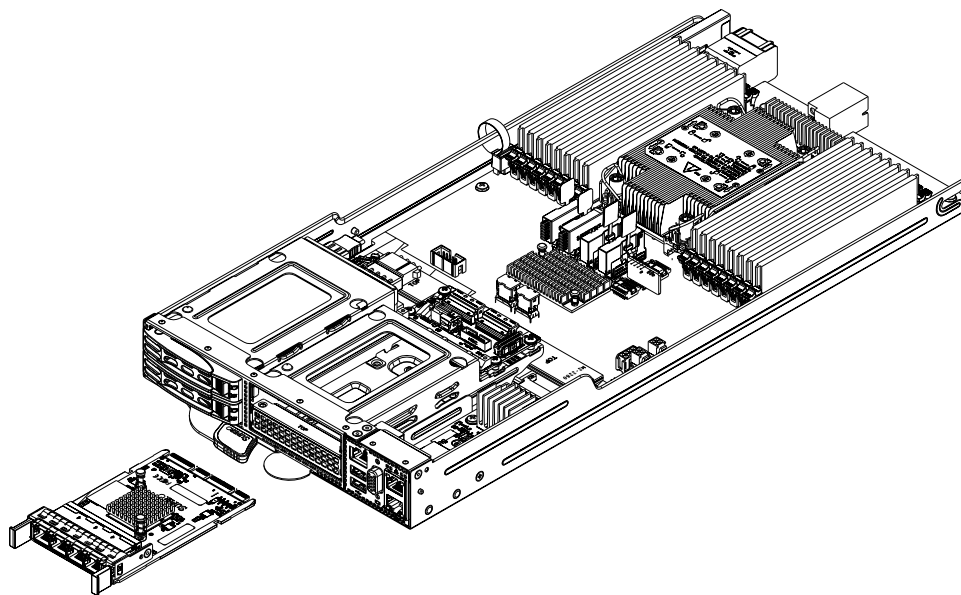


Figure 3-9. AIOM Card Position

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. Pull the I/O card out of the motherboard tray.

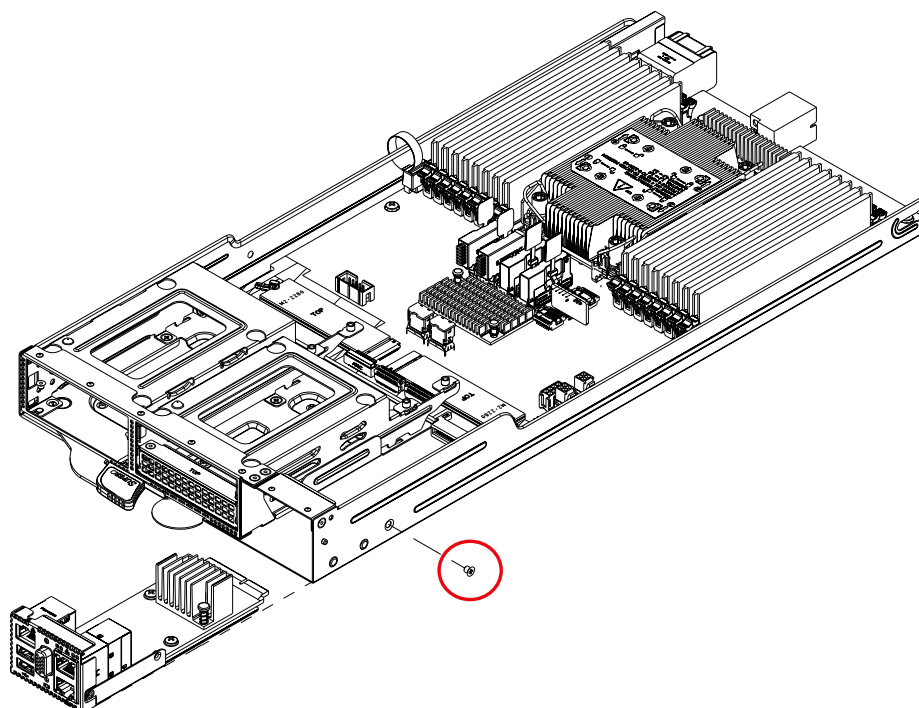


Figure 3-10. I/O Card Position on Rear

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. The system can continue to run with a failed fan. Replace any failed fan at your earliest convenience with the same type and model.

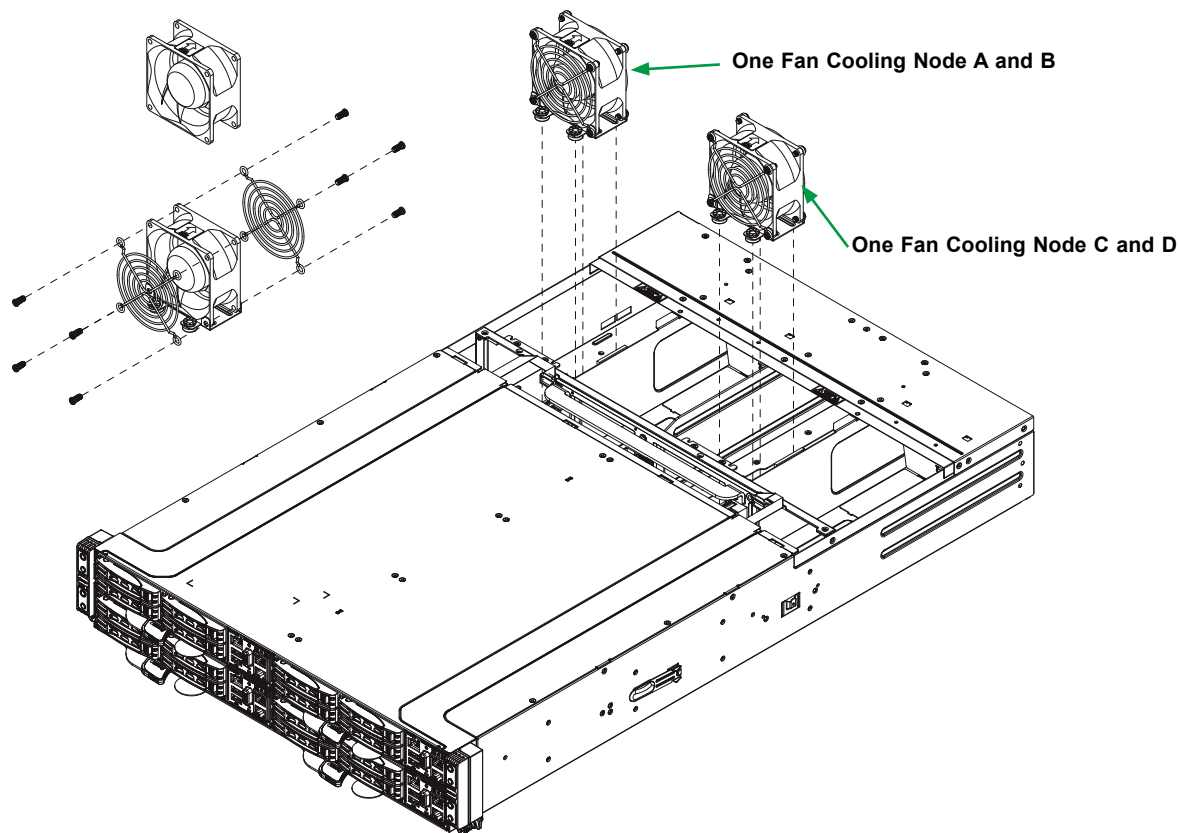


Figure 3-11. System Fan Placement

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 and the adjacent fan.
4. Lift the fan housing up and out of the chassis.
5. Push the fan up from the bottom.
6. Put the 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.

Installing the Air Shrouds

The motherboard, any expansion cards, and all components must be installed in the node tray.

Place the air shroud as pictured and secure with a screw.

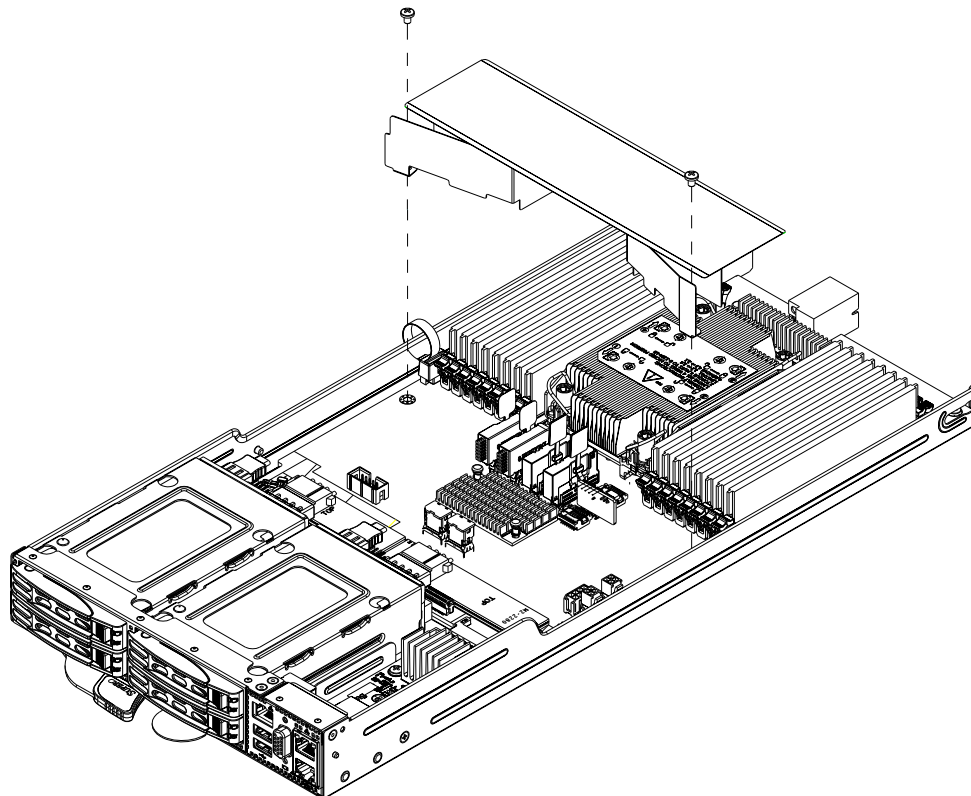


Figure 3-12. Installing the Air Shrouds

3.8 Power Supply

The chassis features redundant power supplies. The power modules can be changed without powering down the system. 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 100-120v or 180-240v. An amber light will be illuminated on the power supply when the power is off. An illuminated green light indicates that the power supply is operating.

Replacing the Power Supply

1. Unplug the AC cord from the module to be replaced.
2. Release the locking clip to unlock the power supply module
3. Pull out the locking handle and remove the unit. To release the handle, squeeze the two metal plates of the handle with your thumb and fingers, and then pull the module out.

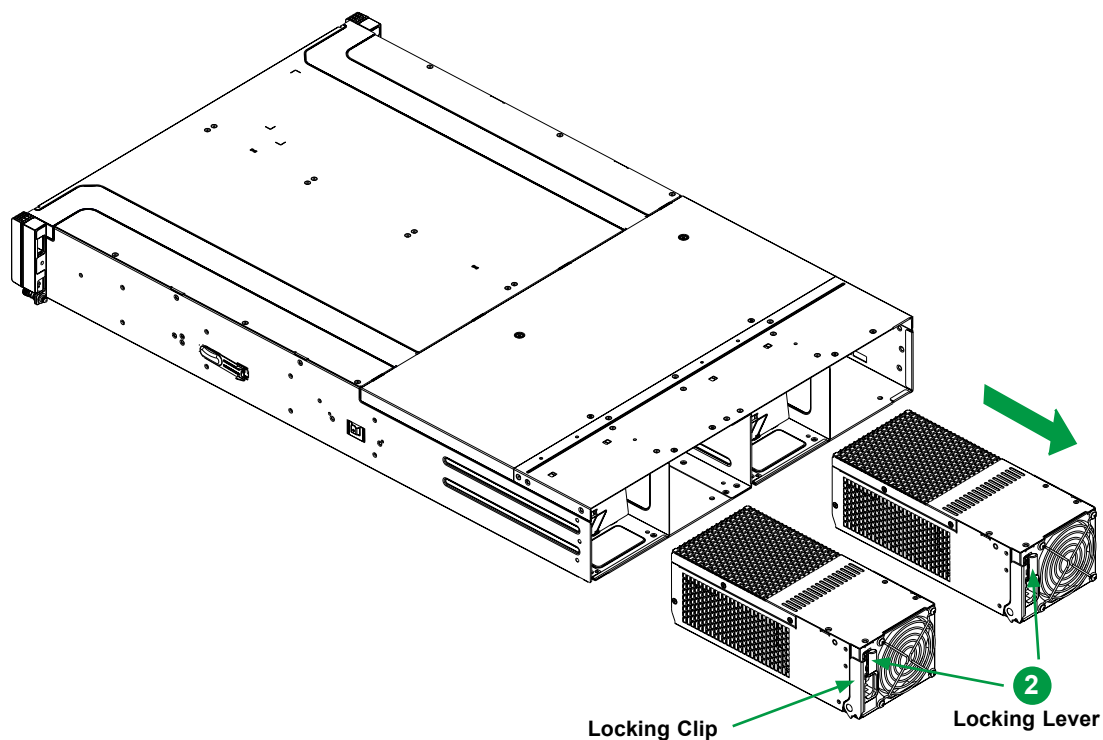


Figure 3-13. Power Supply Release Tab

4. Replace the failed power module with the same model.
5. Push the new power supply module into the power bay until it clicks.
6. Plug the AC power cord back into the module.

3.9 Cable Routing Diagram

Refer to the diagram below for a representation of how the storage cables are routed through the node. When disconnecting cables to add or replace components, refer to this diagram so you can reroute them in the same manner.

Front I/O NVMe Connection

NVMe Cable
CBL-MCIO-1214S4RE

Power Cable
CBL-PWEX-1133-26

[Online Cable Matrix](#)

Components of MCP-450-21402-ASM					
Part Number	Part Description	Latest BOM Rev	Latest Part Rev	Latest ECO Rev	Qty
Tray					
MCP-220-00167-0B	Gen 3 2.5-inch Tool-less NVMe drive tray (clip design), RoHS	-	-	-	2
Cable					
CBL-MCIO-1214S4RE	[NR] (MCIO to SlimSAS) x8STR, 14cm, G5, 85Ohm, RoHS	-	1.0	-	1
CBL-PWEX-1133-26	[NR] (MicroHi to MicroFit) 2x2, PH3.0, 26cm, 9A/p, 16AWG, RoHS	-	1.0	-	1
HD Backplane					
BPN-NVMe4-826N-B2B	1U 2-Port PCIe Gen 4 U.2 NVMeBackplane	-	1.00	1.00	1

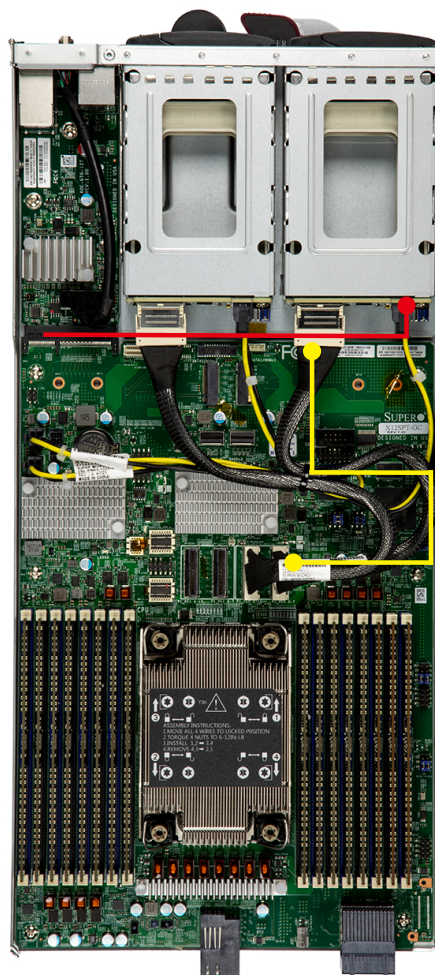


Figure 3-14. Cable Routing Diagram (Front I/O NVMe Connection)

Front I/O SATA Backplanes

SATA Cable

CBL-SAST-1213YT-100

Power Cable

CBL-PWEX-0990Y-20

Components of MCP-450-21405-ASM

Part Number	Part Description	Latest BOM Rev	Latest Part Rev	Latest ECO Rev	Qty
Tray					
MCP-220-00147-0B	Black gen-3 hot-swap 2.5" Tool-less drive tray (clip design)	01	-	-	2
Cable					
CBL-PWEX-0990Y-20	[NR] MicroFit 2x4, PH3.0 to 21x4, PH5.08, 20cm, 4A/pin, 20AWG, R	-	1.0	-	1
CBL-SAST-1217QT4S2-100	[NR] SlimSAS x4 to 4 7p SATA + 22x4SB, 13/16cm, 100Ohm, RoHS	-	1.0	-	1
HD Backplane					
BPN-SAS3-826TQ-B2B	2-Port 12Gbps Backplane for 2x2.5" SAS/SATA HDD/SSD	-	1.00	1.01	1

Components of MCP-450-21404-ASM

Part Number	Part Description	Latest BOM Rev	Latest Part Rev	Latest ECO Rev	Qty
Tray					
MCP-220-00147-0B	Black gen-3 hot-swap 2.5" Tool-less drive tray (clip design)	01	-	-	4
Cable					
CBL-PWEX-0990Y-20	[NR] MicroFit 2x4, PH3.0 to 21X4, PH5.08, 20cm, 4A/pin, 20AWG, R	-	1.0	-	1
CBL-SAST-1217QT4S2-100	[NR] SlimSAS x4 to 4 7p SATA + 22x4SB,13/16cm, 100Ohm, RoHS	-	1.0	-	1
HD Backplane					
BPN-SAS3-826TQ-B2B	2-Port 12Gbps Backplane for 2x2.5" SAS/SATA HDD/SSD	-	1.00	1.01	2

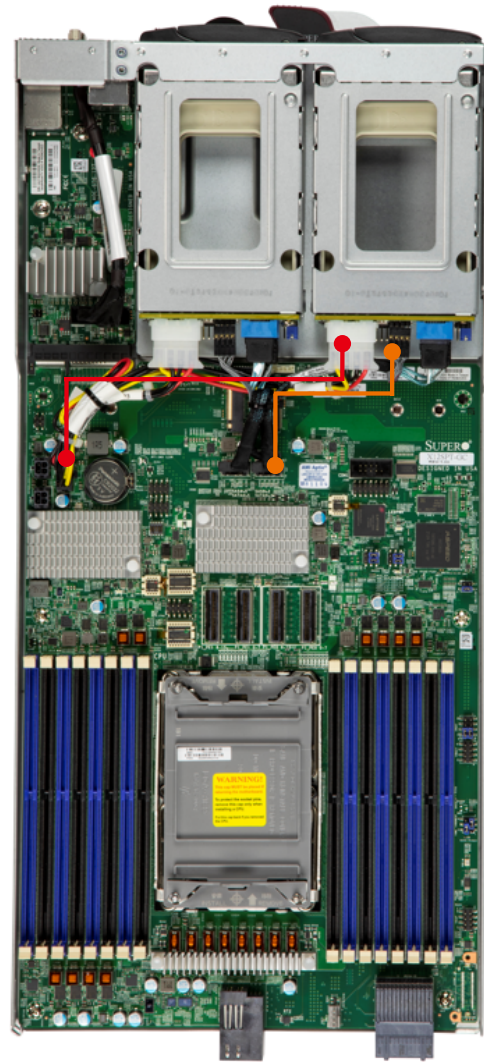


Figure 3-15. Cable Routing Diagram (Front I/O SATA Backplanes)

Front I/O AIOM Converter

AIOM Cable **CBL-MCIO-1215L4LE**

Power Cable **CBL-OTHR-1115**

[Online Cable Matrix](#)

Components of MCP-450-21403-ASM					
Part Number	Part Description	Latest BOM Rev	Latest Part Rev	Latest ECO Rev	Qty
Chassis Parts					
MCP-220-21404-0N	GT214 FIO AIOM cage (includes 1 dummy bracket)	-	-	-	1
Cable					
CBL-MCIO-1215L4LE	[NR]MCIO x8 (RE) to SlimSASLPx8 (STR), 15CM, 85OHM, RoHS	-	1.0	-	2
CBL-OTHR-1115	2x15 to 2x15, 18cm, 28AWG, 1A/pin, RoHS	-	1.0	-	1
Add-on Card					
AOM-AIOM-2X8-P	2nd AIOM board (cable solution) for Hyper-E 2U system, RoHS	-	1.02	1.10	1

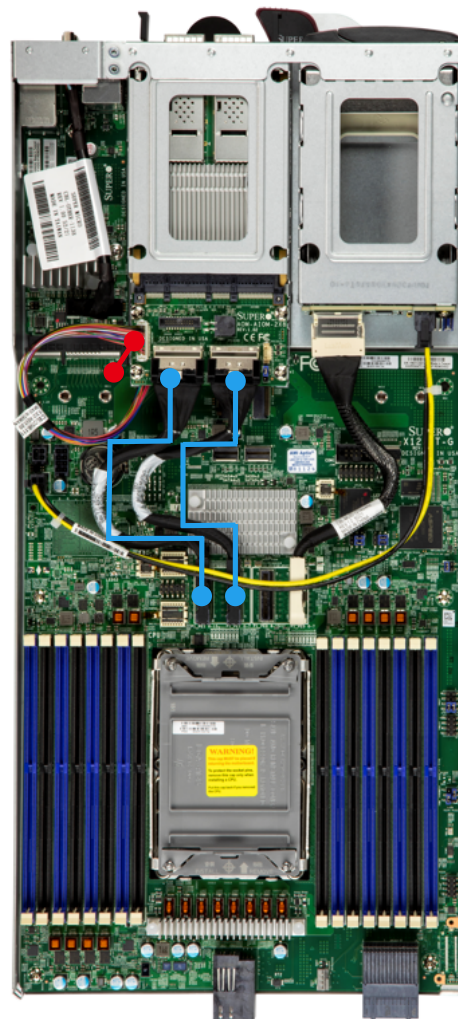


Figure 3-16. Cable Routing Diagram (Front I/O AIOM Converter)

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 2Hz. 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 4Hz while defaults are configured. **Note:** All BMC settings including username and password will be removed except the FRU and network settings.
- Firmware update – When the BMC firmware is being updated, the UID LED blinks at 10Hz.

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

Chapter 4

Motherboard Connections

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

Please review the Safety Precautions in [Appendix A](#) before installing or removing components.

4.1 Power Connections

Power Connectors

JPMW1 is the 8-pin power connector for GPU and NVMe power. JPMW2 and JPMW3 are the 4-pin 12V DC power connectors on the motherboard that provide adequate power supply to your system.

8-pin GPU Power Pin Definitions	
Pin#	Definition
1 - 4	GND
5 - 6	12V
7 - 8	5V

4-pin Power Pin Definitions	
Pin#	Definition
1 - 2	GND
3 - 4	12V

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

Fan Header

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 and supported VROC key model.

Intel RAID Key Header Pin Definitions		Intel RAID Key		
Pin#	Definition	VROC Type	Key	RAID Levels
1	GND	VROC Intel SSD Only	AOC-VROCINTMOD	Intel VROC, RAID 0, 1, 5, 10 (Intel SSD Only)
2	PU 3.3V Stdby	VROC Premium	AOC-VROCINTMOD	Intel VROC Premium, RAID 0, 1, 5, 10
3	GND	VROC Standard	AOC-VROCINTMOD	Intel VROC Standard, RAID 0, 1, 10
4	PCH RAID KEY			

NC-SI Connector

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

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/manuals/>.

SAS and SATA Ports

This motherboard has two slimSAS connectors located at JS1 and JS2. They can support either six SAS (SAS0-5) for X12SPT-GC or six SATA (SATA0-SATA5) for X12SPT-G. X12SPT-GC will provide SAS3808 controller on board to support SAS.

TPM/Port 80 Header

A Trusted Platform Module (TPM)/Port 80 header (AOM-TPM-9670V-O) 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. Please 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#

4.3 Input/Output Ports

See Figure 4-1 below for the locations and descriptions of the various I/O ports on the rear of the motherboard.

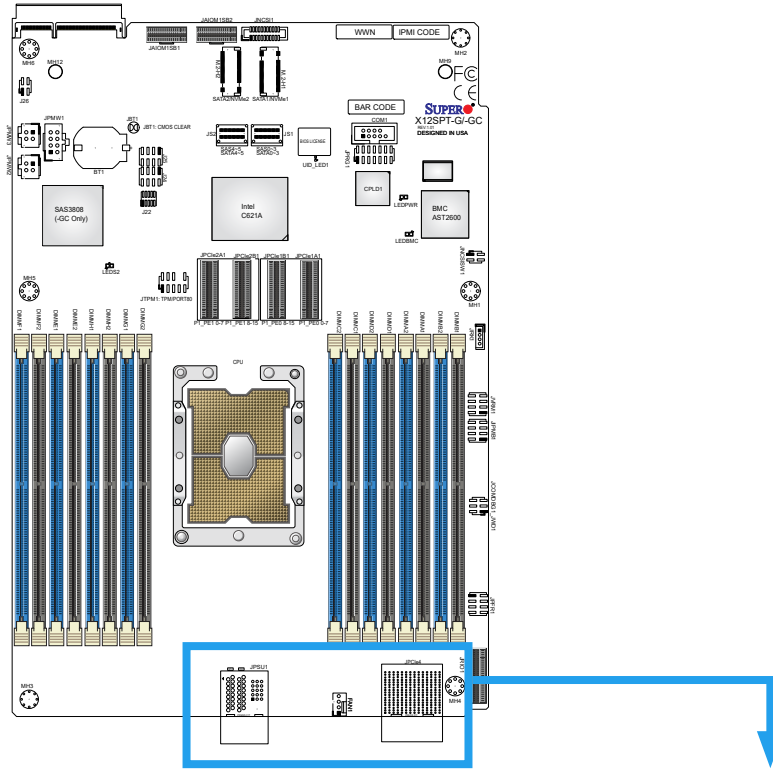
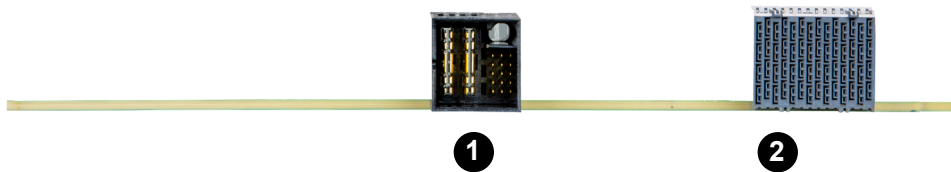


Figure 4-1. I/O Port Locations and Definitions



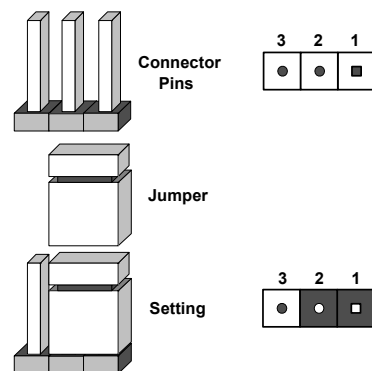
Rear I/O Ports	
#	Description
1	JPSU1
2	JPCIE4

4.4 Jumpers

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 square solder pad on the printed circuit board. Refer to 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.



CMOS Clear

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

To Clear CMOS

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

Note 1: Clearing CMOS will also clear all passwords.

Do not use the PW_ON connector to clear CMOS.



VRM SMBus Jumper

JVRM1 is a voltage regulator module (VRM) SMBus jumper. Use this jumper to configure the CPU and memory VRM controllers. Setting JVRM1 to pins 1-3 and 2-4 will configure the BMC as the VRM controller. Setting JVRM1 to pins 3-5 and 4-6 will configure the PCH as the VRM controller. Refer to the table below for pin definitions.

VRM SMBus Jumper Pin Definitions			
Pin#	Definition	Pin#	Definition
1	SMBDAT_VRM	2	SMBCLK_VRM
3	SDA_VRM	4	SCL_VRM
5	PCH_SMBDAT	6	PCH_SMBCLK
7	Ground	8	Ground

4.5 LED Indicators

BMC Heartbeat LED

LEDBMC 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

Onboard Power LED

LEDPWR is the onboard Power LED. When this LED is on, the system is on. Turn off the system and unplug the power cord before removing or installing components. Refer to the table below for more information.

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

SAS Error LED

LEDS2 is the SAS Error LED. When the LED is solid red, there is an error with the SAS. Refer to the table below for the LED status.

BMC Heartbeat LED	
LED Color	Definition
Red: Solid	SAS Error

Unit Identifier (UID) LED Indicator

A Unit Identifier (UID) LED indicator is located on the motherboard. The UID Indicator provides easy identification of a system unit that may be in need of service.

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), configure RAID settings and install the drivers.

5.1 Microsoft Windows OS Installation

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

Installing the OS

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

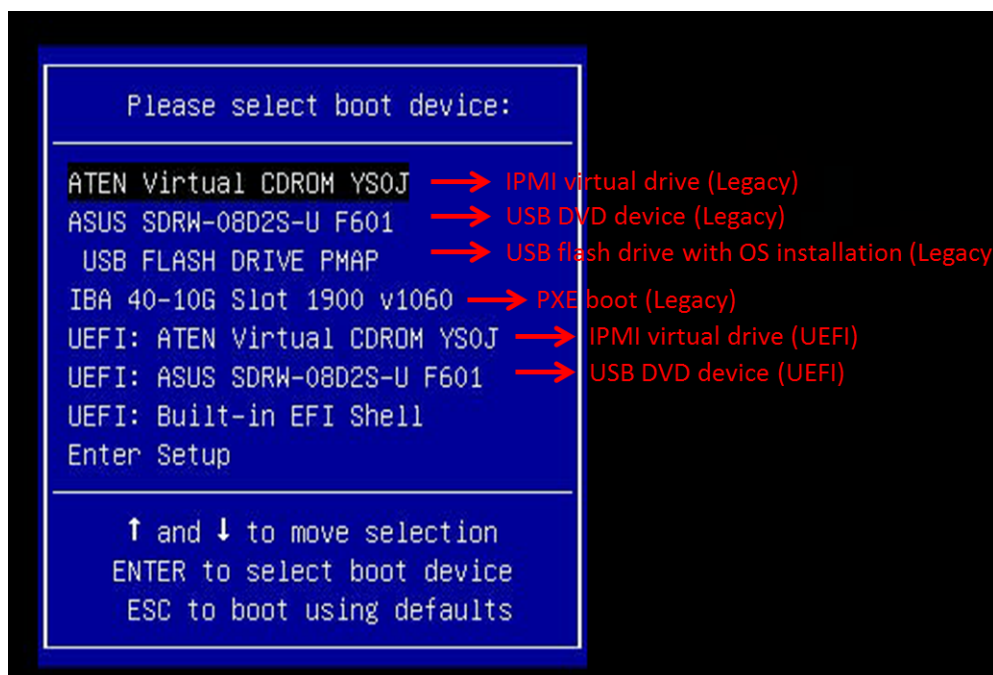


Figure 5-1. Select Boot Device

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

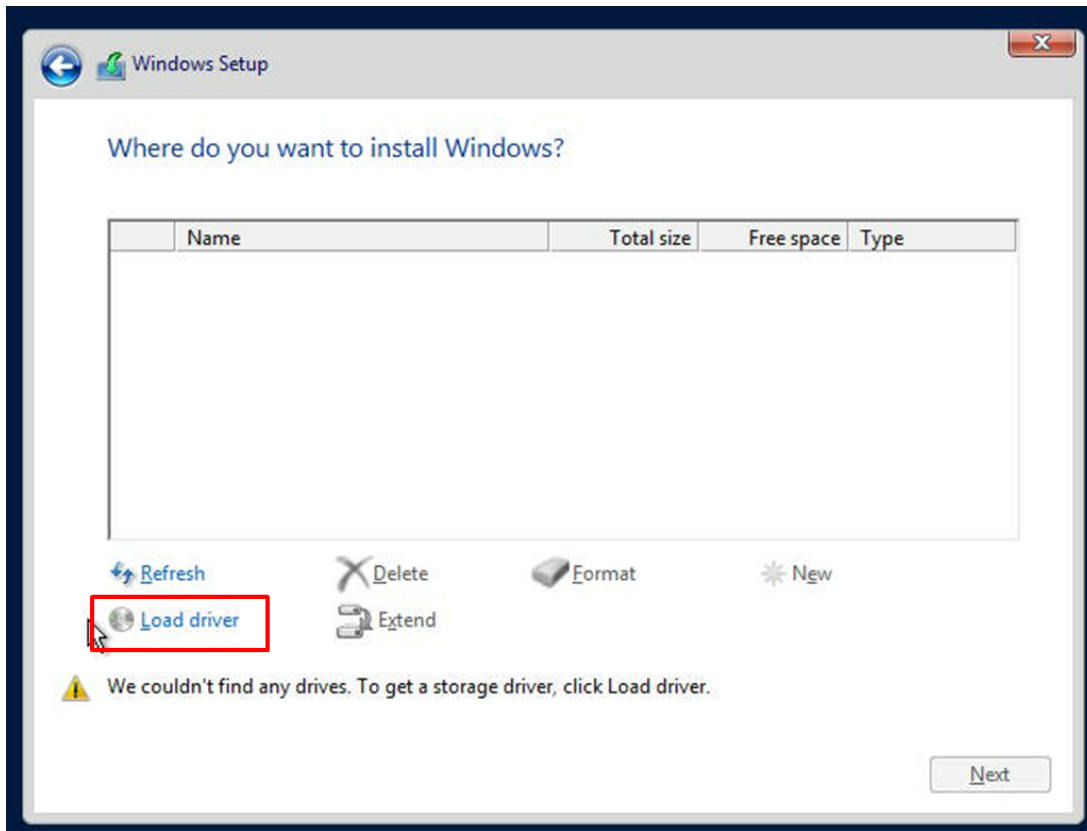


Figure 5-2. Load Driver Link

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

- For RAID, choose the SATA/sSATA RAID driver indicated then choose the storage drive on which you want to install it.
 - For non-RAID, choose the SATA/sSATA AHCI driver indicated then choose the storage drive on which you want to install it.
5. Once all devices are specified, continue with the installation.
 6. After the Windows OS installation has completed, the system will automatically reboot multiple times.

5.2 Driver Installation

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

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

Another option is to go to the Supermicro website at <http://www.supermicro.com/products/>. Find the product page for your motherboard, and "Download the Latest Drivers and Utilities".

Insert the flash drive or disk and the screenshot shown below should appear.

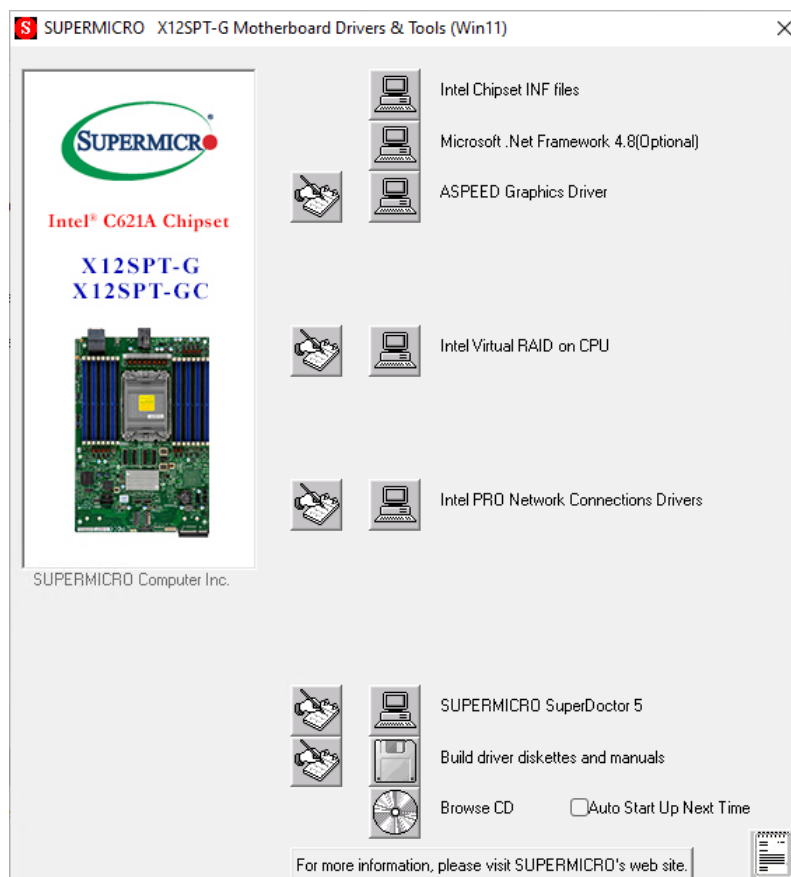


Figure 5-3. Driver & Tool Installation Screen

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

5.3 SuperDoctor® 5

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

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

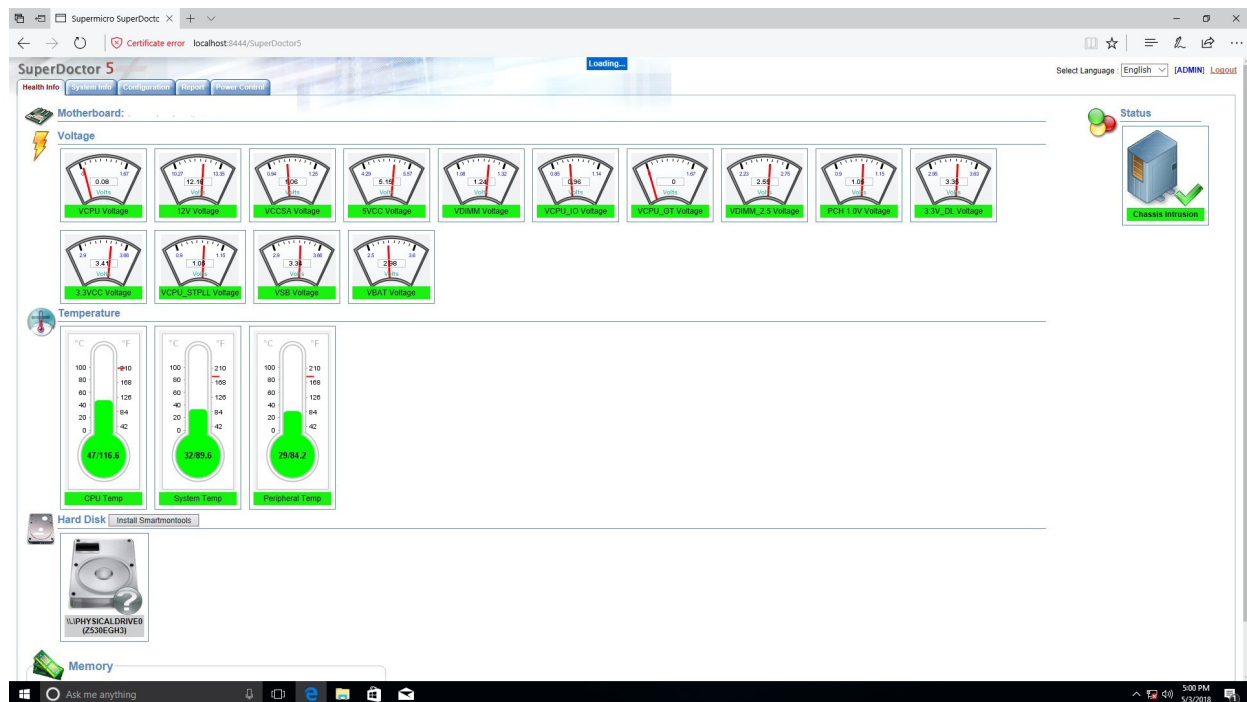


Figure 5-4. SuperDoctor 5 Interface Display Screen (Health Information)

5.4 IPMI

The 10th Generation Intel Xeon, Core™ i3, Pentium, Celeron supports the Intelligent Platform Management Interface (IPMI). IPMI is used to provide remote access, monitoring and management. There are several BIOS settings that are related to IPMI.

Supermicro ships standard products with a unique password for the BMC ADMIN user. This password can be found on a label on the motherboard. For general documentation and information on IPMI, please visit our website at [https://www.supermicro.com/en/support/BMC_Unique_Password.BMC ADMIN User Password](https://www.supermicro.com/en/support/BMC_Unique_Password.BMC_ADMIN_User_Password).

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
M.2 NVMe HW RAID Controller Card	AOC-SMG3-2M2-B	1

Please refer to [AOC-SMG3-2M2-B manual](#) for steps to install the expansion card.

Chapter 7

Troubleshooting and Support

7.1 Information Resources

Website

A great deal of information is available on the Supermicro [website](#).

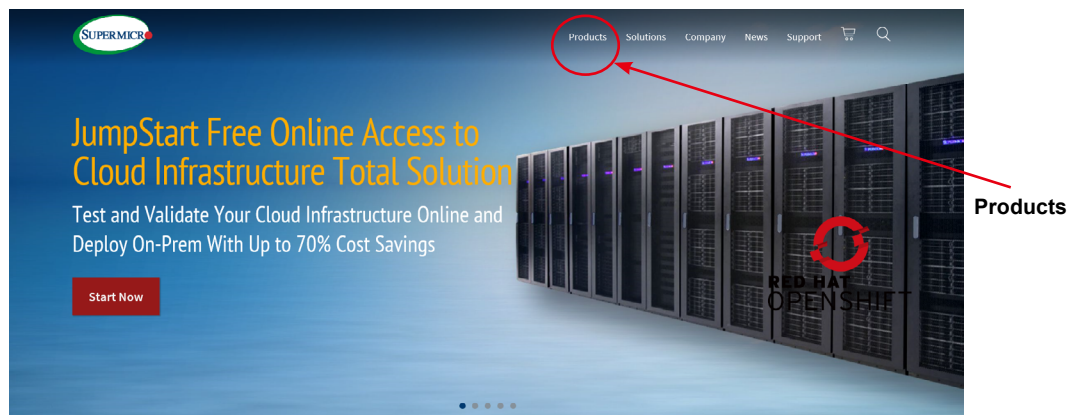


Figure 7-1. Supermicro Website

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

Direct Links for the SYS-210GT-H Series System

[SYS-210GT-H Series specifications page](#)

[X12SPT-G/-GC motherboard page](#) for links to the Quick Reference Guide, User Manual, validated storage drives, etc.

Direct Links for General Support and Information

[Frequently Asked Questions](#)

[Add-on card descriptions](#)

[TPM User Guide](#)

[General Memory Configuration Guide: X12](#)

[IPMI User Guide](#)

Direct Links (continued)

[SuperDoctor5 Large Deployment Guide](#)

For validated memory, use our [Product Resources page](#)

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

[Security Center](#) for recent security notices

[Supermicro Phone and Addresses](#)

7.2 Baseboard Management Controller (BMC)

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

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

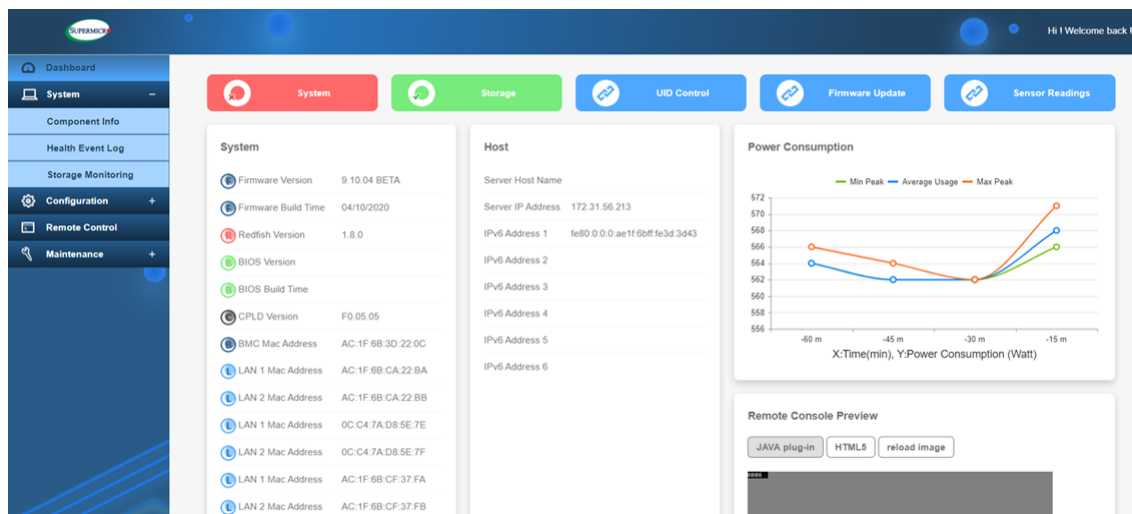


Figure 7-2. BMC Sample

7.3 Troubleshooting Procedures

Use the following procedures to troubleshoot your system. If you have followed all of the procedures below and still need assistance, refer to the [Technical Support Procedures](#) 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. Check that the power LED on the motherboard is on.
2. Make sure that the power connector is connected to your power supply.

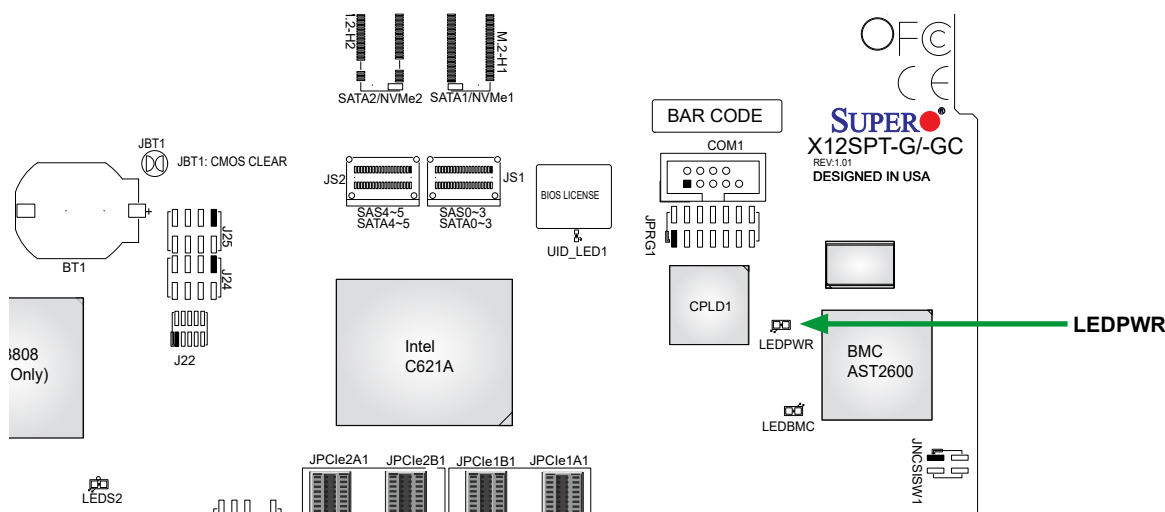


Figure 7-3. Location of the MB Power LED

3. Make sure that no short circuits exist between the motherboard and chassis.
4. Disconnect all cables from the motherboard, including those for the keyboard and mouse.
5. Remove all add-on cards.
6. Install a CPU, a heatsink, connect the internal speaker (if applicable), and the power LED to the motherboard. Make sure that the heatsink is fully seated.
7. Use the correct type of onboard CMOS battery as recommended by the manufacturer. Check to verify that it still supplies approximately 3VDC. If it does not, replace it with a new one. **Warning:** To avoid possible explosion, do not install the battery upside down.
8. Verify that all jumpers are set to their default positions.
9. Check that the power supplies' input voltage operate at 100-120V or 180-240V.
10. Turn the power switch on and off to test the system

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 3.4 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. Make sure that you are using a high-quality power supply. A poor-quality power supply may cause the system to lose the CMOS setup information. Refer to Chapter 2 for details on recommended power supplies.
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. Storage drives: Make sure that all storage drives work properly. Replace 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 7.3](#) 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. The BMC manual is available at <https://www.supermicro.com/en/solutions/management-software/bmc-resources>.

Check BMC Error Log

1. Access the BMC web interface.

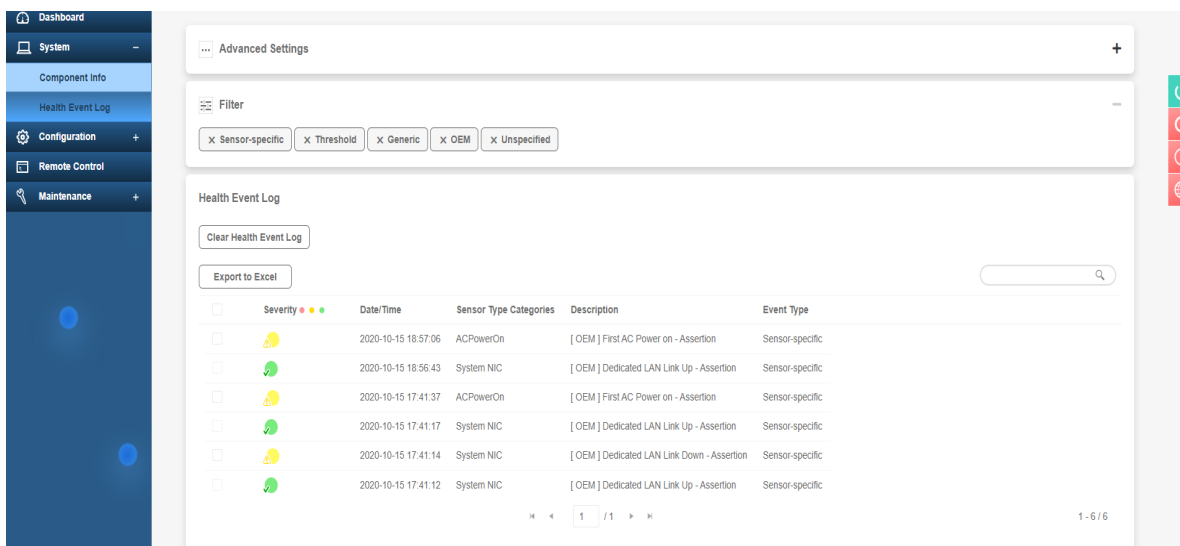


Figure 7-4. BMC Event Log

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

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 or media drive can be used for this purpose. However, a USB Hard Disk drive cannot be used for BIOS recovery at this time.

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

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

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

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

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

2. Insert the USB device that contains the new BIOS image ("Super.ROM") into your USB drive and reset the system when the following screen appears.
3. After locating the healthy BIOS binary image, the system will enter the BIOS Recovery menu as shown below.

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

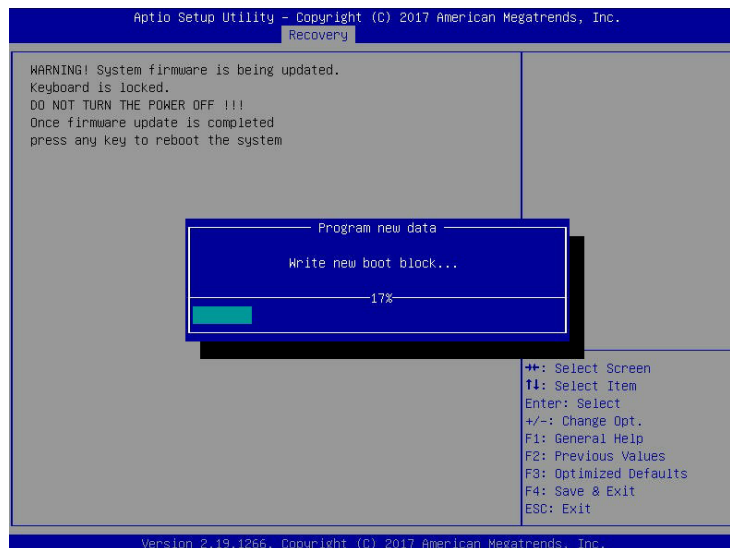


- When the screen as shown above displays, use the arrow keys to select the item "Proceed with flash update" and press the <Enter> key. You will see the BIOS recovery progress as shown in the screen below.

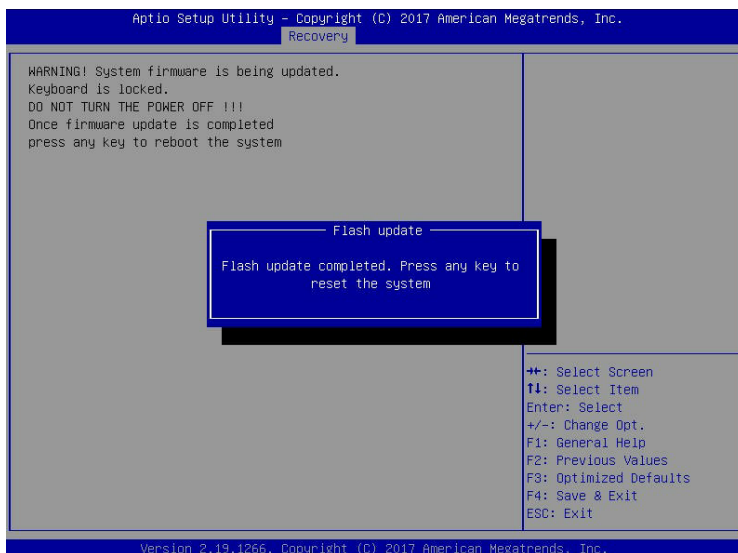


Note: Do not interrupt the BIOS flashing process until it has completed.

- After the BIOS recovery process is complete, press any key to reboot the system.
- Using a different system, extract the BIOS package into a USB flash drive.
- Press 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.

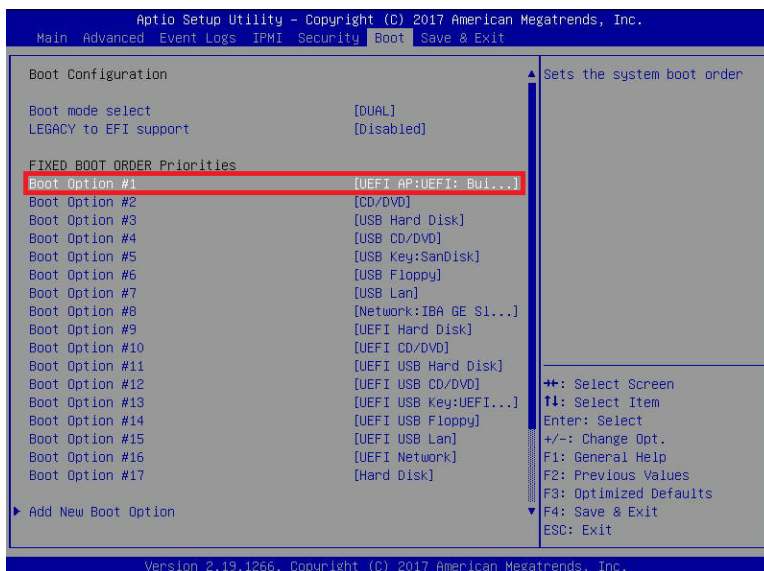


8. When the UEFI Shell prompt appears, type `fs#` to change the device directory path. Go to the directory that contains the BIOS package you extracted earlier from Step 6. Enter `flash.nsh BIOSname.###` at the prompt to start the BIOS update process.



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 `` continuously to enter the BIOS Setup utility.



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

```

UEFI Interactive Shell v2.1
EDK II
UEFI v2.50 (American Megatrends, 0x0005000C)
Mapping table
  FS0: Alias(s):HD0r0b::BLK1:
        PciRoot(0x0)/Pci(0x14,0x0)/USB(0x11,0x0)/HD(1,MBR,0x37901D72,0x800,0x1
CA3592)
  BLK0: Alias(s):
        PciRoot(0x0)/Pci(0x14,0x0)/USB(0x11,0x0)
Press ESC in 1 seconds to skip startup.nsh or any other key to continue.
Shell> fs0:
FS0:\> cd AFUDDS
FS0:\AFUDDS\> cd SWJPM2_03162017
FS0:\AFUDDS\SWJPM2_03162017\> flash.nsh X11DPU7.314_

```

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

```

Done.
[ Access Cmos Port Ex ]
<Read>
Index 0x51: 0x18

Done.
*****
*
* Program BIOS and ME (including FDT) regions...
*
*****
-----
|          AMI Firmware Update Utility v5.09.01.1317          |
|          Copyright (C)2017 American Megatrends Inc. All Rights Reserved.          |
-----
CPUID = 50652

Reading flash ..... done
- ME Data Size checking .ok
- FFS checksums ..... ok
- Check RomLayout ..... Ok.
Erasing Boot Block ..... done
Updating Boot Block ..... done
Verifying Boot Block ..... done
_Erasing Main Block ..... 0x00132000 (0%)

```

```

Verifying NCB Block ..... done
- Update success for FDR
- Update success for IE. -
- Successful Update Recovery Loader to DPRx!!
- Successful Update MFSB!!-
- Successful Update FTFR!!-
- Successful Update MFS, IVB1 and IVB2!!
- Successful Update FLOG and UTK!!
- ME Entire Image update success !!
WARNING : System must power-off to have the changes take effect!
Moving FS0:\AFUDDS\SWJPM2_03162017\fdt:x64.efi -> FS0:\AFUDDS\SWJPM2_03162017\fdt.smc
- [ok]
Moving FS0:\AFUDDS\SWJPM2_03162017\afuefix64.efi -> FS0:\AFUDDS\SWJPM2_03162017\afuefi.smc
- [ok]
*****
* Please ignore this 'Shell: Cannot read from file - Device Error'
* warning message due to it does not impact flashing process.
*
*****
Deleting 'FS0:\Startup.nsh'
Delete successful.
FS0:\> _

```

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 node from the chassis** to access the motherboard.
3. **Remove the onboard battery** from the motherboard.
4. Short the CMOS pads with a metal object such as a small screwdriver for at least four seconds.
5. Remove the screwdriver or shorting device.
6. Re-install the battery.
7. Replace the cover, reconnect the power cords and power on the system.

Notes: Clearing CMOS will also clear all passwords.

Do not use the PW_ON connector to clear CMOS.



JBT1 contact pads

7.7 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

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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。

此警告符号代表危險。

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

此警告符號代表危險。

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

Warnung

WICHTIGE SICHERHEITSHINWEISE

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

BEWAHREN SIE DIESE HINWEISE GUT AUF.

INSTRUCCIONES IMPORTANTES DE SEGURIDAD

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

GUARDE ESTAS INSTRUCCIONES.

IMPORTANTES INFORMATIONS DE SÉCURITÉ

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

CONSERVEZ CES INFORMATIONS.

תקנון הזהרות אזהרה

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

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

안전을 위한 주의사항

경고!

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

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

BELANGRIJKE VEILIGHEIDSINSTRUCTIES

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

BEWAAR DEZE INSTRUCTIES

Installation Instructions



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

設置手順書

システムを電源に接続する前に、設置手順書をお読み下さい。

警告

将此系统连接电源前,请先阅读安装说明。

警告

將系統與電源連接前，請先閱讀安裝說明。

Warnung

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

¡Advertencia!

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

Attention

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

יש לקרוא את הוראות התקנה לפני חיבור המערכת למקור מתח.

اقر إرشادات التركيب قبل توصيل النظام إلى مصدر للطاقة

시스템을 전원에 연결하기 전에 설치 안내를 읽어주십시오.

Waarschuwing

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

Circuit Breaker

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

サーキット・ブレーカー

この製品は、短絡(過電流)保護装置がある建物での設置を前提としています。

保護装置の定格が250 V、20 Aを超えないことを確認下さい。

警告

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

警告

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

Warnung

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

¡Advertencia!

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

Attention

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

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

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

경고!

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

Waarschuwing

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

Power Disconnection Warning



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

אזהרה מפני ניתוק חשמלי

אזהרה!

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

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

انصل إلى امناطق انداخييت نههيكم نشييج أو إزانت مكناث الجهاز

경고!

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

Waarschuwing

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

Equipment Installation



Warning! Only 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 انحدة نترك بها ف مناطق محظورة تم .

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

경고!

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

Waarschuwing

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

Battery Handling



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

電池の取り扱い

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

警告

電池更換不當會有爆炸危險。請只使用同類電池或制造商推荐的功能相当的電池更換原有電池。請按制造商的說明處理廢舊電池。

警告

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

Warnung

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

Attention

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

¡Advertencia!

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

אזהרה!

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

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

경고!

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

Waarschuwing

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

Redundant Power Supplies



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

冗長電源装置

このユニットは複数の電源装置が接続されている場合があります。

ユニットの電源を切るためには、すべての接続を取り外さなければなりません。

警告

此部件连接的电源可能不止一个，必须将所有电源断开才能停止给该部件供电。

警告

此装置连接的电源可能不只一个，必须切断所有电源才能停止对该装置的供电。

Warnung

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

¡Advertencia!

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

Attention

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

אם קיים יותר מספק אחד

אזהרה!

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

قد يكون لهذا الجهاز عدة اتصالات بوحدات امداد الطاقة .

يجب إزالة كافة الاتصالات لعسل الوحدة عن الكهرباء

경고!

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

Waarschuwing

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

Backplane Voltage



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

バックプレーンの電圧

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

修理する際には注意ください。

警告

当系统正在进行时，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 من التيار الكهربائي أو الطاقة المتجددة على اللوحة
عندما يكون النظام يعمل كه حذرا عند خدمة هذا الجهاز

경고!

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

Waarschuwing

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

Comply with Local and National Electrical Codes



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

地方および国の電気規格に準拠

機器の取り付けはその地方および国の電気規格に準拠する必要があります。

警告

设备安装必须符合本地与本国电气法规。

警告

設備安裝必須符合本地與本國電氣法規。

Warnung

Die Installation der Geräte muss den Sicherheitsstandards entsprechen.

¡Advertencia!

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

Attention

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

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

تركيب المعدات الكهربائية يجب أن يمتثل للقوايه المحلية والبطية المتعلقة
بالكهرباء

경고!

현 지역 및 국가의 전기 규정에 따라 장비를 설치해야 합니다.

Waarschuwing

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

Product Disposal



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

製品の廃棄

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

警告

本产品的废弃处理应根据所有国家的法律和规章进行。

警告

本產品的廢棄處理應根據所有國家的法律和規章進行。

Warnung

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

¡Advertencia!

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

Attention

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

סילוק המוצר

אזהרה!

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

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

경고!

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

Waarschuwing

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

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。

Warnung

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

¡Advertencia!

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

Attention

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

אזהרה!

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

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

경고!

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

Waarschuwing

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

Power Cable and AC Adapter



Warning! When installing the product, use the provided or designated connection cables, power cables and AC 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 Adapter, die Ihre örtlichen Sicherheitsstandards einhalten. Der Gebrauch von anderen Kabeln und Adapter können Fehlfunktionen oder Feuer verursachen. Die Richtlinien untersagen das Nutzen von UL oder CAS zertifizierten Kabeln (mit UL/CSA gekennzeichnet), an Geräten oder Produkten die nicht mit Supermicro gekennzeichnet sind.

¡Advertencia!

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

Attention

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

AC ימאתמו מיי למשח מילבכ

!הרהזא

ךרוצל ומאתוה וא ושכרנ רשא AC מיימאתמו מיקפס, מילבכב שמתשהל שי, רצומה תא מיניקתמ רשאכ לכב שומיש . עקתהו לבכה לש הנוכח הדימ ללוכ, תוימוקמה תוחיטבה תושירדל ומאתוה רשאו, הנקתהה למשחה ירישכמב שומישה יקוחל מאתהב. ילמשח רצק וא הלקתל מורגל לולע, רחא גוסמ מאתמ וא לבכ לש דוק מהילע עיפומ רשאכ) UL-ב או CSA-ב -ב מיכמומה מילבכב שמתשהל רוסיא מייק, תוחיטבה יקוחו דבלב Supermicro י"ע מאתוה רשא רצומב קר אלא, רחא ילמשח רצומ לכ רובע (UL/CSA)

תאלבאלא אארשב מץ וא אדדחמלא וא ארפוטמלא תאליטוטלא מאדחטסאב מץ, אגתנמלא בייקרת דנע לכלז יפ אמב אילחמלא אמאלסלא תאבלטתמו נינאווקב מאזתלאלא אמ דדרתמלא ראיטלא תאלוחמו אילברמלא קיירח וא לטע יפ בבסטטי דץ ירשא תאלוחמו תאלבאלא יא מאדחטסא. מילסלא סבאלאו לטומוא מץ ח. CSA וא UL לביק נמ אדמאמלא תאלבאלא מאדחטסא תאדמלא אילברמלא אזהאלל אמאלסלא נונאק רזחי Supermicro לביק נמ אדדחמלא אילחמלא תאגתנמלא רייג ירשא תאדמא יא אמ (UL/CSA) אמאלע למחתיטלאו

전원 케이블 및 AC 어댑터

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

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

Stroomkabel en AC-Adapter

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

Appendix B

System Specifications

Processors (per node)

Supports a 3rd Generation Intel Xeon Scalable Processor (Socket P+) with up to 40 cores and a thermal design power (TDP) of 270W

Chipset

Intel PCH C621A (LBG-R)

BIOS

- 256Mb SPI AMI® BIOS
- ACPI 6.0, Plug and Play (PnP), BIOS rescue hot-key, riser card auto detection support, and SMBIOS 3.0 or later
- Super Flash
- SPI dual/quad speed support
- Riser Card auto detection support
- Real Time Clock (RTC) wakeup

Memory (per node)

Eight channel memory, 16 DIMMs

Up to DDR4-3200MHz, ECC, RDIMM (3DS), LRDIMM (3DS)

Storage Drives (per node)

Front hot-swappable drives:

Supports up to four SATA/SAS/NVMe drives depending on selected enablement kits.

M.2 drives:

Two M.2 in 2280 (PCIe3.0 x4 & SATA)

Internal connector:

VROC key header

Networking (per node)

Optional one AIOM network interface card

Input/Output (per node)

Each GrandTwin I/O module integrates a network solution and the I/O ports, including:

Two USB 3.0 ports

One VGA port

One BMC Network port

Motherboard (per node)

X12SPT-G/-GC 12.08" (W) x 8.52" (L) ATX (306.83mm x 216.41mm), proprietary FF

Chassis

CSE-GT214BF-R2K21BP; 2U rackmount; (WxHxD) 17.67" x 3.46" x 28" (449 x 88 x 711.2 mm)

System Cooling

Two 8-cm mid chassis fans

One CPU heatsink per node

One fan integrated inside the power supply

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, 2200W redundant module, 80Plus Titanium level

AC Input Voltages: 100-240 VAC

Rated Input Current:

1200W: 100-127Vac

1800W: 200-220Vac

1980W: 220-230Vac

2090W: 230-240Vac (TUV/CB)

2200W: 220-240Vac (WL/cUL only)

2090W: 180-220Vac (UL/cUL only)

2090W: 230-240Vdc (CCC only)

Rated Input Frequency: 50-60 Hz

Rated Output Power: +12 V

Max: 100A / Min: 0A (100-127Vac)

Max: 150A / Min: 0A (200-220Vac)

Max: 165A / Min: 0A (220-230Vac)

Max: 174.17A / Min: 0A (230-240Vac)

Max: 174.17A / Min: 0A (180-220Vac, UL/cUL only)

Max: 183.33A / Min: 0A (220-240Vac, UL/cUL only)

Max: 174.17A / Min: 0A (230-240Vdc, CCC only)

Standby +12Vsb: Max: 2.1A / Min: 0A

Operating Environment

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

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

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

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

Regulatory Compliance

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

Applied Directives, Standards

EMC/EMI: 2014/30/EU (EMC Directive)
Electromagnetic Compatibility Regulations 2016
FCC Part 15
ICES-003
VCCI-CISPR 32
AS/NZS CISPR 32
BS/EN 55032
BS/EN 55035
CISPR 32
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)
Electrical Equipment (Safety) Regulations 2016
UL/CSA 62368-1 (USA and Canada)
IEC/EN 62368-1

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

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

Perchlorate Warning

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

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

VCCI – A

BSMI/RoHS

限用物質含有情況標示聲明書

Declaration of the Presence Condition of the Restricted Substances Marking

設備名稱: 伺服器 / Server Equipment name						
型號 (型式) : GT214BF-R22X12 (系列型號: GT214BF-4N, SYS-210GT-HNTF, SYS-210GT-HNC8F) Type designation (Type)						
單元 Unit	限用物質及其化學符號 Restricted substances and its chemical symbols					
	鉛Lead (Pb)	汞Mercury (Hg)	鎘Cadmium (Cd)	六價鉻 Hexavalent chromium (Cr ⁺⁶)	多溴聯苯 Polybrominated biphenyls (PBB)	多溴二苯醚 Polybrominated diphenyl ethers (PBDE)
機殼 (Chassis)	○	○	○	○	○	○
機殼風扇 (Chassis Fan)	—	○	○	○	○	○
線材 (Cable)	○	○	○	○	○	○
主機板 (Motherboard)	—	○	○	○	○	○
電源供應器 (Power Supply)	—	○	○	○	○	○
硬碟 (SSD)	—	○	○	○	○	○
附加卡 (Add-on card)	—	○	○	○	○	○
備考1. “超出0.1 wt %” 及 “超出0.01 wt %” 係指限用物質之百分比含量超出百分比含量基準值。 Note 1 : “Exceeding 0.1 wt %” and “exceeding 0.01 wt %” indicate that the percentage content of the restricted substance exceeds the reference percentage value of presence condition.						
備考2. “○” 係指該項限用物質之百分比含量未超出百分比含量基準值。 Note 2 : “○” indicates that the percentage content of the restricted substance does not exceed the percentage of reference value of presence.						
備考3. “—” 係指該項限用物質為排除項目。 Note 3 : The “—” indicates that the restricted substance corresponds to the exemption.						

警告使用者：

此為甲類資訊技術設備，於居住環境中使用時，可能會造成射頻擾動，在此種情況下，使用者會被要求採取某些適當的對策。

輸入額定：

100-127V ~, 60-50Hz, 12-11A (x2)

200-240V ~, 60-50Hz, 10-9.8A (x2)

*使用者不能任意拆除或替換內部配備

*報驗義務人之姓名或名稱：美超微電腦股份有限公司

*報驗義務人之地址：新北市中和區建一路 150 號 3 樓