



SuperServer<sup>®</sup>  
SYS-621P-TR  
SYS-621P-TRT



USER'S MANUAL

Revision 1.0a

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# Preface

## About this Manual

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

Please refer to the SYS-621P-TR/SYS-621P-TRT 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](http://www.supermicro.com/about/policies/safety_information.cfm)

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

[support@supermicro.com](mailto: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/](https://www.supermicro.com/about/policies/disclaimer.cfm?url=/wdl/utility/Lot9_Secure_Data_Deletion_Utility/)

## Warnings

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



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



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

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## **Appendix C System Specifications**

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# Chapter 1

## Introduction

### 1.1 Overview

This chapter provides a brief outline of the functions and features of the SuperServer SYS-621P-TR/SYS-621P-TRT. This system is based on the X13DEI/X13DEI-T motherboard and the CSE-825BTS-R1K23LPP1 chassis. The following provides an overview of the specifications and capabilities.

| System Overview        |                                                                                                                                                                                                                                                                                                                             |
|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Motherboard</b>     | X13DEI (SYS-621P-TR)/X13DEI-T (SYS-621P-TRT)                                                                                                                                                                                                                                                                                |
| <b>Chassis</b>         | CSE-825BTS-R1K23LPP1                                                                                                                                                                                                                                                                                                        |
| <b>Processor</b>       | Dual 5th/4th Generation Intel® Xeon® Scalable processors, up to 300 W TDP in a Socket-E (LGA-4677)                                                                                                                                                                                                                          |
| <b>Memory</b>          | Supports up to 4 TB memory capacity with 16 DIMMs of 256 GB 3DS RDIMM DDR5 5600 MT/s ECC memory                                                                                                                                                                                                                             |
| <b>Storage</b>         | Eight hot-swap 3.5" SATA3 drive bays<br>Optional:<br>Four front NVMe drives<br>Two rear hot-swap SATA3 drives<br>One slim DVD drive bay                                                                                                                                                                                     |
| <b>Expansion Slots</b> | Two PCIe 5.0 x8 slots (low profile)<br>Four PCIe 5.0 x16 slots (low profile)<br>Two PCIe 4.0 x2 M.2 slots (supports M-Key 2280 and 22110)<br>Two PCIe 5.0 x8 MCIO ports (supported by four NVME connections)                                                                                                                |
| <b>I/O Ports</b>       | SYS-621P-TR: Dual 1 G LAN with Broadcom 5720<br>SYS-621P-TRT: Dual 10 G LAN with Broadcom 57416<br>Two COM ports (one front, one rear)<br>One rear VGA port<br>Four rear USB 3.0 ports<br>Two front USB 2.0 ports<br>One TPM 2.0 port<br>One RoT port<br>One dedicated IPMI LAN port<br>Two SuperDOM (Disk on Module) ports |
| <b>System Cooling</b>  | Three 8-cm hot-plug fans<br>One air shroud                                                                                                                                                                                                                                                                                  |
| <b>Power</b>           | Two redundant 1200 W AC-DC modules, 80Plus level Titanium (PWS-1K23A-1R)                                                                                                                                                                                                                                                    |
| <b>Form Factor</b>     | 2U rackmount: (WxHxD) 16.8 x 3.5 x 25.5 in. (427 x 89 x 648 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-621P-TR/SYS-621P-TRT have been certified as compliant with UL or CSA: 825B-12, 825-R12X13, 825B-11, and 825-R11DX13.

## 1.2 System Features

The following views of the system display the main features. Refer to [Appendix C](#) for additional specifications.

### Front View

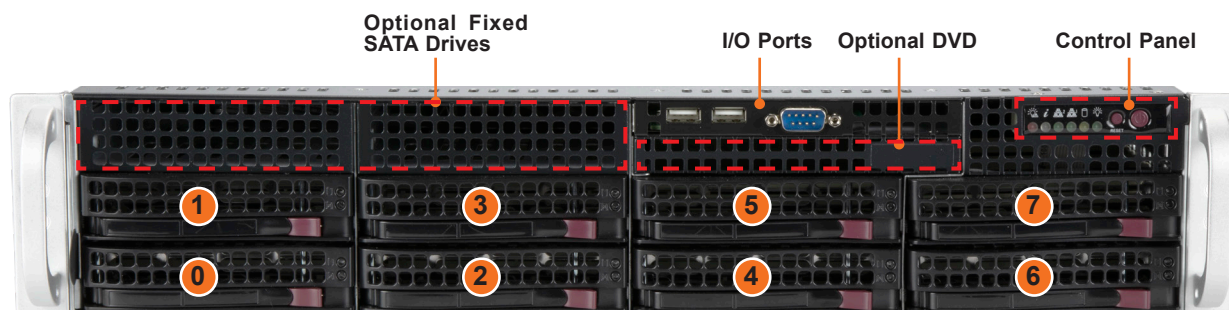


Figure 1-1. Front View

| System Features: Front |                                                               |
|------------------------|---------------------------------------------------------------|
| Feature                | Description                                                   |
| Control Panel          | Front control panel with LEDs and buttons (see the next page) |
| DVD                    | Optional slim DVD drive                                       |
| I/O Ports              | Two USB 2.0 ports and one COM port                            |
| SATA Drives            | Two optional fixed SATA drives                                |

| Storage Drive Numbers |                                         |
|-----------------------|-----------------------------------------|
| Item                  | Description                             |
| 0-3                   | 3.5" hot-swap NVMe/SAS/SATA3 drive bays |
| 4-7                   | 3.5" hot-swap SAS/SATA3 drive bays      |

## Control Panel

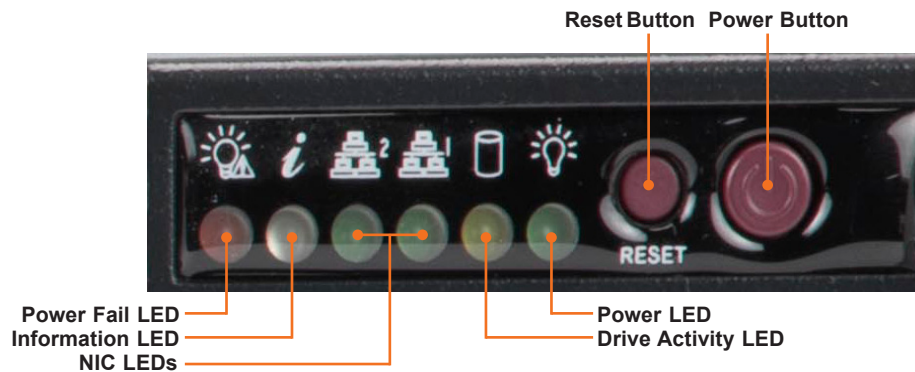


Figure 1-2. Control Panel

| Control Panel Features |                                                                                                                                                                                                                                                                               |
|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Feature                | Description                                                                                                                                                                                                                                                                   |
| Power Fail LED         | When this LED flashes, it indicates a power failure in the power supplies.                                                                                                                                                                                                    |
| Information LED        | Alerts operator to several states, as noted in the table below.                                                                                                                                                                                                               |
| NIC LEDs               | Indicates network activity on LANs when flashing.                                                                                                                                                                                                                             |
| Drive Activity LED     | Indicates activity on the storage drives when flashing.                                                                                                                                                                                                                       |
| Power LED              | Steady on – Power on<br>Blinking at 4 Hz – Checking BIOS/BMC integrity<br>Blinking at 4 Hz and "i" LED is blue – BIOS firmware updating<br>Two blinking at 4 Hz, one pause 2 Hz and "i" LED blue – BMC firmware updating<br>Blinking at 1 Hz and "i" LED red – Fault detected |
| Reset Button           | Reboot the system.                                                                                                                                                                                                                                                            |
| Power Button           | The main power switch applies or removes primary power from the power supplies to the server but maintains standby power. Hold for four seconds to force a shut-down.                                                                                                         |

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

Rear View

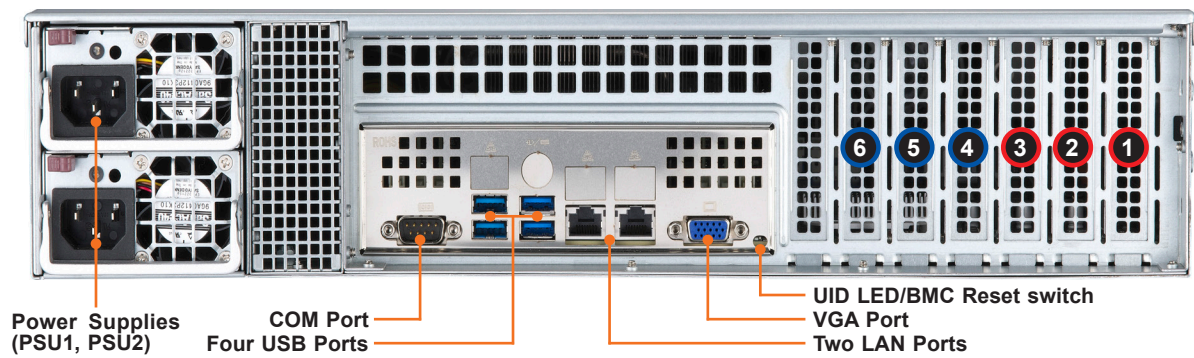


Figure 1-3. System: Rear View

| System Features: Rear    |                                                                                                                                                           |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Feature                  | Description                                                                                                                                               |
| Power Supplies           | Two 1200 W redundant power supplies (PSU1 on top, PSU2 below)                                                                                             |
| COM Port                 | Serial communication port                                                                                                                                 |
| USB Ports                | Four USB 3.0 ports                                                                                                                                        |
| LAN Ports                | SYS-621P-TR: Two 1 G ports<br>SYS-621P-TRT: Two 10 G LAN ports                                                                                            |
| VGA Port                 | One video port                                                                                                                                            |
| UID LED/BMC Reset switch | A switch that can function as either a UID LED switch or a BMC reset switch. See <a href="#">Chapter 4</a> for a description of the dual function switch. |

| Expansion Slot Locations |           |                          |
|--------------------------|-----------|--------------------------|
| Item                     | Slot Name | Description              |
| 1                        | SLOT1     | PCIe 5.0 x8 slot (CPU1)  |
| 2                        | SLOT2     | PCIe 5.0 x16 slot (CPU1) |
| 3                        | SLOT3     | PCIe 5.0 x16 slot (CPU1) |
| 4                        | SLOT4     | PCIe 5.0 x16 slot (CPU2) |
| 5                        | SLOT5     | PCIe 5.0 x16 slot (CPU2) |
| 6                        | SLOT6     | PCIe 5.0 x8 slot (CPU2)  |

CPU1 CPU2



## 1.3 System Architecture

This section covers the system's main component locations.

### Main Component Locations

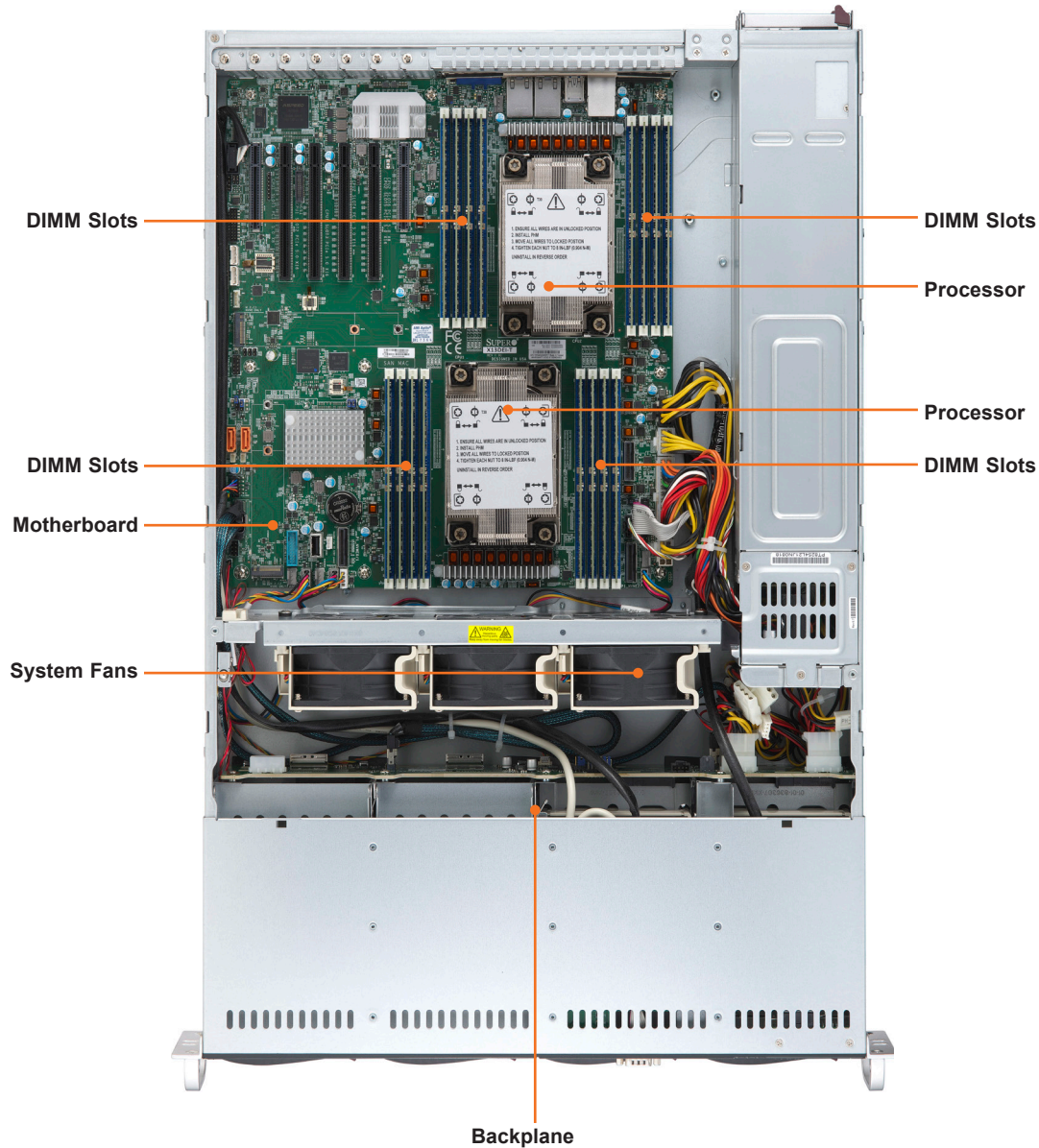


Figure 1-4. Main Component Locations

| System Features: Top |                                                                                  |
|----------------------|----------------------------------------------------------------------------------|
| Feature              | Description                                                                      |
| DIMM Slots           | 16 DDR5 DIMM slots                                                               |
| Processors           | Dual 5th/4th Gen Intel® Xeon® Scalable processors                                |
| Motherboard          | SYS-621P-TR: X13DEI<br>SYS-621P-TRT: X13DEI-T                                    |
| System Fans          | Three interal 8-cm fans, FAN-0206L4                                              |
| Backplane            | 8-port hybrid backplane for 4x SAS4/SATA3 and 4x hybrid device, BPN-SAS4-825A-N4 |

## 1.4 Motherboard Layout

Below is a layout of the X13DEI/X13DEI-T motherboard with the jumper, connector and LED locations shown. See the table on the following page for descriptions. For detailed descriptions, pinout information and jumper settings, refer to [Chapter 4](#) or the [Motherboard Manual](#).

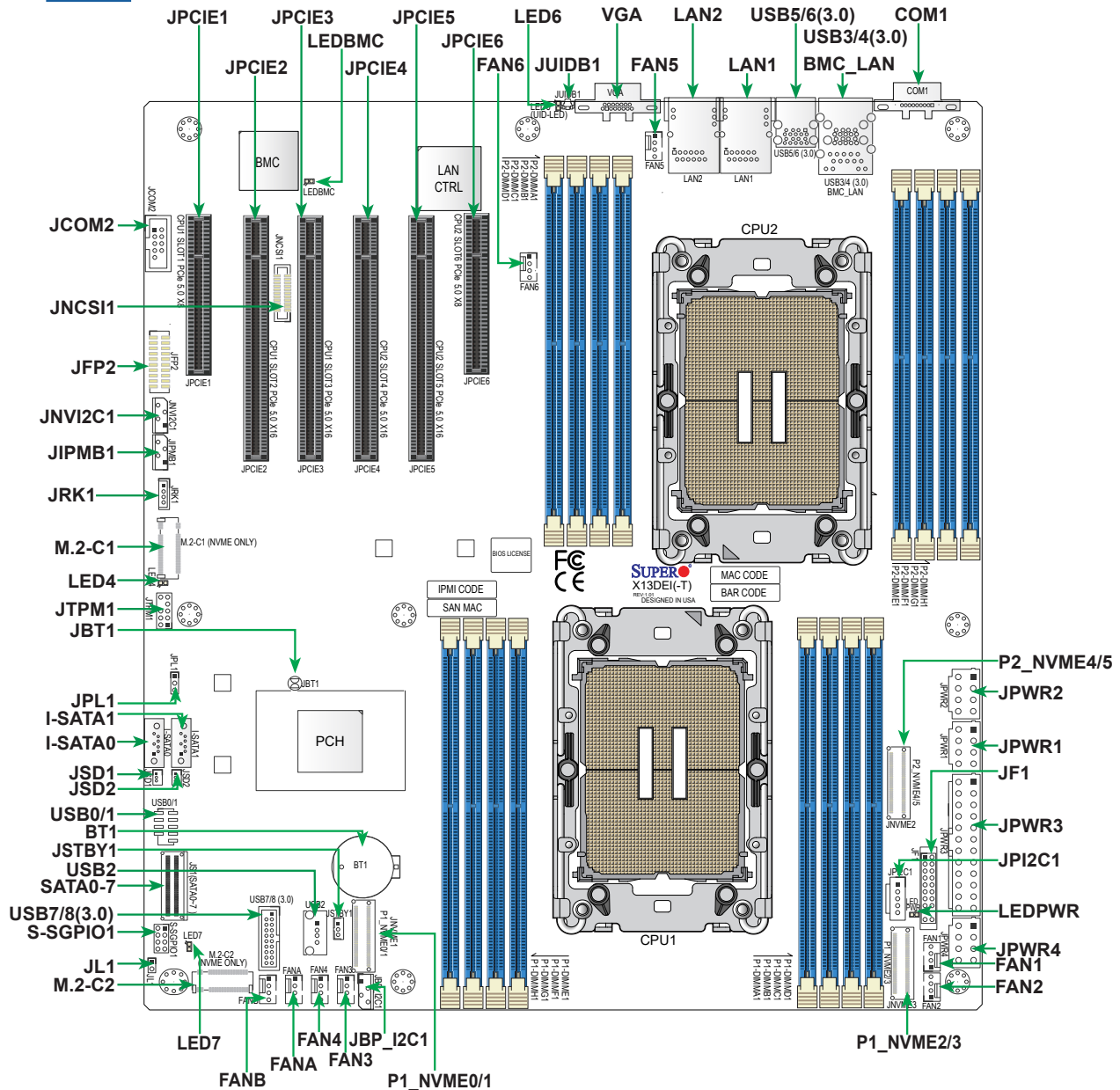


Figure 1-5. Motherboard Layout

### Notes:

- "■" indicates the location of Pin 1.
- Jumpers/LED indicators not indicated are used for testing only.
- Use only the correct type of onboard CMOS battery as specified by the manufacturer. To avoid a possible explosion, do not install the onboard battery upside down.

## Quick Reference Table

| Jumper                                    | Description                                                                                                          | Default Setting                                                                                 |
|-------------------------------------------|----------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| JBT1                                      | CMOS Clear                                                                                                           | Open (Normal)                                                                                   |
| JPL1                                      | LAN1, LAN2 Enable/Disable                                                                                            | Pins 1-2 (Enabled)                                                                              |
| LED                                       | Description                                                                                                          | Status                                                                                          |
| LED4, LED7                                | M.2 LEDs (for M.2-C1, M.2-C2)                                                                                        | Blinking Green: Device Working                                                                  |
| LED6                                      | Unit Identifier (UID) LED                                                                                            | Solid Blue: Unit Identified                                                                     |
| LEDBMC                                    | BMC Heartbeat LED                                                                                                    | Blinking Green: BMC Normal (Active),<br>Solid Green: (During BMC Reset or during a Cold Reboot) |
| LEDPWR                                    | Power LED                                                                                                            | LED On: Onboard Power On                                                                        |
| Connector                                 | Description                                                                                                          |                                                                                                 |
| BT1                                       | Onboard CMOS Battery                                                                                                 |                                                                                                 |
| BMC_LAN                                   | Dedicated BMC LAN Port                                                                                               |                                                                                                 |
| COM1                                      | Rear I/O COM Port                                                                                                    |                                                                                                 |
| FAN1 – FAN6, FANA, FANB                   | CPU/System Fan Headers                                                                                               |                                                                                                 |
| I-SATA0, I-SATA1                          | Intel PCH Powered I-SATA 3.0 Ports with support of SuperDOM devices<br>*DOM: Disk on Module                          |                                                                                                 |
| JBP_I2C1                                  | 4-pin BMC External I <sup>2</sup> C Header (for backplane firmware update if MCIO is not connected to the backplane) |                                                                                                 |
| JCOM2                                     | Front Accessible COM Port Header                                                                                     |                                                                                                 |
| JF1                                       | Front Control Panel Header                                                                                           |                                                                                                 |
| JFP2                                      | Front Accessible VGA Connection Header                                                                               |                                                                                                 |
| JIPMB1                                    | 4-pin BMC External I <sup>2</sup> C Header (for Inlet Temperature Sensor)                                            |                                                                                                 |
| JL1                                       | Chassis Intrusion Header                                                                                             |                                                                                                 |
| JNCSI1                                    | NC-SI (Network Controller Sideband Interface) Connector                                                              |                                                                                                 |
| JNVI2C1                                   | NVMe SMBus I <sup>2</sup> C Header with hot-plug support                                                             |                                                                                                 |
| JPCIE1 (SLOT1),<br>JPCIE6 (SLOT6)         | PCIe 5.0 x8 Slots (SLOT1: supported by CPU1, SLOT6: supported by CPU2)                                               |                                                                                                 |
| JPCIE2/3 (SLOT2/3),<br>JPCIE4/5 (SLOT4/5) | PCIe 5.0 x16 Slots (SLOT2/3: supported by CPU1, SLOT4/5: supported by CPU2)                                          |                                                                                                 |
| JPI2C1                                    | Power System Management Bus (SMBus) I <sup>2</sup> C Header                                                          |                                                                                                 |
| JPWR1, JPWR2, JPWR4                       | 8-pin Power Connectors                                                                                               |                                                                                                 |
| JPWR3                                     | 24-pin ATX Power Connector                                                                                           |                                                                                                 |
| JRK1                                      | Intel VROC Key Header for NVMe RAID support                                                                          |                                                                                                 |
| JS1 (SATA 0 – SATA7)                      | SlimSAS x8 Connector with support of eight Intel PCH SATA 3.0 connections<br>(RAID 0, 1, 5, and 10 supported)        |                                                                                                 |
| JSD1, JSD2                                | SATA DOM Power Connectors                                                                                            |                                                                                                 |

| Connector                                  | Description                                                                                        |
|--------------------------------------------|----------------------------------------------------------------------------------------------------|
| JSTBY1                                     | 5V Standby Power Header                                                                            |
| JTPM1                                      | Trusted Platform Module/Port 80 Header                                                             |
| JUIDB1                                     | Unit Identifier (UID) Switch / BMC Reset Button                                                    |
| LAN1, LAN2                                 | Ethernet LAN (RJ45) Port 1 and Port 2 (1 G LAN support on X13DEI and 10 G LAN support on X13DEI-T) |
| M.2-C1, M.2-C2                             | PCIe 4.0 x2 NVMe M.2 Slots supported by CPU1 (with support of M-Key 2280 and 22110)                |
| P1_NVME0/1 (JNVME1)<br>P1_NVME2/3 (JNVME2) | MCIO x8 Connectors supported by CPU1 with four PCIe 5.0 x4 NVMe connections                        |
| P2_NVME4/5 (JNVME3)                        | MCIO x8 Connector supported by CPU2 with two PCIe 5.0 x4 NVMe connections                          |
| S-SGPIO1                                   | Serial General Purpose I/O Header (for I-SATA0/1 SuperDOM support)                                 |
| USB0/1                                     | USB 2.0 Header with support of two USB connections                                                 |
| USB2                                       | Internal USB 2.0 Vertical Type-A Connector                                                         |
| USB3/4 (3.0)                               | Back Panel USB 3.0 Ports (5 Gbps, Type-A)                                                          |
| USB5/6 (3.0)                               | Back Panel USB 3.0 Ports (5 Gbps, Type-A)                                                          |
| USB7/8 (3.0)                               | USB 3.0 Header with support of two USB connections                                                 |
| VGA                                        | Rear I/O VGA Port                                                                                  |

## Motherboard Block Diagram

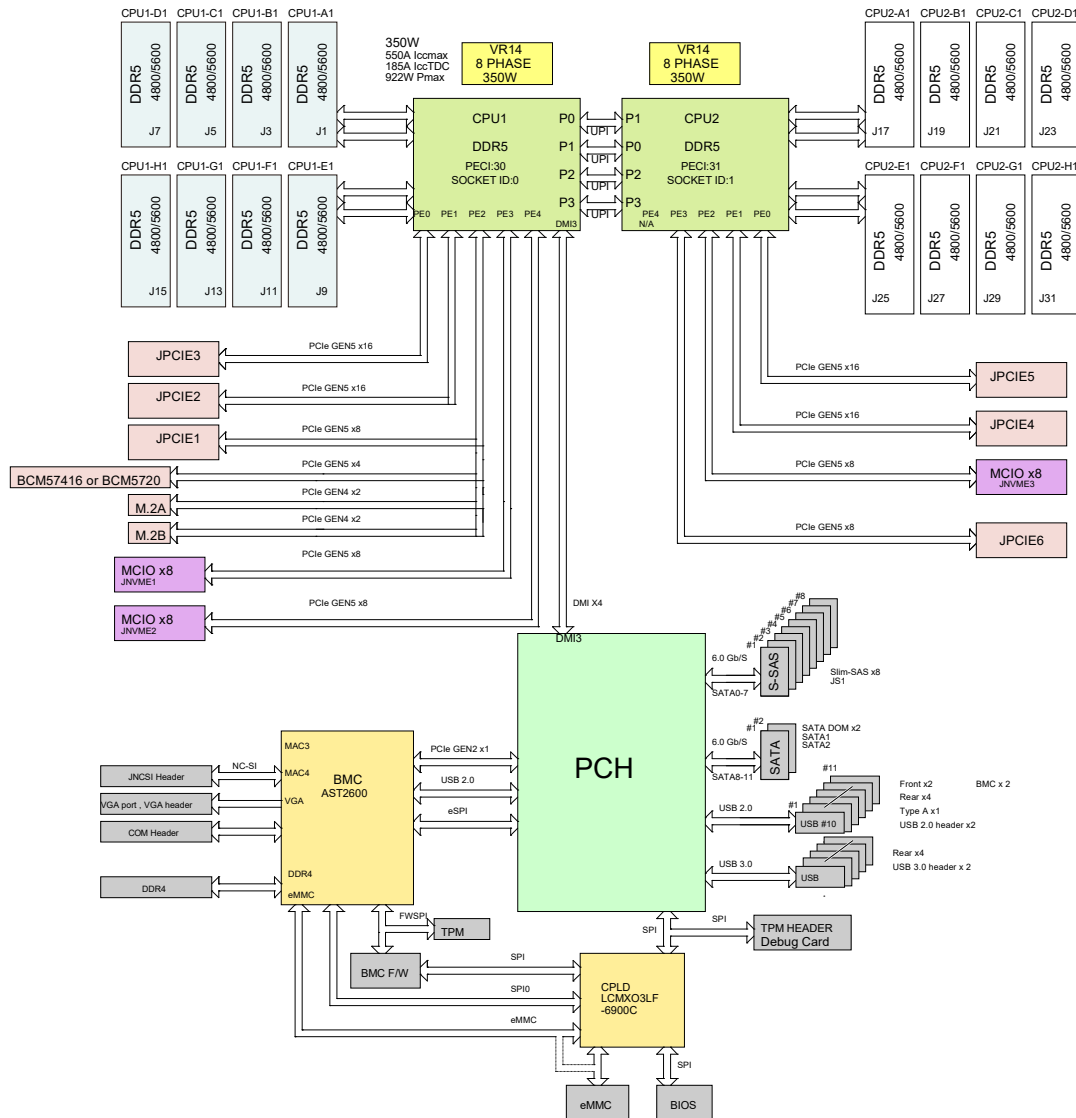


Figure 1-6. Motherboard Block Diagram

# Chapter 2

## Server Installation

### 2.1 Overview

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

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

### 2.2 Unpacking the System

Inspect the box in which the SuperServer SYS-621P-TR/SYS-621P-TRT 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](#) or [Appendix B](#).

### 2.3 Preparing for Setup

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

#### Choosing a Setup Location

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

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

## Rack Precautions

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

## Server Precautions

- Review the electrical and general safety precautions in [Appendix A](#) or [Appendix B](#).
- Determine the placement of each component in the rack *before* you install the rails.
- Install the heaviest server components at the bottom of the rack first and then work your way up.
- Use a regulating uninterruptible power supply (UPS) to protect the server from power surges and voltage spikes and to keep your system operating in case of a power failure.
- Allow any drives and power supply modules to cool before touching them.
- When not servicing, always keep the front door of the rack and all covers/panels on the servers closed to maintain proper cooling.

## Rack Mounting Considerations

### *Ambient Operating Temperature*

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



### ***Airflow***

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

### ***Mechanical Loading***

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

### ***Circuit Overloading***

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

### ***Reliable Ground***

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



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

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

## 2.4 Installing the Rails

This section provides information on installing the SYS-621P-TR/SYS-621P-TRT into a rack unit with the quick-release rails provided. There are a variety of rack units on the market, which may mean the assembly procedure will differ slightly. You should also refer to the installation instructions that came with the rack unit you are using.

**Note:** This rail will fit a rack between 26" and 33.5" deep.

### Separating the Sections of the Rack Rails

The chassis package includes two rail assemblies in the rack mounting kit. Each assembly consists of two sections: an inner fixed chassis rail that secures directly to the server chassis and an outer fixed rack rail that secures directly to the rack itself.

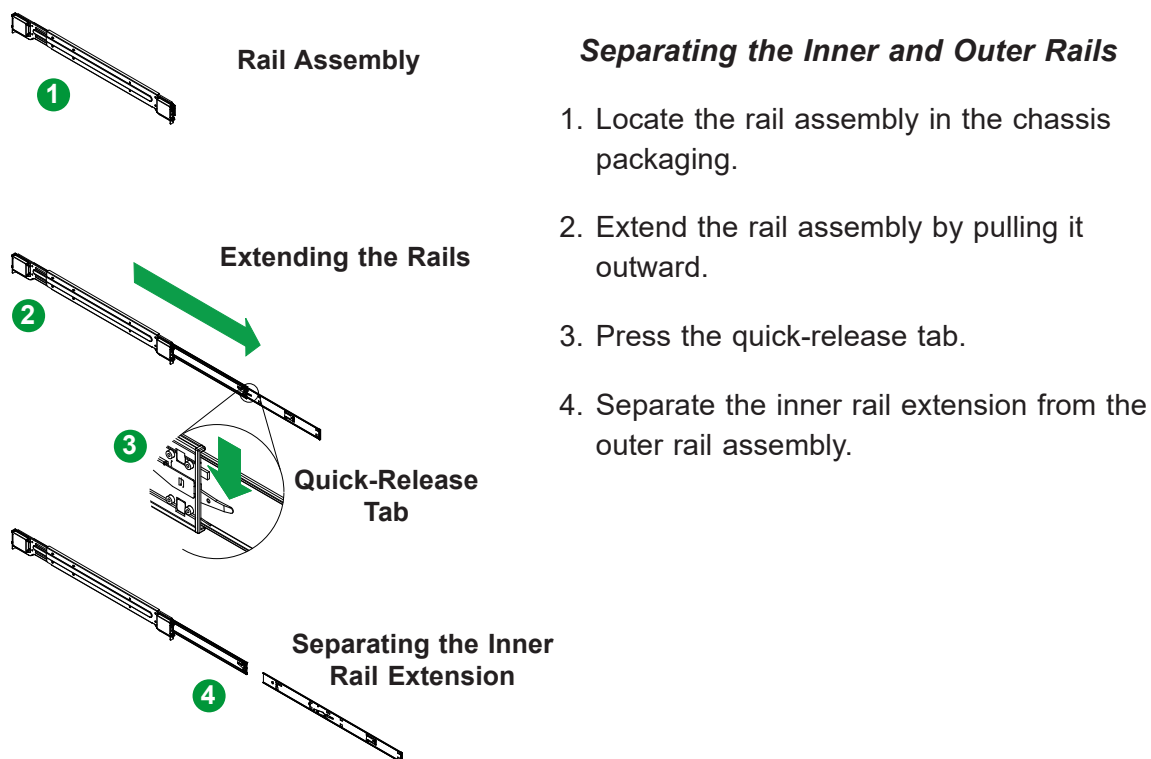


Figure 2-1. Separating the Inner and Outer Rails

The system includes a set of inner rails in two sections: inner rails and inner rail extensions. Inner rail extensions are attached to the inner rails to mount the chassis in the rack.

## Installing the Inner Rails

1. Place the inner rail extensions on the side of the chassis aligning the hooks of the chassis with the rail extension holes. Make sure the extension faces "outward" just like the pre-attached inner rail.
2. Slide the extension toward the front of the chassis.
3. Secure the chassis with two screws as illustrated. Repeat steps for the other inner rail extension.

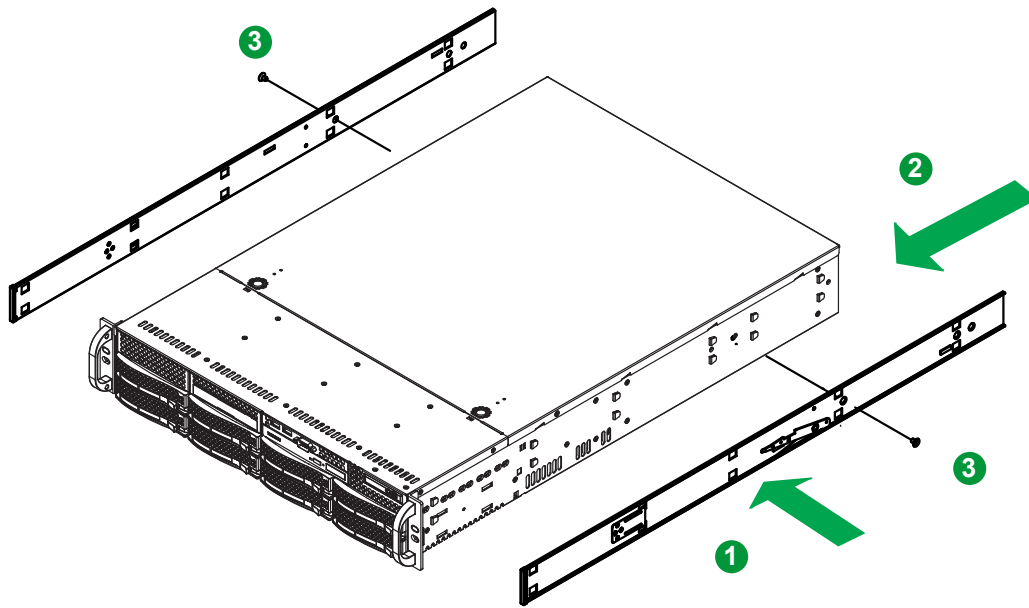


Figure 2-2. Installing the Inner Rails to the System

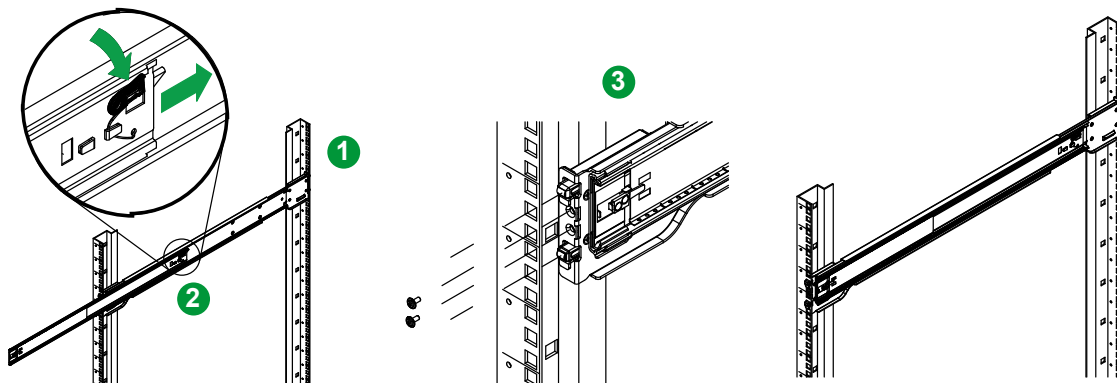


**Warning:** Do not pick up the server with the front handles. They are designed to pull the system from a rack only.

## Installing the Outer Rails onto the Rack

Outer rails attach to the rack and hold the server in place. The outer rails for the SYS-621P-TR/SYS-621P-TRT extend between 30 inches and 33 inches.

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



**Figure 2-3. Installing the Outer Rails to the Rack**

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



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

## 2.5 Installing the Server into a Rack

1. Extend the outer rails as illustrated below.
2. Align the inner rails of the chassis with the outer rails on the rack.
3. Slide the inner rails into the outer rails, keeping the pressure even on both sides. When the chassis has been pushed completely into the rack, it should click into the locked position.
4. Optional screws may be used to secure the front of the chassis to the rack.

**Note:** The figure above is for illustration purposes only. Always install servers to the bottom of the rack first.

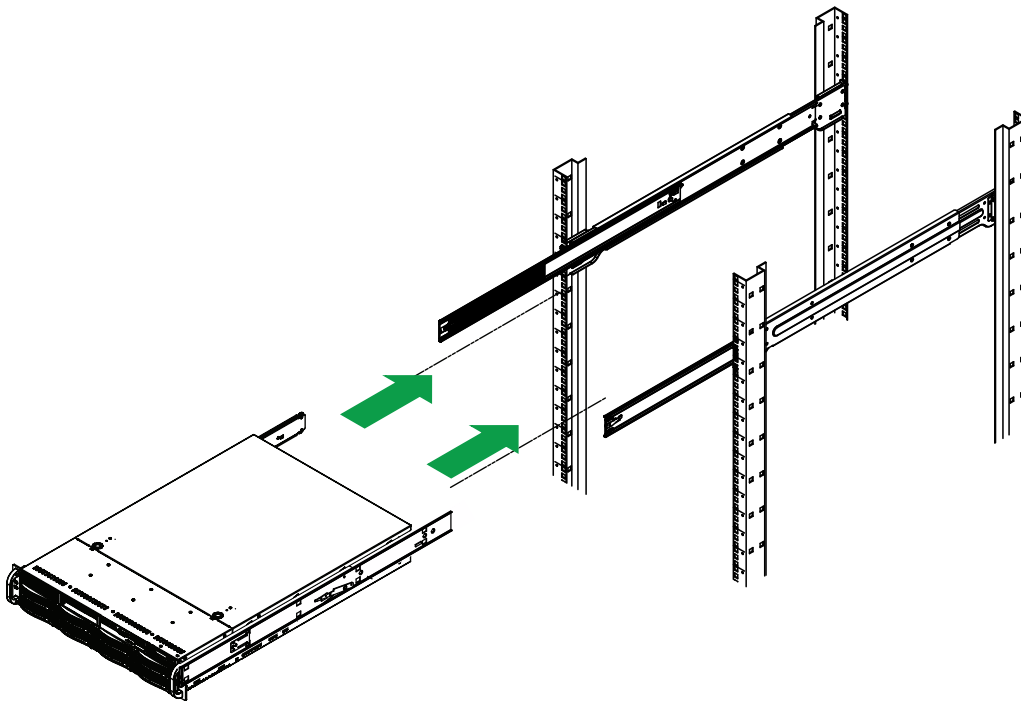


Figure 2-4. Installing the Server into the Rack



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

## Chapter 3

### Maintenance and Component Installation

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

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

#### 3.1 Removing Power

Use the following procedure to ensure that power has been removed from the system.

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

## 3.2 Accessing the System

The SYS-621P-TR/SYS-621P-TRT features a removable top cover, which allows easy access to the inside of the chassis.

### *Removing the Top Cover*

1. [Remove power](#) from the system.
2. Remove the two screws on each side of the cover, which secure the cover to the chassis.
3. Press the release tabs to remove the cover from the locked position. Press both tabs at the same time.
4. Once the top cover is released from the locked position, slide the cover toward the rear of the chassis.
5. Lift the cover off the chassis.

**Caution:** Except for short periods of time, do not operate the server without the cover in place. The chassis cover must be in place to allow for proper airflow and to prevent overheating.

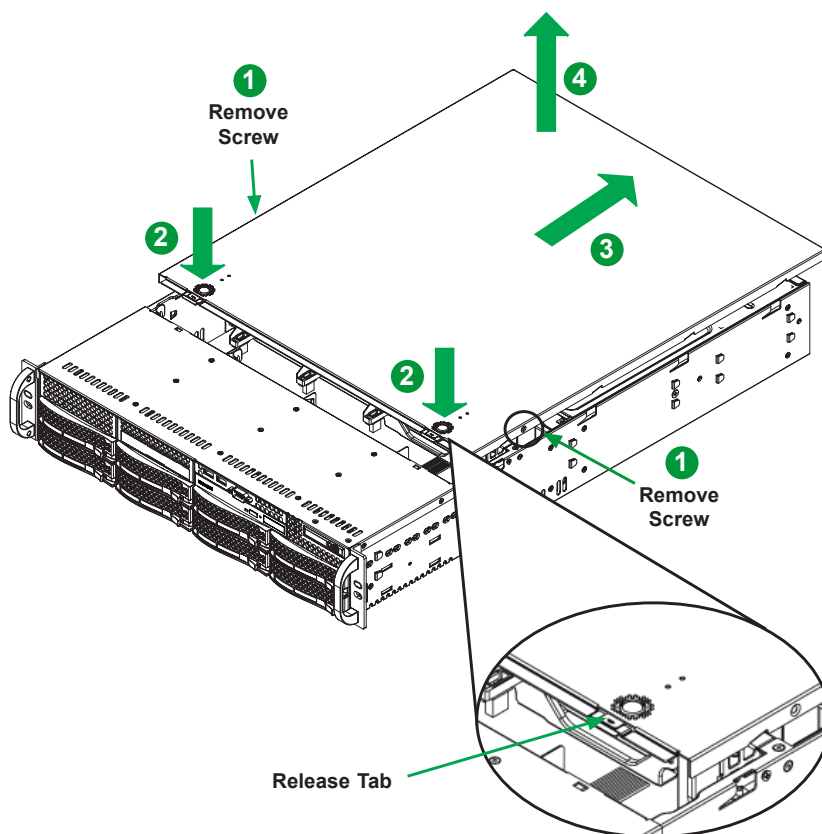


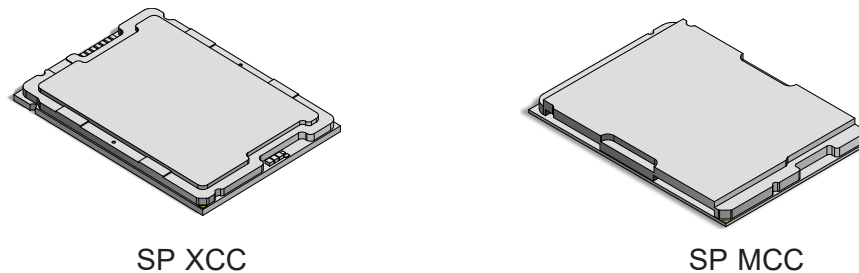
Figure 3-1. Removing the Chassis Cover

### 3.3 Processor and Heatsink Installation

The processor (CPU) and CPU carrier should be assembled together first to form the CPU carrier assembly. This assembly will be then attached to the heatsink to form the processor heatsink module (PHM) before being installed into the CPU socket. Before installation, be sure to perform the following steps below:

- Please carefully follow the instructions given on the previous page to avoid ESD-related damages.
- Unplug the AC power cords from all power supplies after shutting down the system.
- Check that the plastic protective cover is on the CPU socket, and none of the socket pins are bent. If they are, contact your retailer.
- When handling the processor, avoid touching or placing direct pressure on the LGA lands (gold contacts). Improper installation or socket misalignment can cause serious damage to the processor or CPU socket, which may require manufacturer repairs.
- Thermal grease is pre-applied on a new heatsink. No additional thermal grease is needed.
- Refer to the Supermicro website for updates on processor and memory support.
- All graphics in this manual are for illustrations only. Your components may look different.

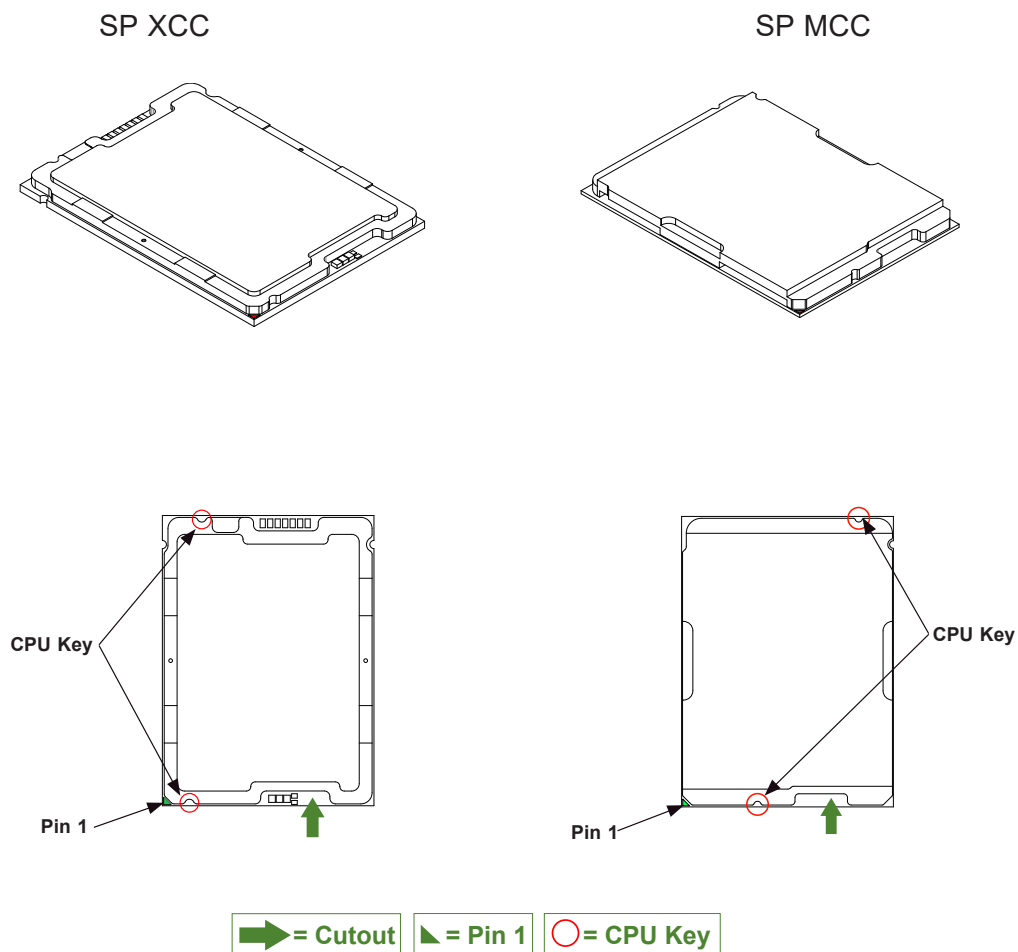
#### The 5th/4th Gen Intel Xeon Scalable Processor



Processor Top View



## 1. The 5th/4th Gen Intel Xeon Scalable Processor

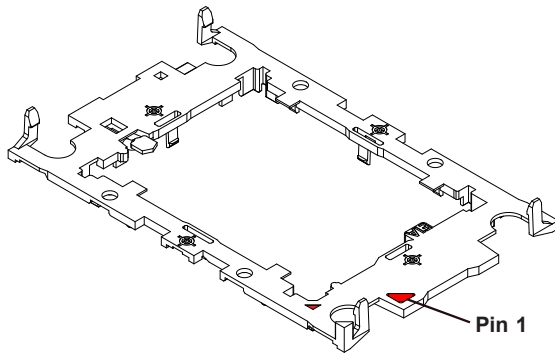


Processor Top View

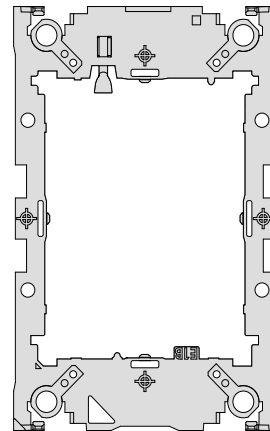
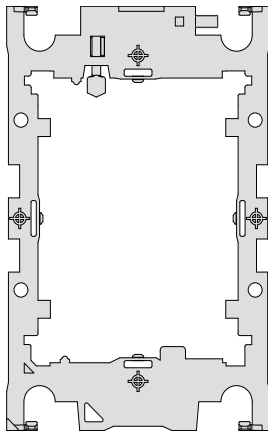
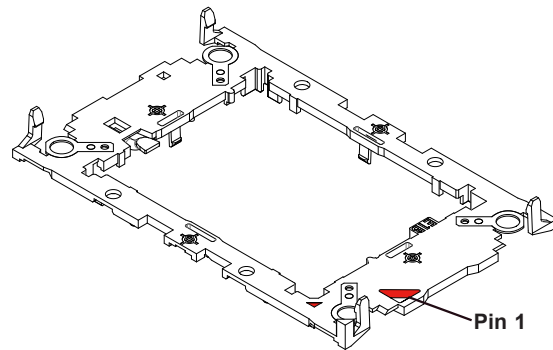
**Note:** The motherboard supports two CPU SKUs: SP XCC and SP MCC. Each SKU supports a specific carrier; the SP XCC CPU supports Carrier E1A and SP MCC supports Carrier E1B. Also, be sure to use processors of the same SKU on the motherboard.

## 2. The CPU Carrier

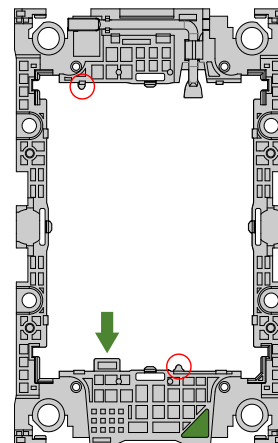
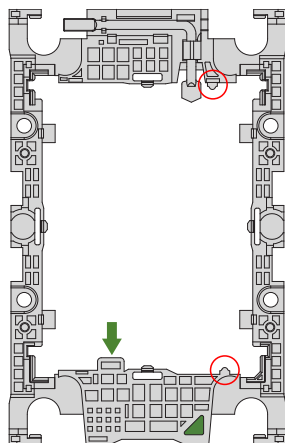
Carrier E1A for SP XCC



Carrier E1B for SP MCC



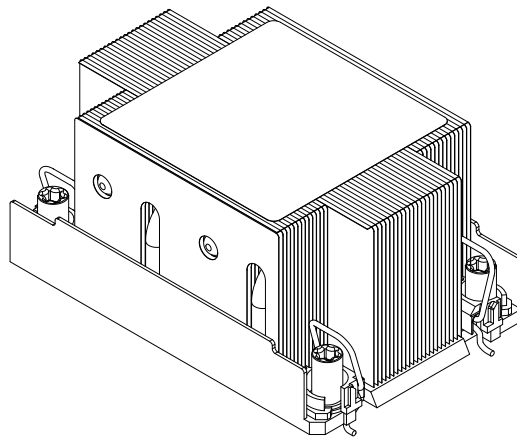
Carrier Top View



➡ = Cutout    ▲ = Pin 1    ○ = CPU Key

Carrier Bottom View

### 3. Heatsink



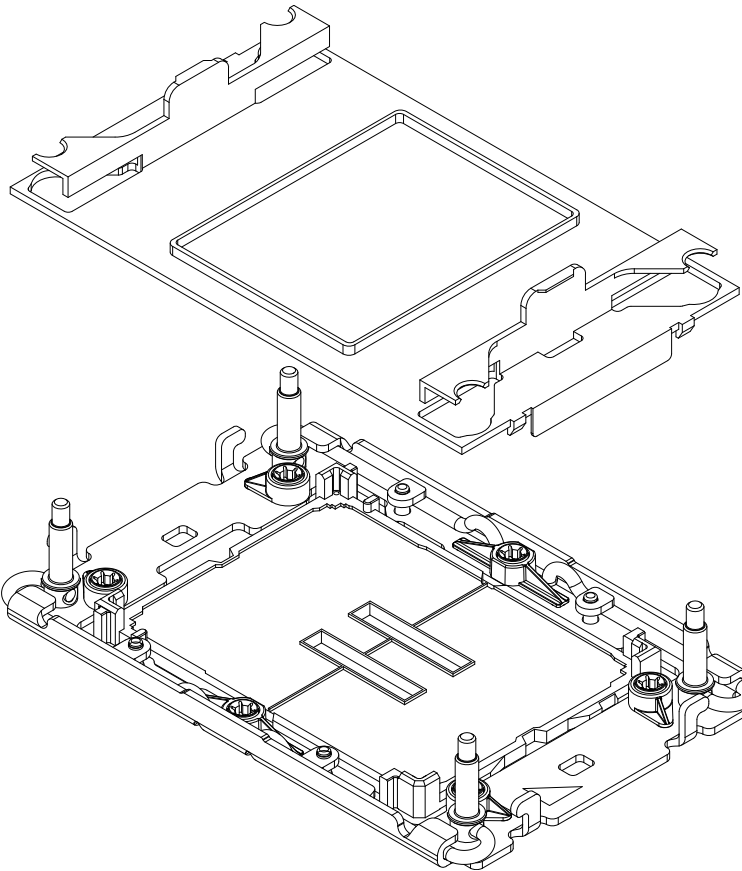
2U Heatsink

**Note:** Exercise extreme care when handling the heatsink. Pay attention to the edges of heatsink fins, which can be sharp! To avoid damaging the heatsink, please do not apply excessive force on the fins.

## Overview of the CPU Socket

The CPU socket is protected by a plastic protective cover.

Plastic Protective Cover



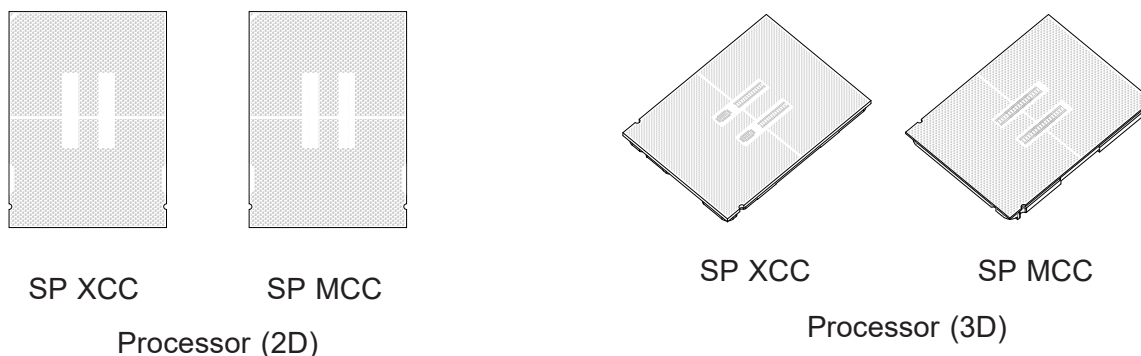
CPU Socket

## Overview of the CPU Carrier Assembly

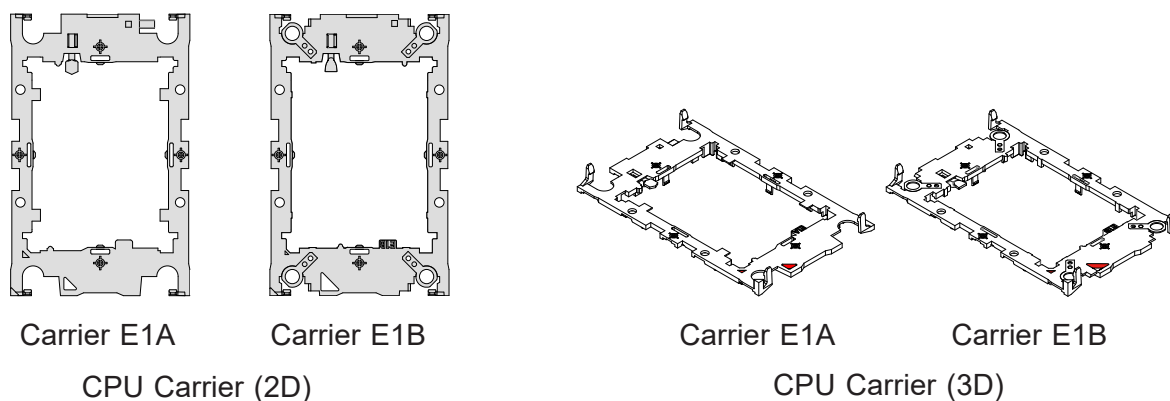
The CPU carrier assembly contains a 5th/4th Gen Intel Xeon Scalable processor and a CPU carrier. Carefully follow the instructions given in the installation section to place a processor into the carrier to create a CPU carrier. Please note that SP XCC CPU supports Carrier E1A and SP MCC CPU supports Carrier E1B.

The CPU carrier assembly includes a processor and a carrier as shown below:

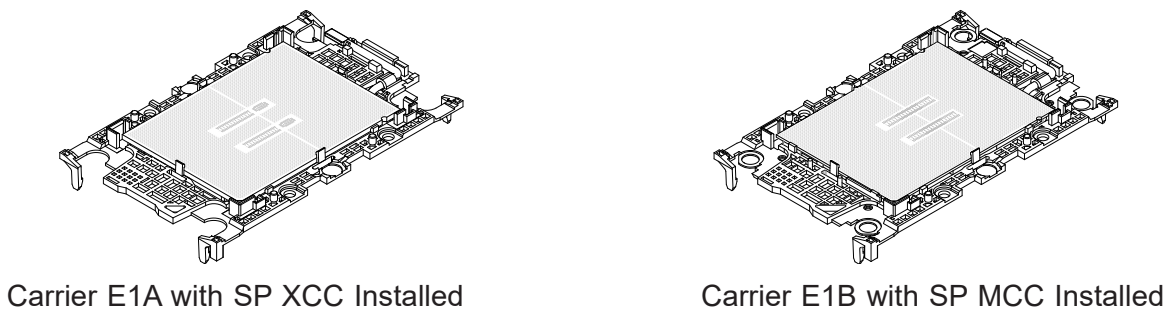
### 1. The 5th/4th Gen Intel Xeon Scalable Processor (Component Side)



### 2. CPU Carrier (Top View)



### 3. CPU Carrier Assembly (with CPU Seated inside the Carrier)

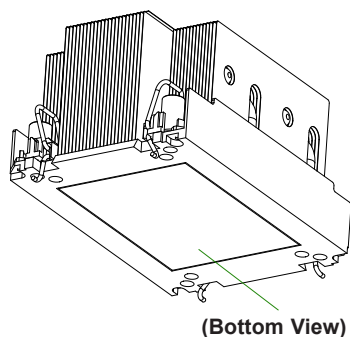


## Overview of the Processor Heatsink Module (PHM) with SP XCC and Carrier E1A

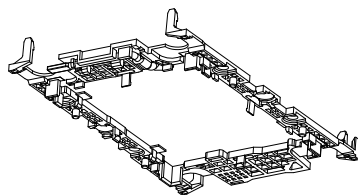
The Processor Heatsink Module (PHM) contains a heatsink, a CPU carrier, and a 5th/4th Gen Intel Xeon Scalable processor.

### 1. Heatsink

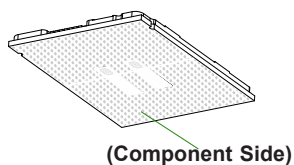
#### 2U Heatsink



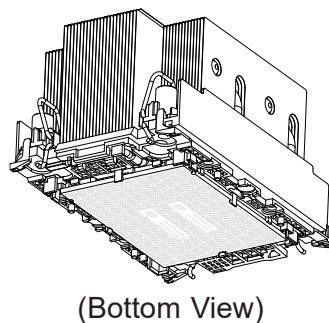
### 2. CPU Carrier E1A



### 3. The 5th/4th Gen Intel Xeon Scalable Processor (SP XCC)



### 4. Processor Heatsink Module (PHM)

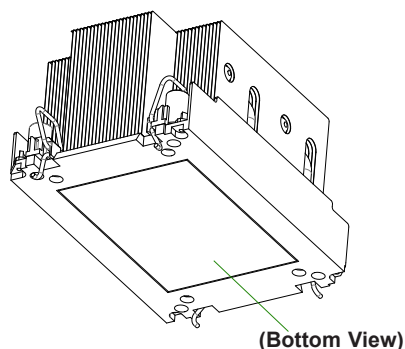


## Overview of the Processor Heatsink Module (PHM) with SP MCC and Carrier E1B

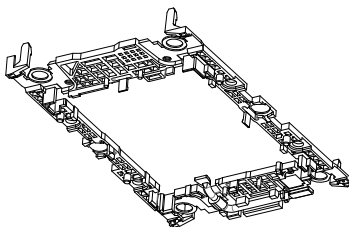
The Processor Heatsink Module (PHM) contains a heatsink, a CPU carrier, and a 5th/4th Gen Intel Xeon Scalable processor.

### 1. Heatsink

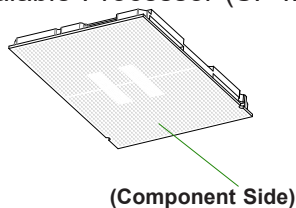
#### 2U Heatsink



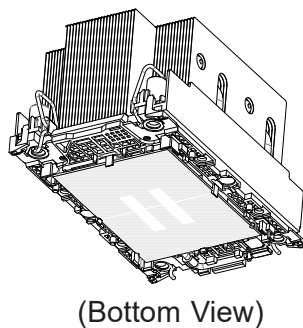
### 2. CPU Carrier E1B



### 3. The 5th/4th Gen Intel Xeon Scalable Processor (SP MCC)



### 4. Processor Heatsink Module (PHM)



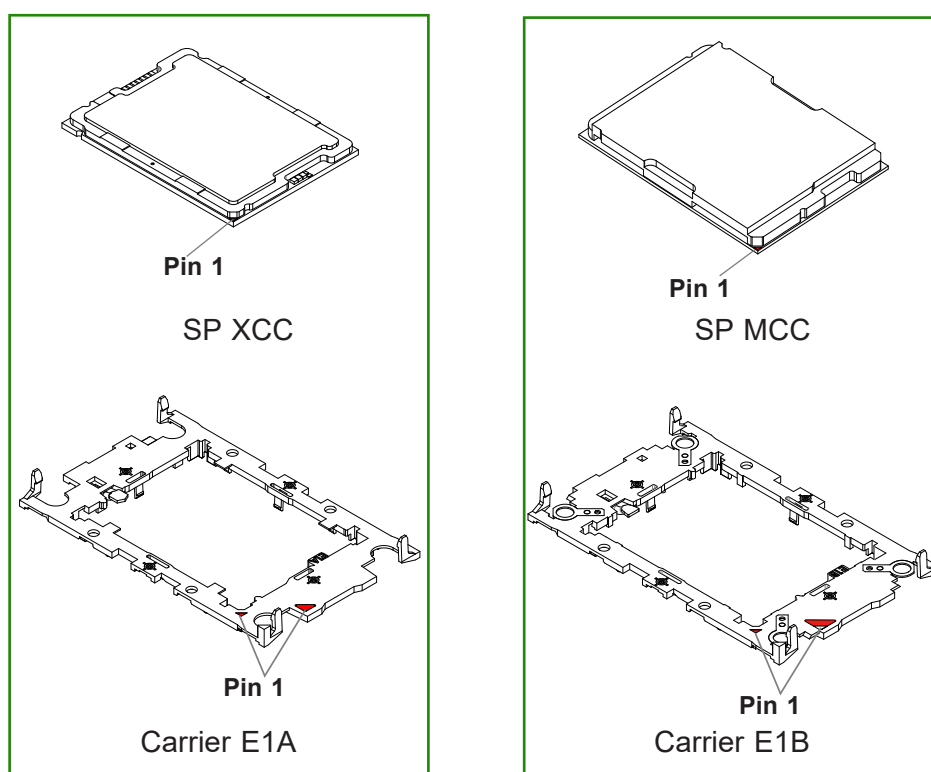
## Creating the CPU Carrier Assembly

The CPU carrier assembly contains a 5th/4th Gen Intel Xeon Scalable processor and a CPU carrier.

To create the CPU carrier assembly, please follow the steps below:

**Note:** Before installation, be sure to follow the instructions to properly prepare for installation.

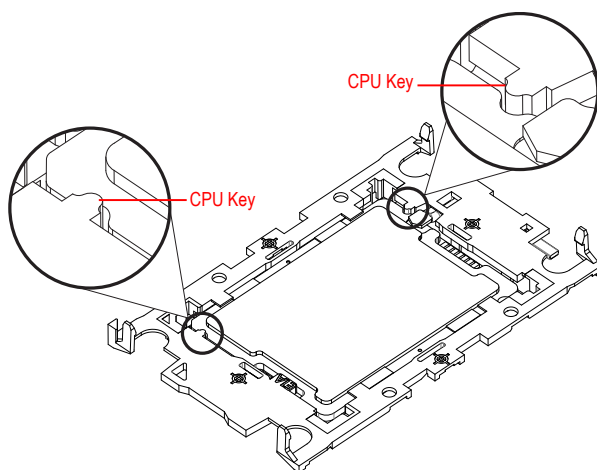
1. Hold the processor with the component side (including the gold contacts) facing down. Locate the small, gold triangle at the corner of the processor and the corresponding hollowed triangle on the CPU carrier as shown below. Please note that the triangle indicates the Pin 1 location.



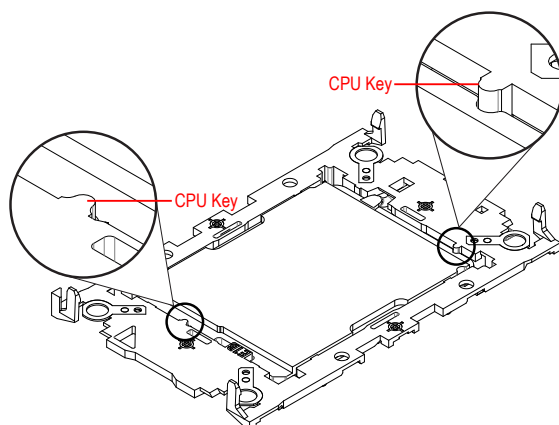
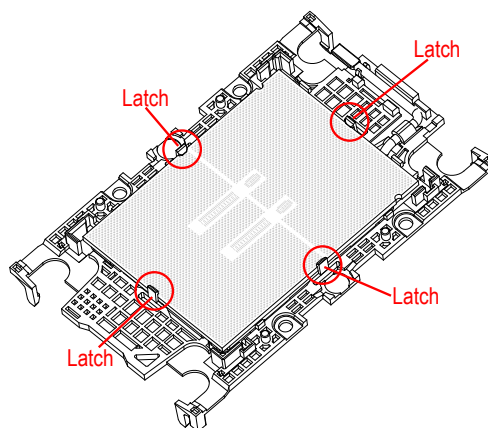
Processor with matching carrier



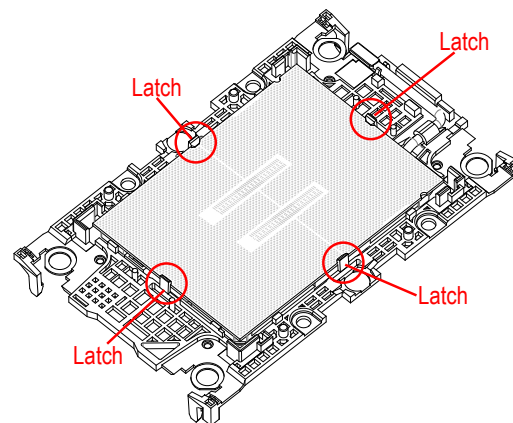
2. First, turn over the CPU carrier and locate Pin 1 on the CPU and Pin 1 on the carrier. Then, turn the processor over with component side (including the gold contacts) facing up and locate CPU keys on the processor. Finally, locate the CPU keys and four latches on the carrier as shown below.



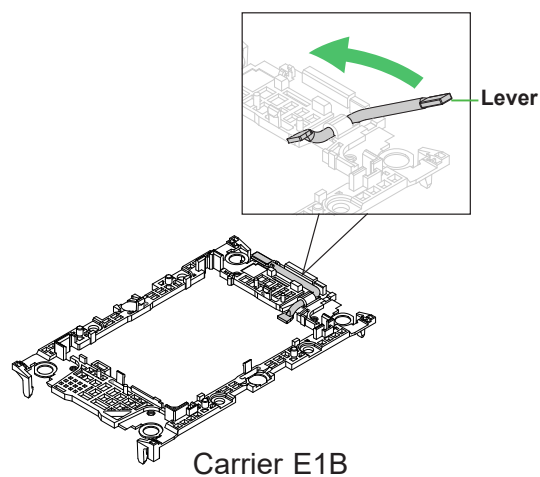
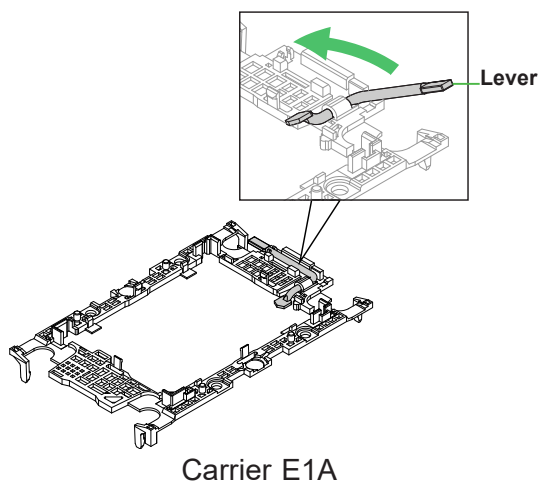
SP XCC



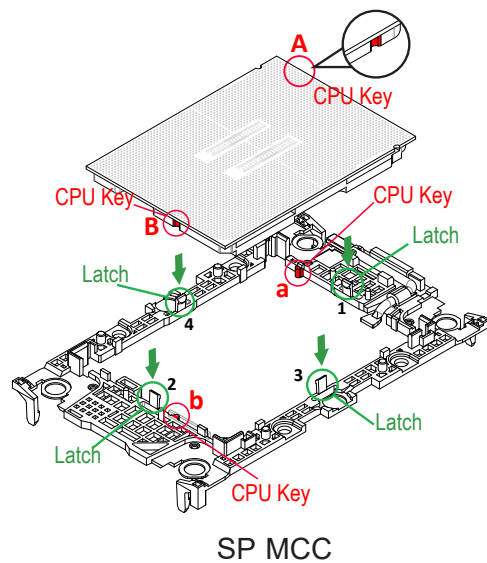
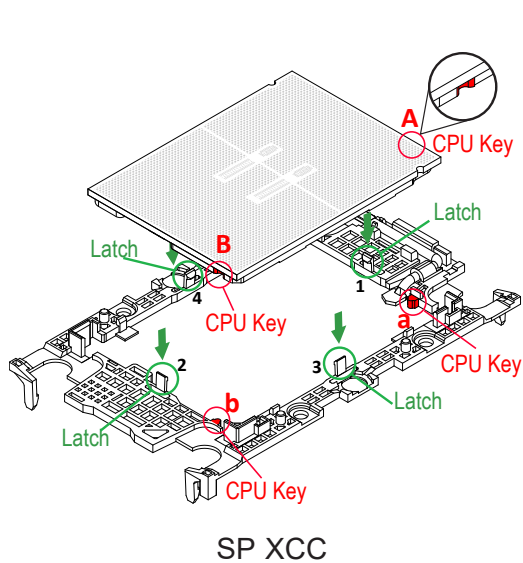
SP MCC



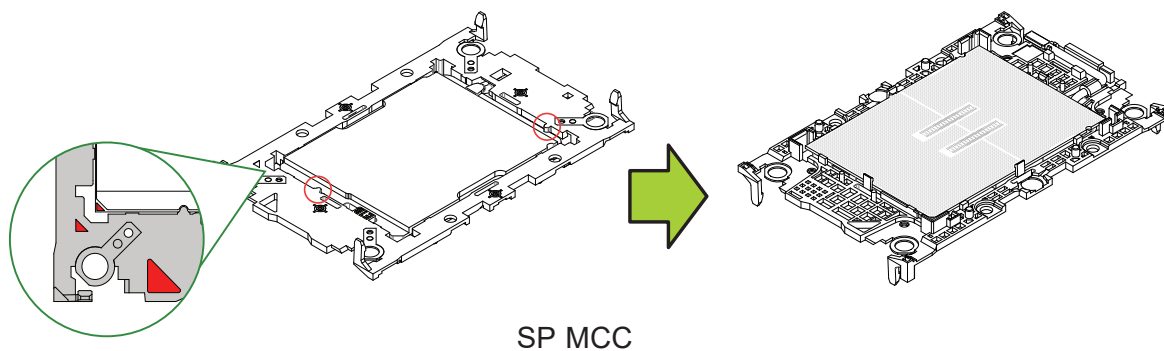
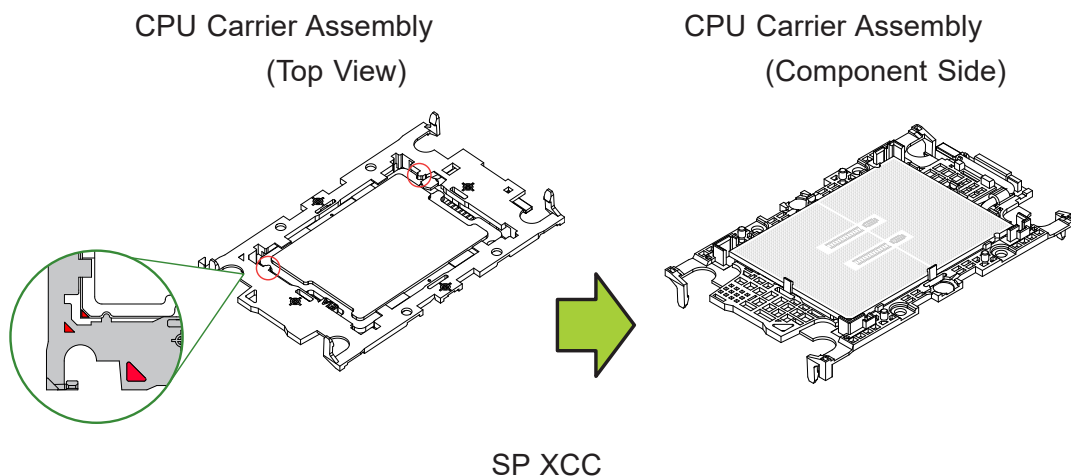
3. Locate the lever on the CPU socket and press it down as shown below.



4. Using Pin 1 as a guide, carefully align the CPU keys (marked A and B) on the processor against the CPU keys on the carrier (marked a and b) as shown below.
5. Once they are properly aligned, carefully insert the CPU into the carrier, making sure that the CPU is properly secured by latches (marked 1, 2, 3, and 4).



6. After the processor is placed inside the carrier, examine the four sides of the processor, making sure that the processor is properly seated on the carrier.



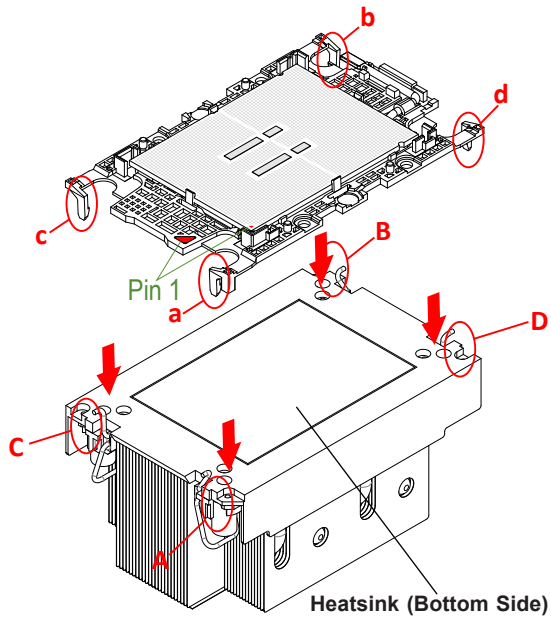
## Creating the PHM

After creating the CPU carrier assembly, please follow the instructions below to mount the CPU carrier into the heatsink to form the PHM.

**Note:** If this is a new heatsink, the thermal grease has been pre-applied on the underside. Otherwise, apply the proper amount of thermal grease.

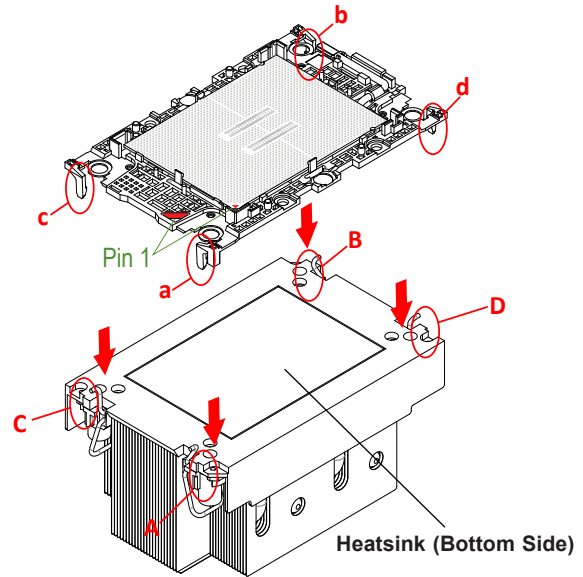
1. Turn the heatsink over with the thermal grease, which is on the bottom side of the heatsink, facing up. Pay attention to the two triangle cutouts (marked A and B) located at the diagonal corners of the heatsink as shown below.
2. Hold the CPU carrier component side facing up, and locate the triangle on the CPU and the triangle on the carrier. (Triangle indicates Pin 1.)
3. Using Pin 1 as a guide, turn the CPU carrier assembly over with the gold contacts facing up. Locate the triangle cutout (marked A) on the heatsink and the corner (marked a) on the CPU carrier assembly.
4. Align the corner (marked a) on the CPU carrier assembly against the triangle cutout (marked A) on the heatsink, and align the corners (marked b, c, and d) on the CPU carrier assembly against the corners (marked B, C, and D) on the heatsink.
5. Once they are properly aligned, place the corners (marked a, b, c, and d) on the processor carrier assembly into the corners of the heatsink (marked A, B, C, and D), making sure that all plastic clips are properly attached to the heatsink.

CPU Carrier Assembly (Component Side)

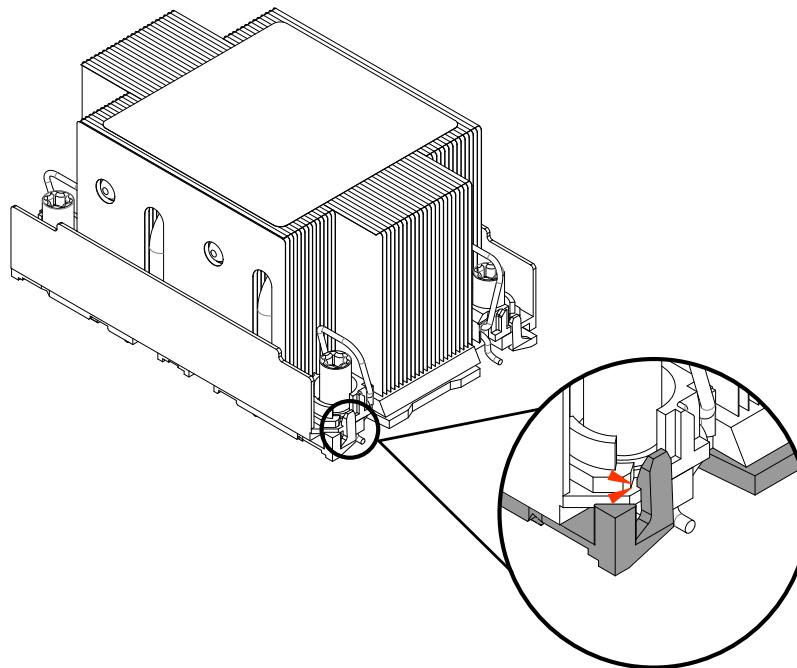


SP XCC

CPU Carrier Assembly (Component Side)



SP MCC

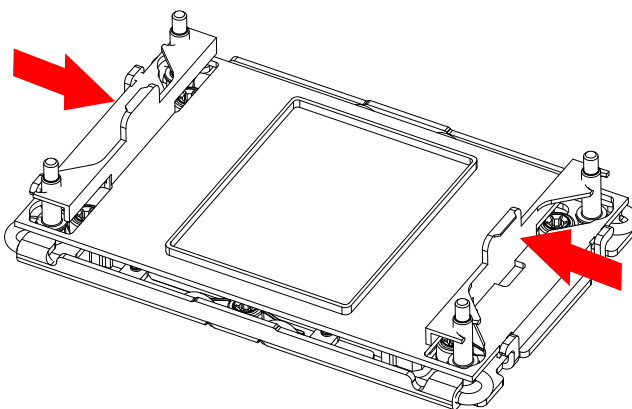


PHM (2U Heatsink)

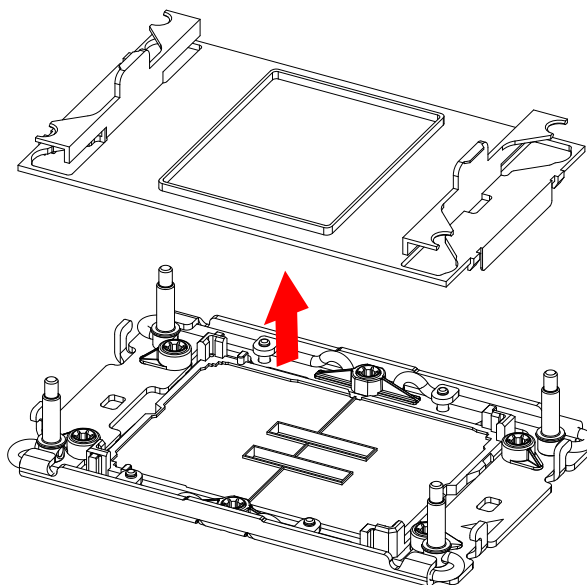
## Preparing the CPU Socket for Installation

This motherboard comes with a plastic protective cover installed on the CPU socket. Remove it from the socket by following the instructions below:

1. Press the tabs inward.



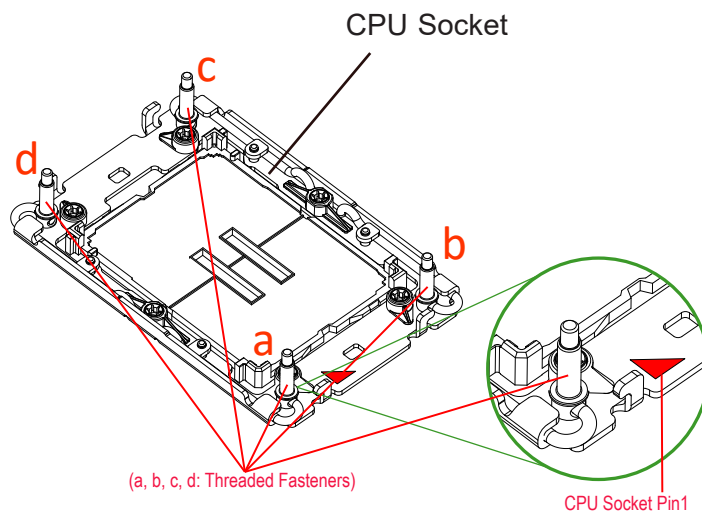
2. Pull up the protective cover from the socket.



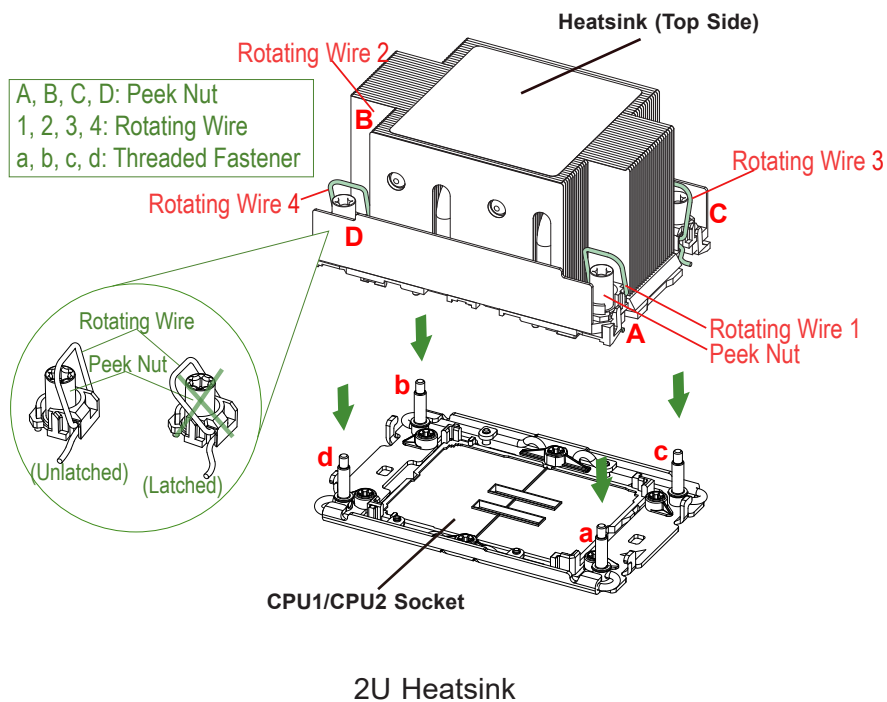
## Preparing to Install the PHM into the CPU Socket

After assembling the Processor Heatsink Module, you are ready to install it into the CPU socket. To ensure the proper installation, please follow the procedures below:

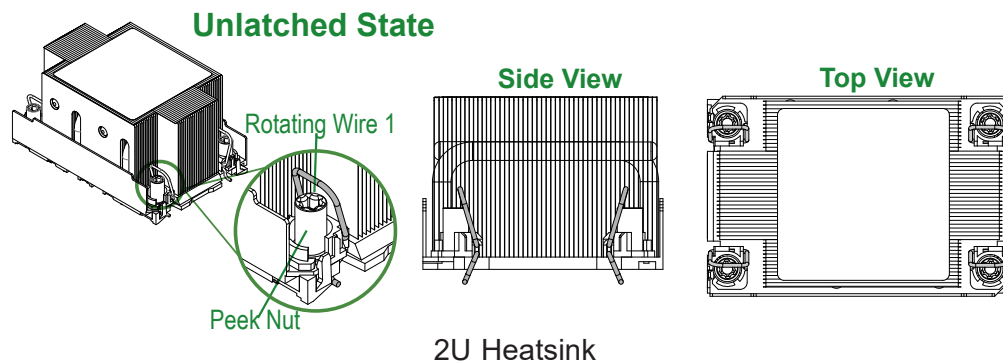
1. Locate four threaded fasteners (marked a, b, c, and d) on the CPU socket.



2. Locate four peek nuts (marked A, B, C, and D) and four rotating wires (marked 1, 2, 3, and 4) on the heatsink as shown below.



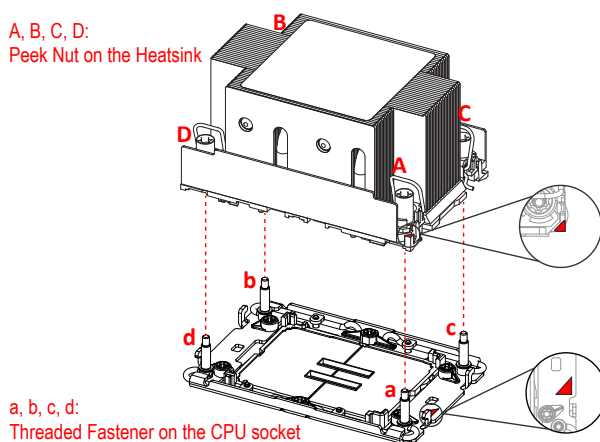
3. Check the rotating wires (marked 1, 2, 3, and 4) to make sure that they are at unlatched positions as shown below before installing the PHM into the CPU socket.





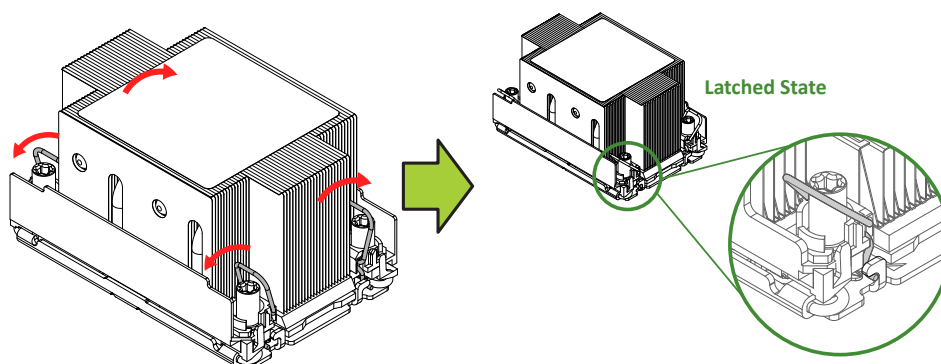
## Installing the PHM into the CPU Socket

1. Align peek nut (marked A) on the heatsink against threaded fastener (marked a) on the CPU socket. Then align peek nuts (marked B, C, D) on the heatsink against threaded fasteners (marked b, c, d) on the CPU socket, making sure that all peek nuts on the heatsink are properly aligned with the correspondent threaded fasteners on the CPU socket.
2. Once they are aligned, gently place the heatsink on top the CPU socket, making sure that each peek nut is properly attached to its corresponding threaded fastener.



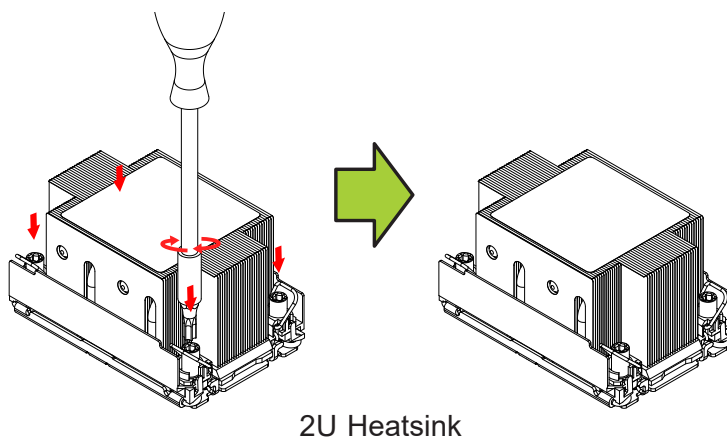
2U Heatsink

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



2U Heatsink

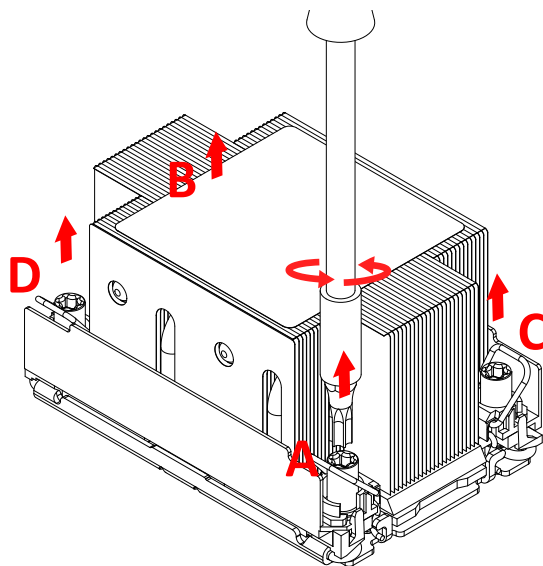
4. With a T30 bit torque driver set to a force of 8.0 in-lbf (0.904 N-m), tighten all peek nuts in the sequence of A, B, C, and D with even pressure. To avoid damaging the processor or socket, do not use excessive force when tightening the peek nuts. (For best durability, 8.0 in-lbf torque is recommended.)
5. Examine all corners of the heatsink to ensure that the PHM is firmly attached to the CPU socket.



## Removing the PHM from the CPU Socket

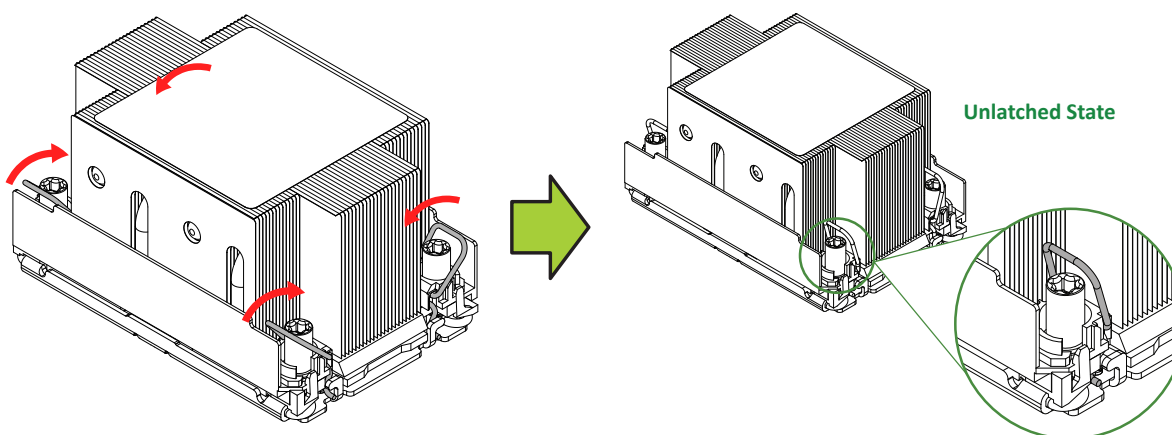
Before removing the PHM from the motherboard, be sure to shut down the system and unplug the power cables from the power supply. Then follow the steps below:

1. Use a T30 bit torque driver to loosen the four peek nuts on the heatsink in the sequence of A, B, C, and D.



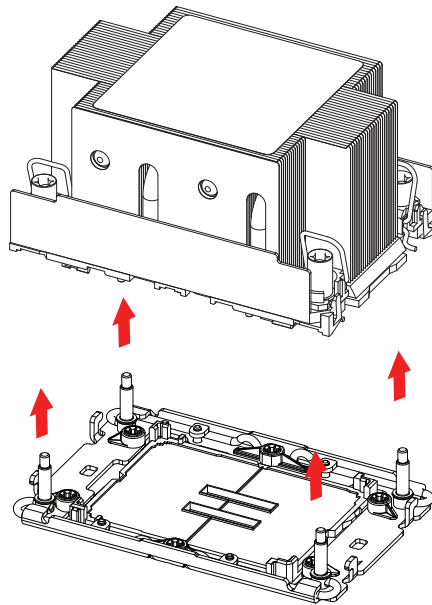
2U Heatsink

2. Once the peek nuts are loosened from the CPU socket, press the rotating wires inwards to unlatch the PHM from the socket as shown below.



2U Heatsink

3. Gently pull the PHM upwards to remove it from the CPU socket.



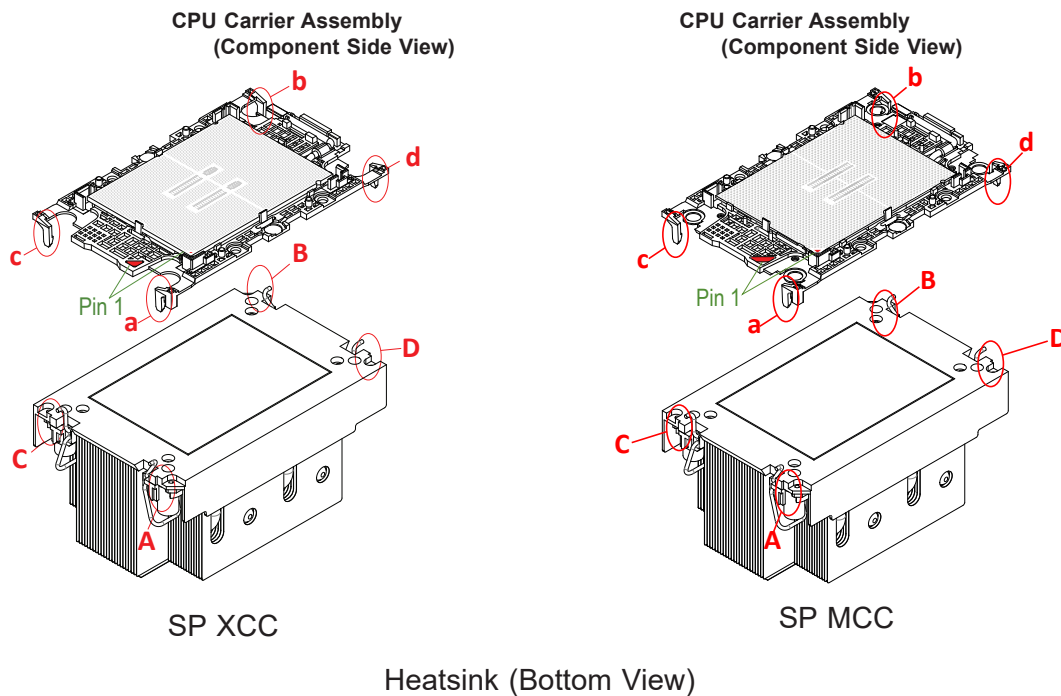
2U Heatsink

## Removing the CPU Carrier Assembly from the PHM

To remove the CPU carrier assembly from the PHM, please follow the steps below:

1. Detach the four plastic clips (marked a, b, c, and d) on the CPU carrier assembly from the four corners of the heatsink (marked A, B, C, and D) as shown below.

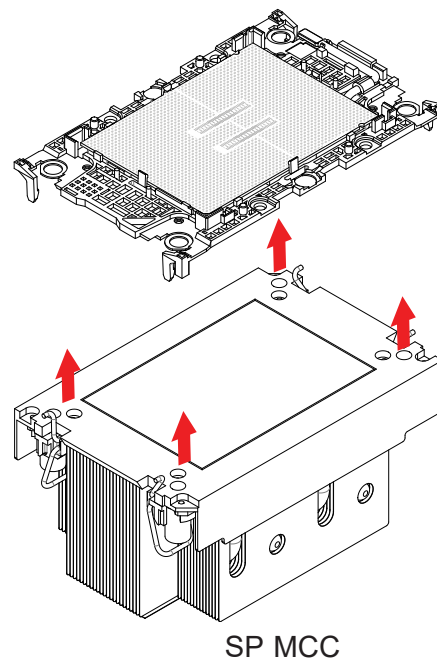
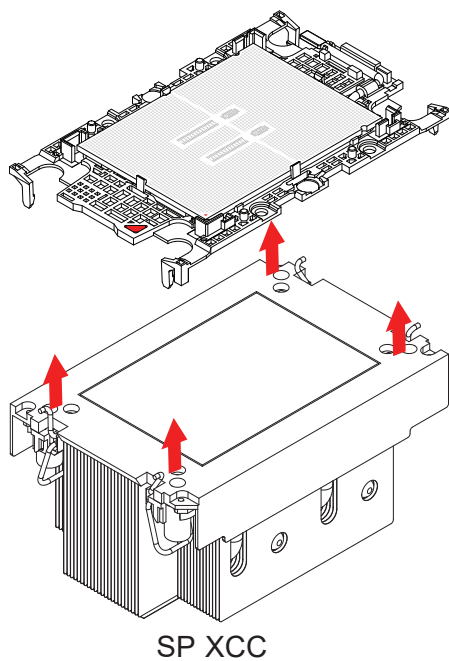
### 2U Heatsink



**Note:** The process of removing the CPU carrier assembly from the PHM is the same for SP XCC and SP MCC CPU. The graphics above show the SP MCC as an example.

2. When all plastic clips are detached from the heatsink, remove the CPU carrier assembly from the heatsink.

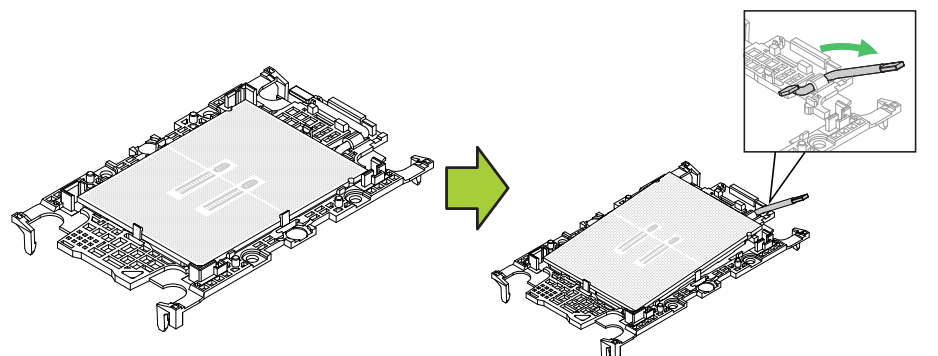
### 2U Heatsink



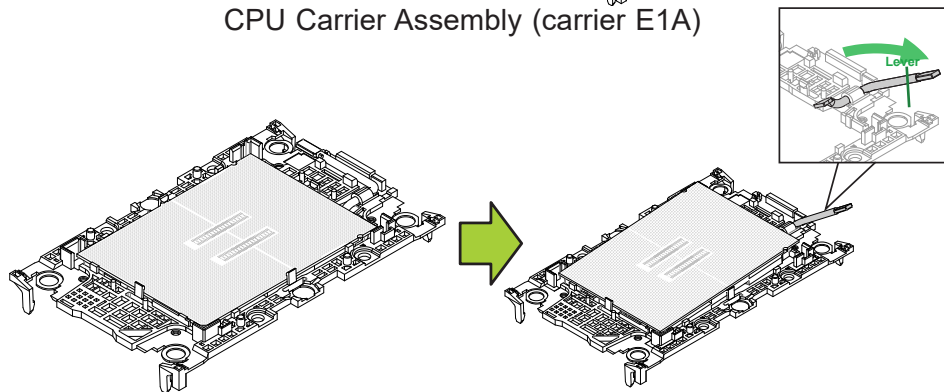
## Removing the Processor from the CPU Carrier Assembly

Once you have removed the CPU carrier assembly from the PHM, you are ready to remove the processor from the CPU carrier by following the steps below.

1. Unlock the lever from its locked position and push the lever upwards to disengage the processor from the CPU carrier as shown in the drawing on the right below.



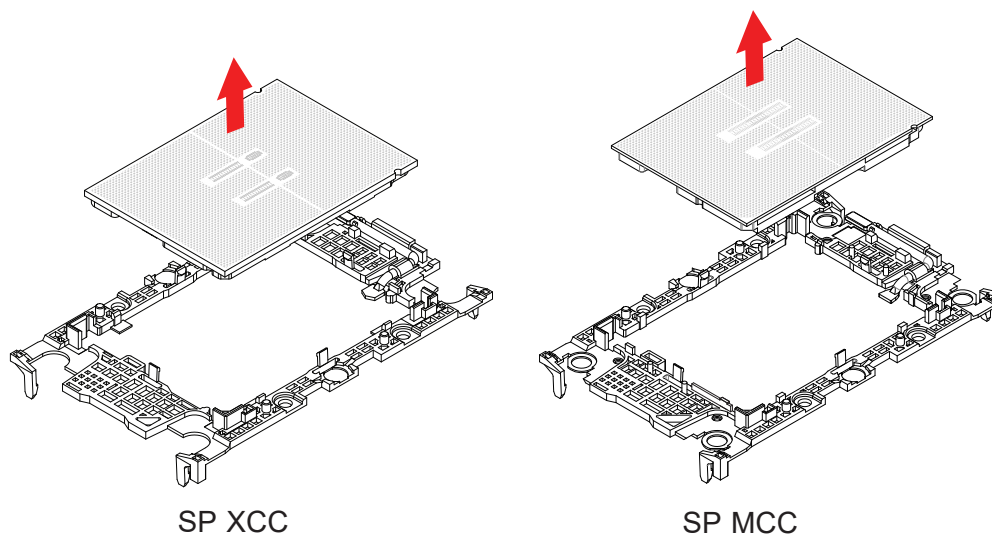
CPU Carrier Assembly (carrier E1A)



CPU Carrier Assembly (carrier E1B)

2. Once the processor is loosened from the carrier, carefully remove the processor from the CPU carrier.

**Note:** Please handle the processor with care to avoid damaging the processor and its pins.



SP XCC

SP MCC

## 3.4 Memory Support and Installation

**Note:** Check the Supermicro website for recommended memory modules.

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

### Memory Support

This motherboard supports up to 4 TB memory capacity with 16 DIMMs of 256 GB 3DS RDIMM DDR5 5600 MT/s ECC memory.

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

### DIMM Population Guidelines for Optimal Performance

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

#### Key Parameters for DIMM Configuration

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

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



### DDR5 Memory Support for the 5th Gen. Intel Xeon Scalable Processors

| DDR5 Memory Support for the 5th Gen. Intel Xeon Scalable Processors |                                     |                          |                         |                                                   |               |
|---------------------------------------------------------------------|-------------------------------------|--------------------------|-------------------------|---------------------------------------------------|---------------|
| Type                                                                | Ranks Per DIMM & Data Width (Stack) | DIMM Capacity (GB)       |                         | Speed (MT/s); Voltage (V); DIMM Per Channel (DPC) |               |
|                                                                     |                                     |                          |                         | 1 DPC <sup>Note 1</sup>                           | 2 DPC         |
|                                                                     |                                     | 16 Gb (DRAM Density)     | 24 Gb (DRAM Density)    | 1.1 V                                             |               |
| RDIMM                                                               | SRx8 (RC D)                         | 16 GB                    | 24 GB <sup>Note 2</sup> | 5600                                              | 4400          |
|                                                                     | SRx4 (RC C)                         | 32 GB                    | 48 GB <sup>Note 2</sup> |                                                   |               |
|                                                                     | SRx4 (RC F) 9x4                     | 32 GB                    | 48 GB <sup>Note 2</sup> |                                                   |               |
|                                                                     | DRx8 (RC E)                         | 32 GB                    | 48 GB <sup>Note 2</sup> |                                                   |               |
|                                                                     | DRx4 (RC A)                         | 64 GB                    | 96 GB                   |                                                   |               |
|                                                                     | DRx4 (RC B) 9x4                     | 64 GB                    | 96 GB                   |                                                   |               |
| RDIMM 3DS                                                           | (4R/8R) x4 (RC A)                   | 2 H-128 GB<br>4 H-256 GB | N/A                     |                                                   |               |
| LRDIMM/LRDIMM-3DS                                                   | N/A                                 | N/A                      | N/A                     | Not Supported                                     | Not Supported |

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

**Note 2:** The 24 Gb 2 DPC configuration with 24 GB and 48 GB DIMMs is NOT recommended.

### DDR5 Memory Support for the 4th Gen. Intel Xeon Scalable Processors

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

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

### Memory Population Table (with 16 DIMM Slots)

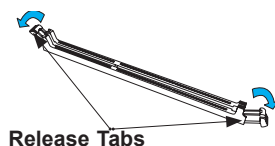
| DDR5 Memory Population Table (with 16 DIMMs installed) |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|--------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>1 CPU</b>                                           | <b>Memory Population Sequence</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>1 CPU &amp; 1 DIMM</b>                              | P1-DIMMA1 or P1-DIMME1 or P1-DIMMB1 or P1-DIMMF1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>1 CPU &amp; 2 DIMMs</b>                             | P1-DIMMA1 / P1-DIMMG1 or P1-DIMMC1 / P1-DIMME1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>1 CPU &amp; 4 DIMMs</b>                             | P1-DIMMA1 / P1-DIMMC1 / P1-DIMME1 / P1-DIMMG1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>1 CPU &amp; 6 DIMM</b>                              | P1-DIMMA1 / P1-DIMMC1 / P1-DIMMD1 / P1-DIMME1 / P1-DIMMF1 / P1-DIMMG1<br>or P1-DIMMA1 / P1-DIMMB1 / P1-DIMMC1 / P1-DIMME1 / P1-DIMMG1 / P1-DIMMH1<br>or P1-DIMMB1 / P1-DIMMC1 / P1-DIMMD1 / P1-DIMME1 / P1-DIMMF1 / P1-DIMMH1<br>or P1-DIMMA1 / P1-DIMMB1 / P1-DIMMD1 / P1-DIMMF1 / P1-DIMMG1 / P1-DIMMH1                                                                                                                                                                                                                                                                                                                                |
| <b>1 CPU &amp; 8 DIMMs</b>                             | P1-DIMMA1 / P1-DIMMB1 / P1-DIMMC1 / P1-DIMMD1 / P1-DIMME1 / P1-DIMMF1 / P1-DIMMG1 / P1-DIMMH1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>2 CPUs (Recommended)</b>                            | <b>Memory Population Sequence</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>2 CPUs &amp; 2 DIMMs</b>                            | <b>CPU1:</b> P1-DIMMA1, <b>CPU2:</b> P2-DIMMA1<br>or <b>CPU1:</b> P1-DIMME1, <b>CPU2:</b> P2-DIMME1<br>or <b>CPU1:</b> P1-DIMMB1, <b>CPU2:</b> P2-DIMMB1<br>or <b>CPU1:</b> P1-DIMMF1, <b>CPU2:</b> P2-DIMMF1                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>2 CPUs &amp; 4 DIMMs</b>                            | <b>CPU1:</b> P1-DIMMA1 / P1-DIMMG1, <b>CPU2:</b> P2-DIMMA1 / P2-DIMMG1<br>or <b>CPU1:</b> P1-DIMMC1 / P1-DIMME1, <b>CPU2:</b> P2-DIMMC1 / P2-DIMME1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>2 CPUs &amp; 8 DIMMs</b>                            | <b>CPU1:</b> P1-DIMMA1 / P1-DIMMC1 / P1-DIMME1 / P1-DIMMG1<br><b>CPU2:</b> P2-DIMMA1 / P2-DIMMC1 / P2-DIMME1 / P2-DIMMG1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>2 CPUs &amp; 12 DIMMs</b>                           | <b>CPU1:</b> P1-DIMMA1/P1-DIMMC1/P1-DIMMD1/P1-DIMME1/P1-DIMMF1/P1-DIMMG1<br><b>CPU2:</b> P2-DIMMA1/P2-DIMMC1/P2-DIMMD1/P2-DIMME1/P2-DIMMF1/P2-DIMMG1<br><br><b>CPU1:</b> P1-DIMMA1/P1-DIMMB1/P1-DIMMC1/P1-DIMME1/P1-DIMMG1/P1-DIMMH1<br><b>CPU2:</b> P2-DIMMA1/P2-DIMMB1/P2-DIMMC1/P2-DIMME1/P2-DIMMG1/P2-DIMMH1<br><br><b>CPU1:</b> P1-DIMMB1/P1-DIMMC1/P1-DIMMD1/P1-DIMME1/P1-DIMMF1/P1-DIMMH1<br><b>CPU2:</b> P2-DIMMB1/P2-DIMMC1/P2-DIMMD1/P2-DIMME1/P2-DIMMF1/P2-DIMMH1<br><br><b>CPU1:</b> P1-DIMMA1/P1-DIMMB1/P1-DIMMD1/P1-DIMMF1/P1-DIMMG1/P1-DIMMH1<br><b>CPU2:</b> P2-DIMMA1/P2-DIMMB1/P2-DIMMD1/P2-DIMMF1/P2-DIMMG1/P2-DIMMH1 |
| <b>2 CPUs &amp; 16 DIMMs</b>                           | <b>CPU1:</b> P1-DIMMA1/P1-DIMMB1/P1-DIMMC1/P1-DIMMD1/P1-DIMME1/P1-DIMMF1/P1-DIMMG1/P1-DIMMH1<br><b>CPU2:</b> P2-DIMMA1/P2-DIMMB1/P2-DIMMC1/P2-DIMMD1/P2-DIMME1/P2-DIMMF1/P2-DIMMG1/P2-DIMMH1                                                                                                                                                                                                                                                                                                                                                                                                                                             |

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

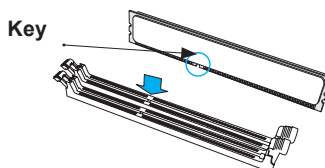
## DIMM Installation

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

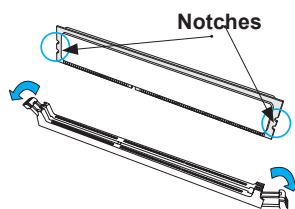
1. Insert the desired number of DIMMs into the memory slots based on the recommended DIMM population tables in the previous section. Locate DIMM memory slots on the motherboard as shown on the right.
2. Push the release tabs outwards on both ends of the DIMM slot to unlock it.



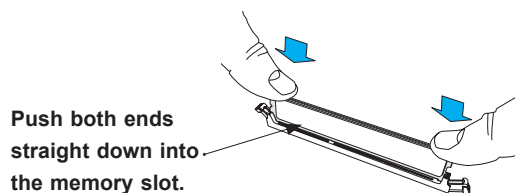
3. Align the key of the memory module with the receptive point on the memory slot.



4. Align the notches on both ends of the module against the receptive points on the ends of the slot.

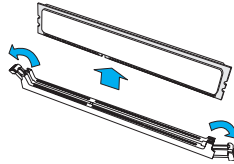


5. Push both ends of the module straight down into the slot until the module snaps into place.
6. Press the release tabs to the lock positions to secure the memory module into the slot.



## DIMM Removal

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



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

**Warning!** Please do not use excessive force when pressing the release tabs on the ends of the DIMM socket to avoid causing any damage to the memory module or the DIMM socket. Please handle memory modules with care. Carefully follow all the instructions of this chapter to avoid ESD-related damages done to your memory modules or components.

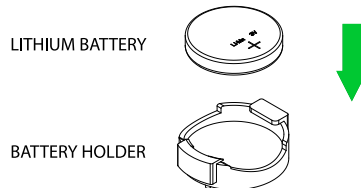
## 3.5 Motherboard Battery

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

### ***Replacing the Battery***

1. Begin by [removing power](#) from the system.
2. Remove the [chassis top cover](#) and the [air shroud](#).
3. Push aside the small clamp that covers the edge of the battery. When the battery is released, lift it out of the holder.
4. To insert a new battery, slide one edge under the lip of the holder with the positive (+) side facing up. Then push the other side down until the clamp snaps over it.

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



**Figure 3-2. Installing the Onboard Battery**

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

## 3.6 Storage Drives

The system supports eight hot-swap 3.5" SATA3 storage drives. The 3.5" SATA3 drives are mounted in drive carriers that simplify their removal from the chassis. These carriers also help promote proper airflow.

Optionally, for the front fixed drives the system supports either two fixed front 2.5" NVMe drives or two fixed front 2.5" SATA3 drives. For the rear 2.5" hot-swap drives, the system supports either two NVMe drives, or two SATA3 drives with specific optional hardware added which can not be used interchangeably.

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

### Drive Carrier Indicators

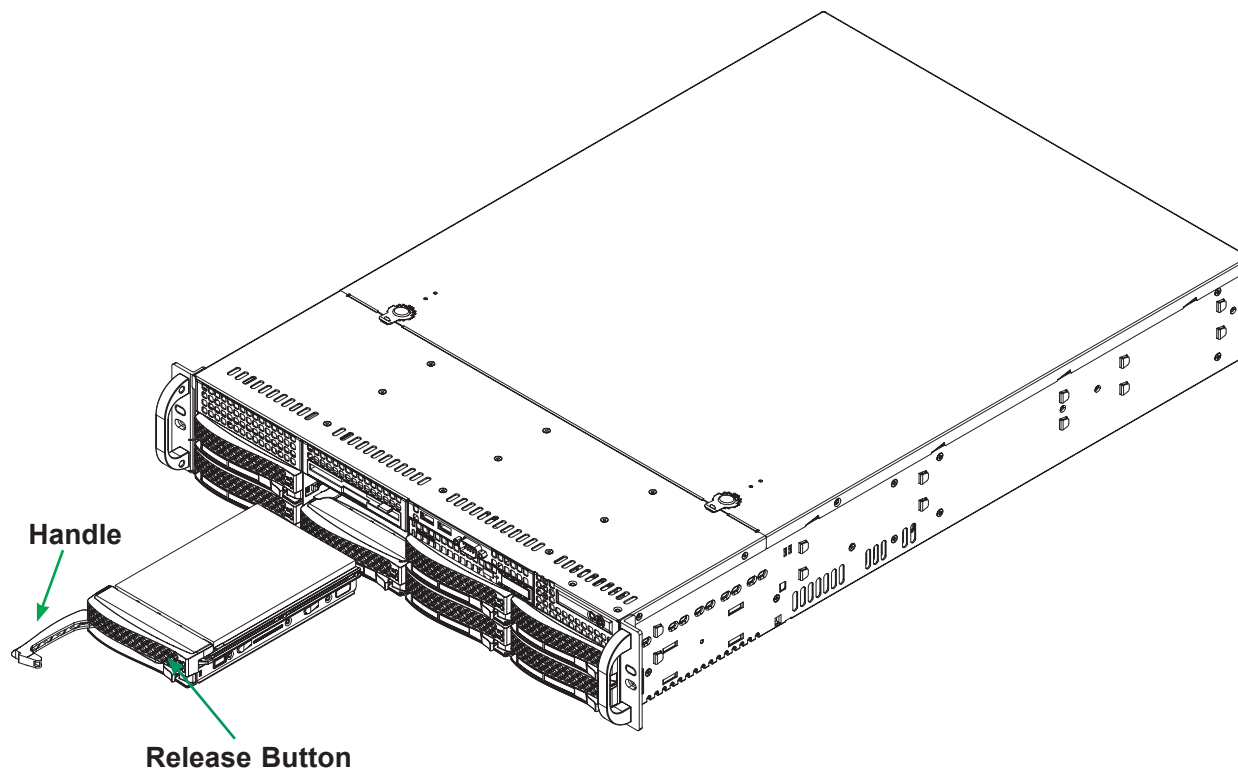
Each drive carrier has two LED indicators: an activity indicator and a status indicator. The meaning of the status indicator is described in the table below.

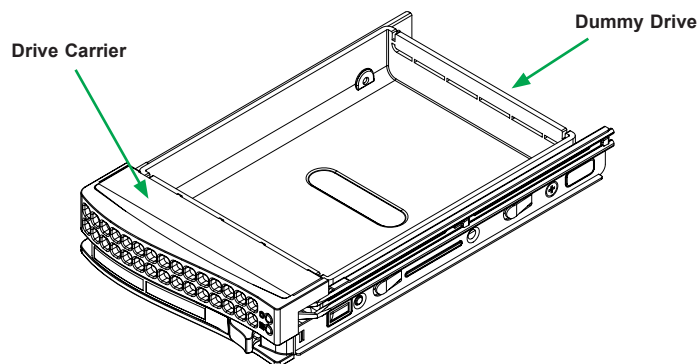
| Drive Carrier LED Indicators |       |                  |                                                      |
|------------------------------|-------|------------------|------------------------------------------------------|
| LED                          | Color | Blinking Pattern | Behavior for Device                                  |
| Activity                     | Green | On or on and off | When illuminated this LED indicates drive activity.  |
| Status                       | Red   | On               | When illuminated this LED indicates a drive failure. |



***Removing a Hot-Swap Drive Carrier from the System***

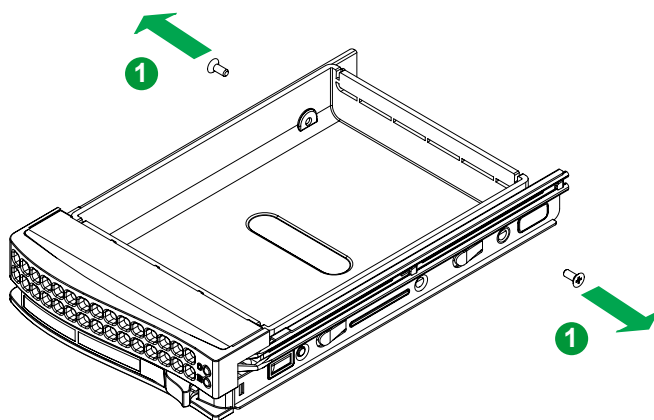
1. Press the release button on the drive carrier, which will extend the drive carrier handle.
2. Use the drive carrier handle to pull the drive out of the chassis.

**Figure 3-3. Removing a Drive Carrier**



**Figure 3-4. Drive Carrier**

The drives are mounted in drive carriers to simplify their installation and removal from the chassis. These carriers also help promote proper airflow for the drive bays.



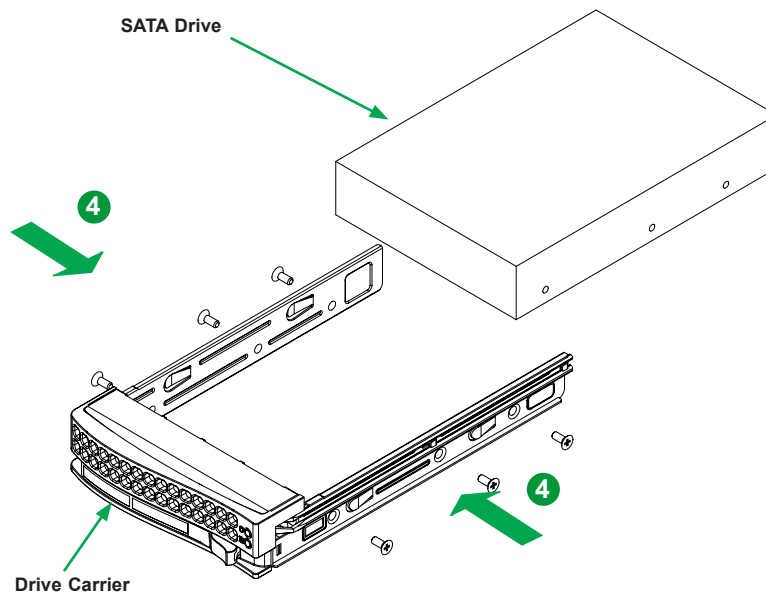
**Figure 3-5. Removing Dummy Drive from Carrier**

#### ***Installing a Drive to the Drive Carrier***

1. Remove the screws securing the dummy drive to the carrier.
2. Remove the dummy drive from the carrier.

**Warning:** Except for short periods of time (swapping drives), do not operate the server with the drive carriers removed from the bays.





**Figure 3-6. Installing the Drive**

3. Install a new drive into the carrier with the printed circuit board side facing down so that the mounting holes align with those in the carrier.
4. Secure the drive by tightening all six screws.
5. Replace the drive carrier into the chassis bay, making sure that the drive carrier handle is completely closed.

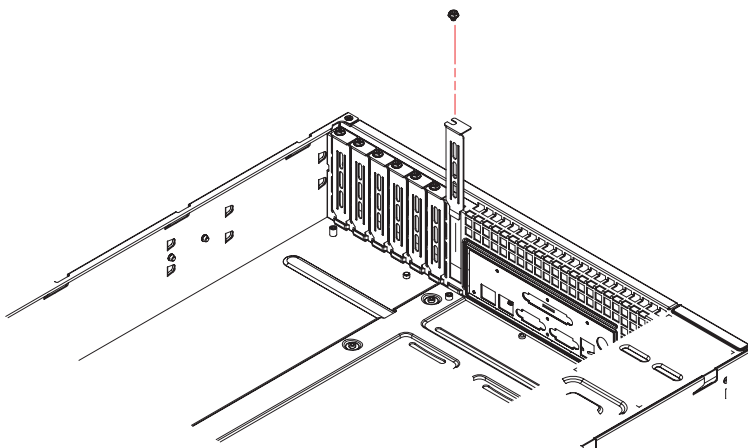
**Note:** Your operating system must have RAID support to enable the hot-plug capability of the drives.

## 3.7 Expansion Cards

The SYS-621P-TR/SYS-621P-TRT supports six low-profile cards.

### *Installing Expansion Cards*

1. Begin by [removing power](#) from the system. Next, [remove the chassis cover](#).
2. Remove the screw holding the cover in place for each low-profile PCI slot you want to use. Keep this screw for later use.
3. Install the expansion cards to the motherboard.
4. Secure each card to the chassis using the card's L bracket and the screw previously removed.



**Figure 3-7. Removing L bracket**

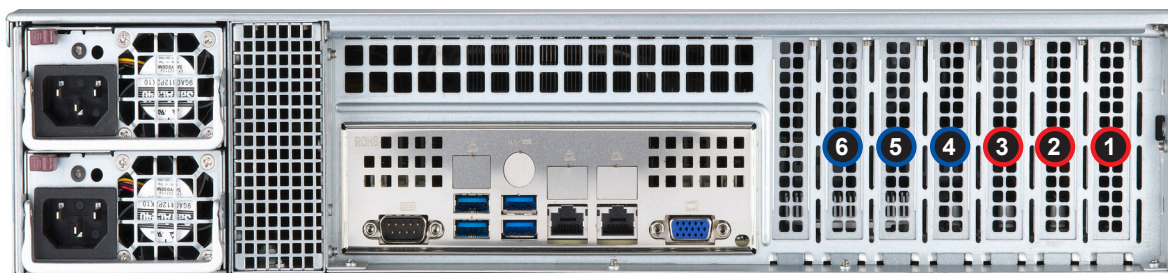


Figure 3-8. Expansion Slot Locations

| Expansion Slot Locations |           |                          |
|--------------------------|-----------|--------------------------|
| Item                     | Slot Name | Description              |
| 1                        | SLOT1     | PCIe 5.0 x8 slot (CPU1)  |
| 2                        | SLOT2     | PCIe 5.0 x16 slot (CPU1) |
| 3                        | SLOT3     | PCIe 5.0 x16 slot (CPU1) |
| 4                        | SLOT4     | PCIe 5.0 x16 slot (CPU2) |
| 5                        | SLOT5     | PCIe 5.0 x16 slot (CPU2) |
| 6                        | SLOT6     | PCIe 5.0 x8 slot (CPU2)  |

CPU1 CPU2

## 3.8 System Cooling

Three heavy-duty hot-pluggable fans (p/n FAN-0206L4) provide cooling for the chassis. Fan speed is controlled by system temperature via BMC. If a fan fails, the remaining fans will ramp up to full speed and the overheat/fan fail LED on the control panel will turn on. Replace any failed fan at your earliest convenience with the same type and model (the system can continue to run with a failed fan). Use remote management to determine which of the fans has failed.

### ***Removing a Fan***

1. Remove the [chassis cover](#).
2. Press the tabs on the sides of the fan to unlock and remove the fan and its housing. The fan's power connections will automatically detach.

### ***Installing a New Fan***

1. Replace the failed fan with an identical 8-cm, 12 volt fan.
2. Insert the new fan and listen for a "click".
3. If the system power is on, the hot-plug feature will cause the fan to start immediately upon being connected to its header on the serverboard.

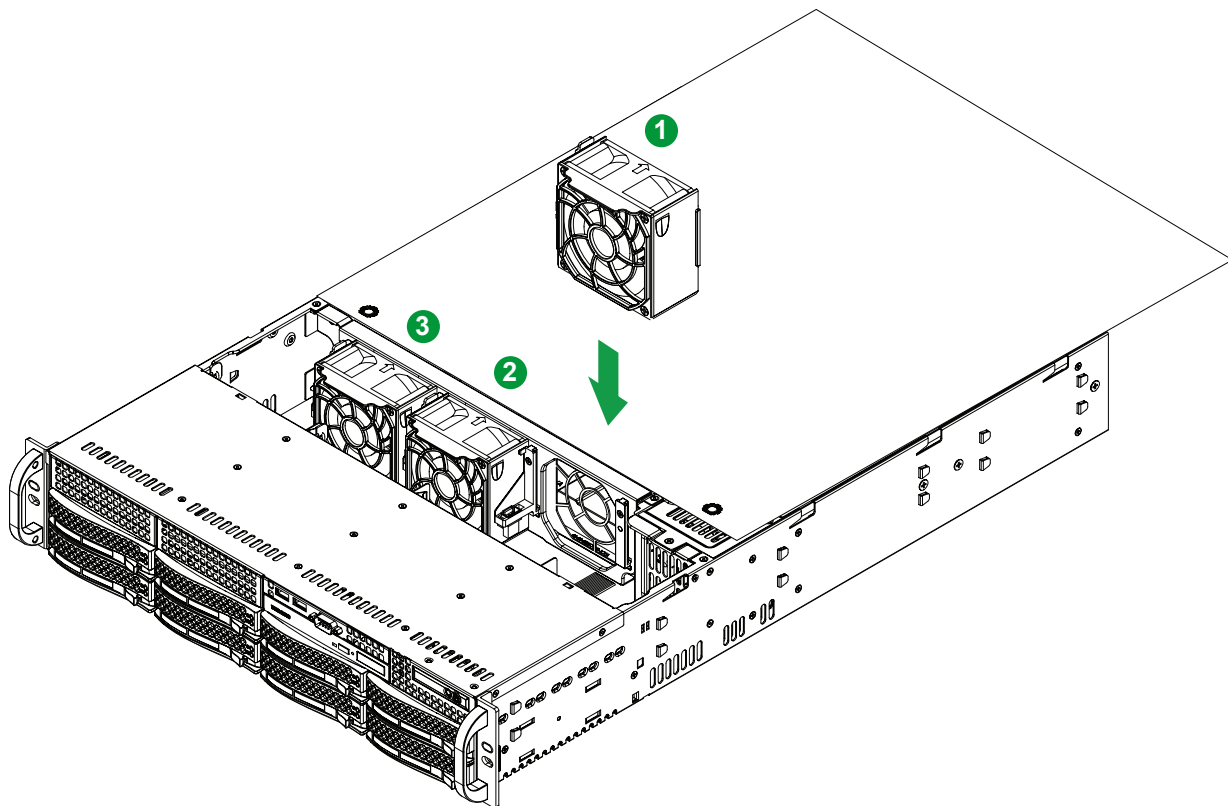


Figure 3-9. Fan Positions

## Installing or Removing Air Shroud

The air shroud directs airflow to maximize cooling efficiency and comes pre-installed with the system. In the rare event that the air shroud needs to be removed or installed follow the procedure below.

### *Installing or Removing Air Shroud*

1. [Remove power](#) from the system.
2. Remove the [chassis cover](#).
3. To install the air shroud, place the air shroud in the chassis. The air shroud fits behind the two fans closest to the power supply. To remove the air shroud, lift the air shroud out of the chassis.

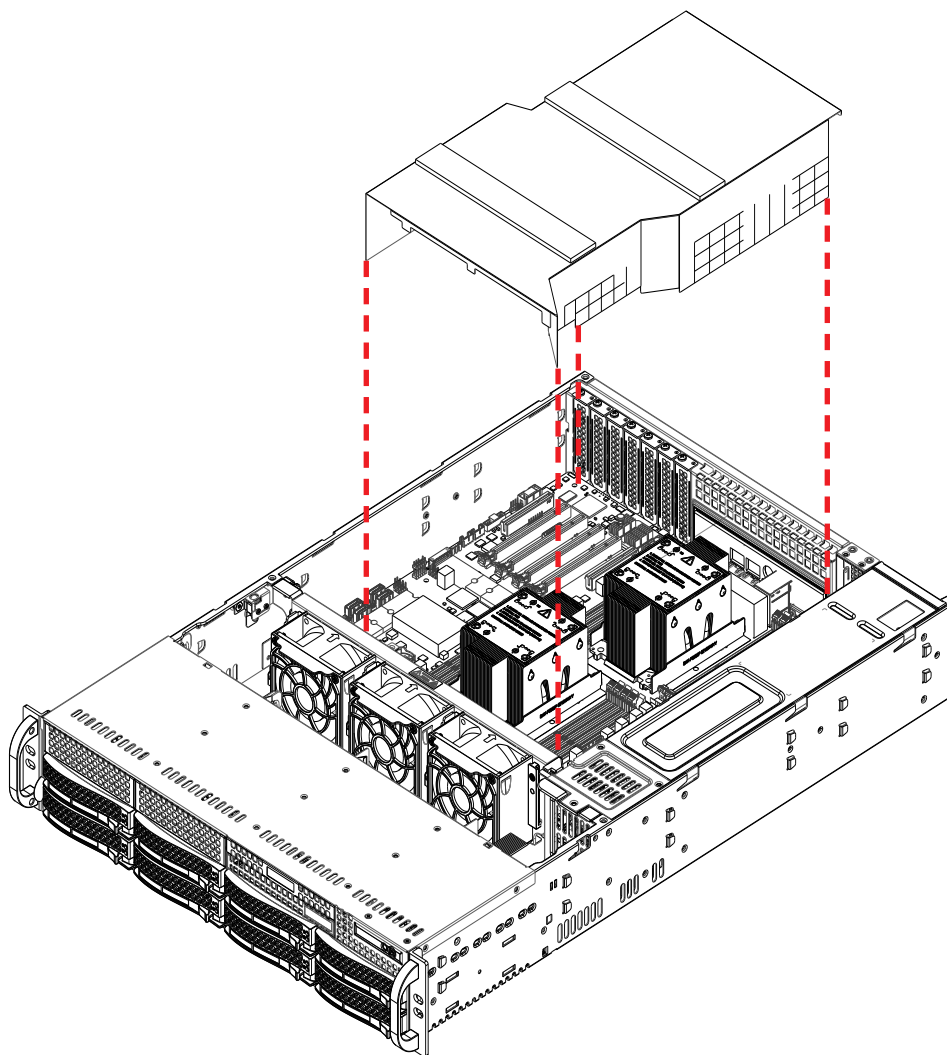


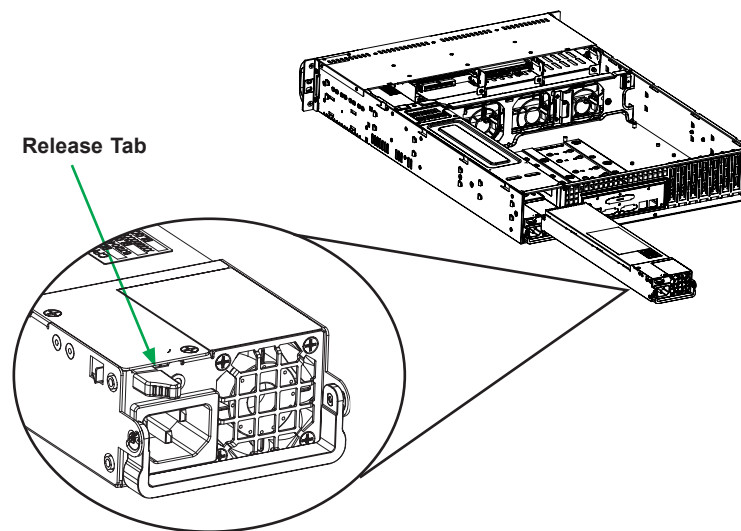
Figure 3-10. Installing or Removing Air Shroud

## 3.9 Power Supply

The SYS-621P-TR/SYS-621P-TRT supports redundant 1200 W Titanium Level power supplies (p/n PWS-1K23A-1R). A failed power supply can be replaced while the server is running.

### ***Removing a Power Supply***

1. Remove the AC power cord from the failed power supply.
2. Press and hold the release tab while pulling the power supply out of the chassis.
3. Insert a new power supply and slide it into the power bay until it clicks into place.
4. Reconnect the AC power cord to the power supply inlet and to the power source.



**Figure 3-11. Removing a Power Supply**

### ***Power Supply Indicators***

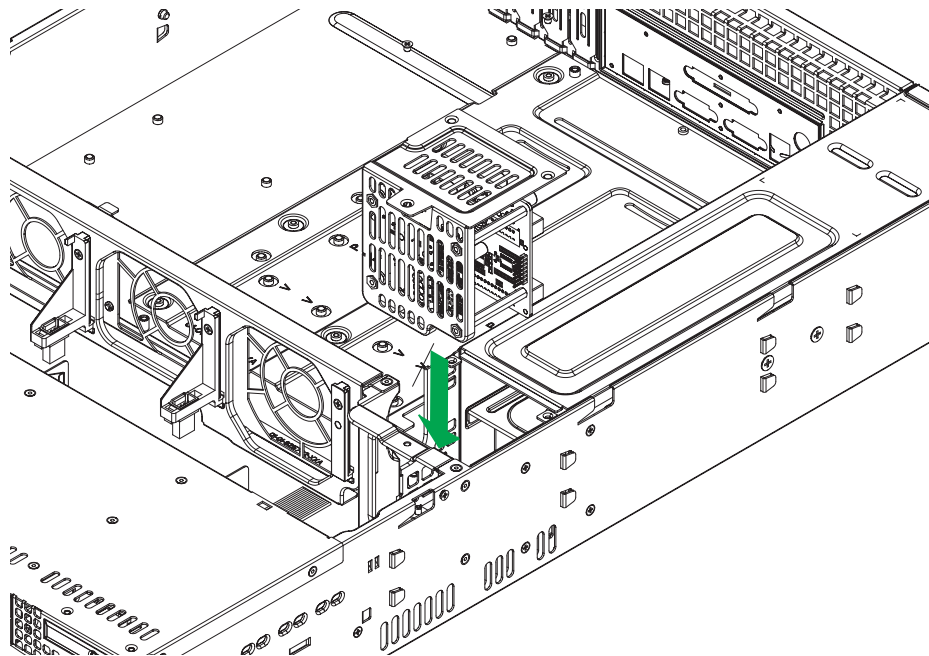
| Power Supply Indicators                                                                                                     |                     |                     |
|-----------------------------------------------------------------------------------------------------------------------------|---------------------|---------------------|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

## Power Distribution Board

The power distribution board distributes power throughout the system and provides power supply redundancy.

### *Replacing the Power Distribution Board*

1. [Remove power](#) from the system and remove both power supplies from the chassis.
2. Remove the [chassis cover](#).
3. Remove all cables connected to the power distribution board. Leave one end of the cables connected to the power-consuming components, such as the motherboard, expansion cards, and backplane.
4. Remove three screws on top of the power distribution board and set aside.
5. Pull the power distribution board from the chassis while guiding the disconnected ends of the power cables out of the power distribution board housing.
6. Reconnect the ends of all the power cables to a new power distribution board.
7. Insert the power distribution board into the chassis and reinstall the three screws.
8. Insert the power supplies, reconnect the AC power cords, reinstall the top cover, and power up the system.



**Figure 3-12. Replacing the Power Distribution Board**



## 3.10 Cable Routing Diagram

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

Rear SATA Cable

Front SATA Cable

Front NVME Cable

[Online Cable Matrix](#)

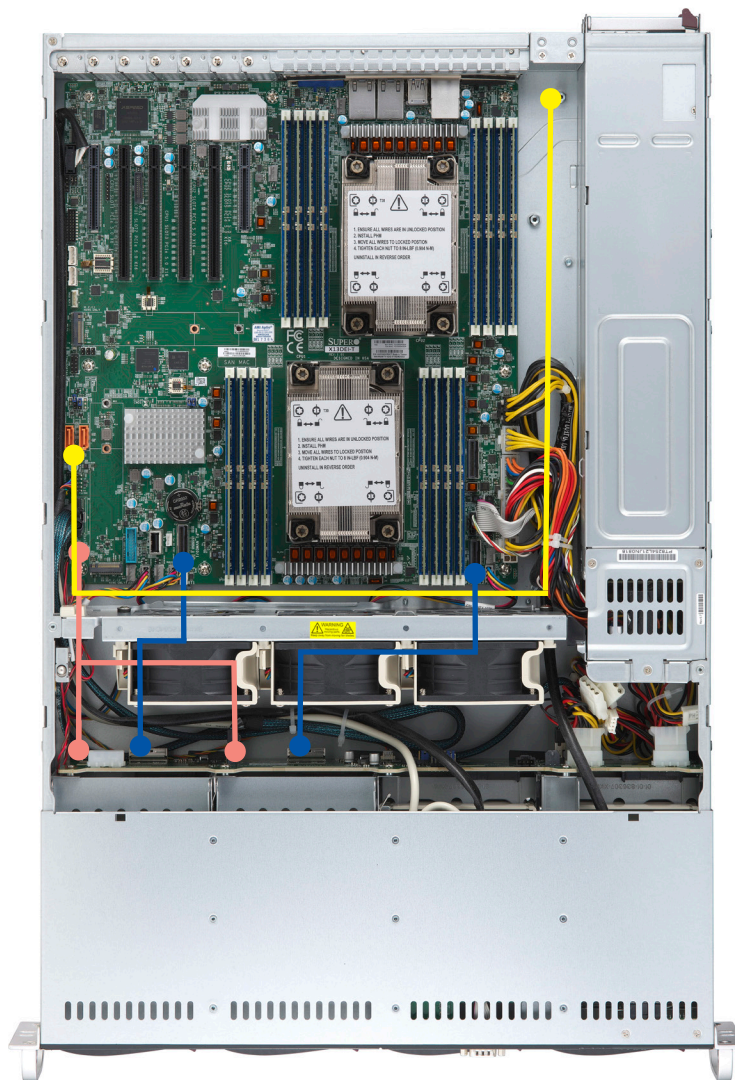


Figure 3-13. Cable Routing Diagram



## 3.11 BMC Reset

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

- Reset – Press and hold the button. After six seconds, the LED blinks at 2 Hz. The BMC resets and the reset duration is approximately 250 ms. Then the BMC starts to boot.
- Restore factory default configuration – Hold the button for twelve seconds. The LED blinks at 4 Hz while the defaults are configured. **Note:** All BMC settings including username and password will be removed except the FRU and network settings.
- Firmware update – When the BMC firmware is being updated, the UID LED blinks at 10 Hz.

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

## 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](#) or [Appendix B](#) before installing or removing components.

## 4.1 Power Connections

### ATX Power Supply Connector

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

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

Required Connection

| 12 V 8-pin Power<br>Pin Definitions |            |
|-------------------------------------|------------|
| Pin#                                | Definition |
| 1 - 4                               | Ground     |
| 5 - 8                               | +12 V      |

## 4.2 Headers and Connectors

### Fan Headers

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

| Fan Header<br>Pin Definitions |             |
|-------------------------------|-------------|
| Pin#                          | Definition  |
| 1                             | Ground      |
| 2                             | 2.5 A/+12 V |
| 3                             | Tachometer  |
| 4                             | PWM_Control |

### S-SGPIO Header

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

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

NC = No Connection

### TPM/Port 80 Header

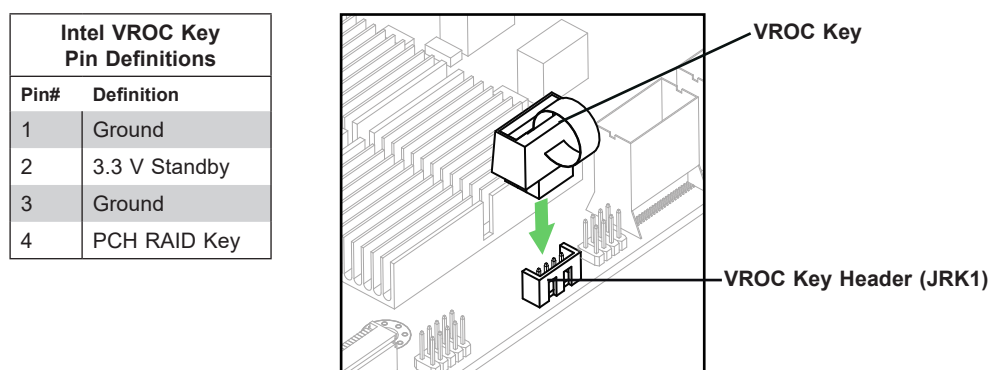
The JTPM1 header is used to connect a Trusted Platform Module (TPM)/Port 80, which is available from Supermicro (optional). A TPM/Port 80 connector is a security device that supports encryption and authentication in drives. It allows the motherboard to deny access if the TPM associated with the drive is not installed in the system. Please go to the following link for more information on the TPM: [https://www.supermicro.com/manuals/other/AOM-TPM-9670V\\_9670H.pdf](https://www.supermicro.com/manuals/other/AOM-TPM-9670V_9670H.pdf).

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

### VROC RAID Key Header

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

**Note:** For detailed instructions on how to configure VROC RAID settings, please refer to the VROC RAID Configuration User's Guide posted on the web page under the link: <http://www.supermicro.com/support/manuals/>.



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

### Standby Power

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

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

### Power SMB (I<sup>2</sup>C) Header

The Power System Management Bus (I<sup>2</sup>C) connector (JPI2C1) monitors the power supply, fan, and system temperatures. Refer to the table below for pin definitions.

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

### 4-pin BMC External I<sup>2</sup>C Header

Two System Management Bus headers for BMC are located at JIPMB1 and JBP\_I2C1. Connect the appropriate cable here to use the IPMB I<sup>2</sup>C connection on your system. Refer to the table below for pin definitions.

| External I <sup>2</sup> C Header<br>Pin Definitions |               |
|-----------------------------------------------------|---------------|
| Pin#                                                | Definition    |
| 1                                                   | Data          |
| 2                                                   | Ground        |
| 3                                                   | Clock         |
| 4                                                   | No Connection |

### Chassis Intrusion

A Chassis Intrusion header is located at JL1 on the motherboard. Attach the appropriate cable from the chassis to inform you when the chassis is opened. Refer to the table below for pin definitions.

| Chassis Intrusion<br>Pin Definitions |                 |
|--------------------------------------|-----------------|
| Pin#                                 | Definition      |
| 1                                    | Intrusion Input |
| 2                                    | Ground          |

### NVMe SMBus Header

The NVMe SMBus (I<sup>2</sup>C) header (JNVI2C1) provides hot-plug support via a dedicated SMBus interface. This feature is only available for a Supermicro complete system with an SMCI-proprietary NVMe add-on card and a proper cable installed. See the table below for pin definitions.

| NVMe SMBus Header<br>Pin Definitions |            |
|--------------------------------------|------------|
| Pin#                                 | Definition |
| 1                                    | Data       |
| 2                                    | Ground     |
| 3                                    | Clock      |
| 4                                    | VCCIO      |

### PCIe 4.0 M.2 Slots

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

### MCIO NVMe Connectors

MCIO NVMe connectors, located at P1\_NVME0/1, P1\_NVME2/3 and P2\_NVME4/5, provide six PCIe 5.0 x4 connections on the motherboard. P1\_NVME0/1 and P1\_NVME2/3 connections are supported by CPU1. P2\_NVME4/5 are supported by CPU2. Use these MCIO connectors to support high-speed PCIe NVMe storage devices.

**Note:** When installing an NVMe device on a motherboard, please be sure to connect the first NVMe port (P1\_NVME0/1) first for your system to work properly.

### NCSI Connector

The Network Controller Sideband Interface (NCSI) connector is located at JNC1. The connector is used to connect a Network Interface Card (NIC) to the motherboard to allow the onboard BMC to communicate with a network.

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

### SATA 3.0 Ports

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

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

### DOM Power Connector

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

| DOM Power Connector<br>Pin Definitions |            |
|----------------------------------------|------------|
| Pin#                                   | Definition |
| 1                                      | 5 V        |
| 2                                      | Ground     |
| 3                                      | Ground     |

## 4.3 Input/Output Ports

See the figure below for the locations and descriptions of the I/O ports on the rear of the motherboard.

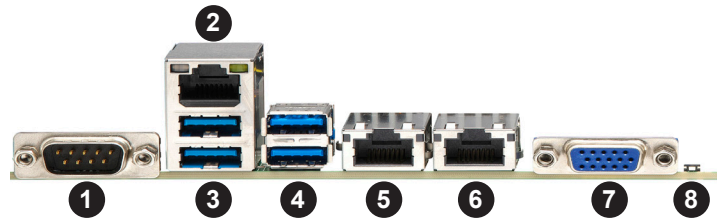


Figure 4-1. Rear I/O Ports

| Rear I/O Ports |                   |    |                                         |
|----------------|-------------------|----|-----------------------------------------|
| #              | Description       | #  | Description                             |
| 1.             | COM Port 1        | 5. | 1 G LAN1 (X13DEI), 10 G LAN1 (X13DEI-T) |
| 2.             | Dedicated BMC LAN | 6. | 1 G LAN2 (X13DEI), 10 G LAN2 (X13DEI-T) |
| 3.             | USB3/4 (3.0)      | 7. | VGA Port                                |
| 4.             | USB5/6 (3.0)      | 8. | UID/BMC Reset Switch                    |

### COM Ports

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

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

### VGA Connections

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

## LAN Ports (LAN1/LAN2 and BMC LAN)

Two Ethernet LAN ports (LAN1/LAN2) and a dedicated BMC LAN (BMC\_LAN) are located on the rear I/O panel. LAN1/LAN2 ports support 1 GbE LAN connection (via the Broadcom 5720 LAN controller) on the X13DEI, and support 10 GbE LAN connection (via the Broadcom 57416 LAN controller) on the X13DEI-T. The dedicated BMC LAN (BMC\_LAN), located above the USB2/3 ports on the rear I/O panel, provides LAN support for the BMC (Baseboard Management Controller). All of these LAN ports accept RJ45 cables.

**Note:** To avoid LAN port overheating, the SYS-621P-TRT will disable LAN2 in S5 mode.

## UID (Unit Identification)/BMC Reset Switch and UID/BMC Reset LED Indicators

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

When functioning as a BMC reset switch, JUIDB1 will trigger a cold reboot when the user presses and holds the switch for 6 seconds. It will also restore the BMC to the manufacturer's default when the user presses and holds the switch for 12 seconds.

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

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

| UID/BMC Reset Switch (JUIDB1)<br>Features and Settings                               |                    |                       |                                                          |                                                                         |                            |
|--------------------------------------------------------------------------------------|--------------------|-----------------------|----------------------------------------------------------|-------------------------------------------------------------------------|----------------------------|
| When Used as a UID LED Switch                                                        |                    |                       | When Used as a BMC Reset Switch                          |                                                                         |                            |
| Work w/Rear UID LED (LED6) and Front UID LED (JF1: Pins 7 and 8)                     |                    |                       | Work with BMC Heartbeat LED (LEDBMC)                     |                                                                         |                            |
| Rear UID LED                                                                         | LED6               | Blue: Unit identified | BMC Heartbeat LED                                        | LEDBMC                                                                  | Green Blinking: BMC Normal |
| Front UID LED                                                                        | Pins 7 and 8 (JF1) | Blue: Unit identified | BMC Reset: Press and hold the switch (JUIDB1) 6 seconds  | LEDBMC                                                                  | Solid green: during reboot |
| Press the switch (JUIDB1) to turn on and off both rear and front UID LED indicators; |                    |                       | BMC Reset: Press and hold the switch (JUIDB1) 12 seconds | Triggering a cold reboot; LED: solid green on during cold reboot        |                            |
|                                                                                      |                    |                       |                                                          | LEDBMC: Solid green: during BMC reset                                   |                            |
|                                                                                      |                    |                       |                                                          | BMC: Reset to the manufacturer's default; LED solid on during BMC Reset |                            |



## Universal Serial Bus (USB) Ports and Headers

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

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

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

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

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

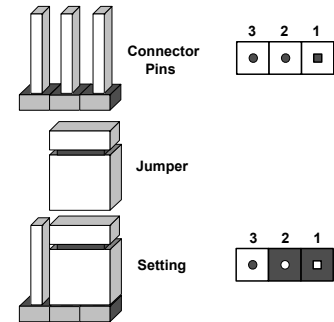
| USB 3.0 Header (USB7/8)<br>Pin Definitions |            |      |            |
|--------------------------------------------|------------|------|------------|
| Pin#                                       | Definition | Pin# | Definition |
| 1                                          | VBUS       | 20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

## 4.4 Jumpers

### *Explanation of Jumpers*

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

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



### **CMOS Clear**

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

### **To Clear CMOS**



1. First power down the system and unplug the power cord(s).
2. Remove the cover of the chassis to access the motherboard and remove the battery from the motherboard.
3. Short the CMOS pads, JBT1, with a metal object such as a small screwdriver for at least four seconds.
4. Remove the screwdriver (or shorting device).
5. Re-install the battery.
6. Replace the cover, reconnect the power cord(s), and power on the system.

**Notes:** Clearing CMOS will also clear all passwords. Do not use the PW\_ON connector to clear CMOS.

**LAN Port Enable/Disable**

Jumper JPL1 allows the user to enable the onboard LAN1 and LAN2 ports. The default setting is pins 1-2 to enable the connection. Refer to the table below for jumper settings.

| LAN Enable/Disable<br>Jumper Settings |            |
|---------------------------------------|------------|
| Jumper Setting                        | Definition |
| Pins 1-2                              | Enabled    |
| Pins 2-3                              | Disabled   |

## 4.5 LED Indicators

### Unit ID LED

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

| UID LED<br>LED Indicator |                   |
|--------------------------|-------------------|
| LED Color                | Definition        |
| Blue: On                 | System Identified |

### LAN LEDs

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

| LAN1/2 Activity LED (Right)<br>LED State |          |            |
|------------------------------------------|----------|------------|
| Color                                    | Status   | Definition |
| Green                                    | Flashing | Active     |

| LAN1/2 Link LED (Left)<br>LED State |                         |
|-------------------------------------|-------------------------|
| LED Color                           | Definition              |
| Green                               | 10 Gbps (X13DEI-T only) |
| Yellow/Amber                        | 1 Gbps                  |

### BMC LAN LEDs

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

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

### M.2 LED Indicators

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

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

### Onboard Power LED

The Onboard Power LED is located at LEDPWR on the motherboard. When this LED is on, the system power is on. Be sure to turn off the system power 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 Power Off (power cable not connected) |
| Green                       | System Power On                              |

### BMC Heartbeat LED

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

| BMC Heartbeat LED Indicator |            |
|-----------------------------|------------|
| LED Color                   | Definition |
| Green: Blinking             | BMC Normal |

## 4.6 Front Control Panel

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

### Front Control Panel LEDs

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

## Power On and BMC/BIOS Status LED Button

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

| Power Button and BIOS/BMC Status LED Indicator<br>Pin Definitions (JF1) |            |
|-------------------------------------------------------------------------|------------|
| Pin#                                                                    | Definition |
| 1                                                                       | Signal     |
| 2                                                                       | Ground     |

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

## Reset Button

The Reset Button connection is located on pins 3 and 4 of JF1. Momentarily contacting both pins will reset the system. Refer to the table below for pin definitions.

| Reset Button<br>Pin Definitions (JF1) |            |
|---------------------------------------|------------|
| Pin#                                  | Definition |
| 3                                     | Reset      |
| 4                                     | Ground     |

## Power Fail LED

The Power Fail LED connection is located on pins 5 and 6 of JF1. When this LED turns solid red, it indicates a power failure. Refer to the table below for pin definitions.

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

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

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

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

### NIC1/NIC2 (LAN1/LAN2)

The NIC (Network Interface Controller) LED connection for LAN port 1 is located on pins 11 and 12 of JF1, and LAN port 2 is on pins 9 and 10. Refer to the tables below for pin definitions.

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

| LAN1/LAN2 LED<br>LED Indicator Status |               |
|---------------------------------------|---------------|
| Color                                 | State         |
| NIC 2: Blinking green                 | LAN 2: Active |
| NIC 1: Blinking green                 | LAN 1: Active |

### ID\_UID Switch/Drive Activity LED

The UID Switch/Drive Activity LED connection is located on pins 13 and 14 of JF1. The UID switch is used for a chassis that supports a front UID switch. The front UID switch functions in the same way as the rear UID switch; both are for input only and cannot be used for output. When this LED is blinking green, it indicates the drive is active. Attach a cable to pins 13 and 14 to show ID\_UID status and drive activity. Refer to the tables below for pin definitions.

| ID_UID/Drive Activity LED<br>Pin Definitions (JF1) |                     |
|----------------------------------------------------|---------------------|
| Pins                                               | Definition          |
| 13                                                 | ID_UID/3.3 V Stdbby |
| 14                                                 | Drive Activity      |

| ID_UID/Drive Activity LED<br>Pin Definitions (JF1) |              |
|----------------------------------------------------|--------------|
| Color                                              | State        |
| Blinking Green                                     | Drive Active |



### Front Panel Power LED

The Front Panel Power LED connection is located on pins 15 and 16 of JF1. Refer to the table below for pin definitions.

| FP Power LED<br>Pin Definitions (JF1) |            |
|---------------------------------------|------------|
| Pins                                  | Definition |
| 15                                    | 3.3 V      |
| 16                                    | FP PWR LED |

### NMI Button

The non-maskable interrupt (NMI) button header is located on pins 19 and 20 of JF1. Refer to the table below for pin definitions.

| NMI Button<br>Pin Definitions (JF1) |            |
|-------------------------------------|------------|
| Pins                                | Definition |
| 19                                  | NMI        |
| 20                                  | Ground     |

## Chapter 5

### Software

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

#### 5.1 Microsoft Windows OS Installation

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

##### *Installing the OS*

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

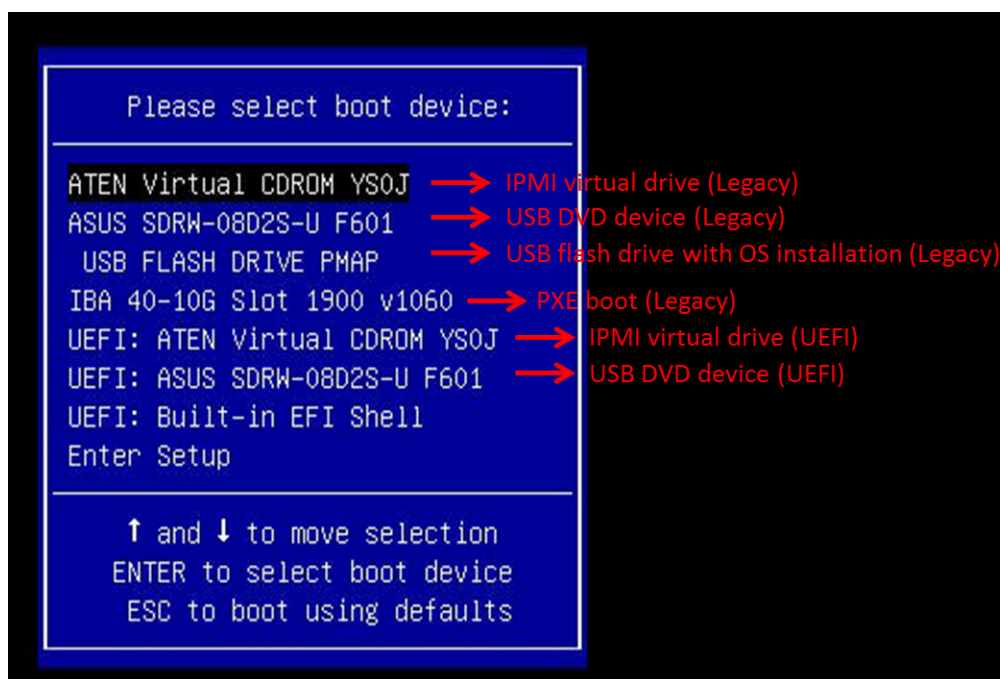
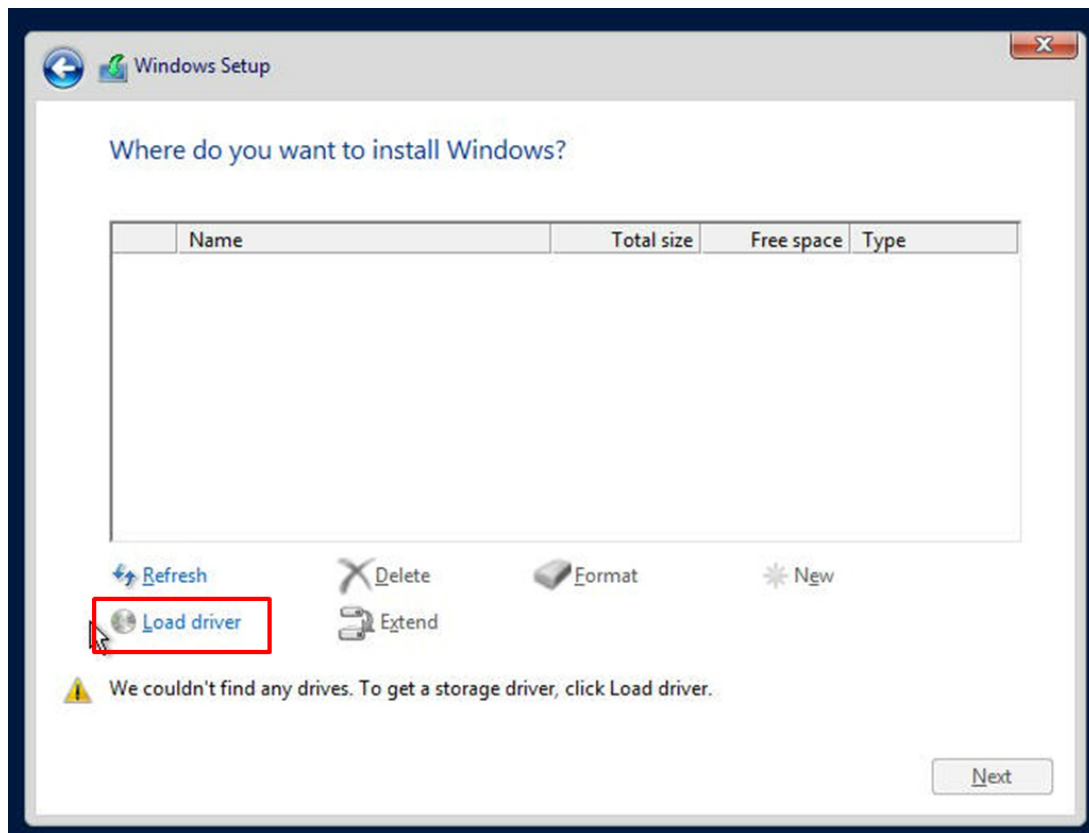


Figure 5-1. Select Boot Device

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



**Figure 5-2. Load Driver Link**

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

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

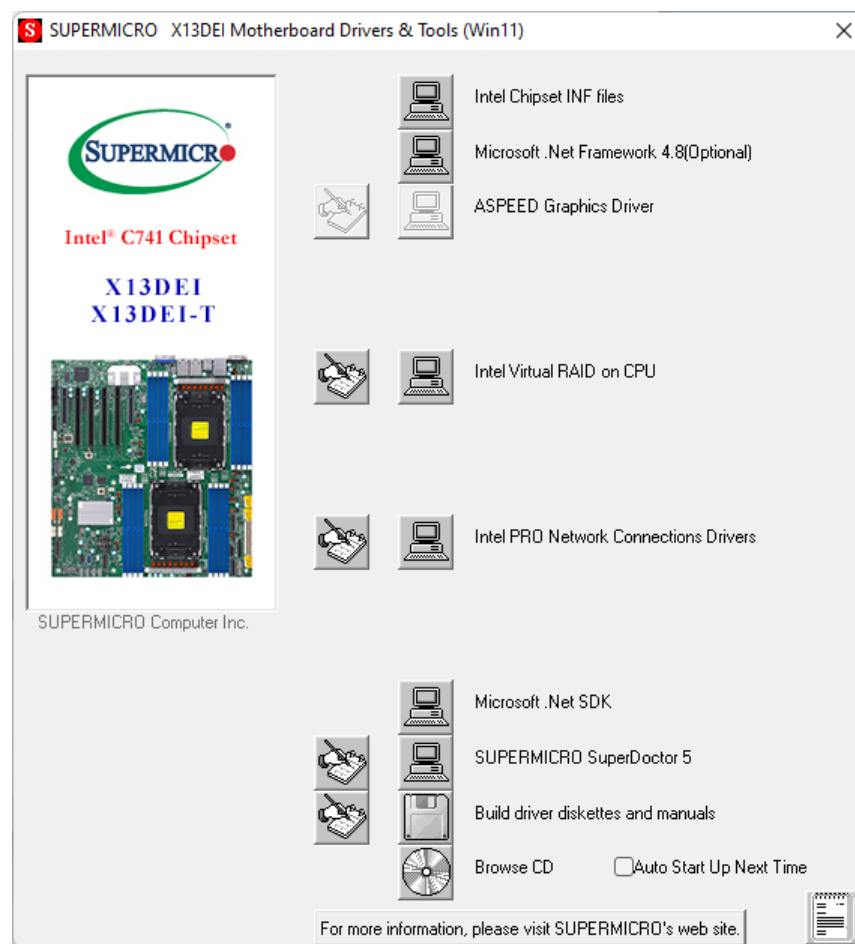
## 5.2 Driver Installation

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

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

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

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



**Figure 5-3. Driver & Tool Installation Screen**

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

## 5.3 BMC

The motherboard provides remote access, monitoring and management through the baseboard management controller (BMC) and other management controllers distributed among different system modules. There are several BIOS settings that are related to BMC. For general documentation and information on BMC, visit our website at:

[www.supermicro.com/en/solutions/management-software/bmc-resources](http://www.supermicro.com/en/solutions/management-software/bmc-resources)

### BMC ADMIN User Password

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



Figure 5-4. BMC Password Label

# Chapter 6

## Optional Components

This chapter describes optional system components.

### 6.1 Optional Parts List

| Optional Parts List                          |                        |
|----------------------------------------------|------------------------|
| Description                                  | Part Number            |
| <b>Rear hot-swap drives</b>                  |                        |
| 2.5" hot-swap rear SATA drive kit including: | MCP-220-82616-0N       |
| SATA data cable                              | CBL-0481L              |
| SATA power cable                             | CBL-0234L              |
| SGPIO cable                                  | CBL-CDAT-0841          |
| <b>Front fixed drives</b>                    |                        |
| 2.5" front SATA drive kit including:         | MCP-220-82502-0B       |
| SATA data cable                              | CBL-0044               |
| SATA power cable                             | CBL-0082L              |
| 2.5" front NVME drive kit including:         |                        |
| Slimline x8 to PCIe MCIO connector cable     | CBL-MCIO-1260M5        |
| <b>Slim DVD</b>                              |                        |
| Slim DVD accessories kit (SATA connection)   | MCP-220-81502-0N       |
| Slim DVD drive                               | DVM-TEAC-DVD-SBT5      |
| <b>Cable management arm</b>                  |                        |
| Cable management arm                         | MCP-290-00073-0N       |
| Cable arm adapter                            | MCP-120-82503-0N       |
| <b>Others</b>                                |                        |
| <a href="#">TMP 2.0</a>                      | AOM-TPM-9670V-S-O      |
| 8-ports SAS Raid controller kit              |                        |
| AOC Raid for SATA/SAS drive                  | AOC-S3908L-H8IR-16DD-O |

|                              |                    |
|------------------------------|--------------------|
| CacheVault for Broadcom 3908 | BTR-CVPM05         |
| Supercap and PCI bracket     | MCP-240-00203-0N   |
| MCC CPU carrier              | SKT-1424L-001B-FXC |
| XCC CPU carrier              | SKT-1333L-0000-FXC |

## Serial General Purpose Input/Output

Serial general purpose input/output (SGPIO) is a four-signal (or four-wire) bus that connects a host bus adapter (HBA) to a backplane.

## PCIe MCIO Connector Cable

Connects a slimline SATA drive to a standard SATA motherboard connector. This is the NVMe kit for the front hot-swappable U.2 NVMe drives.

## Slim DVD Drive

Slim DVD drive SATA to SATA adapter.

## AOC Raid for SATA/SAS Drive

Internal SATA/SAS RAID adapter card with internal ports.

## CacheVault for Broadcom 3908

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

## Supercap and PCI Bracket

Supercap and PCIe bracket plastic holder for BBU.

## MCC CPU Carrier

MCC CPU Carrier for SPR MCC CPU.

## XCC CPU Carrier

XCC CPU Carrier for SPR XCC CPU.

## 6.2 Intel Virtual RAID on CPU (VROC)

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

- A single processor supports up to 12 NVMe SSDs and up to 6 RAID arrays.
- A dual processor system supports up to 24 NVMe SSDs and 12 RAID arrays.

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

### Requirements and Restrictions

- **Intel VROC is only available when the system is configured for UEFI boot mode.**
- To enable the **mdadm** command and support for RSTe, install the patch from
  - Linux: <https://downloadcenter.intel.com/download/28158/Intel-Virtual-RAID-on-CPU-Intel-VROC-and-Intel-Rapid-Storage-Technology-enterprise-Intel-RSTe-Driver-for-Linux>
  - Windows: <https://downloadcenter.intel.com/download/28108/Intel-Virtual-RAID-on-CPU-Intel-VROC-and-Intel-Rapid-Storage-Technology-enterprise-Intel-RSTe-Driver-for-Windows>
- To enable Intel VROC, a hardware key must be inserted on the motherboard, and the appropriate processor's Virtual Management Devices must be enabled in the BIOS setup.
- It is possible to enable Intel VROC without a hardware key installed, but only RAID0 will be enabled.
- Intel VROC is not compatible with secure boot. This feature must be disabled.
- When creating bootable OS RAID1 devices, you must have both devices on the same CPU, and a VMD on that CPU.
- Spanning drives when creating RAID devices is not recommended due to performance issues, even though it is supported.

### Supported SSDs and Operating Systems

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



## Additional Information

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

[www.supermicro.com/products/accessories/addon/AOC-VROCxxxMOD.cfm](http://www.supermicro.com/products/accessories/addon/AOC-VROCxxxMOD.cfm)

## Hardware Key

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

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



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

## Enabling NVMe RAID

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

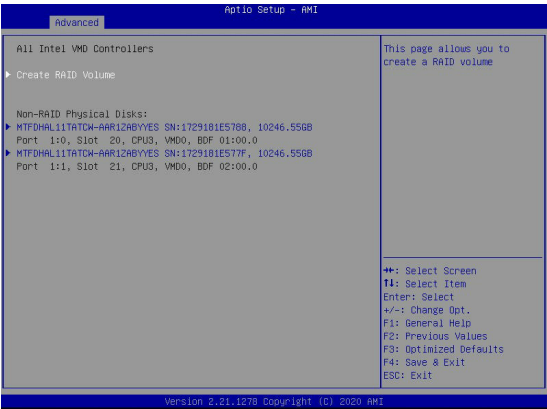
1. Install the patch as described in the Restrictions and Requirements section on a previous page.
2. Reboot the server.
3. Press [DEL] key to enter BIOS.
4. Switch to **Advanced > Chipset Configuration > North Bridge > IIO Configuration > Intel® VMD Technology > CPU3 & CPU4**.
5. **Enable** the VMD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

Examples for some U.2 configurations follow.

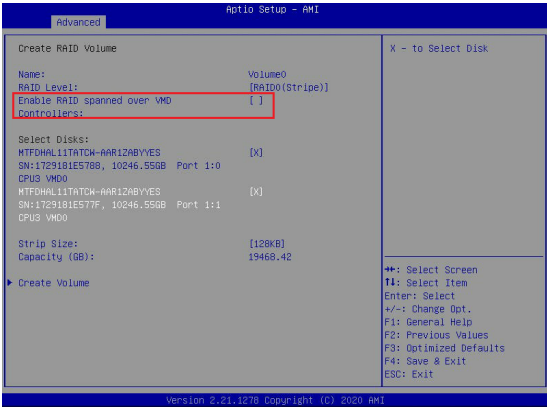
6. Press [F4] to save the configuration and reboot the system.
7. Press [DEL] to enter BIOS.
8. Switch to **Advanced > Intel(R) Virtual RAID on CPU > All Intel VMD Controllers > Create RAID Volume**.
9. Set **Name**.
10. Set **RAID Level**.
11. If cross-controller RAID is required, select **Enable RAID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



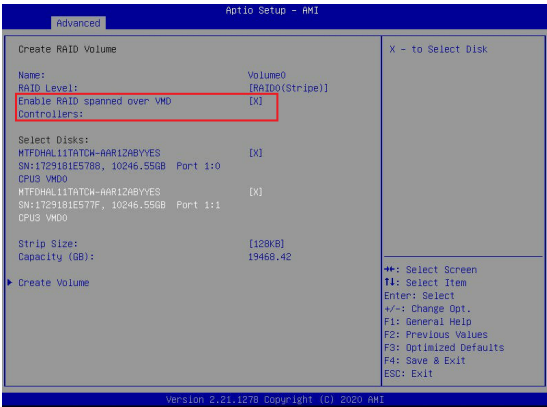
Figure 6-2. BIOS VMD Setting Examples



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



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



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

## Status Indications

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

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

IBPI SFF 8489 Defined Status LED States

## Hot Swap Drives

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

### Hot-unplug

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

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

2. Unmount the VMFS volumes on the device. Check [2] for details.
3. Detach the device. Check [3] for details.
4. Physically remove the device.

### Hot-plug

- Physically install the device.

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

## Related Information Links

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

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

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

## 6.3 TPM Security Module

SPI capable TPM 2.0 (or 1.2) with Infineon 9670 controller, vertical form factor

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

Details and installation procedures are at:

<http://www.supermicro.com/manuals/other/TPM.pdf>.

- AOM-TPM-9670V

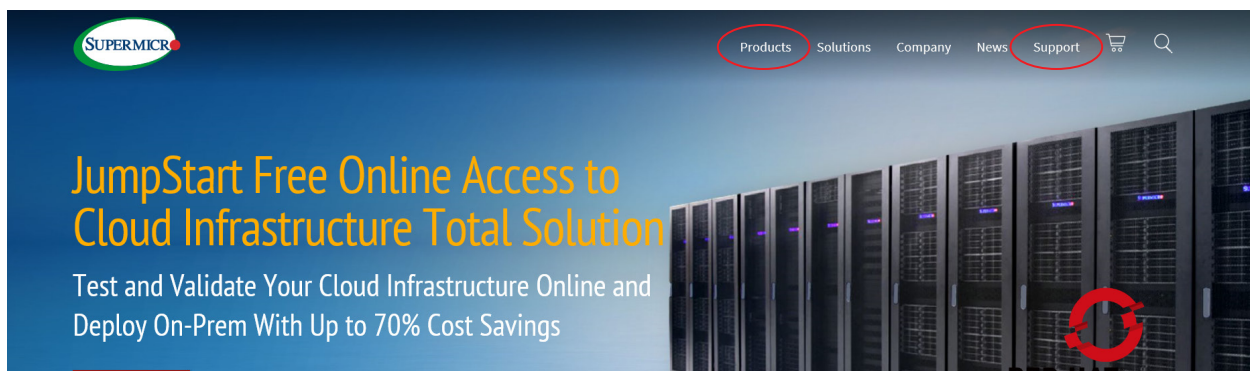
# Chapter 7

## Troubleshooting and Support

### 7.1 Information Resources

#### Website

A great deal of information is available on the Supermicro website, [supermicro.com](http://supermicro.com).



**Figure 7-1. Supermicro Website**

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

#### ***Direct Links for the SYS-621P-TR/621P-TRT System***

[SYS-621P-TR](#), [SYS-621P-TRT](#) specifications page

[X13DEI](#), [X13DEI-T](#) motherboard page for links to the Quick Reference Guide, User Manual, validated storage drives, etc.

#### ***Direct Links for General Support and Information***

[Frequently Asked Questions](#)

[Add-on card descriptions](#)

[TPM User Guide](#)

General Memory Configuration Guide: [X13](#)

[BMC User Guide](#)

[SuperDoctor5 Large Deployment Guide](#)

### Direct Links (continued)

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

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

[Security Center](#) for recent security notices

[Supermicro Phone and Addresses](#)

## 7.2 Baseboard Management Controller (BMC)

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

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

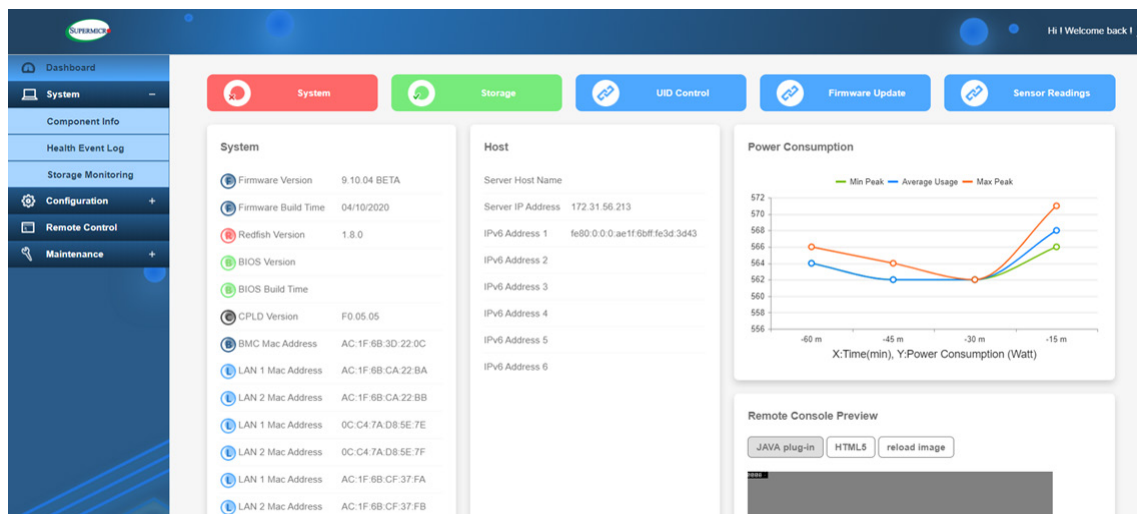


Figure 7-2. BMC Sample



## 7.3 Troubleshooting Procedures

Use the following procedures to troubleshoot your system. If you have followed all of the procedures below and still need assistance, refer to the [Technical Support Procedures](#) section in this chapter. [Power down](#) the system before changing any non hot-swap hardware components.

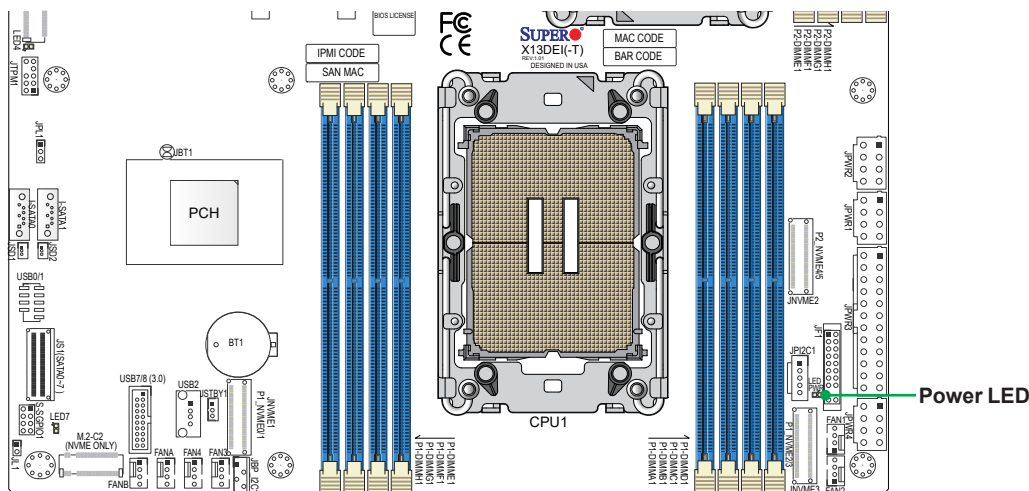
### General Technique

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

1. With power off, remove all but one DIMM and other added components, such as add-on cards, from the motherboard. Make sure the motherboard is not shorted to the chassis.
2. Set all jumpers to their default positions.
3. Power up. If the system boots, check for memory errors and add-on card problems.

### No Power

- Make sure that there are no short circuits between the motherboard and the chassis.



**Figure 7-3. Location of the MB Power LED**

- Make sure that the power connectors are properly connected.
- Check that the 115 V/230 V switch, if available, on the power supply is properly set.
- Turn the power switch on and off to test the system, if applicable.
- The battery on your motherboard may be old. Check to verify that it still supplies approximately 3 VDC. If it does not, replace it with a new one.

## No Video

- Be sure that your peripherals and devices work properly.
- If there is no video when the power is on, please turn off your system and remove all add-on cards and cables.

## System Boot Failure

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

- Turn on the system with only one DIMM module installed. If the system boots, check for bad DIMM modules or slots by following the Memory Errors Troubleshooting procedure below.

## Memory Errors

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

## Losing the System Setup Configuration

- Always replace power supplies with the exact same model that came with the system. A poor quality power supply may cause the system to lose the CMOS setup configuration.
- Check that the motherboard battery still supplies approximately 3 VDC. If it does not, replace it.

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

## When the System Becomes Unstable

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

- CPU/BIOS support: Make sure that your CPU is supported and that you have the latest BIOS installed in your system.
- Memory: Make sure that the memory modules are supported. Refer to the product page on our website at [www.supernmicro.com](http://www.supernmicro.com). Test the modules using **memtest86** or a similar utility.

- Storage drives: Make sure that all drives work properly. Replace if necessary.
- System cooling: Check that all heatsink fans and system fans work properly. Check the hardware monitoring settings in the BMC to make sure that the CPU and system temperatures are within the normal range. Also check the Control panel Overheat LED.
- Adequate power supply: Make sure that the power supply provides adequate power to the system. Make sure that all power connectors are connected. Refer to the Supermicro website for the minimum power requirements.
- Proper software support: Make sure that the correct drivers are used.

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

- Source of installation: Make sure that the devices used for installation are working properly, including boot devices.
- Cable connection: Check to make sure that all cables are connected and working properly.
- Use the minimum configuration for troubleshooting: Remove all unnecessary components (starting with add-on cards first), and use the minimum configuration (but with a CPU and a memory module installed) to identify the trouble areas.
- Identify a bad component by isolating it. Check and change one component at a time.
  - Remove a component in question from the chassis, and test it in isolation. Replace it if necessary.
  - Or swap in a new component for the suspect one.
  - Or install the possibly defective component into a known good system. If the new system works, the component is likely not the cause of the problem.

## 7.4 BIOS Error Beep (POST) Codes

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

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

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

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

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

### Additional BIOS POST Codes

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

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

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

## 7.5 Crash Dump Using BMC

In the event of a processor internal error (IERR) that crashes your system, you may want to provide information to support staff. You can download a crash dump of status information using BMC. The BMC manual is available at <https://www.supermicro.com/en/solutions/management-software/bmc-resources>.

### Check IPMI Error Log

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

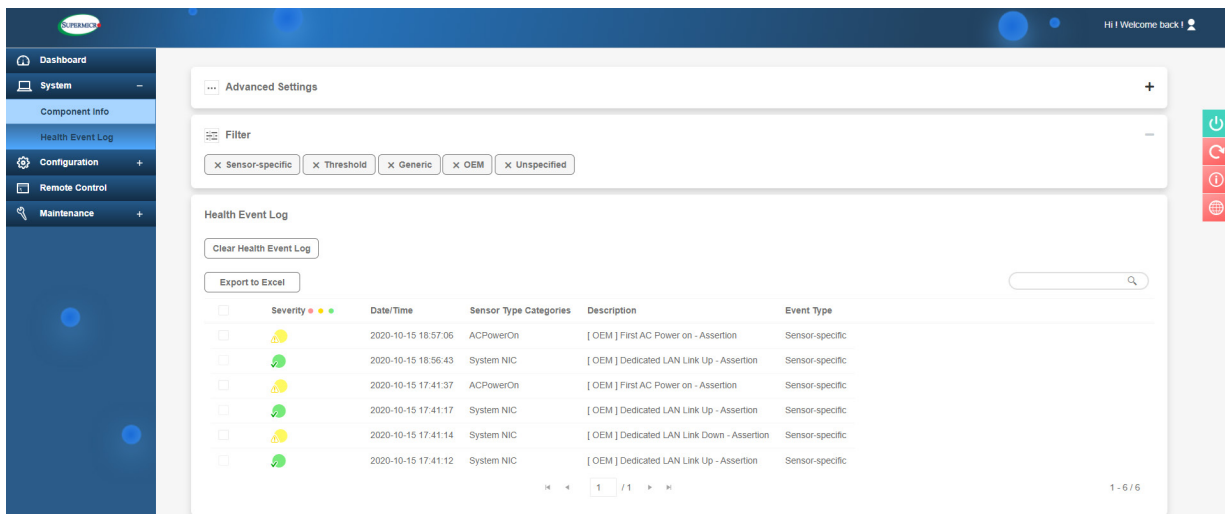


Figure 7-4. BMC Event Log

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

## 7.6 UEFI BIOS Recovery

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

### Overview

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

### Recovering the UEFI BIOS Image

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

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

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

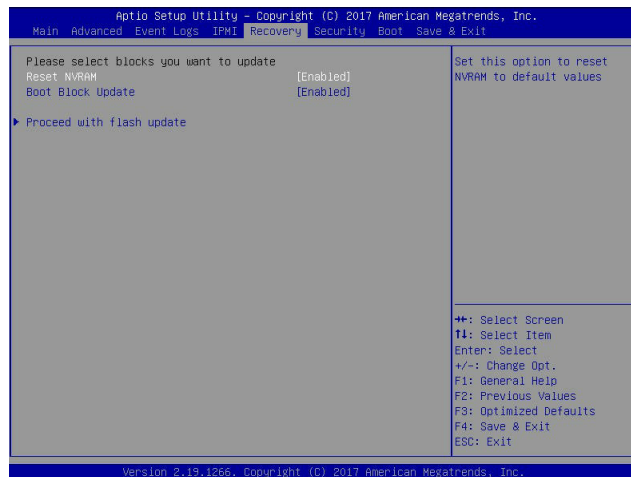
**Note 1:** If you cannot locate the "Super.ROM" file in your drive disk, visit our website at [www.supermicro.com](http://www.supermicro.com) to download the BIOS package. Extract the BIOS binary image into a USB flash device and rename it "Super.ROM" for the BIOS recovery use.

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

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



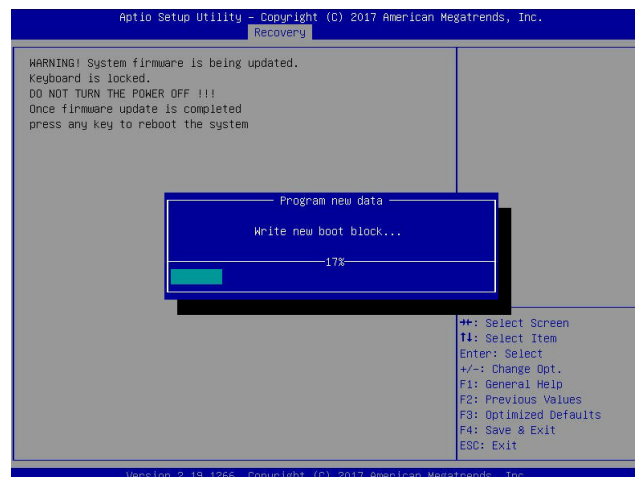
**Note:** At this point, you may decide if you want to start the BIOS recovery. If you decide to proceed with BIOS recovery, follow the procedures below.



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

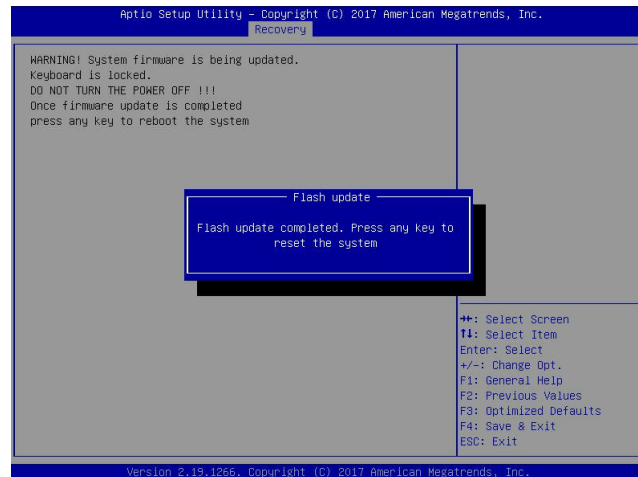
**Note:** Do not interrupt the BIOS flashing process until it has completed.

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



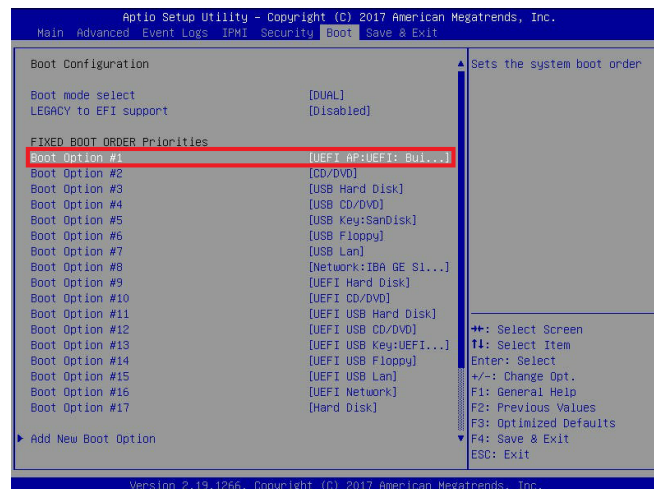


7. Press <Del> continuously during system boot to enter the BIOS Setup utility. From the top of the tool bar, select Boot to enter the submenu. From the submenu list, select Boot



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

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



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

```

UEFI Interactive Shell v2.1
EDK II
UEFI v2.50 (American Megatrends, 0x0005000C)
Mapping table
  FSD: Alias(s):HD(0x0B):BLK1:
    PciRoot(0x0)/Pci(0x14,0x0)/USB(0x11,0x0)/HD(1,MBR,0x37901D72,0x800,0x1
CR3592)
  BLK0: Alias(s):
    PciRoot(0x0)/Pci(0x14,0x0)/USB(0x11,0x0)
Press F10 in 1 seconds to skip startup.nsh or any other key to continue.
Shell> fs0:
FS0:\> cd AFUDOS
FS0:\AFUDOS> cd SKJPM2_03162017
FS0:\AFUDOS\SKJPM2_03162017> flash.nsh X110PU7.314

```

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

```

Done.
[ Access Cmos Port Ex ]
<Read>
Index 0x51: 0x10

Done.
*****
*
* Program BIOS and ME (including FDT) regions...
*
*****
| AMT 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%)

```

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

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

```

Verifying NDB Block ..... done
- Update success for FDR
- Update success for IEV
- Successful Update Recovery Loader to OPRx!!
- Successful Update MFSB!!
- Successful Update FPR!!
- Successful Update MFS, IVB1 and IVB2!!
- Successful Update FLOG and UTDK!!
- ME Entire Image update success !!
WARNING : System must power-off to have the changes take effect!
Moving FS0:\AFUDOS\SKJPM2_03162017\rdtx64.efi -> FS0:\AFUDOS\SKJPM2_03162017\
dt.smc
- [ok]
Moving FS0:\AFUDOS\SKJPM2_03162017\afuef1x64.efi -> FS0:\AFUDOS\SKJPM2_0316201
7\afuef1.smc
- [ok]
*****
* Please ignore this 'Shell: Cannot read from file - Device Error'
* warning message due to it does not impact flashing process.
*
*****
Deleting "afuef1.smc"
Delete successful.
FS0:\>

```

11. Press <F3> to load the default settings.
12. After loading the default settings, press <F4> to save the settings and exit the BIOS Setup utility.

## 7.7 CMOS Clear

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

### **To Clear CMOS**

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

**Notes:** Clearing CMOS will also clear all passwords.

*Do not use the PW\_ON connector to clear CMOS.*



JBT1 contact pads

## 7.8 Where to Get Replacement Components

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

## 7.9 Reporting an Issue

### Technical Support Procedures

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

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

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

### Returning Merchandise for Service

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

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

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

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

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

## **Vendor Support Filing System**

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

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

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

## **7.10 Feedback**

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

## Appendix A

# Standardized Warning Statements for AC Systems

### About Standardized Warning Statements

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

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

These warnings may also be found on our website at [http://www.supermicro.com/about/policies/safety\\_information.cfm](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 الزهرز عُ خطر! تحذُرُ .  
 قبل اَي تعول على اَي هعدات، كي على علن بالوخاطز ال اُجوة عي الذوائر  
 الكهزبائِة  
 وكي على درا ة بالووارسات البقائِة لو عُ وقع اَي حادث  
 استخدم رقن الب اَي الو صُص ف ها ة كل تحذُر 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.

اقرأ إرشادات التركيب قبل توصيل النظام إلى مصدر للطاقة

시스템을 전원에 연결하기 전에 설치 안내를 읽어주십시오.

**Waarschuwing**

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

**Circuit Breaker**

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

**サーキット・ブレーカー**

この製品は、短絡(過電流)保護装置がある建物での設置を前提としています。

保護装置の定格が250 V、20 Aを超えないことを確認下さい。

**警告**

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

**警告**

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

**Warnung**

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

**¡Advertencia!**

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

**Attention**

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

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

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

**경고!**

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

**Waarschuwing**

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

## Power Disconnection Warning



**Warning!** The system must be disconnected from all sources of power and the power cord removed from the power supply module(s) before accessing the chassis interior to install or remove system components (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 החשמל 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 نثبيج أو إزانت مكنناث 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 installé dans des zones d'accès réservés. L'accès à une zone d'accès réservé n'est possible qu'en utilisant un outil spécial, un mécanisme de verrouillage et une clé, ou tout autre moyen de sécurité.

אזור עם גישה מוגבלת

אזהרה!

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

تخصيص هذه انحدزة نترك بُها ف مناطق محظورة تم .  
ممكن انصلل إن منطقت محظورة فقط من خلال استخداو أداة خاصت  
أو أ وس هُت أخري نلاأمما 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 اسحبذال البطارية بطريقة غير صحيحة فعلى  
 اسحبذال البطارية  
 فقط بنفس النوع أو ما يعادلها مما أوصت به الشركة المصنعة  
 جخلص من البطاريات المسحمة وفقاً 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

此裝置連接的電源可能不只一個，必須切斷所有電源才能停止對該裝置的供電。

Warnung

Dieses Gerät kann mehr als eine Stromzufuhr haben. Um sicherzustellen, dass der Einheit kein 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 المبددة على الساحة  
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 instalacion del equipo debe cumplir con las normas de electricidad locales y nacionales.

Attention

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

תיאום חוקי החשמל הארצי

אזהרה!

התקנת הציוד חייבת להיות תואמת לחוקי החשמל המקומיים והארציים.

تركيب المعدات الكهربائية يجب أن يمثل للقوايه المحلية والطية 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 appropriées. 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 מילמשח מילבכ

!הרהזא

ךרוצל ומאתוה וא ושכרנ רשא AC מימאתמו 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 הלוקתל מורגל לולע, רחא גוסמ מאתמ וא לבכ לש דוק מהילע עיפומ רשאכ) UL-ב או CSA-ב -ב מיכמסומה מילבכב שמתשהל רוסיא מייק, תוחיטבה יקוחו דבלב Supermicro י"ע מאתוה רשא רצומב קר אלא, רחא ילמשח רצומ לכ רובע (UL/CSA)

תאלבאלא אארשב מק וא ענדחמל וא ערפוטמל תאליסוטל מודחטסאב מק, גתנמל בייקרת דנע כלז יפ אמב עילחמל עמאלסל תאבלטתמו נינאווב מאזתל עמ דדרתמל ראיטל תאלוחמו עיזאברמל קל. קיירח וא לטע יפ בבסטטי דק ירזא תאלוחמו תאלבאק יא מודחטסא. מילסל סבאלאו לסומל מרח. CSA וא UL לבק נמ ענדחמל תאלבאלא מודחטסא תאדעמל עיזאברמל קל עזגאל עמאלסל נונאק רזחי Supermicro לבק נמ ענדחמל עיזאברמל תאגתנמל ריג ירזא תאדעמ יא עמ (UL/CSA) עמאלע למחת יטלוא



### 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 Supermicro가 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

# Standardized Warning Statements for DC Systems

### B.1 About Standardized Warning Statements

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

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

These warnings may also be found on our website at [http://www.supermicro.com/about/policies/safety\\_information.cfm](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。

您目前所處的工作環境可能讓您受傷。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 الزهرز عُ خطر! تحذُرُ .  
 قبل اَي تعول على اَي هعدات، كي على علن بالوخاطز ال اُجوة عي الذوائر  
 الكهزبائِة  
 وكي على دراهُ بالووارسات النقاائِة لو عُ وقع اَي حادث  
 استخدم رقن الب اِي الو صُص ف هَاهُ كل تحذُر 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.

اقرأ 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: 60VDC, 20A.

**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60VDC、20A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60VDC,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60VDC,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: 60VDC, 20A 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: 60VDC, 20A.

**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 :60VDC, 20A.

מוצר זה מסתמך על הגנה המותקנת במבנים למניעת קצר חשמלי. יש לוודא כי המכשיר המגן מפני הקצר החשמלי הוא לא יותר מ-60VDC, 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, 60VDC

**경고!**

이 제품은 전원의 단락(과전류)방지에 대해서 전적으로 건물의 관련 설비에 의존합니다. 보호장치의 정격이 반드시 60VDC(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 60VDC, 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).

### 電源切斷の警告

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斷され、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 قېم  
انصل إلى امناطق انداخھيت نهھيكم نتشيج أو إزانت مكنناث 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

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

¡Advertencia!

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



**Attention**

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

אזהרה!

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

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

경고!

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

**Waarschuwing**

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

**Restricted Area**

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

**アクセス制限区域**

このユニットは、アクセス制限区域に設置されることを想定しています。

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

**警告**

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

**警告**

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

אזור עם גישה מוגבלת

אזהרה!

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

تخصيص هذه انحدزة نترك بُها ف مناطق محظورة تم .  
ممكن اننصل إن منطقت محظورة فقط من خلال استخذاو أداة خاصت  
أو أ وس هُت أخري نلأأما 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 المسحمة وفقا لتعليمات 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

此裝置連接的電源可能不只一個，必須切斷所有電源才能停止對該裝置的供電。

Warnung

Dieses Gerät kann mehr als eine Stromzufuhr haben. Um sicherzustellen, dass der Einheit kein 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 المبددة على الساحة  
عندما يمكن 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 instalacion del equipo debe cumplir con las normas de electricidad locales y nacionales.

Attention

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

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

تركيب المعدات الكهربائية يجب أن يمتثل للقوانين المحلية والوطنية 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・ホットスワップの警告

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

警告!

警告! 危险的可移动性零件。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.

## DC Power Supply



**Warning!** When stranded wiring is required, use approved wiring terminations, such as closedloop or spade-type with upturned lugs. These terminations should be the appropriate size for the wires and should clamp both the insulation and conductor.

### 警告

より線が必要な場合、承認済みのケーブル終端（上向きの端子を備えたクローズループ型またはU字型の終端など）を使用してください。使用するワイヤーに適したサイズで、絶縁体および導体が両方ともクランプされている終端でなければなりません。

### 警告

需要多股佈線時，請使用經核准的佈線終端，例如閉環或鏟型接線片。這些終端的大小應適合線路，並且可以同時夾住絕緣體和導體。

### 警告

需要使用绞线连接时，请使用经认可的连接端子，如闭环端子或具有接线柱的铲形端子。这些端子的大小应与线缆相吻合，并且可以将绝缘部分和导体夹紧固定。

### Warnung

Wenn Litzenverdrahtung erforderlich ist, sind zugelassene Verdrahtungsabschlüsse, z.B. für einen geschlossenen Regelkreis oder gabelförmig, mit nach oben gerichteten Kabelschuhen zu verwenden. Diese Abschlüsse sollten die angemessene Größe für die Drähte haben und sowohl die Isolierung als auch den Leiter festklemmen.

### ¡Advertencia!

Cuando se necesite hilo trenzado, utilizar terminales para cables homologados, tales como las de tipo "bucle cerrado" o "espada", con las lengüetas de conexión vueltas hacia arriba. Estos terminales deberán ser del tamaño apropiado para los cables que se utilicen, y tendrán que sujetar tanto el aislante como el conductor.

### Attention

Quand des fils torsadés sont nécessaires, utiliser des douilles terminales homologuées telles que celles à circuit fermé ou du type à plage ouverte avec cosses rebroussées. Ces douilles terminales doivent être de la taille qui convient aux fils et doivent être refermées sur la gaine isolante et sur le conducteur.

## תקנון הזהירות 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.

### تحذير

وأقل غم قتل ح لشم، أهيل ع قفاومل اءاهن! كالسأل امدختساو، لبسل ا مهب تعطقت ني ذل كالسأل ابولطم نو كي امدنع بجي و كالسأل لبسانملا مجحلا نو كي تاءاهن إل هذل يغبنني و. ةبولقم تاورعل ا عم عونلا ةيقي قحلا أهئامس أب اءيشأل ا لصوصو لزعل ا نم لك حبك.

주의!

꼬인 배선이 요구 될 때에는 폐회로나 돌출부가 위로 튀어 나온 Spade 형태의 승인된 배선 터미네이션들을 사용하세요.

이 터미네이션들은 배선들을 위해 적절한 크기여야 하고, 절연체와 도체 모두를 고정시킬 수 있어야 합니다.

Waarschuwing

Wanneer geslagen bedrading vereist is, dient u bedrading te gebruiken die voorzien is van goedgekeurde aansluitingspunten, zoals het gesloten-lus type of het grijperschop type waarbij de aansluitpunten omhoog wijzen. Deze aansluitpunten dienen de juiste maat voor de draden te hebben en dienen zowel de isolatie als de geleider vast te klemmen.

## DC Power Disconnection



**Warning!** Before performing any of the following procedures, ensure that power is removed from the DC circuit.

警告

次の手順を開始する前に、DC回路から電源が切断されていることを確認してください。

警告

進行以下任一操作程序前，請確保直流電路已斷電。

警告

请在进行以下任一操作程序前，确保直流电路的电源已经断开。

**Warnung**

Vor Ausführung der folgenden Vorgänge ist sicherzustellen, daß die Gleichstromschaltung keinen Strom erhält.

¡Advertencia!

Antes de proceder con los siguientes pasos, comprobar que la alimentación del circuito de corriente continua (CC) esté cortada (OFF).

Attention

Avant de pratiquer l'une quelconque des procédures ci-dessous, vérifier que le circuit en courant continu n'est plus sous tension.

**אזהרה !**  
לפני ביצוע אחת הפעולות הבאות, ודא כי אספקת החשמל למעגל הזרם הישר  
DC הינה מנותקת.

**تحذير**

وأقل غم ققلح لثم، اهيلع ققفاومل اءاهن! كالسل امدختساو، لبسل مذهب تعطقت نيذل كالسل ابولطم نوكي امدنع  
بجيو كالسل لبسانملا مچحلا نوكي تاءاهن ال هذل يغبنو. قبولقم تاورعل عم عونلا قيققحلا اهئامس أب اءيشال  
لصومو لزعل نم لك حبك.

주의!

다음 절차들을 수행하기 전에, 전원이 DC 회로로부터 제거되었는지를 확인해 주십시오.

**Waarschuwing**

Wanneer geslagen bedrading vereist is, dient u bedrading te gebruiken die voorzien is van goedgekeurde aansluitingspunten, zoals het gesloten-lus type of het grijperschop type waarbij de aansluitpunten omhoog wijzen. Deze aansluitpunten dienen de juiste maat voor de draden te hebben en dienen zowel de isolatie als de geleider vast te klemmen.

## Hazardous Voltage or Energy Present on DC Power Terminals



**Warning!** Hazardous voltage or energy may be present on DC power terminals. Always replace cover when terminals are not in service. Be sure uninsulated conductors are not accessible when cover is in place.

### 警告

直接電力端子に危険な電圧やエネルギーが発生している可能性があります。使用していない端子には常にカバーをつけてください。カバーがついているときは非絶縁形コンダクターに接触していないことを確認してください。

### 警告

直流電源終端可能產生危險的電壓或能量。終端不使用時，請務必蓋上機蓋。當蓋上機蓋，確認不絕緣導體無法使用。

### 警告

直流电源终端可能会产生危险的电压或能量。终端不使用时，请务必盖上机盖。机盖盖上后，请确保导体未绝缘部分无法使用。

### Warnung

In mit Gleichstrom betriebenen Terminals kann es zu gefährlicher Spannung kommen. Die Terminals müssen abgedeckt werden, wenn sie nicht in Betrieb sind. Stellen Sie bei Benutzung der Abdeckung sicher, dass alle nicht isolierten, stromführenden Kabel abgedeckt sind.

### ¡Advertencia!

Puede haber energía o voltaje peligrosos en los terminales eléctricos de CC. Reemplace siempre la cubierta cuando no estén utilizándose los terminales. Asegúrese de que no haya acceso a conductores descubiertos cuando la cubierta esté colocada.

### Attention

Le voltage ou l'énergie électrique des terminaux à courant continu peuvent être dangereux. Veillez à toujours replacer le couvercle lors les terminaux ne sont pas en service. Assurez-vous que les conducteurs non isolés ne sont pas accessibles lorsque le couvercle est en place.

### אזהרה !

מקור מתח מסוכן עלול להיות נוכח על הקטבים של זרם ה-DC. החלף תמיד את המכסה כאשר הקטבים לא בשימוש. ודא כי המוליכים הלא מבודדים אינם נגישים כאשר המכסה נמצא במקומו.

**تحذير**

امدنع امئاد ءاطغ لادبتسا . ءمصاعلا ءق اطللا تا طحم ىلع ءدوجوم نوكت ءق اطللا وأ ءرطخللا دهجللا دق  
ءاطغللا امدنع اهليل لوصوللا نكمي ال لوزعم ريغ تالصولملا هيف كش ال امم . ءمدخللا يفف تسيل تا طحمللا  
هنالك يفف

**주의!**

DC전원 단자들에 위험한 전압이나 에너지가 발생할 수 있습니다.

단말기들을 운영하지 않을 때에는 덮개로 다시 덮어 놓아 주십시오. 덮개가 제자리에 있어야만  
절연되지 않은 도체들의 접근을 막을 수 있습니다.

**Waarschuwing**

Op DC-aansluitingspunten kunnen zich gevaarlijke voltages of energieën voordoen. Plaats  
altijd de afsluiting wanneer de aansluitingspunten niet worden gebruikt. Zorg ervoor dat  
blootliggende contactpunten niet toegankelijk zijn wanneer de afsluiting is geplaatst.

# Appendix C

## System Specifications

### Processors

Dual 5th/4th Generation Intel® Xeon® Scalable processors, up to 300 W TDP in a Socket-E (LGA-4677)

### Chipset

Intel® C741

### BIOS

AMI BIOS

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

### Memory

Supports up to 4 TB memory capacity with 16 DIMMs of 256 GB 3DS RDIMM DDR5 5600 MT/s ECC memory

### Storage Drives

Eight hot-swap 3.5" SATA3 drive bays

Optional:

Four front NVMe drives

Two rear hot-swap SATA3 drives

One slim DVD drive bay

### PCI Expansion Slots

Two PCIe 5.0 x8 slots (low profile)

Four PCIe 5.0 x16 slots (low profile)

Two PCIe 4.0 x2 M.2 slots (supports M-Key 2280 and 22110)

Two PCIe 5.0 x8 MCIO ports (supported by four NVME connections)

### Input/Output

SYS-621P-TR: X13DEI, dual 1 G LAN with Broadcom 5720

SYS-621P-TRT: X13DEI-T, dual 10 G LAN with Broadcom 57416

Two COM ports (one front, one rear)

One rear VGA port

Four rear USB 3.0 ports

Two front USB 2.0 ports

One TPM 2.0 port

One RoT port

One dedicated IPMI LAN port

Two SuperDOM (Disk on Module) ports

### Motherboard

X13DEI/X13DEI-T: 12.1" x 13.05" (30.74 cm x 33.15 cm)

### Chassis

CSE-825BTS-R1K23LPP1: 2U Rackmount, (WxHxD) 16.8 x 3.5 x 25.5 in. (427 x 89 x 648 mm)

### System Cooling

Three 8-cm hot-plug fans, one air shroud

### Power Supply

Two redundant 1200 W AC-DC modules, 80Plus level Titanium (PWS-1K23A-1R)



**Operating Environment**

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

Non-operating Temperature: -30° to 60° C (-22° to 140° F)

Operating Relative Humidity: 8% to 80% (non-condensing)

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

**Regulatory Compliance**

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

**Applied Directives, Standards**

EMC/EMI: 2014/30/EU (EMC Directive)

Electromagnetic Compatibility Regulations 2016

FCC Part 15 Subpart B

ICES-003

VCCI-CISPR 32

AS/NZS CISPR 32

BS/EN 55032

BS/EN 55035

CISPR 32

CISPR 35

BS/EN 61000-3-2

BS/EN 61000-3-3

BS/EN 61000-4-2

BS/EN 61000-4-3

BS/EN 61000-4-4

BS/EN 61000-4-5

BS/EN 61000-4-6

BS/EN 61000-4-8

BS/EN 61000-4-11

Product Safety: 2014/35/EU (LVD Directive)

UL/CSA 62368-1 (USA and Canada)

Electrical Equipment (Safety) Regulations 2016

IEC/BS/EN 62368-1

Environment:

2011/65/EU (RoHS Directive)

EC 1907/2006 (REACH)

2012/19/EU (WEEE Directive)

California Proposition 65

**Perchlorate Warning**

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