

GrandTwin A+ Server®

AS -2116GT-HNTF

USER'S MANUAL

Revision 1.0a MNL-2777

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Preface

About This Manual

This manual is written for professional system integrators and PC technicians. It provides information for the installation and use of the AS -2116GT-HNTF server. Installation and maintenance should be performed by certified service technicians only.

Notes

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

- Supermicro product manuals: https://www.supermicro.com/support/manuals
- Product drivers and utilities: https://www.supermicro.com/wdl
- Product safety info: https://www.supermicro.com/about/policies/safety_information.cfm
- 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
- Frequently Asked Questions: https://www.supermicro.com/FAQ/index.php
- If you still have questions after referring to our FAQs, contact our support team. Region-specific Technical Support email addresses can be found at: "Contacting Supermicro" on page 10
- If you have any feedback on Supermicro product manuals, contact our writing team at: Techwriterteam@supermicro.com

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

Conventions Used in the Manual

Special attention should be given to the following symbols for proper installation and to prevent damage done to the components or injury to yourself.



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



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



Warning! Indicates hazardous moving parts may be encountered while handling a fan or components near a fan.

Important: Important information given to ensure proper server installation or to relay safety precautions.

Note: Additional information given to differentiate various models or to provide information for proper server setup.

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Chapter 1:

Introduction

This chapter provides a brief outline of the functions and features of the AS -2116GT-HNTF system. It is based on the H14SST-G motherboard and the CSE-GT214BF-R2K21BP2 chassis.

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1.1 Overview

This chapter provides a brief outline of the functions and features of the GrandTwin A+ Server AS -2116GT-HNTF. The following provides an overview of the specifications and capabilities.

System Overview	
Motherboard	H14SST-G
Chassis	CSE-GT214BF-R2K21BP2
Processor	Single Dual AMD EPYC™ 9004/9005-series processor in SP5 sockets and a thermal design power (TDP) rating up to 400 W **Note:** The TDP rating depends on thermal validation and the system configuration. Contact a Supermicro representative for details.
Memory	Slot Count: 16 DIMM slots Max Memory (1 DPC): Up to 2 TB of ECC DDR5 RDIMM memory per node with speeds of up to 5200 MT/s (AMD EPYC™ 9005-series processor) Max Memory (1 DPC): Up to 2 TB of ECC DDR5 RDIMM memory per node with speeds of up to 4800 MT/s (AMD EPYC™ 9004-series processor) Max Memory (2 DPC): Up to 4 TB of ECC DDR5 RDIMM memory per node with speeds of up to 4400 MT/s (AMD EPYC™ 9005-series processor) Max Memory (2 DPC): Up to 4 TB of ECC DDR5 RDIMM memory with speeds of up to 4000 MT/s (AMD EPYC™ 9004-series processor) **Note:** Check "Memory Support and Installation" on page 47 for details.
Drive Support	Four front hot-swap 2.5" NVMe/SATA drive bays per node Two M.2 NVMe/SATA slots (M-key) per node
Expansion Slots	One PCIe 5.0 x16 AIOM slot per node (optional: OCP 3.0 compatible, additional components required)
I/O Ports	LAN: One RJ45 dedicated BMC LAN port per node USB: Two USB 3.0 ports per node Video: One VGA port per node
System Cooling	One air shroud per node Two 17.6K RPM heavy-duty 8-cm fans
Power	Two 2200 W redundant (1+1) Titanium Level (96%) power supplies **Note:** Full redundancy of the power supply is based on configuration and application load.
Form Factor	2U rackmount; (WxHxD) 17.67" x 3.46" x 28" (449 x 88 x 711.2 mm)

Notes:

- A Quick Reference Guide can be found on the following page of the Supermicro website:

  https://www.supermicro.com/en/products/system/mainstream/2u/as-2116gt-hntf

- The following safety models associated with the AS -2116GT-HNTF have been certified as compliant with UL or CSA: GT214BF-R22H14, GT214BF-R30H14 or GT214BF-4N.

1.2 System Features

The following views of the system display the main features. Refer to the System Specifications appendix of this manual for additional specifications.

Front View

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

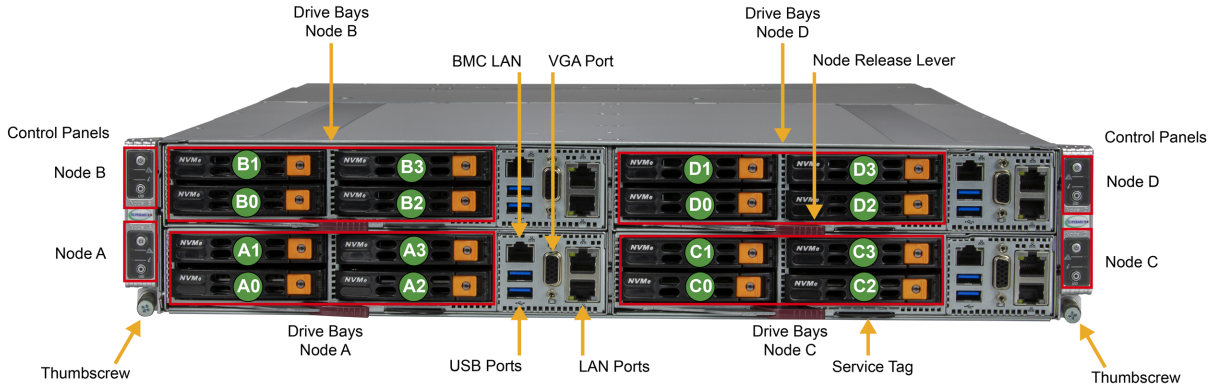


Figure 1-1. Front View, with Features Labeled

System Features: Front	
Feature	**Description**
Control Panels	Four labeled control panels (one per node) Node A is located on the bottom left, node B is on the top left, node C is on the bottom right, and node D is on the top right.
Service Tag	Four pull-out service tags with BMC password labels (one per node)
Drive Bays	16 hot-swappable drive bays (four per node) (optional)
BMC LAN Port	Four BMC dedicated LAN ports (one per node)
USB Ports	Eight USB 3.0 ports (two per node)
VGA Ports	Four video ports (one per node)
LAN Ports	LAN integrated network connections (LAN port quantity dependent on GrandTwin I/O configuration)
Node Release Lever	Four levers supporting node tray removal (one per node)
Thumbscrews	Two thumbscrews to secure the server onto the rack

Control Panel

The AS -2116GT-HNTF features four control panels, one for each node:

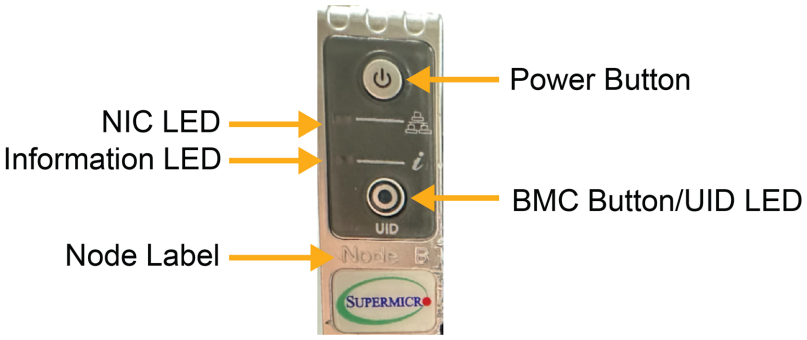


Figure 1-2. Front Control Panel (Per Node)

Control Panel Features	
Feature	**Description**
Power Button	Applies or removes primary power from the power supply to the server but maintains standby power
NIC LED	Indicates network activity on the LAN when flashing
Information LED	Provides universal information about the node (see the Information LED below for details)
BMC Button/ UID LED	BMC button: Resets the BMC firmware when pressed Unit Identification (UID) LED: Powers the blue light of the Information LED and a blue LED on the rear of the chassis; used to locate the server in large racks and server banks
Node Label	Identifies the node connected to the control panel Nodes A and C: Labels are above their control panel Nodes B and D: Labels are below their control panel

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

Rear View

The illustration below shows the features on the rear of the AS -2116GT-HNTF chassis.

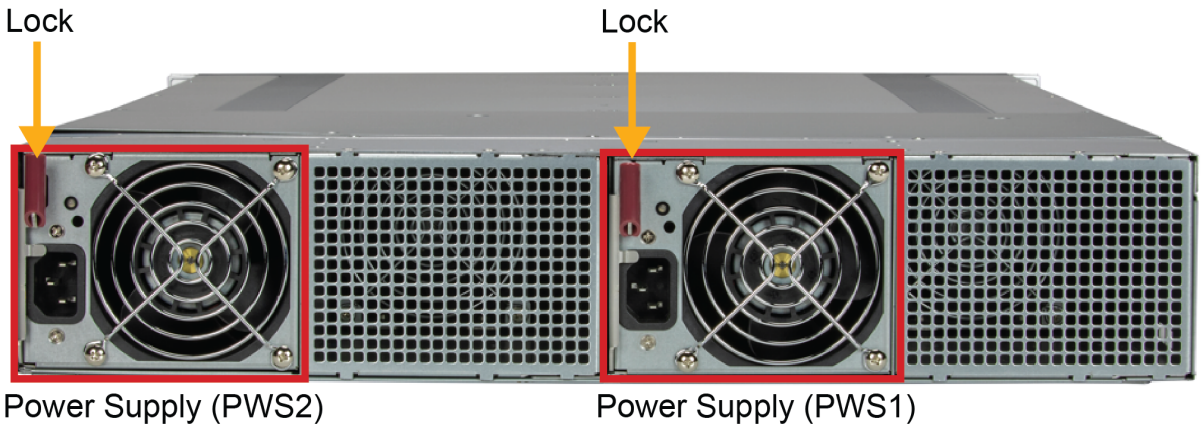


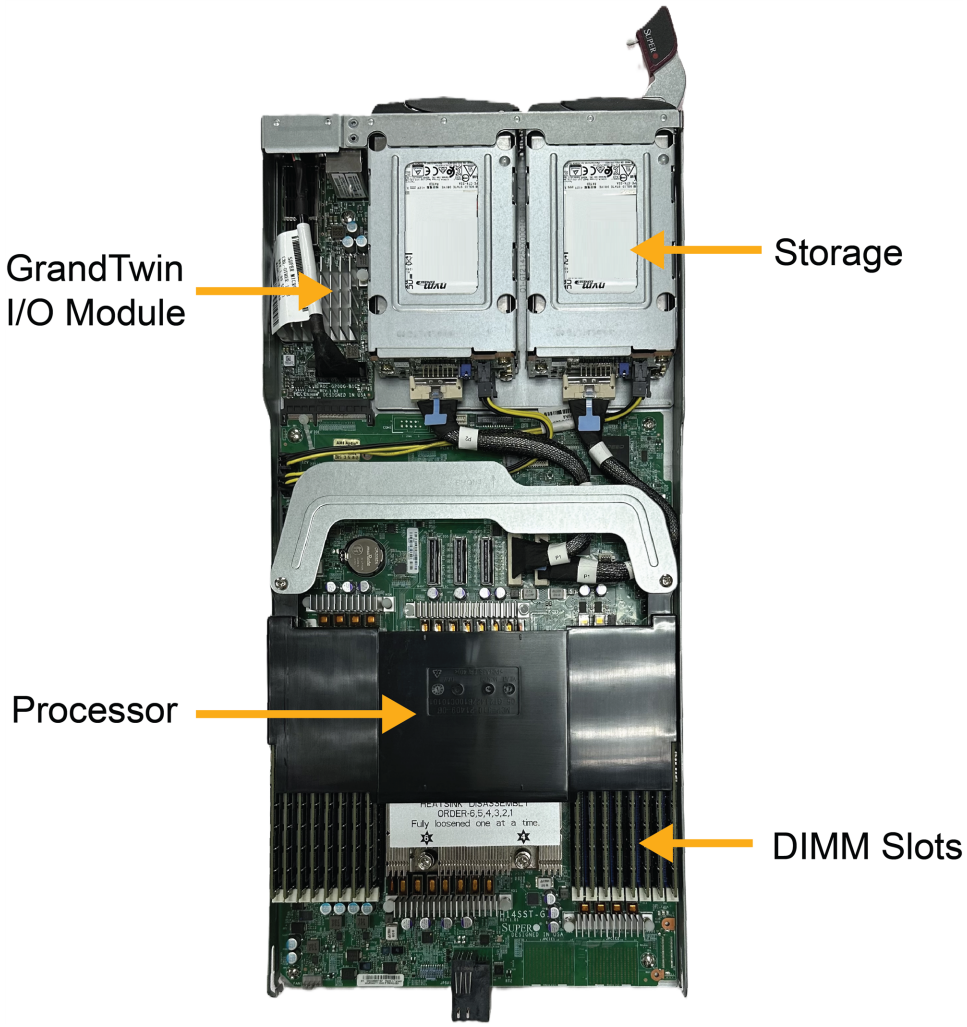
Figure 1-3. Chassis Rear View

System Features: Rear	
Feature	**Description**
Power Supply	Two 2200 W Titanium Level (96%) power supply modules PWS2 is located on the left and PWS1 is on the right

1.3 System Architecture

This section covers the locations of the system's main components and provides a motherboard block diagram.

Main Components



System Features: Top	
GrandTwin I/O Module	One GrandTwin I/O module
Storage	SATA/NVMe backplane
Processor	One AMD EPYC™ 9005/9004 series processor
DIMM Slots	16 DIMM slots

System Block Diagram

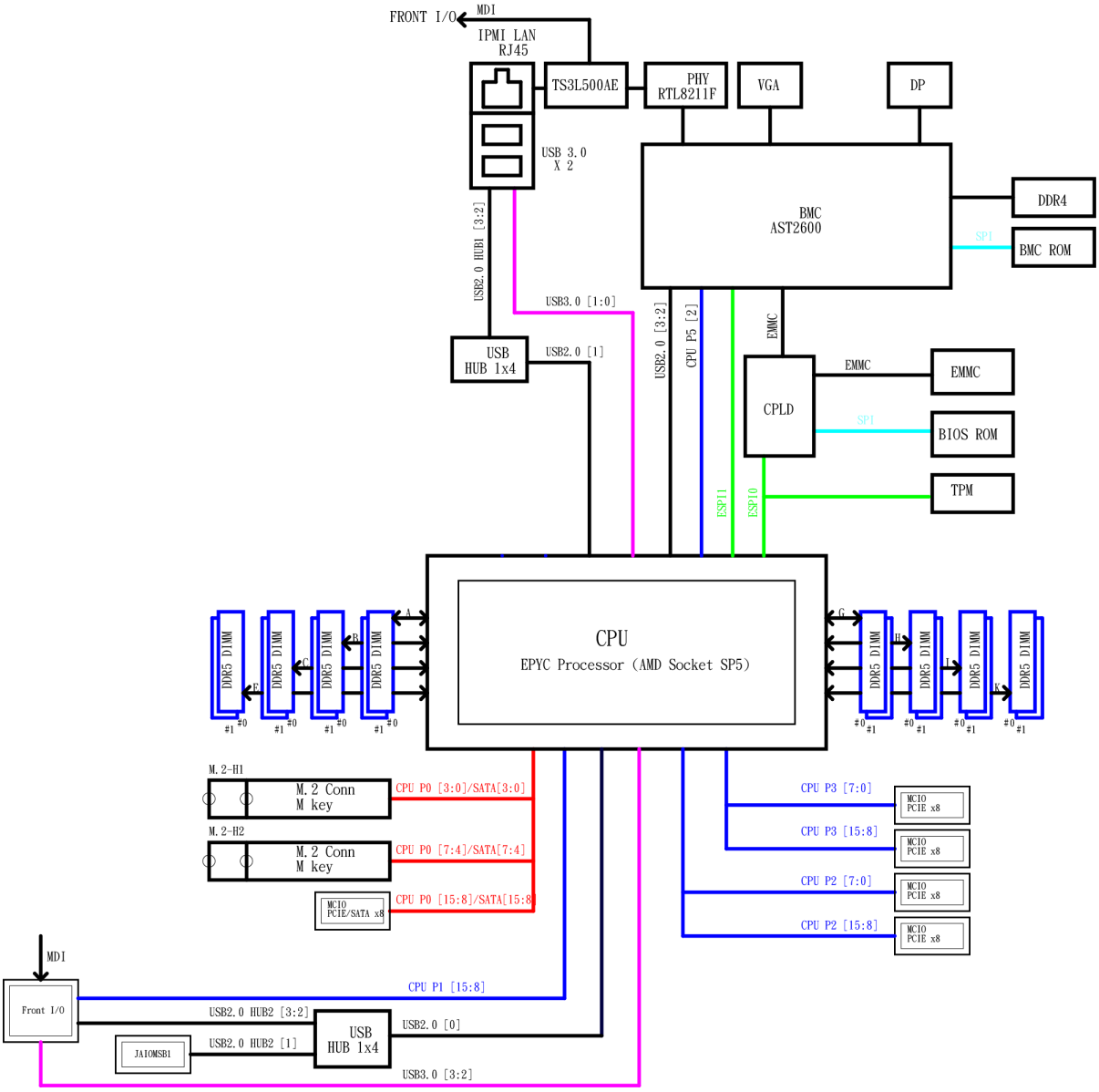


Figure 1-4. System Block Diagram

1.4 Motherboard Quick Reference

For details on the H14SST-G motherboard layout and other quick reference information, refer to the content below.

Motherboard Layout

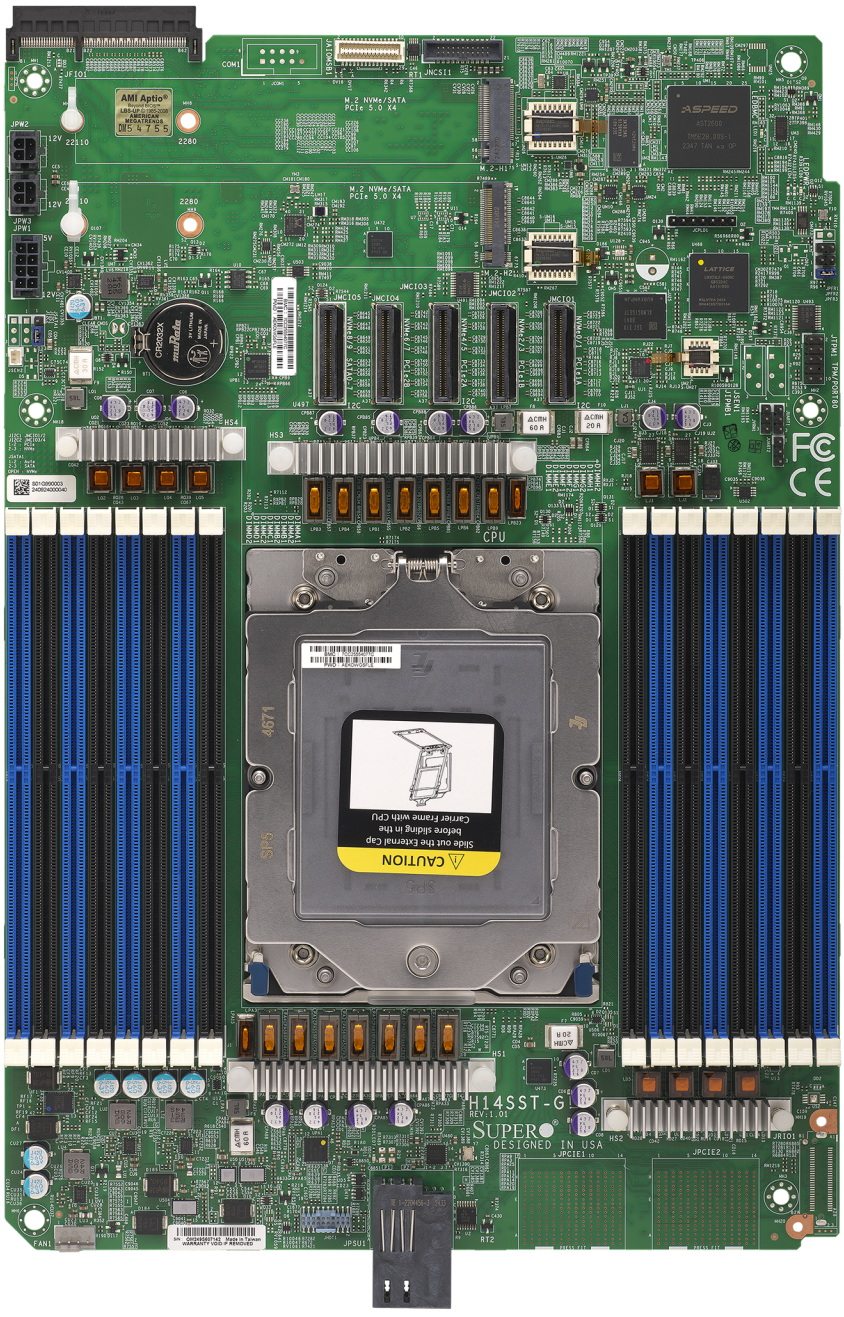


Figure 1-5. H14SST-G Motherboard Image

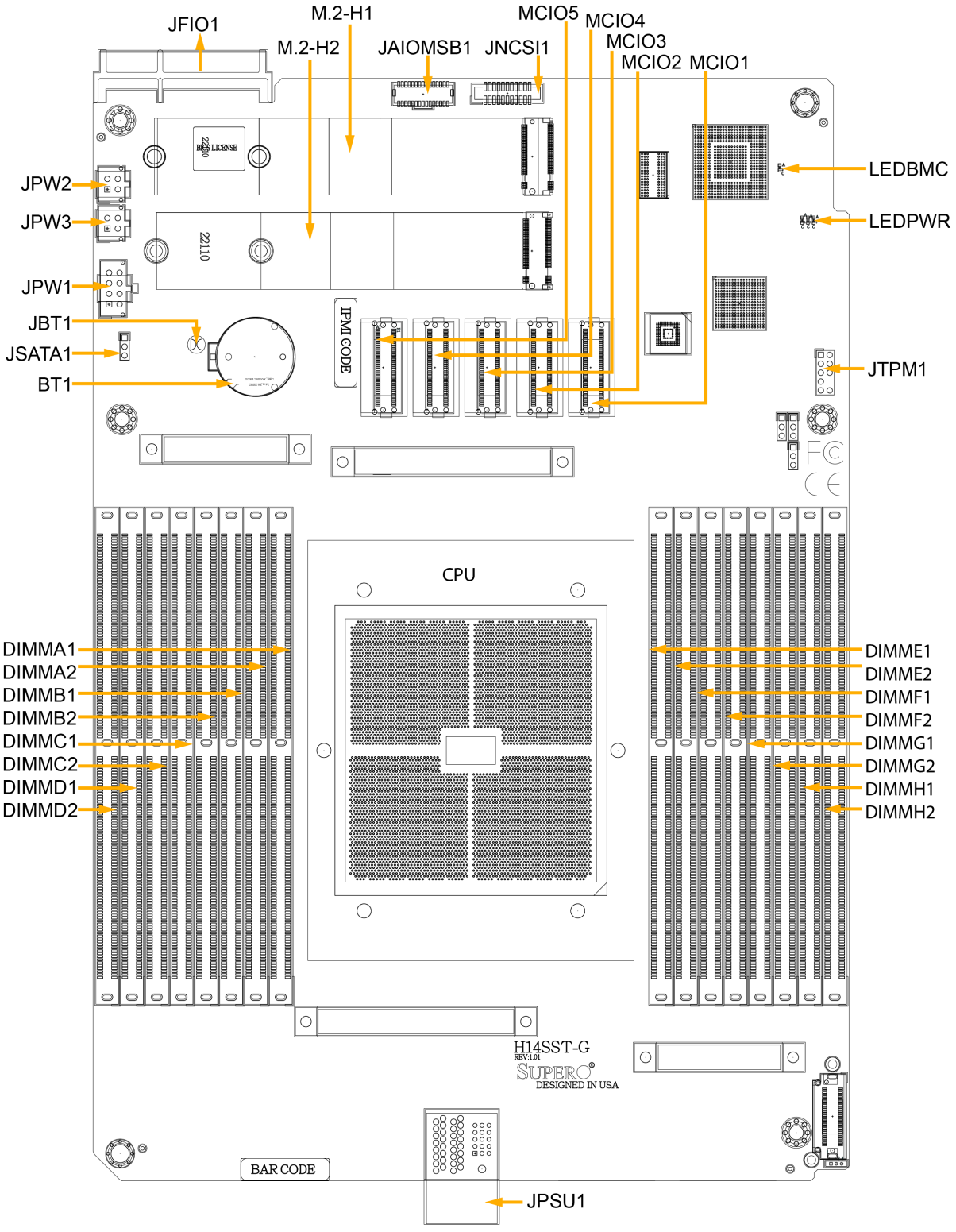


Figure 1-6. H14SST-G Motherboard Layout

Notes:

- For detailed information on jumpers, connectors, and LED indicators, see "Maintenance and Component Installation" on page 32.
- "■" indicates the location of pin 1.
- "MH" indicates the location of a mounting hole.
- Components not documented are for internal testing purposes only.
- Use only the correct type of onboard CMOS battery as specified by the manufacturer. To avoid possible explosion, do not install the onboard battery upside down.

Quick Reference Table

Jumper	Description	Default Setting
JBT1	CMOS Clear	Open (Normal)
JSATA1	Hybrid MCIO select	Pins 2-3 (SATA)

LED	Description	Status
LEDBMC	BMC Heartbeat LED	Green Blinking: BMC Normal Green Blinking Fast: BMC Initializing
LEDPWR	Power LED	Solid Green: Power On

Connector	Description
BT1	Onboard Battery
DIMMA1-DIMMD2	Memory Slots
DIMME1-DIMMH2	Memory Slots
JAIOMSB1	Sideband Signals Header
JFIO1	Grand Twin Front IPMI and Onboard NIC Module Connector
JMCIO1-JMCIO5	MCIO Connectors
JNCSI1	NCSI Connector
JPSU1	Power Supply Module Connector
JPW1	12 V / 5 V 8-pin Power Connector for SATA Backplane
JPW2-JPW3	12 V 4-pin Power Connectors for NVMe BackPlane, AIOM Adapter and internal PCIe Riser Card
JSATA1	Signal Switch for MCIO5 (SATA or NVMe)
JTPM1	Trusted Platform Module/Port 80 Connector
M.2-H1, M.2-H2	M.2 NVMe or SATA SSDs

Chapter 2:

Server Installation

This chapter provides advice and instructions for mounting your server in a server rack. If your server is not already fully integrated with processors, system memory, etc., refer to "Maintenance and Component Installation" on page 32 for details on installing those specific components.

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

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2.1 Unpacking the System

Inspect the box the AS -2116GT-HNTF server was shipped in 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 "Standardized Warning Statements for AC Systems" on page 108.

2.2 Preparing for Setup

The box in which the AS -2116GT-HNTF server was shipped should include the rackmount hardware needed to install it into the rack. Read this section in its entirety before you begin the installation.

Choosing a Setup Location

- The server 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.

System Precautions

- Review the electrical and general safety precautions in "Standardized Warning Statements for AC Systems" on page 108.
- 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



Warning! Stability hazard. The rack may tip over causing serious personal injury. Before extending the rack to the installation position, read the installation instructions. Do not put any load on the slide-rail mounted equipment in the installation position. Do not leave the slide-rail mounted equipment in the installation position.



Avertissement!
Danger d'instabilité. Le rack peut basculer et provoquer des blessures corporelles graves.
Avant d'étendre le rack en position d'installation, lire les instructions d'installation. Ne pas charger l'équipement monté sur rail de glissière en position d'installation. Ne pas laisser l'équipement monté sur rail de glissière en position d'installation.

Important: 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:

- If this unit is the only unit in the rack, it should be mounted at the bottom of the rack.
- When mounting this unit in a partially filled rack, load the rack from the bottom to the top, placing 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 workspace.
- Do not pick up the server with the front handles. They are designed to pull the system from a rack only.

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.).

2.3 Installing the Rails

This section provides information on installing the chassis into a rack unit with the rails provided. There are a variety of rack units on the market, which may mean that the assembly procedure will differ slightly from the instructions provided. You should also refer to the installation instructions that came with the rack unit you are using.

Note: This rail will fit a rack between 28" and 33.5" deep.

Identifying the Rails

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

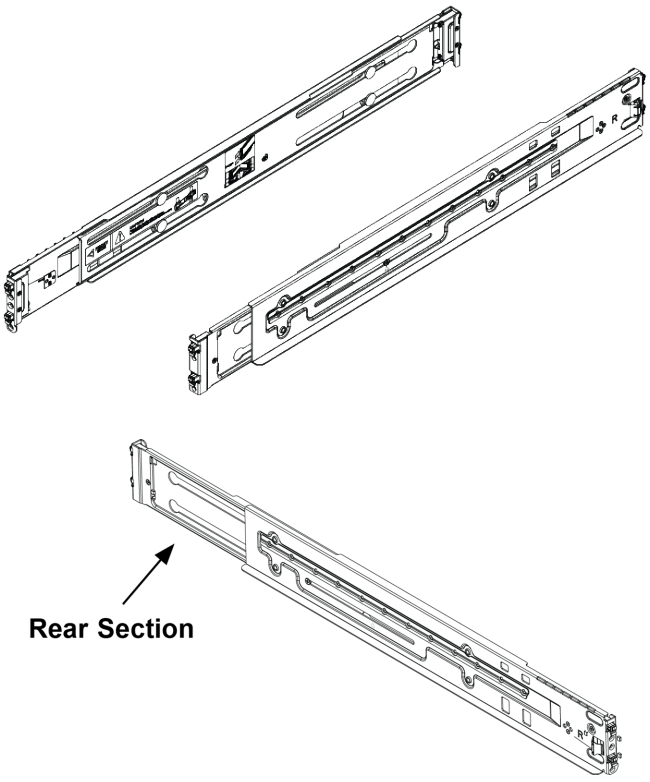


Figure 2-1. Rackmount Rail (Left and Right Rail Assembly Shown)

Adjusting the Rail Length

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

Installing the Rails onto the Rack

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

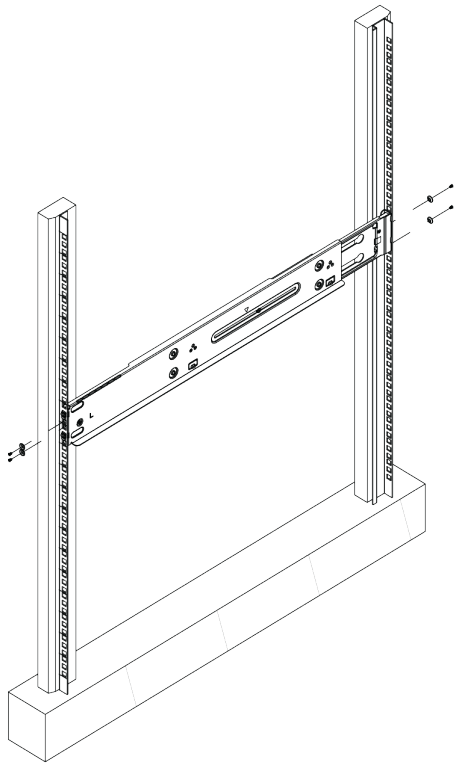


Figure 2-2. Attaching the Rail Front to the Rack (Left Rail Assembly Shown)

Note: Images displayed are for illustrative purposes only. The components installed in your system may or may not look exactly the same as the graphics shown in the manual.

Important: This figure is for illustrative purposes only. Always install servers to the bottom of a rack first.

Installing Chassis into a Rack

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

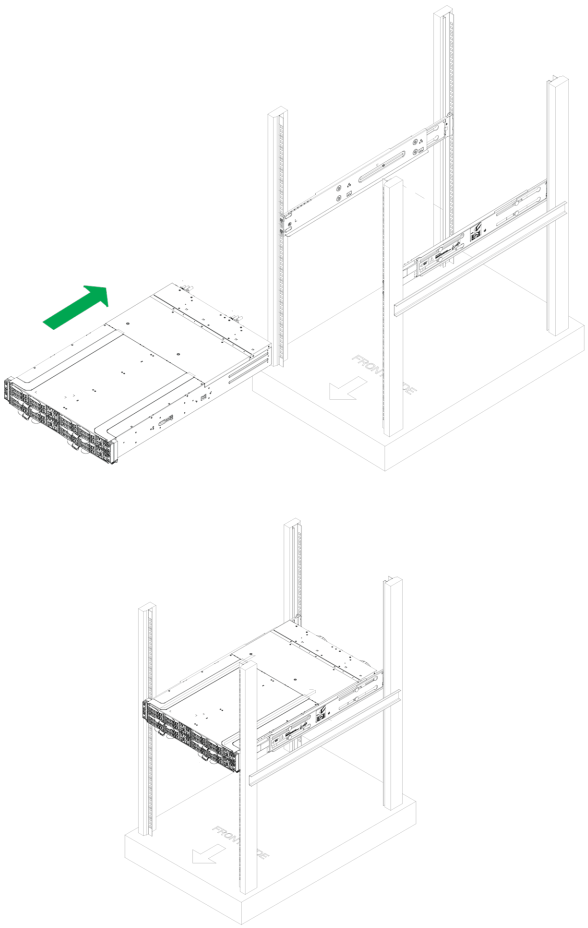


Figure 2-3. Sliding the Chassis into the Rack

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

Important: 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.

Important: Mounting or removing the system from the rack requires at least two people to support the chassis during installation. Follow the safety recommendations printed on the rails.

Chapter 3:

Maintenance and Component Installation

This chapter provides instructions on installing and replacing main system components for the AS -2116GT-HNTF server. 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. Follow the procedures given in each section.

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3.1 Removing Power

Before performing some setup or maintenance tasks, use the following procedure to ensure that power has been removed from the AS -2116GT-HNTF server. This step is necessary when removing or installing non hot-swappable 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.
3. Disconnect the power cord(s) from the power supply module(s).

3.2 Accessing the System

The AS -2116GT-HNTF server features a removable top cover, which allows easy access to the inside of the server.

Removing a Computing Node Drawer

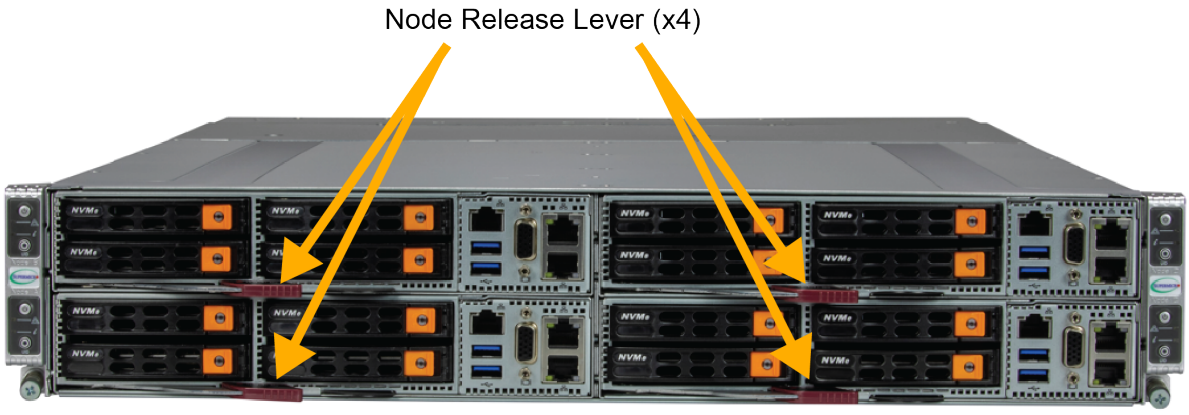


Figure 3-1. Removing a Node Tray

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

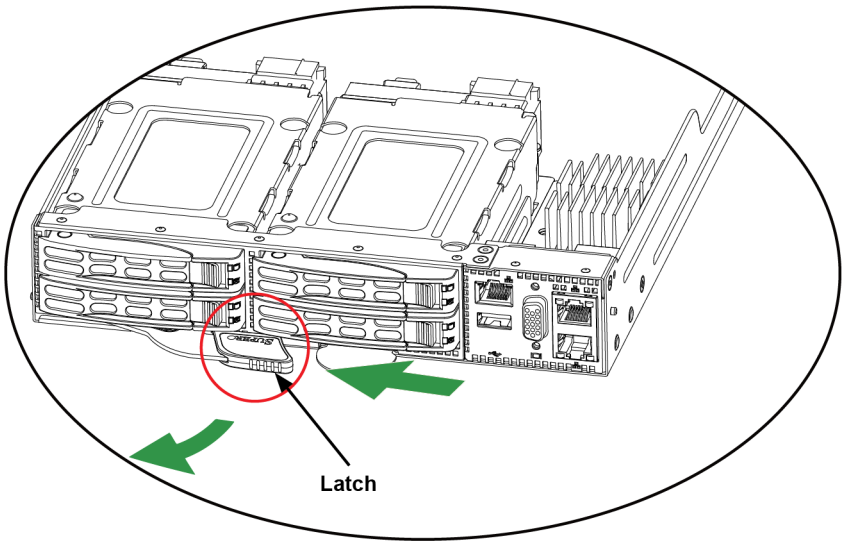


Figure 3-2. Removing a Node

Inserting a Computing Node

1. Insert the node until it stops
2. Press down the spring latch.
3. Rotate the latch toward the system.

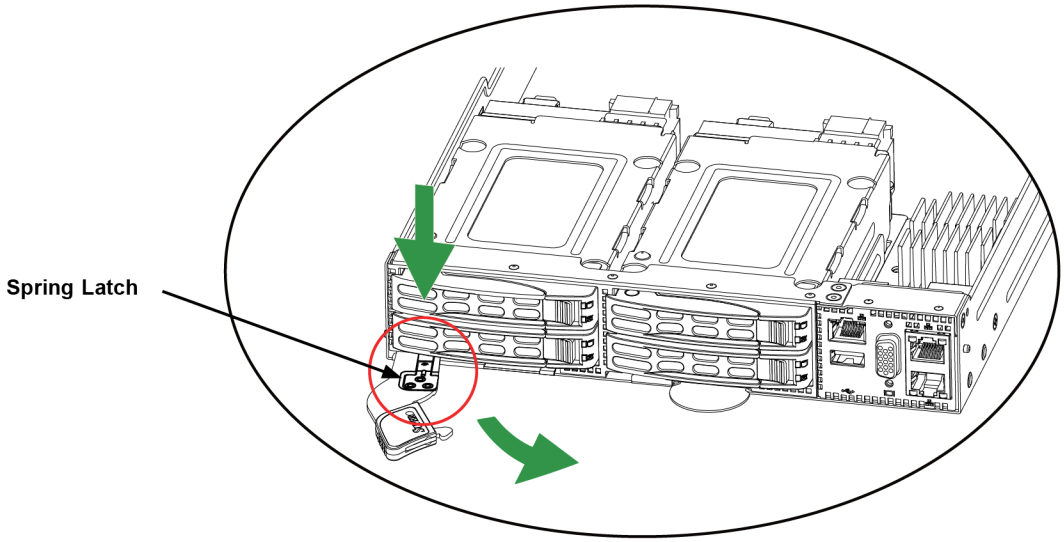


Figure 3-3. Inserting a Node

Removing the Chassis Cover

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

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

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

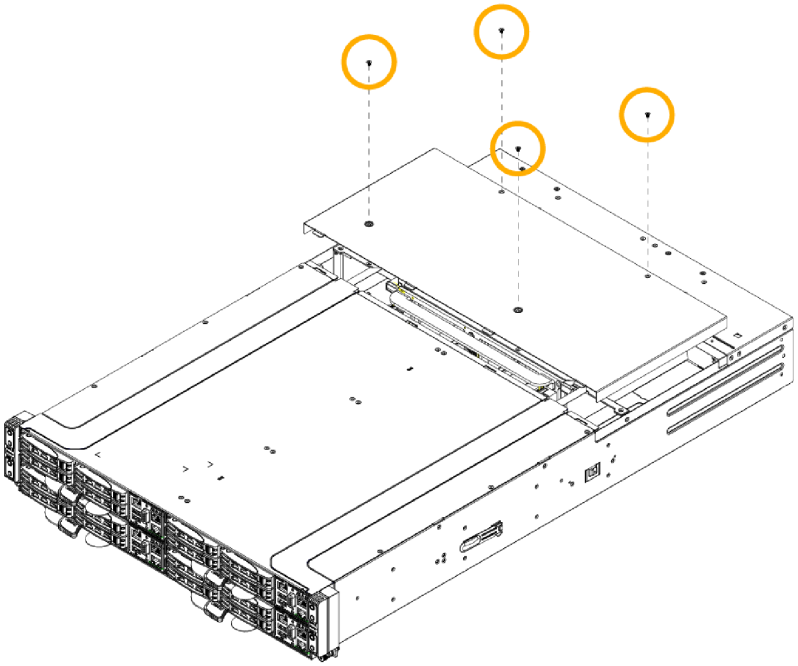


Figure 3-4. Removing the Chassis Cover

3.3 Static-Sensitive Devices

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

Precautions

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

3.4 Processor and Heatsink Installation

This section provides procedures to install the processor(s) and heatsink(s).

Notes:

- Take industry standard precautions to avoid ESD damage. For details, see "Static-Sensitive Devices" on the previous page.
- Before starting, make sure that the plastic socket cap is in place and none of the socket pins are bent. If any damage is noted, contact your retailer.
- Do not connect the system power cord before the processor and heatsink installation is complete.
- 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 processor socket.
- When buying a processor separately, use only a Supermicro certified heatsink.
- Refer to the Supermicro website for the most recent processor support.
- When installing the heatsink, ensure a torque driver set to the correct force is used for each screw.
- Thermal grease is pre-applied on a new heatsink. No additional thermal grease is needed.

Preparing the Processor Socket

1. Remove the screw holding down the force frame. The spring-loaded force frame will raise up. Allow it to lift up to its stopped position.

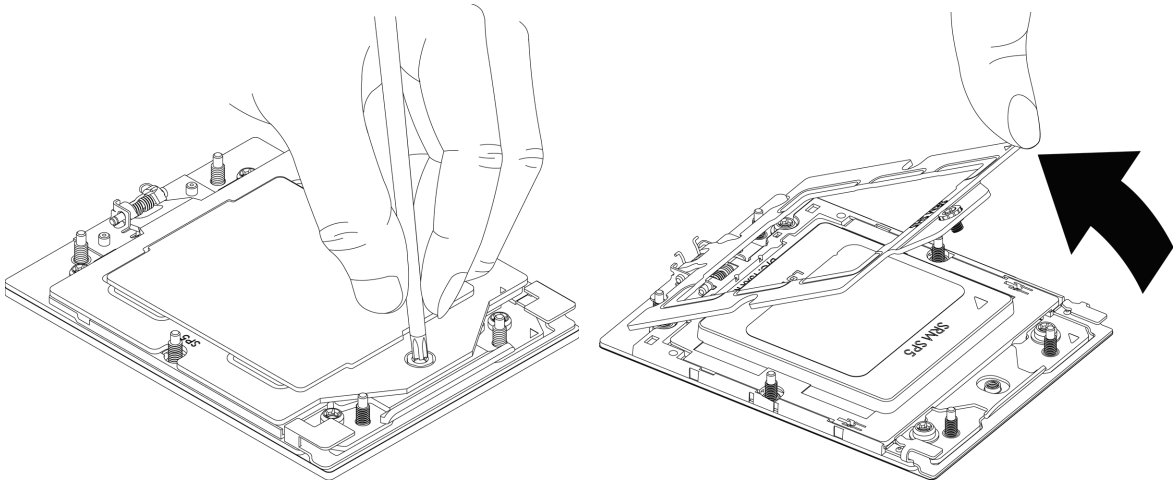


Figure 3-5. Removing Screw from the Force Frame

2. Lift the rail frame up by gripping the lift tabs near the front end of the rail frame. While keeping a secure grip of the rail frame, lift it to a position so you can do the next step of removing the external cap.

   Note: The rail frame is spring loaded, so keep a secure grip on it as you lift it so it does not snap up.

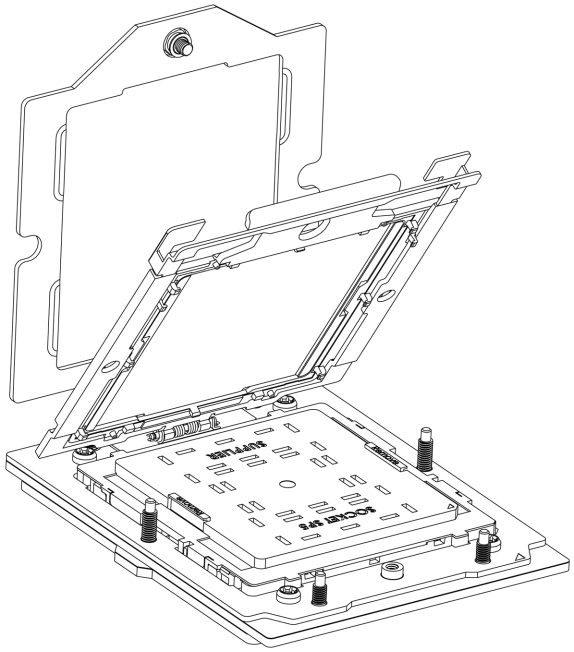


Figure 3-6. Lifting the Frame

3. Remove the external cap from the rail frame by pulling it upwards through the rail guides on the rail frame.

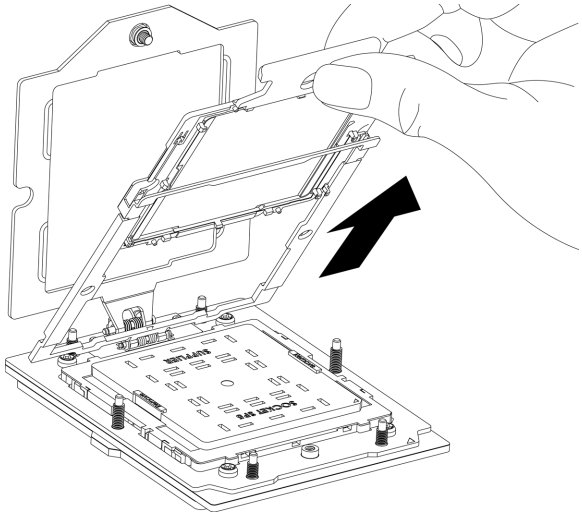


Figure 3-7. Removing the Cap

Installing the Processor into the Frame

1. The processor package is shipped from the factory with the carrier frame pre-assembled. Grip the handle of the carrier frame/processor assembly from its shipping tray, and while gripping the handle, align the flanges of the carrier frame onto the rails of the rail frame so its pins will be at the bottom when the rail frame is lowered later.
2. Slide the carrier frame/processor assembly downwards to the bottom of the rail frame. Ensure the flanges are secure on the rails as you lower it downwards.

   Note: You can only install the processor inside the socket in one direction with the handle at the top. Make sure that it is properly inserted into the socket before closing the rail frame plate. If it doesn't close properly, do not force it as it may damage your processor. Instead, open the rail frame plate again, and double-check that the processor is aligned properly.

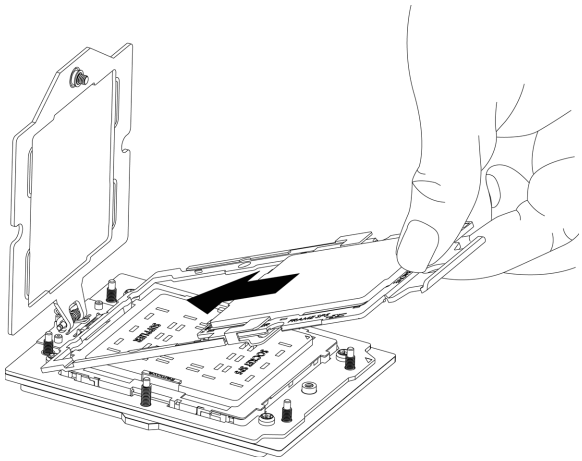


Figure 3-8. Installing into the Rail Frame

3. Lift up the rail frame until it securely rests in an upright position. Then remove the cover cap from the socket below. Grip the two lift tabs marked "Remove" at the middle of the cap and pull vertically upwards to remove the cover cap.

Important: The exposed socket contacts are extremely vulnerable and can be damaged easily. Do not touch or drop objects onto the contacts and be careful removing the cover cap and when placing the rail frame over the socket.

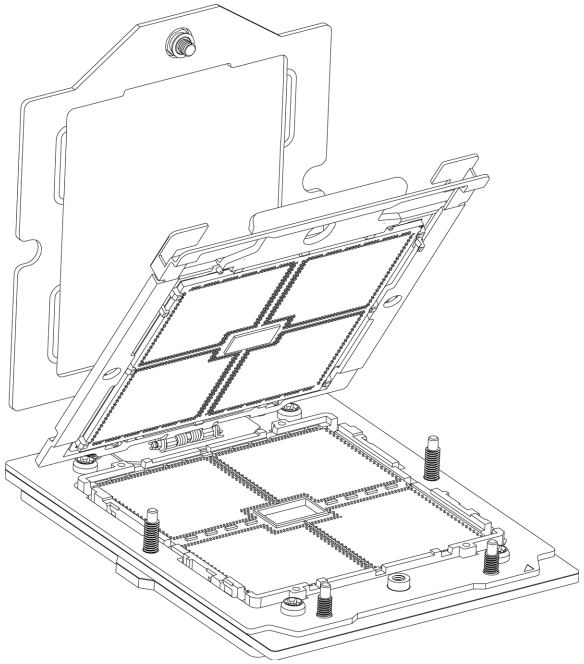


Figure 3-9. Removing the Cover Cap

4. Gently lower the rail frame down onto the socket until the latches on the rail frame engage with the socket housing and it rests in place. Do not force it into place! Note that the force frame is spring loaded and must be held in place before it is secured.

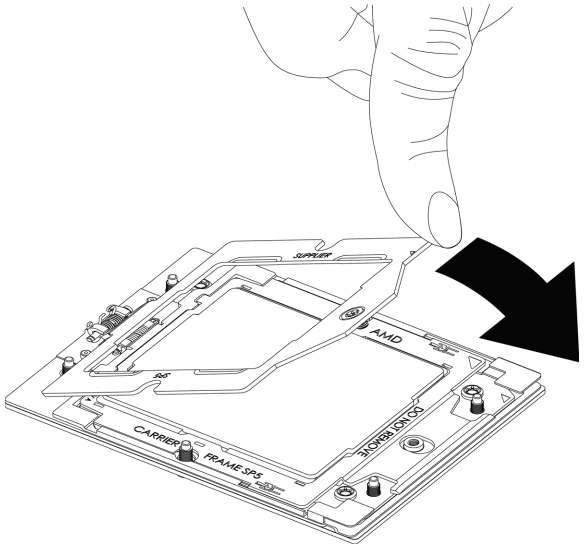


Figure 3-10. Securing the Force Frame

5. Use a T20 bit torque driver, set at 12.5–15.0 kgf-cm (10.8–13.0 lbf-in) to prevent damage to the processor. Replace and tighten the screws in the same order they were removed. When finished, the force frame will be secure over both the rail frame and processor package.

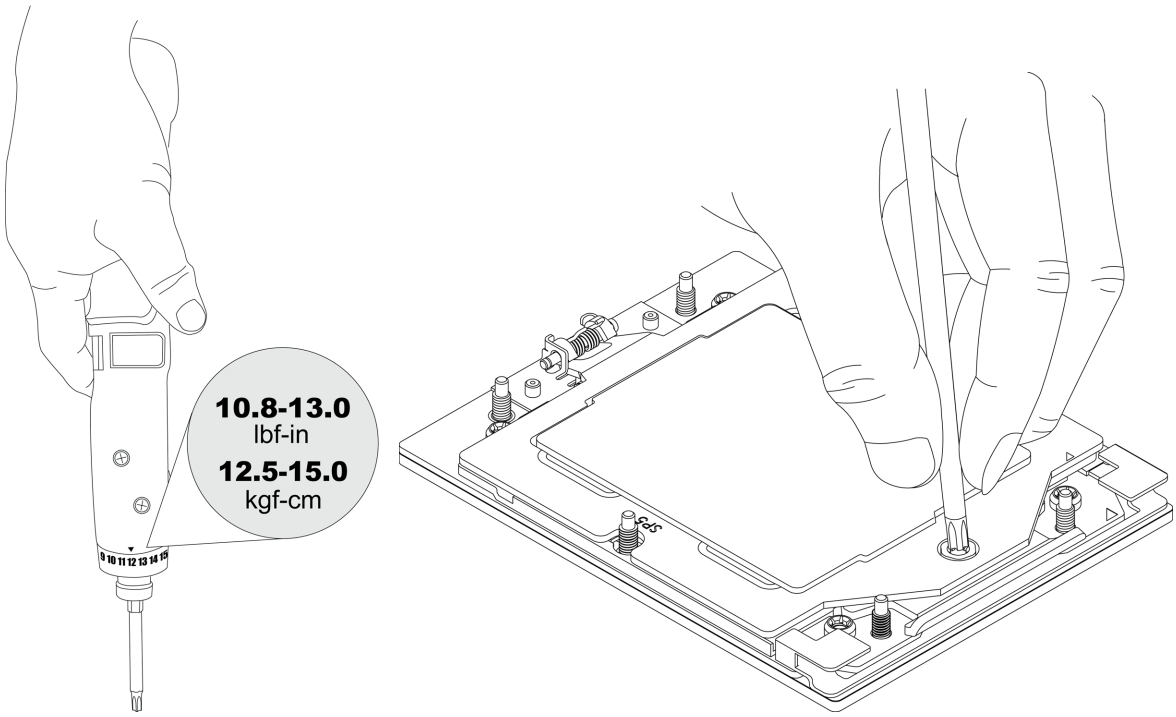


Figure 3-11. Replacing Screws with Torque Driver

Installing the Heatsink

After the force frame is secured and the processor is in place, install the heatsink onto the frame.

1. Place the heatsink so that it rests on the socket frame aligning the six screws on the socket frame.

Figure 3-12. Heatsink Placement

2. Using T20 torque driver, tighten the screws using the diagonal tightening pattern and torque specifications printed on the heatsink. Tighten the two center screws completely before tightening the four corner screws.

The heatsink is now secured.

Uninstalling the Heatsink and Processor

1. Remove the screws holding the heatsink and gently work it loose.
2. Clean the thermal grease left by the heatsink on the processor assembly to limit the risk of contaminating the land pads or contacts in the socket housing.
3. Unscrew the plate and lift the force frame to the vertical position.
4. Lift the rail frame using the lift tabs near the front end of the rail frame. Note that the rail frame is spring loaded, so be careful lifting it up into a vertical position.
5. Grip the handle of the carrier frame and pull upwards to extract it from the rail frame. Return the processor assembly to its original shipping container.
6. Grip the handle on the external cap and return it to the rail frame, sliding it downwards until it rests in the frame.
7. Gripping the rail frame, rotate it downwards until it rests above and locks over the socket housing in its horizontal position.
8. Push and rotate down the force frame until it is over the external cap and rail frame in a horizontal position.
9. While holding down the force frame, secure it back to the socket frame by securing screw #1 in place.

3.5 Memory Support and Installation

Important: To prevent any damage, exercise extreme care when installing or removing memory modules.

Note: Check the Supermicro website for recommended memory modules.

Memory Support

The AS -2116GT-HNTF supports up to 4 TB of ECC DDR5 RDIMM/3DSRDIMM memory in 16 DIMM slots.

Populating RDIMM/RDIMM 3DS DDR5 Memory Modules with AMD EPYC™ 9004 Series Processors			
Type	**DIMM Population**		**Maximum Frequency (MT/s)**
	DIMM0	**DIMM1**	
RDIMM	N/A	1R	4800
	1R	1R	4000
	N/A	2R	4800
	2R	2R	3600
3DS RDIMM	N/A	2S2R (4 ranks)	4800
	2S2R (4 ranks)	2R (2 ranks)	3600
	N/A	2S4R (8 ranks)	4800
	2S4R (8 ranks)	2S4R (8 ranks)	3600

Populating RDIMM/RDIMM 3DS DDR5 Memory Modules with AMD EPYC™ 9005 Series Processors					
Type	DIMM Population		Maximum Frequency (MT/s)		
	DIMM0	DIMM1	6400 MT/s Grade DIMM	5600 MT/s Grade DIMM	4800 MT/s Grade DIMM
RDIMM	N/A	1R (1 rank)	5200	4800	4800
	1R (1 rank)	1R (1 rank)	4400	4000	4000
	N/A	2R (2 ranks)	5200	4800	4800
	2R (2 ranks)	2R (2ranks)	4000	3600	3600
3DS RDIMM	N/A	2S2R (4 ranks)	5200	4800	4800
	2S2R (4 ranks)	2S2R (4 ranks)	4000	3600	3600
	N/A	2S4R (8 ranks)	5200	4800	4800
	2S4R (8 ranks)	2S4R (8 ranks)	4000	3600	3600

General Guidelines for Optimizing Memory Performance

- It is recommended to use DDR5 memory of the same type, size, and speed.
- Mixed DIMM speeds can be installed. However, all DIMMs will run at the speed of the slowest DIMM.
- The motherboard will support an odd number amount of memory modules. However, to achieve the best memory performance, a balanced memory population is recommended.

DIMM Population

This table shows the recommended slots to populate.

DIMM Population Guide																
Channel	DIMM Slot															
	D2	D1	C2	C1	B2	B1	A2	A1	E1	E2	F1	F2	G1	G2	H1	H2
CPU1 & 1 DIMM							V									
CPU1 & 2 DIMMs							V			V						
CPU1 & 4 DIMMs			V				V			V				V		
CPU1 & 6 DIMMs			V		V		V			V		V		V		
CPU1 & 8 DIMMs	V		V		V		V			V		V		V		V
CPU1 & 12 DIMMs			V	V	V	V	V	V	V	V	V	V	V	V		
CPU1 & 16 DIMMs	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V

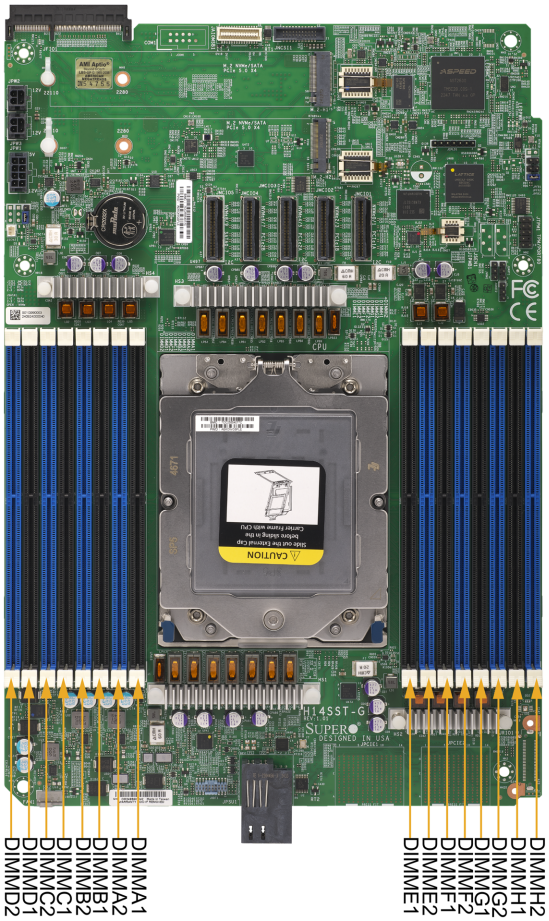


Figure 3-13. DIMM Numbering

DIMM Installation

Important: To avoid causing any damage to the memory module or the DIMM socket, do not use excessive force when pressing the release tabs on the ends of the DIMM socket. Handle memory modules with care. To avoid ESD-related damage to your memory modules or components, carefully follow all the instructions given in "Static-Sensitive Devices" on page 38.

1. Insert the desired number of DIMMs into the memory slots based on the recommended DIMM population table earlier in this section.
2. Push the release tabs outwards on both ends of the DIMM slot to unlock it.

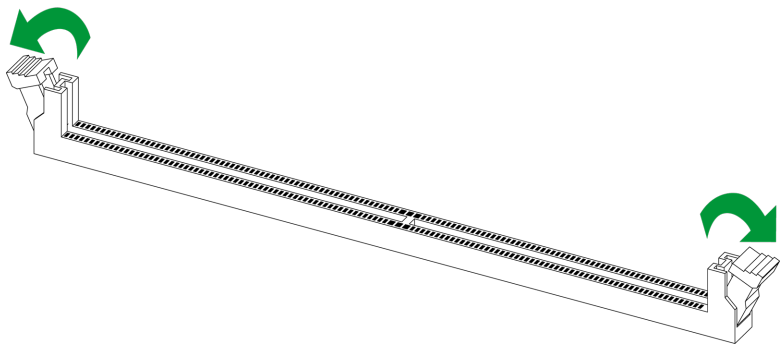


Figure 3-14. Unlocking the DIMM Slot

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

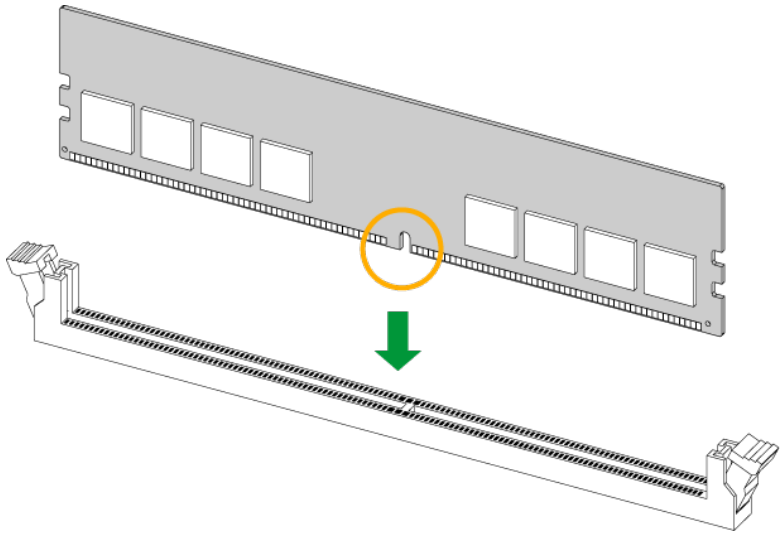


Figure 3-15. Aligning the DIMM Slot with the Receptive Point

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

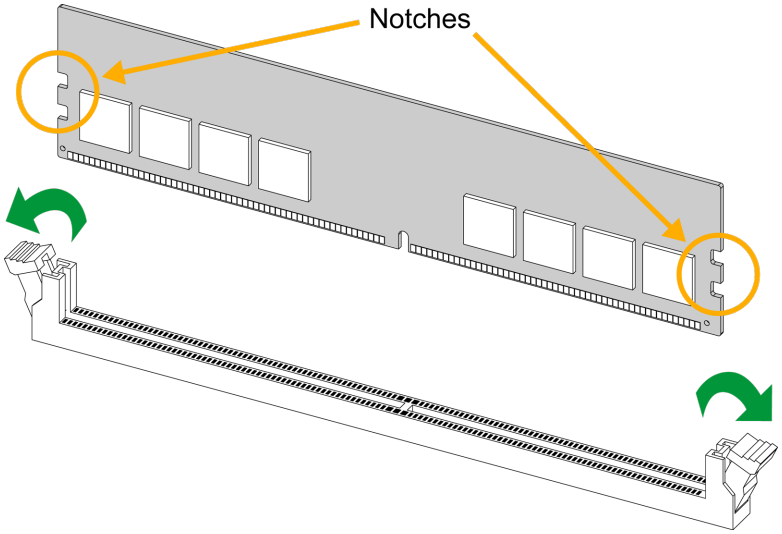


Figure 3-16. Aligning the Notches

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

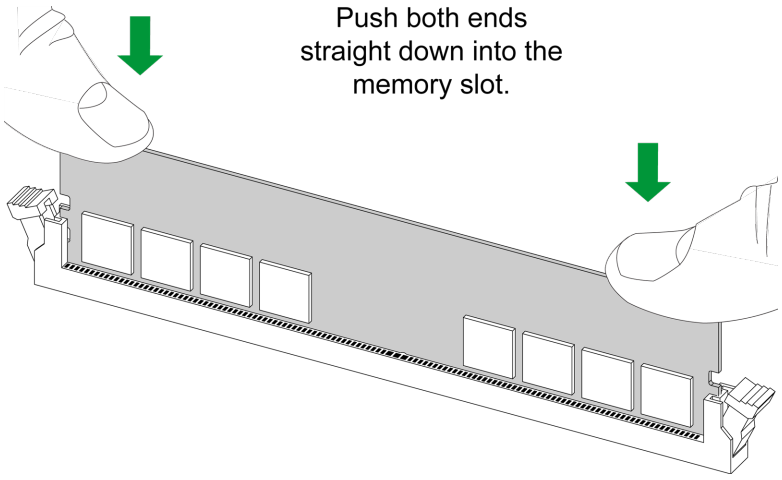


Figure 3-17. Securing the DIMM

For a detailed diagram of the H14SST-G motherboard, see the layout under "Motherboard Quick Reference" on page 20.

DIMM Removal

Important: To avoid causing any damage to the memory module or the DIMM socket, do not use excessive force when pressing the release tabs on the ends of the DIMM socket. Handle memory modules with care. To avoid ESD-related damage to your memory modules or components, carefully follow all the instructions given in "Static-Sensitive Devices" on page 38.

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

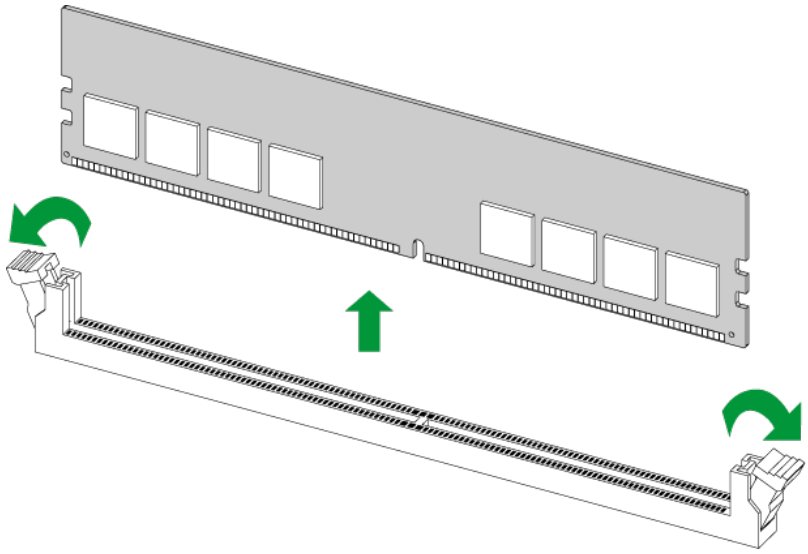


Figure 3-18. Unlocking the DIMM Slot

For a detailed diagram of the H14SST-G motherboard, see the layout under "Motherboard Quick Reference" on page 20.

3.6 Motherboard Battery Removal and Installation

Battery Removal

To remove the onboard battery, follow the steps below:

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

Proper Battery Disposal

Important: 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. Comply with the regulations set up by your local hazardous waste management agency to dispose of your used battery properly.

Battery Installation

To install an onboard battery, follow steps 1 and 2 above and continue below:

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

1. Identify the battery's polarity. The positive (+) side should be facing up.
2. Insert the battery into the battery holder and push it down until you hear a click to ensure that the battery is securely locked.

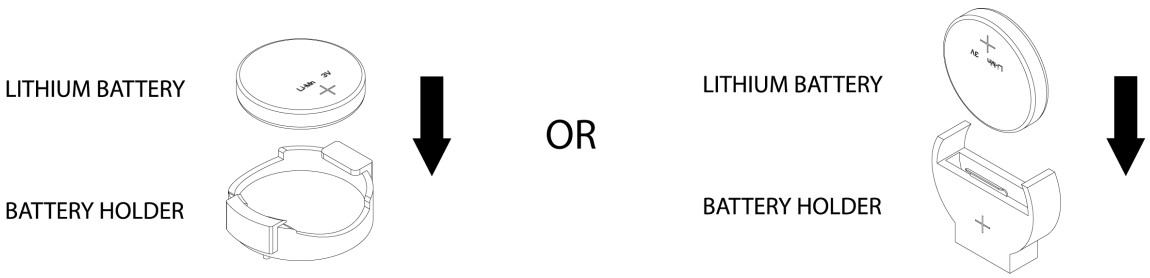


Figure 3-19. Installing a Battery

3.7 Storage Drives

The AS -2116GT-HNTF chassis supports up to 16 storage drives (up to four 2.5" drives per node) in drive carriers to simplify their removal from the chassis. These carriers also promote proper airflow.

To enable SATA or NVMe storage on your system, you must install a SATA or NVME enablement kit. Each kit supports two drives, and up to two enablement kits can be installed in one node. See "Enablement Kits" on page 81 for more information.

Drive Carrier Indicators

Each drive carrier has two LED indicators: an activity indicator and a status indicator.

Drive Carrier LED Indicators			
	Color	**Blinking Pattern**	**Behavior for Device**
Activity LED	Blue	Solid On	Idle NVMe drive installed
	Blue	Blinking	I/O Activity
Status LED	Green	Solid On	Safe to remove in NVMe device
	Amber	Blinking at 1 Hz	Attention state—do not remove NVMe device

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

Removing a Drive Carrier from the Chassis

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

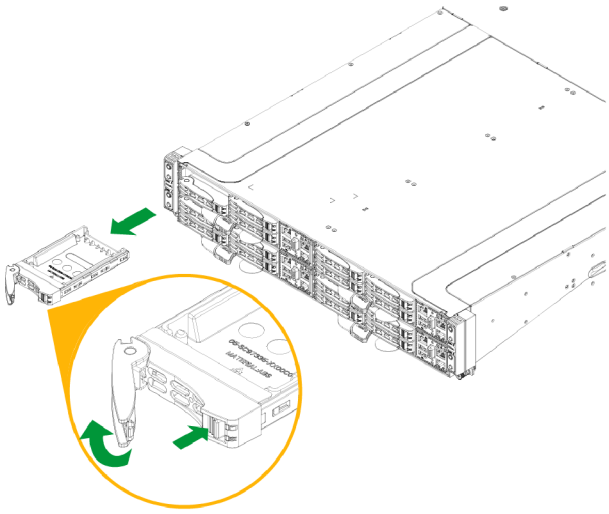


Figure 3-20. Drive Carrier Removal

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

Installing or Removing a 2.5" Drive Cage

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

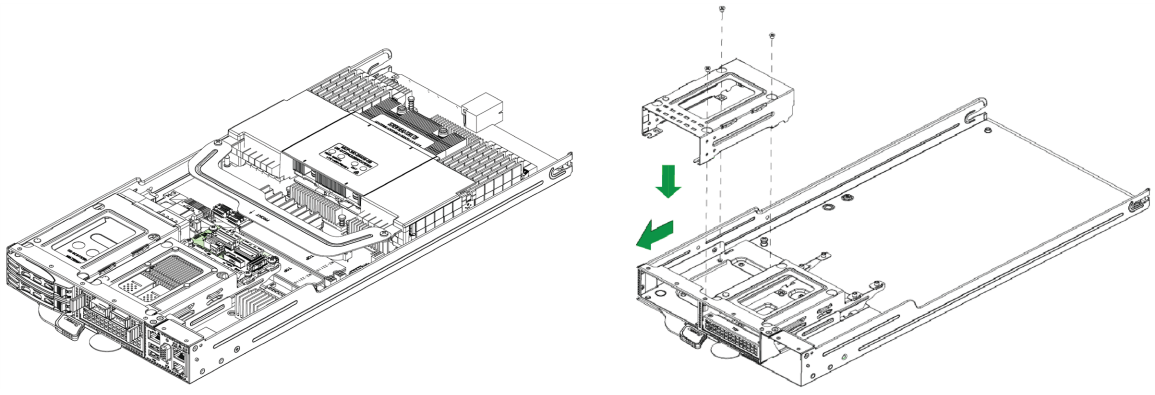


Figure 3-21. Removing a Drive Carrier

Installing a 2.5" Drive into a Drive Carrier

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

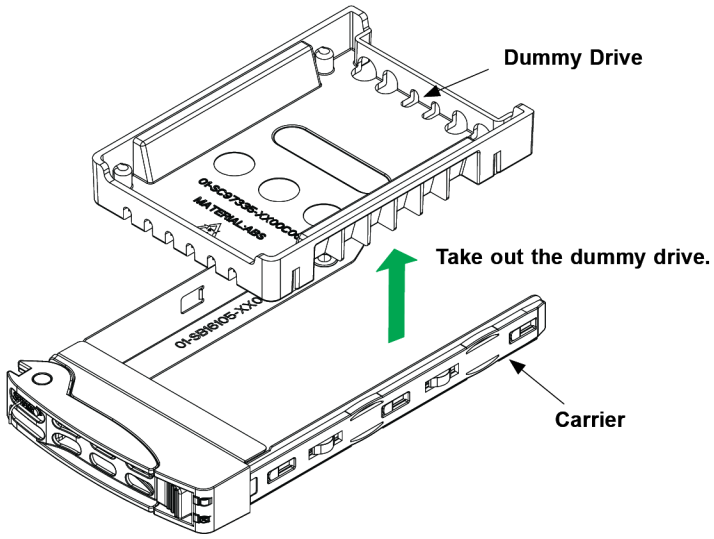


Figure 3-22. Removing a Dummy Drive from the Drive Carrier

4. Insert a new drive into the carrier with the printed circuit board side facing downward and the connector oriented at the rear of the carrier.
5. Align the drive in the carrier so that the mounting holes in the drive align with the mounting holes in the carrier.
6. Secure the drive to the carrier with the two locking tabs.

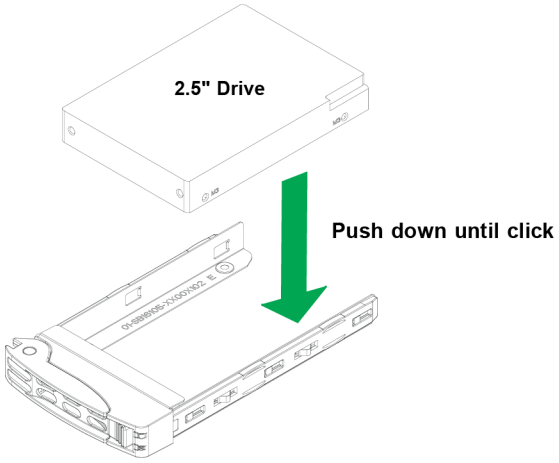


Figure 3-23. Securing the Storage Drive

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

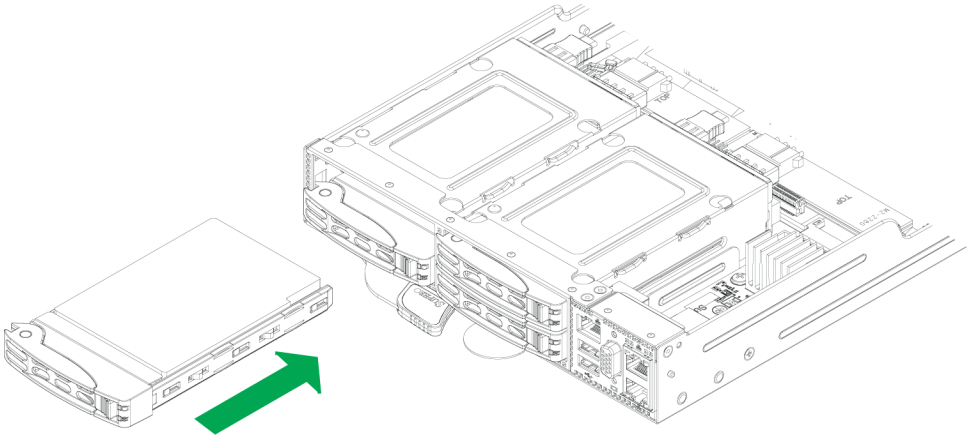


Figure 3-24. Securing the Drive Carrier

Removing a 2.5" Drive Carrier

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

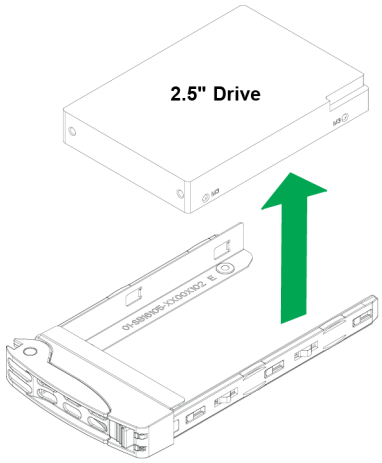


Figure 3-25. Removing the Drive from the Carrier

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

Hot-Swap for NVMe Drives

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

Ejecting a Drive

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

Note that Device and Group are categorized by the CPLD design architecture.

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

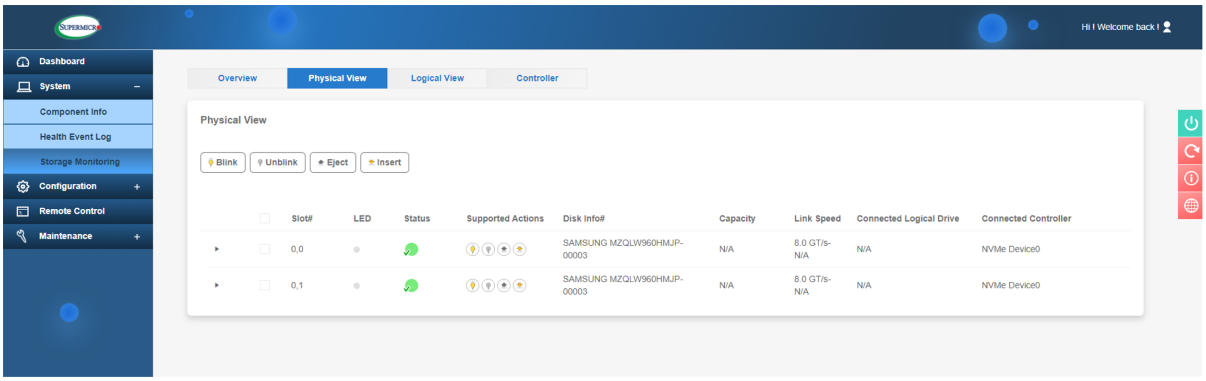


Figure 3-26. BMC Screenshot

Replacing a 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

Refer to the following sections for information about the cooling capabilities of the AS -2116GT-HNTF server.

Air Shrouds

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

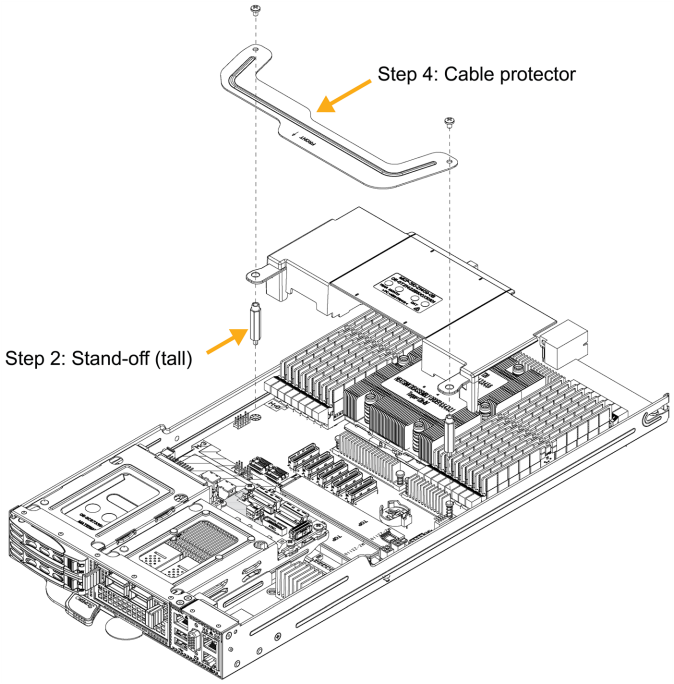


Figure 3-27. Installing the Air Shroud

1. First, ensure the CPU, CPU heatsinks, and configured DIMMs are installed.
2. Align the two tall standoffs to the mounting holes and secure them to the node interior.
3. Align the mounting screw holes in the plastic air shroud with the tall standoffs in the node interior and lower the air shroud into the node until it is firmly seated.

   Be careful that the air shroud legs at either end do not interfere with any motherboard components such as cables.
4. Secure the cable protector with the two screws tightened on top of the two tall standoffs in order to cover or manage any loose cables that interfere with the air shroud placement.

Fans

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

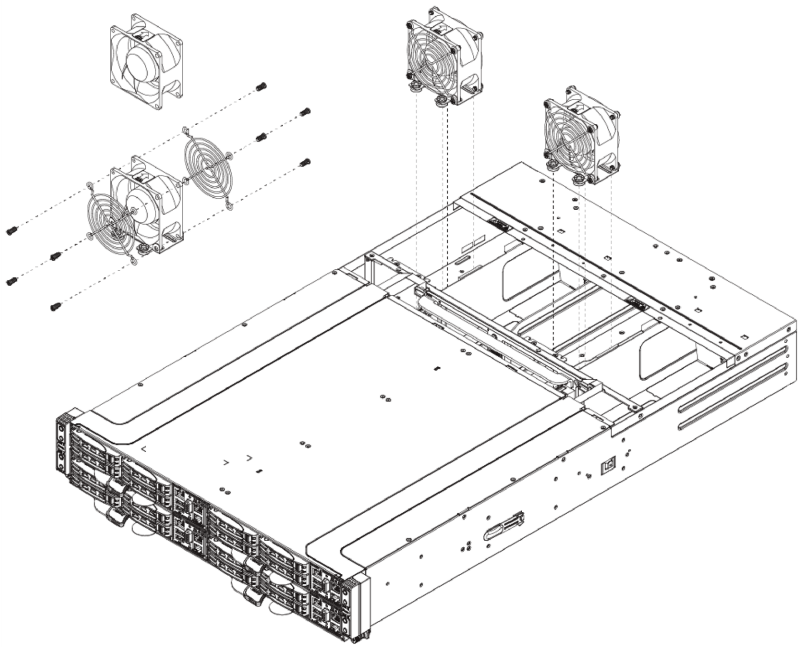


Figure 3-28. Removing System Fans

Changing a System Fan

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

3.9 Expansion Cards

Refer to the following sections for information on the expansion cards supported by the AS -2116GT-HNTF server.

AIOM Cards

The Supermicro Advanced Input/Output Module (AIOM) card provides options for network connection. It is inserted into an AIOM slot on the motherboard tray (optional AIOM enablement kit required). See "Enablement Kits" on page 81 for more information.

Removing the AIOM Card

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

Installing the AIOM Card

1. Insert the AIOM card into the motherboard tray slot until the release tab retracts.

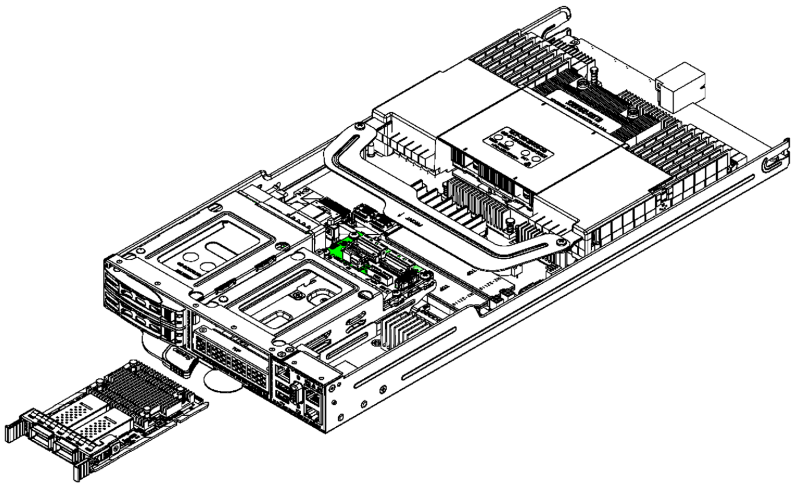


Figure 3-29. AIOM Card Location

GrandTwin I/O Module

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

Removing the I/O Module

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

Installing the I/O Module

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

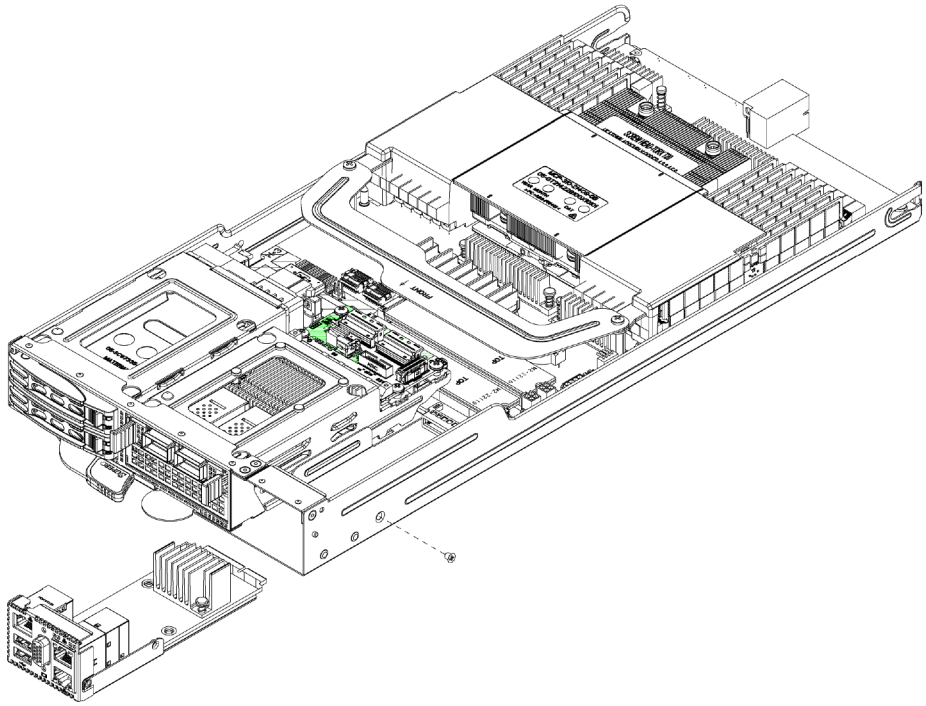


Figure 3-30. GrandTwin Front I/O Module

3.10 Power Supply

The AS -2116GT-HNTF server includes two dual redundant and hot-swap power supply modules. These modules will automatically sense and operate at an input voltage between 100–240 V. Note that different input voltages will result in different maximum power output levels.

In the event of a power module failure, the other power module will continue to power the system on its own. Failed power supply modules can be replaced without powering down the system. Replacement modules can be ordered directly from Supermicro.

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	Amber Blinking at 1 Hz
Output ON and OK	Green	OFF
AC cord unplugged and in redundant mode	OFF	Amber

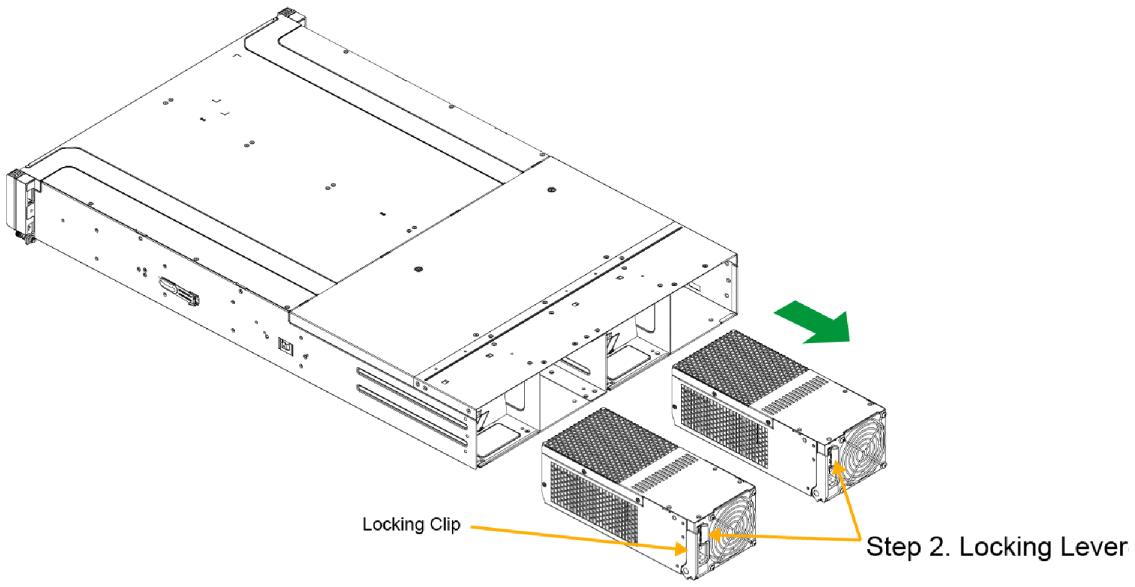


Figure 3-31. Installing a Power Supply Module

Replacing the Power Supply

1. Unplug the AC power cord from the failed power supply module.
2. Pull on the locking lever on the back of the power supply.
3. Grasp the handle of the power supply and pull it out of its bay.
4. Push the new power supply module into the power bay until it clicks into the locked position.
5. Plug the AC power cord back into the power supply module.

Chapter 4:

Motherboard Connections, Jumpers, and LEDs

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 the "Introduction" on page 11. More detail can be found in the H14SST-G motherboard manual.

Review the "Standardized Warning Statements for AC Systems" on page 108 before installing or removing components.

4.1 Power Connectors **68**
4.2 Headers and Connections **69**
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M.2 Slots 69
TPM/Port 80 Header 69
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JSATA1 71
4.4 LED Indicators **72**
BMC Heartbeat LED 72
Onboard Power LED 72
Unit ID (UID) LED 72

4.1 Power Connectors

JPW1 is the 8-pin power connector for SATA backplane power. JPW2 and JPW3 are 4-pin 12 V DC power connectors on the motherboard that provide adequate power to your system.

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

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

4.2 Headers and Connections

For information about the headers on the H14SST-G motherboard, refer to the following content.

Onboard Battery (BT1)

The onboard back up battery is located at BT1. The onboard battery provides backup power to the on chip CMOS, which stores the BIOS' setup information. It also provides power to the Real Time Clock (RTC) to keep it running.

M.2 Slots

Two M.2 slots are located at M.2-H1 and M.2-H2 on the motherboard. They support PCIe 5.0 x4 M.2 NVMe SSDs in the 2280 and 22110 form factors.

For a detailed diagram of the H14SST-G motherboard, see the layout under "Motherboard Quick Reference" on page 20.

TPM/Port 80 Header

The JTPM1 header on the H14SST-G motherboard 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. Information on the TPM is available at the following pages: https://www.supermicro.com/manuals/other/AOM-TPM-9671V_9671H.pdf

For a detailed diagram of the H14SST-G motherboard, see the layout under "Motherboard Quick Reference" on page 20.

Trusted Platform Module Header Pin Definitions: 10 Total			
Pin#	**Definition**	**Pin#**	**Definition**
1	+3.3 V	2	SPI_CS#
3	RESET#	4	SPI_MISO
5	SPI_CLK	6	Ground
7	SPI_MOSI	8	No Connection
9	+1.8 V Standby	10	SPI_IRQ#

4.3 Jumper Settings

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

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

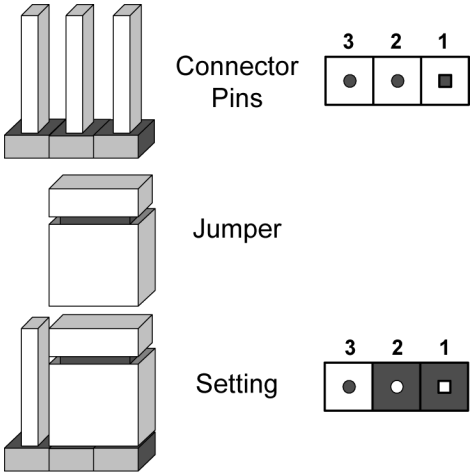


Figure 4-1. Jumping Connector Pins

CMOS Clear

JBT1 on the H14SST-G motherboard 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.

For a detailed diagram of the H14SST-G motherboard, see the layout under "Motherboard Quick Reference" on page 20.



1. First power down the system and unplug the power cord(s).
2. Remove the cover of the chassis to access the motherboard.
3. Remove the onboard battery from the motherboard.

4. Short the CMOS pads, JBT1, with a metal object such as a small screwdriver for at least four seconds.

   Note: Clearing CMOS will also clear all passwords.

5. Remove the screwdriver (or shorting device).
6. Replace the cover, reconnect the power cord(s), and power on the system.

JSATA1

The jumper at JSATA1 provides the option to switch the hybrid port (JMCIO5) between SATA and NVMe. Refer to the table below for pin definitions.

JSATA1

Pin Definitions

Pin#	Definition
Pins 1-2	Auto (Depends on system configuration)
Pins 2-3	SATA
Open	NVMe

4.4 LED Indicators

For information about the LED indicators on the AS -2116GT-HNTF server, refer to the following content.

BMC Heartbeat LED

A BMC Heartbeat LED is located on the H14SST-G motherboard. When this LED is blinking, the BMC is functioning normally.

For a detailed diagram of the H14SST-G motherboard, see the layout under "Motherboard Quick Reference" on page 20.

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

Onboard Power LED

The Onboard Power LED is located on the H14SST-G motherboard. When this LED is on, the system is in a power-on state. Be sure to turn off the system and unplug the power cord before removing or installing components.

For a detailed diagram of the H14SST-G motherboard, see the layout under "Motherboard Quick Reference" on page 20.

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

Unit ID (UID) LED

The UID LED indicator is located on the H14SST-G motherboard. This UID indicator provides easy identification of a system that may need to be serviced.

For a detailed diagram of the H14SST-G motherboard, see the layout under "Motherboard Quick Reference" on page 20.

UID LED LED Indicator	
LED Color	**Definitions**
Blue: On	System Identified

Chapter 5:

Software

After the AS -2116GT-HNTF server has been installed, you can install the Operating System (OS) and the drivers.

5.1 Microsoft Windows OS Installation **75**

Installing the OS 75

5.2 Driver Installation **77**

5.3 BMC **79**

BMC ADMIN User Password 79

5.1 Microsoft Windows OS Installation

Installing the OS

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

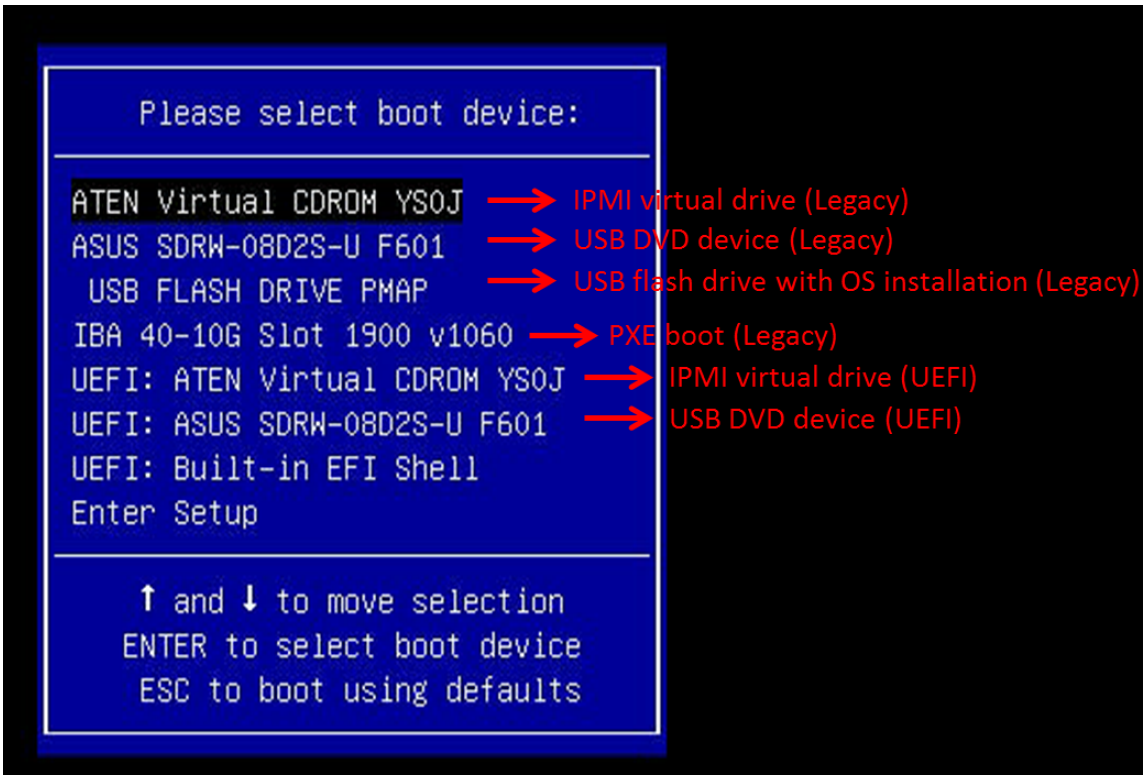


Figure 5-1. Select Boot Device

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

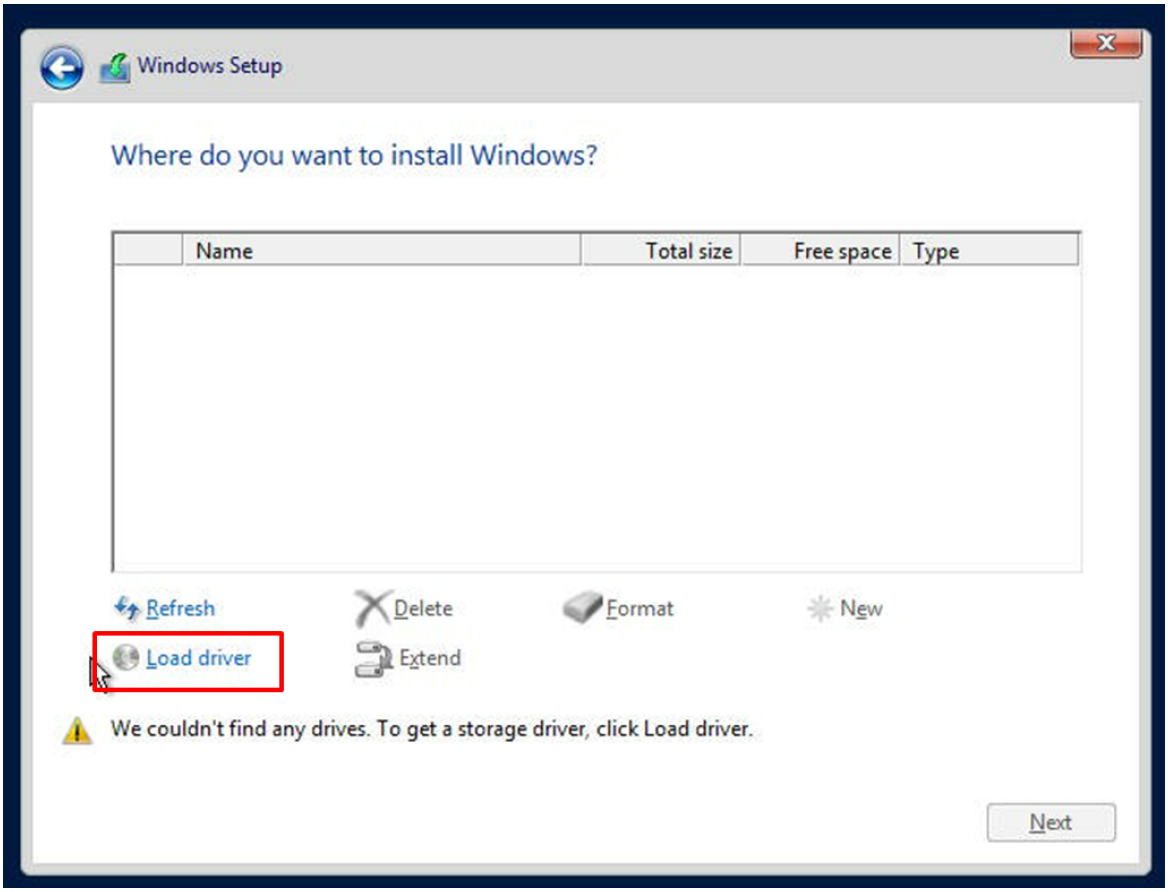


Figure 5-2. Load Driver Link

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

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 for system updates.

5.2 Driver Installation

The Supermicro website contains drivers and utilities for your system at the following page:

https://www.supermicro.com/wdl.

Some of these drivers and utilities must be installed, such as the chipset driver. After accessing the website, go into the CDR_Images (in the parent directory of the above link) and locate the ISO file for your motherboard. Download this file to a USB flash or media drive. You may also use a utility to extract the ISO file if preferred.

Another option is to go to the Supermicro website at https://www.supermicro.com. 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.

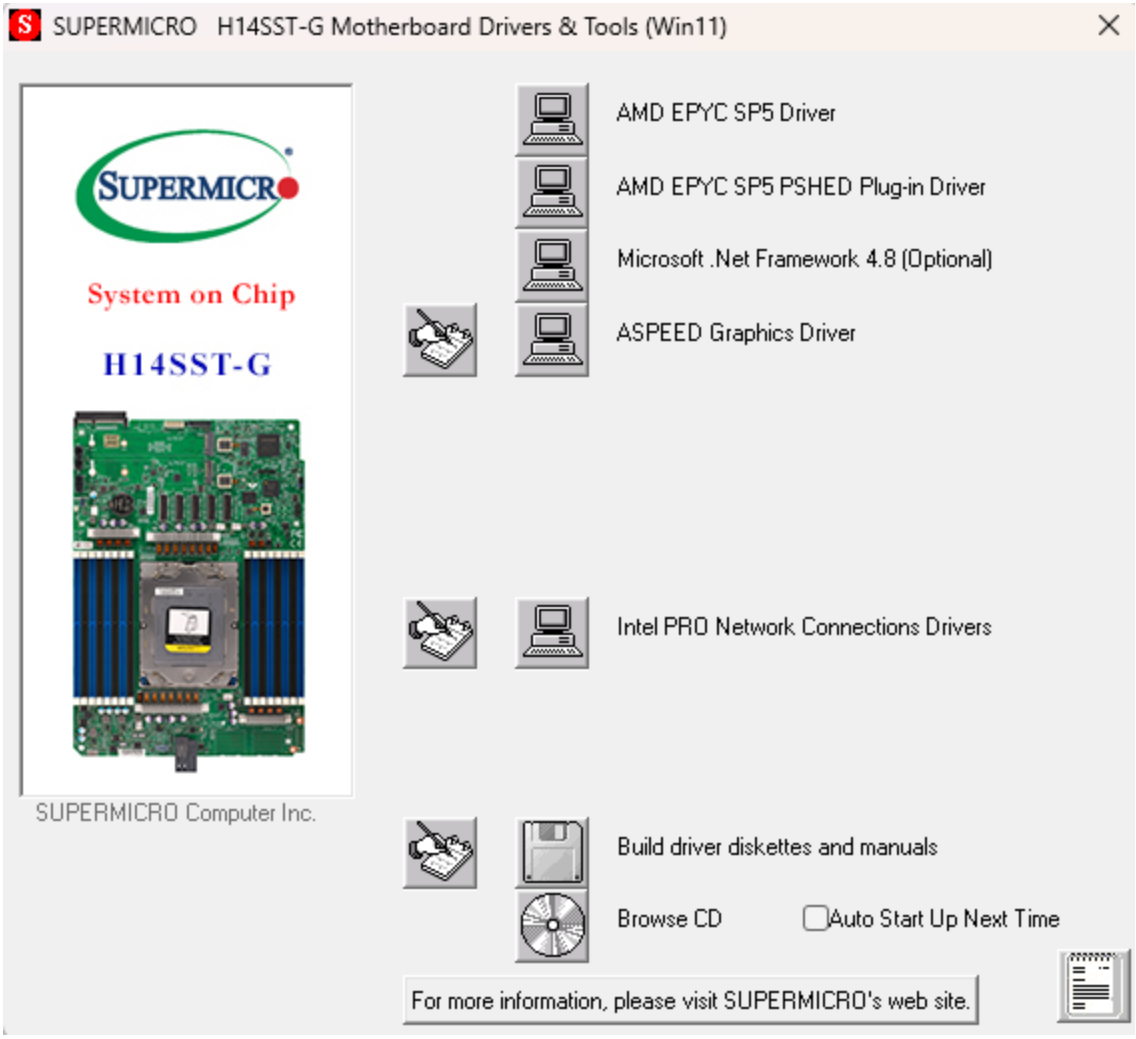


Figure 5-3. Driver Download Screenshot

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 bottom) one at a time. *After installing each item, you must reboot the system before moving on to the next item on the list.* The bottom icon with a CD on it allows you to view the entire contents.

5.3 BMC

The H14SST-G motherboard provides remote access, monitoring, and management through the baseboard management controller (BMC) and other management controllers distributed among different system modules. There are several BIOS settings that are related to BMC. For general documentation and information on BMC, visit our website at the following page:

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

BMC ADMIN User Password

For security, each system is assigned a unique default BMC password for the ADMIN user. The password can be found on a sticker on the motherboard and a sticker on the chassis, for Supermicro chassis. The sticker also displays the BMC MAC address. If necessary, the password can be reset using the Supermicro IPMICFG tool.



Figure 5-4. BMC Password Label

Chapter 6:

Optional Components

This chapter describes alternate configurations and optional system components for the AS -2116GT-HNTF server.

6.1 Enablement Kits **81**
SATA Enablement Kit 81
NVMe Enablement Kit 81
AIOM Enablement Kit 81

6.1 Enablement Kits

The AS -2116GT-HNTF has features that require enablement kits for activation.

To enable SATA or NVMe storage on your system, you must install a SATA or NVME enablement kit. Each kit supports two drives, and up to two enablement kits can be installed in each node.

The Supermicro Advanced Input/Output Module (AIOM) card provides options for network connection. To use the AIOM card, you must install the AIOM enablement kit.

SATA Enablement Kit

- Two MCP-220-00147-0B
- One CBL-MCIO-1217REQT4S2-85
- One CBL-PWEX-0990Y-20
- One BPN-SAS3-826TQ-B2B

NVMe Enablement Kit

- Two MCP-220-00167-0B
- One CBL-MCIO-1218M5-1
- One CBL-PWEX-1131-20
- One BPN-NVME5-826N-B2B

AIOM Enablement Kit

- One MCP-220-21404-0N
- One CBL-OTHR-1115
- One AOM-AIOM-2X8-G5
- Two CBL-MCIO-1218M5-1

Chapter 7:

Troubleshooting and Support

The following content contains information on common issues and how to resolve them.

7.1 Online Resources **83**
Direct Links for the AS -2116GT-HNTF System 83
Direct Links for General Support and Information 83
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7.3 Troubleshooting Procedures **85**
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If the System Becomes Unstable 86
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Returning Merchandise for Service 91
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7.1 Online Resources

A great deal of information is available on the Supermicro website. From the top menu of the Supermicro home page at https://www.supermicro.com:

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

Direct Links for the AS -2116GT-HNTF System

AS -2116GT-HNTF specifications page

H14SST-G 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: https://www.supermicro.com/FAQ/index.php
- BMC User Guide: https://www.supermicro.com/manuals/other/BMC_IPMI_X13_H13.pdf
- Product Resources page for validated memory details: https://www.supermicro.com/support/resources/mem.cfm
- Product Matrices page for links to tables summarizing specs for systems, motherboards, power supplies, riser cards, add-on cards, and more: https://www.supermicro.com/en/support/product-matrices
- Security Center for recent security notices: https://www.supermicro.com/en/support/security_center
- Supermicro Phone and Addresses: https://www.supermicro.com/en/about/contact

7.2 Baseboard Management Controller (BMC)

The AS -2116GT-HNTF server supports the Baseboard Management Controller (BMC). BMC is used to provide remote access, monitoring, and management. There are several BIOS settings that are related to BMC.

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

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

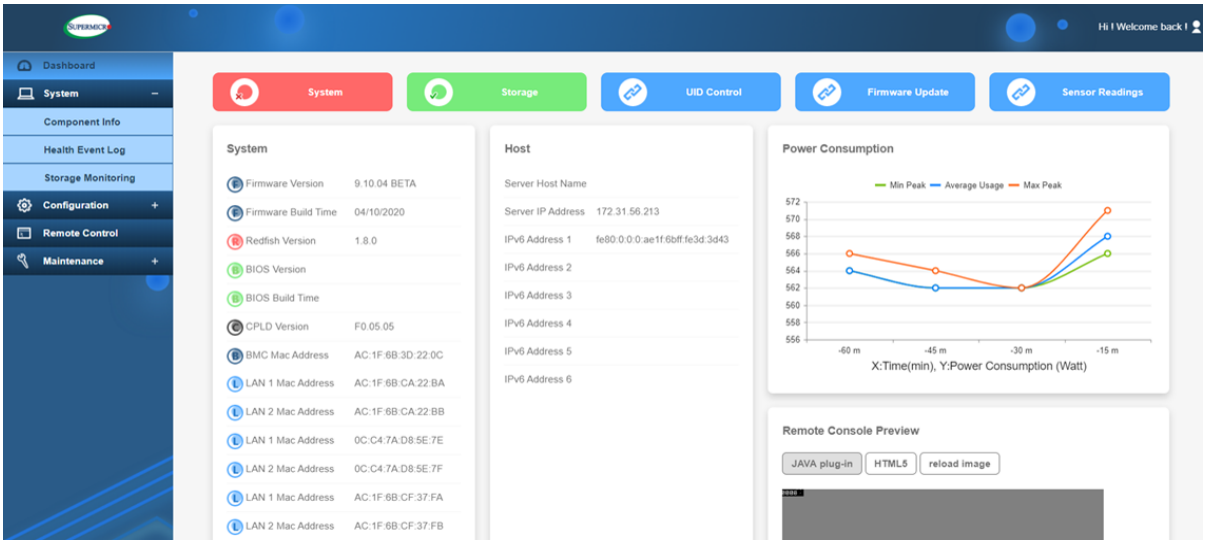


Figure 7-1. BMC Dashboard

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" on page 91 section in this chapter. Always disconnect the AC power cord before adding, changing or installing any non hot-swappable hardware components. If the below steps do not fix the setup configuration problem, contact your vendor for repairs.

Before Power On

1. Make sure that there are no short circuits between the motherboard and chassis.
2. Disconnect all ribbon/wire cables from the motherboard, including those for the keyboard and mouse.
3. Remove all add-on cards.
4. Install the processor (making sure it is fully seated) and connect the front panel connectors to the motherboard.

No Power

1. Make sure that there are no short circuits between the motherboard and the chassis.
2. The battery on your motherboard may be old. Check to verify that it still supplies approximately 3 VDC. If it does not, replace it with a new one.

No Video

1. If the power is on, but you do not have video, remove all add-on cards and cables.
2. Remove all memory modules and turn on the system (if the alarm is on, check the specs of memory modules, reset the memory, or try a different one).

System Boot Failure

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

1. Remove all components from the motherboard, especially the DIMMs. Power on the system and check if the power-on LED and the BMC Heartbeat LED are on, and system fans are spinning.

2. Turn on the system with only one DIMM installed. If the system boots, check for bad DIMMs or slots by following the Memory Errors Troubleshooting procedure in this chapter.

Memory Errors

When suspecting faulty memory is causing the system issue, check the following:

1. Make sure that the memory modules are compatible with the system and are properly installed. See "Maintenance and Component Installation" on page 32 for installation instructions. (For memory compatibility, refer to the "Tested Memory List" link on the motherboard's product page to see a list of supported memory.)
2. Check if different speeds of DIMMs have been installed. It is strongly recommended that you use the same RAM type and speed for all DIMMs in the system.
3. Make sure that you are using the correct type of DIMMs recommended by the manufacturer.
4. Check for bad DIMMs or slots by swapping a single module among all memory slots and check the results.

Losing the System's Setup Configuration

1. Make sure that you are using a high-quality power supply. A poor-quality power supply may cause the system to lose the CMOS setup information. Refer to "Introduction" on page 11 for details on recommended power supplies.
2. The battery on your motherboard may be old. Check to verify that it still supplies approximately 3 VDC. If it does not, replace it with a new one.

If the System Becomes Unstable

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

1. Processor/BIOS support: Make sure that your processor is supported and that you have the latest BIOS installed in your system.
2. Memory support: Make sure that the memory modules are supported. Refer to the product page on our website at https://www.supermicro.com. Test the modules using memtest86 or a similar utility.

   Note: Click on the "Tested Memory List" link on the motherboard's product page to see a list of supported memory.

3. Storage Drive support: Make sure that all storage drives work properly. Replace the failed storage drives with good ones.
4. System cooling: Check the system cooling to make sure that all heatsink fans and processor/system fans, etc., work properly. Check the hardware monitoring settings in the BMC to make sure that the processor 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. 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 a CD/Media drive.
2. Cable connection: Check to make sure that all cables are connected and working properly.
3. Use the minimum configuration for troubleshooting: Remove all unnecessary components (starting with add-on cards first), and use the minimum configuration (but with the processor and a memory module installed) to identify the trouble areas. Refer to the steps listed above in this section for proper troubleshooting procedures.
4. Identify 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 CMOS Clear

JBT1 on the H14SST-G motherboard is used to clear CMOS, which will also clear any passwords. For information on clearing CMOS, refer to "CMOS Clear" on page 70 earlier in this manual.

7.5 Motherboard Battery

For information on removing, disposing of, and replacing the motherboard battery of your system, refer to "Motherboard Battery Removal and Installation" on page 54.

7.6 Where to Get Replacement Components

If you need replacement parts for your AS -2116GT-HNTF server, 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 on the Supermicro website:

https://www.supermicro.com

Under the "Buy" menu, click the "Where to Buy" link.

7.7 Technical Support Procedures

Before contacting Technical Support, take the following steps. Also, note that as a motherboard manufacturer, Supermicro also sells motherboards through its channels, so it is best to first check with your distributor or reseller for troubleshooting services. They should know of any possible problems with the specific system configuration that was sold to you.

1. Refer to "Troubleshooting Procedures" on page 85 or see the FAQs on our website (https://www.supermicro.com/FAQ/index.php) before contacting Technical Support.
2. BIOS upgrades can be downloaded from our website (https://www.supermicro.com/support/resources/bios_ipmi.php).
3. If you still cannot resolve the problem, include the following information when contacting Supermicro for technical support:
   - Motherboard model and PCB revision number
   - BIOS release date/version (This can be seen on the initial display when your system first boots up.)
   - System configuration
4. An example of a Technical Support form is on our website at https://webpr3.supermicro.com/SupportPortal.
5. Distributors: For immediate assistance, have your account number ready when placing a call to our Technical Support department. For Supermicro contact information, refer to "Contacting Supermicro" on page 10.

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 the server to the manufacturer, the RMA number should be prominently displayed on the outside of the shipping carton, and the shipping package is 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 can be requested online at the following page:

https://www.supermicro.com/RmaForm

Whenever possible, repack the server in the original Supermicro carton, using the original packaging material. If these are no longer available, be sure to pack the server securely, using packaging material to surround the server 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 alternation, misuse, abuse or improper maintenance of products.

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

7.8 Feedback

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

Chapter 8:

UEFI BIOS

The following content contains information on BIOS configuration with the AS -2116GT-HNTF server.

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8.5 BMC **101**
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8.8 Save & Exit **106**

8.1 Introduction

This chapter describes the AMIBIOS™ Setup utility for the motherboard. The BIOS is stored on a chip and can be easily upgraded using the UEFI script (flash.nsh), the BMC WebUI, or the SuperServer Automation Assistant (SAA) utility.

Note: Due to periodic changes to the BIOS, some settings may have been added or deleted and might not yet be recorded in this manual. Refer to the Manual Download area of our website for any changes to BIOS that may not be reflected in this manual.

Updating BIOS

It is recommended that you do not upgrade your BIOS if you are not experiencing any problems with your system. Updated BIOS files are located on our website at the following page:

https://www.supermicro.com/support/resources/bios_ipmi.php

Check our BIOS warning message and the information on how to update your BIOS on our website. Select your motherboard model and download the BIOS file to your computer. Also, check the current BIOS revision to make sure that it is newer than your BIOS before downloading.

Important: Do not shut down or reset the system while updating the BIOS to prevent possible system boot failure! Read the motherboard README file carefully before you perform the BIOS update.

[Please ask your PMs to review and confirm the BIOS update procedure below because it is not for all motherboards.]

To update the BIOS under the UEFI Shell, unzip the BIOS file onto a bootable USB device and then boot into the built-in UEFI Shell. For motherboards with BMC support, type "flash.nsh <BIOS filename><BMC Username><BMC Password>" to start the BIOS update. The flash.nsh script will invoke the SAA (EFI) tool automatically to perform the BIOS update, beginning with uploading the BIOS image to BMC. After uploading the BIOS image, the system will reboot to continue the process. The BMC will take over and continue the BIOS update in the background. The process will take 3–5 minutes. Refer to the README file for more information.

Starting the Setup Utility

To enter the BIOS Setup utility, press the <Delete> key while the system is booting-up. In most cases, the <Delete> key is used to invoke the BIOS Setup screen. There are a few cases when other hot keys are used, such as <F1>, <F2>, etc. Each main BIOS menu option is described in

this manual.

The Main BIOS screen has two main frames. The left frame displays all the options that can be configured. “Grayed-out” options cannot be configured. The right frame displays the key legend. Above the key legend is an area reserved for a text message. When a BIOS submenu or item is selected in the left frame, it is highlighted in white. Often a text message will accompany it. (Note that BIOS has default text messages built in. We retain the option to include, omit, or change any of these text messages.) Settings printed in Bold are the default values.

A "►" indicates a submenu. Highlighting such an item and pressing the <Enter> key open the list of settings within that submenu.

The BIOS Setup utility uses a key-based navigation system called hot keys. Most of these hot keys (<F1>, <F2>, <F3>, <F4>, <F5>, <F6>, <Enter>, <ESC>, the arrow keys, etc.) can be used at any time during the setup navigation process.

8.2 Main Setup

When you first enter the AMI BIOS Setup utility, you enter the Main setup screen. You can always return to the Main setup screen by selecting the Main tab on the top of the screen. The Main BIOS setup screen is shown below.

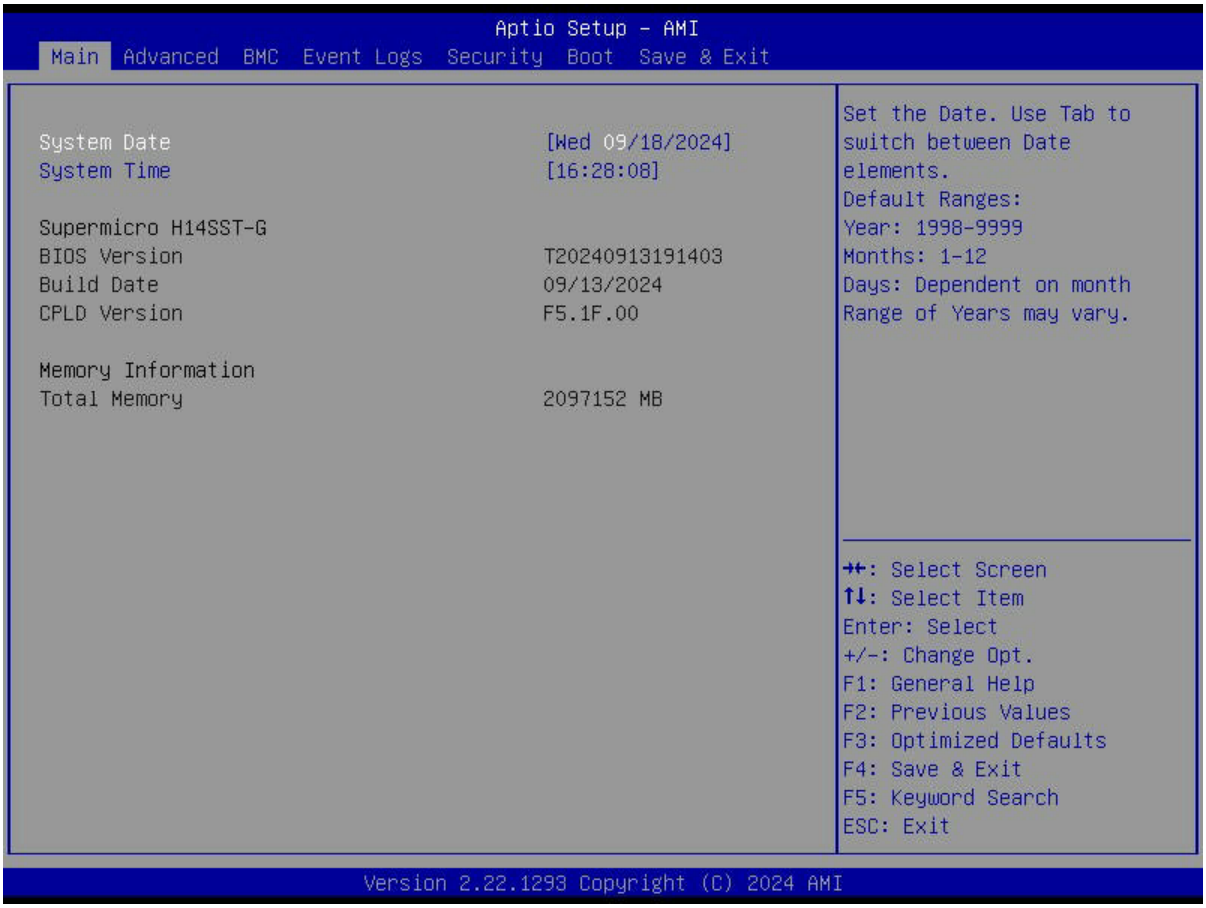


Figure 8-1. BIOS Main Setup Screen

System Date/System Time

Use the two features to change the system date and time. Highlight **System Date** or **System Time** using the arrow keys. Enter new values using the keyboard. Press the <Tab> key or the arrow keys to move between fields. The date must be entered in MM/DD/YYYY format. The time is entered in HH:MM:SS format.

Note: The time is in the 24-hour format. For example, 5:30 P.M. appears as 17:30:00.

Supermicro H14SST-G

BIOS Version

This feature displays the version of the BIOS ROM used in the system.

Build Date

This feature displays the date when the version of the BIOS ROM used in the system was built.

CPLD Version

This feature displays the version of the Complex-Programmable Logical Device (CPLD) used in the system.

Memory Information

Total Memory

This feature displays the total size of memory available in the system.

8.3 Advanced Setup Configurations

Use the arrow keys to select the Advanced submenu and press <Enter> to access the submenu items.

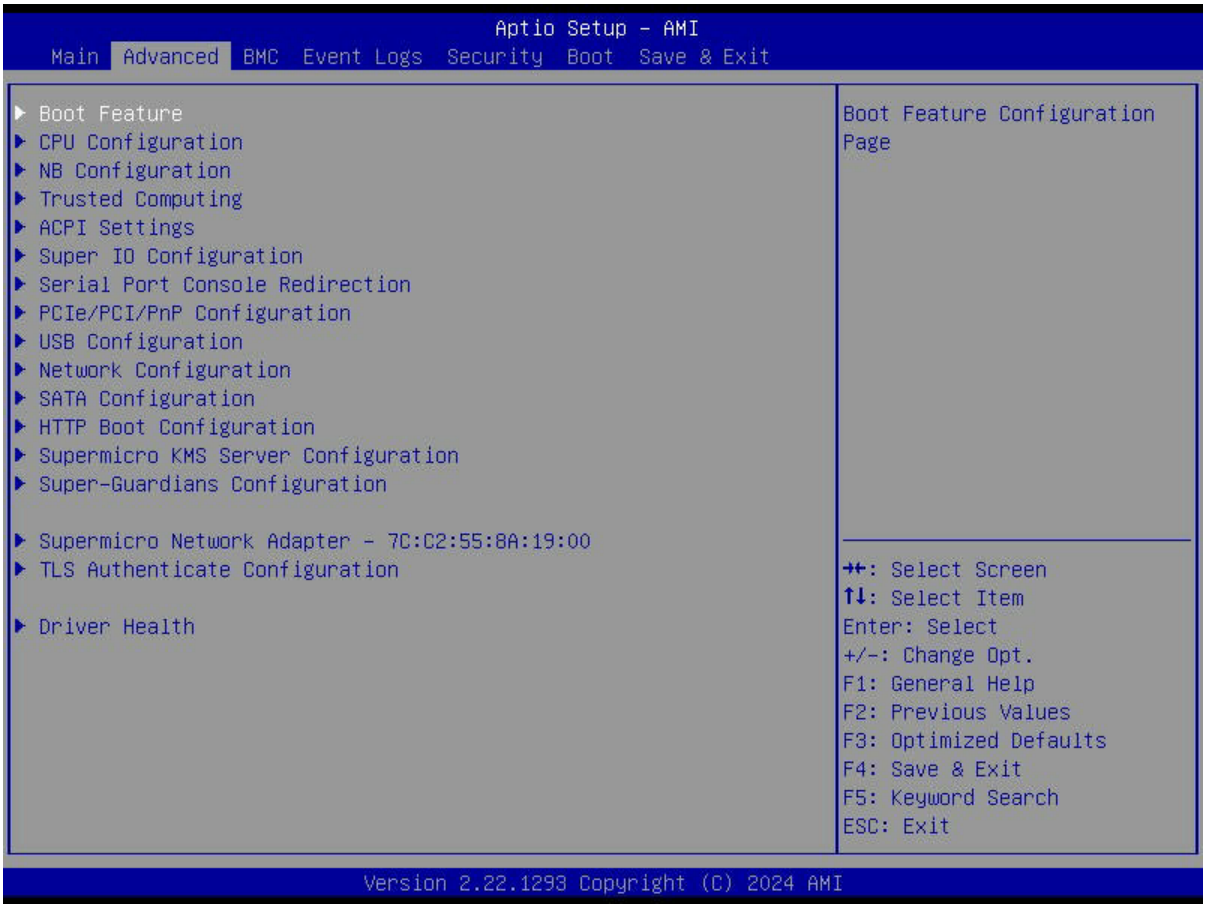


Figure 8-2. Advanced BIOS Screen

Warning! Take caution when changing the Advanced settings. An incorrect value, an improper DRAM frequency, or a wrong BIOS timing setting may cause the system to malfunction. When this occurs, revert the setting to the manufacture default settings.

8.4 Event Logs

Use this menu to configure Event Logs settings.

Note: After you've made any changes in this section, please be sure to reboot the system for the changes to take effect.

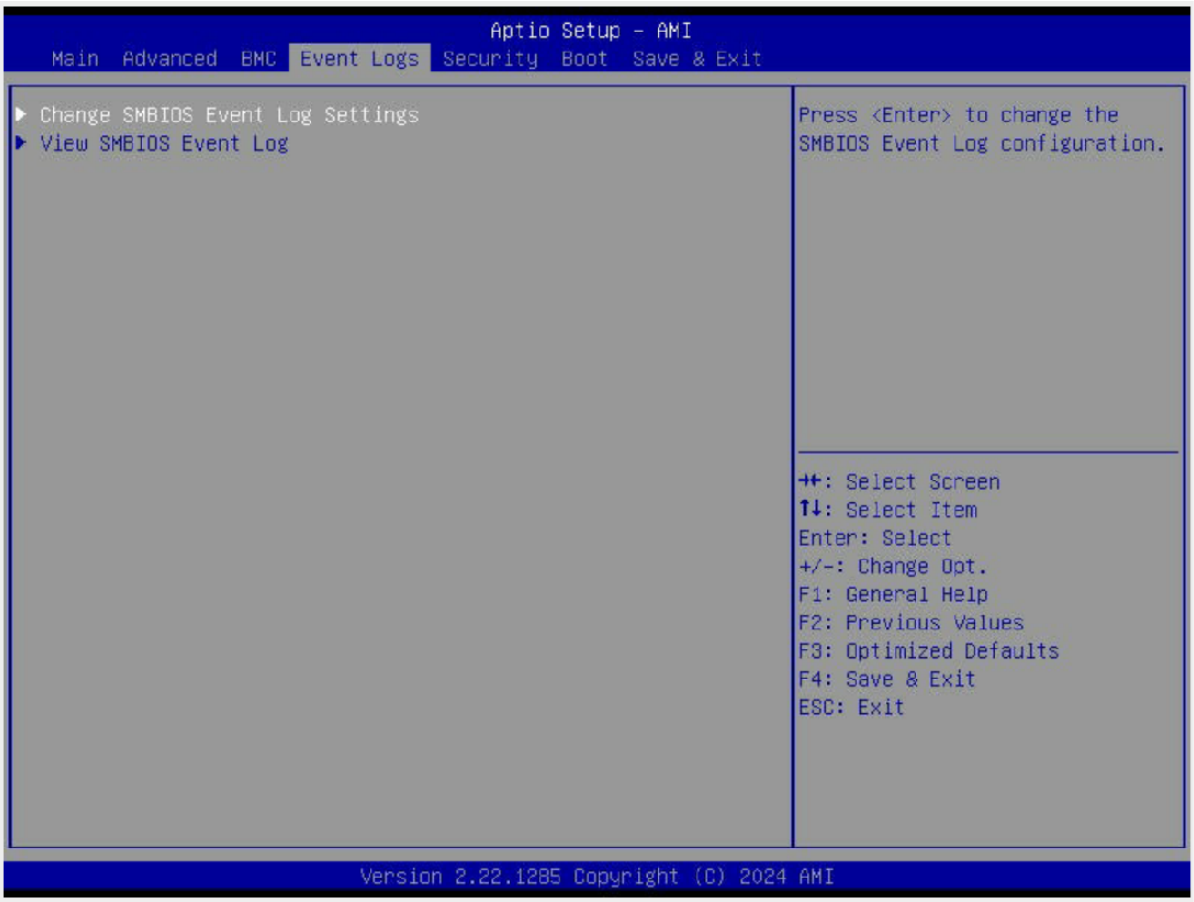


Figure 8-3. Event Logs Tab Screen

8.5 BMC

Use this menu to configure Baseboard Management Console (BMC) settings.

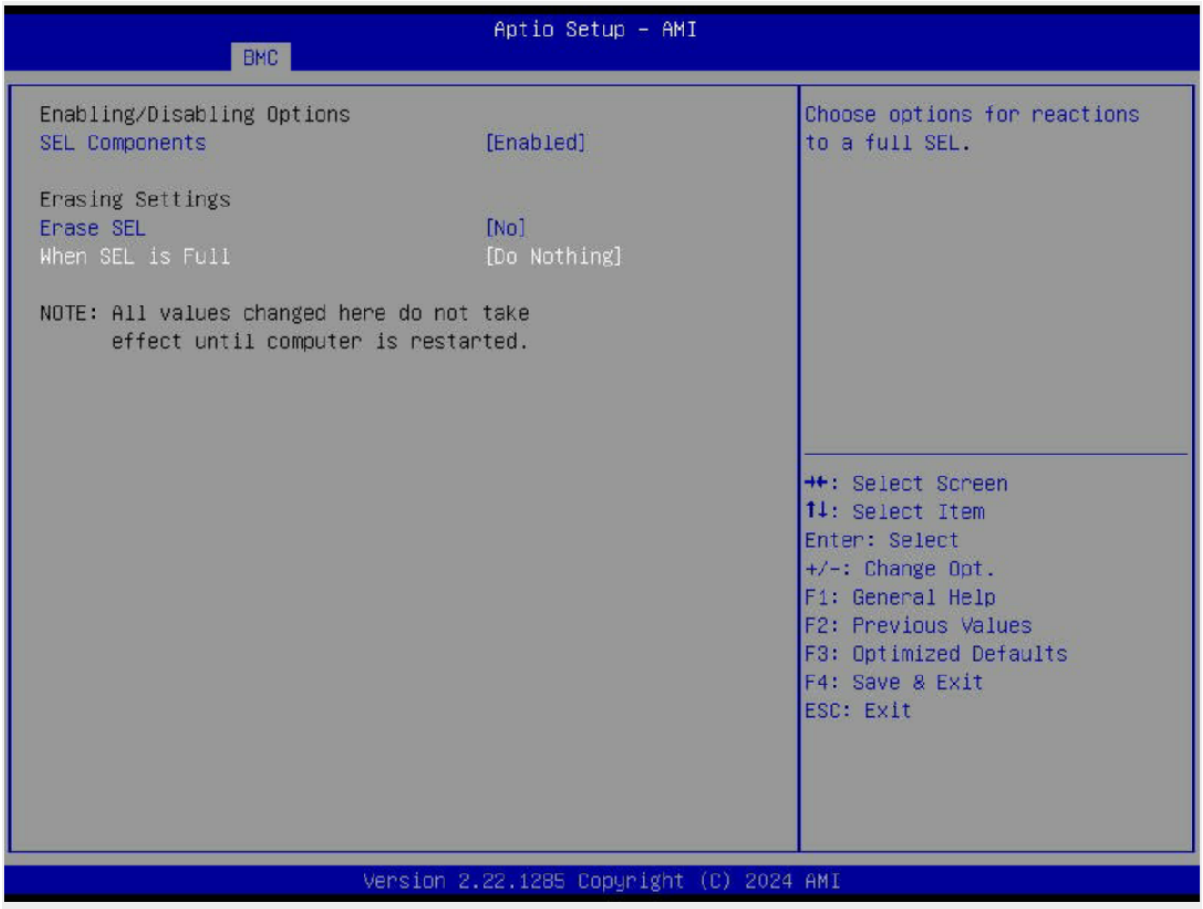


Figure 8-4. BMC Tab Screen

BMC Firmware Revision

This feature indicates the BMC firmware revision used in this system.

BMC STATUS

This feature indicates the status of the BMC firmware installed in this system.

8.6 Security

This menu allows you to configure the following security settings for the system.

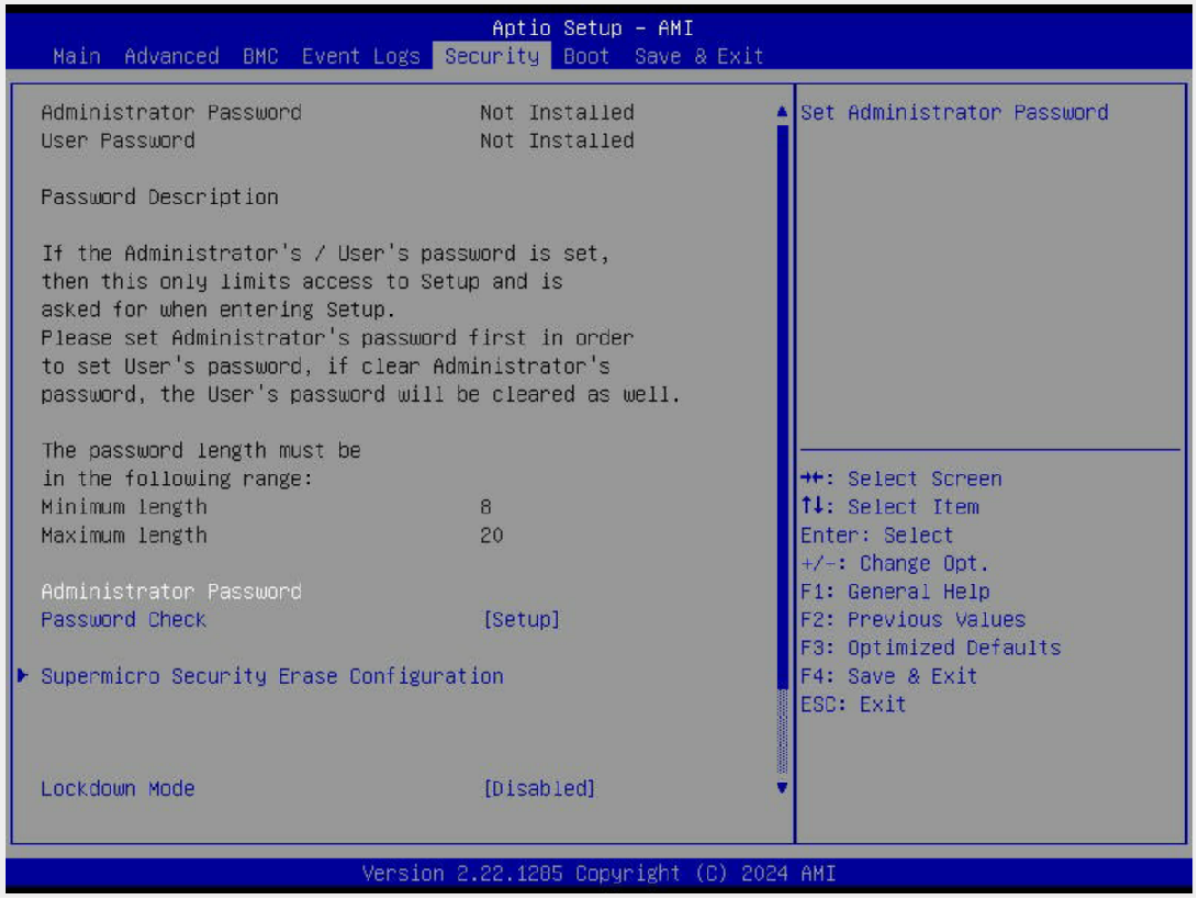


Figure 8-5. Security Tab Screen

Disable Block Sid and Freeze Lock (Available when your storage devices support TCG)

Select Enabled to allow SID authentication to be performed in TCG storage devices. The options are **Disabled** and Enabled.

The following information is displayed:

- Administrator Password
- User Password
- Password Description

Administrator Password

This feature indicates if an administrator password has been installed. Use this feature to set the administrator password, which is required to enter the BIOS Setup utility. The length of the password can be between three and 20 characters long.

User Password (Available when "Administrator Password" has been set)

This feature indicates if a user password has been installed. Use this feature to set the user password which is required to enter the BIOS Setup utility. The length of the password can be between three and 20 characters long.

Password Check

Select Setup for the system to check for a password upon entering the BIOS Setup utility. Select Always for the system to check for the passwords needed at bootup and upon entering the BIOS Setup utility. The options are **Setup** and Always.

Hard Drive Security Frozen

Select Enabled to freeze the Lock Security feature for HDD to protect key data in hard drives from being altered. The options are **Disabled** and Enabled.

Lockdown Mode (Available when the DCMS key is activated)

Select Enabled to support the Lockdown Mode, which prevents the existing data or keys stored in the system from being altered or changed in an effort to preserve system integrity and security. The options are **Disabled** and Enabled.

8.7 Boot

Use this menu to configure Boot settings.

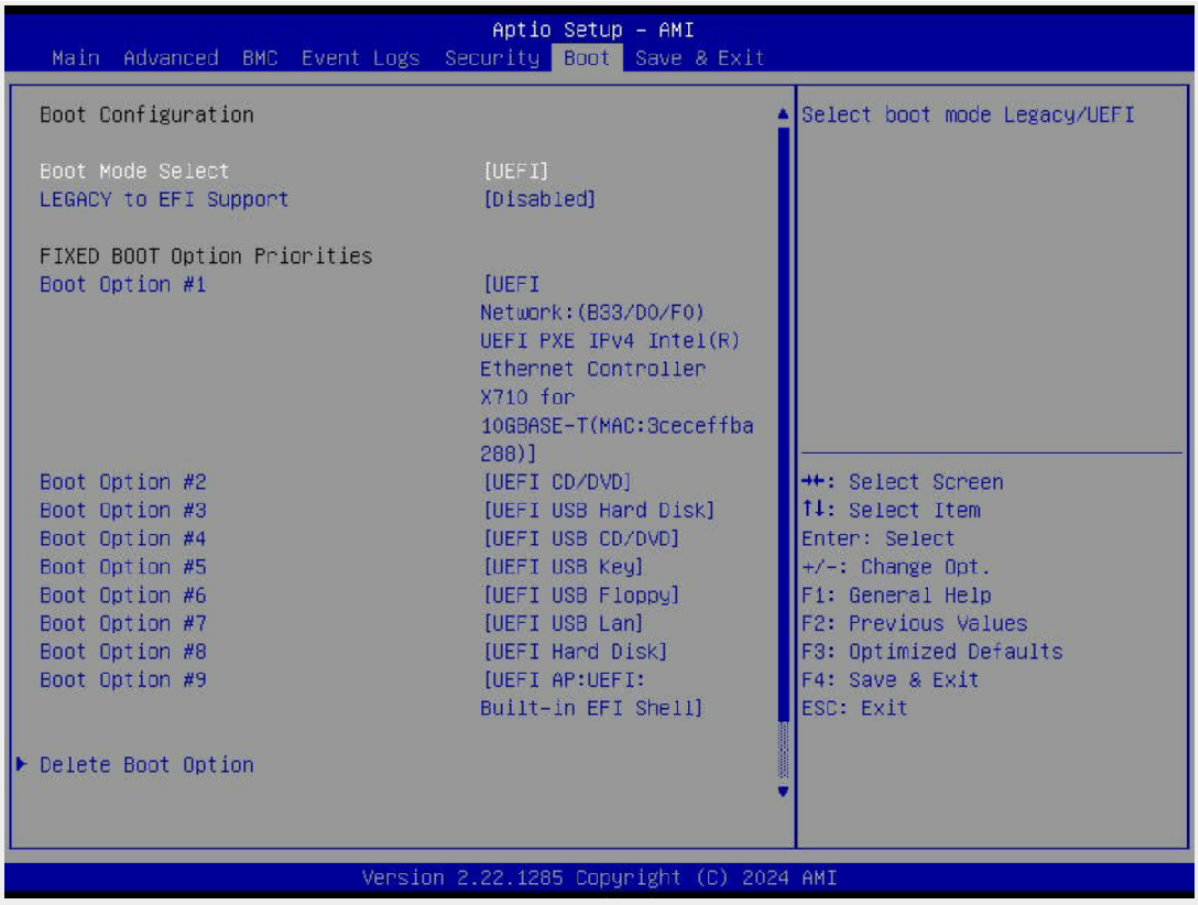


Figure 8-6. Boot Tab Screen

FIXED BOOT ORDER Priorities

Use this feature to prioritize the order of a bootable device from which the system will boot. Press <Enter> on each item sequentially to select the device.

- Boot Option #1 – Boot Option #9

►Add New Boot Option

Use this feature to add a new boot option to the boot priority features for system boot.

Note: This submenu is available when any storage device is detected by the BIOS.

Add boot option

Use this feature to specify the name for the new boot option.

Path for boot option

Use this feature to enter the path for the new boot option in the format fsx:\path\filename.efi.

Boot option File Path

Use this feature to specify the file path for the new boot option.

Create

After setting the name and the file path for the boot option, press <Enter> to create the new boot option in the boot priority list.

►Delete Boot Option

Use this feature to select a boot device to delete from the boot priority list.

Delete Boot Option

Use this feature to remove an EFI boot option from the boot priority list.

►UEFI NETWORK Drive BBS Priorities

Use this feature to set the system boot order of detected devices.

►UEFI Application Boot Priorities

Use this feature to set the system boot order of detected devices.

►UEFI USB Key Drive BBS Priorities

Use this feature to set the system boot order of detected devices.

►UEFI Hard Disk Drive BBS Priorities

Use this feature to set the system boot order of detected devices.

8.8 Save & Exit

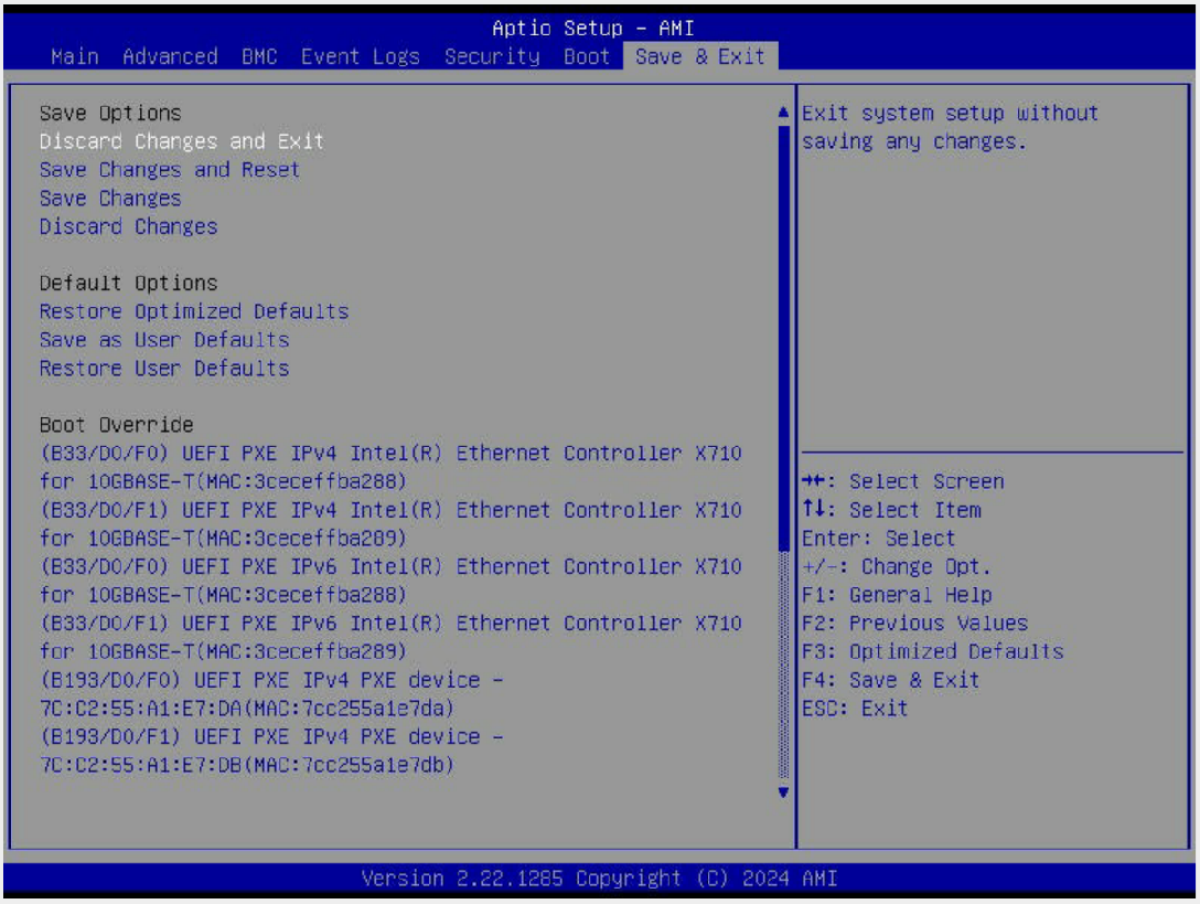


Figure 8-7. Save & Exit Tab

Save Options

Discard Changes and Exit

Use this feature to exit from the BIOS Setup utility without making any permanent changes to the system configuration and reboot the computer.

Save Changes and Reset

On completing the system configuration changes, use this feature to exit the BIOS Setup utility and reboot the computer for the new system configuration parameters to take effect.

Save Changes

On completing the system configuration changes, use this feature to save all changes made. This will not reset (reboot) the system.

Discard Changes

Select this feature and press <Enter> to discard all changes made and return to the BIOS Setup utility.

Default Options

Restore Optimized Defaults

Select this feature and press <Enter> to load manufacturer optimized default settings, which are intended for maximum system performance but not for maximum stability.

Note: Reboot the system for the changes to take effect to ensure that the system has the optimized default settings.

Save as User Defaults

Select this feature and press <Enter> to save all changes as the default values specified to the BIOS Setup utility for future use.

Restore User Defaults

Select this feature and press <Enter> to retrieve user-defined default settings that have been saved previously.

Boot Override

Note: Use this section to override the Boot priorities sequence in the Boot menu, and immediately boot the system with a device specified here instead of the one specified in the boot list. This is a one-time boot override.

Appendix 9:

Standardized Warning Statements for AC Systems

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 section in its entirety before installing or configuring components in the Supermicro AS -2116GT-HNTF server.

These warnings may also be found on our website at the following page:

https://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 familiar with standard practices for preventing accidents.

تحذير! هذا الرمز التحذيري يعني خطر. إنك في موقف قد يتسبب في إصابة جسدية. قبل العمل على أي أجهزة يجب أن تكون على دراية بالممارسات القياسية للحيلولة دون وقوع حوادث.

警告！此警告符号代表危险，表示正处于可能遭受严重身体伤害的工作环境。在使用任何设备开始工作之前，务必熟悉防止事故发生的标准工作规范。

警告！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。操作任何設備之前，請熟悉標準做法以預防事故發生。

Advarsel! Dette advarselssymbol betyder fare. Du er i en situation, der kan føre til personskader. Før du arbejder på noget udstyr, skal du være bekendt med standardpraksis for at forebygge ulykker.

Waarschuwing! Dit waarschuwingssymbool betekent gevaar. U bevindt zich in een situatie die lichamelijk letsel zou kunnen veroorzaken. Voordat u aan enige apparatuur gaat werken, moet u vertrouwd zijn met standaard praktijken voor het voorkomen van ongevallen.

Varoitus! Tämä varoitussymboli tarkoittaa vaaraa. Olet tilanteessa, joka voi aiheuttaa ruumiinvammoja. Ennen kuin ryhdyt työskentelemään laitteiden parissa, tutustu onnettomuuksien ehkäisemistä koskeviin vakiintuneisiin käytäntöihin.

Attention! 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, familiarisez-vous avec les procédures couramment utilisées pour éviter les accidents.

Warnung! Dieses Warnsymbol bedeutet Gefahr. Sie befinden sich in einer Situation, die zu Körperverletzungen führen kann. Bevor Sie an Geräten arbeiten, machen Sie sich mit den üblichen Verfahren zur Unfallverhütung vertraut.

אזהרה! סמל אזהרה זה מסמן סכנה. אתה נמצא במצב שעלול לגרום לפגיעה גופנית. לפני שתתחיל לעבוד על כל ציוד, הכר את הנהלים הסטנדרטיים למניעת תאונות.

चेतावनी! यह चेतावनी चिह्न खतरे का प्रतीक है। आप ऐसी स्थिति में हैं जिससे शारीरिक चोट लग सकती है। किसी भी उपकरण पर काम करने से पहले, दुर्घटनाओं को रोकने के लिए मानक प्रथाओं से परिचित हो लें।

警告！ この警告記号は危険を意味します。人身事故につながる可能性のある状況にあります。機器で作業を行う前に、標準的な事故防止策に精通してください。

경고! 이 경고 기호는 위험이 있음을 알려 줍니다. 신체 상해를 초래할 수 있는 상황입니다. 장비에서 작업하기 전에 사고 예방을 위한 표준 수칙을 숙지하십시오.

Advarsel! Dette advarselsymbolet betyr fare. Du er i en situasjon som kan forårsake kroppsskade. Før du arbeider på noe utstyr, må du gjøre deg kjent med standardrutiner for å forhindre ulykker.

¡Advertencia! Este símbolo de advertencia significa peligro. Se encuentra en una situación que podría provocar lesiones corporales. Antes de trabajar con cualquier equipo, familiarícese con las prácticas estándar para prevenir accidentes.

Varning! Denna varningssymbol betyder fara. Du befinner dig i en situation som kan orsaka personskada. Innan du arbetar på någon utrustning måste du bekanta dig med standardrutiner för att förhindra olyckor.

Electrical Warning Definition



Warning! This warning symbol indicates high voltage may be encountered when performing a procedure. Before you work on any equipment, be aware of the hazards involved with electrical circuitry.

تحذير! يشير رمز التحذير هذا إلى احتمالية مواجهة جهد كهربائي عالٍ عند إجراء عملية ما. قبل البدء في العمل على أي أجهزة كن على دراية بالمخاطر المرتبطة بالدوائر الكهربائية.

警告！此警告符号表示作业过程中可能会遇到高电压。操作任何设备之前，请务必了解电路的危险。

警告！此警告符號表示執行程序時可能會遇到高電壓。操作任何設備之前，請瞭解與電路相關的危害。

Advarsel! Dette advarselssymbol indikerer, at der kan opstå høj spænding under udførelsen af en procedure. Før du arbejder på noget udstyr, skal du være opmærksom på de farer, der er forbundet med elektriske kredsløb.

Waarschuwing! Dit waarschuwingssymbool geeft aan dat men hoge spanning tegen kan komen bij het uitvoeren van een procedure. Voordat u aan enige apparatuur gaat werken, moet u zich bewust zijn van de gevaren van elektrische schakelsystemen.

Varoitus! Tämä varoitussymboli osoittaa, että toimenpiteen suorittamisen aikana voi esiintyä korkeaa jännitettä. Ennen kuin ryhdyt työskentelemään laitteiden parissa, ota huomioon sähköpiireihin liittyvät vaarat.

Attention! Ce symbole d'avertissement indique un risque d’exposition à une tension élevée lors de l'exécution d'une procédure. Avant de travailler sur un équipement, prenez connaissance des dangers liés aux circuits électriques.

Warnung! Dieses Warnsymbol weist darauf hin, dass bei der Durchführung eines Vorgangs Hochspannung auftreten kann. Bevor Sie an Geräten arbeiten, machen Sie sich mit den Gefahren elektrischer Schaltungen vertraut.

אזהרה! סמל אזהרה זה מציין כי ייתכן שתיתקל במתח גבוה בעת ביצוע הליך. לפני עבודה על ציוד כלשהו, עליך להיות מודע לסכנות הכרוכות במעגלים חשמליים.

चेतावनी! यह चेतावनी चिह्न इंगित करता है कि प्रक्रिया को निष्पादित करते समय उच्च वोल्टेज का सामना करना पड़ सकता है। किसी भी उपकरण पर काम करने से पहले, विद्युत सर्किट्री से जुड़े खतरों के प्रति सचेत रहें।

警告！ この警告記号は、手順を実行する際に高電圧が発生する可能性があることを示しています。機器で作業を行う前に、電気回路に関連する危険に注意してください。

경고! 이 경고 기호는 절차 수행 중 고전압에 노출될 수 있음을 알려 줍니다. 장비에서 작업하기 전에 전기 회로와 관련된 위험 요소를 충분히 인지하십시오.

Advarsel! Dette varselsymbolet indikerer at det kan oppstå høy spenning når en prosedyre utføres. Før du arbeider på utstyr, må du være oppmerksom på farene forbundet med elektriske kretser.

¡Advertencia! Este símbolo de advertencia indica que puede haber alto voltaje al realizar un procedimiento. Antes de trabajar con cualquier equipo, tenga en cuenta los peligros que conllevan los circuitos eléctricos.

Varning! Denna varningssymbol indikerar att hög spänning kan förekomma när en procedur utförs. Innan du arbetar med någon utrustning ska du vara medveten om de faror som är förknippade med elektriska kretsar.

Installation Instructions



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

تحذير! اقرأ تعليمات التثبيت قبل توصيل النظام بمصدر الطاقة.

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。

Advarsel! Læs monteringsvejledningen, før systemet sluttes til strømforsyningen.

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

Varoitus! Lue asennusohjeet ennen järjestelmän liittämistä virtalähteeseen.

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

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

אזהרה! יש לקרוא את הוראות ההתקנה לפני חיבור המערכת למקור המתח.

चेतावनी! सिस्टम को बिजली के स्रोत से जोड़ने से पहले स्थापना निर्देश पढ़ें।

警告！ 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。

경고! 시스템을 전원에 연결하기 전에 설치 안내를 읽어주십시오.

Advarsel! Les installasjonsinstruksjonene før du kobler systemet til strømkilden.

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

Varning! Läs installationsanvisningarna innan du ansluter systemet till strömkällan.

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 VAC, 20 A.

تحذير! يعتمد هذا المنتج على التركيبات الكهربائية في المبنى للحماية من حدوث قصر دائرة (تيار زائد). تأكد من أن تصنيف جهاز الحماية لا يتجاوز: 250 فولت تيار متردد, 20 أمبير.

警告！此产品由建筑物的供电系统提供短路(过载)保护，并确保额定电压/电流不大于 250 VAC/20 A。

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 250 VAC、20 A。

Advarsel! Dette produkt forudsætter, at bygningens elinstallation sørger for kortslutningsbeskyttelse (overstrøm). Sørg for, at beskyttelsesanordningen ikke er klassificeret til mere end: 250 VAC, 20 A.

Waarschuwing! Dit product vertrouwt op de installatie van het gebouw voor kortsluitbeveiliging (overstroombeveiliging). Zorg ervoor dat de beveiligingsvoorziening is gespecificeerd voor niet meer dan: 250 VAC, 20 A.

Varoitus! Tämä tuote on riippuvainen rakennuksen asennuksesta oikosulku- (ylivirta-) suojauksen osalta. Varmista, että suojalaitteen nimellisarvot eivät ylitä seuraavia arvoja: 250 VAC, 20 A.

Attention! Ce produit dépend de l'installation du bâtiment pour la protection contre les courts-circuits (surintensité). Assurez-vous que le dispositif de protection n'est pas supérieur à : 250 VAC, 20 A.

Warnung! Dieses Produkt ist auf den Kurzschluss- bzw. Überstromschutz der Gebäudeinstallation angewiesen. Stellen Sie sicher, dass die Schutzvorrichtung für maximal 250 VAC, 20 A ausgelegt ist.

אזהרה! מוצר זה מסתמך על תשתית החשמל של המבנה להגנה מפני קצר חשמלי (זרם יתר). ודא שדירוג התקן ההגנה אינו עולה על: 250 VAC, 20 A.

चेतावनी! यह उत्पाद शॉर्ट-सर्किट (ओवरकरंट) सुरक्षा के लिए भवन की स्थापना पर निर्भर करता है। सुनिश्चित करें कि सुरक्षात्मक उपकरण की रेटिंग निम्नलिखित से अधिक न हो: 250 VAC, 20 A.

警告！ 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。保護装置の定格が次の値以下であることを確認ください：250 VAC、20 A。

경고! 이 제품은 단락(과전류) 방지에 대해서 전적으로 건물의 관련 설비에 의존합니다. 보호 장치의 정격이 다음 값을 초과하지 않도록 하십시오: 250 VAC(볼트), 20 A(암페어).

Advarsel! Dette produktet er avhengig av bygningens installasjon for kortslutningsbeskyttelse (overstrømsbeskyttelse). Sørg for at beskyttelsesanordningen ikke er klassifisert som høyere enn: 250 V vekselstrøm, 20 A.

¡Advertencia! Este producto depende de la instalación del edificio para protección contra cortocircuitos (sobrecorriente). Asegúrese de que el dispositivo de protección tenga una clasificación no mayor a: 250 VAC, 20 A.

Varning! Denna produkt är beroende av byggnadens installation för kortslutningsskydd (överströmsskydd). Se till att skyddsanordningen inte är märkt för mer än: 250 VAC, 20 A.

Power Disconnection Warning



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

تحذير! يجب فصل النظام عن جميع مصادر الطاقة، وإزالة سلك الطاقة من وحدة/وحدات إمداد الطاقة قبل الدخول إلى الجزء الداخلي من الهيكل لتركيب أو فك مكونات النظام (باستثناء المكونات القابلة للاستبدال السريع).

警告！在打开机箱并安装或移除内部器件(热插拔器件除外)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(熱插拔元件除外)前，必須將系統完全斷電，並移除電源線。

Advarsel! Systemet skal afbrydes fra alle strømkilder, og strømkablet skal fjernes fra strømforsyningsmodulerne, før der gives adgang til kabinettet for at montere eller fjerne systemkomponenter (undtagen hot-swap-komponenter).

Waarschuwing! Het systeem moet worden losgekoppeld van alle voedingen en het stroomsnoer moet uit de voedingsmodule(s) worden gehaald voorafgaand aan toegang tot de binnenkant van het chassis voor installeren of verwijderen van systeemcomponenten (behalve hot-swap componenten).

Varoitus! Järjestelmä on irrotettava kaikista virtalähteistä ja virtajohto on irrotettava virtalähdemoduulista (moduuleista) ennen kotelon sisälle pääsyä järjestelmän komponenttien asentamista tai poistamista varten (lukuun ottamatta hot-swap-komponentteja).

Attention! Le système doit être déconnecté de toutes les sources d'alimentation et le cordon d'alimentation doit être débranché du/des modules d'alimentation avant d'accéder à l'intérieur du châssis pour installer ou retirer des composants du système (à l'exception des composants remplaçables à chaud).

Warnung! Das System muss von allen Stromquellen getrennt und das Netzkabel von den Netzteilmodulen entfernt werden, bevor auf den Innenraum des Chassis zugegriffen wird, um Systemkomponenten zu installieren oder zu entfernen (ausgenommen Hot- Swap-Komponenten).

אזהרה! יש לנתק את המערכת מכל מקורות הכוח ולהסיר את כבל החשמל ממודול/י אספקת החשמל לפני הגישה לחלק הפנימי של המארז לצורך התקנה או הסרה של רכיבי המערכת (למעט רכיבים הניתנים להחלפה חמה).

चेतावनी! सिस्टम के घटकों को इंस्टॉल करने या निकालने (हॉट-स्वैप घटकों को छोड़कर) के लिए चेसिस के आंतरिक भाग तक पहुँचने से पहले, सिस्टम को बिजली के सभी स्रोतों से डिस्कनेक्ट किया जाना चाहिए और बिजली की आपूर्ति मॉड्यूल से पावर कॉर्ड को निकाल दिया जाना चाहिए।

警告！ システムコンポーネント(ホットスワップコンポーネントを除く) の取り付けまたは取り外しを行うために、シャーシ内部にアクセスするには、システムの電源はすべてのソースから切断され、電源コードは電源モジュールから取り外す必要があります。

경고! (핫스왑 구성품을 제외하고) 시스템에 부품들을 장착하거나 제거하기 위해서는 섀시 내부에 접근하기 전에 반드시 전원 공급장치로부터 연결되어있는 모든 전원과 전기코드를 분리해주어야 합니다.

Advarsel! Systemet må kobles fra alle strømkilder, og strømledningen må fjernes fra strømforsyningsmodulen (e) før man går inn i kabinettet for å installere eller fjerne systemkomponenter (unntatt komponenter som kan byttes ut under drift).

¡Advertencia! El sistema debe estar desconectado de todas las fuentes de energía y el cable de alimentación debe retirarse de los módulos de fuente de alimentación antes de acceder al interior del chasis para instalar o quitar componentes del sistema (excepto los componentes reemplazables en caliente).

Varning! Systemet måste vara frånkopplat från alla strömkällor och strömsladden måste vara borttagen från strömförsörjningsmodulerna innan du öppnar chassit för att installera eller ta bort systemkomponenter (med undantag för hot-swap-komponenter).

Equipment Installation

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

تحذير! لا يُسمح إلا للعاملين المعتمدين وفنيي الخدمة المؤهلين بتركيب هذا الجهاز أو استبداله أو صيانته.

警告！ 仅限经过授权培训且拥有相关资质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。

Advarsel! Dette udstyr må kun installeres, udskiftes eller serviceres af autoriseret personale og kvalificerede servicemedarbejdere.

Waarschuwing! Alleen geautoriseerd personeel en gekwalificeerd onderhoudspersoneel mag deze apparatuur installeren, vervangen of onderhouden.

Varoitus! Vain valtuutetut henkilöt ja pätevät huoltoteknikot saavat asentaa, vaihtaa tai huoltaa tätä laitetta.

Attention! Seul le personnel autorisé et le personnel de maintenance qualifié doivent être autorisés à installer, remplacer ou entretenir cet équipement.

Warnung! Nur autorisiertes Personal und qualifizierte Servicetechniker dürfen dieses Gerät installieren, austauschen oder warten.

אזהרה! רק אנשי צוות מורשים ואנשי שירות מוסמכים רשאים להתקין, להחליף או לטפל בציוד זה.

चेतावनी! केवल अधिकृत कर्मियों और योग्य सेवा व्यक्तियों को ही इस उपकरण को स्थापित करने, बदलने या सेवा देने की अनुमति दी जानी चाहिए।

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

경고!승인된 직원과 자격을 갖춘 서비스 담당자만이 이 장비를 설치, 교체 또는 서비스할 수 있습니다.

Advarsel! Kun autorisert personell og kvalifiserte servicefolk skal ha tillatelse til å installere, bytte ut eller utføre service på dette utstyret.

¡Advertencia! Sólo el personal autorizado y el personal de servicio calificado pueden instalar, reemplazar o dar servicio a este equipo.

Varning! Endast auktoriserad personal och kvalificerade servicetekniker får installera, byta ut eller utföra service på denna utrustning.

Rack Stability Hazard



Warning! Stability hazard. The rack may tip over causing serious personal injury. Before extending the rack to the installation position, read the installation instructions. Do not put any load on the slide-rail mounted equipment in the installation position. Do not leave the slide-rail mounted equipment in the installation position.

تحذير! خطر عدم الاستقرار. قد ينقلب الحامل، مما قد يتسبب في إصابات شخصية خطيرة. قبل تمديد الحامل إلى موضع التركيب اقرأ إرشادات التركيب. لا تضع أي حمولة على الأجهزة المركبة على حوامل منزلقة في وضع التركيب. لا تترك الأجهزة المركبة على حوامل منزلقة في وضع التركيب.

警告！稳定性危险。机架可能会翻倒，造成严重的人身伤害。在将机架延伸到安装位置之前，请阅读安装说明。请勿在安装位置对滑轨安装的设备施加任何负载。请勿将滑轨安装的设备留在安装位置。

警告！穩定性危險。機架可能會翻倒，造成嚴重的人身傷害。將機架延伸至安裝位置前，請先閱讀安裝說明。請勿在安裝位置的滑軌安裝設備上放置任何負載。請勿將滑軌安裝設備留在安裝位置。

Advarsel! Stabilitetsfare. Udstyrsskabet kan vælte, hvilket kan føre til alvorlige personskader. Læs monteringsvejledningen, før udstyrsskabet trækkes ud til monteringsstedet. Anbring ikke nogen belastning på udstyr monteret på skinner, når det er på monteringsstedet. Efterlad ikke udstyr monteret på skinner på monteringsstedet.

Waarschuwing! Gevaar voor instabiliteit. Het rack kan kantelen en ernstig persoonlijk letsel veroorzaken. Lees de installatie- instructies voordat u het rack uitschuift naar de installatiepositie. Plaats geen last op de op de glijrail gemonteerde apparatuur in de installatiepositie. Laat de op de glijrail gemonteerde apparatuur niet in de installatiepositie staan.

Varoitus! Vakausvaara. Teline voi kaatua ja aiheuttaa vakavia henkilövahinkoja. Ennen telineen asettamista asennusasentoon, lue asennusohjeet. Älä aseta mitään kuormitusta liukukiskoon asennettuihin laitteisiin asennusasennossa. Älä jätä liukukiskoon asennettuja laitteita asennusasentoon.

Attention! Danger d'instabilité. Le rack peut basculer et provoquer des blessures corporelles graves. Avant d'étendre le rack en position d'installation, lire les instructions d'installation. Ne pas charger l'équipement monté sur rail de glissière en position d'installation. Ne pas laisser l'équipement monté sur rail de glissière en position d'installation.

Warnung! Gefahr der Instabilität. Das Rack kann umkippen und schwere Verletzungen verursachen. Lesen Sie vor dem Ausziehen des Racks in die Installationsposition die Installationsanweisungen. Belasten Sie in der Installationsposition keine auf Gleitschienen montierten Geräte. Lassen Sie auf Gleitschienen montierte Geräte nicht unbeaufsichtigt in der Installationsposition.

אזהרה! סכנת יציבות. הארון עלול להתהפך ולגרום לפציעה גופנית חמורה. לפני הארכת הארון למצב התקנה, יש לקרוא את הוראות ההתקנה. אין להניח עומס כלשהו על הציוד המותקן על מסילות ההחלקה כשהוא במצב התקנה. אין להשאיר את הציוד המותקן על מסילות ההחלקה במצב התקנה.

चेतावनी! स्थिरता का खतरा। रैक पलट सकता है जिससे गंभीर व्यक्तिगत चोट लग सकती है। रैक को इंस्टालेशन स्थिति तक बढ़ाने से पहले, स्थापना निर्देश पढ़ें। स्थापना स्थिति में स्लाइड-रेल पर लगे उपकरणों पर कोई भार न डालें। स्लाइड-रेल पर लगे उपकरणों को स्थापना स्थिति में न छोड़ें।

警告！ 安定性に危険があります。ラックが転倒して、重大な人身事故を引き起こす可能性があります。ラックを設置位置まで伸ばす前に、設置手順をお読みください。設置位置にあるスライドレールに取り付けられた機器に負荷をかけないでください。スライドレールに取り付けられた機器を設置位置に放置しないでください。

경고!안정성 위험. 랙이 넘어져 심각한 개인 부상을 입을 수 있습니다. 랙을 설치 위치까지 확장하기 전에 설치 지침을 읽으십시오. 설치 위치에서 슬라이드 레일 장착 장비에 하중을 가하지 마십시오. 슬라이드 레일 장착 장비를 설치 위치에 두지 마십시오.

Advarsel! Stabilitetsfare. Stativet kan velte og forårsake alvorlig personskade. Les installasjonsanvisningen før du forlenger stativet till installasjonsposisjonen. Ikke belast utstyret som er montert på glideskinnen i installasjonsposisjon. Ikke la utstyret som er montert på glideskinnen stå i installasjonsposisjon.

¡Advertencia! Peligro de inestabilidad. El rack podría volcarse y causar lesiones personales graves. Antes de extender el rack a la posición de instalación, lea las instrucciones de instalación. No coloque ninguna carga sobre el equipo montado sobre rieles deslizantes en la posición de instalación. No deje el equipo montado sobre rieles deslizantes en la posición de instalación.

Varning! Stabilitetsrisk. Racket kan välta och orsaka allvarliga personskador. Läs monteringsanvisningarna innan du skjuter ut racket till monteringspositionen. Belasta ej utrustning som är monterad på glidskena i installationsläget. Lämna ej utrustning som är monterad på glidskena i monteringsläget.

Rack Equipment Warning

Warning! Rack-mounted equipment should not be used as a shelf or work space.

تحذير! لا ينبغي استخدام المعدات المثبتة على حوامل كرف أو مساحة عمل.

警告！机架式设备不应用作货架或工作空间。

警告！不得將機架式設備當作置物架或工作空間使用。

Advarsel! Udstyr, der er monteret i udstyrsskabe, må ikke bruges som hylder eller arbejdsflader.

Waarschuwing! In rack gemonteerde apparatuur moet niet worden gebruikt als plank of werkruimte.

Varoitus! Telineasennettavia laitteita ei saa käyttää hyllyinä tai työtasoina.

Attention! Un équipement installé en rack ne doit pas être utilisé comme une étagère ou un espace de travail.

Warnung! In Racks montierte Geräte dürfen nicht als Ablagefläche oder Arbeitsfläche verwendet werden.

אזהרה! אין להשתמש בציוד המותקן במסד (Rack) כמדף או כמשטח עבודה.

चेतावनी! रैक-माउंटेड उपकरण का उपयोग शेल्फ या कार्यक्षेत्र के रूप में नहीं किया जाना चाहिए।

警告！ ラックマウント機器を棚や作業スペースとして使用しないでください。

경고! 랙 장착 장비를 선반 또는 작업대처럼 사용하지 마십시오.

Advarsel! Rackmontert utstyr skal ikke brukes som hylle eller arbeidsområde.

¡Advertencia! Los equipos montados en rack no deben utilizarse como estante o espacio de trabajo.

Varning! Rackmonterad utrustning ska inte användas som hylla eller arbetsyta.

Restricted Access Location

Warning! This unit is intended for installation in restricted access areas. A restricted access area can be accessed only by an instructed person or a skilled person.

تحذير! هذه الوحدة مخصصة للتركيب في المناطق الممنوع الدخول إليها. يقتصر الدخول إلى منطقة منع الدخول إلا للأشخاص المدربين أو المهرة.

警告！此装置应安装在限制进出的场所，而此类场所仅限经过相关训练或技术熟练的人员进出。

警告！ 此部件應安裝在限制進出區域。只有受過指導的人員或專業人員才可進出限制進出區域。

Advarsel! Denne enhed er beregnet til montering i områder med begrænset adgang. Et område med begrænset adgang må kun tilgås af en instrueret person eller en fagkyndig person.

Waarschuwing! Deze eenheid is bedoeld voor installatie in gebieden met beperkte toegang. Er kan alleen toegang worden verkregen tot een gebied met beperkte toegang door een geïnstrueerde persoon of een ervaren persoon.

Varoitus! Tämä laite on tarkoitettu asennettavaksi rajoitetun pääsyn alueille. Rajoitetun pääsyn alueelle pääsee vain koulutettu tai ammattitaitoinen henkilö.

Attention! Cet appareil est destiné à être installé dans des zones à accès restreint. Une zone à accès restreint n'est accessible qu'à une personne formée ou qualifiée.

Warnung! Diese Einheit ist zur Installation in Bereichen mit beschränktem Zutritt vorgesehen. Ein Bereich mit beschränktem Zutritt darf nur von unterwiesenen oder fachkundigen Personen betreten werden.

אזהרה! יחידה זו מיועדת להתקנה באזורים עם גישה מוגבלת. ניתן לגשת לאזור עם גישה מוגבלת רק על ידי אדם שהוכשר לכך או אדם מיומן.

चेतावनी! यह इकाई प्रतिबंधित पहुँच वाले क्षेत्रों में स्थापना के लिए ही है। प्रतिबंधित पहुँच वाले क्षेत्र में केवल एक निर्देशित व्यक्ति या कुशल व्यक्ति द्वारा ही पहुँचा जा सकता है।

警告！ このユニットはアクセス制限区域に設置することを想定しています。アクセス制限区域は、トレーニングを受けた人または熟練者だけが出入り可能です。

경고!본 장치는 접근이 제한된 구역에 설치하도록 되어있습니다. 교육을 받은 사람 또는 숙련된 사람만 접근 제한 구역에 들어갈 수 있습니다.

Advarsel! Denne enheten er beregnet for installasjon i områder med begrenset tilgang. Et område med begrenset tilgang kan kun nås av en person som har fått instruksjoner eller en fagperson.

¡Advertencia! Esta unidad está diseñada para su instalación en áreas de acceso restringido. A un área de acceso restringido solo puede acceder una persona instruida o una persona capacitada.

Varning! Denna enhet är avsedd för installation i områden med begränsad åtkomst. Ett område med begränsad åtkomst får endast beträdas av en instruerad eller kvalificerad person.

Battery Handling



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

تحذير! يوجد خطر حدوث انفجار إذا تم استبدال البطارية بنوع غير صحيح. استبدل البطارية بنفس النوع أو نوع مكافئ موصى به من قبل الشركة المصنعة فقط. يجب التخلص من البطاريات المستخدمة وفقًا لإرشادات الجهة المصنعة.

警告！ 如果更换的电池类型不正确，有爆炸危险。更换电池时，请使用制造商推荐的相同或同等型号的电池。请按制造商的说明处理废旧电池。

警告！ 如果更換的電池類型不正確。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。

Advarsel! Der er risiko for eksplosion, hvis batteriet skiftes med et batteri af den forkerte type. Batteriet må kun skiftes med et batteri af samme eller tilsvarende type, der anbefales af producenten. Opbrugte batterier skal bortskaffes i henhold til vejledningerne fra producenten.

Waarschuwing! Er bestaat een explosiegevaar als de batterij wordt vervangen door een onjuist type. Vervang de batterij alleen door hetzelfde type of een soortgelijk type aanbevolen door de fabrikant. Verwijder gebruikte batterijen overeenkomstig de instructies van de fabrikant.

Varoitus! Väärän tyyppisen akun käyttö voi aiheuttaa räjähdysvaaran. Vaihda akku vain valmistajan suosittelemaan samaan tai vastaavaan tyyppiseen akkuun. Hävitä käytetyt paristot valmistajan ohjeiden mukaisesti.

Attention! Il y a un risque d'explosion si la batterie est remplacée par une d'un type incorrect. Remplacez la batterie uniquement par une d'un type identique ou équivalent recommandé par le fabricant. Éliminez les batteries usagées conformément aux instructions du fabricant.

Warnung! Es besteht Explosionsgefahr, wenn die Batterie durch einen falschen Typ ersetzt wird. Ersetzen Sie die Batterie ausschließlich durch denselben oder einen vom Hersteller empfohlenen gleichwertigen Typ. Entsorgen Sie gebrauchte Batterien gemäß den Anweisungen des Herstellers.

אזהרה! קיימת סכנת פיצוץ אם הסוללה תוחלף בסוללה מסוג שגוי. החלף את הסוללה רק בסוללה מאותו סוג או בסוללה מקבילה המומלצת על ידי היצרן. השלך סוללות משומשות בהתאם להוראות היצרן.

चेतावनी! यदि बैटरी को गलत प्रकार से बदला जाता है तो विस्फोट का जोखिम है। बैटरी को केवल निर्माता द्वारा अनुशंसित समान या समकक्ष प्रकार से ही बदलें। इस्तेमाल की गई बैटरियों का निपटान निर्माता के निर्देशों के अनुसार करें।

警告！ 電池を間違ったタイプに交換すると爆発する危険があります。交換する電池はメーカーが推奨するタイプ、または同等のものを使用してください。使用済み電池は、メーカーの指示に従って廃棄してください。

경고!배터리를 잘못된 종류로 교체하면 폭발의 위험이 있습니다. 기존 배터리와 동일하거나 제조사에서 권장하는 동등한 종류의 배터리로만 교체해야 합니다. 제조사의 안내에 따라 사용된 배터리를 처리하여 주십시오.

Advarsel! Det er fare for eksplosjon hvis batteriet byttes ut med et av feil type. Batterier skal kun byttes ut med et av lik eller tilsvarende type, som anbefalt av produsenten. Kast brukte batterier i henhold til produsentens instruksjoner.

¡Advertencia! Existe riesgo de explosión si se sustituye la batería por una de tipo incorrecto. Reemplace la batería únicamente con el mismo tipo o uno equivalente recomendado por el fabricante. Deseche las baterías usadas de acuerdo con las instrucciones del fabricante.

Varning! Det finns risk för explosion om batteriet byts ut mot en felaktig typ. Byt endast ut batteriet mot ett batteri av samma eller likvärdig typ som rekommenderas av tillverkaren. Kassera förbrukade batterier i enlighet med tillverkarens anvisningar.

Redundant Power Supplies



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

تحذير! قد تحتوي هذه الوحدة على أكثر من وصلة لإمداد الطاقة. يجب فصل جميع التوصيلات لفصل الطاقة عن الوحدة.

警告！本设备可能有多个电源连接。必须切断所有连接，才能使设备断电。

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。

Advarsel! Denne enhed kan have mere end én strømforsyningsforbindelse. Alle forbindelser skal fjernes for at deaktivere spændingen.

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

Varoitus! Laitteessa voi olla useampi kuin yksi virtalähteen liitäntä. Laitteen virta on katkaistava irrottamalla kaikki liitännät.

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.

Warnung! Diese Einheit kann über mehr als eine Stromversorgungsanschluss verfügen. Um sicherzustellen, dass die Einheit spannungsfrei ist, müssen alle Verbindungen entfernt werden.

אזהרה! יחידה זו עשויה לכלול יותר מחיבור אחד לספק כוח. יש לנתק את כל החיבורים כדי להפסיק את הזנת המתח ליחידה.

चेतावनी! इस इकाई में एक से अधिक पावर सप्लाई कनेक्शन हो सकते हैं। इकाई को ऊर्जा-मुक्त (डी-एनर्जाइज) करने के लिए सभी कनेक्शन हटा दिए जाने चाहिए।

警告！ 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。

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

Advarsel! Denne enheten kan ha mer enn én strømforsyningstilkobling. Alle tilkoblinger må fjernes for å gjøre enheten strømløs.

¡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.

Varning! Denna enhet kan ha mer än en strömförsörjningsanslutning. Alla anslutningar måste tas bort för att enheten ska bli strömlös.

Backplane Voltage



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

تحذير! يوجد جهد أو طاقة خطرة على اللوحة الخلفية أثناء تشغيل النظام. توخ الحذر عند إجراء الصيانة. اقرأ التعليمات قبل إجراء الصيانة.

警告！ 当系统运行时，背板上存在危险电压或能量，进行维修时务必小心。维修前请阅读使用说明。

警告！ 系統運作時，背板上存在危險電壓或能量。維修時請小心。維修前請閱讀說明書。

Advarsel! Når systemet er i drift, er farlig spænding eller energi til stede på bagpladen. Vær forsigtig ved servicering. Læs instruktionerne før service.

Waarschuwing! Gevaarlijke spanning of energie is aanwezig op de achterzijde wanneer het systeem in bedrijf is. Wees voorzichtig bij service. Lees de instructies voorafgaand aan service.

Varoitus! Järjestelmän ollessa käynnissä takapaneelissa on vaarallista jännitettä tai energiaa. Ole varovainen huoltotöiden aikana. Lue ohjeet ennen huoltoa.

Attention! Une tension ou de l’énergie dangereuse est présente sur le panneau arrière lorsque le système est en fonctionnement. Soyez prudent lors de l'entretien. Lisez les instructions avant d'effectuer un entretien.

Warnung! Bei eingeschaltetem System liegt an der Backplane gefährliche Spannung oder Energie an. Seien Sie bei Wartungsarbeiten vorsichtig. Lesen Sie vor der Wartung die Anweisungen.

אזהרה! מתח או אנרגיה מסוכנים קיימים בלוח האחורי כאשר המערכת פועלת. יש לנקוט בזהירות בעת ביצוע תחזוקה. קרא את ההוראות לפני ביצוע תחזוקה.

चेतावनी! जब सिस्टम चालू होता है, तो बैकप्लेन पर खतरनाक वोल्टेज या ऊर्जा मौजूद होती है। सर्विसिंग करते समय सावधानी बरतें। सर्विसिंग से पहले निर्देश पढ़ें।

警告！ システムの稼働中は、危険な電圧または電流がバックプレーン上にかかっています。修理を行う際には注意してください。修理を行う前に取扱説明書をお読みください。

경고!시스템이 동작 중일 때 후면판(Backplane)에는 위험한 전압이나 에너지가 발생합니다. 서비스 작업 시 주의하십시오. 서비스 작업 전에 지침을 읽으십시오.

Advarsel! Det er farlig spenning eller energi på bakplaten når systemet er i drift. Vær forsiktig ved service. Les instruksjonene før service.

¡Advertencia! Hay voltaje o energía peligrosos presentes en la placa posterior cuando el sistema está en funcionamiento. Tenga cuidado al realizar el mantenimiento. Lea las instrucciones antes de realizar el mantenimiento.

Varning! Farlig spänning eller energi finns på backplane när systemet är i drift. Var försiktig vid service. Läs instruktionerna före service.

Comply with Local and National Electrical Codes



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

تحذير! يجب أن يتوافق تركيب الأجهزة مع لوائح الكهرباء المحلية والوطنية.

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。

Advarsel! Alle lokale og nationale el-regler skal overholdes under montering af udstyret.

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

Varoitus! Laitteiden asennus on suoritettava paikallisten ja kansallisten sähkömääräysten mukaisesti.

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

Warnung! Die Installation des Geräts muss den lokalen und nationalen elektrotechnischen Vorschriften entsprechen.

אזהרה! התקנת הציוד חייבת להתבצע בהתאם לתקני החשמל המקומיים והארציים.

चेतावनी! उपकरण की इंस्टालेशन स्थानीय और राष्ट्रीय विद्युत कोड के अनुरूप होनी चाहिए।

警告！ 機器の取り付けはその地域および国の電気規定に準拠する必要があります。

경고!현 지역 및 국가의 전기 규정에 따라 장비를 설치해야 합니다.

Advarsel! Installasjon av utstyret må være i samsvar med lokale og nasjonale elektriske forskrifter.

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

Varning! Installation av utrustningen måste följa lokala och nationella elektriska föreskrifter.

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.



تحذير! تجنب خطر الأجزاء المتحركة. ابتعد عن شفرات المروحة المتحركة. قد تستمر المراوح في الدوران بعد فك مجموعة المراوح من الهيكل. أبق أصابعك ومفكات البراغي والأغراض الأخرى بعيدة عن الفتحات الموجودة في مبيت مروحة التبريد.

警告！危险的活动零部件。请务必与转动的风扇叶片保持距离。从机箱移除风扇装置时，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外壳开口。

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。

Advarsel! Farlige bevægelige dele. Hold dig væk fra ventilatorblade i bevægelse. Ventilatorerne kan stadig køre, når du tager ventilatorsamlingen af kabinettet. Hold fingre, skruetrækkere og andre genstande væk fra åbningerne i ventilatorkabinettet.

Waarschuwing! Gevaarlijke 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.

Varoitus! Vaaralliset liikkuvat osat. Pysy kaukana liikkuvista tuulettimen siivistä. Tuulettimet saattavat edelleen pyöriä, kun irrotat tuulettimen kokoonpanon kotelosta. Pidä sormet, ruuvimeisselit ja muut esineet poissa tuulettimen kotelon aukkojen läheltä.

Attention! Pieces mobiles dangereuses. Se tenir à 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.

Warnung! Gefährliche bewegliche Teile. Halten Sie Abstand von rotierenden Lüfterblättern. Die Lüfter können sich noch drehen, wenn Sie die Lüfterbaugruppe aus dem Chassis entfernen. Halten Sie Finger, Schraubendreher und andere Gegenstände von den Öffnungen des Lüftergehäuses fern.

אזהרה! חלקים נעים מסוכנים. יש להתרחק מלהבי מאוורר נעים. המאווררים עשויים להמשיך להסתובב בעת הסרת מכלול המאוורר מהמארז. יש להרחיק אצבעות, מברגים וחפצים אחרים מהפתחים שבבית מכלול המאוורר.

चेतावनी! खतरनाक चलते हुए भाग। चलते हुए पंखे के ब्लेड से दूर रहें। जब आप चेसिस से पंखे की असेंबली निकालते हैं, तब भी पंखे घूम रहे हो सकते हैं। उंगलियों, स्क्रूड्राइवर और अन्य वस्तुओं को पंखे की असेंबली के हाउसिंग के छिद्रों से दूर रखें।

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。シャーシからファンアセンブリを取り外す際、ファンがまだ回転している可能性があります。ファンアセンブリの開口部に、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。

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.

Advarsel! Farlige bevegelige deler. Hold deg unna vifteblader i fart. Viftene kan fortsatt gå rundt når du fjerner vifteenheten fra kabinettet. Hold fingre, skrutrekkere og andre gjenstander unna åpningene i viftehuset.

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

Varning! Farliga rörliga delar. Håll dig borta från rörliga fläktblad. Fläktarna kan fortfarande snurra när du tar bort fläktenheten från chassit. Håll fingrar, skruvmejslar och andra föremål borta från öppningarna i fläktenhetens hölje.

Connection to Earth

Warning! Equipment shall be connected to an Earth mains socket-outlet.

تحذير! يجب توصيل الأجهزة بمقبس كهربائي أرضي.

警告！ 设备应连接到接地电源插座。

警告！ 應將設備連接至接地電源插座。

Advarsel! Dette udstyr skal sluttes til en jordforbundet stikkontakt.

Waarschuwing! De apparatuur moet worden aangesloten op een geaard netstopcontact.

Varoitus! Laitteet on kytkettävä maadoitettuun pistorasiaan.

Attention! L'équipement doit être connecté à une prise de courant avec mise à la terre.

Warnung! Das Gerät muss an eine geerdete Netzsteckdose angeschlossen werden.

אזהרה! יש לחבר את הציוד לשקע חשמל עם הארקה.

चेतावनी! उपकरण को एक अर्थ मेन्स सॉकेट-आउटलेट से जोड़ा जाना चाहिए।

警告！ 機器は、接地主電源コンセントに接続するものとします。

경고! 장비는 접지된 전원 콘센트에 연결해야 합니다.

Advarsel! Utstyret skal kobles til en jordet stikkontakt.

¡Advertencia! El equipo deberá conectarse a una toma de corriente con conexión a tierra.

Varning! Utrustningen ska vara ansluten till ett jordat eluttag.

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.

تحذير! عند تركيب المنتج استخدم كابلات التوصيل والطاقة ومحولات التيار المتردد المرفقة أو المخصصة. قد يؤدي استخدام أي كابلات ومحولات أخرى إلى حدوث عطل أو نشوب حريق. يحظر قانون سلامة الأجهزة والمواد الكهربائية استخدام كابلات UL أو CSA المعتمدة من (التي عليها علامة UL/CSA) لأي أجهزة كهربائية أخرى غير المنتجات التي تحددها شركة Supermicro فقط.

警告！ 安装时，请使用设备本身提供或指定的连接线、电源线和交流适配器。使用任何其他电缆线材或适配器都可能导致故障或火灾。除美超微(Supermicro)指定的产品外，《电气用品和材料安全法》禁止将UL或CSA认证的电缆(线材上标有UL/CSA)用于任何其他电气设备。

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。除了美超微(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)。

Advarsel! Når du monterer produktet, skal du bruge de medfølgende eller udpegede forbindelseskabler, strømkabler og vekselstrømsadaptere (AC). Brug af andre kabler og adaptere kan føre til fejl eller brand. Loven om sikkerhed for elektriske apparater og materialer forbyder brugen af UL- eller CSA-certificerede kabler (med UL/CSA angivet på ledningen) til andre elektriske apparater end dem, der udelukkende er godkendt af Supermicro.

Waarschuwing! Bij het installeren van het product moet u de geleverde of aangewezen aansluitkabels, voedingskabels en AC-adapters gebruiken. Het gebruik van enige andere kabels en 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 enige andere elektrische apparaten dan producten die uitsluitend door Supermicro zijn aangewezzen.

Varoitus! Käytä tuotteen asennuksessa mukana toimitettuja tai tarkoitukseen sopivia liitäntäkaapeleita, virtajohtoja ja verkkolaitteita. Muiden kaapeleiden ja sovittimien käyttö voi aiheuttaa toimintahäiriön tai tulipalon. Sähkölaitteiden ja materiaalien turvallisuutta koskeva laki kieltää UL- tai CSA-sertifioitujen kaapeleiden (joissa on merkintä UL/CSA) käytön muissa sähkölaitteissa kuin Supermicron nimeämissä tuotteissa.

Attention! Lors de l'installation du produit, utilisez les câbles de connexion, les câbles d'alimentation et les adaptateurs secteur fournis ou recommandés. L'utilisation d'autres câbles et adaptateurs peut causer un dysfonctionnement ou un incendie. La loi sur la sécurité des appareils et des équipements électriques interdit l'utilisation de câbles certifiés UL ou CSA (avec la mention UL/CSA sur le cordon) pour tout autre appareil électrique que les produits désignés par Supermicro uniquement.

Warnung! Verwenden Sie bei der Installation des Produkts ausschließlich die vorgesehenen oder mitgelieferten Anschlusskabel, Netzkabel und AC-Adapter. Die Verwendung anderer Kabel oder Adapter kann zu Fehlfunktionen oder Brand führen. Das Gesetz zur Sicherheit elektrischer Geräte und Materialien untersagt die Verwendung von UL- oder CSA-zertifizierten Kabeln (mit UL/CSA-Kennzeichnung auf dem Kabel) für andere elektrische Geräte als die von Supermicro ausdrücklich vorgesehenen Produkte.

אזהרה! בעת התקנת המוצר, יש להשתמש בכבלי החיבור, בכבלי החשמל ובמתאמי ה-AC המצורפים או הייעודיים. שימוש בכבלים או במתאמים אחרים עלול לגרום לתקלה או לדליקה. החוק לבטיחות מכשירי חשמל וחומרים אוסר על שימוש בכבלים בעלי אישור UL או CSA (הנושאים סימון UL/CSA על גבי הכבל) עבור מכשירים חשמליים אחרים שאינם מוצרים ייעודיים של סופרמיקרו (Supermicro) בלבד.

चेतावनी! उत्पाद इंस्टॉल करते समय, प्रदान की गई या निर्दिष्ट कनेक्शन केबल, पावर केबल और AC एडॉप्टर का ही उपयोग करें। किसी अन्य केबल और एडॉप्टर का उपयोग करने से खराबी आ सकती है या आग लग सकती है। विद्युत उपकरण और सामग्री सुरक्षा कानून केवल सुपरमाइक्रो (Supermicro) द्वारा निर्दिष्ट उत्पादों के अलावा किसी अन्य विद्युत उपकरणों के लिए UL या CSA-प्रमाणित केबल (जिनके कॉर्ड पर UL/CSA दर्शाया गया हो) के उपयोग को प्रतिबंधित करता है।

警告！ 本製品を設置する際は、付属または指定の接続ケーブル、電源コードとACアダプターを使用してください。それ以外のケーブルやアダプターを使用すると、事故や火災の原因になることがあります。電気用品安全法では、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の電気機器に使用することを禁止しています。

경고! 제품을 설치할 때 현지 코드 및 적절한 굵기의 코드와 플러그를 포함한 안전 요구 사항을 준수하여 제공되거나 지정된 연결 혹은 구매 케이블, 전원 케이블 및 AC 어댑터를 사용하십시오. 다른 케이블이나 어댑터를 사용하면 오작동이나 화재가 발생할 수 있습니다. 전기 용품 안전법은 UL 또는 CSA 인증 케이블 (코드에 UL / CSA가 표시된 케이블)을 Supermicro가 지정한 제품 이외의 전기 장치에 사용하는 것을 금지합니다.

Advarsel! Når du installerer produktet, bruker du de medfølgende eller angitte tilkoblingskablene, strømkablene og strømadapterne. Bruk av andre kabler og adaptere kan forårsake funksjonsfeil eller brann. Lov om elektriske apparater og materialsikkerhet forbyr bruk av UL- eller CSA-sertifiserte kabler (der UL/CSA står på ledningen) til andre elektriske apparater enn produkter som kun er angitt av Supermicro.

¡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.

Varning! När du installerar produkten ska du använda de medföljande eller avsedda anslutningskablarna, strömkablarna och nätadaptrarna. Om du använder andra kablar och adaptrar kan det orsaka funktionsfel eller brand. Lagen om säkerhet för elektriska apparater och material förbjuder användning av UL- eller CSA-certifierade kablar (som har UL/CSA angivet på sladden) för andra elektriska apparater än produkter som endast betecknas av Supermicro.

Product Disposal

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

تحذير! يجب التخلص النهائي من هذا المنتج وفقًا لجميع القوانين واللوائح الوطنية.

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。

Advarsel! Dette produkt skal bortskaffes i henhold til alle nationale love og regler.

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

Varoitus! Tämän tuotteen lopullinen hävittäminen on suoritettava kaikkien kansallisten lakien ja määräysten mukaisesti.

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.

Warnung! Die endgültige Entsorgung dieses Produkts muss gemäß allen nationalen Gesetzen und Vorschriften erfolgen.

אזהרה! סילוק סופי של מוצר זה חייב להתבצע בהתאם לכל החוקים והתקנות הלאומיים.

चेतावनी! इस उत्पाद का अंतिम निपटान सभी राष्ट्रीय कानूनों और नियमों के अनुसार किया जाना चाहिए।

警告！ 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。

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

Advarsel! Når produktet til slutt skal kasseres, må det håndteres i henhold til alle nasjonale lover og forskrifter.

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

Varning! Slutgiltigt bortskaffande av denna produkt ska ske i enlighet med alla nationella lagar och förordningar.

Appendix B:

System Specifications

Processors
Single Dual AMD EPYC™ 9004/9005-series processor in SP5 socket and a thermal design power (TDP) up to 400 W **Note:** The TDP depends on thermal validation and the system configuration. Contact a Supermicro representative for details.
Chipset
System on chip
BIOS
512 MB Flash ROM
Memory
Slot Count: 16 DIMM slots Max Memory (1 DPC): Up to 2 TB of ECC DDR5 RDIMM memory per node with speeds of up to 5200 MT/s (AMD EPYC™ 9005-series processor) Max Memory (1 DPC): Up to 2 TB of ECC DDR5 RDIMM memory per node with speeds of up to 4800 MT/s (AMD EPYC™ 9004-series processor) Max Memory (2 DPC): Up to 4 TB of ECC DDR5 RDIMM memory per node with speeds of up to 4400 MT/s (AMD EPYC™ 9005-series processor) Max Memory (2 DPC): Up to 4 TB of ECC DDR5 RDIMM memory with speeds of up to 4000 MT/s (AMD EPYC™ 9004-series processor) **Note:** Check "Memory Support and Installation" on page 47 for details.
Storage Drives
Four front hot-swap 2.5" NVMe/SATA drive bays per node Two M.2 NVMe/SATA slots (M-key) per node
PCIe Expansion Slots
One PCIe 5.0 x16 AIOM slot per node (optional: OCP 3.0 compatible, additional components required)
Input/Output
LAN: One RJ45 dedicated BMC LAN port per node USB: Two USB 3.0 ports per node Video: One VGA port per node
Motherboard
H14SST-G; (WxL) 8.53" x 12.42" (216.7 x 315.5 mm)

Chassis
CSE-GT214BF-R2K21BP2; 2U rackmount; (WxHxD) 17.67" x 3.46" x 28" (449 x 88 x 711.2 mm)
System Cooling
One air shroud per node Two 17.6K RPM heavy-duty 8-cm fans
Power Supply
Two 2200 W redundant (1+1) Titanium Level (96%) power supplies **Note:** Full redundancy of the power supply is based on configuration and application load.
Operating Environment
Operating Temperature: 10°C ~ 35°C (50°F ~ 95°F) Non-operating Temperature: -30°C to 60°C (-22°F to 140°F) Operating Relative Humidity: 8% to 80% (non-condensing) Non-operating Relative Humidity: 8% to 90% (non-condensing)
Regulatory Compliance
FCC, ICES, CE, UKCA, VCCI, RCM, NRTL, CB
Certified Safety Models
Certified as compliance with UL or CSA: GT214BF-R22H14, GT214BF-R30H14, GT214BF-4N

Applied Directives, Standards

Directives:

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

CISPR 32

CISPR 35

BS/EN 55032

BS/EN 55035

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

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 https://www.dtsc.ca.gov/hazardouswaste/perchlorate

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

VCCI ー A

Appendix C:

ROHS

限用物質含有情況標示聲明書
Declaration of the Presence Condition of the Restricted Substances Marking

設備名稱：伺服器/ Server
Equipment name
型號（型式）：GT214BF-R22H14 (系列型號: GT214BF-R30H14, GT214BF- 4N, AS -2116GT-HNTF)
Type designation (Type)

單元 Unit	限用物質及其化學符號 Restricted substances and its chemical symbols					
	鉛Lead (Pb)	汞Mercury (Hg)	鎘Cadmium (Cd)	六價鉻 Hexavalent chromium (Cr^{+6})	多溴聯苯 Polybrominated biphenyls (PBB)	多溴二苯醚 Polybrominated diphenyl ethers (PBDE)
機殼 (Chassis)	○	○	○	○	○	○
機殼風扇 (Chassis Fan)	—	○	○	○	○	○
線材 (Cable)	○	○	○	○	○	○
主機板 (Motherboard)	—	○	○	○	○	○
電源供應器 (Power Supply)	—	○	○	○	○	○
硬碟 (SSD)	—	○	○	○	○	○
附加卡 (Add on Card)	—	○	○	○	○	○

備考1. 〝超出0.1 wt %〞及〝超出0.01 wt %〞係指限用物質之百分比含量超出百分比含量基準值。
Note 1：“Exceeding 0.1 wt %” and “exceeding 0.01 wt %” indicate that the percentage content of the restricted substance exceeds the reference percentage value of presence condition.

備考2. 〝○〞係指該項限用物質之百分比含量未超出百分比含量基準值。
Note 2：“○” indicates that the percentage content of the restricted substance does not exceed the percentage of reference value of presence.

備考3. 〝—〞係指該項限用物質為排除項目。
Note 3：The “–” indicates that the restricted substance corresponds to the exemption.

警告: 為避免電磁干擾, 本產品不應安裝或使用於住宅環境。

輸入額定:

PWS-2K21A-BR
100-127V ~, 60-50Hz, 12-11A (X2)
200-240V ~, 60-50Hz, 10-9.8A (X2)

PWS-3K01A-BR
200-240V ~, 60-50Hz, 15-14.5A (X2)

*使用者不能任意拆除或替換內部配備
*報驗義務人之姓名或名稱：美超微電腦股份有限公司
*報驗義務人之地址：新北市中和區建一路 150 號 3 樓