SuperStorage
SSG-610P-ACR12N4H
SSG-610P-ACR12N4L

USER'S MANUAL

Revision 1.0a

The information in this User's Manual has been carefully reviewed and is believed to be accurate. The vendor assumes no responsibility for any inaccuracies that may be contained in this document, and makes no commitment to update or to keep current the information in this manual, or to notify any person or organization of the updates. Please Note: For the most up-to-date version of this manual, please see our website at www.supermicro.com.

Super Micro Computer, Inc. ("Supermicro") reserves the right to make changes to the product described in this manual at any time and without notice. This product, including software and documentation, is the property of Supermicro and/or its licensors, and is supplied only under a license. Any use or reproduction of this product is not allowed, except as expressly permitted by the terms of said license.

IN NO EVENT WILL Super Micro Computer, Inc. BE LIABLE FOR DIRECT, INDIRECT, SPECIAL, INCIDENTAL, SPECULATIVE OR CONSEQUENTIAL DAMAGES ARISING FROM THE USE OR INABILITY TO USE THIS PRODUCT OR DOCUMENTATION, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. IN PARTICULAR, SUPER MICRO COMPUTER, INC. SHALL NOT HAVE LIABILITY FOR ANY HARDWARE, SOFTWARE, OR DATA STORED OR USED WITH THE PRODUCT, INCLUDING THE COSTS OF REPAIRING, REPLACING, INTEGRATING, INSTALLING OR RECOVERING SUCH HARDWARE, SOFTWARE, OR DATA.

Any disputes arising between manufacturer and customer shall be governed by the laws of Santa Clara County in the State of California, USA. The State of California, County of Santa Clara shall be the exclusive venue for the resolution of any such disputes. Supermicro's total liability for all claims will not exceed the price paid for the hardware product.

FCC Statement: This equipment has been tested and found to comply with the limits for a Class A or Class B digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in industrial environment for Class A device or in residential environment for Class B device. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the manufacturer's instruction manual, may cause harmful interference with radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case you will be required to correct the interference at your own expense.

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".

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

The products sold by Supermicro are not intended for and will not be used in life support systems, medical equipment, nuclear facilities or systems, aircraft, aircraft devices, aircraft/emergency communication devices or other critical systems whose failure to perform be reasonably expected to result in significant injury or loss of life or catastrophic property damage. Accordingly, Supermicro disclaims any and all liability, and should buyer use or sell such products for use in such ultra-hazardous applications, it does so entirely at its own risk. Furthermore, buyer agrees to fully indemnify, defend and hold Supermicro harmless for and against any and all claims, demands, actions, litigation, and proceedings of any kind arising out of or related to such ultra-hazardous use or sale.

Manual Revision 1.0a

Release Date: December 01, 2023

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 experienced technicians only.

Please refer to the SSG-610P-ACR12N4H/L server specifications page on our website for updates on supported memory, processors and operating systems (http://www.supermicro.com).

Notes

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

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

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

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

Secure Data Deletion

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

Warnings

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

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

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

Contents

Chapter 3 Maintenance and Component Installation

Chapter 4 Motherboard Connections

Chapter 5 Software

Chapter 6 Optional Components

Chapter 7 Troubleshooting and Support

Contacting Supermicro

Headquarters

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

Europe

Address:	Super Micro Computer B.V. Het Sterrenbeeld 28, 5215 ML 's-Hertogenbosch, The Netherlands
Tel:	+31 (0) 73-6400390
Fax:	+31 (0) 73-6416525
Email:	sales@supermicro.nl (General Information) support@supermicro.nl (Technical Support) rma@supermicro.nl (Customer Support)
Website:	www.supermicro.nl

Asia-Pacific

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

Chapter 1

Introduction

1.1 Overview

This chapter provides a brief outline of the functions and features of the SuperServer SSG-610P-ACR12N4H/L. It is based on the X12DPD-A6M25-P motherboard and the CSE-802ETS-R804AMP chassis.

The following provides an overview of the specifications and capabilities.

System Overview	
Motherboard	X12DPD-A6M25-P
Chassis	CSE-802ETS-R804AMP
Processor Support	Dual 3rd Generation Intel® Xeon® Scalable processors
Memory	16 DIMM slots for up to 4TB 3DS ECC DDR4-3200/2933/2666/2400 RDIMM/LRDIMM or 18TB Intel® Optane™ DDR4-2666: DCPMM, RDIMM/LRDIMM//DCPMM*
Drive Support	SSG-610P-ACR12N4L: 12 hot-swap 3.5” SAS3/SATA3 drive bays with AOM-S324-DPD-L, IT mode SSG-610P-ACR12N4H: 12 hot-swap 3.5” SAS3/SATA3 drive bays with AOC-S3916L-H16IR-32DD+, IR mode Four EDSSF (PCIe 4.0) Two 2.5” 7mm NVMe/SATA drive bays Two onboard M.2 NVMe/SATA slots (22x80mm)
Expansion Slots	One PCIe 4.0 x8 slot supported by CPU1 One PCIe 4.0 x16 slot supported by CPU1 One PCIe 4.0 x16 AIOM slot supported by CPU1 One PCIe 4.0 x16 slot supported by CPU2
I/O Ports	One COM port (Micro USB port, rear) One VGA port (rear) Two 25G SFP+ ports with Mellanox CX-4
System Cooling	Six 4-cm counter-rotating fans Two air shrouds
Power	Two redundant power supply modules (PWS-804P-1R) 800W (Platinum Level)
Form Factor	1U W x H x D: 17.6" x 1.7" x 37" (447 x 43 x 940mm)

*Intel Optane PMem 200 Series supported by 3rd Gen Intel Xeon Scalable Processors (83xx/63xx/53xx Series) only.

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

The following safety models associated with the SSG-610P-ACR12N4H/L have been certified as compliant with UL or CSA: 802-R8X12 and 802-8.

1.2 System Features

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

Front View

Figure 1-1. Front View

Logical Storage Drive Numbers	
Item	**Description**
0-5	4x E1.S and 2x 2.5” 7mm Hot-swap NVMe/SATA3 drive bays
6	USB 2.0 ports
7	Control panel (see next page for details)
8	Master tray locking levers

Note: Orange denotes the logical drive number.

Drive Carrier Indicators (EDSFF and 2.5" drives only)

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

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

Control Panel

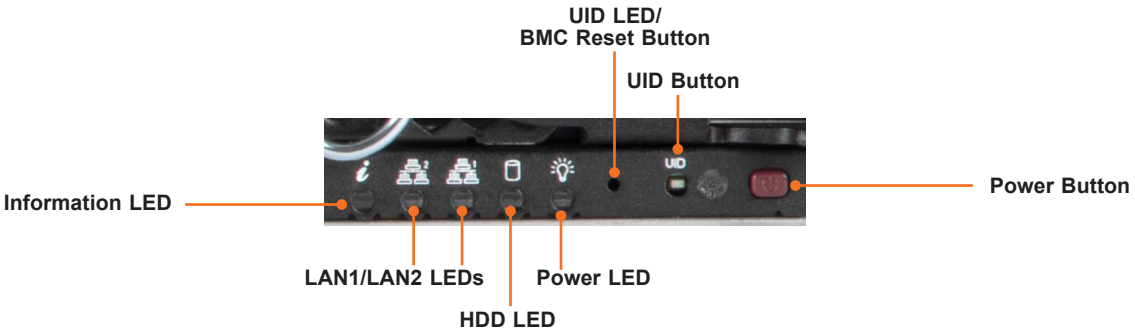


Figure 1-2. Control Panel

Control Panel Features	
Feature	**Description**
Power Button	The main power switch applies or removes primary power from the power supply to the server but maintains standby power.
UID Button/LED BMC Button	The unit identification (UID) button turns on or off the blue light function of the Information LED and a blue LED on the rear of the chassis. This button can also be used to reset the BMC (hold for 10 sec.; see Chapter 3 for details).
Power LED	Indicates the system power status as follows: Steady on: power on Blinking at 4Hz: checking integrity of BIOS/BMC Blinking at 4Hz and "i" is blue: BIOS firmware is updating Two 4Hz blinks, a 2Hz pause and "i" is blue: BMC firmware is updating Blinking at 1Hz and "i" is red: fault detected
HDD LED	Indicates activity on the storage drives when flashing.
LAN1/LAN2 LEDs	Indicates network activity on LAN1 when flashing.
Information LED	Alerts operator to several states, as noted in the table below.

Information LED	
Status	**Description**
Solid red	An overheat condition has occurred.
Blinking red (1Hz)	Fan failure, check for an inoperative fan.
Blinking red (0.25Hz)	Power failure, check for a non-operational power supply.
Solid red and Power LED blinking green	Fault detected
Blue and red blinking at 10Hz	Recovery mode
Solid blue	UID has been activated locally to locate the server in a rack environment.
Blinking blue at 1Hz	UID has been activated using the BMC to locate the server in a rack environment.
Blinking blue at 2Hz	BMC is resetting (press the UID button on the front panel for six seconds to initiate)
Blinking blue at 4Hz	BMC is resetting factory defaults (press the UID button on the front panel for 12 seconds to initiate)
Blinking blue at 10Hz and Power LED blinking green	BMC/BIOS firmware is updating

Front LEDs for 3.5" Drives

There are several LEDs located on the front of the chassis. These are used to indicate the status of the internal 3.5" drives as shown in the table below.

Figure 1-3. Front LEDs for 3.5" Drives

Universal Information LED				
LED	**Color**	**Status**	**Blinking Pattern**	**Applicable Devices**
Status	Red	Located 0~11 HDD	Blinking while locating	SAS/SATA
	Red	HDD Fail	Solid On	SAS/SATA
	Green	Located 12~23 HDD	Blinking while locating	SAS/SATA
	Green	HDD Fail	Solid On	SAS/SATA

Rear View

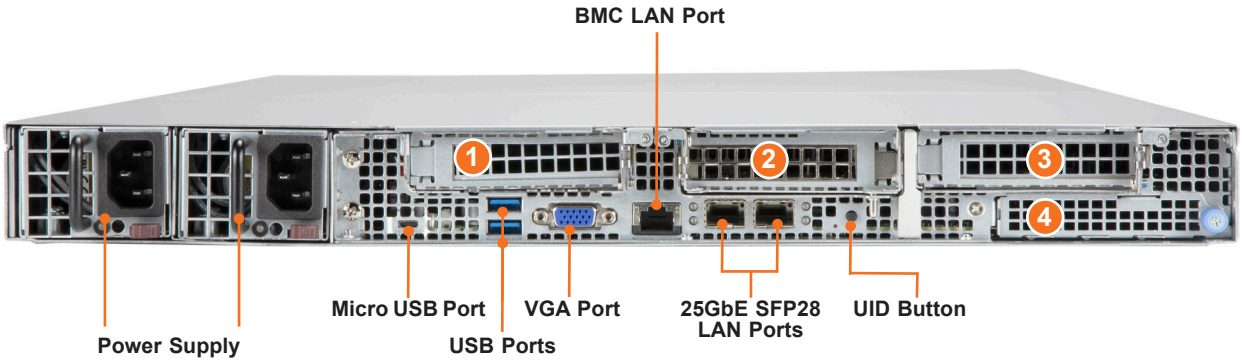


Figure 1-3. System: Rear View

Expansion Slot Locations		
Item	**Description**	**Associated Riser Card**
1	PCIe 4.0 x16 slot (HHHL) (CPU0)	SSG-610P-ACR12N4L: RSC-AOM-X6 (bridge board for AOM-S3224) SSG-610P-ACR12N4H: RSC-X-6G4
2	PCIe 4.0 x8 slot (HHHL) (CPU0)	RSC-PR-6-X2
3	PCIe 4.0 x16 slot (HHHL) (CPU1)	RSC-X-6G4
4	PCIe 4.0 x16 AIOM slot (CPU0)	N/A

Notes: HHHL = half height, half length.

Half length = 6.6"

System Features: Rear	
Feature	**Description**
Power Supply	Two (redundant) 800W power supply modules, PWS1 on the left, PWS2 on the right
LAN Ports	Two 25G SFP+ LAN ports (see Section 1.1 Overview for details)
USB Ports	Two USB 3.0 ports
Micro USB Port	COM (serial) port
BMC LAN Port	Dedicated BMC LAN port
UID Button	Unit Identifier button
VGA Port	Video port

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

1.3 System Architecture

This section covers the locations of the system electrical components, a system block diagram, and a motherboard layout with the connectors and jumpers called out.

Main Components

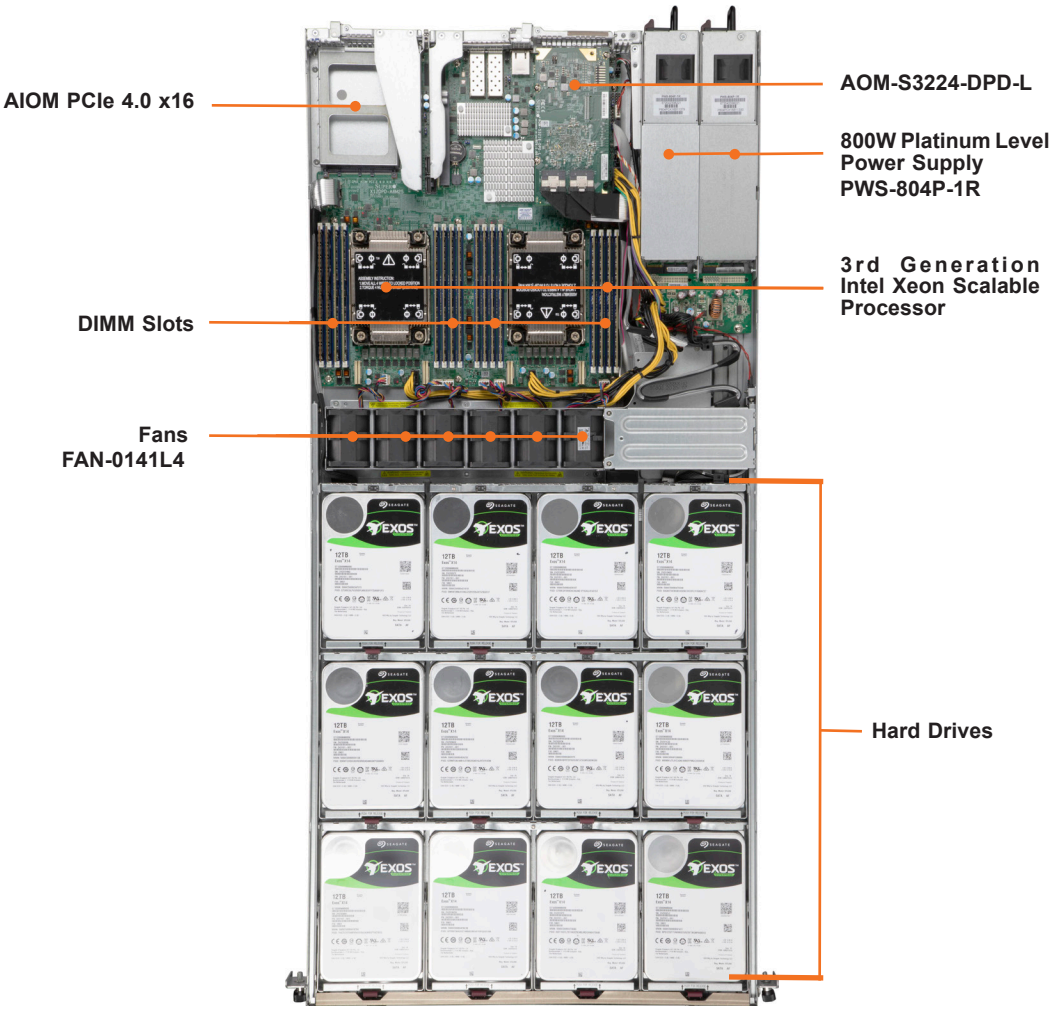


Figure 1-4. Main Component Locations: SSG-610P-ACR12N4L

System Features: Top	
Feature	**Description**
Power Supplies	Dual (redundant) power supply modules
Hard Drives	12x 3.5" hot-swap SAS3/SATA3 drives bays
DIMM slots	16x dual in-line memory module (DIMM) slots
AIOM	Advanced I/O module for NIC
Processors	2x 3rd Generation Intel® Xeon® Scalable processors
System fans	4-cm counter-rotating fans

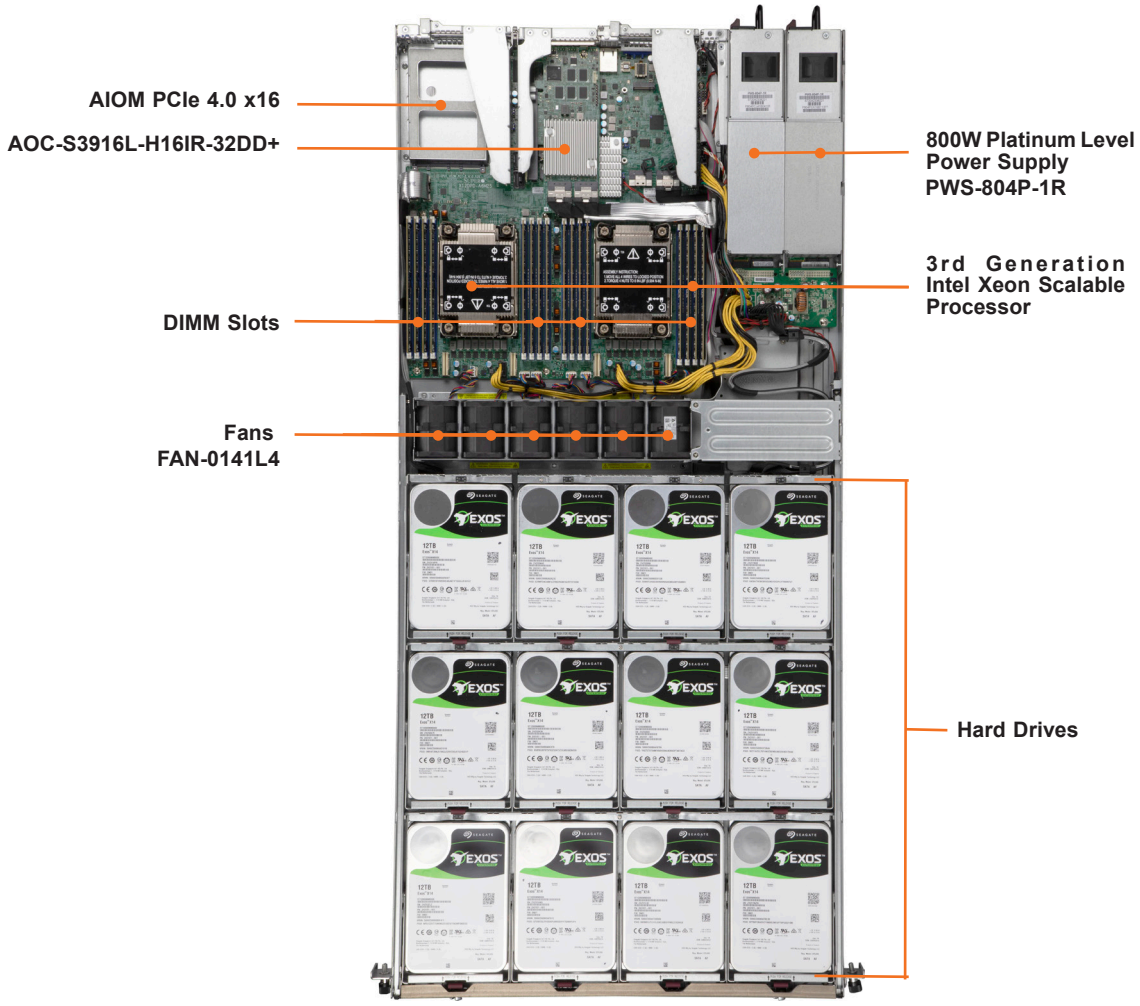


Figure 1-5. Main Component Locations: SSG-610P-ACR12N4H

System Features: Top	
Feature	**Description**
Power Supplies	Dual (redundant) power supply modules
Hard Drives	12x 3.5" hot-swap SAS3/SATA3 drives bays
DIMM slots	16x dual in-line memory module (DIMM) slots
AIOM	Advanced I/O module for NIC
Processors	2x 3rd Generation Intel® Xeon® Scalable processors
System fans	4-cm counter-rotating fans

System Block Diagram

The block diagram below shows the connections and relationships between the subsystems and major components of the overall system.

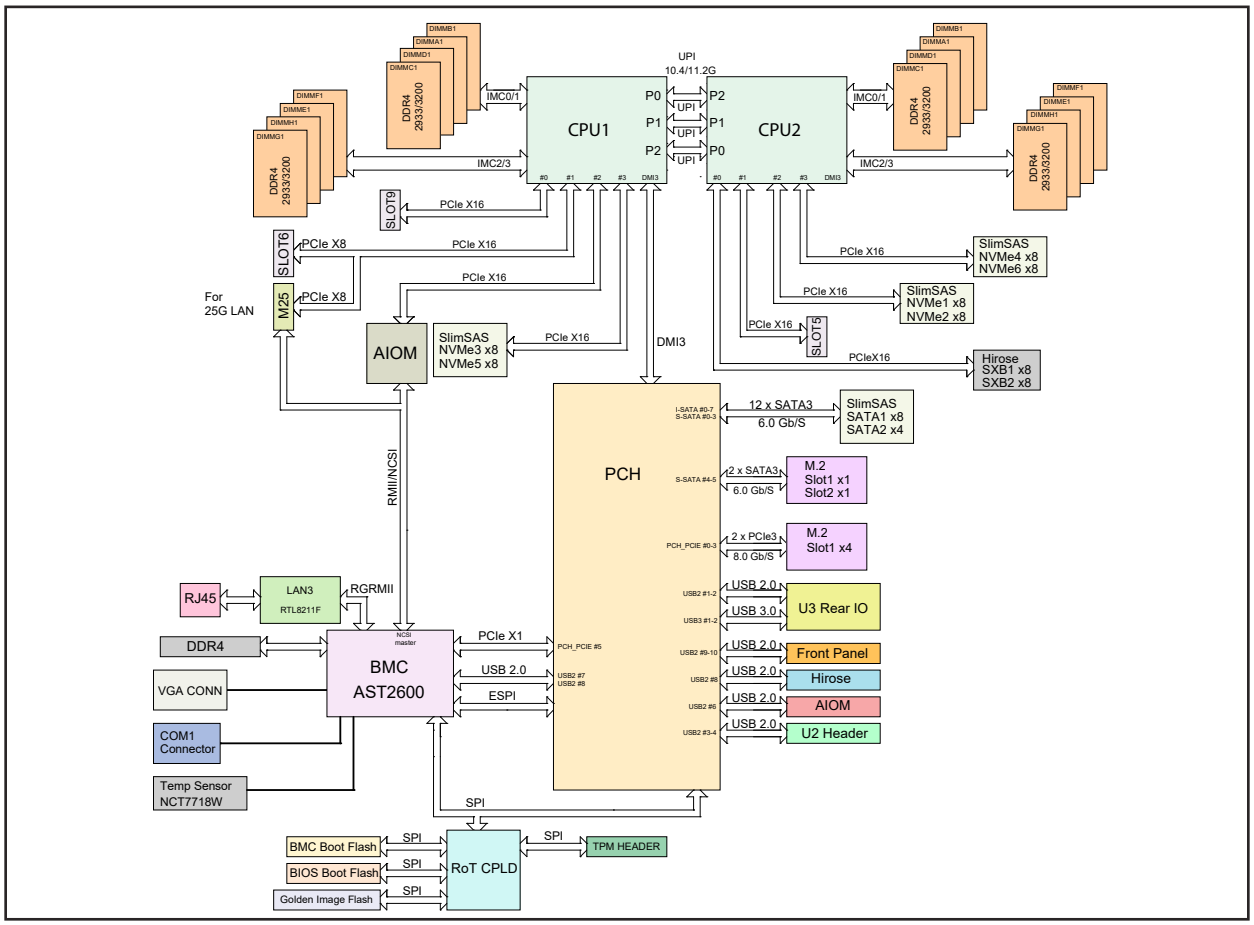


Figure 1-6. System Block Diagram

1.4 Motherboard Layout

Below is a layout of the X12DPD-A6M25-P motherboard with jumper, connector and LED locations shown. See the table on the following page for descriptions. For detailed descriptions, pinout information and jumper settings, refer to Chapter 4 or the Motherboard Manual.

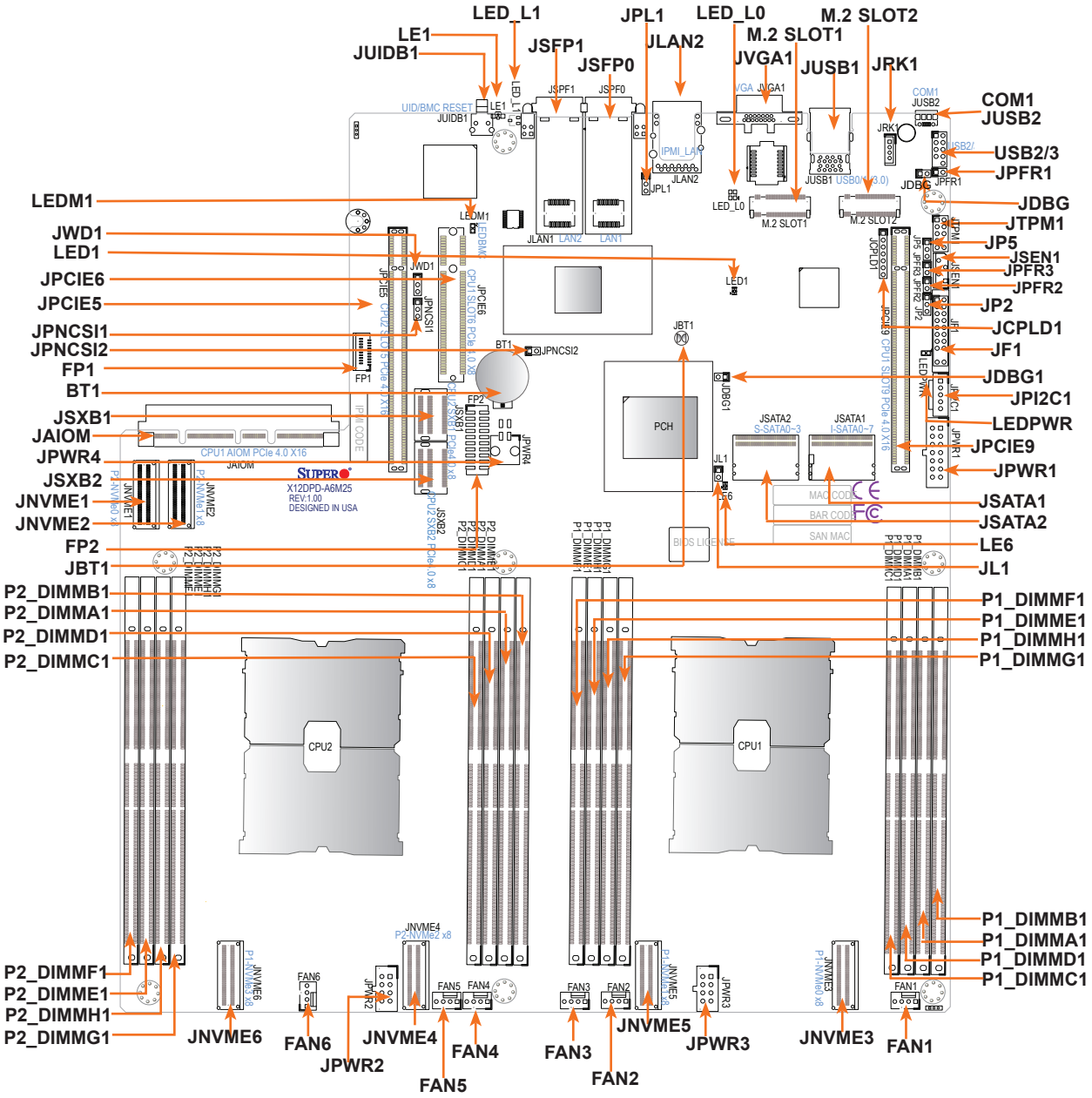


Figure 1-7. Motherboard Layout

Quick Reference Table

Jumper	Description	Default Setting
JBT1	CMOS Clear	Open (Normal)
JP5	BMC Power Button Ready Test Header	Pins 1-2 (Normal)
JPL1	GLAN Enable/Disable	Pins 1-2 (Enabled)
JPNCSI1	NC-SI multidrop (between AIOM and 25G LOM) enable/disable	Pins 1-2 (Enabled) (JPNCSI2 open)
JPNCSI2	Disable NC-SI on AIOM and enable NC-SI on 25G LOM	Pins 1-2 (Enabled) (JPNCSI1 on pins 2-3)
JWD1	Watchdog Timer	Pins 1-2 (Reset)

LED	Description	Status
LE1	Unit Identifier (UID) LED	Solid Blue: Unit Identified
LED_L0, LED_L1	25G LAN LED	Green: Power on
LE6	PCH system power indicator	Green: Power on Amber: Standby
LEDM1	BMC Heartbeat LED	Blinking Green: BMC Normal Solid Greene: (during BMC Reset or a Cold Reboot)l
LEDPWR (LE2)	Power LED	Green: Power on

Connector	Description
BT1	Onboard battery
COM1(JUSB2)	Front panel serial COM port connected over JUSB2
FAN1 ~ FAN6	CPU/System fan headers
FP1, FP2	Front panel connectors
JAIOM1	AIOM (CPU1 PCIe 4.0x16 + PCIe 3.0x16) networking slot
JCPLD1	Complex-Programmable Logical Device (CPLD) header
JF1	Front Panel Control header
JSFP0, JSFP1	Onboard 25G LAN SFP+
JLAN2	Dedicated BMC LAN port
JL1	Chassis Intrusion header
JNVME1~JNVME6	PCIe 4.0 x8 SlimSAS ports with support of 12 NVMe connections on six ports (JNVME1~JNVME6)
JP2	FP button select
JPI2C1(JPI²C1)	Power System Management Bus (SMB) I²C header
JPWR1	14-pin main power connector
JPWR2, JPWR3	8-pin 12V DC power connectors
JPWR4	Power connector for BPN

JRK1 (VROC)	Intel VROC key header for NVMe RAID (See Note below)
JPCIE5	PCIe 4.0 x16 slot supported by CPU2
JPCIE6	PCIe 4.0 x8 slot supported by CPU1
JPCIE9	PCIe 4.0 x16 slot supported by CPU1
JSATA1	I-SATA 0~7 supported by Intel® PCH SATA 3.0 ports (with RAID 0, 1, 5, 10)
JSATA2	S-SATA 0~3 supported by Intel PCH
JSEN1	SMCI-Proprietary Inlet Temperature Sensor Cable connector (JSEN1:RT0)
JSXB1, JSXB2	PCIe 4.0 x8 slots supported by CPU2
JTPM1	Trusted Platform Module/Port 80 connector
JUIDB1 (UID/BMC RESET)	Unit Identifier (UID) button & BMC Reset switch
JUSB1	Front Accessible USB Header with two USB 3.0 connectors (USB0/1)
M.2 SLOT1	PCIe 3.0 x4 / SATA3 M.2 slots (with support of M-Key 2280)
M.2 SLOT2	PCIe 3.0 x1 / SATA3 M.2 slots (with support of M-Key 2280)
VGA (JVGA1)	Dedicated BMC VGA port

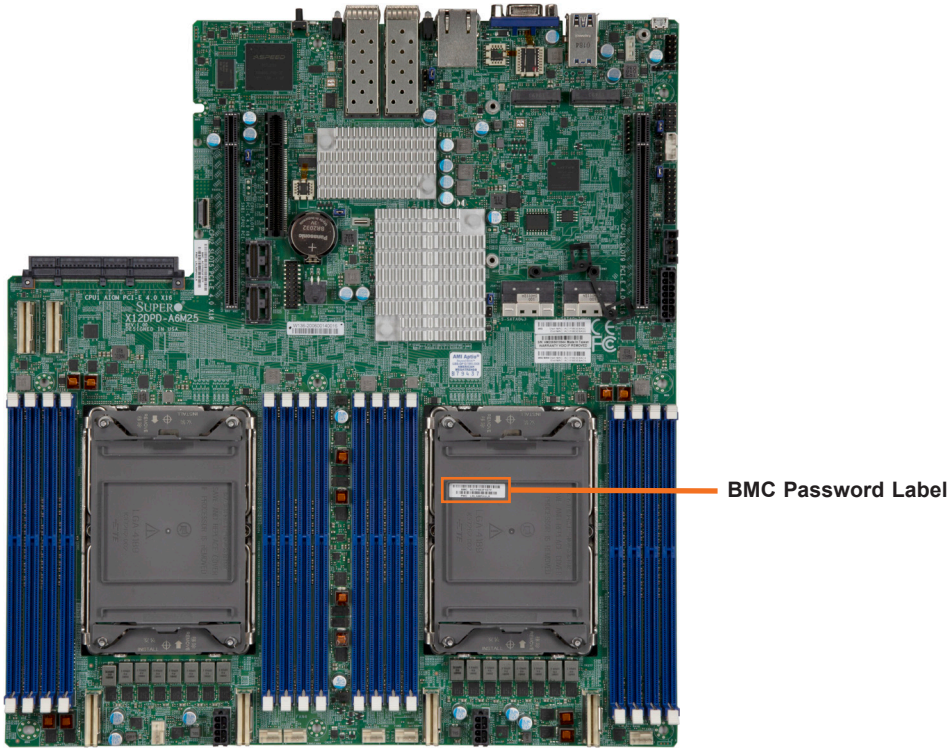


Figure 1-8. BMC Password Location

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 SSG-610P-ACR12N4H/L was shipped, and note if it was damaged in any way. If any equipment appears damaged, file a damage claim with the carrier who delivered it.

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

2.3 Preparing for Setup

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

Choosing a Setup Location

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

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

Rack Precautions

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

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.

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

Figure 2-1. Inner Rack Rails (preattached)

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

2.4 Rack Installation

This section provides information on installing the chassis into a rack unit with the rails provided.

The Toolless Rail System

The SC802 chassis uses a toolless rail system that does not need any hand tool to mount the rails and chassis into the server rack. The toolless rail system has locking mechanisms on each end of the rails that latch and lock onto the square mounting holes which are located on the front and back of the server rack. When these rails are secure, the chassis' left and right sides will simply rest on the inner rail 'lip' of these rails, which can be freely pulled out or pushed in as needed. The chassis is then secured to the rack by two thumb screws.

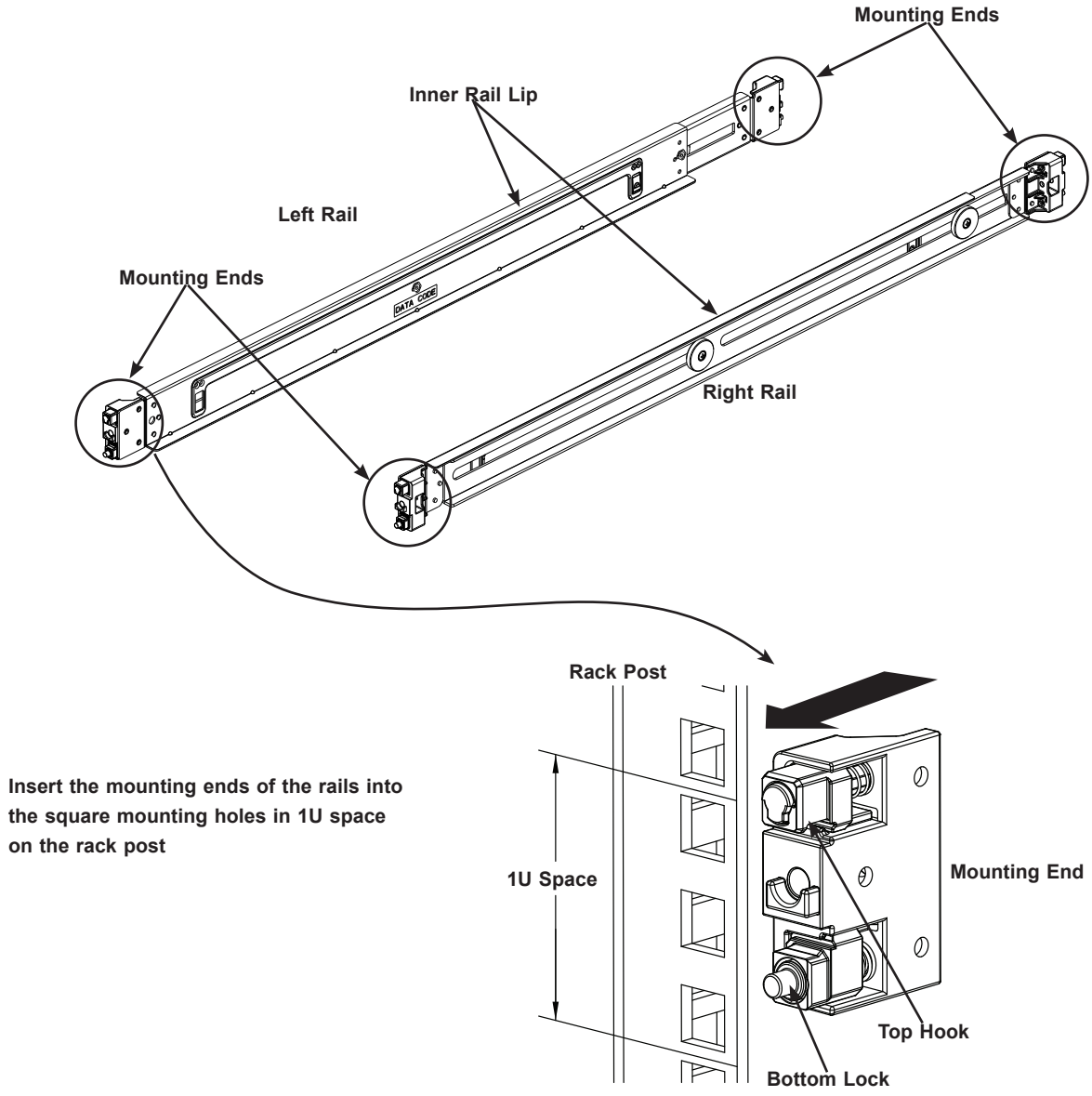
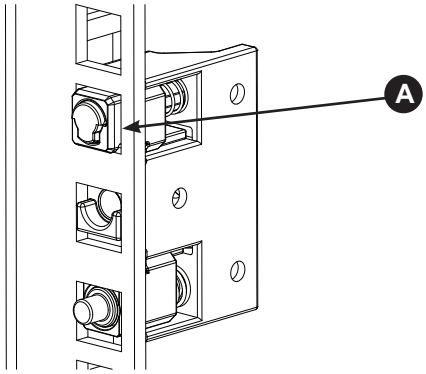


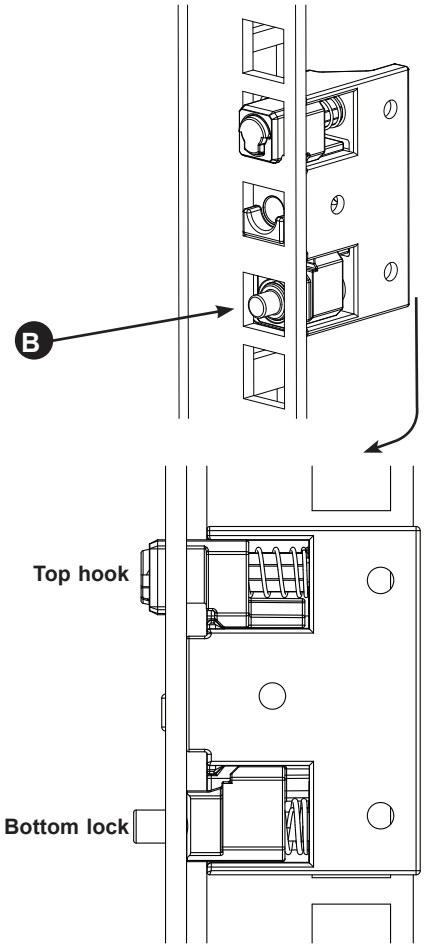
Figure 2-1. Toolless Rails



A **Insert the top hook first, push it downwards to allow its hook to rest and engage the selected mounting hole.**

When the top hook is rested and engaged into place, push the bottom lock into the lower hole until it clicks and snaps into place

Insert until bottom lock snaps into place. This push button will pop out to indicate it is locked.



This illustration shows a sideways view of one properly mounted rail.

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

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

The illustration below shows both the left and right rails mounted on a rack, ready to accept the server chassis.

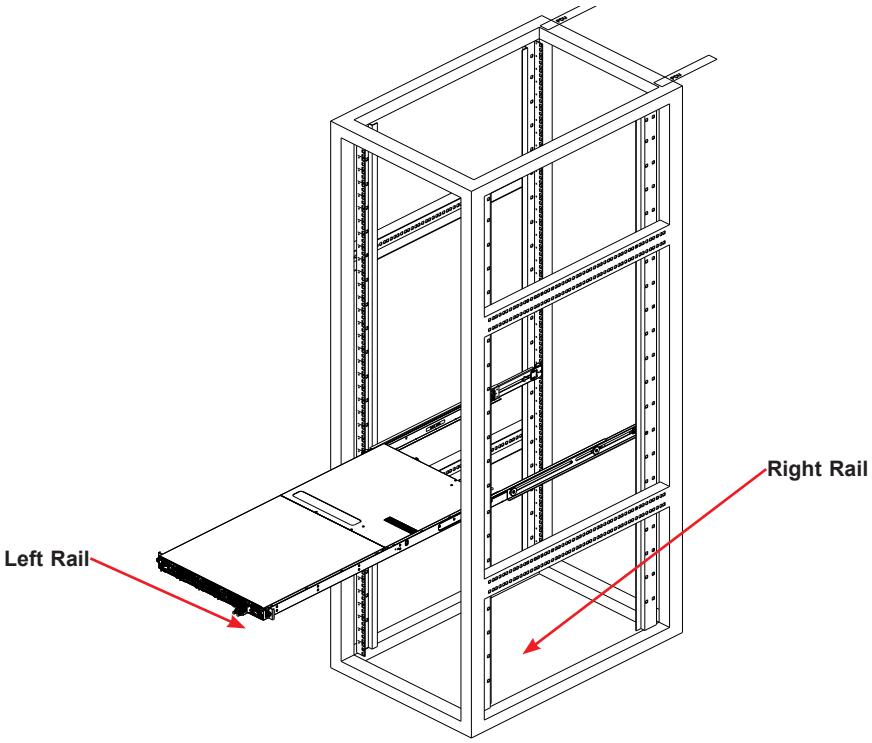


Figure 2-3. Installing the Toolless Rails to the Rack

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

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

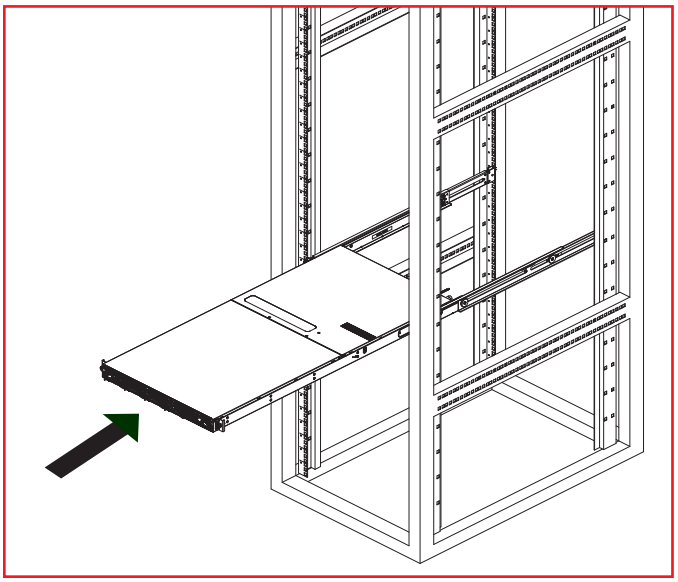
Figure 2-3. Installing the Outer Rails to the Rack

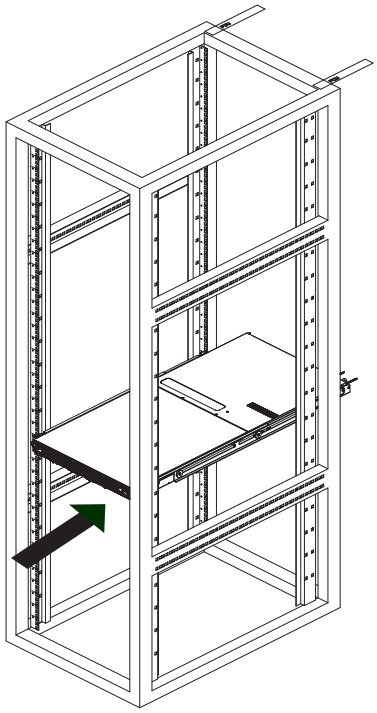
Note: Figure is for illustrative purposes only. Always install servers to the bottom of a rack first.

Sliding the Chassis onto the Rack Rails

Installing the Chassis into a Rack

1. Align the chassis rails with the front of the rack rails.
2. Slide the chassis rails into the rack rails, letting it rest on to the inner rail lips, while keeping the pressure even on both sides. The spring latch engages when the chassis is part way in. Push the server completely into the rack.





The rails will have pre-installed stop pins that are intended as a safety stop for longer rail applications. Remove these if necessary.

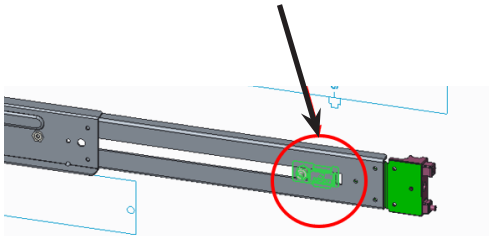


Figure 2-4. Installing the Server into a Rack

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

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

The chassis can then be secured to the rack by two thumb screws located on the left and right of the front side of the chassis.

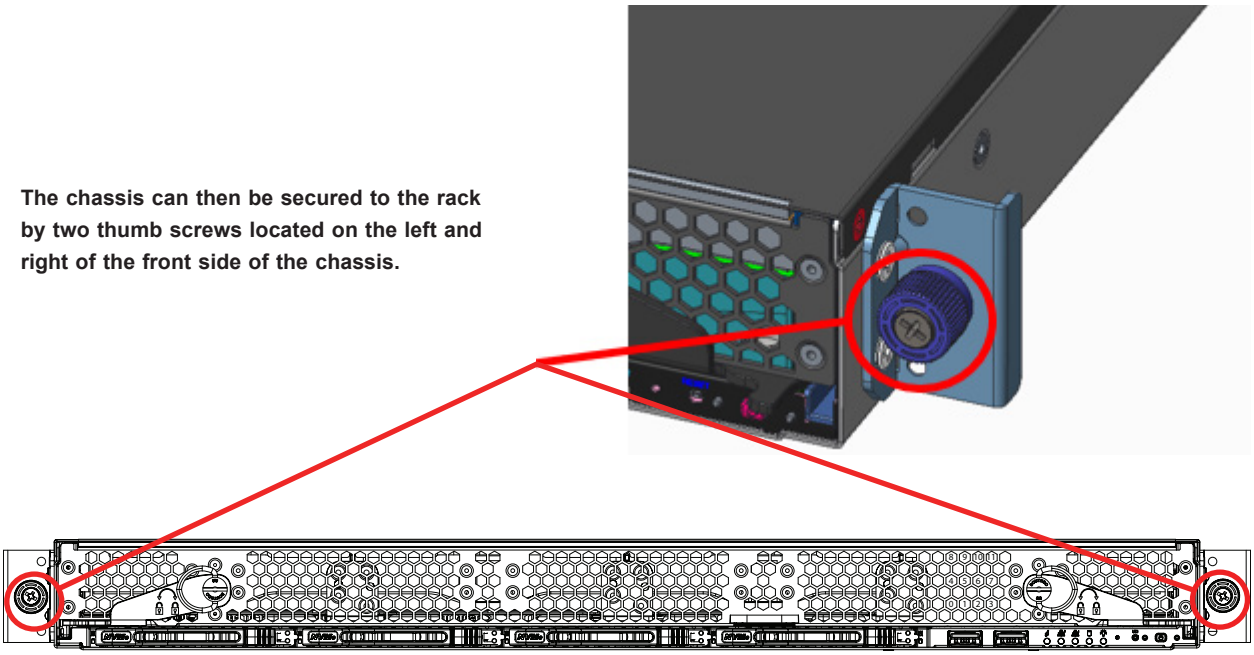


Figure 2-5. Securing the Chassis to the Rack

Removing the Rails

Removing a rail is basically just the reverse of the installation procedure.

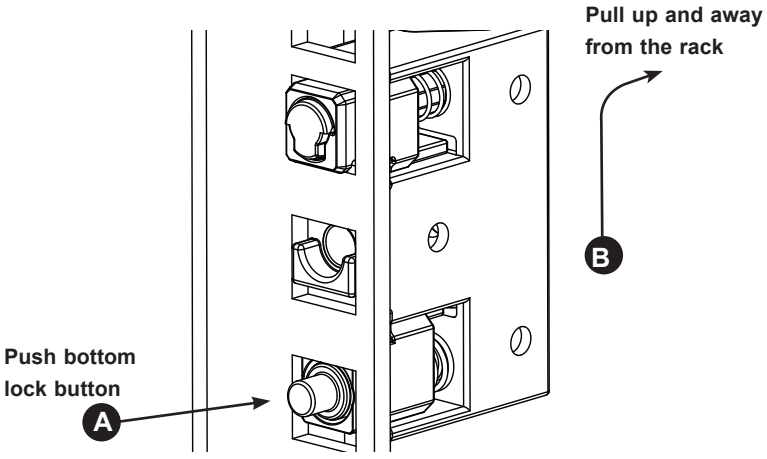


Figure 2-6. Removing a Rail

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 system is fully accessible by loosening the two front thumbscrews and pulling out the drive drawer completely.

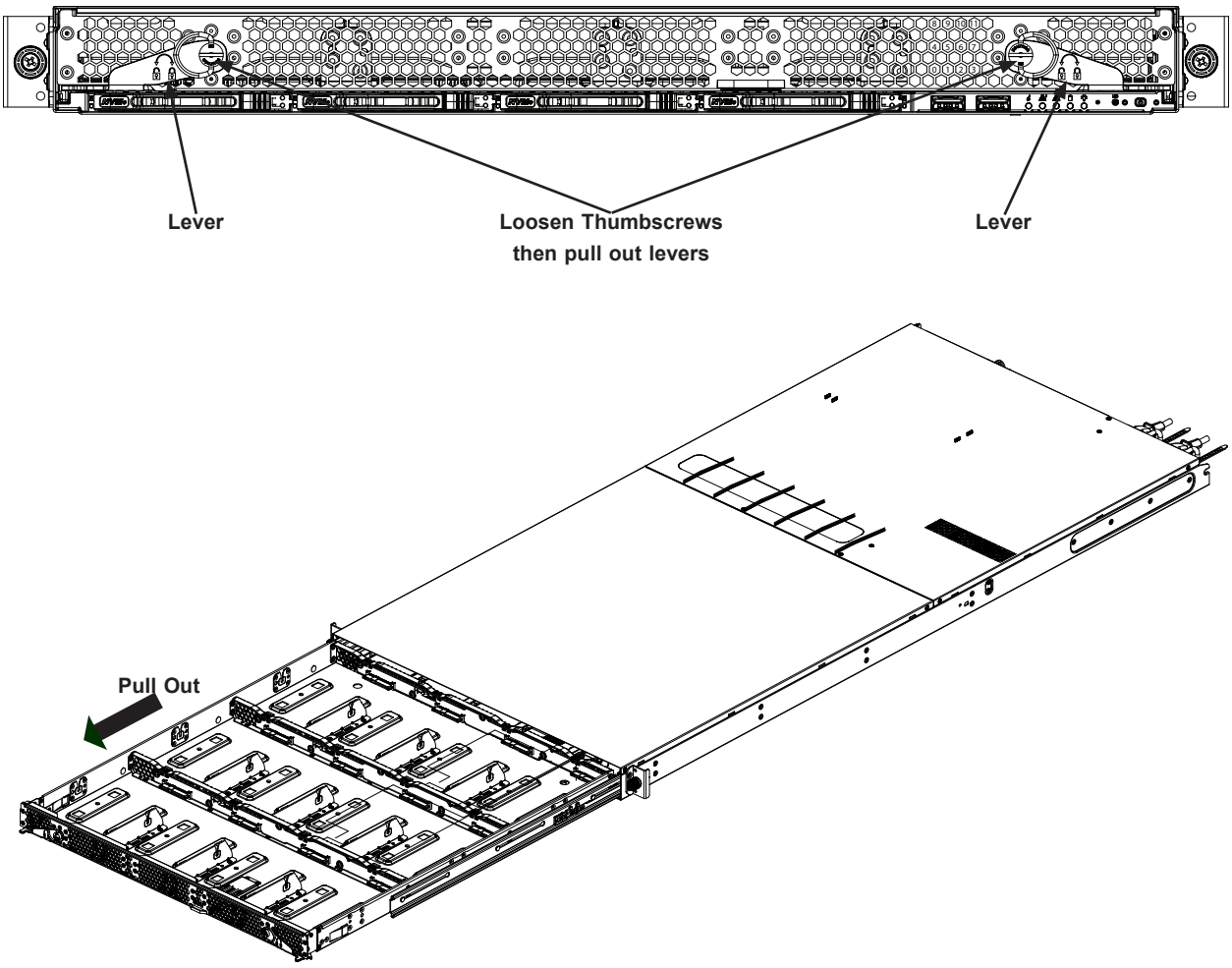


Figure 3-1. Removing the Chassis Cover

Removing a Chassis Cover

1. Loosen the two thumb screws on the front of the chassis to unlock the levers on both sides. Rotate counter clockwise to unlock, clockwise to lock.
2. Pull out the two levers at the same time. This is will pop out the internal drive drawer, partially exposing the drive trays.
3. Pull the drive drawer out until it stops.

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

3.4 Processor and Heatsink Installation

The processor (CPU) must first be attached to the processor carrier to form the processor carrier assembly. This assembly gets attached to the heatsink to form the processor heatsink module (PHM), which is then installed into the CPU socket. Before installing, be sure to perform the steps below:

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

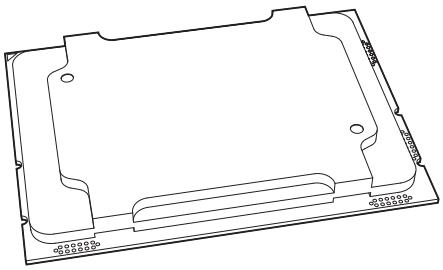


Figure 3-2. Xeon Scalable Processor

Note: All graphics, drawings, and pictures shown in this manual are for illustration only. The components that came with your machine may or may not look exactly the same as those shown in this manual.

The Processor Carrier Assembly

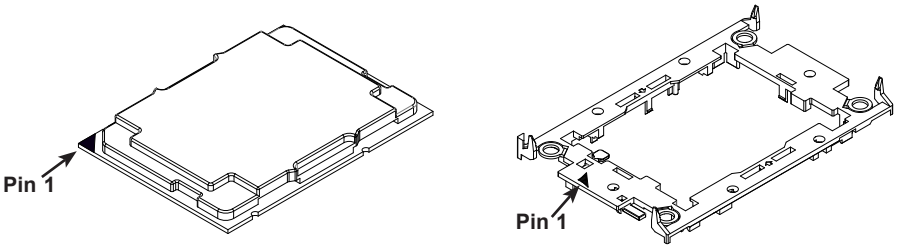
The processor carrier assembly is comprised of the processor and the processor carrier.

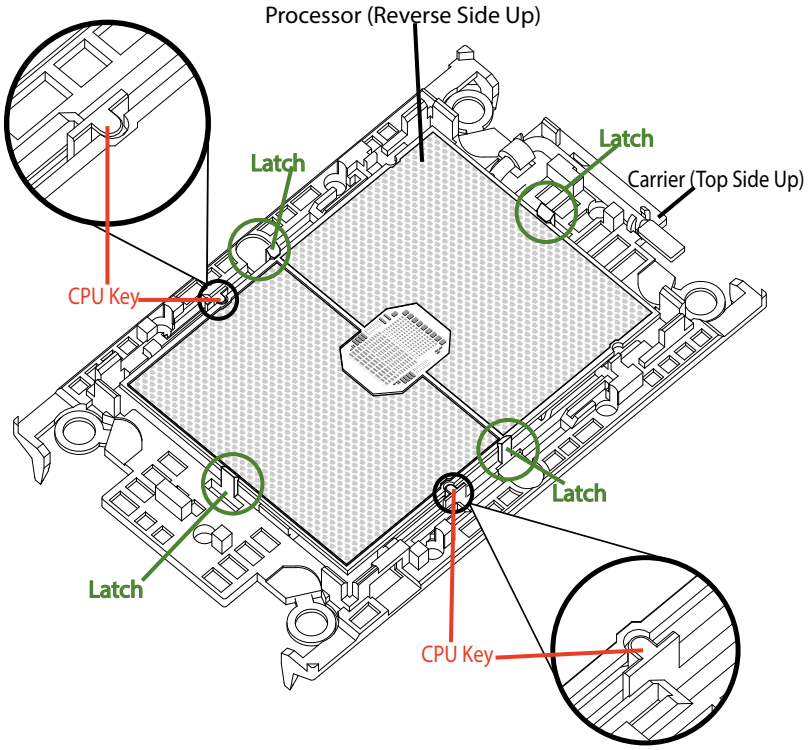
To create the processor carrier assembly, please follow the steps below:

Note: Before installation, be sure to review the Static-Sensitive Devices section earlier in this chapter.

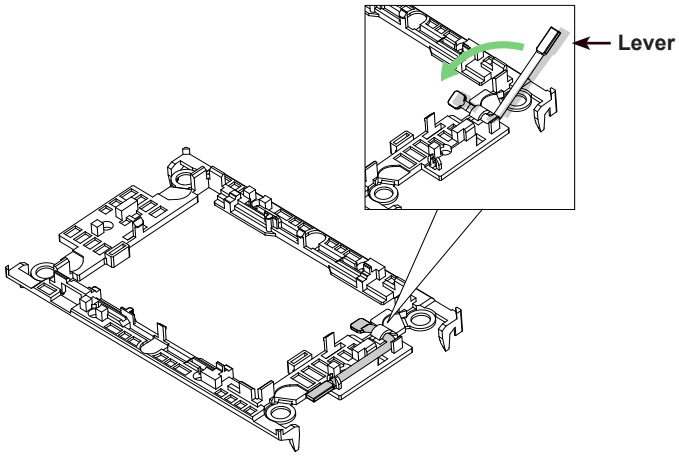
1. Hold the processor with the gold pins (LGA lands) facing down. Locate the gold triangle at the corner of the processor and the corresponding hollowed triangle on the processor carrier as shown below. These triangles indicate the location of pin 1.

2. Turn the processor over (with the gold pins up). Locate the CPU keys on the processor and the four latches on the carrier as shown below.

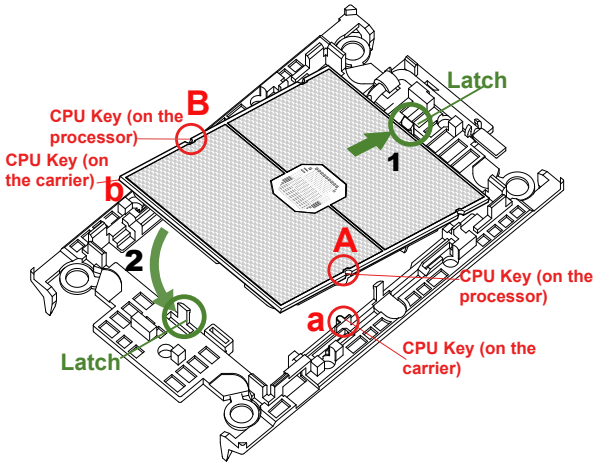




3. Locate the lever on the carrier and press it down as shown below.

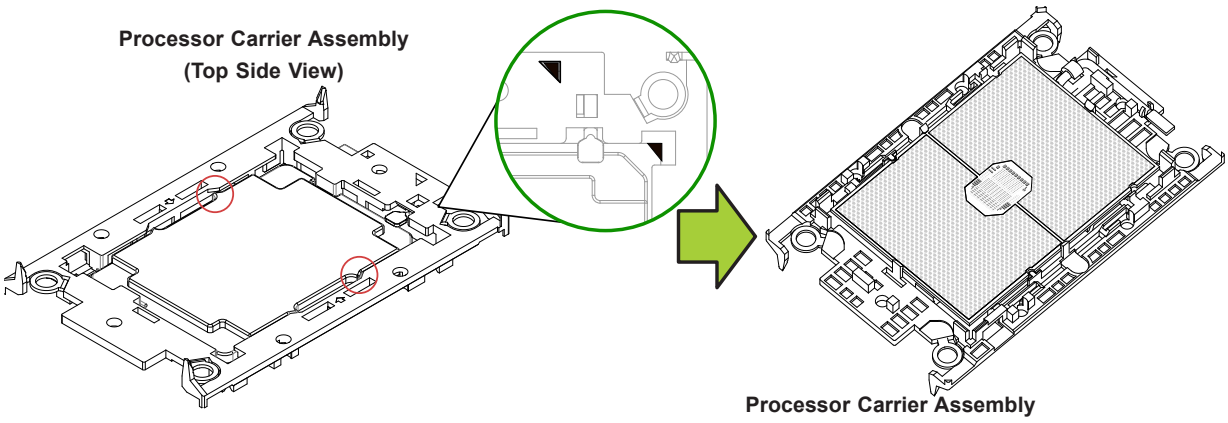


4. Using pin 1 as a guide, carefully align the CPU keys on the processor (A & B) with those on the carrier (a & b) as shown below.



5. Once aligned, carefully place one end of the processor under latch 1 on the carrier, and then press the other end down until it snaps into latch 2.

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

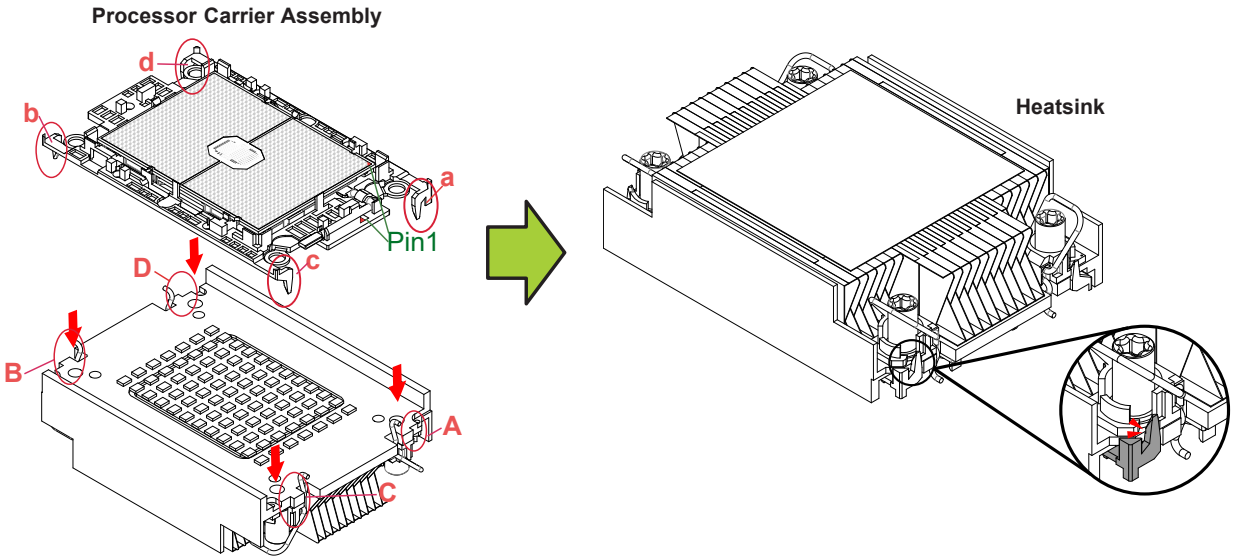


The Processor Heatsink Module (PHM)

After creating the processor carrier assembly, mount the heatsink onto the carrier assembly to form the processor heatsink module (PHM).

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

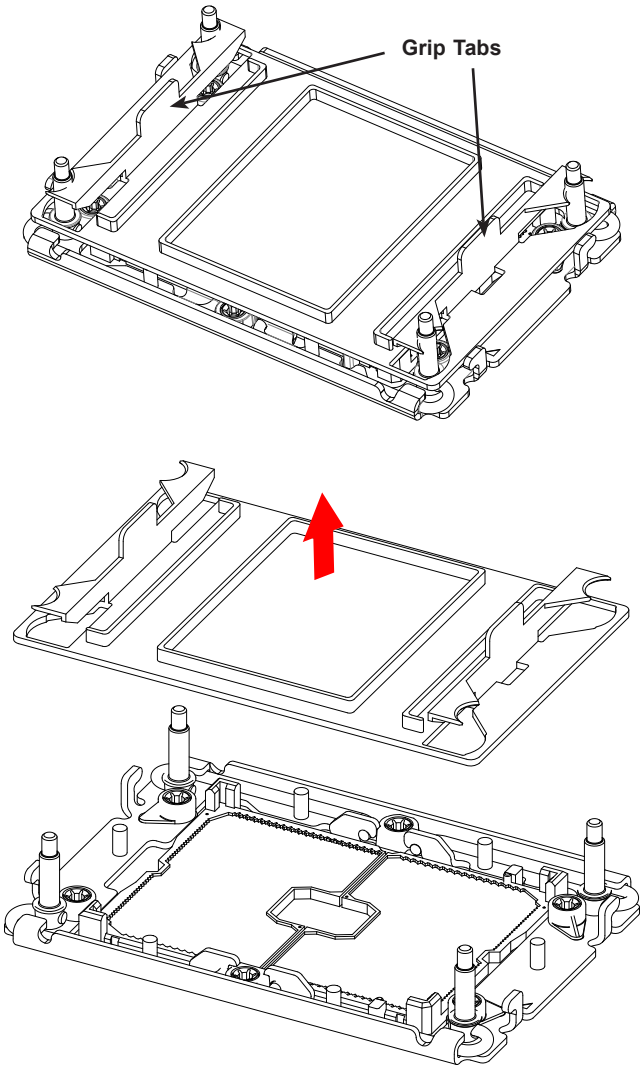
1. Turn the heatsink over with the thermal grease facing up. Note the two triangle cutouts (A, B) located at the diagonal corners of the heatsink as shown in the drawing below.
2. On the processor carrier assembly, find pin 1, as noted by the triangles. Hold the processor carrier assembly over so that the gold LGA is facing up.
3. Align clip "a" (pin 1) on the carrier assembly with the triangular cutout A on the heatsink and b, c, d on the carrier assembly with B, C, D on the heatsink.
4. Push the carrier assembly onto the heatsink, making sure that all four clips on each corner are properly secured.



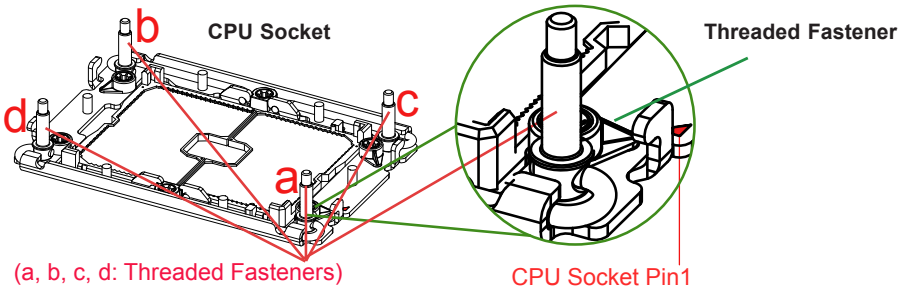
Installing the PHM into the CPU Socket

1. Remove the plastic protective cover from the CPU socket. Gently squeeze the grip tabs then pull the cover off.

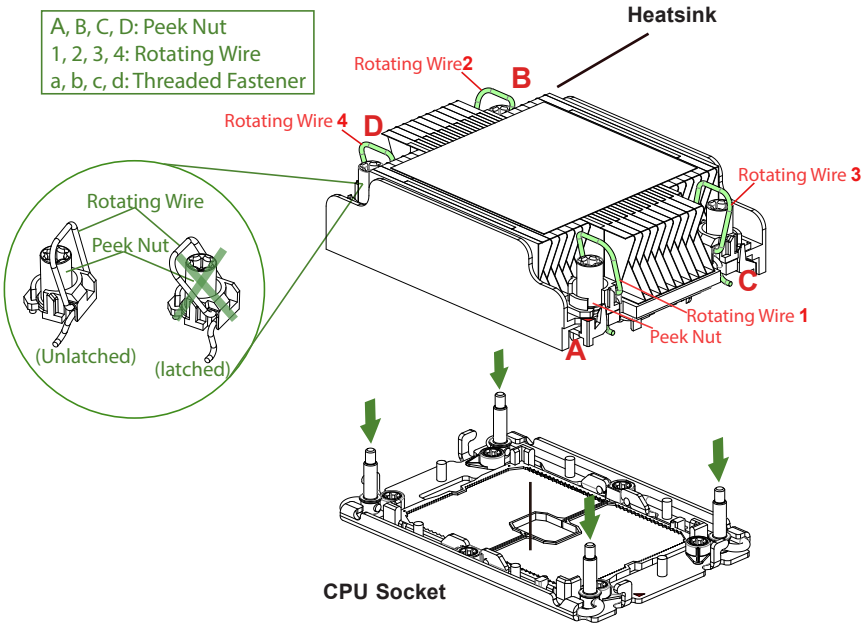
CPU Socket with Plastic Protective Cover



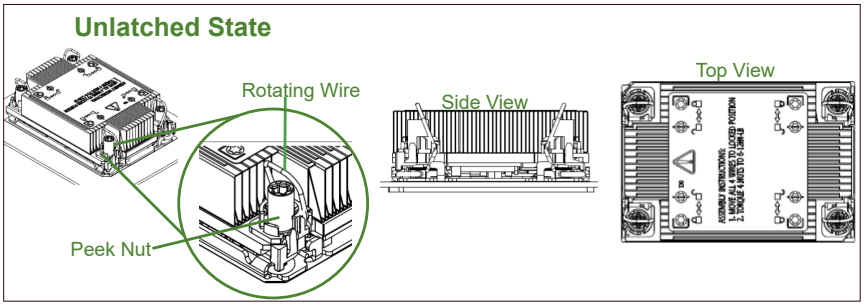
2. Locate four threaded fasteners (a, b, c, d) on the CPU socket.



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

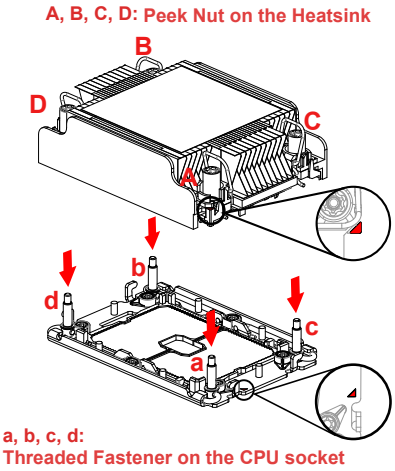


4. Check that the rotating wires (1, 2, 3, 4) are in the unlatched position as shown.

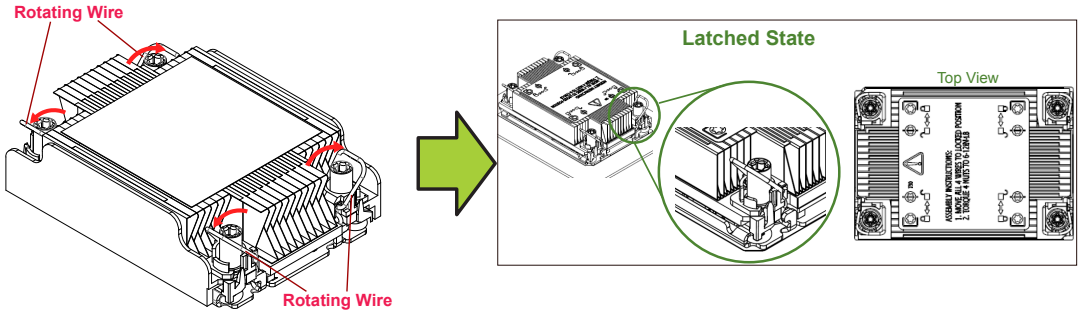


5. Align nut A (next to the triangles and pin 1) on the heatsink with threaded fastener "a" on the CPU socket. Also align nuts B, C, D on the heatsink with threaded fasteners b, c, d on the CPU socket.

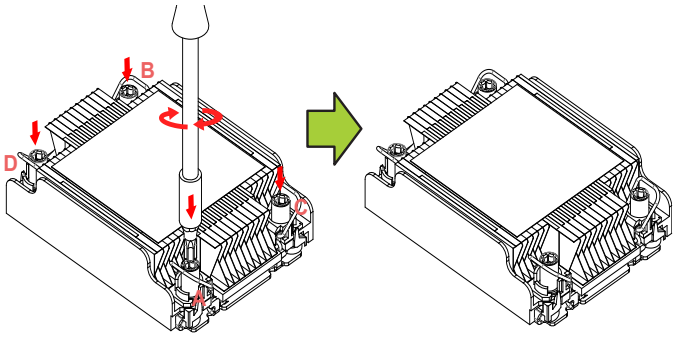
6. Gently place the heatsink on the CPU socket, making sure that each nut is properly aligned with its corresponding threaded fastener.



7. Press all four rotating wires outward to latch the PHM onto the CPU socket.



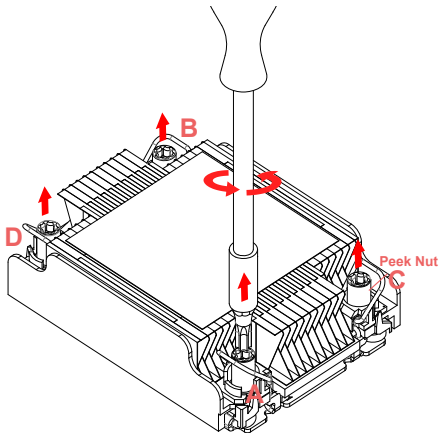
8. With a t30-bit screwdriver, tighten all PEEK nuts in the sequence of A, B, C, and D with even pressure not greater than 12 lbf-in.



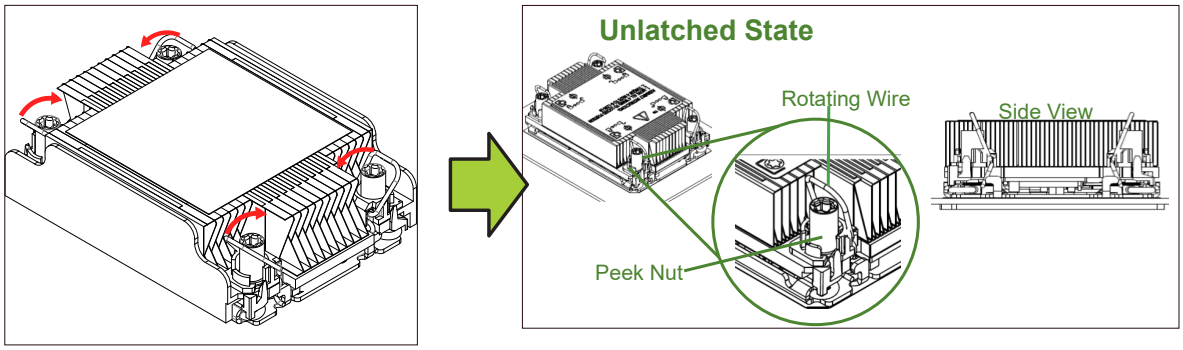
Removing the PHM from the CPU Socket

Be sure the system is shut down and all AC power cords are unplugged.

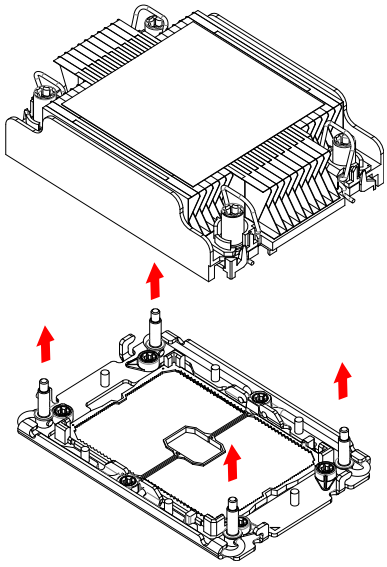
1. Use a t30-bit screwdriver to loosen the four PEEK nuts on the heatsink in the sequence of A, B, C, and D.



2. Press the four rotating wires inward to unlatch the PHM as shown below.

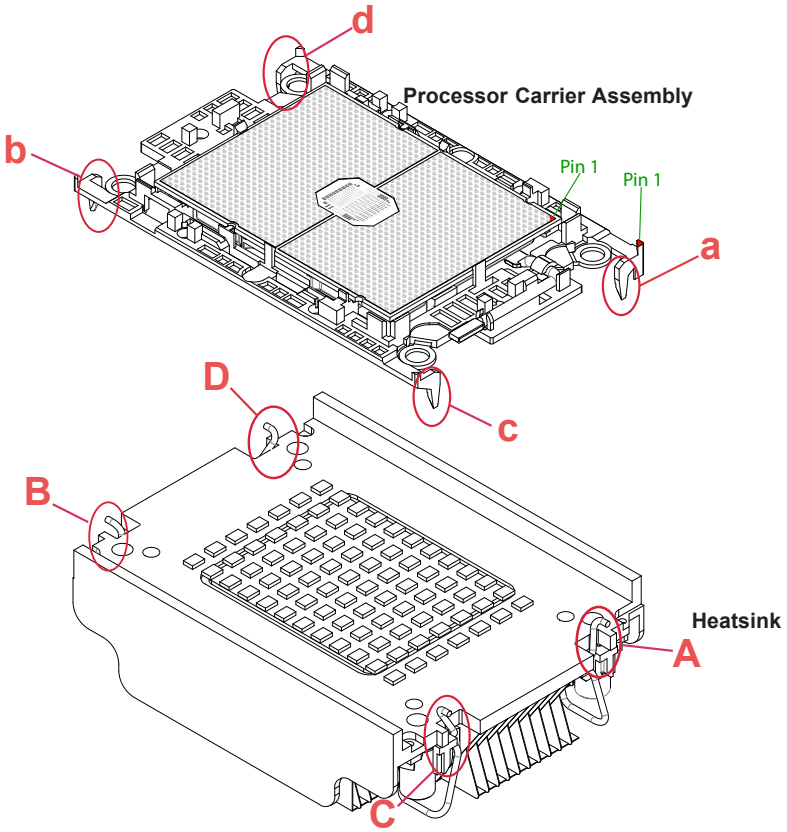


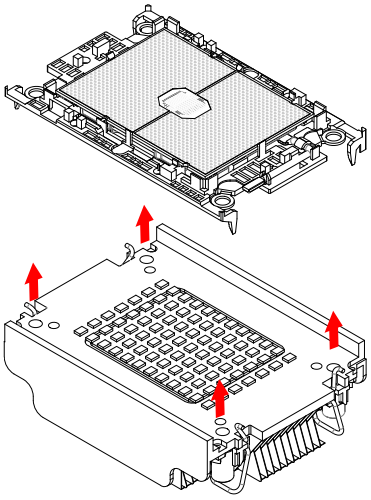
3. Gently lift the PHM upward to remove it from the CPU socket.



Removing the Processor Carrier Assembly from the PHM

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

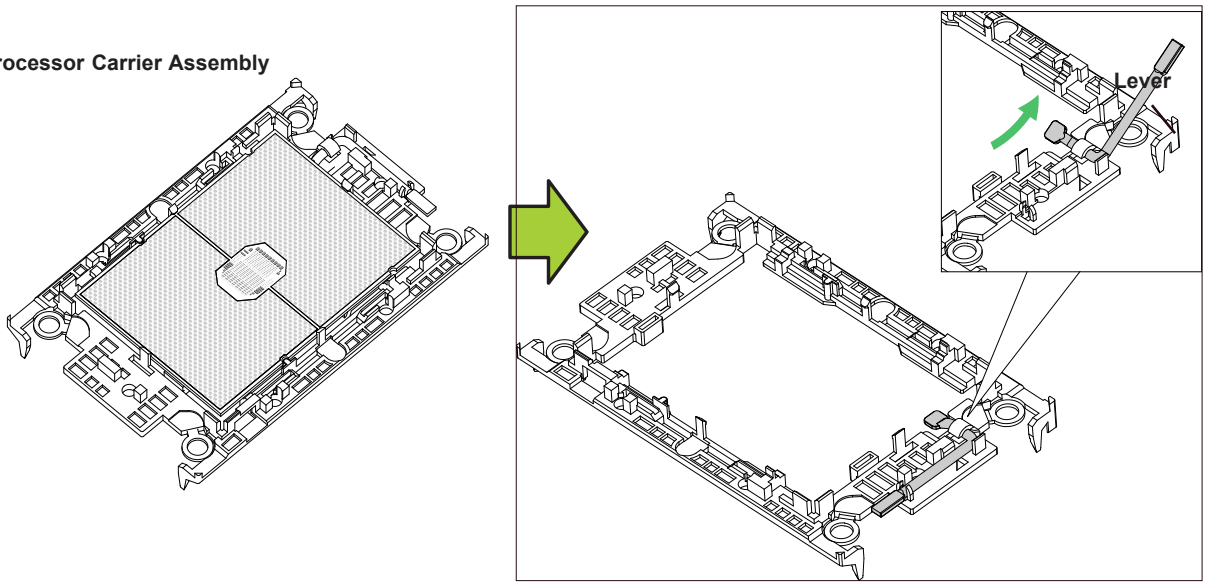




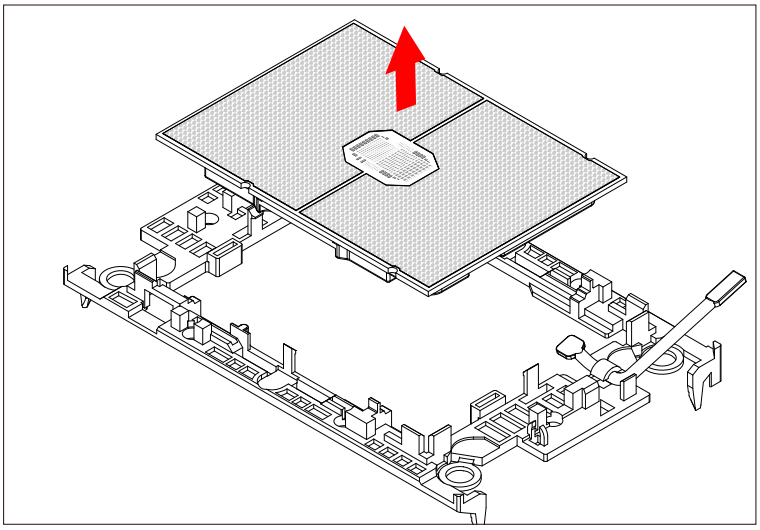
Removing the Processor from the Carrier Assembly

Unlock the lever from its locked position and push it upwards to disengage the processor from the carrier as shown below right. Carefully remove the processor from the carrier.

Processor Carrier Assembly



Note: Handle the processor with care to avoid damage.



3.5 Memory Support and Installation

Note: Check the Supermicro website for recommended memory modules.

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

Memory Support

The X12DPD-A6M25 supports up to 4TB of 3DS LRDIMM/LRDIMM/3DS RDIMM/RDIMM DDR4 ECC memory with speeds of 3200/2933/2666 MHz in 16 memory slots and up to 4TB of Intel Optane PMem 200 Series memory with speeds of up to 3200 MHz. (See the notes below.)

Note 1: Intel Optane PMem 200 Series is supported by the 3rd Intel Xeon Scalable Processors (83xx/63xx/53xx Series) only.

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

Memory Support for the 3rd Gen Intel Xeon Scalable Processors

Memory Support for the 3rd Gen Intel Xeon Scalable Processors					
Type	Ranks Per DIMM & Data Width	DIMM Capacity (GB)		Speed (MT/s); Voltage (V); Slot Per Channel (SPC) and DIMM Per Channel (DPC)	
				1DPC (1-DIMM Per Channel)	2DPC (2-DIMM Per Channel)
		8Gb	16Gb	1.2 V	1.2 V
RDIMM	SRx8	8GB	16GB	3200	3200
	SRx4	16GB	32GB		
	DRx8	16GB	32GB		
	DRx4	32GB	64GB		
RDIMM-3DS	(4R/8R)X4	2H-64GB 4H-128GB	2H-128GB 4H-256GB		
LRDIMM	QRx4	64GB	128GB	3200	3200
LRDIMM-3DS	(4R/8R)x4	4H-128GB	2H-128GB 4H-256GB	3200	3200

Memory Population Table for the 3rd Gen Intel Scalable Processor

Memory Population Table (with 16 Slots)	
When 1 CPU is used:	***Memory Population Sequence***
1 CPU & 1 DIMM	CPU1: P1-DIMMA1
1 CPU & 2 DIMMs	CPU1: P1-DIMMA1/P1-DIMME1
1 CPU & 4 DIMMs	CPU1: P1-DIMMA1/P1-DIMME1/P1-DIMMC1/P1-DIMMG1
1 CPU & 6 DIMM	CPU1: P1-DIMMA1/P1-DIMME1/P1-DIMMC1/P1-DIMMG1/P1-DIMMB1/P1-DIMMF1
1 CPU & 8 DIMMs	CPU1: P1-DIMMA1/P1-DIMME1/P1-DIMMC1/P1-DIMMG1/P1-DIMMB1/P1-DIMMF1/P1-DIMMD1/P1-DIMMH1
When 2 CPUs are used:	***Memory Population Sequence***
2 CPUs & 2 DIMMs	CPU1: P1-DIMMA1 CPU2: P2-DIMMA1
2 CPUs & 4 DIMMs	CPU1: P1-DIMMA1/P1-DIMME1 CPU2: P2-DIMMA1/P2-DIMME1
2 CPUs & 6 DIMMs	CPU1: P1-DIMMA1/P1-DIMME1/P1-DIMMC1/P1-DIMMG1 CPU2: P2-DIMMA1/P2-DIMME1
2 CPUs & 8 DIMMs	CPU1: P1-DIMMA1/P1-DIMME1/P1-DIMMC1/P1-DIMMG1 CPU2: P2-DIMMA1/P2-DIMME1/P2-DIMMC1/P2-DIMMG1
2 CPUs & 10 DIMMs	CPU1: P1-DIMMA1/P1-DIMME1/P1-DIMMC1/P1-DIMMG1/P1-DIMMB1/P1-DIMMF1 CPU2: P2-DIMMA1/P2-DIMME1/P2-DIMMC1/P2-DIMMG1
2 CPUs & 12 DIMMs	CPU1: P1-DIMMA1/P1-DIMME1/P1-DIMMC1/P1-DIMMG1/P1-DIMMB1/P1-DIMMF1 CPU2: P2-DIMMA1/P2-DIMME1/P2-DIMMC1/P2-DIMMG1/P2-DIMMB1/P2-DIMMF1
2 CPUs & 14 DIMMs	CPU1: P1-DIMMA1/P1-DIMME1/P1-DIMMC1/P1-DIMMG1/P1-DIMMB1/P1-DIMMF1/P1-DIMMD1/P1-DIMMH1 CPU2: P2-DIMMA1/P2-DIMME1/P2-DIMMC1/P2-DIMMG1/P2-DIMMB1/P2-DIMMF1
2 CPUs & 16 DIMMs	CPU1: P1-DIMMA1/P1-DIMME1/P1-DIMMC1/P1-DIMMG1/P1-DIMMB1/P1-DIMMF1/P1-DIMMD1/P1-DIMMH CPU2: P2-DIMMA1/P2-DIMME1/P2-DIMMC1/P2-DIMMG1/P2-DIMMB1/P2-DIMMF1/P2-DIMMD1/P2-DIMMH1

Intel Optane PMem 200 Series Memory Population Table (with 16 Slots)

Note: Only 83xx/63xx/53xx processors support PMem 200 Series.

16-DIMM Motherboard PMem Population within 1 CPU socket										
DDR4+Pmem	Mode	AD Interleave	P1-DIMMF1	P1-DIMME1	P1-DIMMH1	P1-DIMMG1	P1-DIMMC1	P1-DIMMD1	P1-DIMMA1	P1-DIMMB1
4+4	AD MM	One - x4	***PMem***	DDR4	***PMem***	DDR4	DDR4	***PMem***	DDR4	***PMem***
		One - x4	DDR4	***PMem***	DDR4	***PMem***	***PMem***	DDR4	***PMem***	DDR4
6+1	AD	One - x1	DDR4	DDR4	-	DDR4	DDR4	***PMem***	DDR4	DDR4
			-	DDR4	DDR4	DDR4	DDR4	DDR4	DDR4	***PMem***
			DDR4	DDR4	***PMem***	DDR4	DDR4	-	DDR4	DDR4
			PMem	DDR4	DDR4	DDR4	DDR4	DDR4	DDR4	-
			DDR4	DDR4	DDR4	-	***PMem***	DDR4	DDR4	DDR4
			DDR4	-	DDR4	DDR4	DDR4	DDR4	***PMem***	DDR4
			DDR4	DDR4	DDR4	***PMem***	-	DDR4	DDR4	DDR4
			DDR4	***PMem***	DDR4	DDR4	DDR4	DDR4	-	DDR4

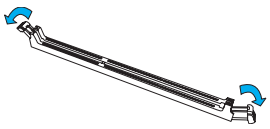
Legend (for the table above)	
DDR4 Type and Capacity	
DDR4	See Validation Matrix (DDR4 DIMMs validated with DCPMM)
Capacity	
PMem	Any Capacity (Uniformly for all channels for a given configuration)

- Mode definitions: AD = App Direct Mode, MM = Memory Mode.
- No mixing of PMem and NVDIMMs within the platform.
- For MM, NM/FM ratio is between 1:4 and 1:16. The capacity not used for FM can be used for AD. (NM = Near Memory; FM = Far Memory).
- Matrix targets configs for optimized PMem to DRAM cache ratio in MM mode.
- For each individual population, different PMem rearrangements among channels are permitted ast long as the configuration doesn't break X12 DP Memory population rules.
- Ensure the same DDR4 DIMM type and capacity are used for each DDR4 + PMem population.
- If the system detects an unvalidated configuration, then the system issues a BIOS warning. The CLI functionality is limited in non-POR configurations, and select commands will not be supported.

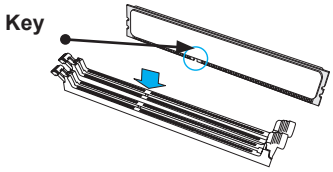
Validation Matrix (DDR4 DIMMS w/PMem 200 Series)			
DIMM Type	Ranks Per DIMM & Data Width (Stack)	DIMM Capacity (GB)	
		DRAM Density	
		8Gb	16Gb
RDIMM (up to 3200)	1Rx8	N/A	N/A
	1Rx4	16GB	32GB
	1Rx8	16GB	32GB
	1Rx4	32GB	64GB
RDIMM 3DS (up to 3200)	4Rx4 (2H)	N/A	128GB
	8Rx4 (4H)	NA	256GB
LRDIMM (up to 3200)	4Rx4	64GB	128GB
LRDIMM 3DS (up to 3200)	4Rx4 (2H)	N/A	N/A
	8Rx4 (4H)	128GB	256GB

DIMM Installation

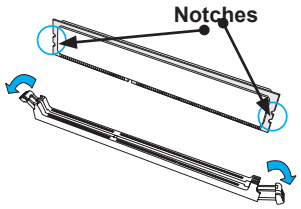
1. Insert the desired number of DIMMs into the slots based on the recommended DIMM population tables shown above.
2. Push the release tabs on both ends of the DIMM slot outwards to unlock it.



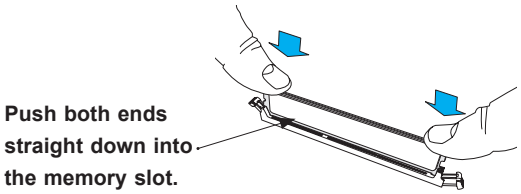
3. Align the key of the DIMM module with the receptive point on the memory slot.



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



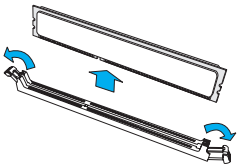
5. Push both ends of the module straight down into the slot until the module snaps into place.



6. Press the release tabs to the lock positions to secure the DIMM module into the slot.

DIMM Removal

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



Warning! To avoid causing any damage to the DIMM module or the DIMM socket, do not use excessive force when pressing the release tabs on the ends of the DIMM socket. Handle DIMMs with care. Be aware and follow the ESD instructions given at he beginning of this chapter.

3.6 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.

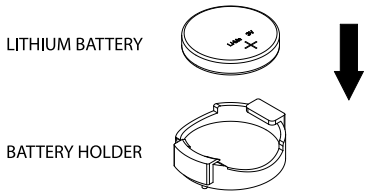


Figure 3-3. Installing the Onboard Battery

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).

3.7 Storage Drives

The CSE-802ETS chassis supports 12 3.5" storage drives in toolless drive carriers to simplify their removal from the chassis. These carriers also help promote proper airflow.

The drives rest on metal brackets that runs the full width of the chassis. They attach to the system by means of three small, horizontal backplanes that supports four 3.5" HDD each, and each row of four 3.5" HDDs attaches to the backplane behind each row.

An additional four hot-swap EDSSF and two 2.5", 7mm NVMe/SATA drive bays are located at the front of the system.

Note: Enterprise level hard disk drives are recommended for use in Supermicro chassis and servers. For information on recommended HDDs, visit the Supermicro website product pages at https://www.supermicro.com/products/nfo/Ultra.cfm.

Checking the Temperature of an NVMe Drive

There are two ways to check using BMC.

Checking a Drive

- **BMC > Server Health > NVMe SSD –** Shows the temperatures of all NVMe drives.
- **BMC > Server Health > Sensor Reading > NVME_SSD –** Shows the single highest temperature among all the NVMe drives.

Installing Drives

The front of the system has four hot-swap EDSSF (0-3 below) and two 2.5", 7mm drive bays (4 and 5 below) that support NVMe/SATA drives.

Figure 3-4. Front Logical Drive Numbers

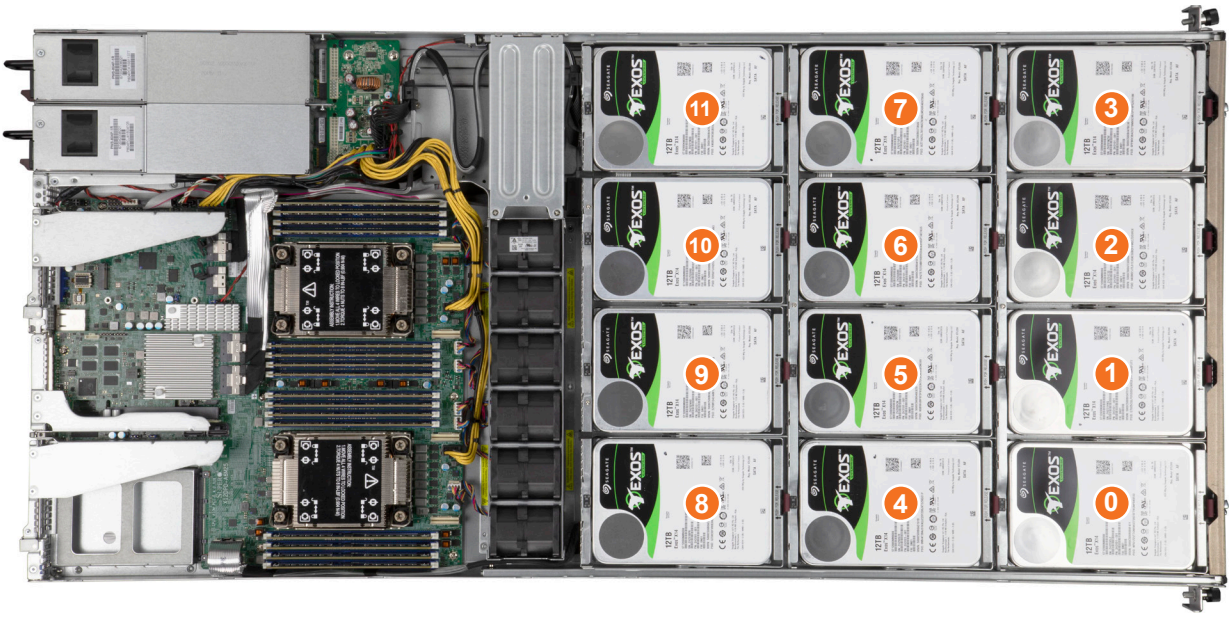


Figure 3-5. Internal Logical Drive Numbers

Adding/Replacing a Front 2.5" Hard Drive

1. There is no need to power down.
2. Locate and press the latch on the HDD you wish to remove from the chassis, then pull the handle up.
3. Slide the HDD away from its backplane socket and lift it out. Note the number on the floor of the chassis.

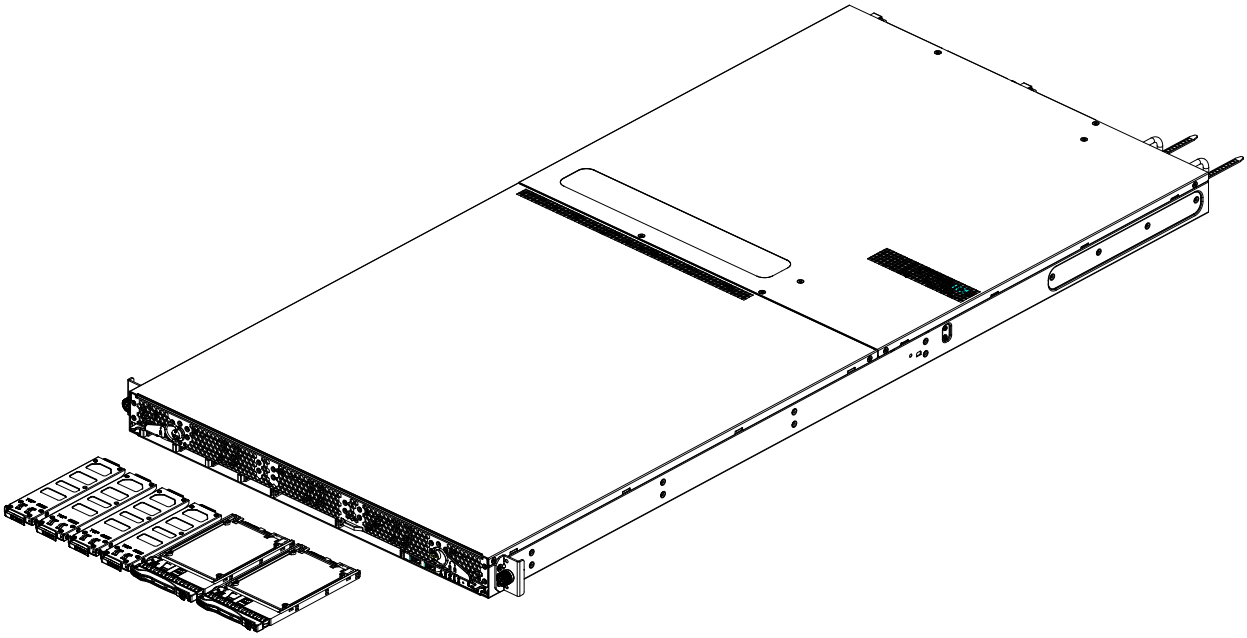


Figure 3-6. Replacing Front Drives

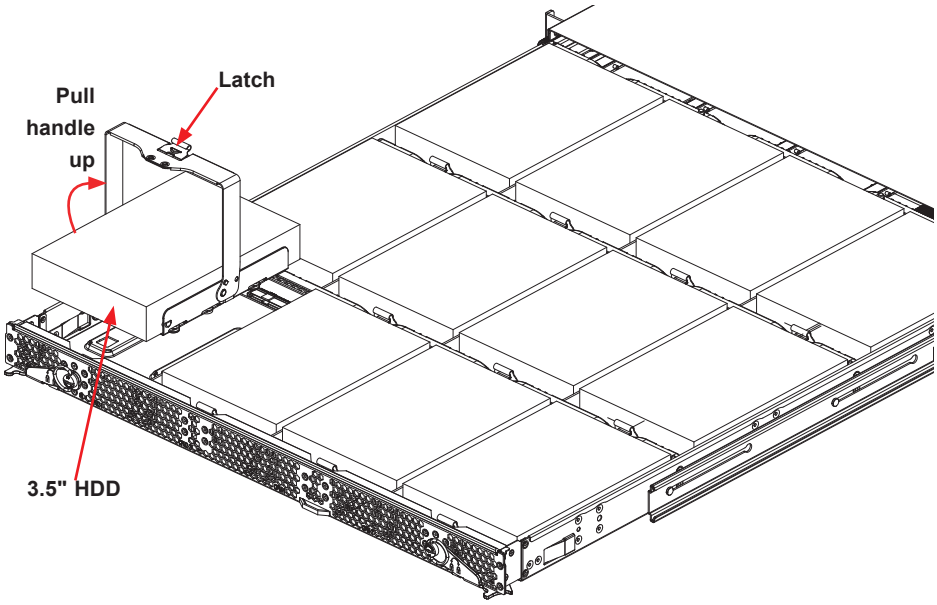


Figure 3-7. Adding and Replacing 3.5" Hard Drives

Replacing an Internal 3.5" Hard Drive

1. There is no need to power down.
2. With the top cover removed, locate and press the latch on the HDD you wish to remove from the chassis, then pull the handle out.
3. Use the handle to oull the HDD completely out of the drive bay.
4. Remove the screws securing the old drive to the tray, then insert a new drive and secure with the same screws.

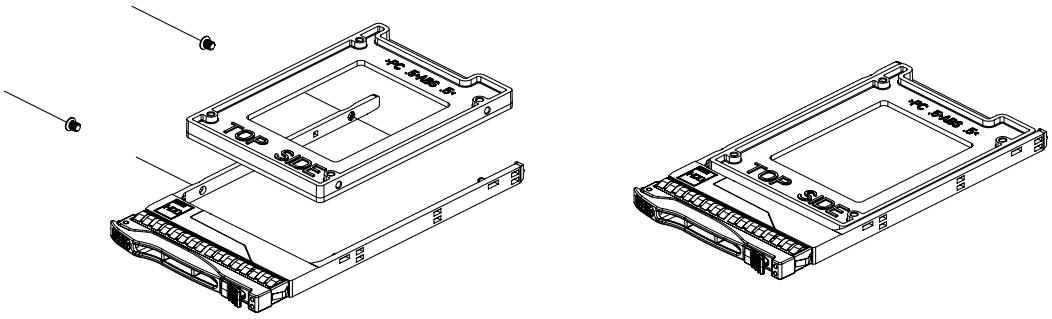


Figure 3-8. Installing a Drive to a Tray

Hot-Swap for NVMe Drives

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

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

Ejecting a Drive

1. **BMC > Server Health > NVMe SSD**
2. Select Device, Group and Slot, and click **Eject**. After ejecting, the drive Status LED indicator turns green.
3. Remove the drive.

Note that *Device* and *Group* are categorized by the CPLD design architecture. The SSG-610P-ACR12N4H/L server has one Device and one Group, except the 2029U-TN24 server which has one Device and two Groups.

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

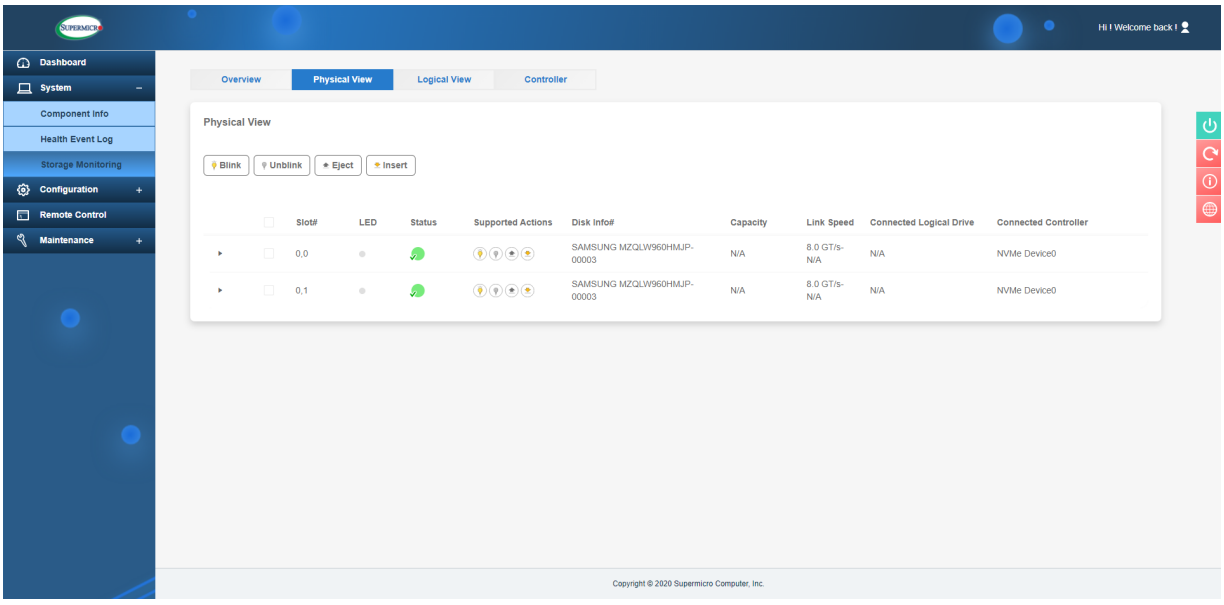


Figure 3-9. BMC Screenshot

Replacing the Drive

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

3.8 System Cooling

Fans

Six 4-cm counter-rotating fans provide the cooling for the system. Each fan unit is actually made up of two fans joined back-to-back, which rotate in opposite directions. This counter-rotating action generates exceptional airflow and works to dampen vibration levels.

Make sure the chassis top cover makes a good seal so the cooling air circulates properly through the chassis.

Replacing a System Fan

1. If necessary, open the top rear cover of the chassis while the system is running to locate the position of the failed fan. Do not run the server for an extended time with the cover off.
2. Power down as described in Section 3.1.
3. Remove the failed fan's power cable from the motherboard.
4. Lift the failed fan from the fan housing and out of the chassis.
5. Place the new fan into the vacant space in the fan 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 in the same fan housing.
6. Reconnect the fan wires to the same chassis fan headers as the previous fan.
7. Power up the system and check that the fan is working properly before replacing the chassis cover.

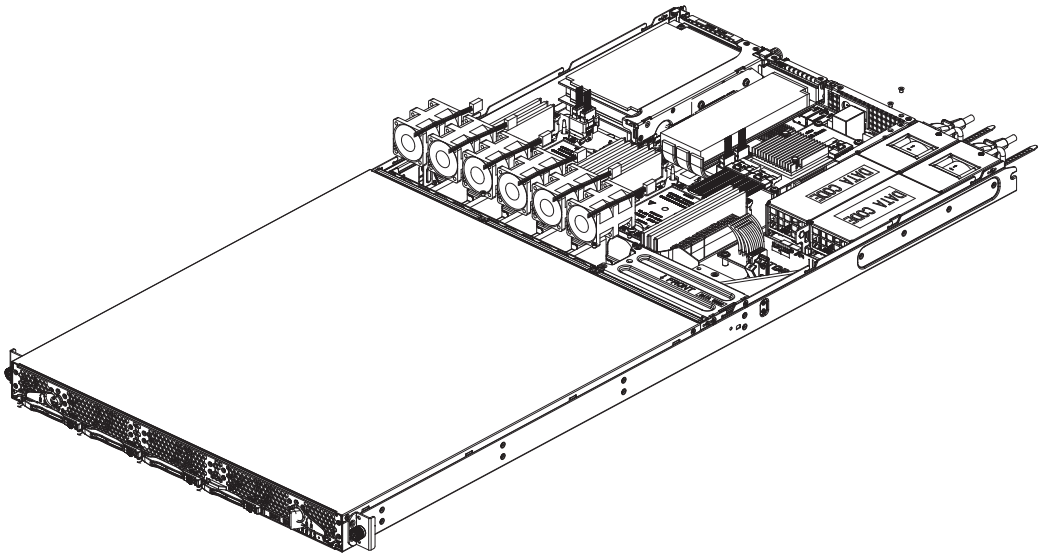


Figure 3-10. Replacing System Fans

Checking the Server Air Flow

- Make sure there are no objects to obstruct airflow in and out of the server.
- Do not operate the server without drives or drive trays in the drive bays.
- Use only recommended server parts.
- Make sure no wires or foreign objects obstruct air flow through the chassis. Pull all excess cabling out of the airflow path or use shorter cables.

The control panel LEDs display system heat status. See “Control Panel” in Chapter 1 for details.

Overheating

There are several possible responses if the system overheats.

Overheat Temperature Setting

Some backplanes allow the overheat temperature to be set at 45, 50, or 55 degrees by changing a jumper setting. For more information, consult the backplane user manual at www.supermicro.com. (Click Support, then the Manuals link.)

Responses

If the server overheats:

1. Use the LEDs to determine the nature of the overheating condition.
2. Confirm that the chassis covers are installed properly.
3. Make sure all fans are present and operating normally.
4. Check the routing of the cables.
5. Verify that the heatsinks are installed properly.

3.9 Expansion Cards

The chassis supports two full height and one low profile PCIe expansion cards.

Installing an Expansion Card

1. Power down the system as described in Section 3.1 and remove the rear cover.
2. Remove the riser card bracket from the system.
3. Install the add-on card in your preferred slot on the riser bracket and secure with the provided screws.
4. Insert the riser card bracket into the motherboard expansion slot while aligning the riser card bracket with the rear of the chassis.
5. Secure the bracket with the provided screws.

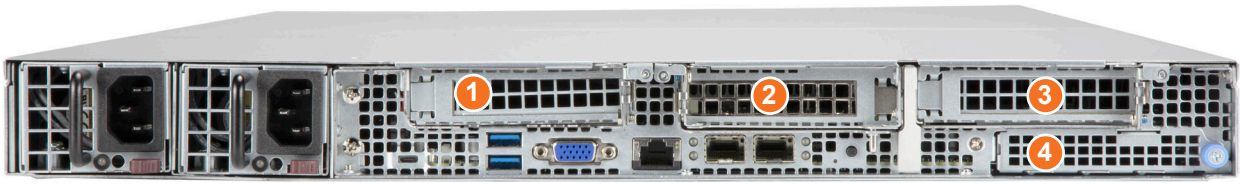


Figure 3-11. PCI Expansion Card Chassis Slots

Expansion Slot Locations		
Item	**Description**	**Associated Riser Card**
1	PCIe 4.0 x16 slot (HHHL) (CPU0)	SSG-610P-ACR12N4L: RSC-AOM-X6 (bridge board for AOM-S3224) SSG-610P-ACR12N4H: RSC-X-6G4
2	PCIe 4.0 x8 slot (HHHL) (CPU0)	RSC-PR-6-X2
3	PCIe 4.0 x16 slot (HHHL) (CPU1)	RSC-X-6G4
4	PCIe 4.0 x16 AIOM slot (CPU0)	N/A

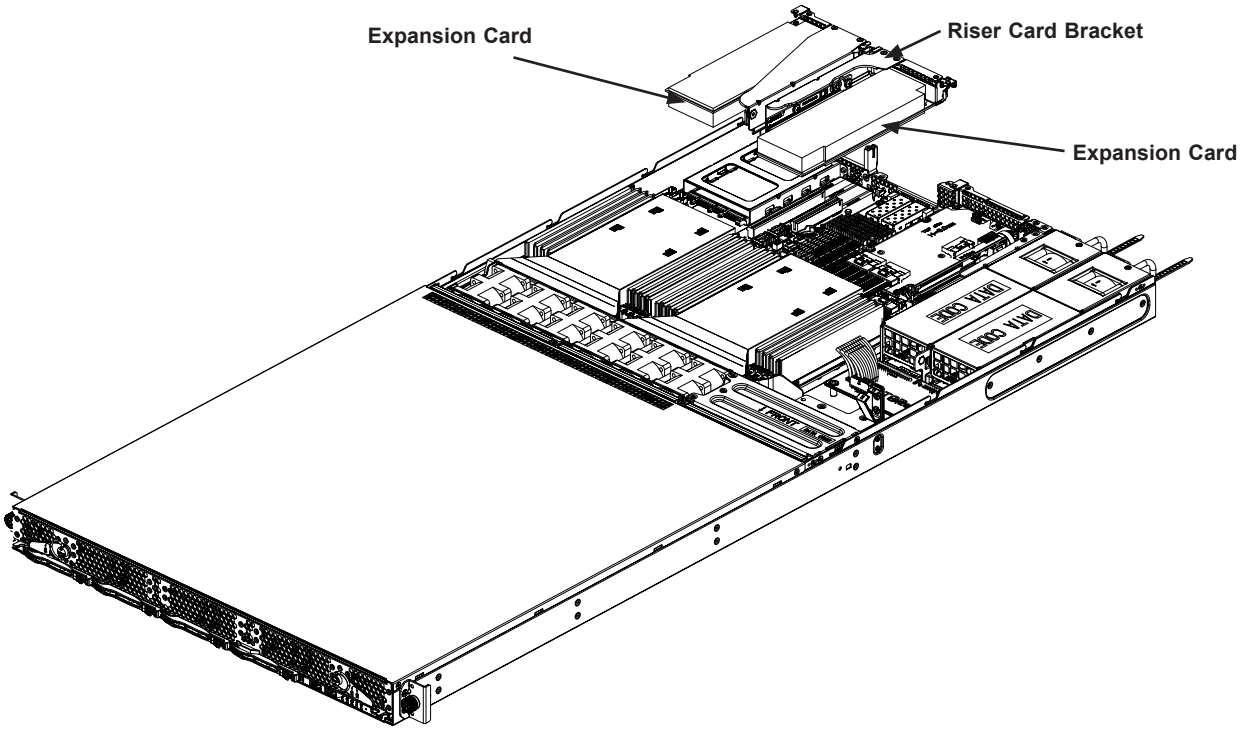


Figure 3-12. PCIe Expansion Cards

SAS Backplane Information

The SSG-610P-ACR12N4H/L comes with three backplanes for four 3.5" SATA3 or SAS3 HDD drives (BPN-SAS3-802A-3). These backplanes have their own two LED indicators for activity and status as shown in the figure and table below.

Note: Two of the four LEDs on the backplanes are currently not used for this server and are not active.

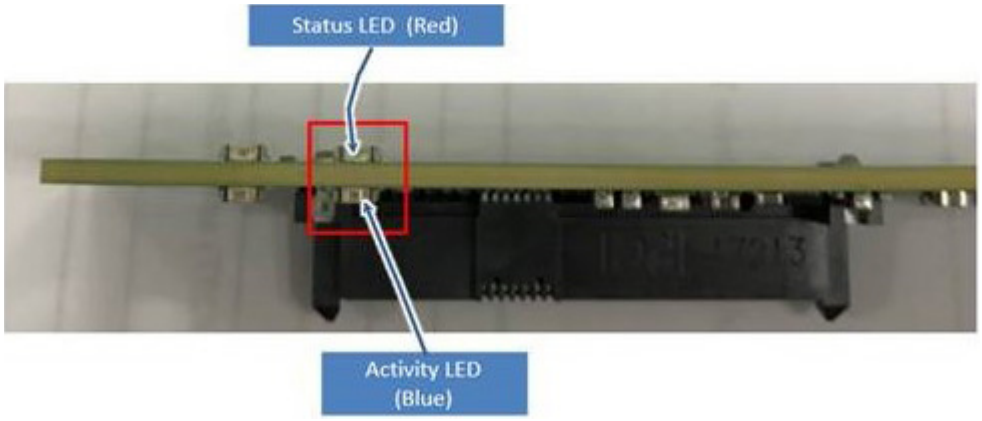


Figure 3-13. Backplane LEDs

Backplane LED Activity/Status				
LED	**Color**	**Status**	**Blinking Pattern**	**Applicable to Devices**
ACT LED	Green or Blue	Activity	Blinking during I/O	SAS/SATA
	Green or Blue	No Activity/Standby	Solid On	SAS/SATA
	Green or Blue	Activity/Formatting	Blinking during I/O	SAS/SATA Formatting under OS
STATUS	Red	Locate HDD	Fast Blink @ 4Hz	SAS/SATA
	Red	HDD Fail	Solid On	SAS/SATA
	Red	Rebuild	Slow Blink @ 1Hz	SAS/SATA
	Red	Hot Spare	Repeating 2 Fast Blink plus pause	SAS/SATA
	Red	Formatting	Fast blink @ 4 Hz	SAS/SATA Formatting under AOM

Supermicro Advanced I/O Module (AIOM)

The Advanced I/O Module (AIOM) delivers up to 50% of I/O cost savings and freedom to select networking options from 1Gb/s to100Gb/s through a Supermicro optimized form factor that is easy to scale, service and manage across a broad range of Supermicro server and storage systems. The AIOM also enables a higher degree of system integration and increased capacity by saving PCIe slots that are traditionally reserved for add on cards.

This optional I/O module may be installed in the slot provided in the back of the chassis, as shown below.

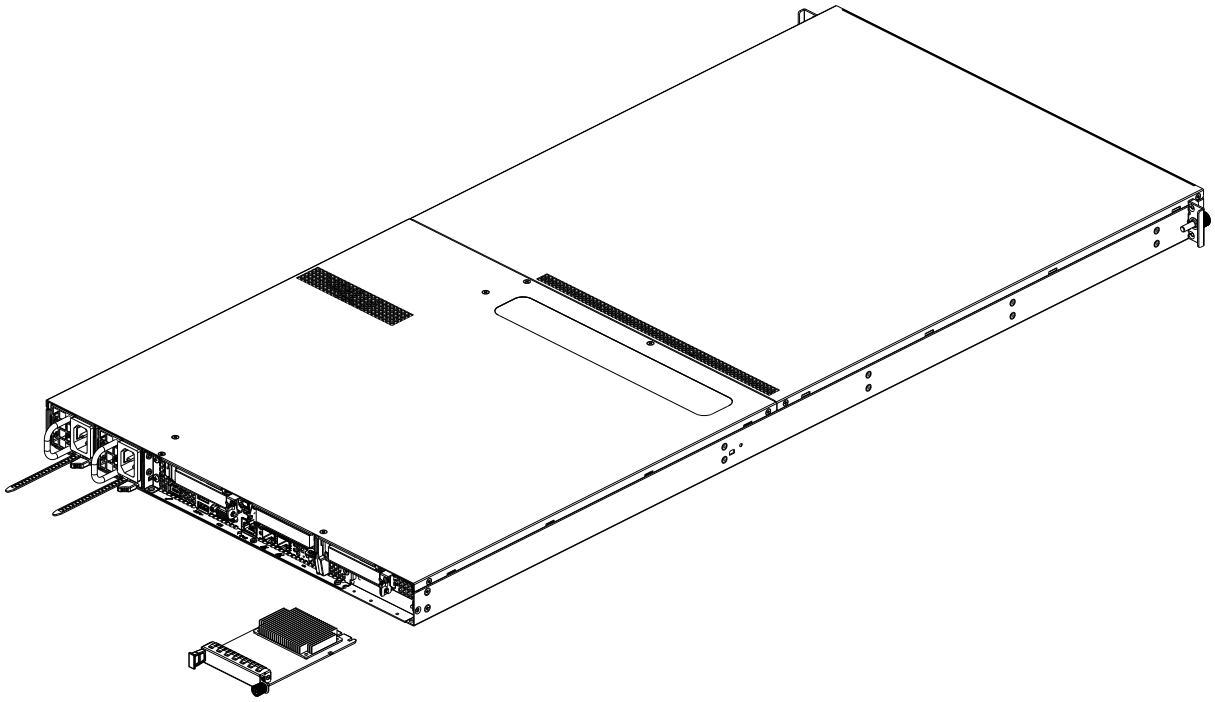


Figure 3-14. Optional Advanced I/O Module

3.10 Power Supply

The chassis features redundant power supplies, so that the system will continue to operate if one module fails. Failed power supplies should be replaced as soon as convenient. The power supply modules are hot-swappable, meaning they can be changed without powering down the system. New units can be ordered directly from Supermicro or authorized distributors.

These power supplies are auto-switching capable. This feature enables them to automatically sense the input voltage and operate at a 100-120v or 180-240v as needed by the system.

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.
- **Solid Amber**: When illuminated, indicates the power supply is plugged in and turned off, or the system is off but in an abnormal state.
- **Blinking Amber**: When blinking, this system power supply temperature has reached 63ºC. The system will automatically power-down when the power supply temperature reaches 70ºC and restart when the power supply temperature goes below 60ºC.

Changing the Power Supply Module:

1. Remove the AC power cord from the back of the power supply module.
2. Push the release tab on the rear of the power supply.
3. Pull the power supply out of the power supply bay using the handle.
4. Push the new power supply module into the power bay until it clicks.
5. Plug the AC power cord back into the module.

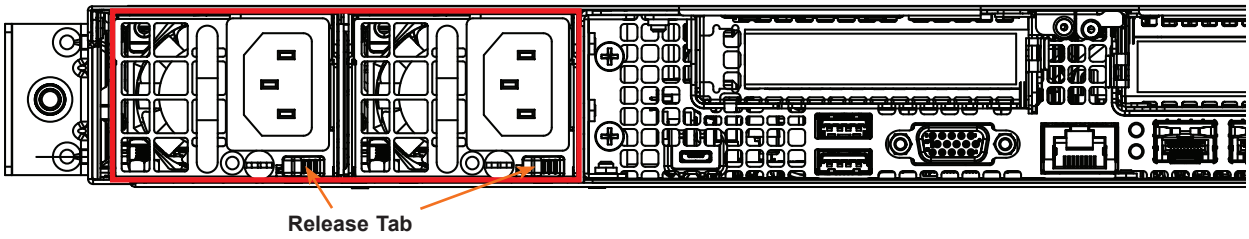


Figure 3-15. Power Supply Modules

3.11 Cable Routing Diagrams

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

Slimline Cable (x2)
CBL-SAST-1238-85

JNVMe1/2 to E1.S NVMe drives

Slimline Cable (x1)
CBL-SAST-1237-85

JSATA1/2 to 7mm, 2.5" NVMe/SATA drives (JSATA ports are under the AOM card pictured.)

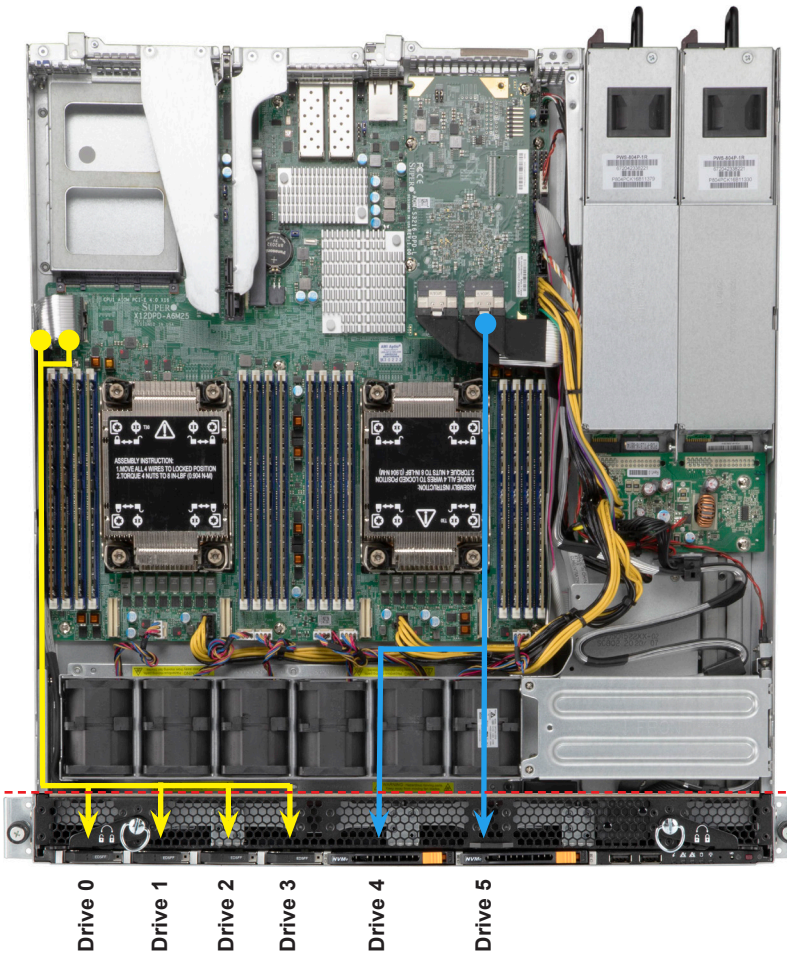


Figure 3-16. E1.S/NVMe/SATA Cable Routing Diagram SSG-610P-ACR12N4L

Slimline SATA Cable (x2)
CBL-SAST-1028

AOM SATA 0-11 to SAS3/SATA3 drive connections

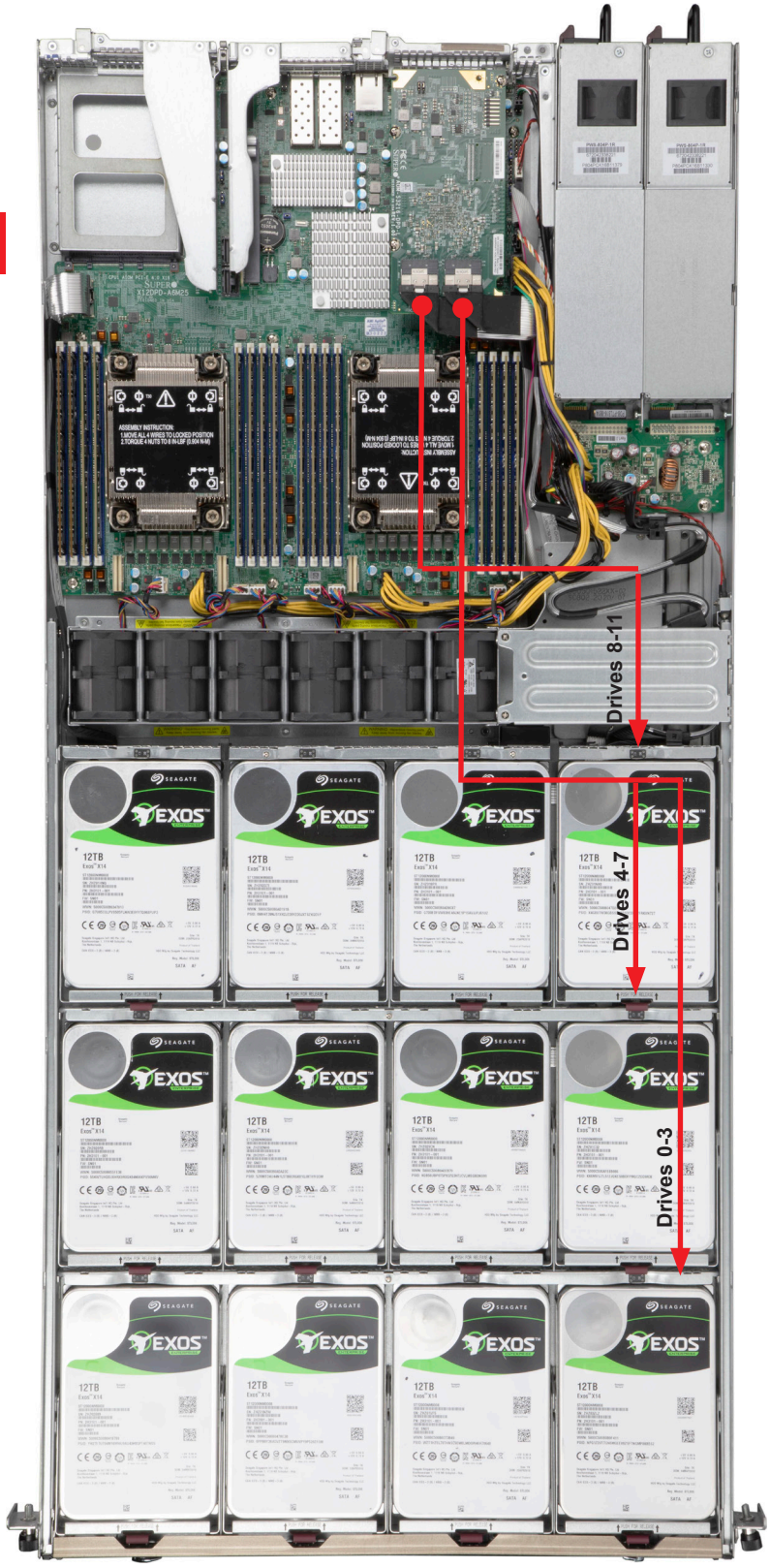


Figure 3-17. SAS/SATA Cable Routing Diagram: SSG-610P-ACR12N4L

Slimline Cable (x2)
CBL-SAST-1238-85

JNVMe1/2 to E1.S NVMe drives

Slimline Cable (x1)
CBL-SAST-1237-85

JSATA1/2 to 7mm, 2.5" NVMe/SATA drives (JSATA ports are under the AOM card pictured.)

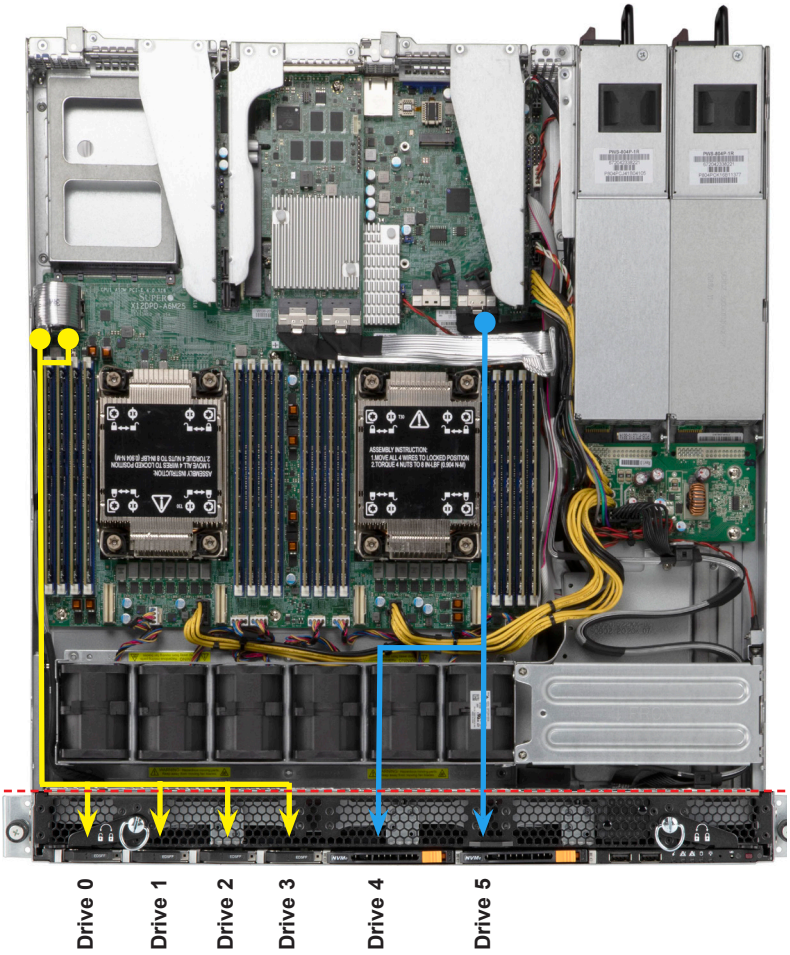


Figure 3-18. E1.S/NVMe/SATA Cable Routing Diagram SSG-610P-ACR12N4H

Slimline SATA Cable (x2)
CBL-OTHR-1109

AOC SATA 0-11 to SAS3/SATA3 drive connections

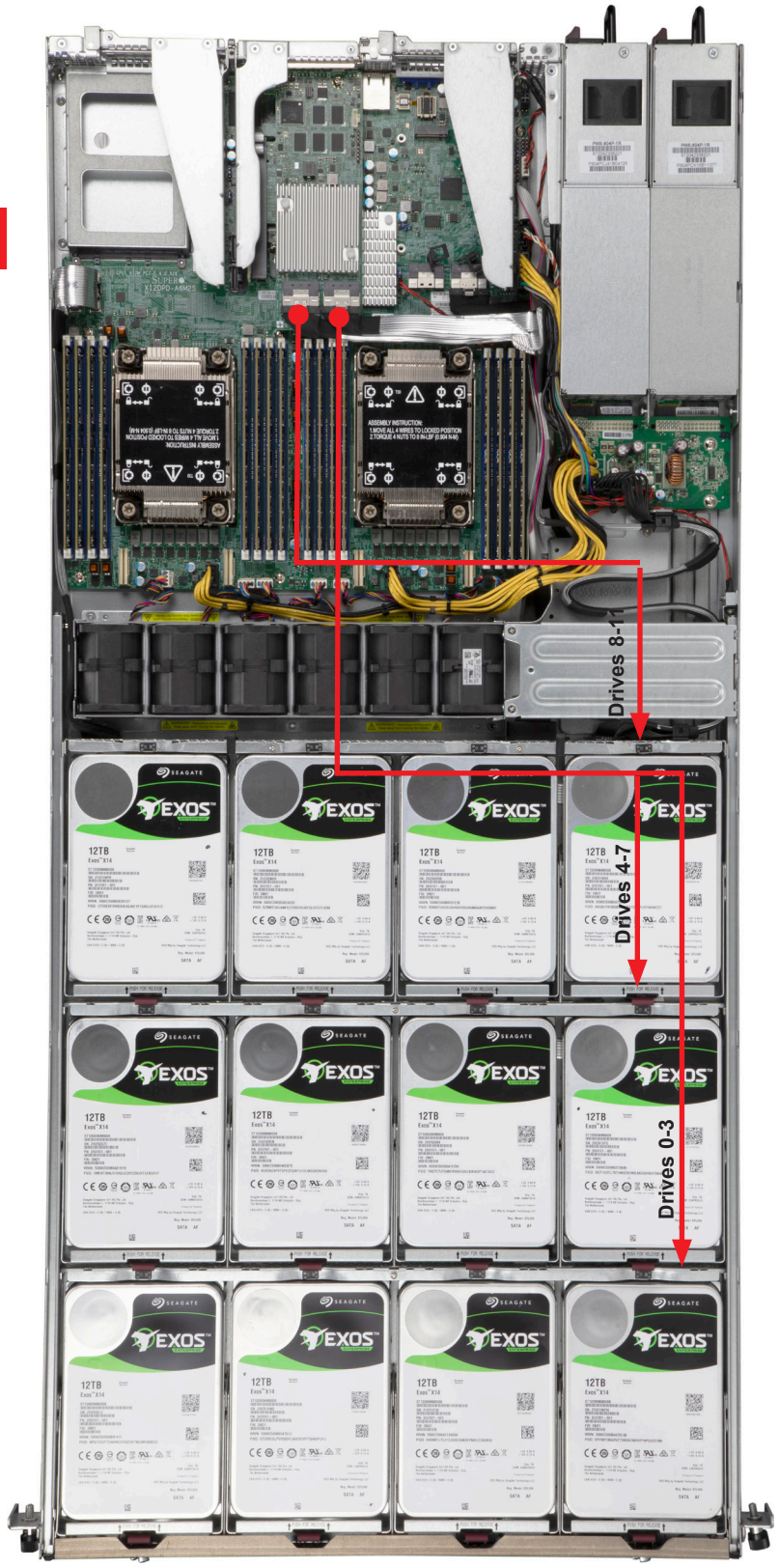


Figure 3-19. SAS/SATA Cable Routing Diagram: SSG-610P-ACR12N4H

3.12 BMC

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

- Reset—Press and hold the button. After six seconds, the LED blinks at 2 Hz. The BMC resets and the reset duration is ~250 ms. Then the BMC starts to boot.
- Restore factory default configuration—Hold the button for twelve seconds. The LED blinks at 4 Hz while defaults are configured.
- Firmware update—the UID LED blinks at 10Hz during a firmware update.

BMC Reset Options	
Event	**LED (Green)**
Reset	Blinks at 2 Hz
Restore Defaults	Blinks at 4 Hz
Update	Blinks at 10 Hz

Chapter 4

Motherboard Connections

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

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

4.1 Power Connections

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

Power Supply Connectors

The motherboard has several power connectors, including one 14-pin ATX (JPWR1), two 8-pin 12V DC (JPWR2/JPW3), and one 4-pin 12V DC (JPWR4), to provide adequate power to the system. The 4-pin power connector cable is designed to give extra power support to the motherboard.

Important: To provide adequate power supply to the motherboard, be sure to connect all the power connectors to the power supply. Failure to do so may void the manufacturer warranty on your power supply and motherboard.

ATX Power 14-pin Connector Pin Definitions

Pin#	Definition
1 - 6	Ground
7	PWROK
8 - 12	P12V
13	P12V_STBY
14	PS_ON_N

12V 8-pin Power Pin Definitions

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

12V 4-pin Power Pin Definitions

Pin#	Definition
1 - 2	Ground
3	+12V
4	+5V

4.2 Headers and Connectors

Fan Headers

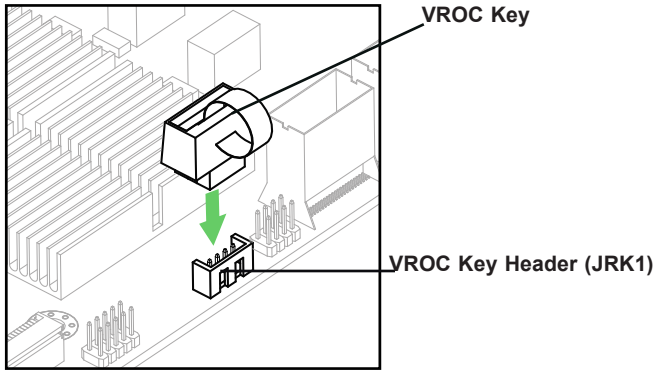
There are six 4-pin fan headers (FAN1~FAN6) located on the front panel (see locations below). All these 4-pin fan headers are backwards compatible with the traditional 3-pin fans. However, fan speed control is available for 4-pin fans only through Thermal Management via the BMC interface. Refer to the table below for pin definitions.

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

VROC RAID Key Header

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

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



Note: The graphics contained in this user's manual are for illustration purposes only. The components installed in your system may or may not look exactly the same as the graphics shown in the manual.

JTPM1/Port 80 Header

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

Trusted Platform Module Header Pin Definitions

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

Power SMB (I^2C) Header

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

Power SMB Header Pin Definitions

Pin#	Definition
1	Clock
2	Data
3	PMBUS_Alert
4	Ground
5	+3.3V

Chassis Intrusion

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

Chassis Intrusion Pin Definitions

Pin#	Definition
1	Intrusion Input
2	Ground

Control Panel

JF1 contains header pins for various control panel connections. See the figure below for the pin locations and definitions of the control panel buttons and LED indicators.

All JF1 wires have been bundled into a single cable to simplify this connection. Make sure the red wire plugs into pin 1 as marked on the motherboard. The other end connects to the control panel PCB board.

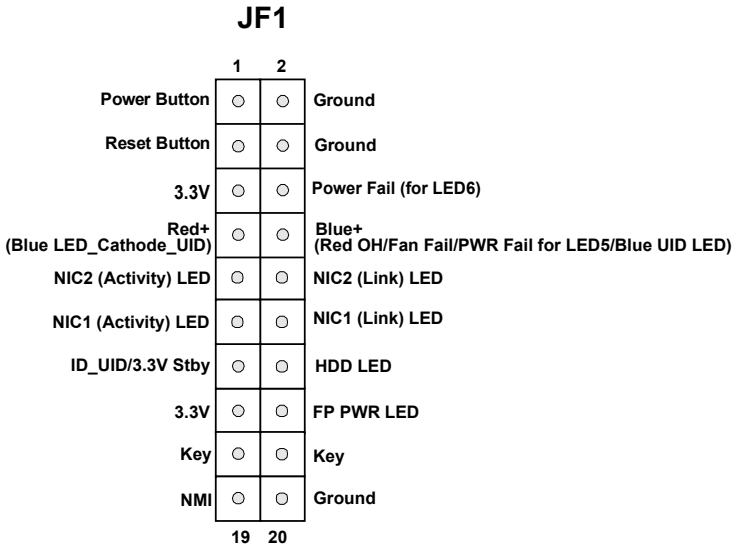


Figure 4-1. JF1 Control Panel Pins

Front Control Panel (JF1) LED Indicators						
Event	**Power (LED1)**	**HDD (LED2)**	**LAN (LED3/4)**	**UID (LED5)**	**Information (LED5)**	**Power Fail (LED6)**
Power On	Solid On					
HDD Activity		Blinking				
NIC Activity			Blinking			
Overheat					Solid On	
Fan Fail					Blinking 1Hz	
Power Fail					Blinking1/4Hz	Solid On
Local UID On				Solid On		
Remote UID On				Blinking 1Hz		
Checking	BMC/BIOS Blinking 4HZ					
Recovering/Updating	BMC Blinking 4HZ BMC 2 Blinks 4Hz, 1 Pause 2Hz (on-on-off-off)			BIOS/BMC Blinking 10Hz		
Flash Not Detected or Golden Image Check Failed	BMC/BIOS Blinking 1HZ					
CPLD Recovery Mode				Blinking 10Hz (MB UID LED)	Blinking 10Hz (FP Red LED)	

Power On & BMC/BIOS Status LED Button

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

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

Power Button Pin Definitions (JF1)	
Status	**Event**
Green: solid on	System power on
BMC/BIOS blinking green @ 4Hz	BMC/BIOS checking
BIOS blinking green @ 4Hz	BIOS recovery/update in progress
BMC blinking red x2 (2 blinks red) @ 4Hz, 1 pause @ 2Hz (on-on-off-off)	BMC recovery/update in progress
BMC/BIOS blinking green @ 1Hz	Flash not detected or golden image checking failure

Reset Button

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

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

Power Fail LED

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

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

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

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

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

NIC1/NIC2 (LAN1/LAN2)

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

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

LAN1/LAN2 LED Pin Definitions (JF1)	
Color	**State**
NIC 2: Blinking green	LAN 2: Active
NIC 1: Blinking green	LAN 1: Active

ID_UID Switch/HDD LED

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

When this LED is blinking green, it indicates HDD is active. Attach a cable to pins 13 and 14 to show ID_UID status and hard drive activity. Refer to the tables below for pin definitions.

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

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

FP Power LED

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

FP Power LED Pin Definitions (JF1)

Pins	Definition
15	3.3V
16	FP PWR LED

NMI Button

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

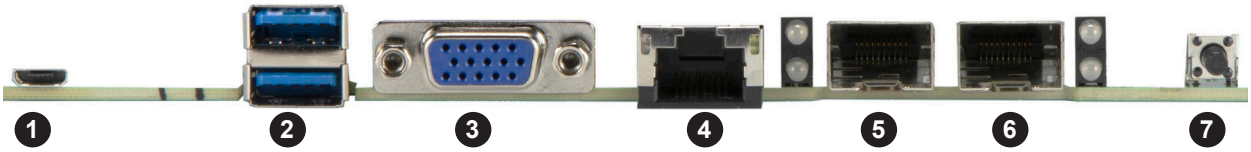
NMI Button Pin Definitions (JF1)

Pins	Definition
19	NMI
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.



Rear I/O Ports			
#	**Description**	**#**	**Description**
1	COM1	5	LAN1
2	USB0/1 (3.0)	6	LAN2
3	VGA Port	7	UID/BMC Reset Switch
4	BMC_LAN		

VGA Connection

The VGA port is located at JVGA1 on the back I/O panel. The VGA port provides analog interface support between the computer and the video display.

COM Port

The COM (communication) port (COM1), connected over JUSB2, supports serial link interface.

LAN Ports (LAN1/LAN2 & BMC LAN)

Two Ethernet LAN ports (LAN1/LAN2) and a dedicated BMC LAN port are located on the rear I/O panel. LAN1/LAN2 ports support 25G SFP+ LAN connection. The dedicated BMC LAN, provides LAN support for the BMC (Baseboard Management Controller).

Universal Serial Bus (USB) Ports and Headers

There are two USB 3.0 ports (USB0/1) and two USB 2.0 ports(USB2/3) on the front I/O panel. USB0/1 (JUSB1) is supported by the 18-pin USB ports, and USB2/3 is supported by 9-pin Type-A USB 2.0 headers.

Front I/O Panel USB0/1 (3.0) Pin Definitions

Pin#	Definition	Pin#	Definition
A1	VBUS	B1	Power
A2	D-	B2	USB_N
A3	D+	B3	USB_P
A4	GND	B4	GND
A5	Stda_SSRX-	B5	USB3_RN
A6	Stda_SSRX+	B6	USB3_RP
A7	GND	B7	GND
A8	Stda_SSTX-	B8	USB3_TN
A9	Stda_SSTX+	B9	USB3_TP

Type A USB2/3 (2.0) Pin Definitions

Pin#	Definition	Pin#	Definition
1	VBUS	5	SSRX-
2	USB_N	6	SSRX+
3	USB_P	7	GND
4	Ground	8	SSTX-
		9	SSTX+

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

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

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

When functioning as a UID LED switch, JUIDB1 will turn both rear UID LED (LE1) and front UID LED (Pin 7/Pin 8 of JF1) on and off when the user presses the switch on/off.

To achieve these dual purposes, the UID LED/BMC Reset switch works in conjunction with the BMC Heartbeat LED (LEDM1) and front/rear UID LEDs. Please note that UID can also be triggered via BMC on the motherboard. Refer to the BMC User's Guide posted on our website at http://www.supermicro.com for more information on BMC.

UID/BMC Reset Switch (JUIDB1) Features & Settings				
When Used as a UID LED Switch (works with LE1 & Pins 7 & 8 on JF1)		**When Used as a BMC Reset Switch (works with BMC Heartbeat LED (LEDM1))**		
Color	**Status**	BMC Heartbeat LED	**LEDM1**	**Green Blinking: BMC Normal**
Blue: On	Unit Identified	BMC Reset: Press & hold the switch (JUIDB1) for 6 seconds	LEDM1: Solid green: during reboot	
Press the switch (JUIDB1) to turn on and off both rear and front LED indicators			Triggering a cold reboot; LED: solid green on during cold reboot	
		BMC Reset: Press & hold the switch (JUIDB1) for 12 seconds	LEDM1: Solid green: during reboot	
			BMC: Reset to the manufacturer's default; LED solid on during BMC Reset	

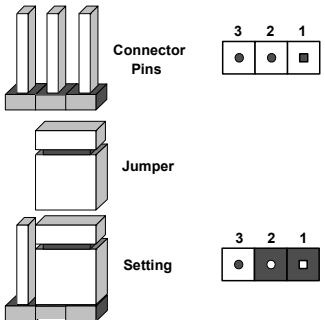
UID/BMC Reset Switch (JUIDB1) Pin Definitions	
Pin#	**Definition**
1	Ground
2	Ground
3	Button In
4	Button In

4.4 Jumpers

Explanation of Jumpers

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

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



CMOS Clear

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

To Clear CMOS

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

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

Watch Dog

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

Note: When Watch Dog is enabled, the user needs to write their own application software to disable it.

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

LAN Port Enable/Disable

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

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

NC-SI Jumpers

There are two NC-SI funtional header jumpers (JPNCSI1 and JPNCSI2) on the motherboard to enable or diable NC-SI multidrop. When setting JPNCSI1 on pins 1-2, NC-SI multidrop between AIOM and 25GLOM is enabled (with JPNCSI2 open). To disable NC-SI on AIOM and enable NC-SI on 25G LOM, JPNCSI2 setting is on pins 1-2 (with JPNCSI1 on pins 2-3). Refer to the figure below for the locations of the jumpers.

NCSI Enable/Disable Jumper Settings		
Jumper	**Jumper Setting**	**Definition**
JPNCSI1	Pins 1-2	Enabled (JPNCSI2 open)
	Pins 2-3	Disabled
JPNCSI2	Pins 1-2	Enabled (JPNCSI1 disabled)

4.5 LED Indicators

Unit ID LED

A UID LED indicator (LE1) is located next to the UID switch (JUIDB1) on the motherboard. The UID indicator provides easy identification of a system unit that may need service.

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

Onboard LAN LED

There are two 25G LAN LEDs located at LED_L0 and LED_L1 on the motherboard. Refer to the table below for more information.

25G Onboard LAN LED State	
LED Color	**Definition**
Green: Blinking	Device Working

BMC Heartbeat LED

A BMC Heartbeat LED is located at LEDM1 on the motherboard. When LEDM1 is blinking, the BMC is functioning normally. Refer to the table below for more information.

BMC Heartbeat LED Indicator	
LED Color	**Definition**
Green: Blinking	BMC Normal

PCH System Power LED

A PCH system power LED is located at LE6 on the motherboard. LE6 blinking green indicates the system power is ready and the main power is on. Refer to the table below for more information.

PCH System Power LED	
LED Color	**Definition**
Green: Blinking	System ready (Main power on)
Red: Blinking	System not ready (Main power on)
Amber	Standby power on

Front Panel Power LED

A front panel power LED is located at LEDPWR on the motherboard. LEDPWR blinking green indicates the front panel power is on. Refer to the table below for more information.

Front Panel Power LED	
LED Color	**Definition**
Green:	Power on

4.6 Storage Ports

I-SATA 3.0 and S-SATA 3.0 Ports

This motherboard has 8 I-SATA 3.0 ports (I-SATA0~7) and 4 S-SATA ports (S-SATA0~3). These SATA ports are supported by the Intel® C621A chipset.

NVMe Connectors

Twelve NVMe connections on 6 SlimSAS NVMe ports (JNVME1~6) are located on the motherboard. Use these NVMe connections to attach high-speed PCIe storage devices.

M.2 Slots

The X12DPD-A6M25-P has one PCIe 3.0 x4 (SATA3 M.2 Slot1) and one PCIe 3.0 x1 (SATA3 M.2 Slot2). M.2 was formerly a 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 socket on the motherboard supports PSSD cards with 2280 and 22110 form factors.

Chapter 5

Software

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

5.1 Microsoft Windows OS Installation

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

Installing the OS

1. Create a method to access the MS Windows installation ISO file. That might be a DVD, perhaps using an external USB/SATA DVD drive, or a USB flash 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 **F**11 during the system startup.

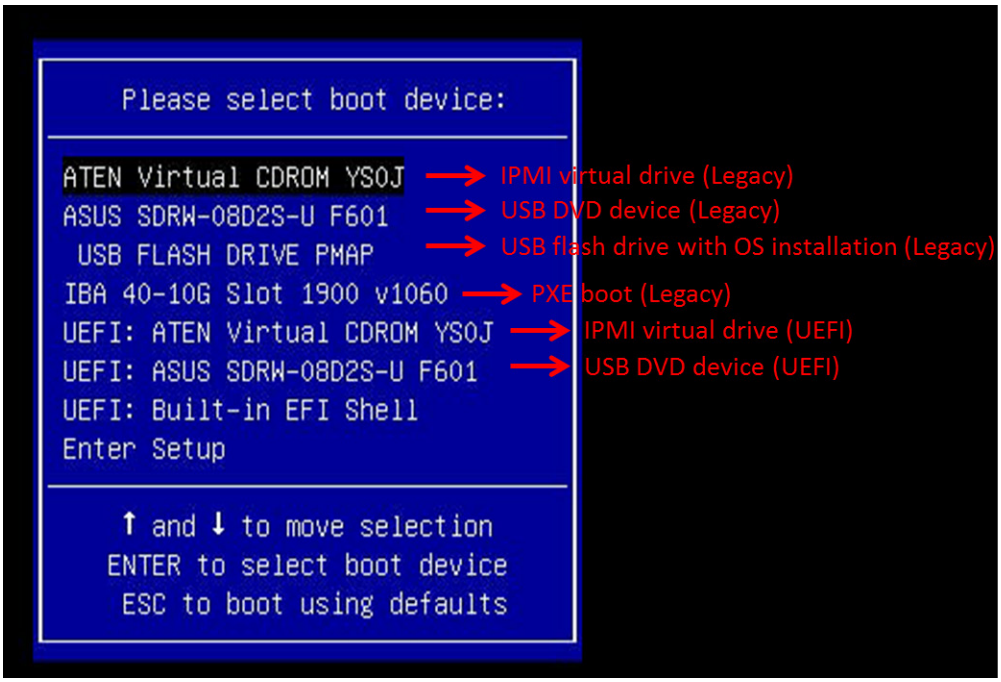


Figure 5-1. Select Boot Device

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

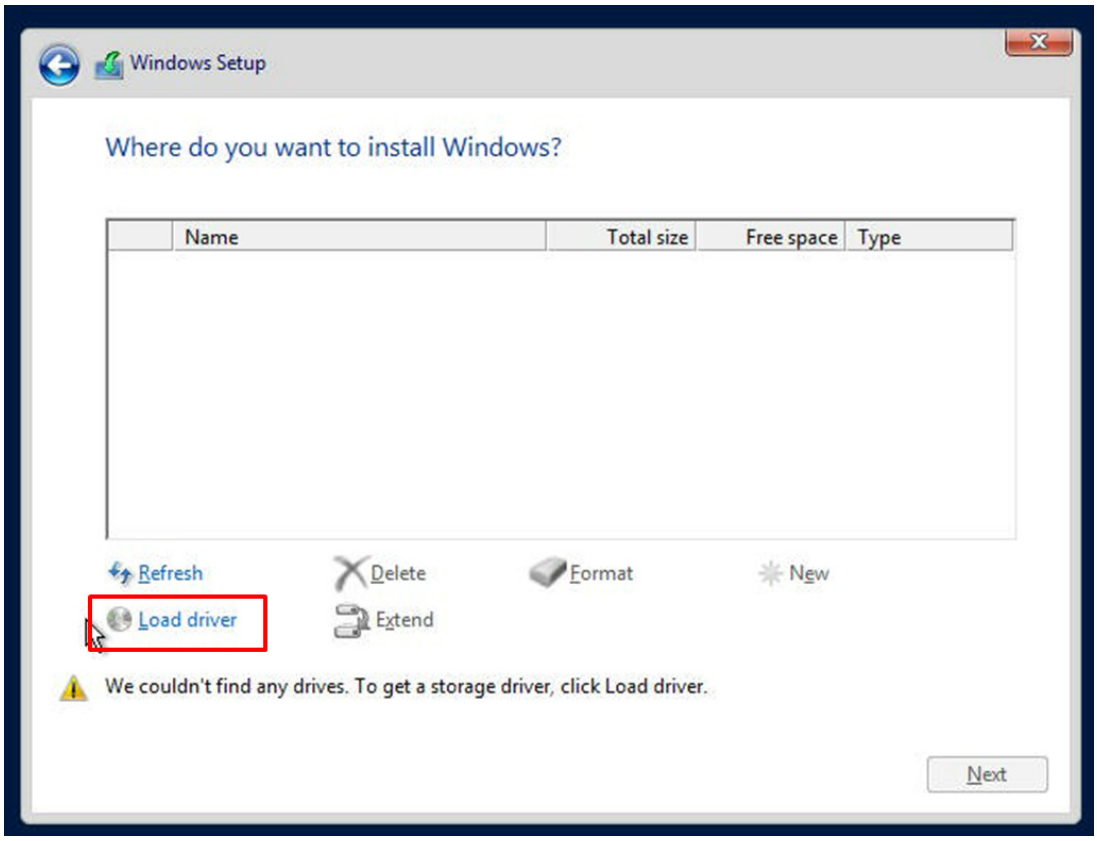


Figure 5-2. Load Driver Link

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

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

5. Once all devices are specified, continue with the installation.
6. After the Windows OS installation has completed, the system will automatically reboot multiple times.

5.2 Driver Installation

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

After accessing the website, go into the CDR_Images (in the parent directory of the above link) and locate the ISO file for your motherboard. Download this file to to a USB flash drive or a DVD. (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.

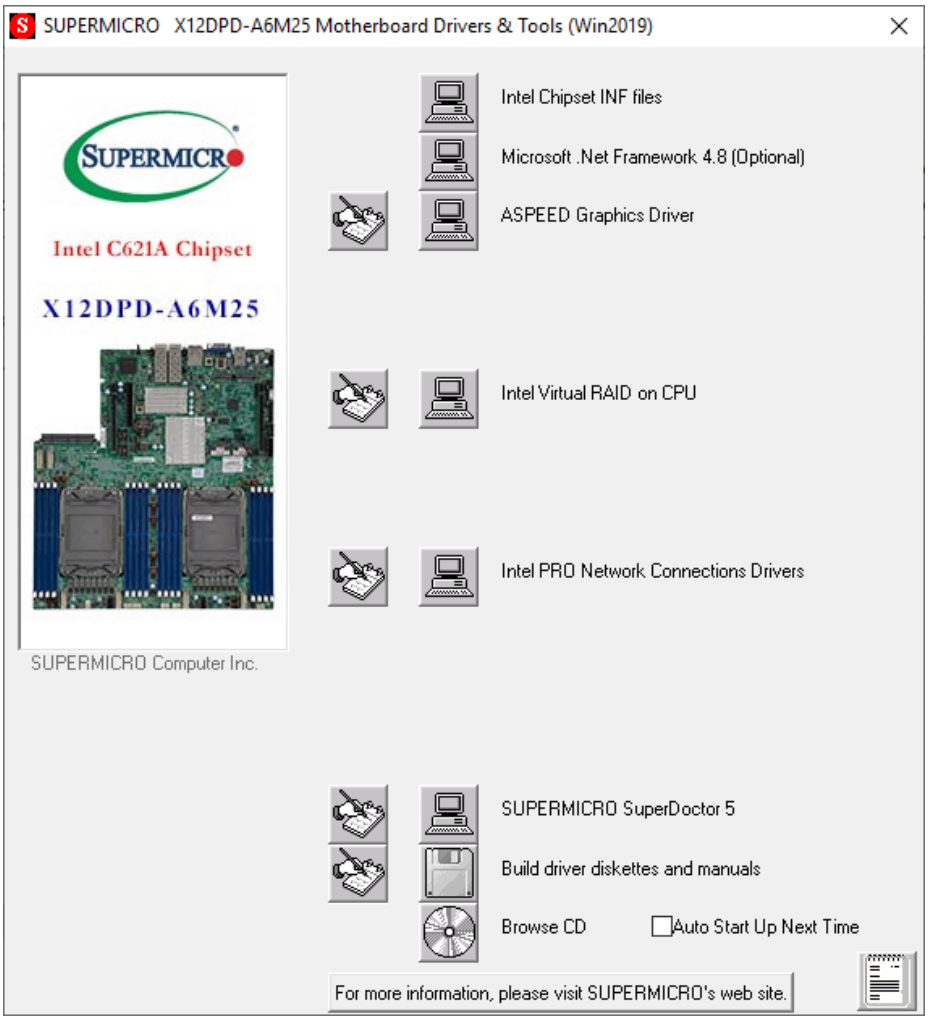


Figure 5-3. Driver & Tool Installation Screen

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

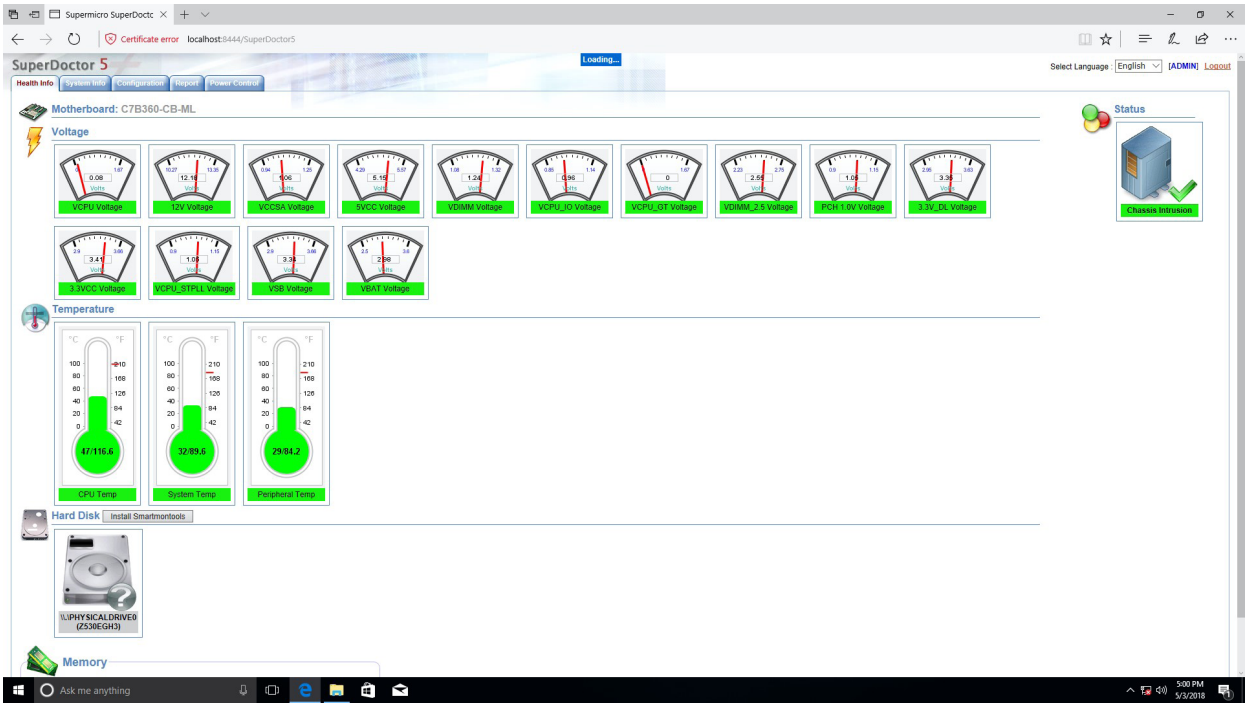


Figure 5-4. SuperDoctor 5 Interface Display Screen (Health Information)

5.4 BMC

The X12DPD-A6M25-P supports the Baseboard Management Controller interface (BMC). BMC provides remote access, monitoring and management tand other management controllers distributed among different system modules. There are several BIOS settings that are related to BMC.

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: SSG-610P-ACR12N4L	
Description	**Part Number**
M.2 Tray	MCP-220-12110-0N
Add-on Cards	AOC-VROCPREMOD
	AOC-VROCSTNMOD
Network Cards	AOC-S100G-m2C
	AOC-S25G-B2S
	AOC-S25G-M2S
	AOC-S100G-b2C
	AOC-S100GC-i2C
	AOC-STG-I4T
	AOC-STGF-I2S
	AOC-STGN-I2S
AIOM Cards	AOC-ATG-i2SM
	AOC-ATG-i4SM
	AOC-AH25G-m2S2TM
	AOC-A100G-b2CM
	AOC-A25G-b2SM
	AOC-ATG-i2TM
	AOC-ATG-i2T2SM
Software	SFT-OOB-LIC
	SFT-DCMS-Single

See Chapter 3 for the riser card installation procedure.

Optional Parts List: SSG-610P-ACR12N4L: SSG-610P-ACR12N4H	
Description	**Part Number**
M.2 Tray	MCP-220-12110-0N
Add-on Cards	AOC-VROCPREMOD
	AOC-VROCSTNMOD
Network Cards	AOC-S100G-m2C
	AOC-S25G-B2S
	AOC-S25G-M2S
	AOC-S100G-b2C
	AOC-S100GC-i2C
	AOC-STG-I4T
	AOC-STGF-I2S
	AOC-STGN-I2S
AIOM Cards	AOC-ATG-i2SM
	AOC-ATG-i4SM
	AOC-AH25G-m2S2TM
	AOC-A100G-b2CM
	AOC-A25G-b2SM
	AOC-ATG-i2TM
	AOC-ATG-i2T2SM
Software	SFT-OOB-LIC
	SFT-DCMS-Single
Cache Vault	BTR-CVPM05
	BKT-BBU-BRACKET-05

6.2 Add-on Cards

Add-on Card Options	
Part Number	**Description**
AOC-VROCPREMOD	PCIe Add-On Card for Intel's Virtual RAID on CPU (VROC)
AOC-VROCSTNMOD	PCIe Add-On Card for Intel's Virtual RAID on CPU (VROC)

6.3 Network Cards

Network Card Options	
Part Number	**Description**
AOC-S100G-m2C	Standard LP Mellanox ConnectX®-4 EN dual-port 100Gbps controller
AOC-S25G-B2S	Standard LP Broadcom BCM57414 dual-port 25Gbps controller
AOC-S25G-M2S	Standard LP Mellanox® ConnectX-4 Lx EN dual-port 25GbE adapter
AOC-S100G-b2C	Standard LP Broadcom BCM57508 dual-port 100Gbps controller
AOC-S100GC-i2C	Standard PCIe 4.0 x16 dual port 100GbE with QSFP28 based on Intel E810-CAM2
AOC-STG-I4T	Standard LP, 4x 10GBE RJ45, PCIe x8, Intel® XL710-BM1
AOC-STGF-I2S	Standard LP, 2x 10GbE SFP+, PCIe x8, Intel X710-BM2
AOC-STGN-i2S	Standard LP, 2x 10GbE SFP+, PCIe x8, Intel 82599ES

6.4 AIOM Cards

AIOM Card Options	
Part Number	**Description**
AOC-ATG-i2SM	AIOM dual-port 10GbE SFP+, based on X710-BM2 with 0.5U bracket
AOC-ATG-i4SM	AIOM quad-port 10GbE SFP+, based on Intel XL710-BM1 with 0.5U bracket
AOC-AH25G-m2S2TM	AIOM dual-port 25GbE SFP28 based on Mellanox CX-4 Lx EN, and dual-port 10GbeE RJ45 based on Intel X550-AT2 with 0.5U bracket
AOC-A100G-b2CM	AIOM dual-port 100GbE QSFP28, based on Broadcom BCM57508 with 0.5U bracket
AOC-A25G-b2SM	Advanced 25Gb Ethernet controller in Supermicro Advanced I/O Module (AIOM)
AOC-ATG-i2TM	Advanced 10Gb Ethernet controller in Supermicro Advanced I/O Module (AIOM)
AOC-ATG-i2T2SM	Advanced Intel® X710-TM4 controller for 2x RJ45 and 2x SFP+, 10Gbps ports in Supermicro Advanced I/O Module (AIOM)

6.5 Cache Vault

Add-on Card Options	
Part Number	**Description**
BTR-CVPM05	Broadcom 05-50039-00 CacheVault w/ 24" Remote Extender
BKT-BBU-BRACKET-05	Remote Mounting Bracket for LSI BBUs

6.6 Intel Virtual RAID on CPU (VROC)

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

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

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

Requirements and Restrictions

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

Supported SSDs and Operating Sytems

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

Additional Information

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

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

Hardware Key

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

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

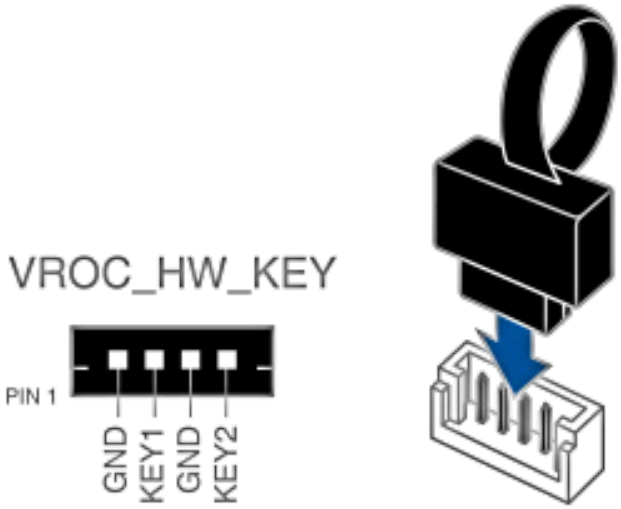


Figure 6-1. Intel® VROC RAID Key and Motherboard Connector JRK1

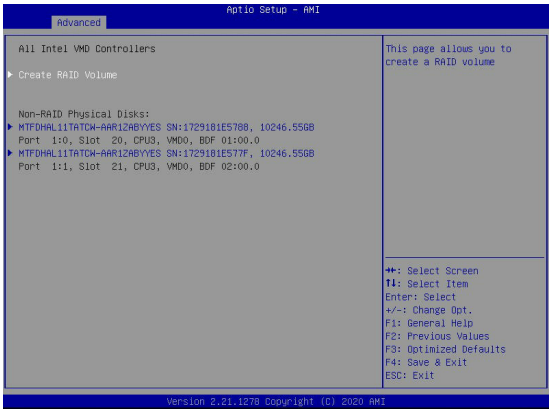
Enabling NVMe RAID

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

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

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

Figure 6-2. BIOS VMD Setting Examples



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

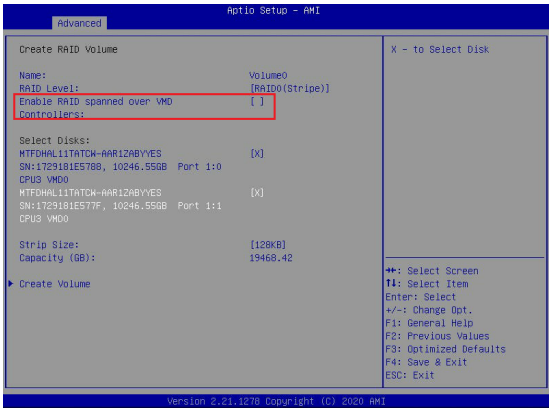


Figure 6-3. Created Volume *without* enabling RAID spanned over VMD Controller

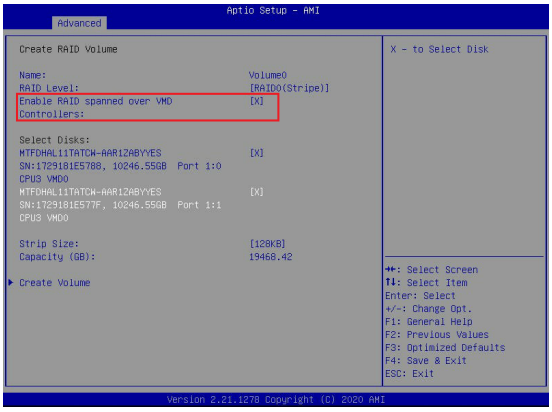


Figure 6-4. Created Volume *with* enabling RAID spanned over VMD Controller

Status Indications

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

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

IBPI SFF 8489 Defined Status LED States

Hot Swap Drives

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

Hot-unplug

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

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

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

Hot-plug

- Physically install the device.

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

Related Information Links

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

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

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

Chapter 7

Troubleshooting and Support

7.1 Information Resources

Website

A great deal of information is available on the Supermicro website, supermicro.com.

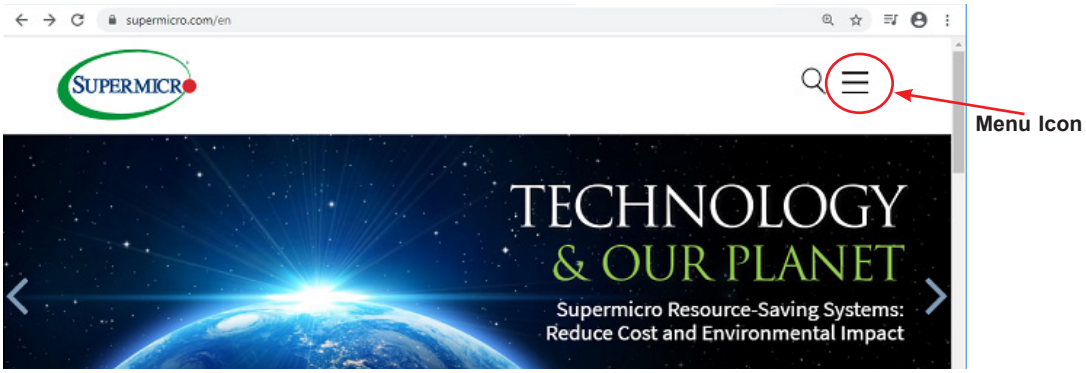


Figure 7-1. Supermicro Website

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

Direct Links for the SSG-610P-ACR12N4H/L System

SYS-SSG-610P-ACR12N4H/L specifications page

X12DPD-A6M25-P motherboard page for links to the Quick Reference Guide, User Manual, validated storage drives, etc.

Direct Links for General Support and Information

Frequently Asked Questions

Add-on card descriptions

TPM User Guide

General Memory Configuration Guide: X12

Direct Links (continued)

SuperDoctor5 Large Deployment Guide

For validated memory, see our Product Resources page

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

Security Center for recent security notices

Supermicro Phone and Addresses

7.2 Baseboard Management Controller Interface

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

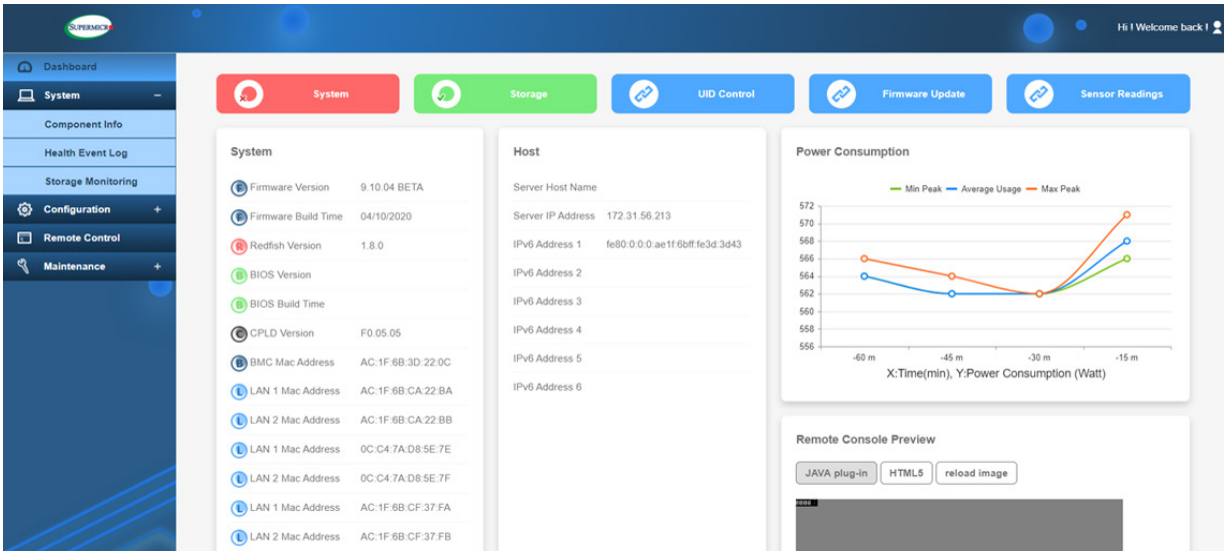


Figure 7-2. BMC Sample

7.3 Troubleshooting Procedures

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

No Power

1. As you try to power up the system, note any beep codes. Refer to the next section for details on beep codes.

2. Check that the power LED (LEDPWR) on the motherboard is on.

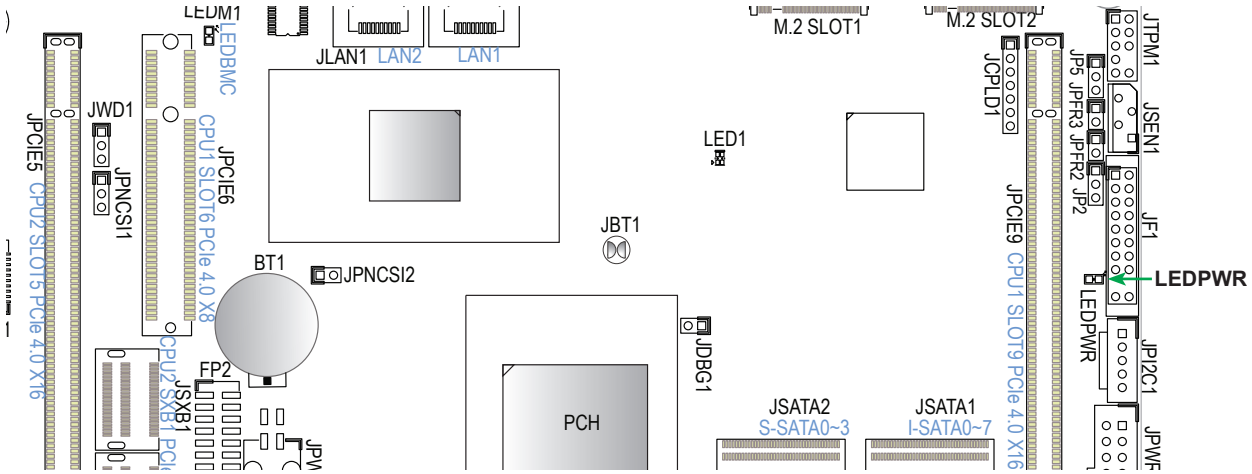


Figure 7-3. Location of the Power LED

3. Make sure that the power connector is connected to your power supply.

4. Make sure that no short circuits exist between the motherboard and chassis.

5. Disconnect all cables from the motherboard, including those for the keyboard and mouse.

6. Remove all add-on cards.

7. Install a CPU, a heatsink, connect the internal speaker (if applicable), and the power LED to the motherboard. Make sure that the heatsink is fully seated.

8. Use the correct type of onboard CMOS battery as recommended by the manufacturer. Check to verify that it still supplies ~3VDC. If it does not, replace it with a new one. **Warning**: To avoid possible explosion, do not install the battery upside down.

9. Verify that all jumpers are set to their default positions.

10. Check that the power supplies' input voltage operate at 100-120v or 180-240v.

11. Turn the power switch on and off to test the system

No Video

1. If the power is on but you have no video, remove all the add-on cards and cables.
2. As you try to power up the system, note any beep codes. Refer to the next section for details on beep codes.

System Boot Failure

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

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

Memory Errors

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

Losing the System's Setup Configuration

1. Make sure that you are using a high quality power supply. A poor quality power supply may cause the system to lose the CMOS setup information. .
2. The battery on your motherboard may be old. Check to verify that it still supplies ~3VDC. If it does not, replace it with a new one.
3. If the above steps do not fix the setup configuration problem, contact your vendor for repairs.

When the System Becomes Unstable

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

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

2. Memory support: Make sure that the memory modules are supported by testing the modules using memtest86 or a similar utility.

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

3. HDD support: Make sure that all hard disk drives (HDDs) work properly. Replace the bad HDDs with good ones.

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

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

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

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

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

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

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

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

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

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

7.4 BIOS Error Beep (POST) Codes

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

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

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

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

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

Additional BIOS POST Codes

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

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

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

7.5 Crash Dump Using BMC

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

Check BMC Error Log

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

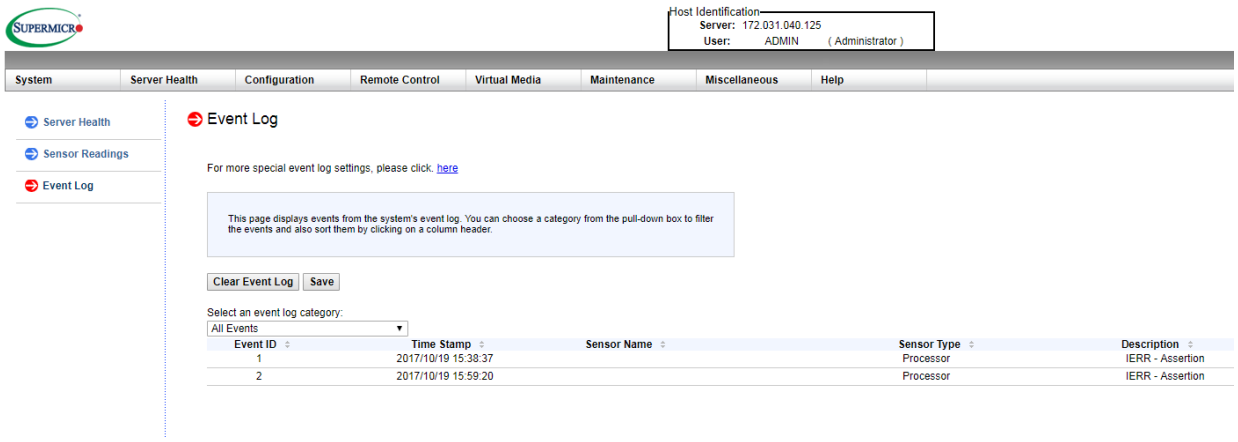


Figure 7-4. BMC Event Log

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

7.6 UEFI BIOS Recovery

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

Overview

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

Recovering the UEFI BIOS Image

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

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

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

Recovering the Main BIOS Block with a USB Device

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

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

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

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

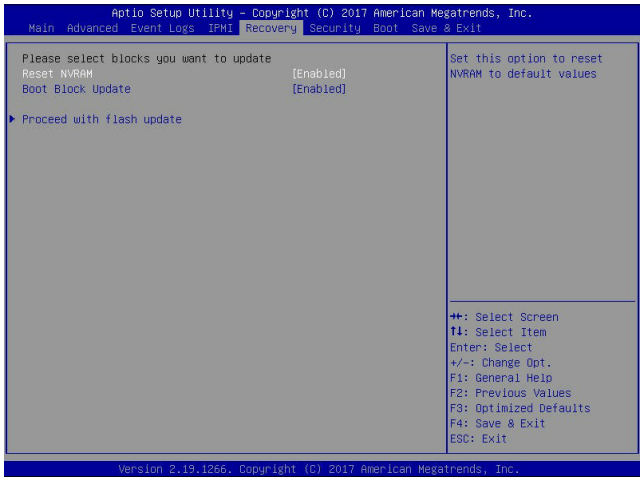
   Note 1: If you cannot locate the "Super.ROM" file in your drive disk, visit our website at www.supermicro.com to download the BIOS package. Extract the BIOS binary image into a USB flash device and rename it "Super.ROM" for the BIOS recovery use.

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

2. Insert the USB device that contains the new BIOS image ("Super.ROM") into your USB drive and reset the system when the following screen appears.

3. After locating the healthy BIOS binary image, the system will enter the BIOS Recovery menu as shown below.

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

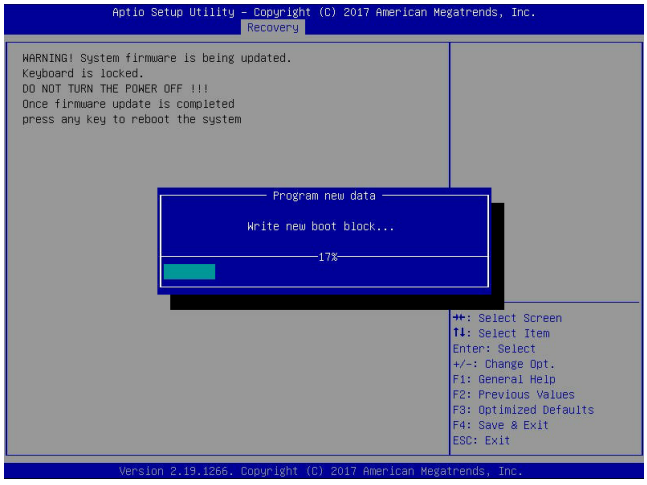


4. When the screen as shown above displays, use the arrow keys to select the item "Proceed with flash update" and press the <Enter> key. You will see the BIOS recovery progress as shown in the screen below.

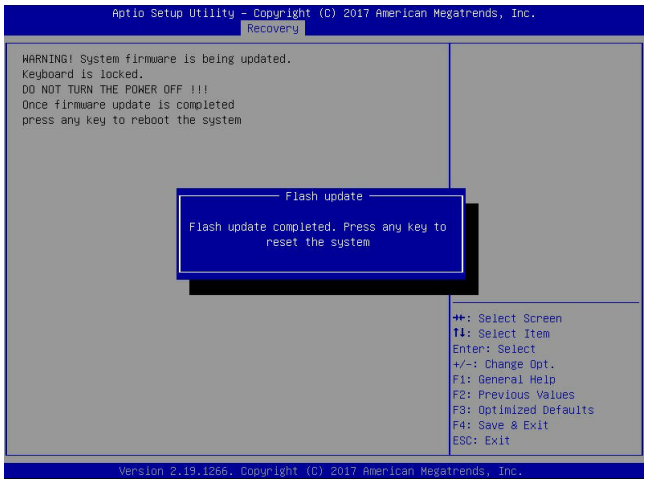
   Note: *Do not interrupt the BIOS flashing process until it has completed*.

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

6. Using a different system, extract the BIOS package into a USB flash drive.

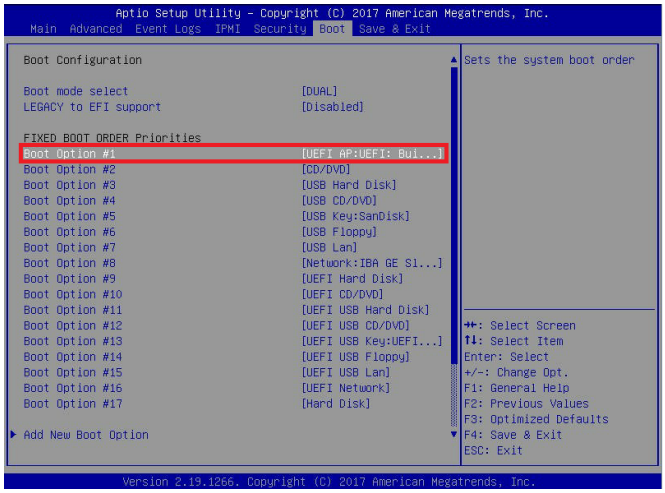


7. Press <Del> continuously during system boot to enter the BIOS Setup utility. From the top of the tool bar, select Boot to enter the submenu. From the submenu list, select Boot

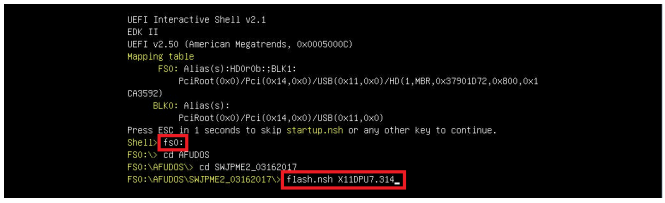


Option #1 as shown below. Then, set Boot Option #1 to [UEFI AP:UEFI: Built-in EFI Shell]. Press <F4> to save the settings and exit the BIOS Setup utility.

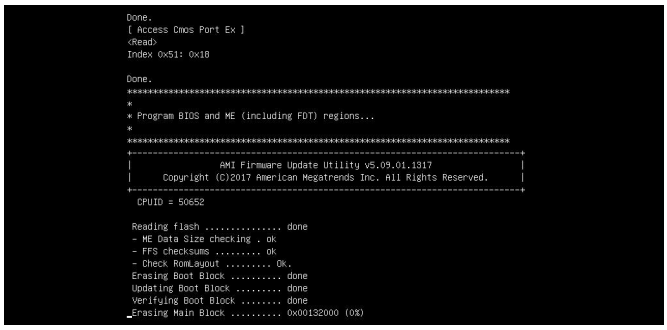
8. When the UEFI Shell prompt appears, type fs# to change the device directory path. Go to the directory that contains the BIOS package you extracted earlier from Step 6. Enter flash.nsh BIOSname.### at the prompt to start the BIOS update process.



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

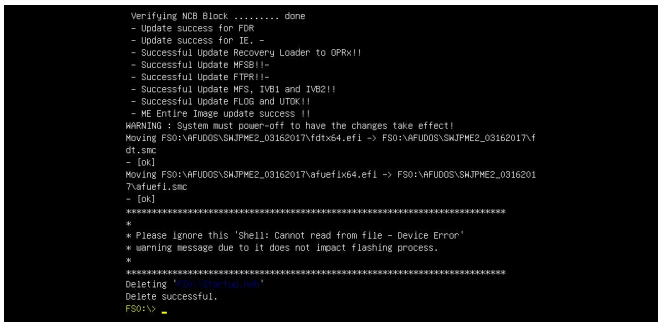


9. The screen above indicates that the BIOS update process is complete. When you see the screen above, unplug the AC power cable from the power supply, clear CMOS, and plug



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

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



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

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

7.7 CMOS Clear

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

To Clear CMOS

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

Notes: Clearing CMOS will also clear all passwords.

Do not use the PW_ON connector to clear CMOS.

JBT1 contact pads

7.8 Where to Get Replacement Components

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

7.9 Reporting an Issue

Technical Support Procedures

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

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

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

Returning Merchandise for Service

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

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

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

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

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

Vendor Support Filing System

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

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

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

7.10 Feedback

Supermicro values your feedback as we strive to improve our customer experience in all facets of our business. Please email us at documentfeedback@supermicro.com to provide feedback on our manuals.

7.11 Contacting Supermicro

Headquarters

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

Europe

Address:	Super Micro Computer B.V. Het Sterrenbeeld 28, 5215 ML 's-Hertogenbosch, The Netherlands
Tel:	+31 (0) 73-6400390
Fax:	+31 (0) 73-6416525
Email:	sales@supermicro.nl (General Information) support@supermicro.nl (Technical Support) rma@supermicro.nl (Customer Support)
Website:	www.supermicro.nl

Asia-Pacific

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

Appendix A

Standardized Warning Statements for AC Systems

About Standardized Warning Statements

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

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

These warnings may also be found on our website at http://www.supermicro.com/about/policies/safety_information.cfm.

Warning Definition

Warning! This warning symbol means danger. You are in a situation that could cause bodily injury. Before you work on any equipment, be aware of the hazards involved with electrical circuitry and be familiar with standard practices for preventing accidents.

警告の定義

この警告サインは危険を意味します。

人身事故につながる可能性がありますので、いずれの機器でも動作させる前に、

電気回路に含まれる危険性に注意して、標準的な事故防止策に精通して下さい。

此警告符号代表危险。

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

此警告符號代表危險。

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

Warnung

WICHTIGE SICHERHEITSHINWEISE

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

BEWAHREN SIE DIESE HINWEISE GUT AUF.

INSTRUCCIONES IMPORTANTES DE SEGURIDAD

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

GUARDE ESTAS INSTRUCCIONES.

IMPORTANTES INFORMATIONS DE SÉCURITÉ

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

CONSERVEZ CES INFORMATIONS.

תקנון הצהרות אזהרה

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

יש לקרוא את הנספח במלואו לפני התקנת או הגדרת הרכיבים במארזי סופרמיקרו.

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

안전을 위한 주의사항

경고!

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

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

BELANGRIJKE VEILIGHEIDSINSTRUCTIES

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

BEWAAR DEZE INSTRUCTIES

Installation Instructions

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

設置手順書

システムを電源に接続する前に、設置手順書をお読み下さい。

警告

将此系统连接电源前,请先阅读安装说明。

警告

將系統與電源連接前，請先閱讀安裝說明。

Warnung

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

¡Advertencia!

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

Attention

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

יש לקרוא את הוראות התקנה לפני חיבור המערכת למקור מתח.

اقر إرشادات التركيب قبل توصيل النظام إلى مصدر للطاقة

시스템을 전원에 연결하기 전에 설치 안내를 읽어주십시오.

Waarschuwing

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

Circuit Breaker

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

サーキット・ブレーカー

この製品は、短絡（過電流）保護装置がある建物での設置を前提としています。

保護装置の定格が250 V、20 Aを超えないことを確認下さい。

警告

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

警告

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

Warnung

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

¡Advertencia!

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

Attention

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

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

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

경고!

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

Waarschuwing

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

Power Disconnection Warning

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

電源切断の警告

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

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

警告

在你打开机箱并安装或移除内部器件前,必须将系统完全断电,并移除电源线。

警告

在您打開機殼安裝或移除內部元件前，必須將系統完全斷電，並移除電源線。

Warnung

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

¡Advertencia!

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

Attention

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

אזהרה מפני ניתוק חשמלי

!אזהרה

יש לנתק את המערכת מכל מקורות החשמל ויש להסיר את כבל החשמלי מהספק

.לפני גישה לחלק הפנימי של המארז לצורך התקנת או הסרת רכיבים

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

انطاقت قبم

انصل إنى انمناطق انداخهيت نههيكم نتثبيج أو إزانت مكناث الجهاز

경고!

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

Waarschuwing

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

Equipment Installation

Warning! Only trained and qualified personnel should be allowed to install, replace, or service this equipment.

機器の設置

トレーニングを受け認定された人だけがこの装置の設置、交換、またはサービスを許可されています。

警告

只有经过培训且具有资格的人员才能进行此设备的安装、更换和维修。

警告

只有經過受訓且具資格人員才可安裝、更換與維修此設備。

Warnung

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

¡Advertencia!

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

Attention

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

אזהרה!

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

والمدربيه لتزكيب واستبدال أو خدمة هذا الجهاس يجب أن يسمح فقط للمظفيه المؤهليه

경고!

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

Waarschuwing

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

Restricted Area

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

アクセス制限区域

このユニットは、アクセス制限区域に設置されることを想定しています。

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

警告

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

警告

此裝置僅限安裝於進出管制區域，進出管制區域係指僅能以特殊工具、鎖頭及鑰匙或其他安全方式才能進入的區域。

Warnung

Diese Einheit ist zur Installation in Bereichen mit beschränktem Zutritt vorgesehen. Der Zutritt zu derartigen Bereichen ist nur mit einem Spezialwerkzeug, Schloss und Schlüssel oder einer sonstigen Sicherheitsvorkehrung möglich.

¡Advertencia!

Esta unidad ha sido diseñada para instalación en áreas de acceso restringido. Sólo puede obtenerse acceso a una de estas áreas mediante la utilización de una herramienta especial, cerradura con llave u otro medio de seguridad.

Attention

Cet appareil doit être 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 انحذة نترك بُها ف مناطق محظورة تم .
،مَكن انصبل إن منطقت محظورة فقط من خلال استخذاو أداة خاصت
أو أ وس هُت أخري نلالأمما قفم ومفتاح

경고!

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

Waarschuwing

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

Battery Handling

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

電池の取り扱い

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

警告

电池更换不当会有爆炸危险。请只使用同类电池或制造商推荐的功能相当的电池更换原有电池。请按制造商的说明处理废旧电池。

警告

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

Warnung

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

Attention

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

¡Advertencia!

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

!אזהרה

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

هناك خطر من انفجار في حالة اسحبذال البطارية بطريقة غير صحيحة فعليل
اسحبذال البطارية
فقط بنفس النبع أو ما يعادلها مما أوصث به الشرمة المصنعة
جخلص من البطاريات المسحعملة وفقا لحعليمات الشرمة الصانعة

경고!

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

Waarschuwing

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

Redundant Power Supplies

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

冗長電源装置

このユニットは複数の電源装置が接続されている場合があります。

ユニットの電源を切るためには、すべての接続を取り外さなければなりません。

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

警告
此裝置連接的電源可能不只一個，必須切斷所有電源才能停止對該裝置的供電。

Warnung

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

¡Advertencia!

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

Attention

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

אם קיים יותר מספק אחד

אזהרה!

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

قد يكون لهذا الجهاز عدة اتصالات بوحدات امداد الطاقة .

يجب إزالة كافة الاتصالات لعسل الوحدة عن الكهرباء

경고!

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

Waarschuwing

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

Backplane Voltage

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

バックプレーンの電圧

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

修理する際には注意ください。

警告

当系统正在进行时，背板上有很危险的电压或能量，进行维修时务必小心。

警告

當系統正在進行時，背板上有危險的電壓或能量，進行維修時務必小心。

Warnung

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

¡Advertencia!

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

Attention

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

מתח בפנל האחורי

אזהרה!

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

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

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

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

Comply with Local and National Electrical Codes

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

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

警告
设备安装必须符合本地与本国电气法规。

警告
設備安裝必須符合本地與本國電氣法規。

Warnung
Die Installation der Geräte muss den Sicherheitsstandards entsprechen.

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

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

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

تركيب المعدات الكهربائية يجب أن يمتثل للقاويه المحلية 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 القانين واللائح البطنية عند

경고!

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

Waarschuwing

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

Hot Swap Fan Warning

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

ファン・ホットスワップの警告

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

警告!

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

警告

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

Warnung

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

¡Advertencia!

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

Attention

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

אזהרה!

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

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

경고!

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

Waarschuwing

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

Power Cable and AC Adapter

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

電源コードとACアダプター

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

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

警告

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

警告

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

Warnung

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

¡Advertencia!

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

Attention

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

AC ימאתמו סיילמשח סילבכ

!הרהזא

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

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

전원 케이블 및 AC 어댑터

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

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

Stroomkabel en AC-Adapter

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

Appendix B

System Specifications

Processors

Dual 3rd Generation Intel® Xeon® Scalable processorss in an LGA4189 socket; UPI up to 10.4GT/s; supports CPU TDP up to 270W
Note: Refer to the motherboard specifications pages on our website for updates to supported processors.

Chipset

Intel® C621A®

BIOS

AMI 128Mb SPI Flash EEPROM

Memory

Sixteen DIMM slots for up to 4TB 3DS ECC DDR4-3200/2933/2666/2400 RDIMM/LRDIMM or 18TB Intel® Optane™ DDR4-2666:DCPMM, RDIMM/LRDIMM//DCPMM
Note: Intel Optane PMem 200 Series supported by 3rd Gen Intel Xeon Scalable Processors (83xx/63xx/53xx Series) only.

Storage Drives

SSG-610P-ACR12N4L: 12 hot-swap 3.5” SAS3/SATA3 drive bays with AOM-S324-DPD-L, IT mode
SSG-610P-ACR12N4H: 12 hot-swap 3.5” SAS3/SATA3 drive bays with AOC-S3916L-H16IR-32DD+, IR mode
Four EDSSF (PCIe 4.0)
Two 2.5” 7mm NVMe/SATA drive bays
Two onboard M.2 NVMe/SATA slots (22x80mm)

PCI Expansion Slots

One PCIe 4.0 x8 slot supported by CPU1
One PCIe 4.0 x16 slot supported by CPU1
One PCIe 4.0 x16 AIOM slot supported by CPU1
One PCIe 4.0 x16 slot supported by CPU2

Input/Output

Network: Two 25G SFP+ ports with Mellanox CX-4
Video: One VGA port
COM: One via Micro USB port

Motherboard

Model: X12DPD-A6M25-P: W x L: 12" x 13" (305 mm x 330)
Form Factor: EATX

Chassis

CSE-802ETS-R804AMP; 1U Rackmount, W x H x D: 17.6" x 1.7" x 37" (447 x 43 x 940mm)

System Cooling

Six 4-cm counter-rotating PWM fans

Power Supply

Model: PWS-804P-1R (two power modules for redundancy)
AC Input Voltages: 100-240 VAC
Rated Input Current: 7.5-3.5A
Rated Input Frequency: 50-60 Hz
Rated Output Power: 800W
Rated Output Voltages: 50A (+12V)

Operating Environment

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

Regulatory Compliance

FCC, ICES, CE, VCCI, RCM, UKCA, 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 24/CISPR 35
BS/EN 61000-3-2
BS/EN 61000-3-3
BS/EN 61000-4-2
BS/EN 61000-4-3
BS/EN 61000-4-4
BS/EN 61000-4-5
BS/EN 61000-4-6
BS/EN 61000-4-8
BS/EN 61000-4-11

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

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

Perchlorate Warning

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