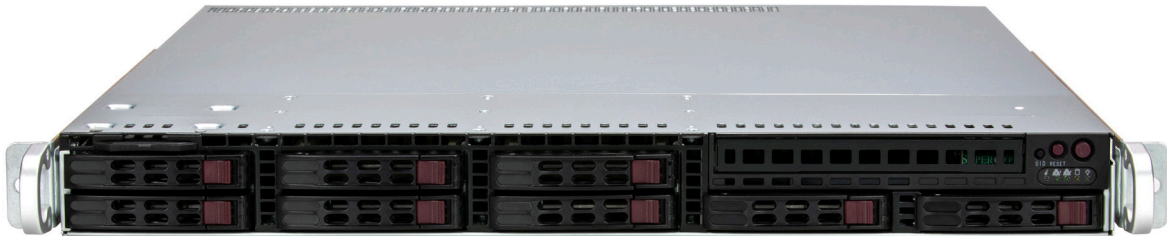




SuperServer<sup>®</sup>  
SYS-111R-M



USER'S MANUAL

Revision 1.0

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# Preface

## About this Manual

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

Please refer to the SYS-111R-M 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 A Standardized Warning Statements for AC Systems****Appendix B 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 SYS-111R-M. It is based on the X13SCH-SYS motherboard and the CSE-113MFTS-0RCNBP-1P chassis.

The following provides an overview of the specifications and capabilities.

| System Overview          |  |
|--------------------------|--|
| <b>Motherboard</b>       | X13SCH-SYS   |
| <b>Chassis</b>           | CSE-113MFTS-0RCNBP-1P  |
| <b>Processor Support</b> | Single Intel® Xeon® E-2400 or 12th Generation Pentium® (Socket V0 - LGA 1700) series processor with up to eight cores  |
| <b>Memory</b>            | Up to 128 GB of DDR5 ECC UDIMM memory with speeds of up to 4400 MT/s in four memory slots  |
| <b>Drive Support</b>     | Eight hot-swap 2.5" SATA drive bays (optional SAS3 via add-on card)<br>Two M.2 PCIe 4.0 x4 M-Key NVMe  |
| <b>Expansion Slots</b>   | One PCIe 4.0 x4 (in x8) dedicated internal HBA slot<br>For slots 1 and 2:<br>One PCIe 5.0 x16 (FHHL) in slot 1 -or-<br>One PCIe 5.0 x8 (FHHL) in slot 1 and one PCIe 5.0 x8 (LP) in slot 2                             |
| <b>Networking</b>        | Two Intel i210 1GbE LAN ports<br>One dedicated LAN port for BMC  |
| <b>I/O Ports</b>         | Five USB 3.2 Gen 1 ports (two rear, two via one header, one via one Type A header)<br>Six USB 2.0 ports (two rear, four via two headers)<br>One VGA port (one rear)<br>Two serial ports (one rear, one via one header) |
| <b>System Cooling</b>    | Four 40 x 40 x 28 mm PWM fans plus two additional fan housing space  |
| <b>Power</b>             | Single 600 W high-efficiency power supply (Titanium level, 96%) with redundant option  |
| <b>Form Factor</b>       | 1U rackmount (WxHxD) 17.2 x 1.75 x 19.98 in  |

**Notes:** A Quick Reference Guide can be found on the product page of the Supermicro website. The following safety models associated with the SYS-111R-M have been certified as compliant with UL or CSA: 113M-R6X13, 113M-6.

## 1.2 System Features

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

### Front View

The chassis front offers access to the storage drives, a control panel, and pull-out service tag. Each storage carrier has a small space on the front to place an orange or purple label to help distinguish SAS/SATA from other protocols.

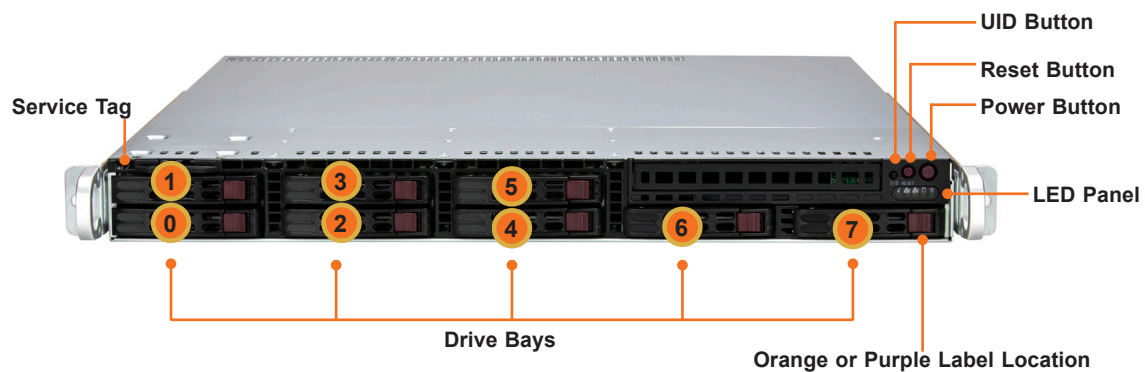


Figure 1-1. Front View

| System Features: Front |   |
|------------------------|---|
| Feature                | Description   |
| SAS/SATA Drives        | Eight hot-swap 2.5" SATA/SAS drives (SAS drives require additional parts)   |
| UID Button             | Depressing the Unit Identifier button illuminates an LED on both the front and rear of the chassis for easy system location in a rack configuration. The LED will remain on until the button is pushed a second time. Another UID button on the rear of the chassis serves the same function. |
| Reset Button           | The reset button is used to reboot the system.  |
| Power Button           | The main power button applies or removes primary power from the power supply to the server but maintains standby power.   |
| Control Panel          | See the next page for details.  |

## Control Panel

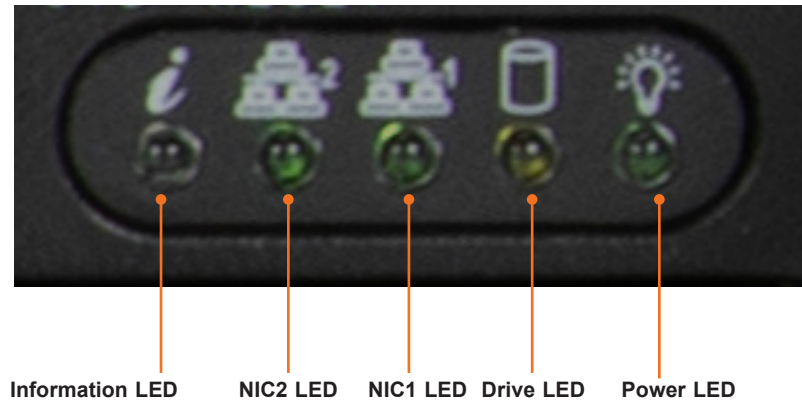


Figure 1-2. Control Panel

| LED Panel Features |  |
|--------------------|--|
| Feature            | Description  |
| Information LED    | Alerts operator to several states, as noted in the table below.  |
| NIC1 LED           | Indicates network activity on LAN1 when flashing.  |
| NIC2 LED           | Indicates network activity on LAN2 when flashing.  |
| Drive LED          | Indicates activity on the storage drives when flashing.  |
| Power LED          | Indicates power is being supplied to the system power supply units. This LED is illuminated when the system is operating normally. |

| Information LED                                       |  |
|---|--|
| Color, Status   | Description  |
| 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  |

## Drive Carrier Indicators

Each drive carrier has two LED indicators: an activity indicator and a status indicator. In RAID configurations, the status indicator lights to indicate the status of the drive. In non-RAID configurations, the status indicator remains off. See the table below for details.

| Drive Carrier LED Indicator |       |                  |                     |
|-----------------------------|-------|------------------|---------------------|
|                             | Color | Blinking Pattern | Behavior for Device |
| Activity LED                | Blue  | Solid On         | SAS drive installed |
|                             | Blue  | Blinking         | I/O activity        |
| Status LED                  | Red   | Solid On         | Failure of drive    |

## Rear View

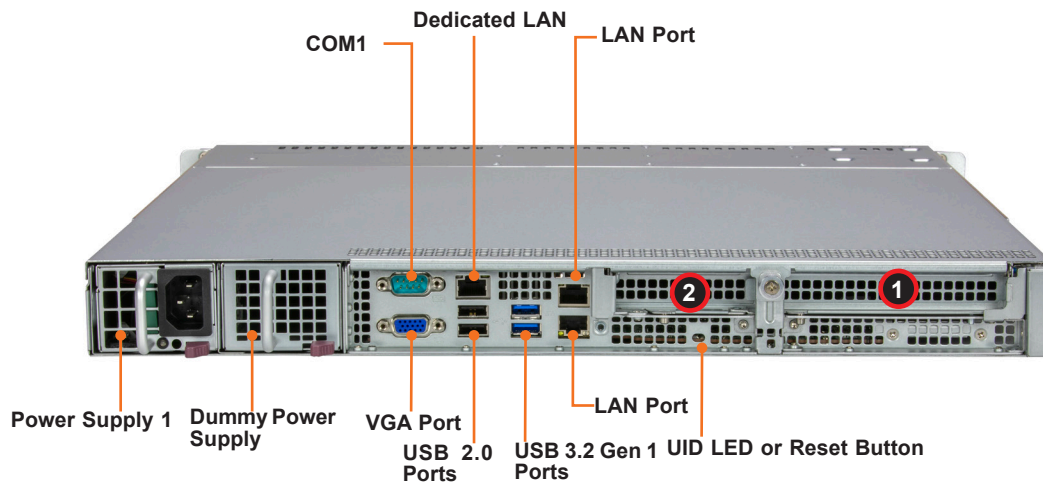


Figure 1-3. System: Rear View

| System Features: Rear |   |
|-----------------------|---|
| Feature               | Description   |
| Power Supply 1        | Titanium level power supply   |
| Dummy Power Supply    | Placeholder for second power supply                                     |
| VGA Port              | Video port  |
| USB 2.0 Ports         | Two USB 2.0 ports   |
| USB 3.2 Ports         | Two USB 3.2 Gen 1 ports   |
| LAN Port              | Two 1GbE LAN ports  |
| UID LED/Button        | Button that can function as a unit identifier LED or a BMC reset button |
| COM Port              | Serial port   |
| BMC LAN Port          | Dedicated BMC LAN port  |

| Expansion Card Slots |   |
|----------------------|---|
| Item                 | Description   |
| 1 and 2              | One PCIe 5.0 x16 (FHHL) in slot 1 -or-<br>One PCIe 5.0 x8 (FHHL) in slot 1 and one PCIe 5.0 x8 (LP) in slot 2 |

**Note:** Full height = 4.2", full length = 10.5", low profile = 2.5"

| <b>Power Supply Indicators</b>   |                  |                  |
|--|------------------|------------------|
| <b>Power Supply Condition</b>  | <b>Green LED</b> | <b>Amber LED</b> |
| No AC power to the power supply  | OFF              | OFF              |
| Power supply critical events causing a shutdown/failure/<br>OCP/OVP/Fan Fail/OTP/UVP   | OFF              | ON               |
| Power supply warning events where the power supply<br>continues to operate: high temperature, over voltage, under<br>voltage, etc. | OFF              | 1 Hz Blinking    |
| AC power present and only 12 VSB ON (PS OFF)   | 1 Hz Blinking    | OFF              |
| Output is on and working properly  | ON               | OFF              |
| AC cord unplugged and in redundant mode  | OFF              | ON               |

## Top View

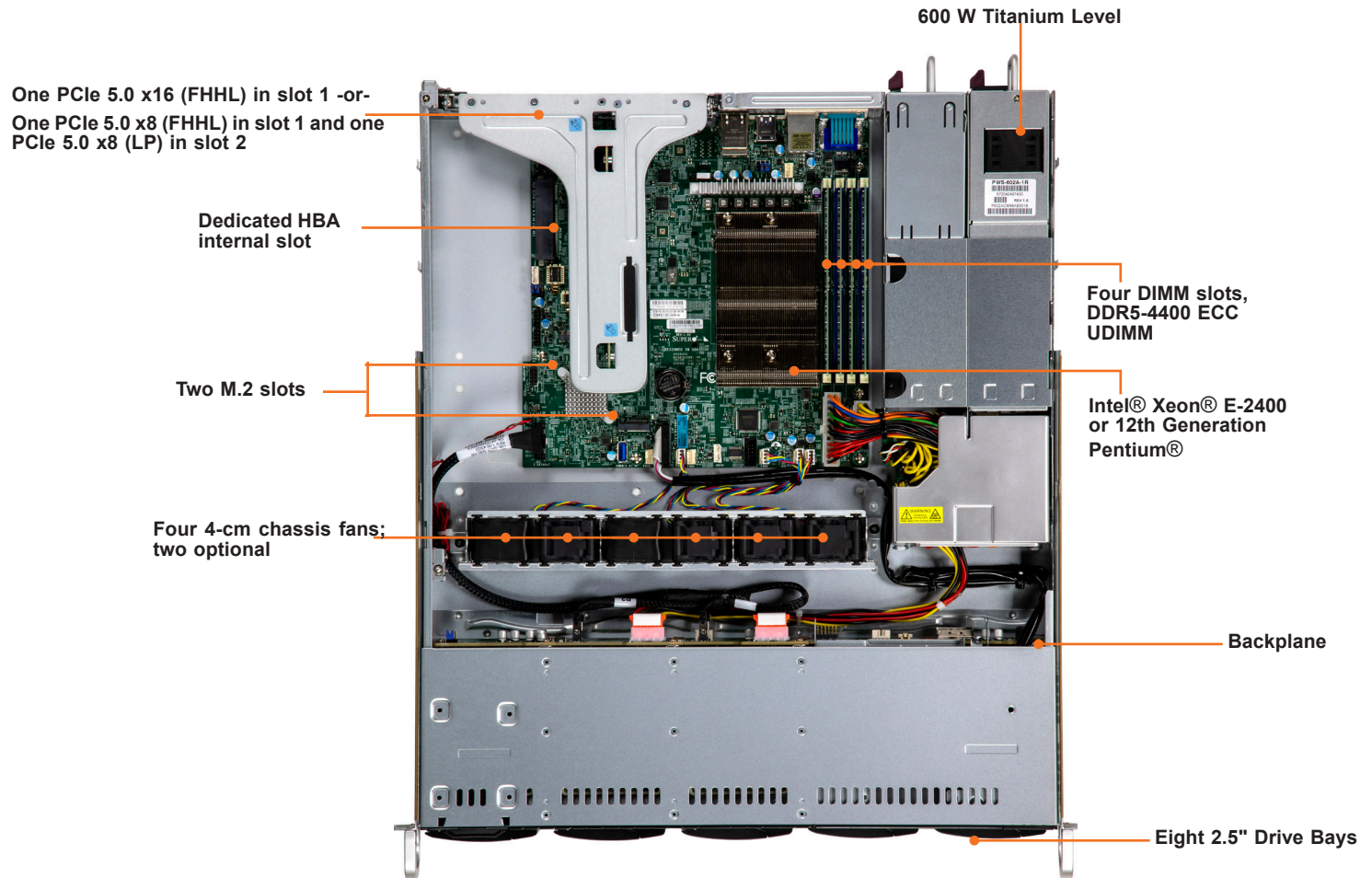
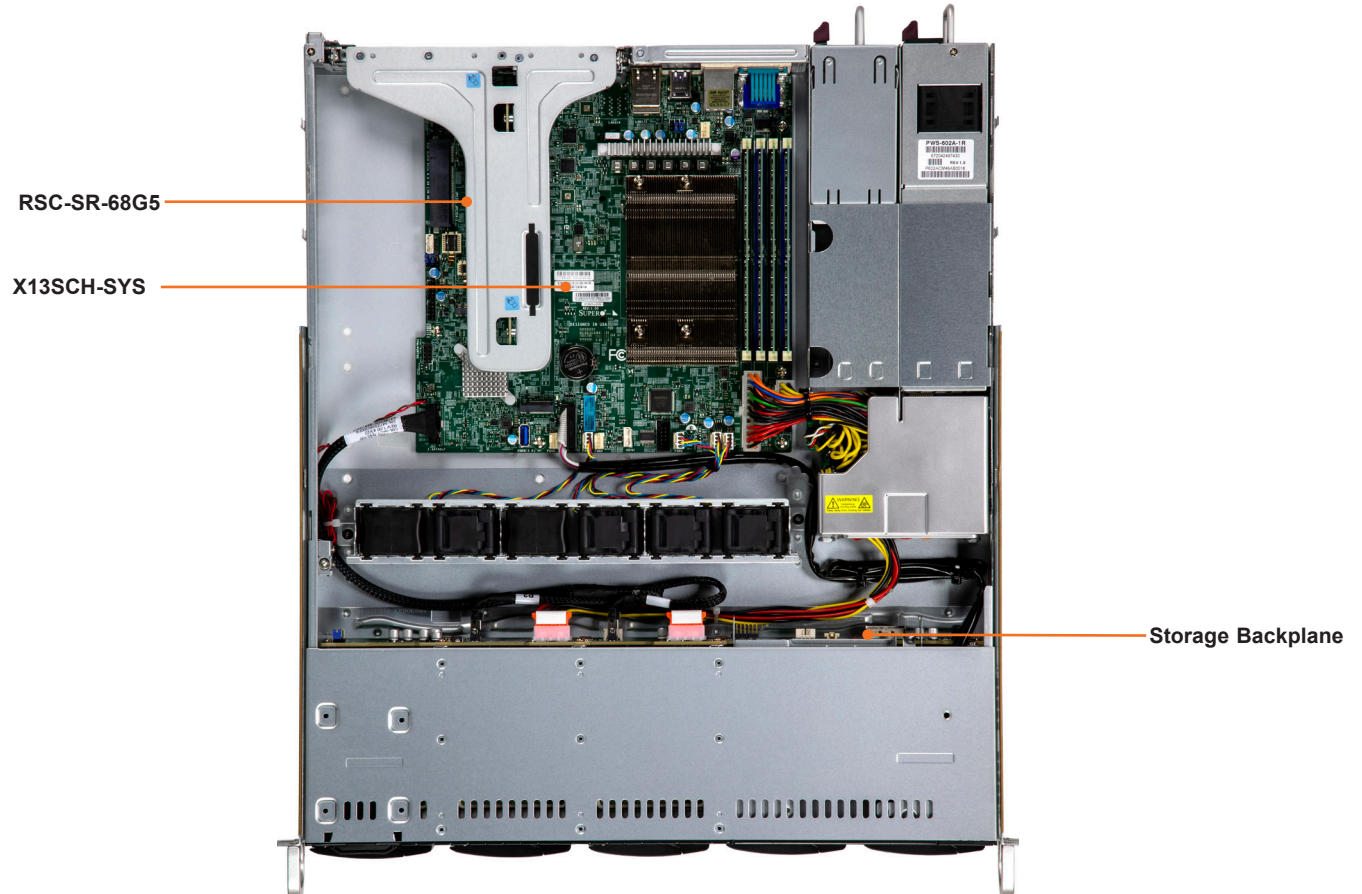


Figure 1-4. System: Top View

| System Features: Top |   |
|----------------------|---|
| Feature              | Description   |
| Power Supply         | Single 600 W high-efficiency power supply (Titanium level, 96%) with redundant option   |
| M.2 Slots            | Two PCIe 4.0 x4 M-Key NVMe, one from CPU and one from PCH   |
| HBA Slot             | One PCIe 4.0 x4 (in x8) dedicated internal HBA slot   |
| DIMM Slots           | Four DIMM slots   |
| Processor            | Intel® Xeon® E-2400 or 12th Generation Pentium® (socket V0 - LGA1700) series processor with up to eight cores                       |
| Expansion Slots      | For slots 1 and 2:<br>One PCIe 5.0 x16 (FHHL) in slot 1 -or-<br>One PCIe 5.0 x8 (FHHL) in slot 1 and one PCIe 5.0 x8 (LP) in slot 2 |
| System Fans          | Four 4-cm counter-rotating fans used to provide cooling for the system and space for two additional fans                            |

## 1.3 System Architecture

This section covers the locations of the system electrical components.

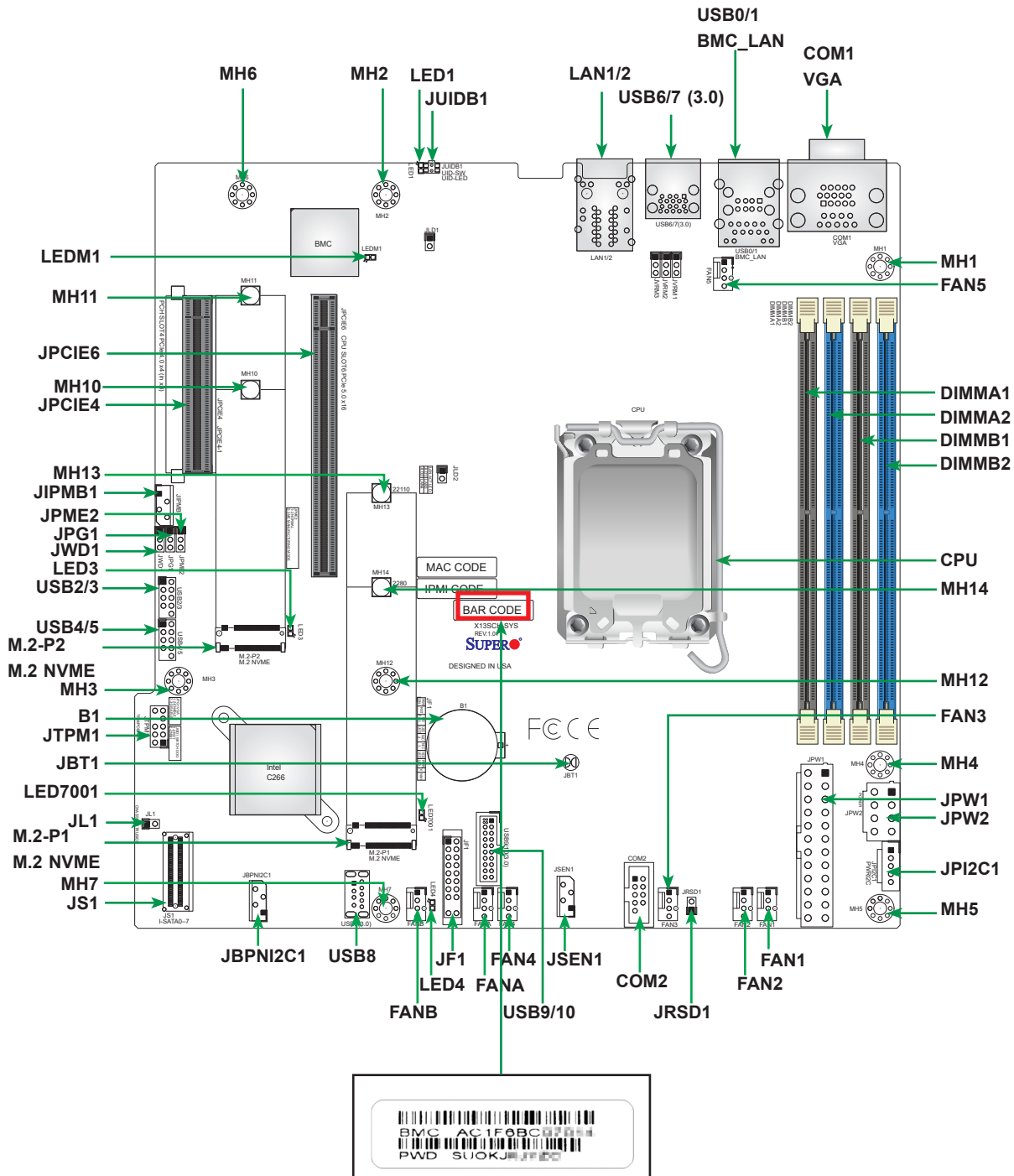


**Figure 1-5. Main Component Locations**

| Printed Circuit Board Descriptions |                   |
|------------------------------------|-------------------|
| Feature                            | Description       |
| Riser Card                         | RSC-SR-68G5       |
| Motherboard                        | X13SCH-SYS        |
| Backplane                          | Storage backplane |

## 1.4 Motherboard Layout

Below is a layout of the X13SCH-SYS motherboard with jumper, connector and LED locations shown. See the table on the following page for descriptions. For detailed descriptions, pinout information and jumper settings, refer to [Chapter 4](#) or the [Motherboard Manual](#).



## Quick Reference Table

| Jumper                  | Description   | Default Setting                |
|-------------------------|---|--------------------------------|
| JBT1                    | CMOS Clear  | Open (Normal)                  |
| JPG1                    | VGA Enable/Disable  | Pins 1–2 (Enabled)             |
| JPME2                   | ME Manufacturing Mode   | Pins 1–2 (Normal)              |
| JWD1                    | Watchdog Timer  | Pins 1–2 (Reset)               |
| LED                     | Description   | Status                         |
| LED1                    | Unit Identifier (UID) LED                                       | Solid Blue: Unit Identified    |
| LED3                    | PCIe M.2-P2 Activity LED  | Blinking Green: M.2-P2 Active  |
| LED4                    | Power LED   | LED On: Onboard Power On       |
| LED7001                 | PCIe M.2-P1 Activity LED  | Blinking Green: M.2-P1 Active  |
| LEDM1                   | BMC Heartbeat LED   | Blinking Green: Device Working |
| Connector               | Description   |                                |
| BMC_LAN                 | Dedicated BMC LAN Port  |                                |
| B1                      | Onboard Battery   |                                |
| COM1                    | COM Port  |                                |
| COM2                    | COM Header  |                                |
| FAN1–FAN5<br>FANA, FANB | System Fan Headers  |                                |
| JBPNI <sup>2</sup> C1   | 4-pin BMC External I <sup>2</sup> C Header                      |                                |
| JF1                     | Front Control Panel Header                                      |                                |
| JIPMB1                  | 4-pin BMC External I <sup>2</sup> C Header (for an IPMI card)   |                                |
| JL1                     | Chassis Intrusion Header  |                                |
| JPCIE4                  | PCH SLOT4 PCIe 4.0 x4 (in x8) Slot                              |                                |
| JPCIE6                  | CPU SLOT6 PCIe 5.0 x16 Slot                                     |                                |
| JPI <sup>2</sup> C1     | Power I <sup>2</sup> C System Management Bus (Power SMB) Header |                                |
| JPW1                    | 24-pin ATX Power Connector                                      |                                |
| JPW2                    | 8-pin CPU Power Connector                                       |                                |
| JS1                     | Intel PCH SATA 3.0 Ports (with RAID 0, 1, 5, 10 support)        |                                |
| JSEN1                   | Inlet Sensor Header   |                                |
| JTPM1                   | Trusted Platform Module/Port 80 Connector                       |                                |
| JUIDB1                  | UID Switch  |                                |

**Note:** Table is continued on the next page.

---

---

| <b>Connector</b>                          | <b>Description</b>   |
|---|--|
| LAN1–LAN2                                 | 1GbE I210 LAN Ports  |
| M.2-P1<br>M.2 NVME,<br>M.2-P2<br>M.2 NVME | M.2 PCIe 4.0 x4 Slots from PCH (supports M-Key 2280 and 22110) |
| MH1–MH7, MH12                             | Mounting Holes   |
| MH10–MH11, MH13–MH14                      | M.2 Mounting Holes   |
| USB0/1                                    | Back Panel USB 2.0 Ports                                       |
| USB2/3, USB4/5                            | Front Accessible USB 2.0 Headers                               |
| USB6/7                                    | Back Panel USB 3.2 Gen 1 Ports                                 |
| USB8                                      | Front Accessible USB 3.2 Gen 1 Type-A Header                   |
| USB9/10                                   | Front Accessible USB 3.2 Gen 1 Header                          |
| VGA                                       | VGA Port   |

## Motherboard Block Diagram

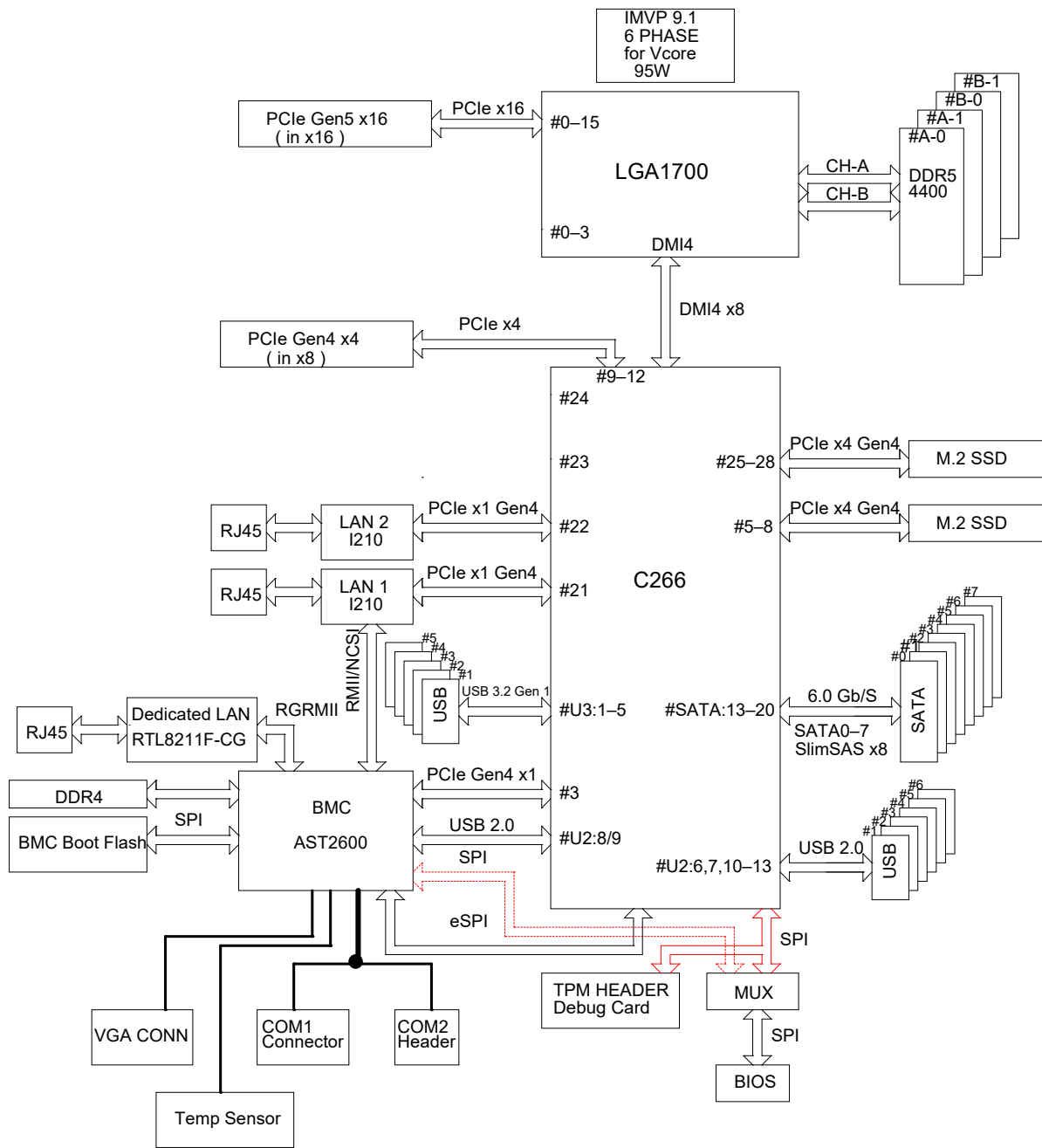


Figure 1-7. Motherboard Block Diagram

# 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 system was shipped, and note if it was damaged. If any equipment appears damaged, file a claim with the carrier.

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

### 2.3 Preparing for Setup

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

#### Choosing a Setup Location

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

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

## Rack Precautions

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

## Server Precautions

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

## Rack Mounting Considerations

### *Ambient Operating Temperature*

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

### ***Airflow***

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

### ***Mechanical Loading***

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

### ***Circuit Overloading***

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

### ***Reliable Ground***

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



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

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

## 2.4 Installing the Rails

There are a variety of rack units on the market, which may require a slightly different assembly procedure.

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

### Identifying the Rails

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.

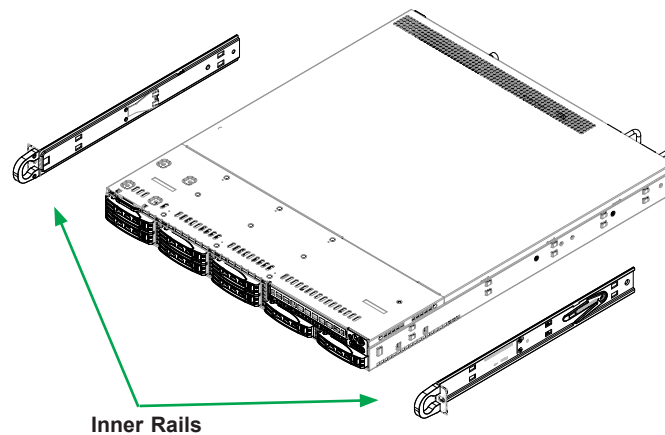


Figure 2-1. Inner Rails and Chassis



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



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

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

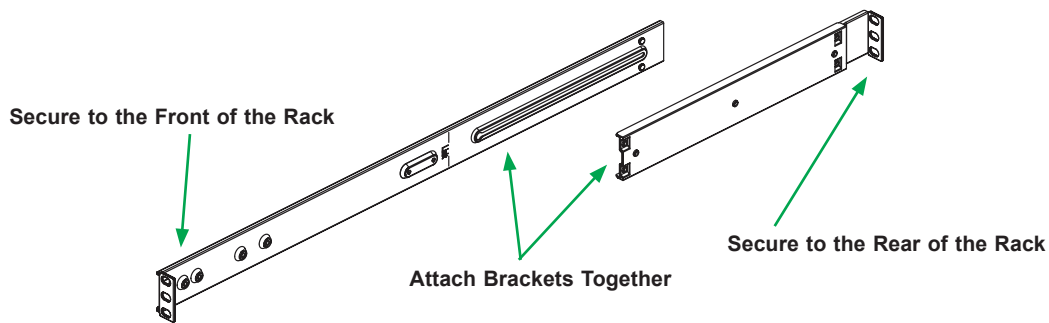
## Inner Rails

The CSE-113MFTS-0RCNBP-1P chassis includes a set of inner rails. The inner rails are pre-attached and do not interfere with normal use of the chassis if you decide not to use a server rack.

## Outer Rails

### *Installing the Outer Rails to the Rack*

1. Attach the short bracket to the outside of the long bracket. You must align the pins with the slides.
2. Adjust both the short and long brackets to the proper distance so that the rail fits snugly into the rack.
3. Secure the long bracket to the front side of the outer rail with two M5 screws and the short bracket to the rear side of the outer rail with three M5 screws.
4. Repeat steps 1-4 for the left outer rail.

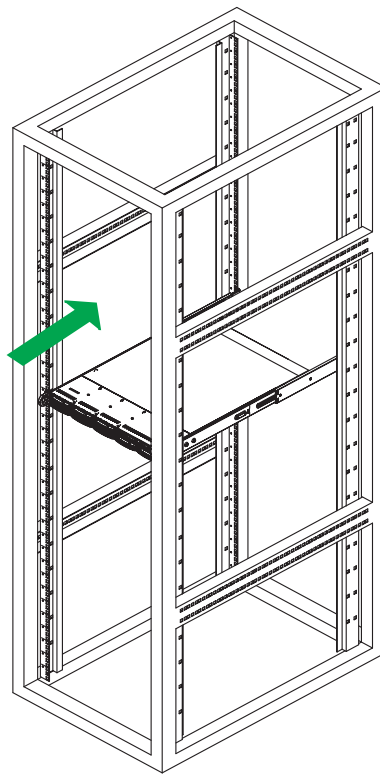


**Figure 2-2. Assembling the Outer Rails**

## 2.5 Installing the Server into a Rack

You should now have rails attached to both the chassis and the rack. The next step is to install the server into the rack.

1. Line up the rear of the chassis rails with the front of the rack rails.
2. Slide the chassis rails into the rack rails, keeping the pressure even on both sides (you may have to press the locking tabs when inserting). See Figure 2-3.
3. When the server has been pushed completely into the rack, you should hear the locking tabs "click".



**Figure 2-3. Installing the Server into the Rack**

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

## Installing the Server into a Telco Rack

To install the SuperServer SYS-111R-M into a Telco (or “open”) type rack, use two L-shaped brackets on either side of the chassis (four total).

1. First, determine how far the server will extend out from the front of the rack. The chassis should be positioned so that the weight is balanced between front and back.
2. Attach the two front brackets to each side of the chassis, then the two rear brackets positioned with just enough space to accommodate the width of the rack.
3. Finish by sliding the chassis into the rack and tightening the brackets to the rack.

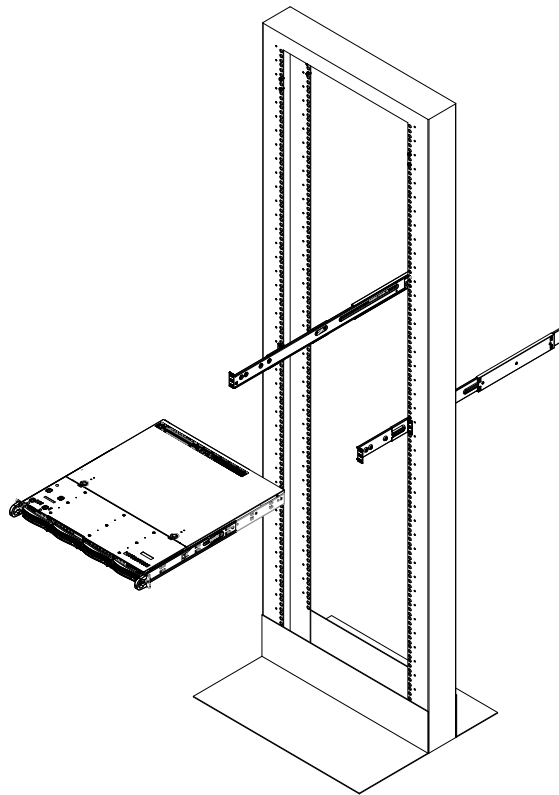


Figure 2-4. Installing the Server into a Telco Rack

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

## 2.6 Removing the Chassis from the Rack

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

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

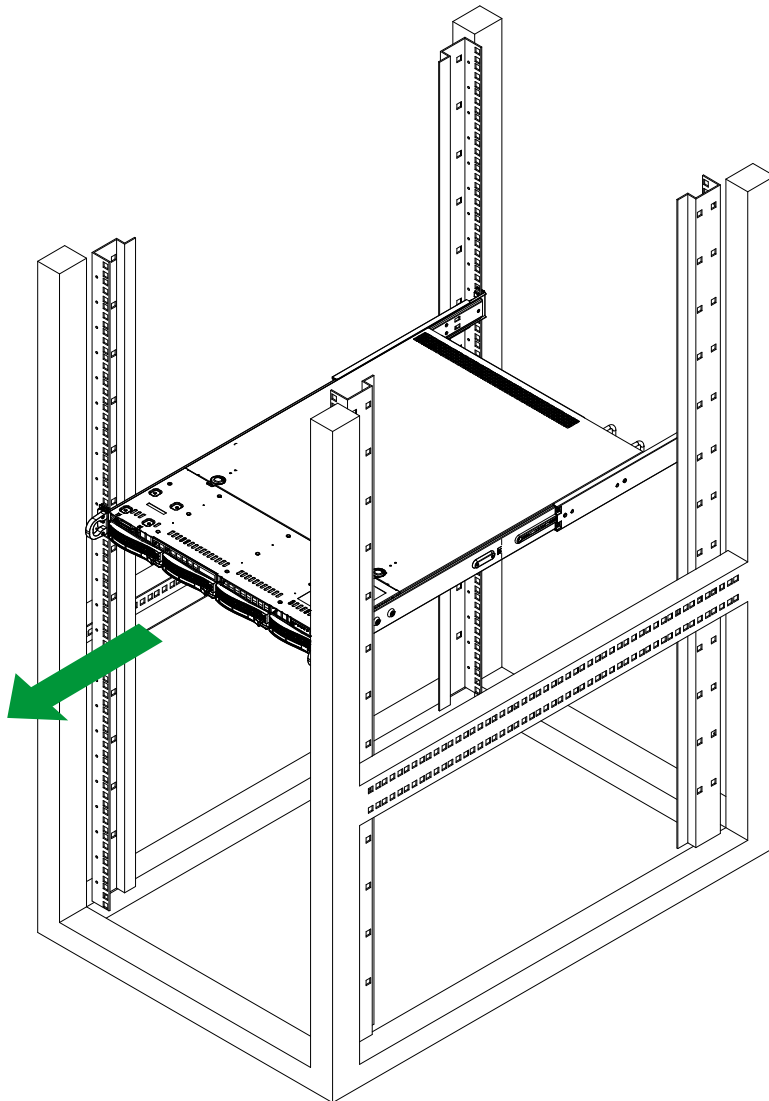


Figure 2-5. Removing the Chassis from the Rack

## Chapter 3

# Maintenance and Component Installation

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

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

### 3.1 Removing Power

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

1. Use the operating system to power down the system.
2. After the system has completely shut-down, disconnect the AC power cord(s) from the power strip or outlet. (If your system has more than one power supply, remove the AC power cords from all power supply modules.)
3. Disconnect the power cord(s) from the power supply module(s).

## 3.2 Accessing the System

The CSE-113MFTS-0RCNBP-1P features a removable top cover, which allows easy access to the inside of the chassis.

### *Removing the Top Cover*

1. Power down the system as described in Section 3.1.
2. Loosen the thumbscrew at the chassis rear.
3. Slide the cover toward the rear of the chassis.
4. Lift the cover from the chassis.

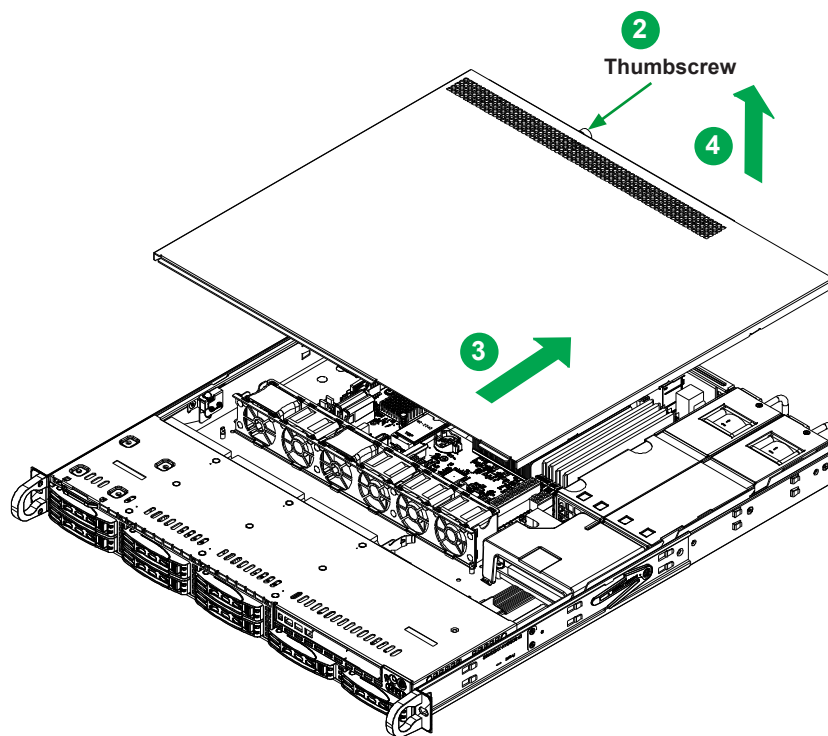


Figure 3-1. Removing the Top Cover

**Note:** The figure above is for illustrative purposes only.

### 3.3 Processor and Heatsink Installation

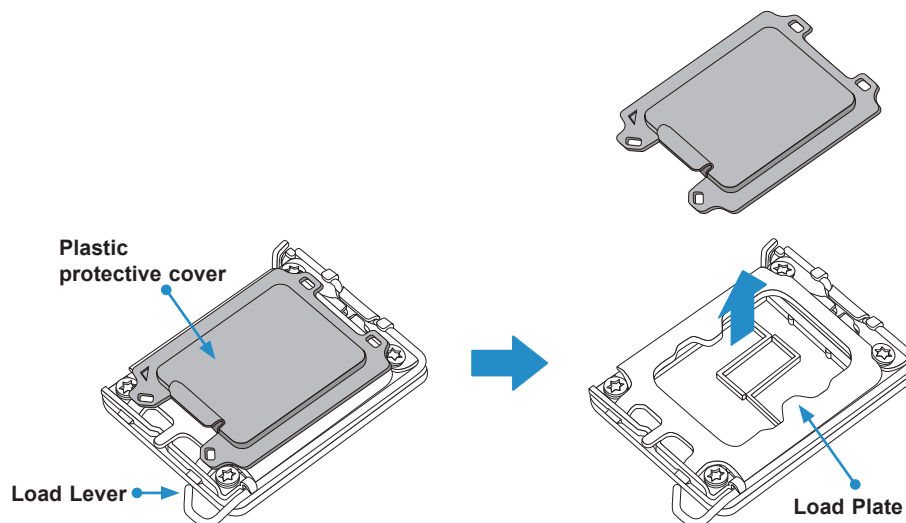
**Warning:** When handling the processor package, avoid placing direct pressure on the label area of the fan.

Important:

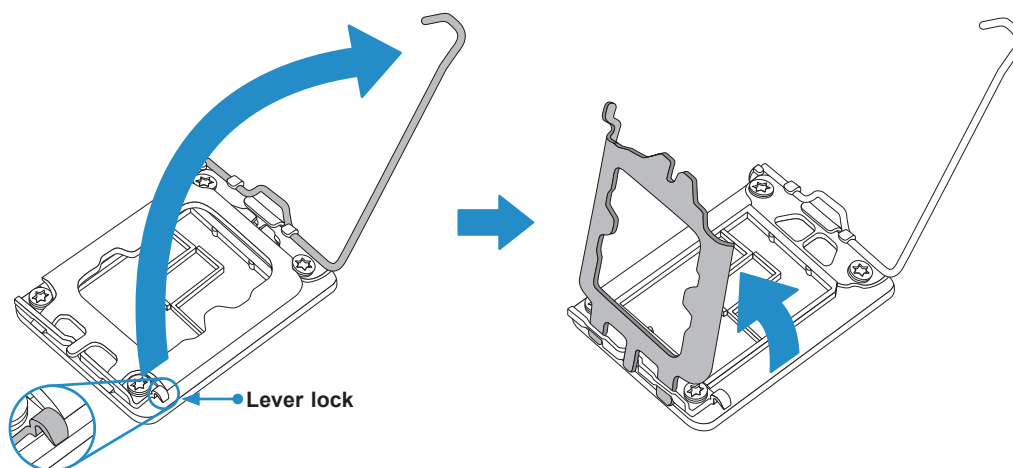
- Use ESD protection.
- Unplug the AC power cord from all power supplies after shutting down the system.
- Check that the plastic protective cover is on the CPU socket and none of the socket pins are bent. If they are, contact your retailer.
- When handling the processor, avoid touching or placing direct 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.
- When installing the processor and heatsink, ensure a torque driver set to the correct force is used for each screw.
- Thermal grease is pre-applied on a new heatsink. No additional thermal grease is needed.
- Refer to the Supermicro website for updates on processor support.
- All graphics in this manual are for illustrative purposes only. Your components may look different.

#### Installing an LGA1700 CPU

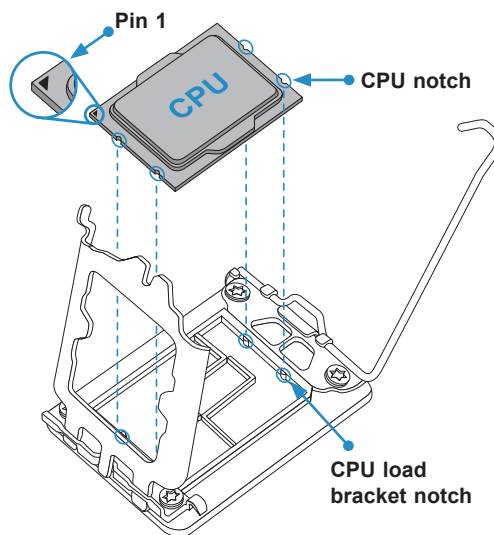
1. Remove the plastic protective cover from the load plate.



2. Gently push down the load lever to release and lift it, then lift the load plate to open it completely.

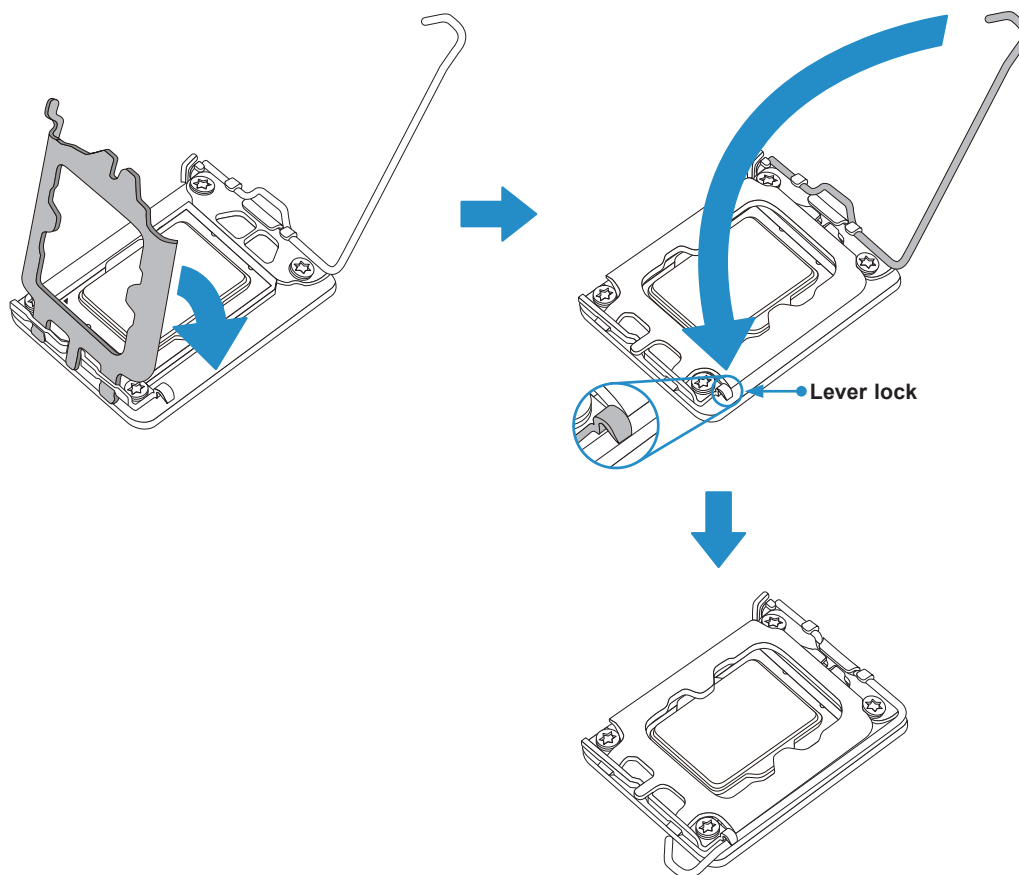


3. Use your thumb and your index finger to hold the CPU. Align the small triangle marker and notches on the CPU to the corresponding triangle marker and notches on the CPU load bracket. Once aligned, carefully lower the CPU straight down into the socket. (Do not drop the CPU on the socket, or move it horizontally or vertically.)



4. Do not rub the CPU against the surface or against any pins of the socket to avoid damaging the CPU or the socket.
5. With the CPU inside the socket, inspect all the corners to make sure it is properly installed.

6. Close the load plate with the CPU inside the socket. Gently push the load lever down until it locks under the Lever Lock latch.



- ! **Attention!** You can only install the CPU inside the socket in one direction. Make sure that it is properly inserted into the CPU socket before closing the load plate. If it doesn't close properly, do not force it as it may damage your CPU. Instead, open the load plate again and double-check that the CPU is aligned properly.

### Installing a Heatsink

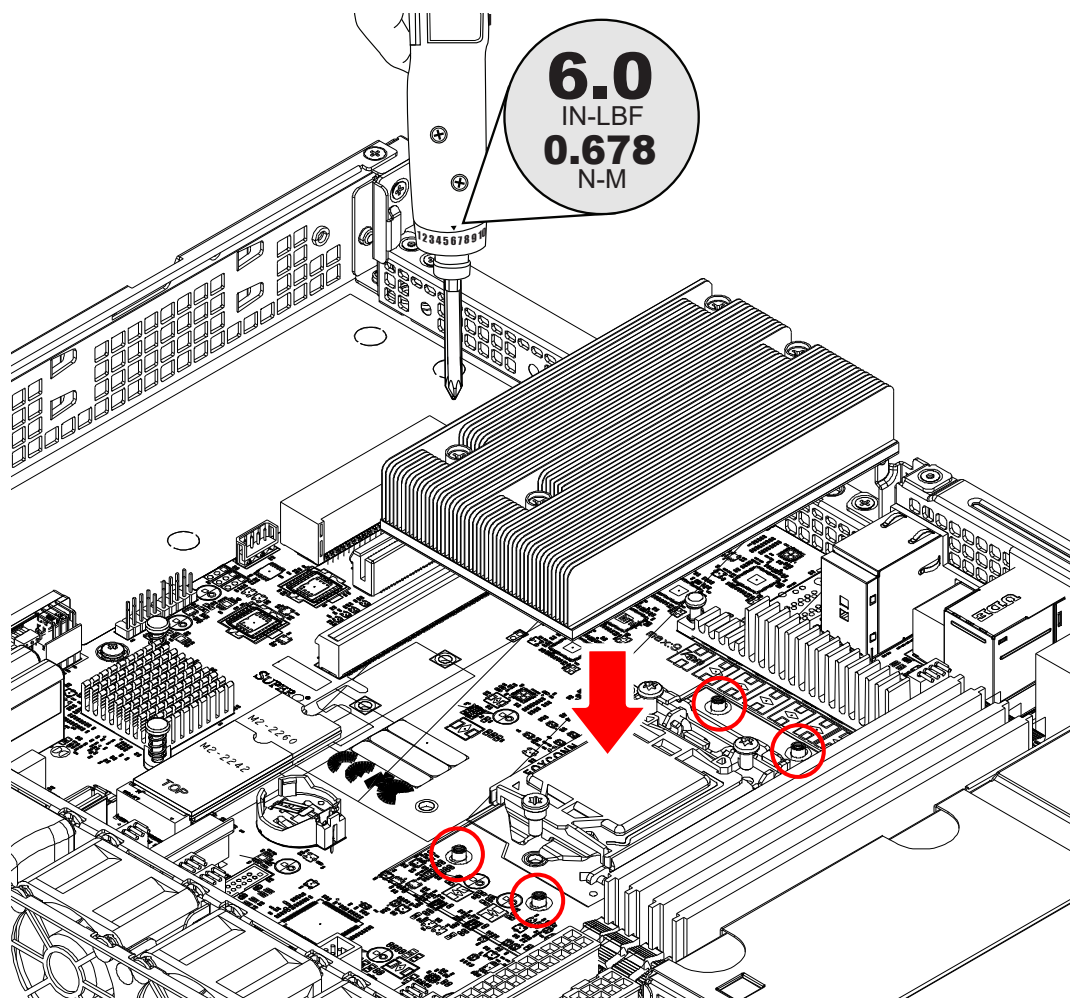
A passive type heatsink is used on the X13SCH-SYS motherboard.

**Note:** Do not apply any thermal grease to the heatsink or the CPU die; the required amount has already been applied.

1. Place the heatsink on top of the CPU so that the four mounting holes are aligned with those on the heatsink retention mechanism.
2. With a Phillips bit torque driver, gradually tighten the four screws to ensure even pressure. You can start with any screw, but make sure to tighten the screws in a diagonal pattern.

**Note:** Do not use a force greater than 6.0 in-lbf (0.678 N-m). Exceeding this force may over-torque the screw, causing damage to the processor, heatsink, and screw.

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



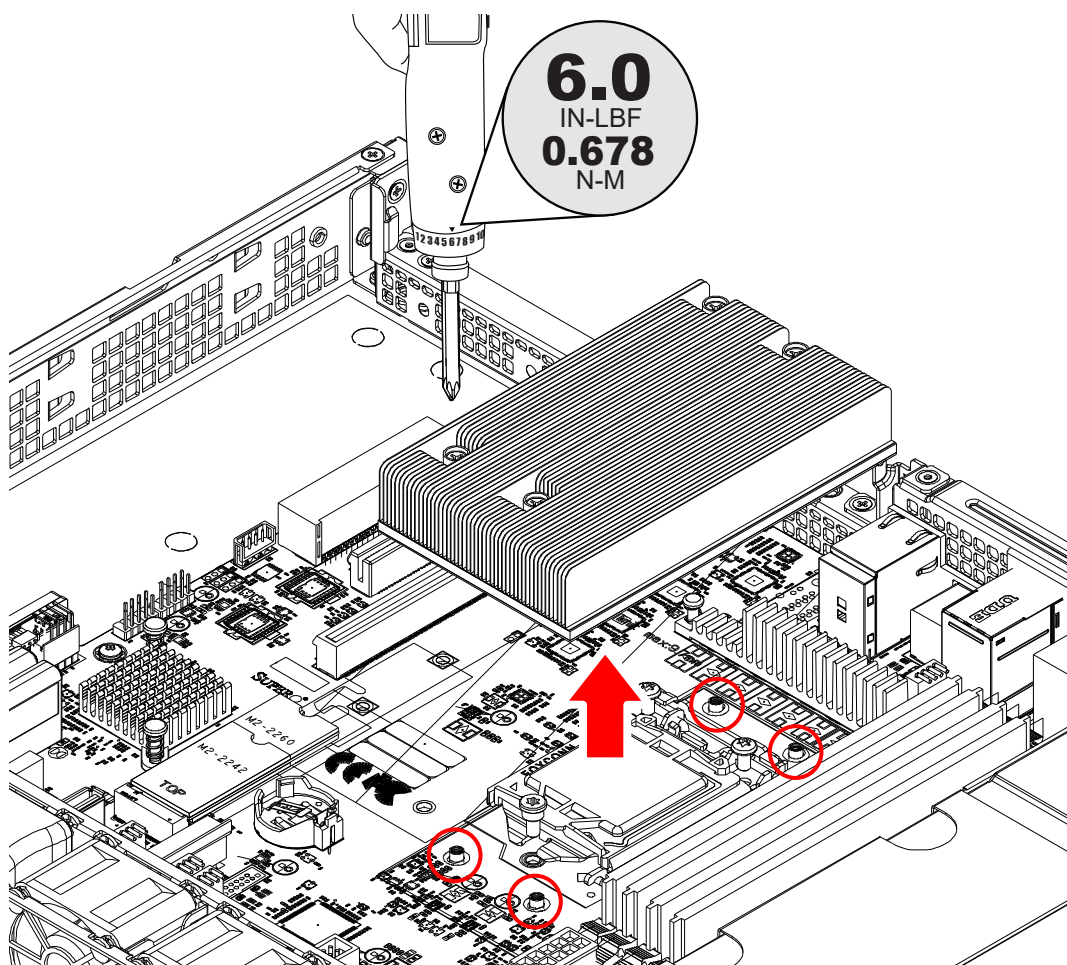
**Note:** The figure above is for illustrative purposes only.

**Figure 3-2. Installing the Heatsink**

### Removing a Heatsink

We do not recommend removing the heatsink. If necessary, please follow the instructions below to prevent damage to the CPU or the CPU socket. Wait for the heatsink to cool down before removing it.

1. Use a Phillips screwdriver or torque driver to loosen the four screws. You can start with any screw, but make sure to loosen the screws in a diagonal pattern.
2. Hold and gently pivot the heatsink back and forth to loosen it from the CPU. (Do not use excessive force when dislodging the heatsink.)
3. Once the heatsink is loose, remove it from the CPU.
4. Clean the surface of the CPU and the heatsink to get rid of the old thermal grease. Reapply the proper amount of thermal grease to the surface before you re-install the heatsink.



**Note:** The figure above is for illustrative purposes only.

**Figure 3-3. Removing the Heatsink**

## 3.4 Memory

### Memory Support

The X13SCH-SYS supports up to 128 GB of DDR5 ECC UDIMM memory with speeds of up to 4400 MT/s in four memory slots. Refer to the table below for the recommended DIMM population order.

**Note:** This motherboard supports 4400 MT/s with the one DIMM per channel population configuration.

| 1 CPU, 4 DIMM Slots |   |
|---------------------|---|
| Number of DIMMs     | Memory Population Sequence                            |
| 1                   | DIMMB2<br>DIMMA2                                      |
| 2                   | DIMMB2 / DIMMB1<br>DIMMB2 / DIMMA2<br>DIMMA2 / DIMMA1 |
| 4                   | DIMMB2 / DIMMA2 / DIMMB1/ DIMMA1                      |

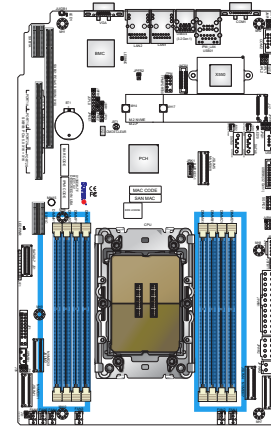
| Memory Support |              |                                |
|----------------|--------------|--------------------------------|
| DIMM Type      | Speed (MT/s) | DIMM Slots                     |
| 1R UDIMM       | 4000         | DIMMA1, DIMMA2, DIMMB1, DIMMB2 |
| 2R UDIMM       | 3600         | DIMMA1, DIMMA2, DIMMB1, DIMMB2 |
| 1R or 2R UDIMM | 4400         | DIMMA2, DIMMB2                 |

### General Guidelines for Optimizing Memory Performance

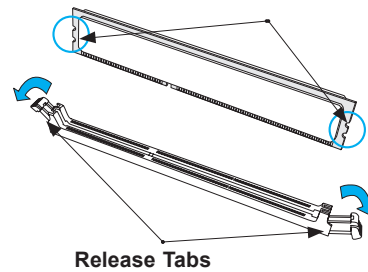
- The blue slots must be populated first.
- For optimal performance, it is recommended to use DDR5 memory of the same type, size, and speed.
- Mixed DIMM speeds can be installed. However, all DIMMs will run at the speed of the slowest DIMM.
- The motherboard will support odd-numbered modules (three modules installed). However, to achieve the best memory performance, a balanced memory population is recommended.

## DIMM Installation

1. Insert the desired number of DIMMs into the memory slots based on the recommended DIMM population table.
2. Push the release tabs outwards on both ends of the DIMM slot to unlock it.
3. Align the key of the DIMM module with the receptive point on the memory slot.
4. Align the ends of the module against the receptive points on the ends of the slot.
5. Press the ends of the module straight down into the slot until the module snaps into place.
6. Press the release tabs to the lock positions to secure the DIMM module into the slot.



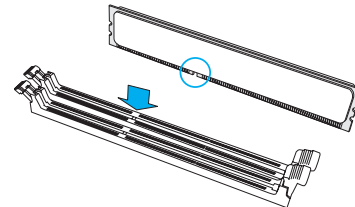
Ends



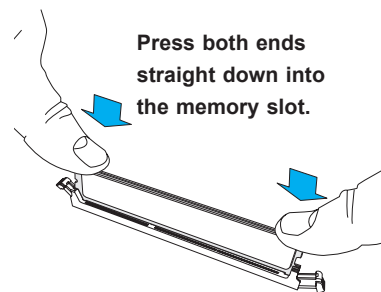
Release Tabs

## DIMM Removal

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



Press both ends  
straight down into  
the memory slot.



## 3.5 Motherboard Battery

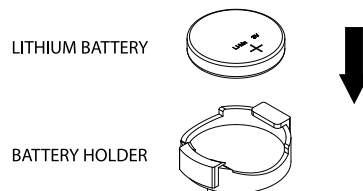
The motherboard uses non-volatile memory to retain system information when system power is removed. This memory is powered by a lithium battery residing on the motherboard.

### *Replacing the Battery*

Begin by [removing power](#) from the system.

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

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



**Figure 3-4. Installing the Onboard Battery**

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

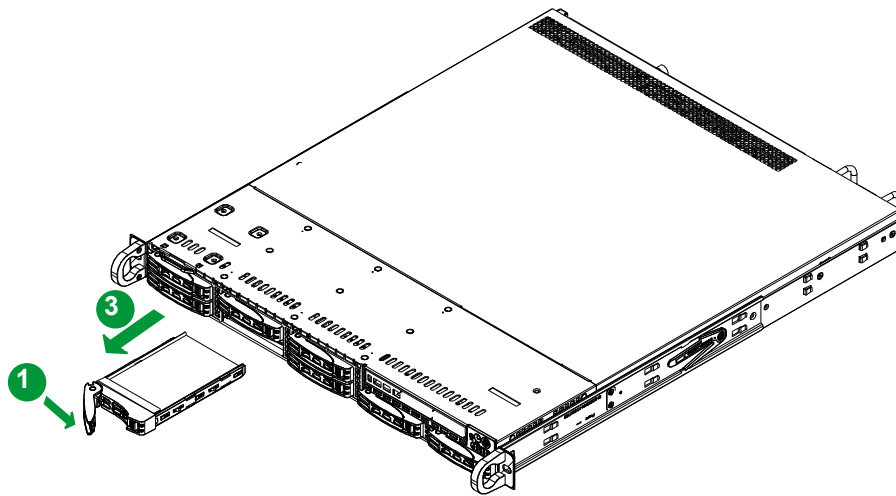
## 3.6 Storage Drives

Your server may or may not have come with storage drives installed. Up to eight 2.5" drives are supported by the chassis.

The SATA drives are mounted in drive carriers to simplify their installation and removal from the chassis. (Both procedures may be done without removing power from the system.) Each carrier has a small space on the front to place an orange or purple label to distinguish SAS/ SATA from other protocols.

### ***Removing a Hot-Swap Drive Carrier***

1. Push the release button on the carrier.
2. Swing the handle fully out.
3. Grasp the handle and use it to pull the drive carrier out of its bay.



**Figure 3-5. Removing a Drive Carrier**

### ***Mounting a Drive in a Drive Carrier***

1. To add a new drive, install it into the carrier with the printed circuit board side facing down so that the mounting holes align with those in the carrier.
2. Secure the drive to the carrier with the screws provided, then push the carrier completely into the drive bay. You should hear a \*click\* when the drive is fully inserted. This indicates that the carrier has been fully seated and connected to the midplane, which automatically makes the power and logic connections to the storage drive.

### Removing a Drive from a Drive Carrier

1. Remove the screws that secure the drive to the carrier and separate the drive from the carrier.
2. Replace the carrier back into the drive bay.

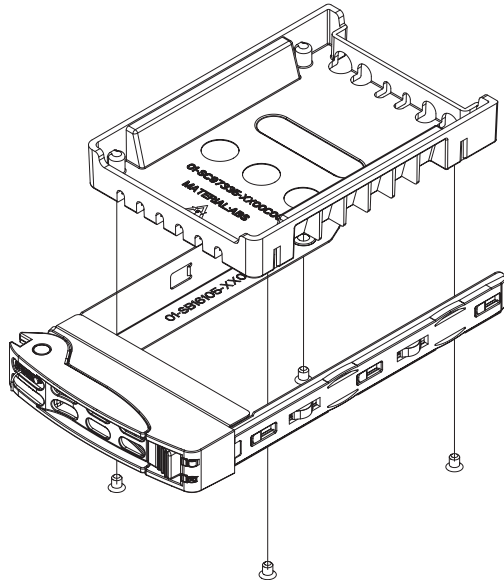


Figure 3-6. Removing a Drive in a Carrier

### Drive Carrier Indicators

Each drive carrier has two LED indicators: an activity indicator and a status indicator. In RAID configurations, the status indicator lights to indicate the status of the drive. In non-RAID configurations, the status indicator remains off. See the table below for details.

| Drive Carrier LED Indicator |       |                  |                     |
|-----------------------------|-------|------------------|---------------------|
|                             | Color | Blinking Pattern | Behavior for Device |
| Activity LED                | Blue  | Solid On         | SAS drive installed |
|                             | Blue  | Blinking         | I/O activity        |
| Status LED                  | Red   | Solid On         | Failure of drive    |

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

## 3.7 PCI Expansion Card Installation

The system includes a pre-installed riser card (p/n RSC-SR-68G5) that positions a standard size PCIe card at a 90 degree angle, allowing it to fit inside the chassis.



Figure 3-7. Expansion Card Slots in the Chassis

| Expansion Card Slots |   |
|----------------------|---|
| Item                 | Description   |
| 1 and 2              | One PCIe 5.0 x16 (FHHL) in slot 1 -or-<br>One PCIe 5.0 x8 (FHHL) in slot 1 and one PCIe 5.0 x8 (LP) in slot 2 |

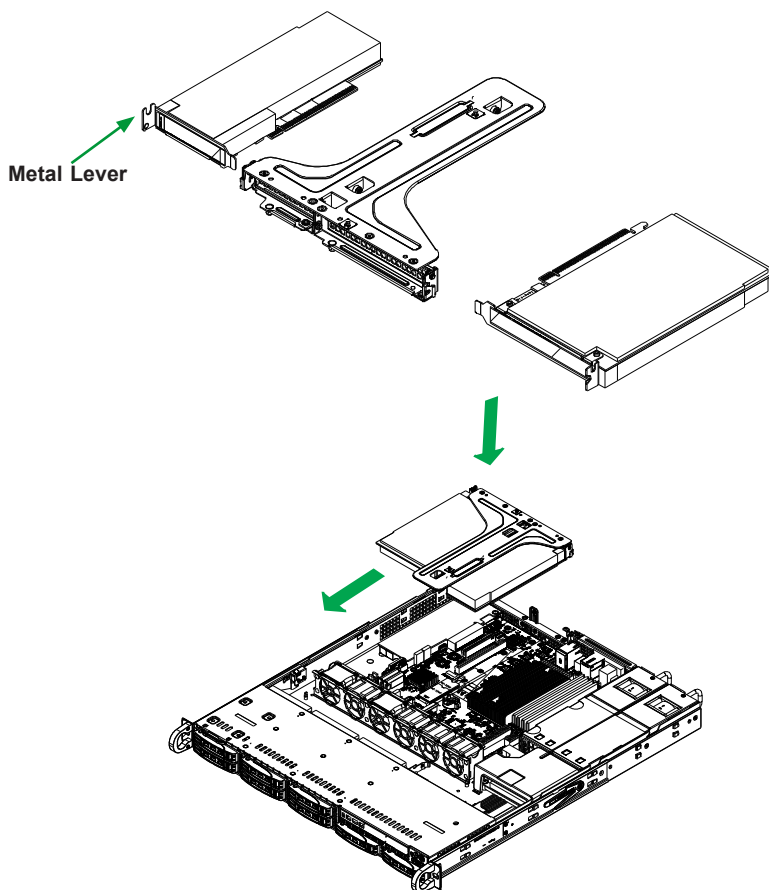
**Note:** Full height = 4.2", full length = 10.5", low profile = 2.5"

### ***Installing PCI Expansion Cards***

The RSC-SR-68G5 riser card has already been pre-installed into the motherboard. Perform the following steps to install an add-on card:

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

1. Remove the chassis cover to access the inside of the system.
2. Use the pull-tabs to pull the PCIe slot bracket up and out of the system.
3. Insert the expansion card into a slot on the riser card while aligning the expansion card backplate with the open slot in the rear of the chassis. Flip the small metal lever to secure the add-on card.
4. Insert the riser card into the motherboard expansion slot while aligning the riser card bracket with the rear of the chassis. There are three guide pins on the rear of the riser bracket.



**Figure 3-8. Installing a PCI Expansion Card**

## 3.8 System Cooling

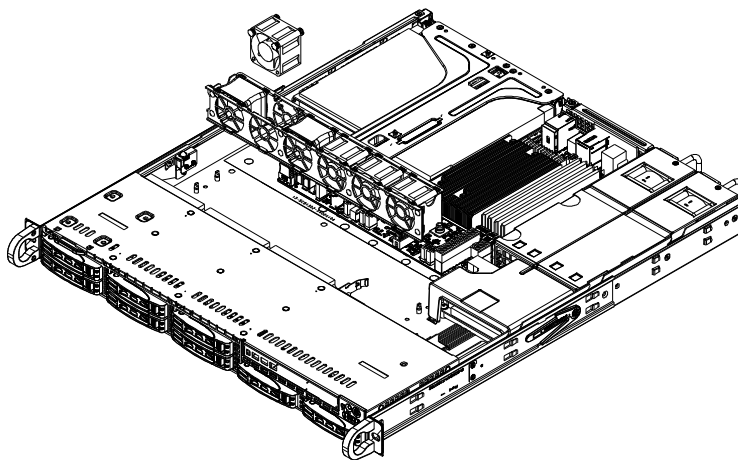
Four 4-cm fans provide the cooling for the system. The chassis provides two additional open fan housings, where additional system fans may be added for optimal cooling. It is very important that the chassis top cover is installed for the cooling air to circulate properly through the chassis and cool the components.

### Installing Fans

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

#### *Replacing a System Fan*

1. With the server powered on, remove the chassis cover and inspect the fans to see which one has failed.
2. Power down the server and remove the AC power cords.
3. Remove the failed fan's wiring from the fan header on the motherboard and remove the failed fan from the chassis.
4. Place the new fan into the vacant space in the housing while making sure the arrows on the top of the fan (indicating air direction) point in the same direction as the arrows on the other fans.
5. Connect the fan wires to the same fan header as the fan just removed.
6. Power up the system and check that the fan is working properly and that the LED on the control panel has turned off. Finish by replacing the chassis cover.



**Figure 3-9. Replacing a System Fan**

## Air Shroud

The air shroud is used to concentrate airflow to maximize fan efficiency. The air shroud does not require screws to set up.

### *Installing the Air Shroud*

1. Lay the chassis on a flat, stable surface and remove the chassis cover.
2. If necessary, move any cables that interfere with the air shroud placement.
3. Place the air shroud in the chassis. The air shroud fits just behind the fans. Slide the air shroud into the grooves just behind the fan rack.
4. Reroute any cables that were moved and replace the chassis cover.

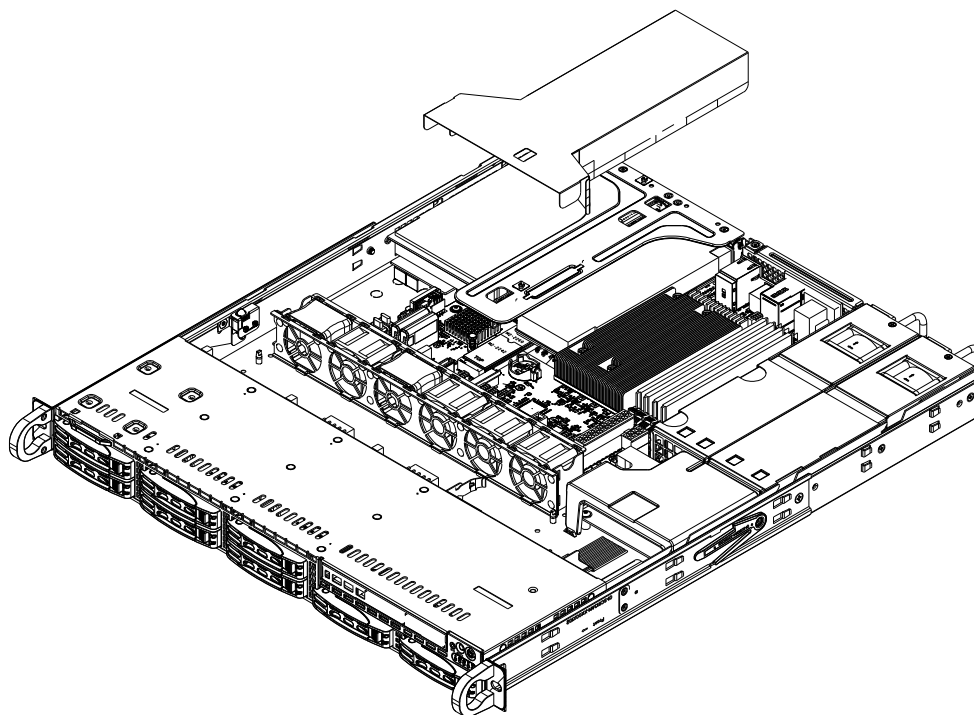


Figure 3-10. Installing the Air Shroud

## 3.9 Power Supply

The SuperServer SYS-111R-M comes with one 600 W high-efficiency power supply. The power supply module has an auto-switching capability. It can automatically sense and operate with a 100 V-240 V input voltage. An additional power supply can be added to make the system redundant. A redundant power supply configuration is hot-swappable, meaning the power supplies can be changed without powering down the system. New units can be ordered directly from Supermicro or authorized distributors.

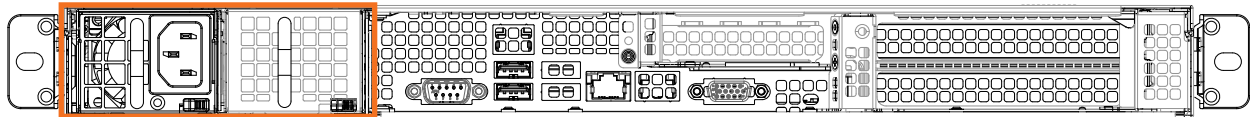


Figure 3-11. Power Supply Location

### Power Supply LEDs

On the rear of the power supply module, an LED displays the status.

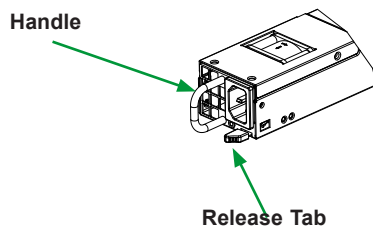
- **Solid Green:** When illuminated, indicates that the power supply is on.
- **Blinking Green:** When blinking, indicates that the power supply is plugged in and turned off by the system.
- **Blinking Amber:** When blinking, indicates that the power supply has a warning condition and continues to operate.
- **Solid Amber:** When illuminated, indicates that the power supply is plugged in, and is in an abnormal state. The system might need service. Please contact Supermicro technical support.

## Replacing Power Supply Modules

The steps to replace the power supply modules depends on the system and the number of modules that have failed. Hot-swap is only possible on a system with two power supplies and only when one power supply has failed.

### *Replacing One Power Supply in a Non-Redundant System*

1. To replace the single power supply on a non-redundant system, remove power as described in Section 3.1.
2. Push the release tab (see below), then pull the power supply out using the handle provided.
3. Push the new power supply module into the power bay until you hear a click (replace with the same model: p/n PWS-602A-1R).
4. Reconnect the power cord to the power supply inlet.
5. Reconnect the power cord to the power strip or outlet.
6. Power on the system and check the power supply's status using remote management or the LEDs.



**Figure 3-12. Release Tab Location**

### ***Replacing One Power Supply in a Redundant System***

1. Use remote management or check the power supply LEDs to determine which power supply module has failed.
2. Push the release tab (see figure on the previous page), then pull the power supply out using the handle provided.
3. Push the new power supply module into the power bay until you hear a click (replace with the same model: p/n PWS-602A-1R).
4. Reconnect the power cord to the power supply inlet.
5. Reconnect the power cord to the power strip or outlet.
6. Check the power supply status by using remote management or the power supply's LEDs.

### ***Replacing Two Power Supplies in a Redundant System***

1. Remove power from the system as described in Section 3.1
2. Push the release tab (see figure on the previous page), then pull the power supply out using the handle provided.
3. Push the new power supply module into the power bay until you hear a click (replace with the same model: p/n PWS-602A-1R).
4. Reconnect the power cord to the power supply inlet.
5. Reconnect the power cord to the power strip or outlet.
6. Repeat steps 2-5 for the second power supply.
7. Power on the system.
8. Check the power supply status by using remote management or the power supply's LEDs.

## Chapter 4

# Motherboard Connections

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

### 4.1 Power Connections

Two power connections supply the motherboard and several more supply for onboard devices.

#### ATX Power Supply Connector

The 24-pin power supply connector (JPW1) meets the ATX SSI EPS 24-pin specification. You must also connect the 8-pin (JPW2) CPU power connector to the power supply.

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

### 8-Pin CPU Power Connector

JPW2 is an 8-pin 12 V DC power input for the CPU that must be connected to the power supply. Refer to the table below for pin definitions.

| 8-pin Power Pin Definitions |                   |
|-----------------------------|-------------------|
| Pin#                        | Definition        |
| 1 - 4                       | Ground            |
| 5 - 8                       | P12V (12 V Power) |

#### Required Connection

**Important:** To provide adequate power supply to the motherboard, be sure to connect the 24-pin ATX PWR and the 8-pin PWR connectors to the power supply. Failure to do so may void the manufacturer warranty on your power supply and motherboard.

## 4.2 Headers and Connectors

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

A system Management Bus header for IPMI 2.0 is located at JIPMB1. Connect the appropriate cable here to use the IPMB I<sup>2</sup>C connection on your system. JBPNI<sup>2</sup>C1 is used for backplanes. 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   | P3V3 STBY  |

### Chassis Intrusion

A Chassis Intrusion header is located at JL1 on the motherboard. Attach the appropriate cable from the chassis to inform you of a chassis intrusion 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          |

### Fan Headers

There are seven 4-pin fan headers (FAN1–FAN5, 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 Hardware Monitoring through BMC. Refer to the table below for pin definitions.

| FAN Header<br>Pin Definitions |                |
|-------------------------------|----------------|
| Pin#                          | Definition     |
| 1                             | Ground (Black) |
| 2                             | P12V (Red)     |
| 3                             | Signal         |
| 4                             | PCH_FAN_PWM    |

### Inlet Temperature Sensor

JSEN1 is the system front inlet temperature sensor. It represents the ambient air temperature entering the system. The equivalent temperature sensor retrievable by the onboard BMC is RT0.

| Inlet Sensor Header<br>Pin Definitions |            |
|--|------------|
| Pin#                                   | Definition |
| 1                                      | Data       |
| 2                                      | Ground     |
| 3                                      | CLK        |
| 4                                      | P3V3_STBY  |

### M.2 Slot

This motherboard has two M.2 slots. M.2 was formerly known as Next Generation Form Factor (NGFF) and serves to replace mini PCIe. M.2 allows for a variety of card sizes, increased functionality, and spatial efficiency. The M.2 slot on the motherboard supports PCIe 4.0 x4 SSD cards in the 2280 and 22110 form factors.

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

The Power System Management Bus (I<sup>2</sup>C) connector JPI<sup>2</sup>C1 monitors the power supply, fan, and system temperatures. Refer to the table below for pin definitions.

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

### SATA 3.0 Connections

The X13SCH-SYS motherboard supports eight SATA 3.0 connections via one SlimSAS connector (SATA0–7) at JS1. These Intel PCH SATA 3.0 connections supports RAID 0, 1, 5, and 10.

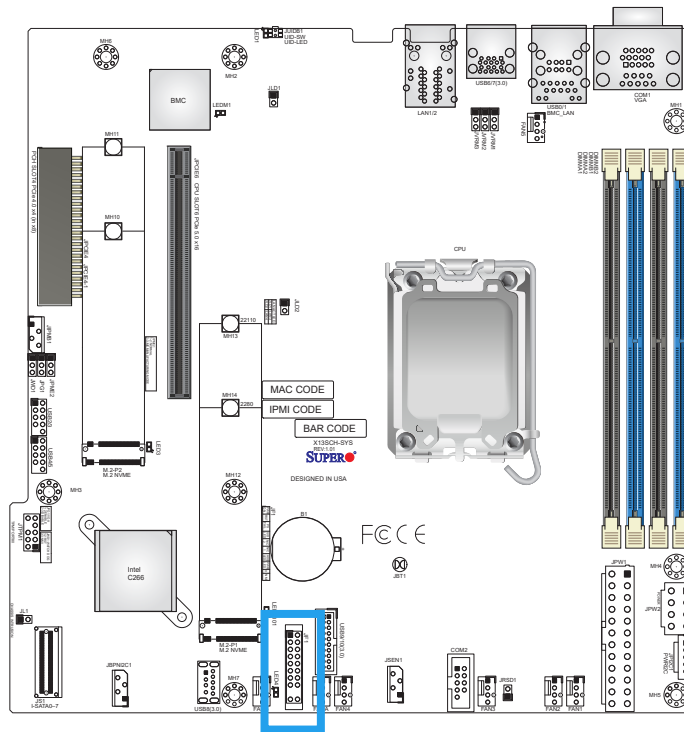
### TPM/Port 80 Header

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

| Trusted Platform Module/Port80 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#   |

## Front Control Panel

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.



|                      | 1  | 2  |                 |
|----------------------|----|----|-----------------|
| PWR } Power Button   | ○  | ○  | Ground          |
| Reset } Reset Button | ○  | ○  | Ground          |
| 3.3 V                | ○  | ○  | Power Fail LED  |
| UID LED              | ○  | ○  | OH/Fan Fail LED |
| 3.3 V LAN            | ○  | ○  | NIC2 Active LED |
| 3.3 V LAN            | ○  | ○  | NIC1 Active LED |
| UID SW               | ○  | ○  | Drive LED       |
| 3.3 V                | ○  | ○  | PWR LED         |
| X                    | ○  | ○  | X               |
| NMI                  | ○  | ○  | Ground          |
|                      | 19 | 20 |                 |

Figure 4-1. JF1 Header Pins

### Power Button

The Power Button connection is located on pins 1 and 2 of JF1. Momentarily contacting both pins will power on/off the system. This button can also be configured to function as a suspend button (with a setting in the BIOS). To turn off the power when the system is in suspend mode, press the button for 4 seconds or longer. Refer to the table below for pin definitions.

| Power Button<br>Pin Definitions (JF1) |            |
|---------------------------------------|------------|
| Pin#                                  | Definition |
| 1                                     | Signal     |
| 2                                     | Ground     |

### Reset Button

The Reset Button connection is located on pins 3 and 4 of JF1. Attach it to a hardware reset switch on the computer case to 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. Refer to the table below for pin definitions.

| Power Fail LED<br>Pin Definitions (JF1) |                 |
|---|-----------------|
| Pin#                                    | Definition      |
| 5                                       | 3.3 V           |
| 6                                       | PWR Supply Fail |

### Overheat (OH)/Fan Fail LED

Connect an LED cable to pins 7 and 8 of the Front Control Panel to use the Overheat/Fan Fail LED connections. The LED on pin 8 provides warnings of overheating or fan failure. Refer to the tables below for pin definitions.

| OH/Fan Fail Indicator Status |            |
|------------------------------|------------|
| Pin#                         | Definition |
| Off                          | Normal     |
| On                           | Overheat   |
| Flashing                     | Fan Fail   |

| OH/Fan Fail LED<br>Pin Definitions (JF1) |                     |
|--|---------------------|
| Pin#                                     | Definition          |
| 7  | UID LED (Blue)      |
| 8  | UID/OH/Fan Fail LED |

### NIC1/NIC2 (LAN1/LAN2)

The NIC (Network Interface Controller) LED connection for LAN port 1 is located on pins 11 and 12 of JF1. The LED connection for LAN port 2 is located on pins 9 and 10. Attach the NIC LED cables here to display network activity. Refer to the table below for pin definitions.

| LAN1/LAN2 LED<br>Pin Definitions (JF1) |                                    |
|--|------------------------------------|
| Pin#                                   | Definition                         |
| 9/11                                   | 3.3 V LAN                          |
| 10/12                                  | NIC2 Active LED<br>NIC1 Active LED |

### Drive LED/UID Switch

The drive LED/UID Switch connection is located on pins 13 and 14 of JF1. Attach a cable to pin 13 to use the UID switch. Attach a cable to pin 14 to show drive activity status. Refer to the table below for pin definitions.

| Drive LED/UID Switch<br>Pin Definitions (JF1) |              |
|---|--------------|
| Pins  | Definition   |
| 13  | 3.3 V/UID SW |
| 14  | Drive Active |

### Power LED

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

| Power LED<br>Pin Definitions (JF1) |            |
|------------------------------------|------------|
| Pins                               | Definition |
| 15                                 | 3.3 V      |
| 16                                 | 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                                  | Control    |
| 20                                  | Ground     |

## 4.3 Input/Output Ports

### Rear I/O Ports

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

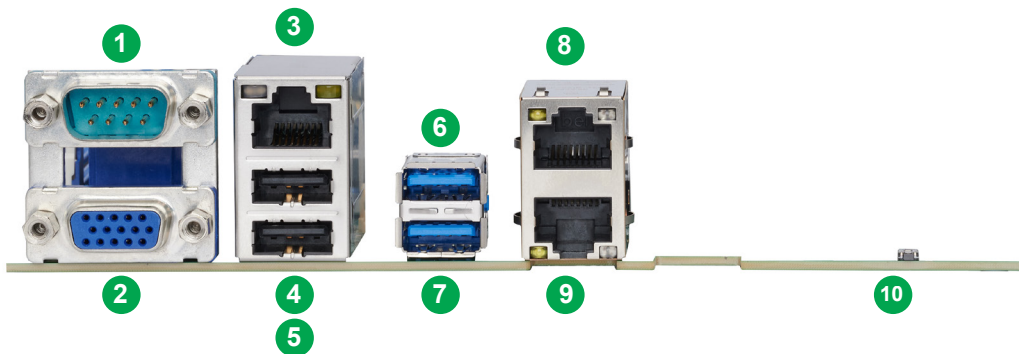


Figure 4-2. I/O Port Locations and Definitions

| Rear I/O Ports |                |    |                  |
|----------------|----------------|----|------------------|
| #              | Description    | #  | Description      |
| 1              | COM1           | 6  | USB6 (3.2 Gen 1) |
| 2              | VGA            | 7  | USB7 (3.2 Gen 1) |
| 3              | BMC LAN        | 8  | LAN2             |
| 4              | USB0 (USB 2.0) | 9  | LAN1             |
| 5              | USB1 (USB 2.0) | 10 | UID LED/Switch   |

## LAN Ports

The X13SCH-SYS motherboard has two gigabit Ethernet ports (LAN1, LAN2) on the back I/O panel. In addition to the LAN ports, a dedicated BMC LAN port is located above USB0/1. Refer to the LED Indicator section for LAN LED information.

| LAN Port<br>Pin Definition |            |      |                       |
|----------------------------|------------|------|-----------------------|
| Pin#                       | Definition | Pin# | Definition            |
| 1                          | TD0-       | 11   | P3V3_Dual             |
| 2                          | TD0+       | 12   | Act LED (Yellow)      |
| 3                          | TD1-       | 13   | Link 1000 LED (Amber) |
| 4                          | TD1+       | 14   | Link 1000 LED Green   |
| 5                          | TD2-       | 15   | GND                   |
| 6                          | TD2+       | 16   | GND                   |
| 7                          | TD3-       | 17   | GND                   |
| 8                          | TD3+       | 18   | GND                   |
| 9                          | COMMCT     | 19   |                       |
| 10                         | GND        | 20   |                       |

| BMC LAN<br>Pin Definition |            |      |                       |
|---------------------------|------------|------|-----------------------|
| Pin#                      | Definition | Pin# | Definition            |
| 9                         |            | 19   | GND                   |
| 10                        | TD0+       | 20   | Act LED (Yellow)      |
| 11                        | TD0-       | 21   | Link 100 LED (Green)  |
| 12                        | TD1+       | 22   | Link 1000 LED (Amber) |
| 13                        | TD1-       | 23   | SGND                  |
| 14                        | TD2+       | 24   | SGND                  |
| 15                        | TD2-       | 25   | SGND                  |
| 16                        | TD3+       | 26   | SGND                  |
| 17                        | TD3-       |      |                       |
| 18                        | GND        |      |                       |

## COM Port

There is one COM port on the I/O back panel and one COM header on the motherboard.

| COM Port (COM1)<br>Pin Definitions |            |      |            |
|------------------------------------|------------|------|------------|
| Pin#                               | Definition | Pin# | Definition |
| 1                                  | DCD        | 6    | DSR        |
| 2                                  | RXD        | 7    | RTS        |
| 3                                  | TXD        | 8    | CTS        |
| 4                                  | DTR        | 9    | RI         |
| 5                                  | Ground     | 10   | N/A        |

## VGA Port

A video (VGA) port is located on the I/O back panel.

## Universal Serial Bus (USB) Ports

There are two USB 2.0 ports (USB0/1) on the I/O back panel and two USB 2.0 headers (USB2/3 and USB4/5) on the motherboard. The motherboard also has two USB 3.2 Gen 1 ports (USB6/7) on the I/O back panel and one front access USB 3.2 header (USB9/10). The USB8 header is USB 3.2 Gen 1 Type A. The onboard headers can be used to provide front side USB access with a cable (not included).

| Type-A USB 8 (3.2 Gen 1) Header<br>Pin Definitions |            |      |            |
|--|------------|------|------------|
| Pin#   | Definition | Pin# | Definition |
| 1  | VBUS       | 5    | SSRX-      |
| 2  | USB_N      | 6    | SSRX+      |
| 3  | USB_P      | 7    | GND        |
| 4  | GND        | 8    | SSTX-      |
|  |            | 9    | SSTX+      |

| Front Panel USB2/3, 4/5 (2.0) Header<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         |

| Front Panel USB9/10 (3.2 Gen 1) Header<br>Pin Definitions |            |      |            |
|---|------------|------|------------|
| Pin#  | Definition | Pin# | Definition |
| 1   | VBUS       |      |            |
| 2   | Stda_SSRX- | 19   | VBUS       |
| 3   | Stda_SSRX+ | 18   | Stda_SSRX- |
| 4   | GND        | 17   | Stda_SSRX+ |
| 5   | Stda_SSTX- | 16   | GND        |
| 6   | Stda_SSTX+ | 15   | Stda_SSTX- |
| 7   | GND        | 14   | Stda_SSTX+ |
| 8   | USB_N      | 13   | GND        |
| 9   | USB_P      | 12   | USB_N      |
| 10  | GND        | 11   | USB_P      |

| Back Panel USB6/7 (3.2 Gen 1)<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   | Stda_SSRX- | B5   | Stda_SSRX- |
| A6   | Stda_SSRX+ | B6   | Stda_SSRX+ |
| A7   | GND        | B7   | GND        |
| A8   | Stda_SSTX- | B8   | Stda_SSTX- |
| A9   | Stda_SSTX+ | B9   | Stda_SSTX+ |

| Back Panel USB0/1 (2.0)<br>Pin Definitions |            |      |            |
|--|------------|------|------------|
| Pin#                                       | Definition | Pin# | Definition |
| 1  | +5 V       | 5    | +5 V       |
| 2  | USB_N      | 6    | USB_N      |
| 3  | USB_P      | 7    | USB_P      |
| 4  | Ground     | 8    | Ground     |

### Unit Identifier Switch (UID-SW): One button with two functions

A Unit Identifier (UID) switch and two LED Indicators are located on the motherboard. The UID switch is located at JUIDB1. The UID LED (LED1) is located next to the UID switch. When you press the switch, the LED will be turned on, which provides easy identification of a system unit that may be in need of service. Press the switch again to turn off the LED indicator. UID can also be triggered via BMC on the motherboard. For more information on BMC, please refer to the BMC User's Guide posted on our website: [https://www.supermicro.com/manuals/other/BMC\\_IPMI\\_X13\\_H13.pdf](https://www.supermicro.com/manuals/other/BMC_IPMI_X13_H13.pdf)

| Function          | User Input                   | Behavior                          | LED Activity                       |
|-------------------|------------------------------|-----------------------------------|------------------------------------|
| UID LED Indicator | Push Once                    | Turns on the UID LED              | UID LED turns solid blue           |
|                   | Push Again                   | Turns off the UID LED             | UID LED turns off                  |
| BMC Reset         | Push and hold for 6 seconds  | BMC will do a cold boot           | BMC Hearbeat LED turns solid green |
|                   | Push and hold for 12 seconds | BMC will reset to factory default | BMC Hearbeat LED turns solid green |

**Note:** After pushing and holding the UID switch for 12 seconds, all BMC settings including username and password will revert back to the factory default. Only the network settings and FRU are retained.

| UID Switch Pin Definitions |            |
|----------------------------|------------|
| Pin#                       | Definition |
| 1                          | Ground     |
| 2                          | Ground     |
| G1                         | Button In  |
| G2                         | Button In  |

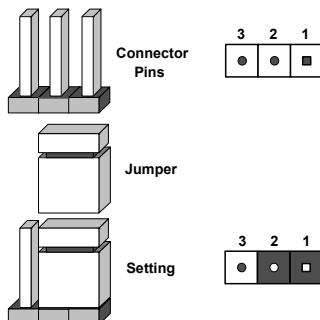
| UID LED Indicator State |                 |
|-------------------------|-----------------|
| LED Color               | Definition      |
| Blue Solid              | Unit Identified |

## 4.4 Jumpers

### *Explanation of Jumpers*

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

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



### **CMOS Clear**

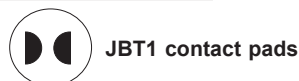
JBT1 is used to clear CMOS, which will also clear any passwords. Instead of pins, this jumper consists of contact pads to prevent accidentally clearing the contents of CMOS.

#### **To Clear CMOS**

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

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

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



### ME Manufacturing Mode

Close pins 2–3 of jumper JPME2 to bypass SPI flash security and force the system to operate in the manufacturing mode, which allows you to flash the system firmware from a host server for system setting modifications. Refer to the table below for jumper settings. The default setting is Normal.

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

### VGA Enable/Disable

JPG1 allows you to enable or disable the VGA port using the onboard graphics controller.

| VGA Enable/Disable Jumper Settings |                   |
|------------------------------------|-------------------|
| Jumper Setting                     | Definition        |
| Pins 1–2                           | Enabled (Default) |
| Pins 2–3                           | Disabled          |

### Watchdog Timer

Watchdog (JWD1) is a system monitor that can reboot the system when a software application hangs. Close pins 1-2 to reset the system if an application hangs. Close pins 2-3 to generate a non-maskable interrupt (NMI) signal for the application that hangs. Refer to the table below for jumper settings. The Watchdog must also be enabled in the BIOS.

| Watchdog Jumper Settings |                 |
|--------------------------|-----------------|
| Jumper Setting           | Definition      |
| Pins 1–2                 | Reset (Default) |
| Pins 2–3                 | NMI             |
| Open                     | Disabled        |

## 4.5 LED Indicators

### BMC Heartbeat LED

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

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

### LAN LEDs

X13SCH-SYS has two LAN ports (LAN1, LAN2) located on the back I/O panel. Each Ethernet LAN port has two LEDs. The yellow LED indicates activity, while the other LED may be green, amber, or off to indicate the speed of the connection. Refer to the tables below for more information.

| LAN Activity LED (Left) |          |            |
|-------------------------|----------|------------|
| Color                   | Status   | Definition |
| Yellow                  | Flashing | Active     |

| LAN Link LED (Right) |               |
|----------------------|---------------|
| LED Color            | Definition    |
| Off                  | No Connection |
| Amber                | 1 Gbps        |
| Green                | 100 Mbps      |

### Power LED

The Power LED is located at LED4 on the motherboard. When this LED is on, the system is on. Turn off the system and unplug the power cord before removing or installing components. Refer to the table below for more information.

| Onboard Power LED Indicator |   |
|-----------------------------|---|
| LED Color                   | Definition                                |
| Off                         | System Off<br>(power cable not connected) |
| Green                       | System On                                 |

### PCIe M.2 Activity LED

LED3 is the M.2-P2 activity LED while LED7001 is the M.2-P1 activity LED on the motherboard. When these LEDs are blinking, the M.2 slots are active. Refer to the table below for more information.

| PCIe M.2 Activity LED |            |
|-----------------------|------------|
| LED Color             | Definition |
| Blinking Green        | M.2 Active |

# Chapter 5

## Software

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

### 5.1 Microsoft Windows OS Installation

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

#### *Installing the OS*

1. Create a method to access the MS Windows installation ISO file. That might be a USB flash or media drive, or the BMC KVM console.
2. Go to the Supermicro web page for your motherboard and click on "Download the Latest Drivers and Utilities", select the proper driver, and copy it to a USB flash 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.

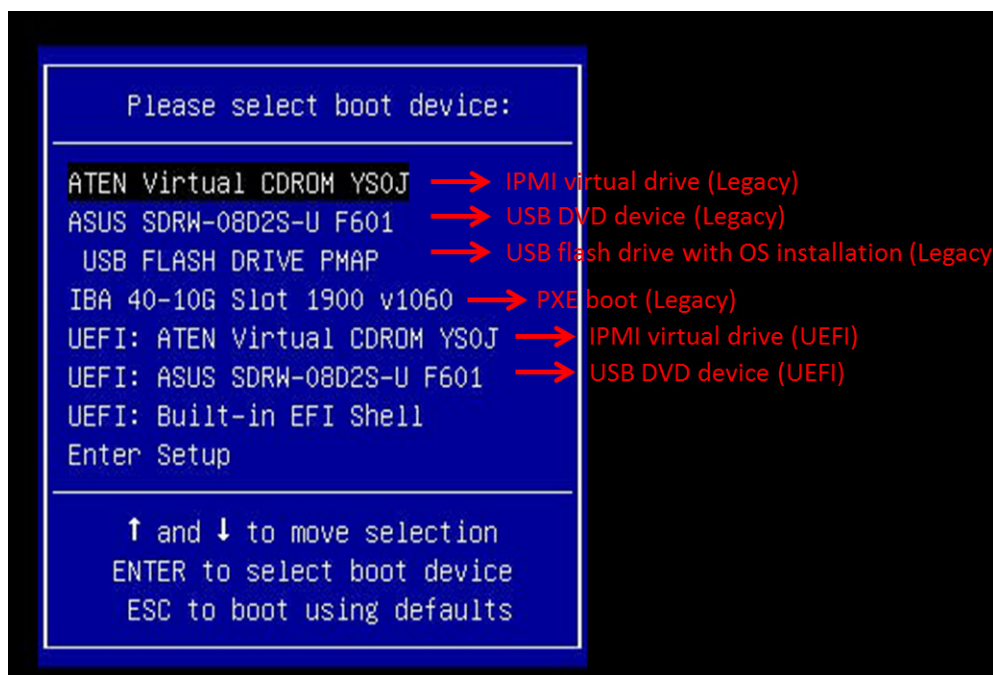
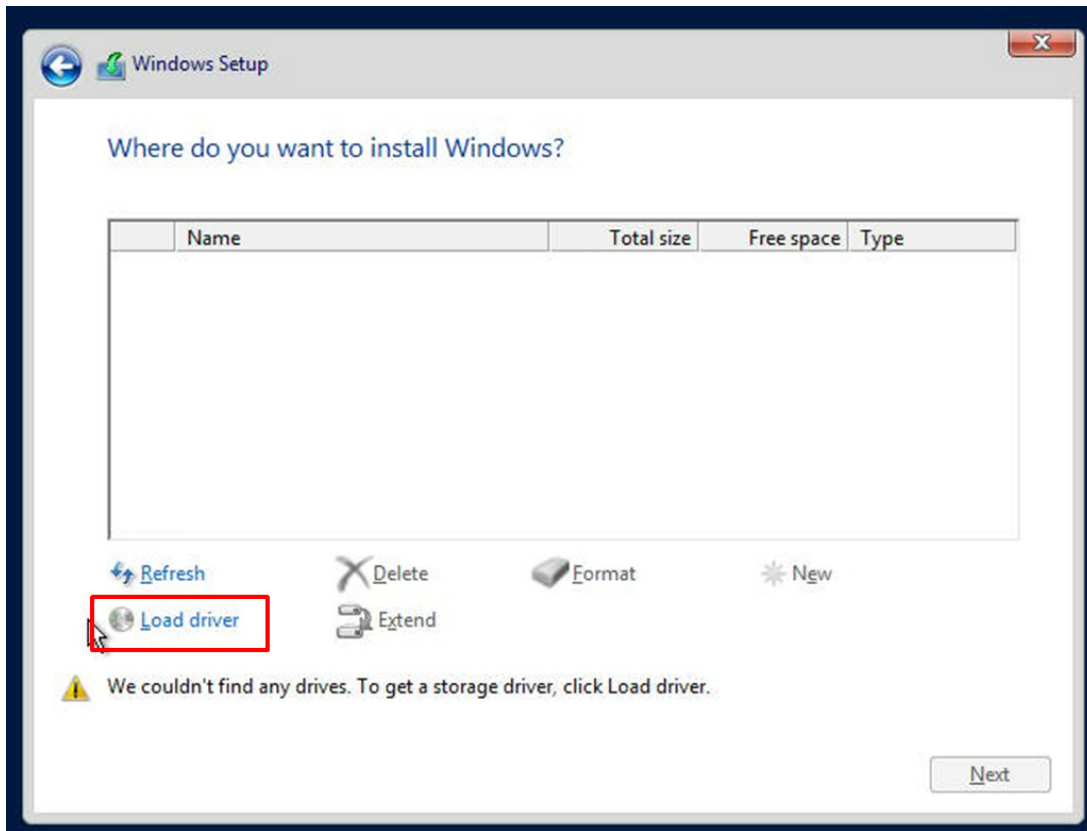


Figure 5-1. Select Boot Device

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.

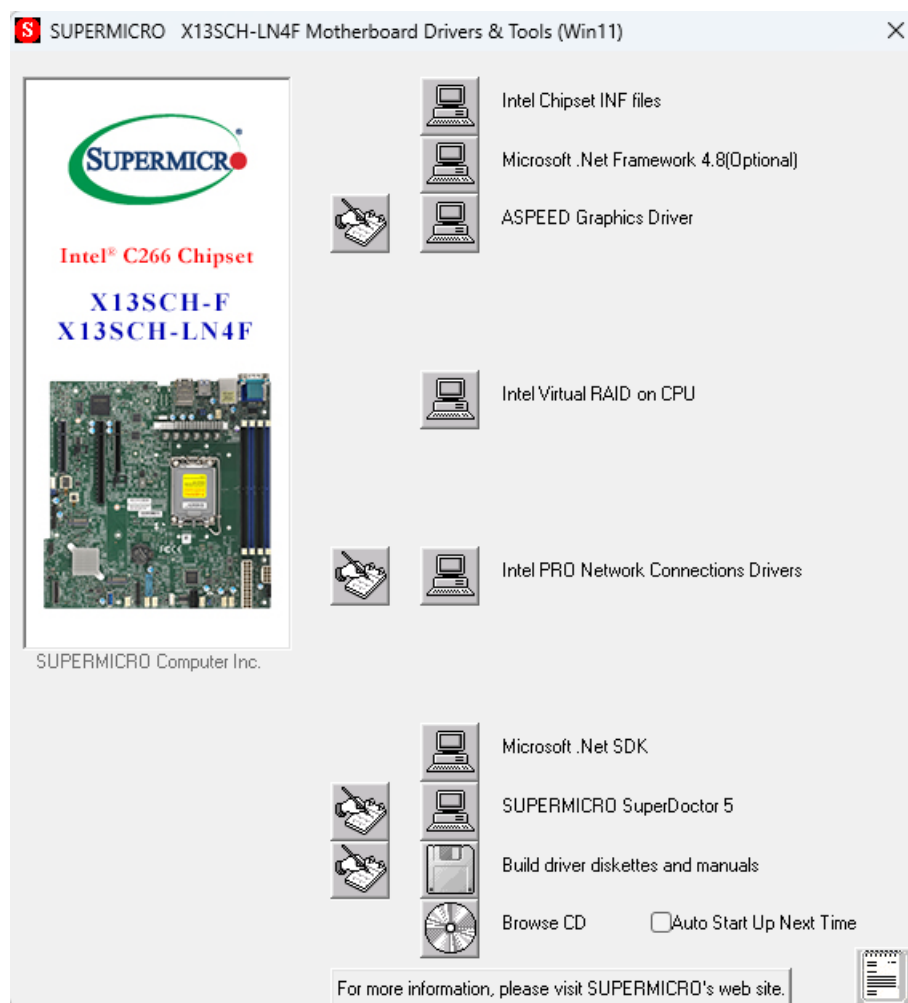
- For RAID, choose the SATA/sSATA RAID driver indicated then choose the storage drive on which you want to install it.
  - For non-RAID, choose the SATA/sSATA AHCI driver indicated then choose the storage drive on which you want to install it.
5. Once all devices are specified, continue with the installation.
  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>. Some of these must be installed, such as the chipset driver.

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

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



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

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

## 5.3 SuperDoctor® 5

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

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

[SuperDoctor® Manual and Resources](#)

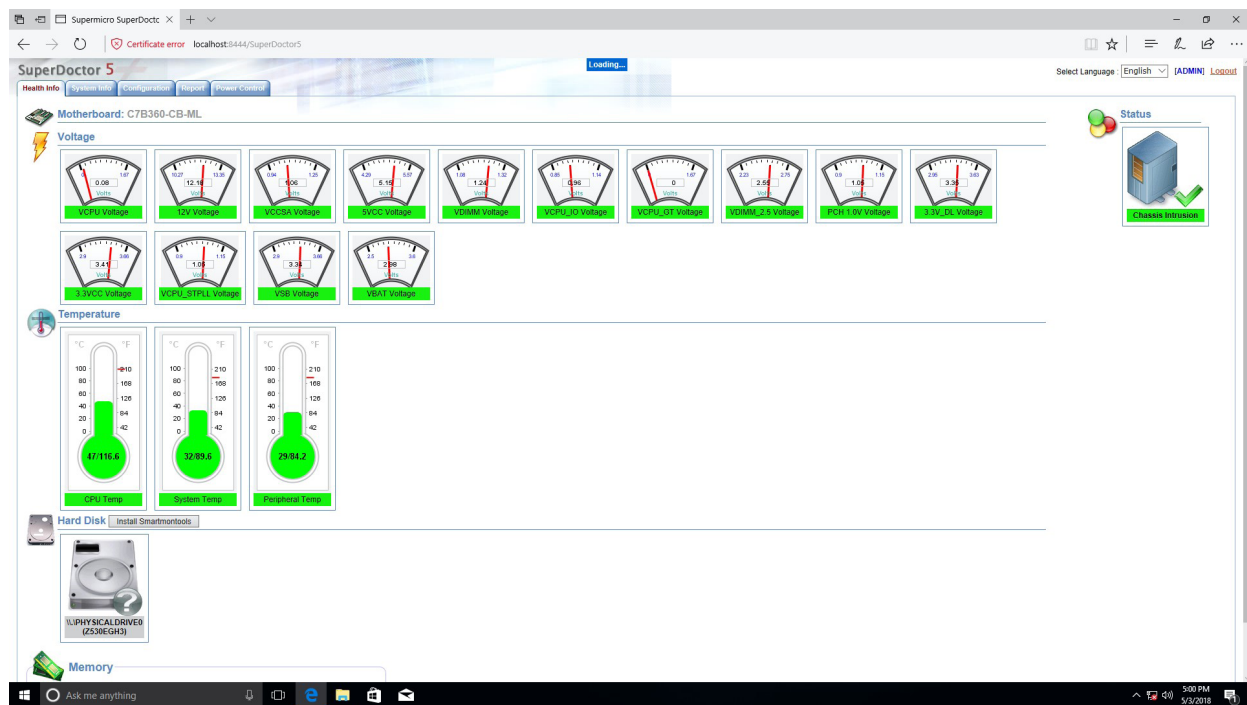


Figure 5-4. SuperDoctor 5 Interface Display Screen (Health Information)

## 5.4 BMC

The X13SCH-SYS provides remote access, monitoring and management through the baseboard management controller (BMC) and other management controllers distributed among different system modules. There are several BIOS settings that are related to BMC.

For general documentation and information on BMC, visit our website at:

<https://www.supermicro.com/en/solutions/management-software/bmc-resources>

### BMC ADMIN User Password

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



Figure 5-5. BMC Password Label

See [Chapter 1](#) for label location.

## Chapter 6

# Optional Components

This chapter describes optional system components and installation procedures.

### 6.1 Optional Parts List

| Optional Parts List            |  |          |
|--------------------------------|--|----------|
| Description                    | Part Number                                    | Quantity |
| Power Supply                   | PWS-602A-1R                                    | 1        |
| Inlet Thermal Sensor           | MCP-280-00033-0N                               | 1        |
| Cooling Fan                    | FAN-0154L4                                     | -        |
| Storage Control Card and Cable | AOC-S3808L-L8IT                                | 1        |
|                                | AOC-S3908L-H8iR-16DD                           |          |
| CacheVault                     | BTR-L3-00099-02 + MCP-240-81305-0N (For S3908) | 1        |
| Trusted Platform Module (TPM)  | AOM-TPM-9670H                                  | 1        |
|                                | AOM-TPM-9672H                                  |          |
| Software                       | SFT-DCMS-Single                                | -        |

### 6.2 Power Supply Modules

The SYS-111R-M supports the installation of another power supply module for redundancy.

| Power Supply Module Options |             |              |
|-----------------------------|-------------|--------------|
| Watts                       | Part Number | 80Plus Level |
| 600                         | PWS-602A-1R | Titanium     |

### 6.3 Storage Control Card and Cables

**AOC-S3808L-L8IT** - Std LP, 8 internal ports, 12 Gb/s per port (Gen4), 122 HDD, HBA; SlimSAS x8, INT

**AOC-S3908L-H8iR-16DD** - Std LP, 8 internal ports, 12 Gb/s per port (Gen4), 16 HDD, RAID 0, 1, 5, 6, 10, 50, 60; SlimSAS x8, INT

### 6.4 CacheVault

CacheVault for Broadcom 3908 with Supercap mounting in the dedicated location

CacheVault for Broadcom 3908; Supercap mounting bracket for PCIe location

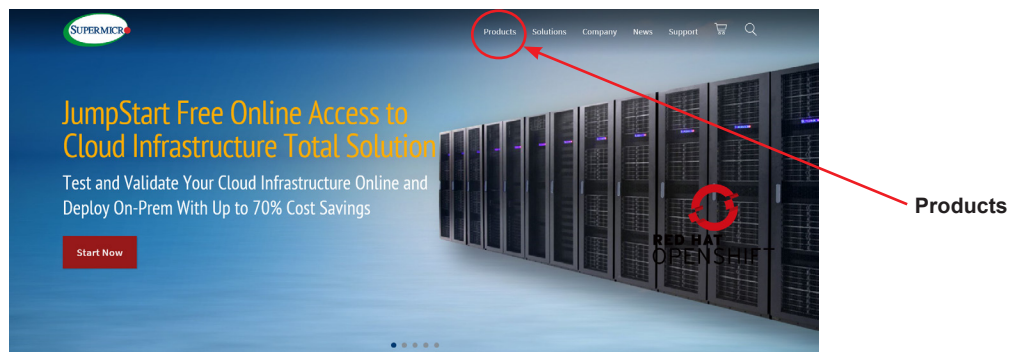
# Chapter 7

## 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 clicking on **Products**.

#### ***Direct Links for the SYS-111R-M System***

Web [SYS-111R-M](#) specifications page

[X13SCH-SYS 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](#)

[BMC User Guide](#)

[SuperDoctor5 Large Deployment Guide](#)

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

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

[Security Center](#) for recent security notices

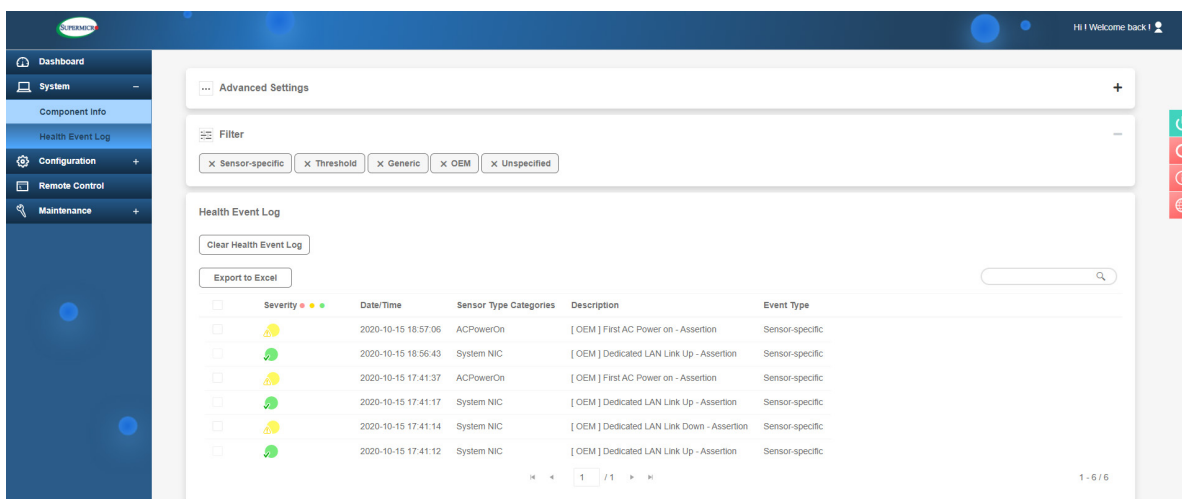
## Direct Links (continued)

[Supermicro Phone and Addresses](#)

## 7.2 BMC Interface

The system supports a Baseboard Management Controller (BMC) interface. It provides remote access, monitoring and management. There are several BIOS settings related to the BMC.

For general documentation and information on the BMC, please visit our website at: [https://www.supermicro.com/manuals/other/BMC\\_IPMI\\_X13\\_H13.pdf](https://www.supermicro.com/manuals/other/BMC_IPMI_X13_H13.pdf).



The screenshot shows the BMC interface with the following data in the Health Event Log table:

| Severity | Date/Time           | Sensor Type Categories | Description                                 | Event Type      |
|----------|---------------------|------------------------|---|-----------------|
| Warning  | 2020-10-15 18:57:06 | ACPowerOn              | [ OEM ] First AC Power on - Assertion       | Sensor-specific |
| Info     | 2020-10-15 18:56:43 | System NIC             | [ OEM ] Dedicated LAN Link Up - Assertion   | Sensor-specific |
| Warning  | 2020-10-15 17:41:37 | ACPowerOn              | [ OEM ] First AC Power on - Assertion       | Sensor-specific |
| Info     | 2020-10-15 17:41:17 | System NIC             | [ OEM ] Dedicated LAN Link Up - Assertion   | Sensor-specific |
| Warning  | 2020-10-15 17:41:14 | System NIC             | [ OEM ] Dedicated LAN Link Down - Assertion | Sensor-specific |
| Info     | 2020-10-15 17:41:12 | System NIC             | [ OEM ] Dedicated LAN Link Up - Assertion   | Sensor-specific |

Figure 7-2. BMC Sample

## 7.3 Troubleshooting Procedures

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

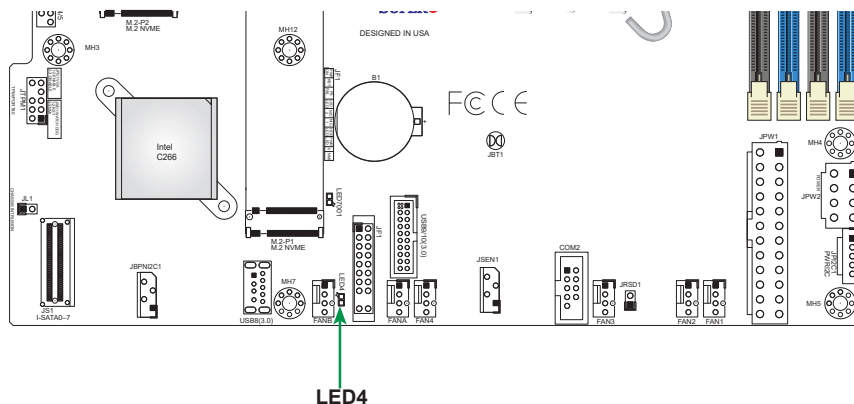
### General Technique

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

- Check that the power LED on the motherboard is on.



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

- Make sure that the power connector is connected to the power supply.
- Check that the motherboard battery still supplies approximately 3 VDC. If it does not, replace it.
- Check that the system input voltage is 100-120 V or 180-240 V.
- Turn the power switch on and off to test the system.

## No Video

If the power is on but you have no video, 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

- Use a high quality power supply. A poor quality power supply may cause the system to lose the CMOS setup information.
- Check that the motherboard battery still supplies approximately 3 VDC. If it does not, replace it.

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

## When the System Becomes Unstable

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

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

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

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

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

## 7.4 Crash Dump Using the BMC Dashboard

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 the BMC Dashboard. The BMC manual is available at [https://www.supermicro.com/manuals/other/BMC\\_IPMI\\_X13\\_H13.pdf](https://www.supermicro.com/manuals/other/BMC_IPMI_X13_H13.pdf).

### Check Error Log

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

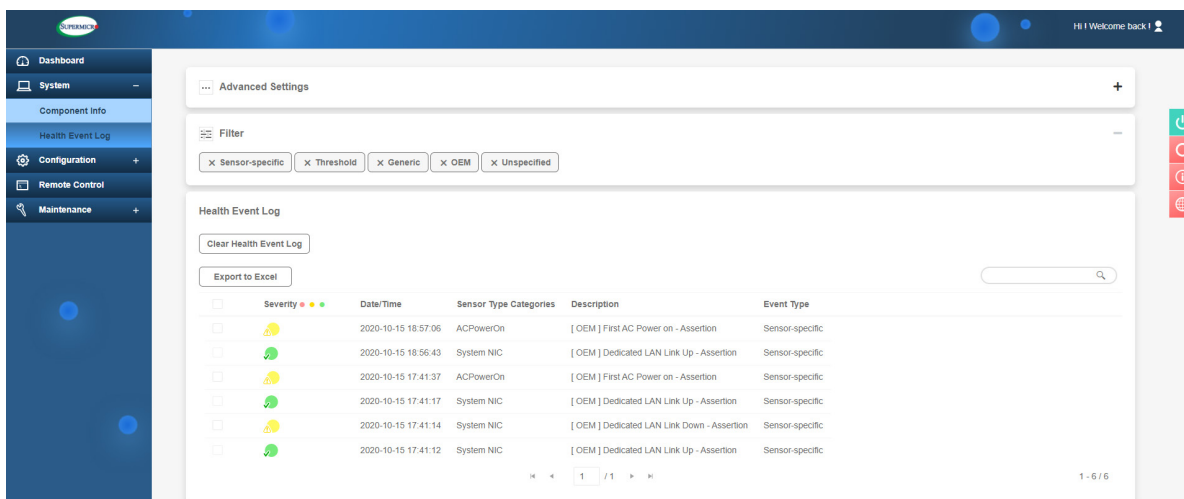


Figure 7-4. BMC Event Log

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

## 7.5 CMOS Clear

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

### **To Clear CMOS**

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

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

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



## 7.6 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.

## 7.7 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.

## 7.8 Feedback

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

## 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 الزهز عُ خطر! تحذُرُ .  
 قبل اَي تعول على اَي هعدات، كي على علن بالوخاطز ال اُجوة عي الذوائر  
 الكهزبائِة  
 وكي على دراةُ بالووارسات النقااِة لو عُ وقع اَي حادث  
 استخدم رقن الب اِى الو صُص ف هاةُ كل تحذُرُ للعشر تزجوتها

안전을 위한 주의사항

경고!

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

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

## BELANGRIJKE VEILIGHEIDSINSTRUCTIES

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

BEWAAR DEZE INSTRUCTIES

## Installation Instructions



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

設置手順書

システムを電源に接続する前に、設置手順書をお読み下さい。

警告

将此系统连接电源前,请先阅读安装说明。

警告

將系統與電源連接前，請先閱讀安裝說明。

**Warnung**

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

**¡Advertencia!**

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

**Attention**

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

יש לקרוא את הוראות התקנה לפני חיבור המערכת למקור מתח.

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 مه الدوائر القصيرة التي تم تثبيتها في المبنى  
تأكد من أن تقييم الجهاز الوقائي ليس أكثر من : 20A, 250V

**경고!**

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

**Waarschuwing**

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

## Power Disconnection Warning



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



### 電源切断の警告

システムコンポーネントの取り付けまたは取り外しのために、シャーシ内部にアクセスするには、システムの電源はすべてのソースから切断され、電源コードは電源モジュールから取り外す必要があります。

### 警告

在你打开机箱并安装或移除内部器件前,必须将系统完全断电,并移除电源线。

### 警告

在您打開機殼安裝或移除內部元件前，必須將系統完全斷電，並移除電源線。

### Warnung

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

### ¡Advertencia!

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

### Attention

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

אזהרה מפני ניתוק חשמלי

אזהרה!

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

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

انصل إلى امناطق انداخييت نههيكم نشييج أو إزانت 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 installée dans des zones d'accès réservés. L'accès à une zone d'accès réservé n'est possible qu'en utilisant un outil spécial, un mécanisme de verrouillage et une clé, ou tout autre moyen de sécurité.

אזור עם גישה מוגבלת

אזהרה!

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

تخصيص هذه انحدة نترك بُها ف مناطق محظورة تم .

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

**경고!**

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

**Waarschuwing**

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

## Battery Handling



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

### 電池の取り扱い

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

### 警告

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

### 警告

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

### Warnung

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

### Attention

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

### ¡Advertencia!

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

אזהרה!

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

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

경고!

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

Waarschuwing

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

## Redundant Power Supplies



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

冗長電源装置

このユニットは複数の電源装置が接続されている場合があります。

ユニットの電源を切るためには、すべての接続を取り外さなければなりません。

警告

此部件连接的电源可能不止一个，必须将所有电源断开才能停止给该部件供电。

警告

此装置连接的电源可能不只一个，必须切断所有电源才能停止对该装置的供电。

Warnung

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

## ¡Advertencia!

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

## Attention

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

אם קיים יותר מספק אחד

אזהרה!

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

قد يكون لهذا الجهاز عدة اتصالات بوحدات امداد الطاقة .

يجب إزالة كافة الاتصالات لعسل الوحدة عن الكهرباء

## 경고!

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

## Waarschuwing

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

## Backplane Voltage



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

バックプレーンの電圧

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

修理する際には注意ください。

警告

当系统正在进行时，背板上有很危险的电压或能量，进行维修时务必小心。

警告

當系統正在進行時，背板上有危險的電壓或能量，進行維修時務必小心。

Warnung

Wenn das System in Betrieb ist, treten auf der Rückwandplatine gefährliche Spannungen oder Energien auf. Vorsicht bei der Wartung.

¡Advertencia!

Cuando el sistema está en funcionamiento, el voltaje del plano trasero es peligroso. Tenga cuidado cuando lo revise.

Attention

Lorsque le système est en fonctionnement, des tensions électriques circulent sur le fond de panier. Prendre des précautions lors de la maintenance.

מתח בפנל האחורי

אזהרה!

קיימת סכנת מתח בפנל האחורי בזמן תפעול המערכת. יש להיזהר במהלך העבודה.

هناك خطر من التيار الكهربائي أو الطاقة المتجددة على اللوحة  
عندما يكون النظام يعمل كه حذرا عند خدمة هذا الجهاز

경고!

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

Waarschuwing

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

## Comply with Local and National Electrical Codes



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

地方および国の電気規格に準拠

機器の取り付けはその地方および国の電気規格に準拠する必要があります。

警告

设备安装必须符合本地与本国电气法规。

警告

設備安裝必須符合本地與本國電氣法規。

Warnung

Die Installation der Geräte muss den Sicherheitsstandards entsprechen.

¡Advertencia!

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

Attention

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

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

تركيب المعدات الكهربائية يجب أن يمتثل للقوايه المحلية والبطية المتعلقة  
بالكهرباء

경고!

현 지역 및 국가의 전기 규정에 따라 장비를 설치해야 합니다.

Waarschuwing

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

## Product Disposal



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

製品の廃棄

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

警告

本产品的废弃处理应根据所有国家的法律和规章进行。

警告

本產品的廢棄處理應根據所有國家的法律和規章進行。

Warnung

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

¡Advertencia!

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

## Attention

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

סילוק המוצר

אזהרה!

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

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

경고!

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

## Waarschuwing

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

## Fan Warning



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

ファンの警告

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

警告!

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

警告

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

**Warnung**

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

**¡Advertencia!**

Riesgo de piezas móviles. Mantener alejado de las aspas del ventilador. Los ventiladores podran dar vuelta cuando usted quite 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 Adaptor



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

### 電源コードとACアダプター

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

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

### 警告

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

### 警告

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

### Warnung

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

## ¡Advertencia!

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

## Attention

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

AC ימאתמו מיילמשח 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 מיכמומה מילבכב שמתשהל רוסיא מייק, תוחיטבה יקוחו דבלב Supermicro י"ע מאתוה רשא רצומב קר אלא, רחא ילמשח רצומ לכ רובע (UL/CSA)

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

### 전원 케이블 및 AC 어댑터

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

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

### Stroomkabel en AC-Adapter

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

# Appendix B

## System Specifications

### Processors

Single Intel® Xeon® E-2400 or 12th Generation Pentium® (Socket V0 - LGA 1700) series processor with up to eight cores  
Note: Refer to the motherboard specifications pages on our website for updates to supported processors.

### Chipset

Intel® C266

### BIOS

AMI 32 MB SPI Flash EEPROM

### Memory

Up to 128 GB of DDR5 ECC UDIMM memory with speeds of up to 4400 MT/s in four memory slots

### Storage Drives

Eight hot-swap 2.5" SATA drive bays (optional SAS3 available via add-on card)  
Two M.2 PCIe 4.0 x4 M-Key NVMe

### Expansion Slots

One PCIe 4.0 x4 (in x8) dedicated internal HBA slot  
For slots 1 and 2:  
One PCIe 5.0 x16 (FHHL) in slot 1 -or-  
One PCIe 5.0 x8 (FHHL) in slot 1 and one PCIe 5.0 x8 (LP) in slot 2

### Networking

Two Intel i210 1GbE LAN ports  
One dedicated LAN port for BMC

### Input/Output

Five USB 3.2 Gen 1 ports (two rear, two via one header, one via one Type A header)  
Six USB 2.0 ports (two rear, four via two headers)  
One VGA port (one rear)  
Two serial ports (one rear, one via one header)

### Motherboard

X13SCH-SYS (WxL) 9.6 x 9.6 in (243.8 x 243.8 mm)

### Chassis

CSE-113MFTS-0RCNBP-1P 1U Rackmount (WxHxD) 17.2 x 1.7 x 19.98 in (437 x 43 x 507 mm)

### System Cooling

Four 4-cm mid-chassis fans, one CPU heatsink, and one air shroud

### Power Supply

PWS-602A-1R 600 W high-efficiency power supplies (Titanium level, 96%) with redundant option

### 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, UKCA, VCCI, RCM, NRTL, CB

**Applied Directives, Standards**

EMC/EMI: 2014/30/EU (EMC Directive)  
Electromagnetic Compatibility Regulations 2016  
FCC Part 15 Subpart B  
ICES-003  
VCCI-CISPR 32  
AS/NZS CISPR 32  
BS/EN 55032  
BS/EN 55035  
CISPR 32  
CISPR 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

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

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

**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**