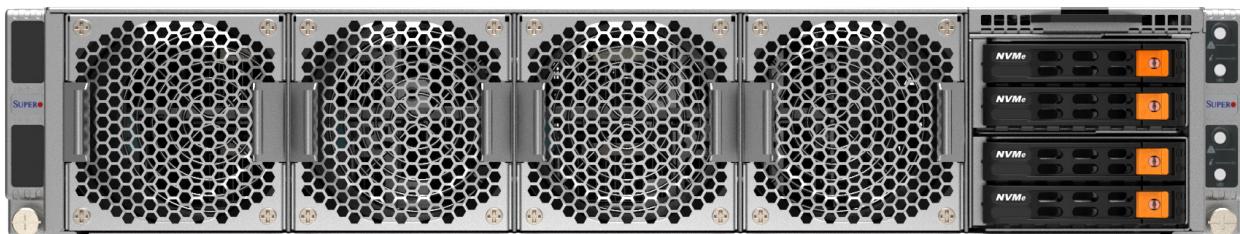




# A+ SERVER

## AS -2114GT-DNR



USER'S MANUAL

Revision 1.0

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Manual Revision 1.0

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# Preface

## About this Manual

This manual is written for professional system integrators and PC technicians. It provides information for the installation and use of the A+ Server . Installation and maintenance should be performed by experienced technicians only.

Please refer to the AS -2114GT-DNR server specifications page on our website for updates on supported memory, processors and operating systems (<http://www.supermicro.com>).

## Notes

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

- Supermicro product manuals: <http://www.supermicro.com/support/manuals/>
- Product drivers and utilities: [www.supermicro.com/wdl/driver/AMD/SP3](http://www.supermicro.com/wdl/driver/AMD/SP3)
- Product safety info: [http://www.supermicro.com/about/policies/safety\\_information.cfm](http://www.supermicro.com/about/policies/safety_information.cfm)

If you have any questions, please contact our support team at:  
[support@supermicro.com](mailto:support@supermicro.com)

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

## Secure Data Deletion

A secure data deletion tool designed to fully erase all data from storage devices can be found on our website: [https://www.supermicro.com/about/policies/disclaimer.cfm?url=/wdl/utility/Lot9\\_Secure\\_Data\\_Deletion.Utility/](https://www.supermicro.com/about/policies/disclaimer.cfm?url=/wdl/utility/Lot9_Secure_Data_Deletion.Utility/)

## Warnings

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



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



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

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### ***Appendix A Standardized Warning Statements for AC Systems***

### ***Appendix B System Specifications***

### ***Appendix C BSMI Chinese Safety Warnings***

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# Chapter 1

## Introduction

### 1.1 Overview

This chapter provides an outline of the functions and features of the AS -2114GT-DNR A+ server. It is based on the H12SSG-AN6 motherboard and the CSE-227GTS-R2K63P chassis. To maintain quality and integrity, this product is sold only as a completely-assembled system (with min. one CPU, two DIMMs, one GPU installed). Add on Cards (AOCs) are recommended to be installed by Supermicro due to optimized density of the 2U form factor. Service: OSNBD3 is highly recommended. In addition to the motherboard and chassis, several important parts that are included with the system are listed below.

Main Parts List		
Description	Part Number	Quantity
Passive Heatsink for 1U System	SNK-P0062P	2
8cm System Fans	FAN-0219L4	4
Backplane	BPN-NVMe4-826N-B2B	2
Hot-swap Hard Drive Trays	MCP-220-00167-0B	4
Air Shroud	MCP-310-22702-0B	2
Riser Card (front right side riser with one PCIe x16 slots)	RSC-GF-6G4	2
Riser Card (front left side riser with two PCIe x16 slots)	RSC-GF-66G4	2
Riser Card (rear side riser with two PCIe x16 slots)	RSC-GB-66G4	2
Power Supply	PWS-2K63A-1R	2
Rack Rail Mounting Kit	MCP-290-00144-0N	1

**Note:** the following safety models associated with the AS -2114GT-DNR have been certified as compliant with UL or CSA: 227G-GPU, 227G-20, 227G-26, 227G-R26H12, 227G-R20H12.

### 1.2 Unpacking the System

Inspect the box the system was shipped in and note if it was damaged in any way. If any equipment appears damaged, please file a damage claim with the carrier who delivered it.

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

## 1.3 System Features

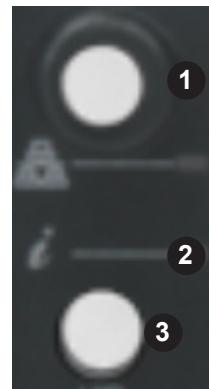
The following table is an overview of the main features of the AS -2114GT-DNR server.

System Features	
<b>Motherboard (per node)</b>	
H12SSG-AN6	
<b>Chassis</b>	
CSE-227GTS-R2K63P	
<b>CPU</b>	
Single AMD EPYC™ 7002/7003 Series Processors in SP3 sockets	
<b>Note:</b> 7003 series processor drop-in support requires BIOS version 2.0 or newer.	
<b>Management Chipset</b>	
ASPEED A2600 BMC/IPMI management controller with enhanced security	
<b>Memory (per node)</b>	
Supports up to 2TB of ECC DDR4 3200MHz RDIMM/LRDIMM/3DS/NVDIMM memory in eight slots	
<b>Storage Drives (per node)</b>	
Four 2.5" hot-swap hard drive carriers for NVMe drives	
<b>Expansion Slots (per node)</b>	
One PCIe 4.0 x16 (FHFL) slot	
One PCIe 4.0 x16 (FHHL) slot	
One PCIe 4.0 x8 AIOM/ OCP3.0 slot	
M.2 Interface: 2 PCIe 4.0 x4	
M.2 Form Factor: 2280, 22110	
M.2 Key: M-key	
<b>Power</b>	
2600W redundant power supplies, Titanium Level (96%) (Full redundancy based on configuration)	
<b>Cooling</b>	
Four hot-swap 80-mm, counter-rotating PWM fans; one CPU air shroud, one CPU heatsink	
<b>Input/Output (per node)</b>	
LAN: One RJ45 1GbE dedicated IPMI management port	
Two USB 3.0 ports	
One VGA port	
One COM port	
<b>Security</b>	
One TPM 2.0 header	
<b>Form Factor</b>	
2U rackmount, (WxHxD) 17.6 x 3.5 x 29.9 in. (447 x 88 x 760 mm)	

## 1.4 Chassis Features

### Control Panel

Power switches and status LEDs are located on the control panel on the front of the chassis.



**Figure 1-1. Control Panel (per node)**

Control Panel Features (per node)		
Item	Feature	Description
1	Power button	The main power switch applies or removes primary power from the power supply to the server but maintains standby power. To perform most maintenance tasks, unplug the rear power cables completely from the system and wait 30 seconds for capacitors to discharge.
2	Information LED	Alerts operator to several states, as noted in the table below.
3	UID button/LED (Node A)	The unit identification (UID) button turns on or off the blue light function of the Information LED.

Information LED	
Status	Description
Continuously on and red	An overheat condition has occurred. (This may be caused by cable congestion.)
Blinking red (1Hz)	Fan failure, check for an inoperative fan.
Blinking red (0.25Hz)	Power failure, check for a non-operational power supply.
Solid blue	UID has been activated locally to locate the server in a rack environment.
Blinking blue	UID has been activated using IPMI to locate the server in a rack environment.

## System: Front View

The illustration below shows the features included on the front of the chassis. Externally accessible hard drive carriers display status lights.

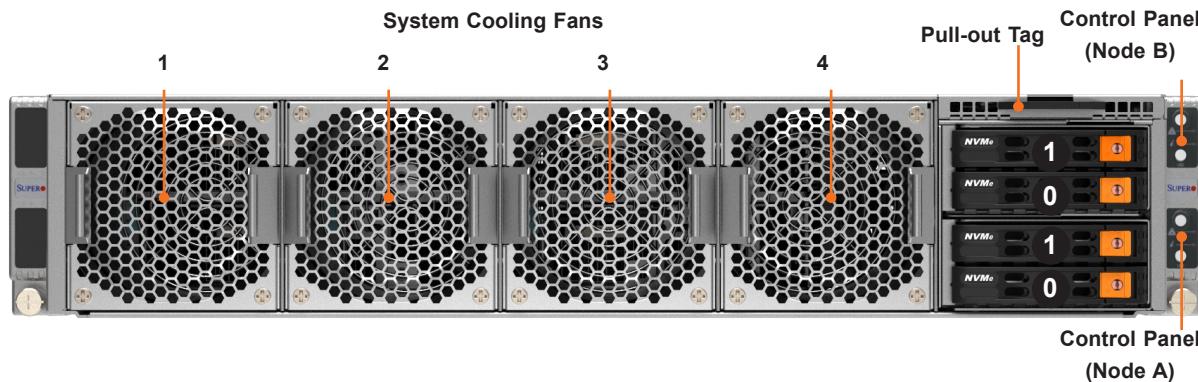
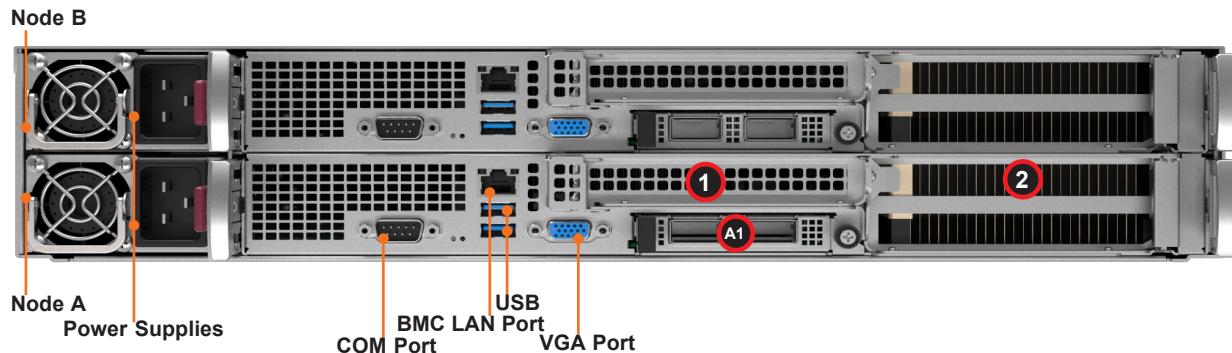


Figure 1-2. System Front View

Front System Features (per node)		
Item	Feature	Description
1	Control Panel	Described in previous section
2	0 - 1 Hard Drives	Two hot-swap PCIe Gen4 x4 U.2 NVMe drive bays
3	Pull-out Tag	Pull-out service tag feature. Useful for barcode, RFID, or other custom system markings.
4	System Cooling Fans	Four hot-swap 8cm external system cooling fans

## System: Rear View

The illustration below shows the features on the rear of the chassis.



**Figure 1-4 System Rear View**

Rear System Features		
Item	Feature	Description
1	Power Supplies	Two (redundant) power supply modules, PWS1, and PWS2 on the top
2	COM Port	One COM port per node
3	VGA Port	One VGA video port per node
4	USB	Two USB 3.0 ports per node
5	BMC LAN Port	One RJ45 dedicated BMC LAN port per node
6	1	PCIe 4.0 x16 FHHL per node
7	2	PCIe 4.0 x16 FHFL per node
8	A1	AIOM / OCP3.0 slot PCIe 4.0 x8 per node

## 1.5 Motherboard Layout

Following is a layout of the H12SSG-AN6 with jumper, connector and LED locations shown. See the table on the following page for descriptions. For detailed descriptions, pinout information and jumper settings, refer to [Chapter 4](#).

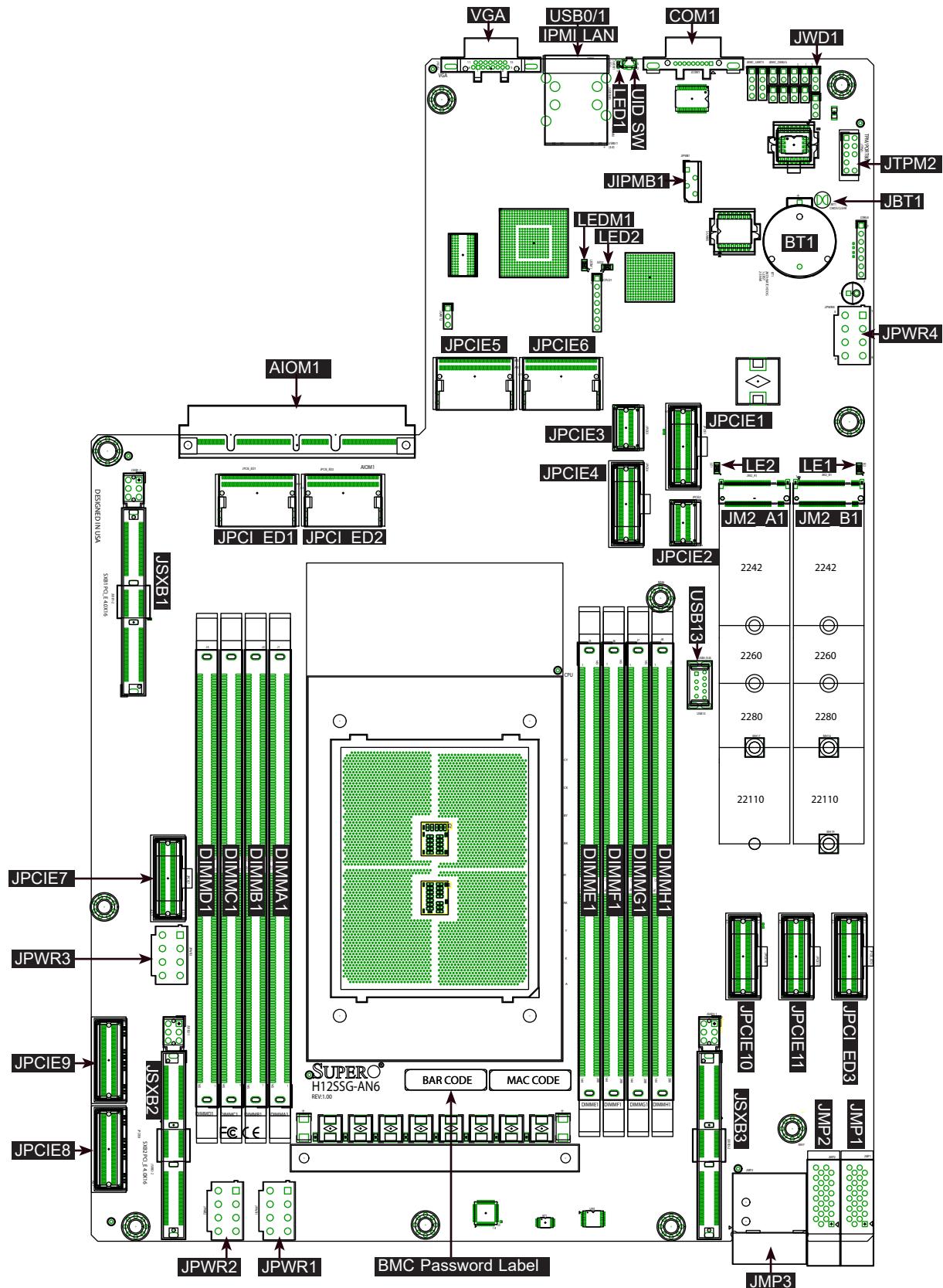


Figure 1-5. Motherboard Layout

## Quick Reference Table

<b>Jumper</b>	<b>Description</b>	<b>Default Setting</b>
JBT1	Clear CMOS	Open (Normal)
JWD1	Watch Dog control	Pins 1-2 (Reset)
<b>LED</b>	<b>Description</b>	<b>Status</b>
LE1	M.2-B1 Active LED	On: Activity on M.2-B1 device
LE2	M.2-A1 Active LED	On: Activity on M.2-A1 device
LED1	UID LED	Solid Blue: UID Activated
LED2	Power LED	On: Power On
LEDM1	BMC Heartbeat	Blinking: BMC Normal/Working
<b>Connector</b>	<b>Description</b>	
AIOM1	Advanced I/O Module (AIOM) networking slot	
Battery (BT1)	Onboard CMOS battery	
COM1	Rear panel COM port #1	
IPMI LAN	RJ45 dedicated IPMI LAN port	
JIPMB1	BMC external I <sup>2</sup> C header	
JM2_A1/JM2_B1	M.2 device slots	
JMP1/2/3	Connector for SCC-P2N2FG-P1A-B or SCC-P2N2FG-P1A-A	
JPC_ED1/ED2/ED3	PCIe 4.0 x8 SlimSAS connectors	
JPCIE1, JPCIE4-11	PCIe 4.0 x8 SlimSAS connectors	
JPCIE2, JPCIE3	PCIe 4.0 x4 SlimSAS connectors	
JSXB1	PCIe 4.0 x16 slot	
JSXB2	PCIe 4.0 x16 slot	
JSXB3	PCIe 4.0 x16 slot	
JPWR1-4	GPU 12V 8-pin power connector	
JTPM2	Trusted Platform Module (TPM)/Port 80 connector	
UID_SW	UID switch (push-button to toggle UID on/off)	
USB0/1	Rear USB 3.1 ports	
USB13	Internal USB 2.0 header	
VGA	VGA port	

**Notes:** See [Chapter 4](#) for detailed information on jumpers, I/O ports, and JF1 front panel connections. Jumpers/LED indicators not indicated are used for testing purposes only.

## Chipset Block Diagram

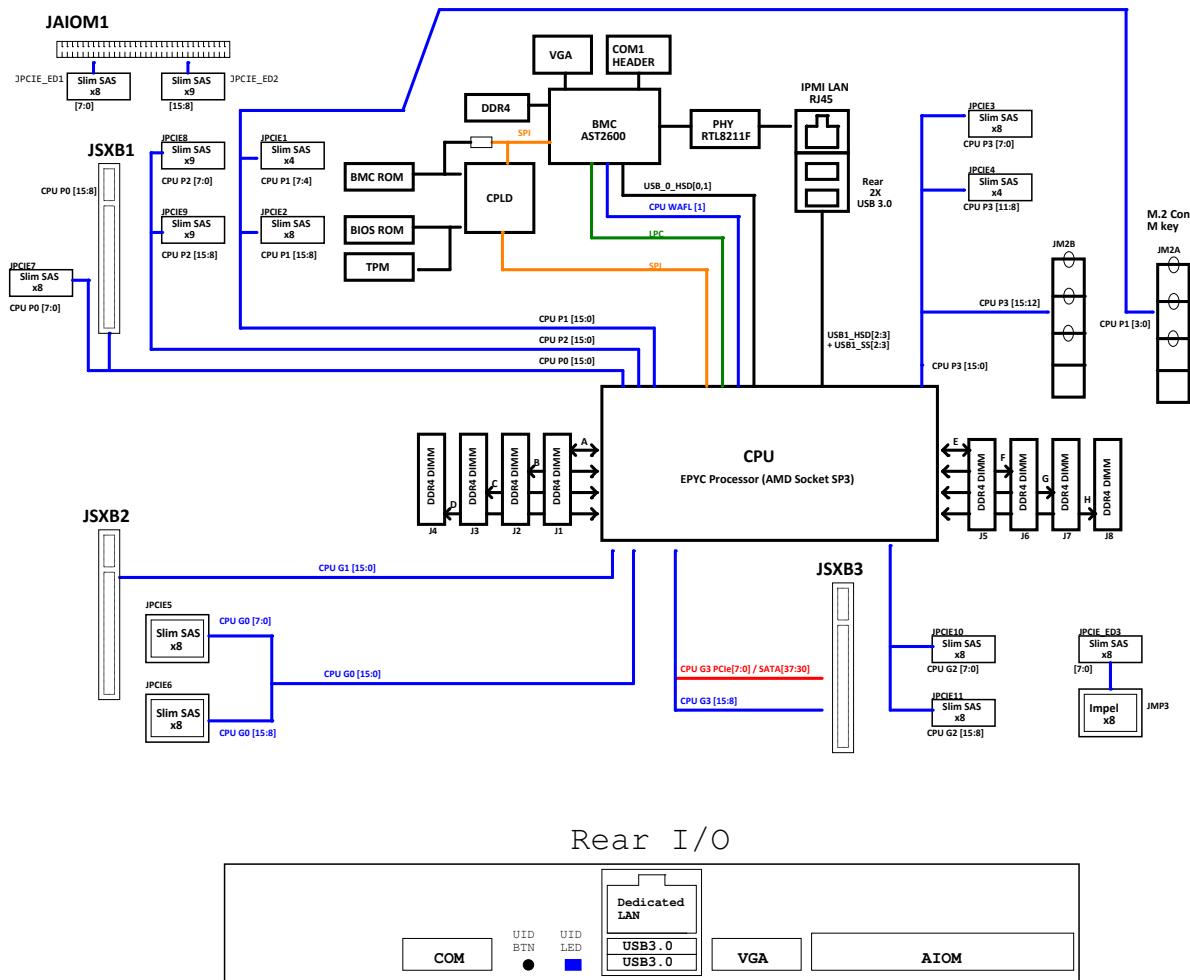


Figure 1-6. Chipset Block Diagram

**Note:** This is a general block diagram and may not exactly represent the features on your motherboard. See the previous pages for the actual specifications of your motherboard.

# Chapter 2

## Server Installation

### 2.1 Overview

This chapter provides advice and instructions for mounting your system in a server rack. If your system is not already fully integrated with processors, system memory etc., refer to [Chapter 4](#) for details on installing those specific components.

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

### 2.2 Preparing for Setup

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

#### Choosing a Setup Location

- The system should be situated in a clean, dust-free area that is well ventilated. Avoid areas where heat, electrical noise and electromagnetic fields are generated.
- Leave enough clearance in front of the rack so that you can open the front door completely (~25 inches) and approximately 30 inches of clearance in the back of the rack to allow sufficient space for airflow and access when servicing.
- This product should be installed only in a Restricted Access Location (dedicated equipment rooms, service closets, etc.).
- This product is not suitable for use with visual display workplace devices according to §2 of the German Ordinance for Work with Visual Display Units.

#### Rack Precautions

- Ensure that the leveling jacks on the bottom of the rack are extended to the floor so that the full weight of the rack rests on them.
- In single rack installations, stabilizers should be attached to the rack. In multiple rack installations, the racks should be coupled together.

- Always make sure the rack is stable before extending a server or other component from the rack.
- You should extend only one server or component at a time - extending two or more simultaneously may cause the rack to become unstable.

## Server Precautions

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

## Rack Mounting Considerations

### *Ambient Operating Temperature*

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

### *Airflow*

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

### *Mechanical Loading*

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

### *Circuit Overloading*

Consideration should be given to the connection of the equipment to the power supply circuitry and the effect that any possible overloading of circuits might have on overcurrent protection

and power supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.

### ***Reliable Ground***

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



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

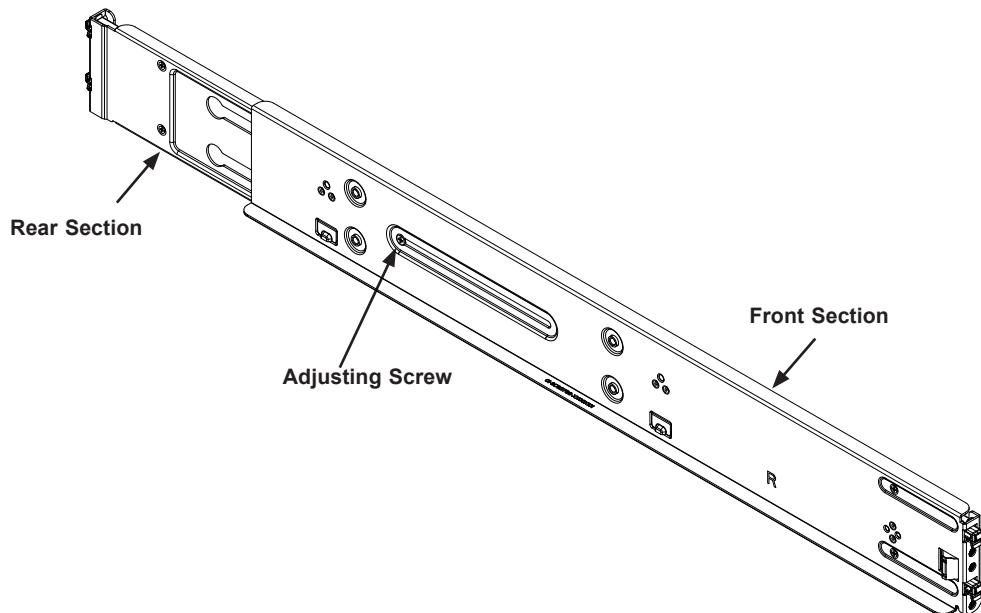
- This unit should be mounted at the bottom of the rack if it is the only unit in the rack.
- When mounting this unit in a partially filled rack, load the rack from the bottom to the top with the heaviest component at the bottom of the rack.
- If the rack is provided with stabilizing devices, install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

## 2.3 Rack Mounting Instructions

This section provides information on installing the chassis into a rack unit with the rails provided. There are a variety of rack units on the market, which may mean that the assembly procedure will differ slightly from the instructions provided. You should also refer to the installation instructions that came with the rack unit you are using. **Note:** This rail will fit a rack between 28" and 33.5" deep.

### Overview of the Rack Rails

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



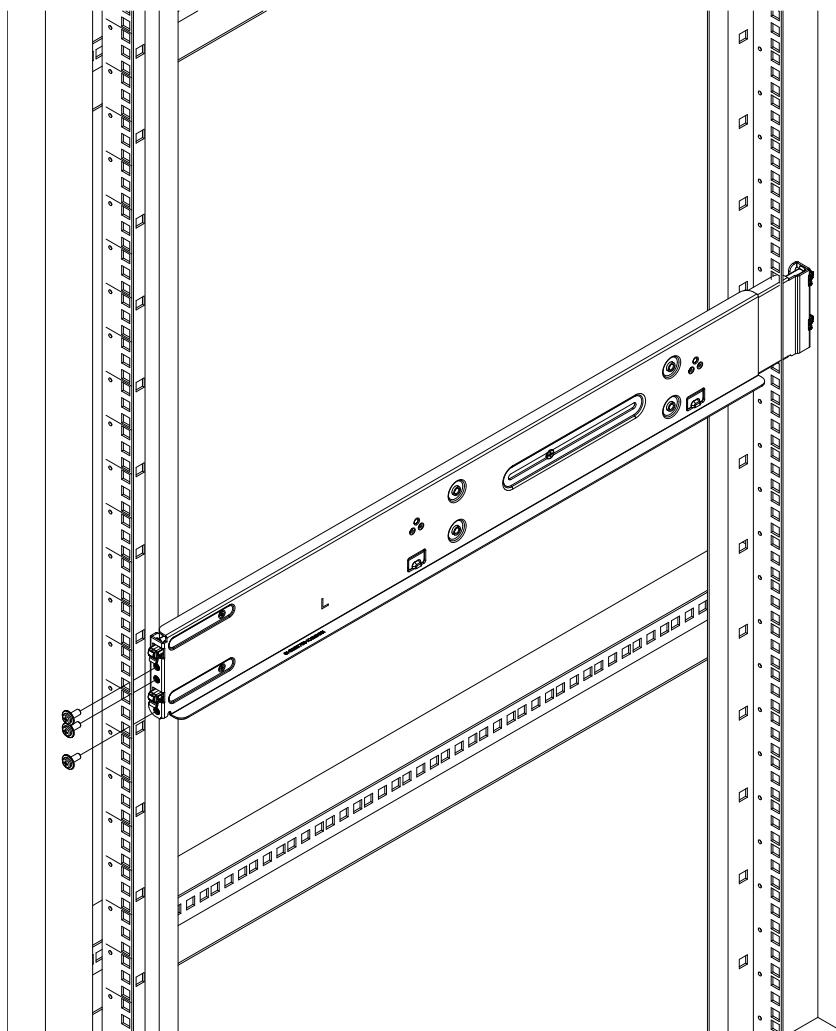
**Figure 2-1. Rackmount Rail**  
(Right rail assembly shown)

#### ***Adjusting the Rail Length***

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

## Installing the Rails on a Rack

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

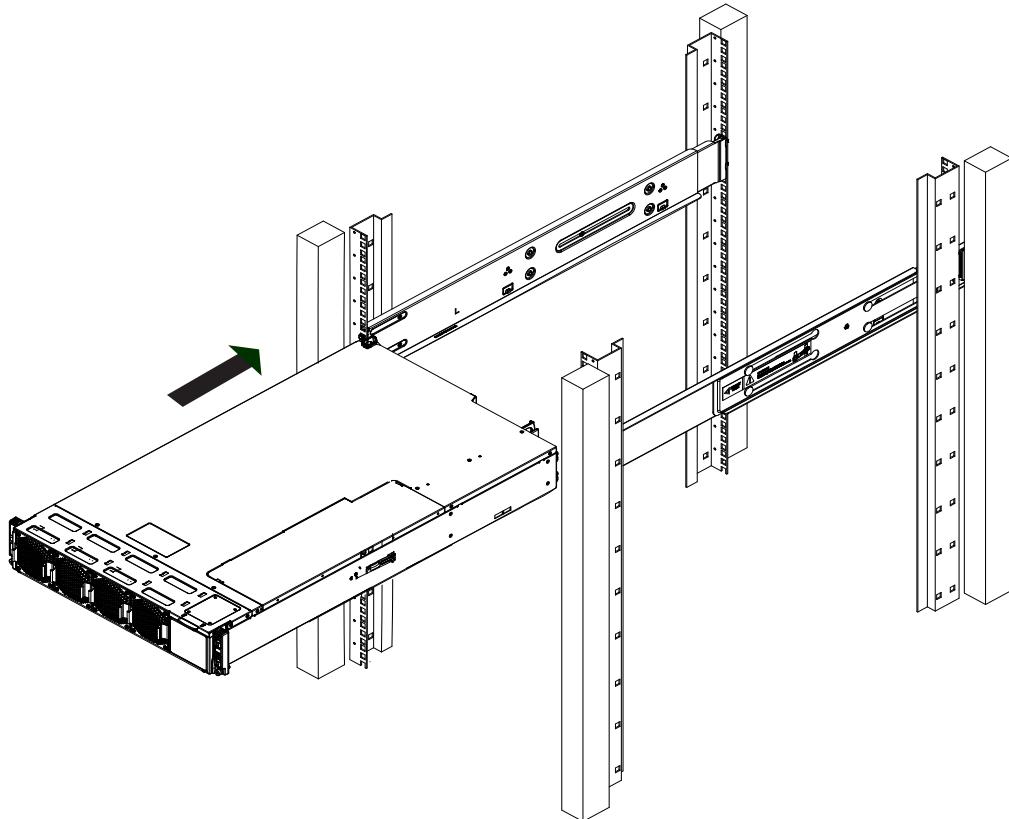


**Figure 2-2. Attaching the Rail Front to the Rack**  
(Left rail shown)

**Note:** Figures are for illustrative purposes only. Always install servers into racks from the bottom up.

## Chassis Installation

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



**Figure 2-3. Sliding the Chassis into the Rack**



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

# Chapter 3

## Maintenance and Component Installation

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

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

### 3.1 Removing Power

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

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

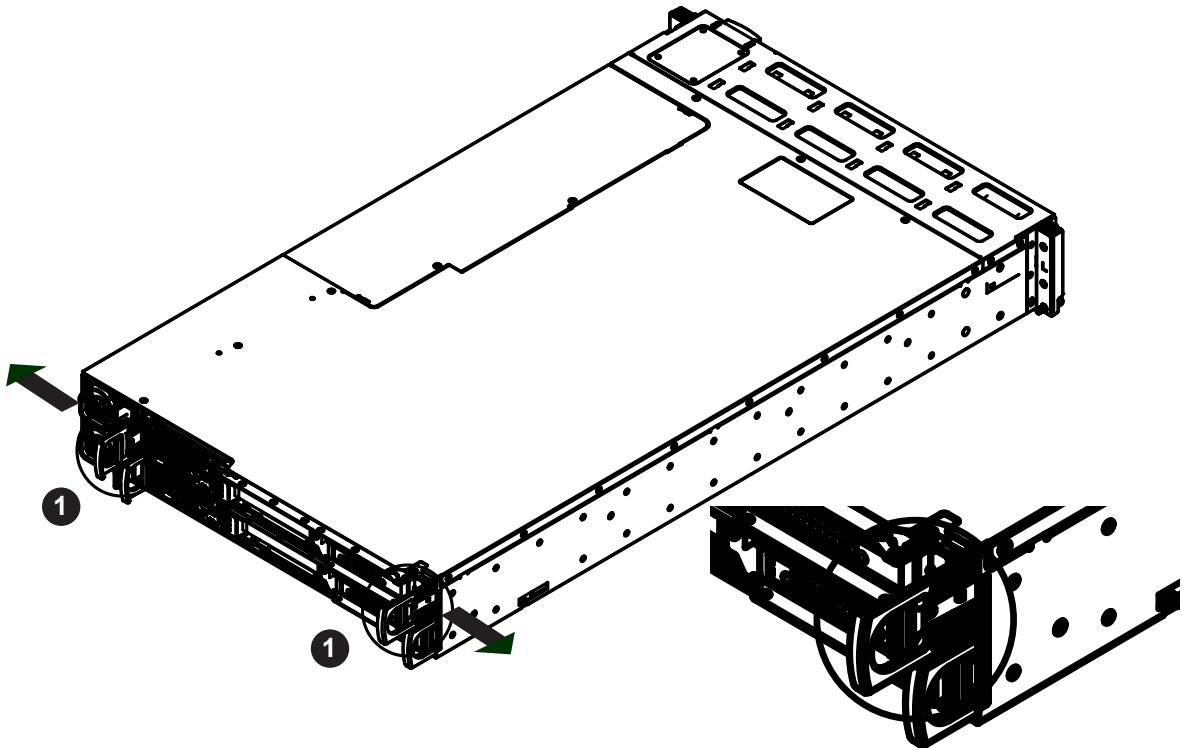
### 3.2 Accessing the System

The 227GTS has a latch to remove the node that allows access to the components.

Check that all ventilation openings in the chassis are clear and unobstructed.

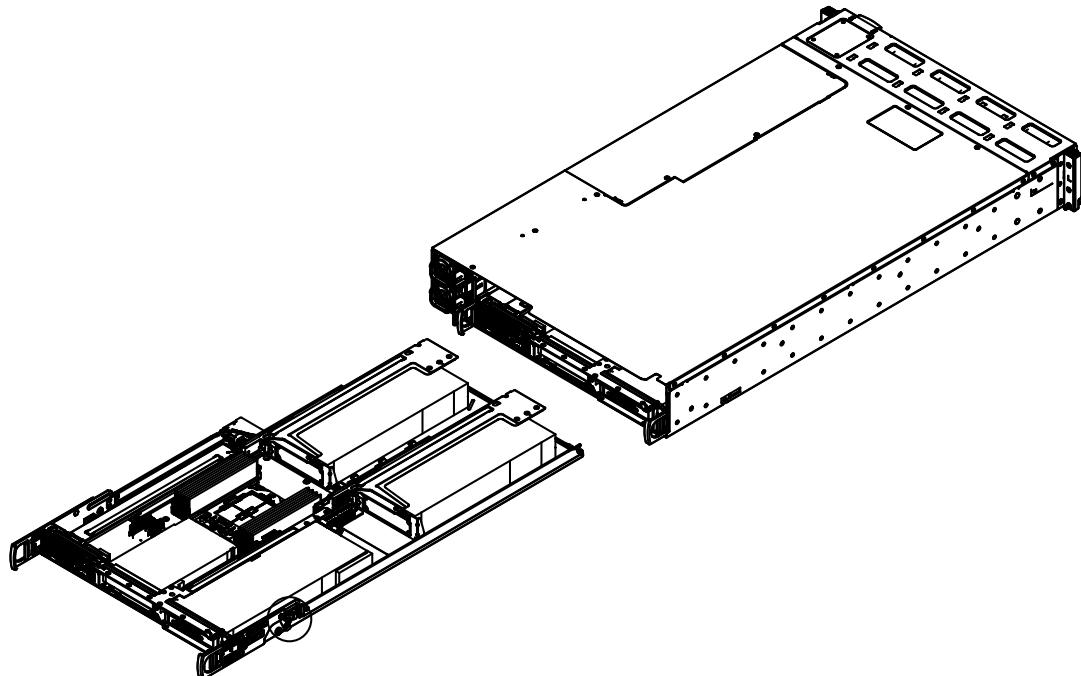
#### ***Removing the Motherboard from Chassis***

1. Press the latch outwards on both sides and pull-out using both the handles the same time to release the motherboard from the chassis.



**Figure 3-1. Unlatch and Pull-out**

2. Pull-out and remove the motherboard tray from the chassis as shown in the below image.



**Figure 3-2. Removing the Motherboard**



**Caution:** High voltage (54V) is present in the system.

When inserting the motherboard into the chassis, push the motherboard tray instead of the handles. Push the motherboard tray to the point into the chassis where it stops, press the latch outwards on both sides and push the handles at the same time. This way, the motherboard is inserted securely into the chassis.

### 3.3 Static-Sensitive Devices

Electrostatic Discharge (ESD) can damage electronic components. To prevent damage to 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 board by its edges only; do not touch its components, peripheral chips, memory modules or gold contacts.
- When handling chips or modules, avoid touching their pins.
- Put the motherboard and peripherals back into their antistatic bags when not in use.
- For grounding purposes, make sure that your chassis provides excellent conductivity between the power supply, the case, the mounting fasteners and the motherboard.
- Use only the correct type of CMOS onboard battery as specified by the manufacturer. Do not install the CMOS battery upside down, which may result in a possible explosion.

#### Unpacking

The motherboard is shipped in antistatic packaging to avoid static damage. When unpacking the motherboard, make sure that the person handling it is static protected.

## 3.4 Processor and Heatsink Installation

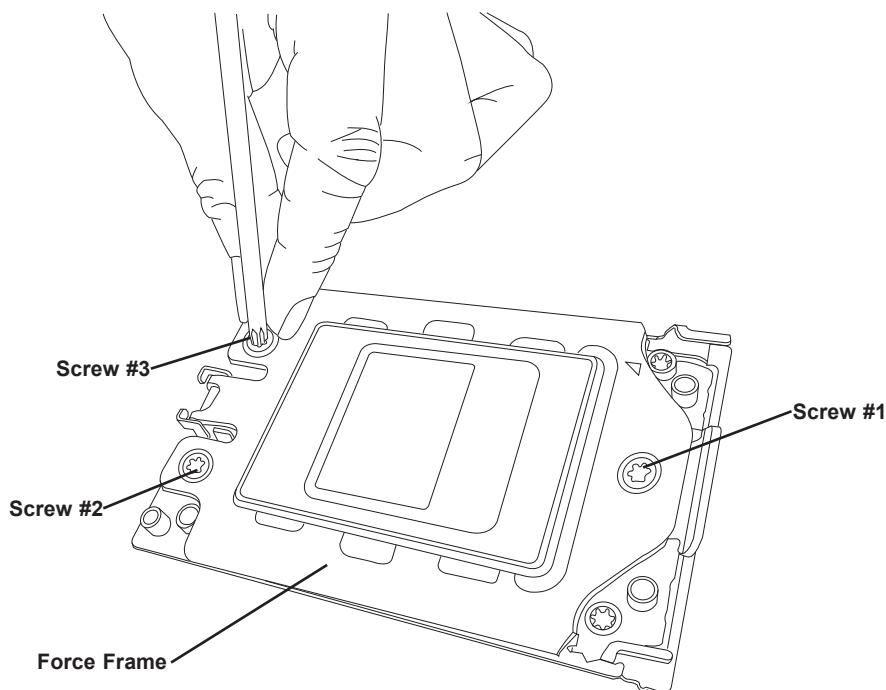
**Warning:** When handling the processor package, avoid placing direct pressure on the label area of the fan.

**Important:**

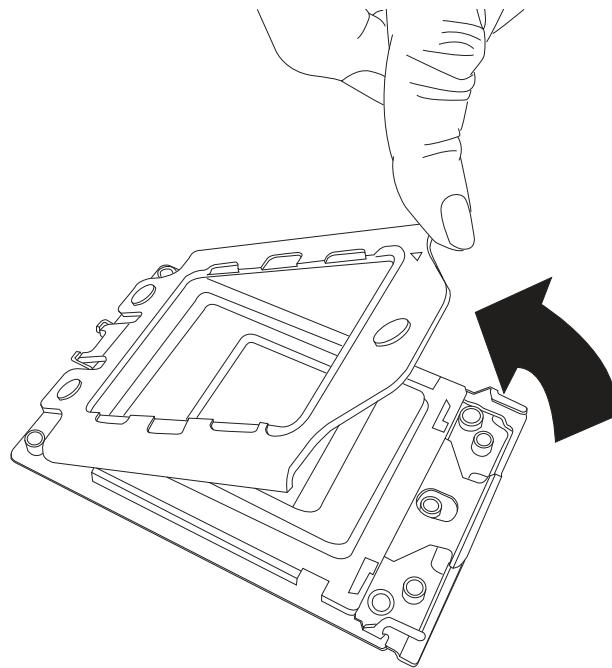
- For the Processor/Heatsink installation you need to use a T20 screwdriver when opening/closing the CPU socket.
- Always connect the power cord last, and always remove it before adding, removing or changing any hardware components. Make sure that you install the processor into the CPU socket before you install the CPU heatsink.
- If you buy a CPU separately, make sure that you use an AMD-certified heatsink only. Make sure to install the motherboard into the chassis before you install the CPU heatsink.
- When receiving a motherboard without a processor pre-installed, make sure that the plastic CPU socket cap is in place and none of the socket pins are bent; otherwise, contact your retailer immediately.
- Refer to the Supermicro website for updates on CPU support.

### Installing the Processor and Heatsink

1. Unscrew the screws holding down Force Frame in the sequence of 3-2-1. The screws are numbered on the force frame next to each screw hole.

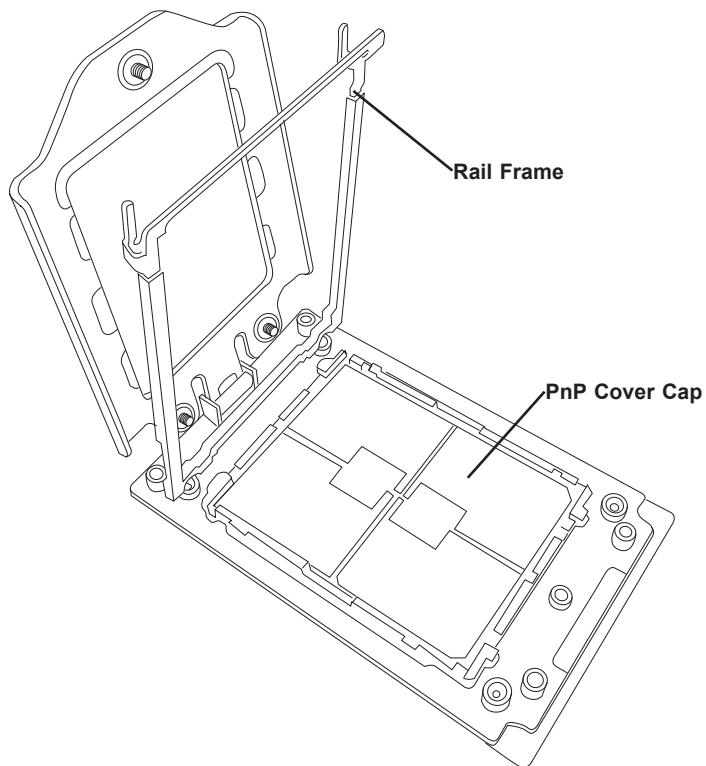


2. The spring-loaded force frame will raise up after the last screw securing it (#1) is removed. Gently allow it to lift up to its stopping position.

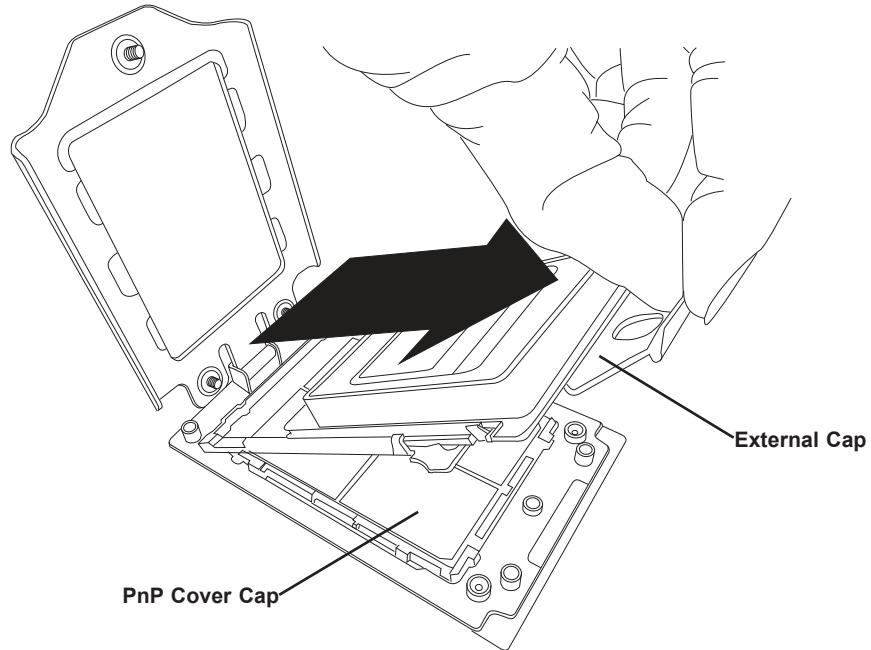


3. Lift the rail frame up by gripping the lift tabs near the front end of the rail frame. While keeping a secure grip of the rail frame, lift it to a position so you can do the next step of removing the external cap.

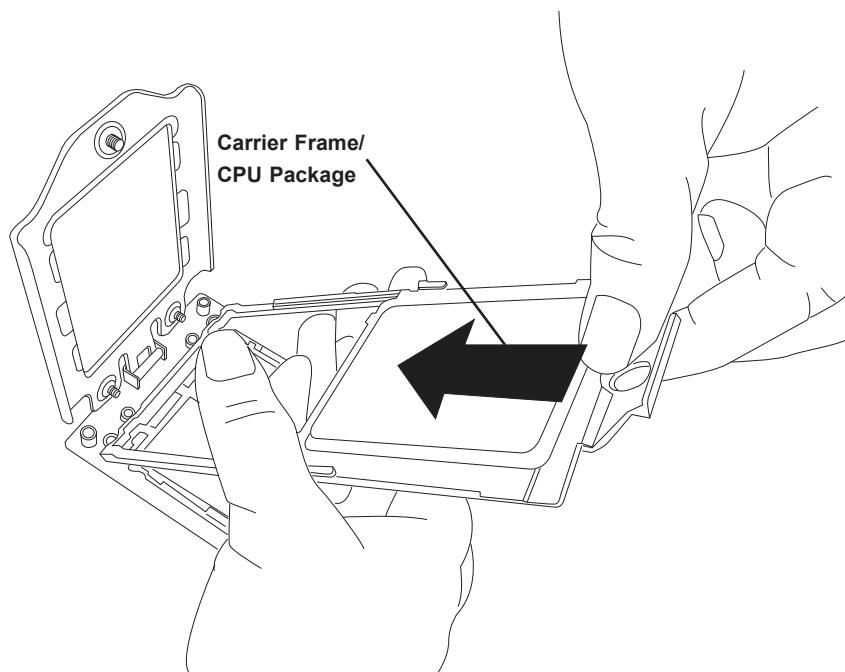
**Note:** The rail frame is spring loaded, so keep a secure grip on it as you lift it so it does not snap up.



4. Remove the external cap from the Rail Frame by pulling it upwards through the rail guides on the rail frame.



5. The CPU package is shipped from the factory with the blue carrier frame pre-assembled. Grip the handle of the carrier frame/CPU package 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.
6. Slide the carrier frame/CPU package downwards to the bottom of the rail frame. Ensure the flanges are secure on the rails as you lower it downwards.

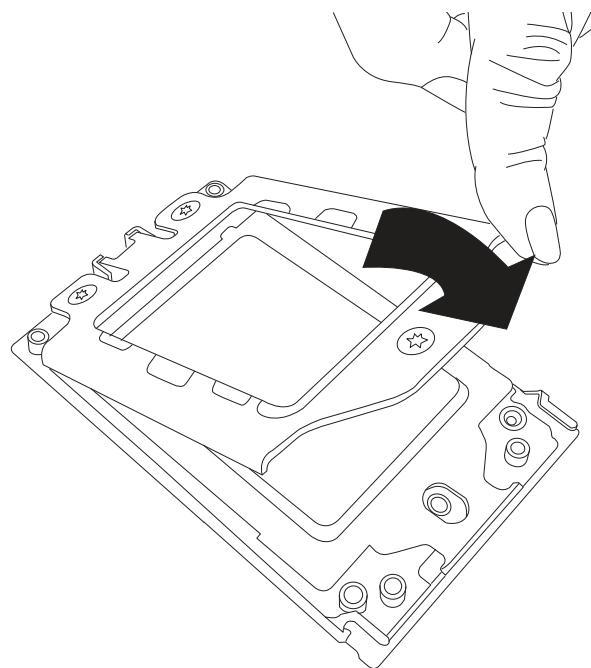


**Note:** You can only install the CPU inside the socket in one direction with the handle at the top. Make sure that it is properly inserted into the CPU socket before closing the rail frame plate. If it doesn't close properly, do not force it as it may damage your CPU. Instead, open the rail frame plate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

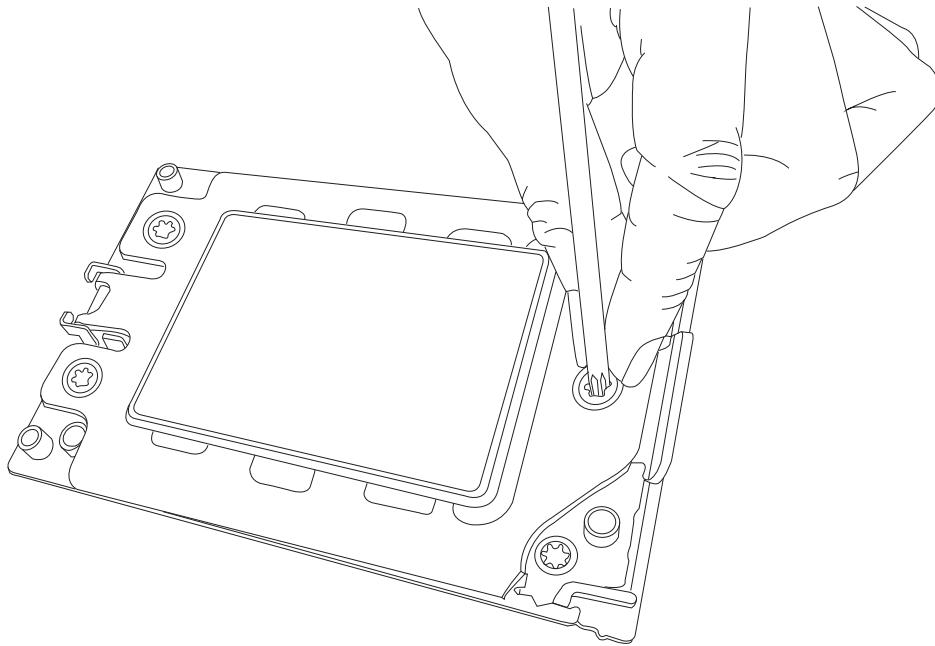
7. Lift up the rail frame till it securely rests in upright position. Then remove the PnP cover cap from the CPU socket below. Grip the two lift tabs marked "Remove" at the middle of the cap and pull vertically upwards to remove the PnP cover cap.

**Warning!** 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 PnP cover cap and when placing the rail frame over the socket.

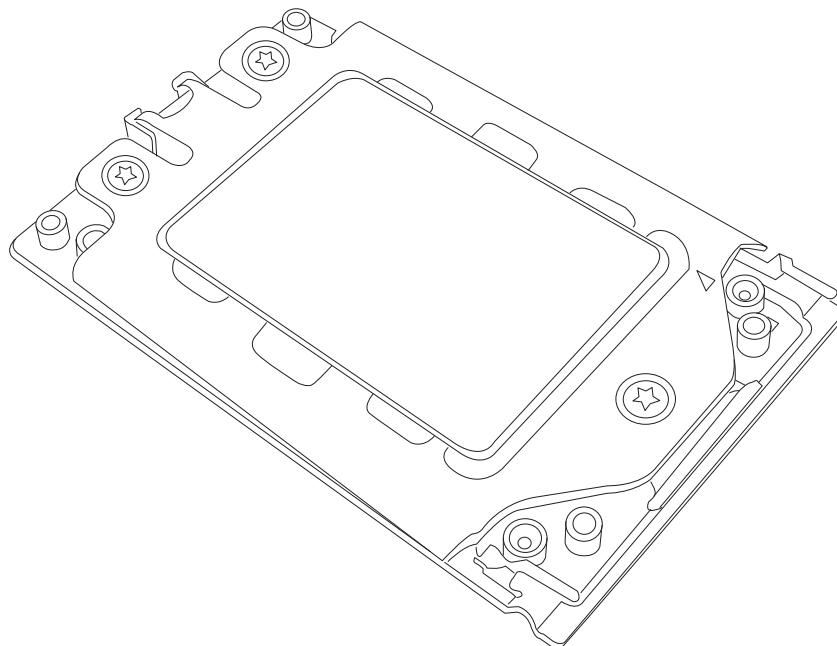
8. Gently lower the rail frame down onto the socket until the latches on the rail frame engage with the socket housing and it rests in place. DO NOT force it into place!



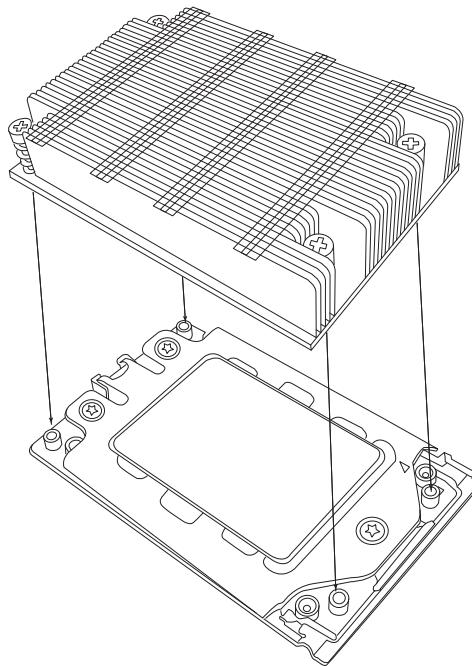
9. Gently lower the force frame down onto the rail frame and hold it in place until it is seated in the Socket housing. Note that the force frame is spring loaded and has to be held in place before it is secured. **Important: Use a torque screwdriver, set it at 16.1 kgf-cm (14.0 lbf-in) with a Torx T20 screw head bit, to prevent damage to the CPU.**



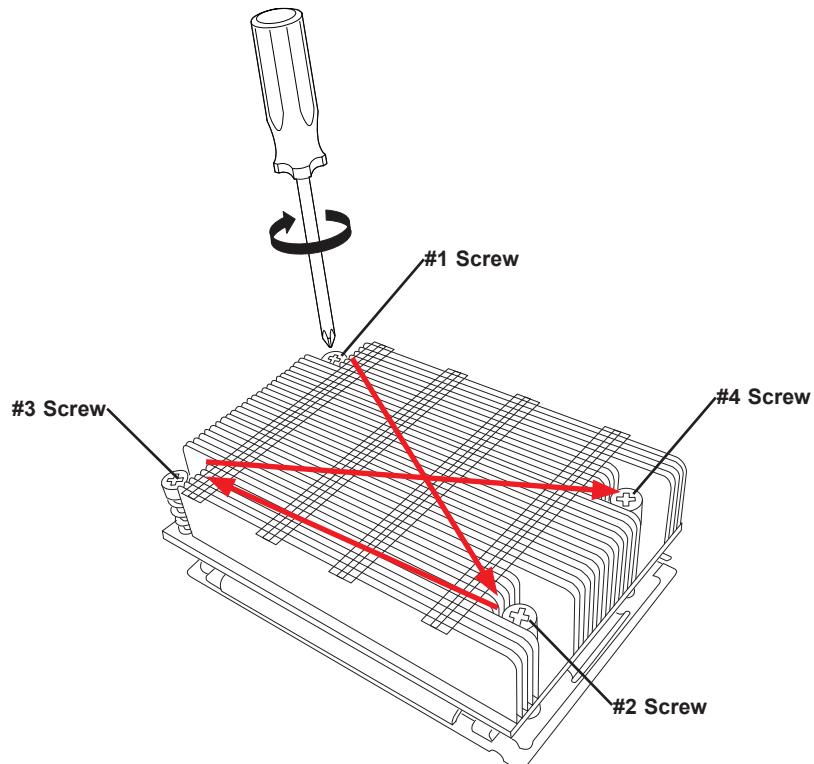
10. Place and re-screw the screws in the reverse order to the way you removed them (holes 1-2-3 in order). When finished, the force frame will be secure over both the rail frame and CPU package.



11. After the force frame is secured and the CPU package is in place, now you must install the heatsink to the frame. Lower the heatsink down till it rests securely over the four screw holes on CPU package on the socket frame.



12. Using a diagonal pattern, tighten the four screws down on the heatsink in a clockwise fashion till it is secure. The heatsink will now be secured and you have finished installing the processor and heatsink onto the motherboard. Repeat this procedure for any remaining CPU sockets on the motherboard.



### Removing the Processor and Heatsink

1. Remove the heatsink attached to the top of the CPU package by reversing the installation procedure.
2. Clean the Thermal grease left by the heatsink on the CPU package lid to limit the risk of it contaminating the CPU package land pads or contacts in the socket housing.
3. Reverse the procedure for installing the force frame onto the socket, unscrewing the plate in the 3-2-1 screw order 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 carrier frame/CPU package to its original shipping container.
6. Grip the handle on the external cap and return it to the rail frame sliding it downwards till it rests in the frame.
7. Gripping the rail frame, rotate it downwards till it rests above and locks over the socket housing in its horizontal position.
8. Push and rotate down the force frame till it is over the external cap and rail frame into a horizontal position.
9. While holding down the force frame, secure it back to the socket frame by securing screw 1 in place. Note that without a CPU package in place, it is not necessary to tighten down screws 2 and 3 at this time.

## 3.5 Memory

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

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

### ***Memory Support***

The H12SSG-AN6 supports up to 2TB 3DS ECC DDR4-3200MH, SDRAM memory in eight slots. Refer to the table below for additional memory information.

**Notes:** Check the Supermicro website for possible updates to memory support.

### ***Memory Installation***

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

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

Populating RDIMM/RDIMM 3DS/LRDIMM/LRDIMM 3DS DDR4 Memory Modules				
Type	DIMM Population	Maximum DIMM Capacity (GB)		Maximum Frequency (MHz)
		1 Channel	8 Channels	
RDIMM	1R (1 Rank)	32GB	256GB	3200
	2R or 2DR (2 Ranks)	64GB	512GB	3200
LRDIMM dual die	4DR (4 Ranks)	128GB	1TB	3200
3DS LRDIMM	2S2R (4 Ranks)	128GB	1TB	3200
	2S4R (8 Ranks)	256GB	2TB	3200
3DS RDIMM	2S2R (4 Ranks)	128GB	1TB	3200
	2S4R (8 Ranks)	256GB	2TB	3200

1R: 1 package rank of SDP DRAMs

2R: 2 package rank of SDP DRAMs

2DR: 2 package rank of DDP DRAMs

4DR: 4 package rank of DDP DRAMs

2S2R/2S4R/2S8R: 2 package rank of 2/4/8 high 3DS DRAMs

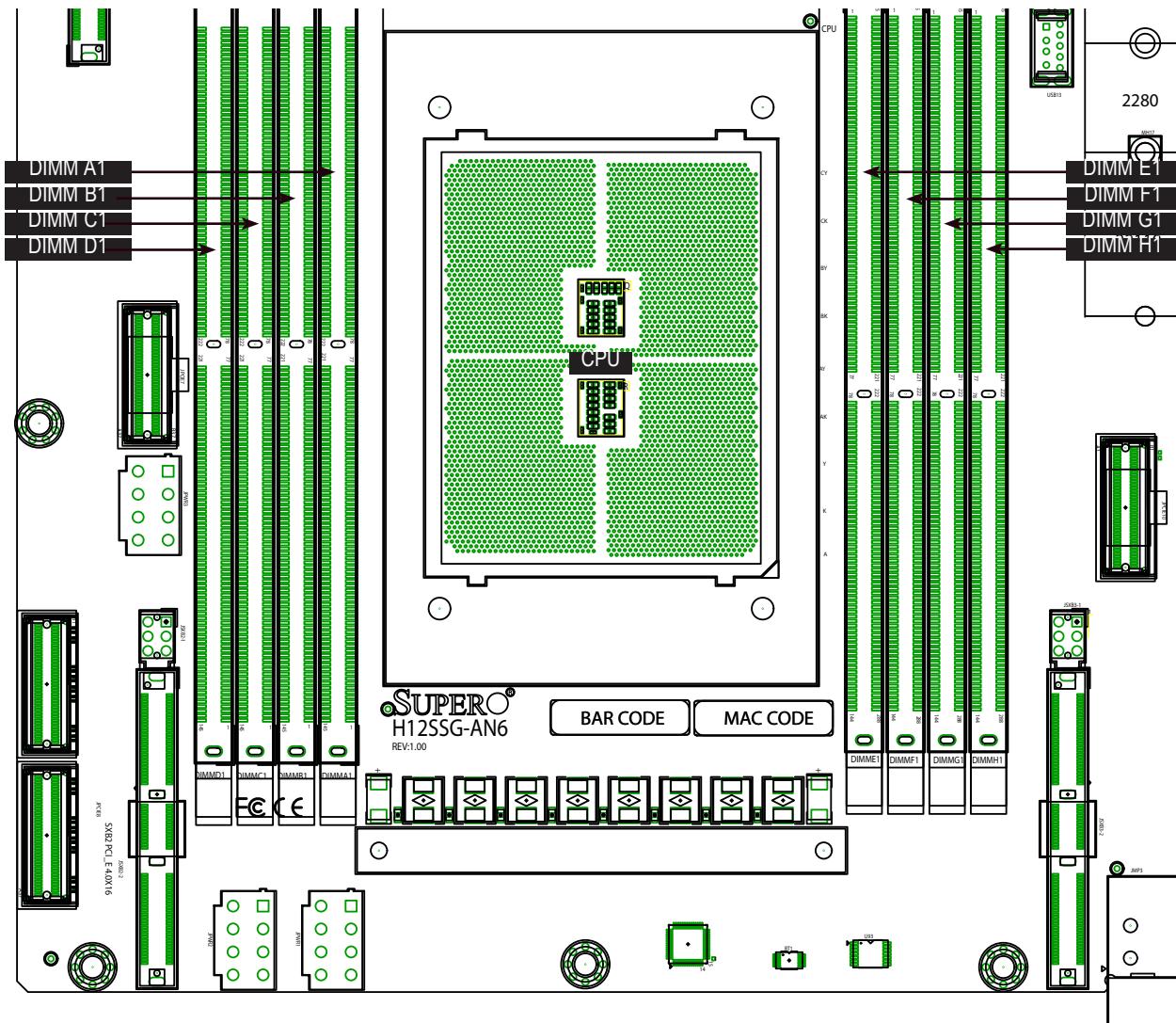
DIMM Population Guide (with AMD 7002 Processor)									
Channel									
CPU#	D1	C1	B1	A1	E1	F1	G1	H1	
1 DIMM (supported but not recommended)									
CPU1		X							
2 DIMMs (supported but not recommended)									
CPU1	X	X							
4 DIMMs (conditionally recommended if 32 cores or fewer)									
CPU1	X	X					X	X	
6 DIMMs									
Unbalanced (Not Recommended)									
8 DIMMs									
CPU1	X	X	X	X	X	X	X	X	X

DIMM Population Guide (with AMD 7003 Processor)									
Channel									
CPU#	D1	C1	B1	A1	E1	F1	G1	H1	
1 DIMM (supported but not recommended)									
CPU1		X							
2 DIMMs (supported but not recommended)									
CPU1	X	X							
4 DIMMs (conditionally recommended if 32 cores or fewer)									
CPU1	X	X					X	X	
6 DIMMs (conditionally recommended if only populating 6 slots)									
CPU1	X	X		X	X		X	X	
8 DIMMs									
CPU1	X	X	X	X	X	X	X	X	X

## DIMM Module Population

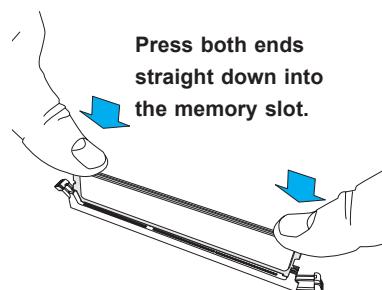
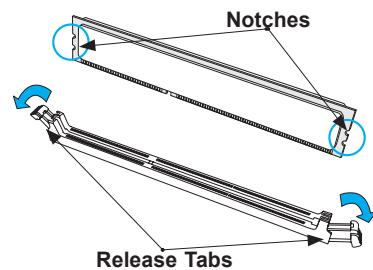
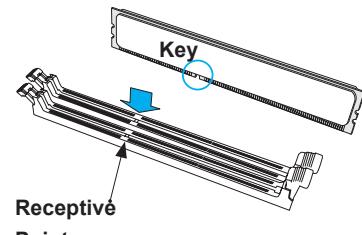
There is no specific order or sequence required when installing memory modules. However do keep the following in mind:

- Mixed DIMM speeds can be installed. However, all DIMMs will run at the speed of the slowest DIMM.
- The motherboard will support odd-numbered modules (1 or 3 modules installed). However, to achieve the best memory performance, a balanced memory population is recommended.



## DIMM Installation

1. Insert the desired number of DIMMs into the memory slots, there is no specific sequence or order required.
2. Push the release tabs outwards on both ends of the DIMM slot to unlock it.
3. Align the key of the DIMM module with the receptive point on the memory slot.
4. Align the notches on both ends of the module against the receptive points on the ends of the slot.
5. 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 module into the slot.



## DIMM Removal

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

## Motherboard Battery

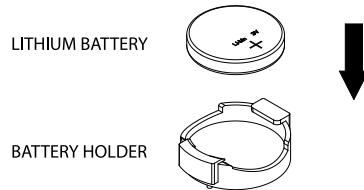
The motherboard uses non-volatile memory to retain system information when system power is removed. This memory is powered by a lithium battery residing on the motherboard.

### *Replacing the Battery*

Begin by removing power from the system as described in [section 3.1](#).

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

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



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

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

## 3.6 Chassis Components

### Storage Drives

The 227GTS chassis supports up to four 2.5" storage drives (two drives per node) in drive carriers to simplify their removal from the chassis. These carriers also help promote proper airflow. Note that only SSDs are supported, spindle-type HDDs are not.

All four drive carriers reside in a storage module that has Slim-SAS connectors at the rear where the data cables attach to the motherboard. A rear power connector is also used to provide input power to the module backplane from the motherboard. This design enables a true hybrid solution with any slot able to support NVMe U.2, SATA or SAS with optional HBA.

**Note:** Enterprise level hard disk drives are recommended for use in Supermicro chassis and servers.

### Drive Carrier Indicators

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

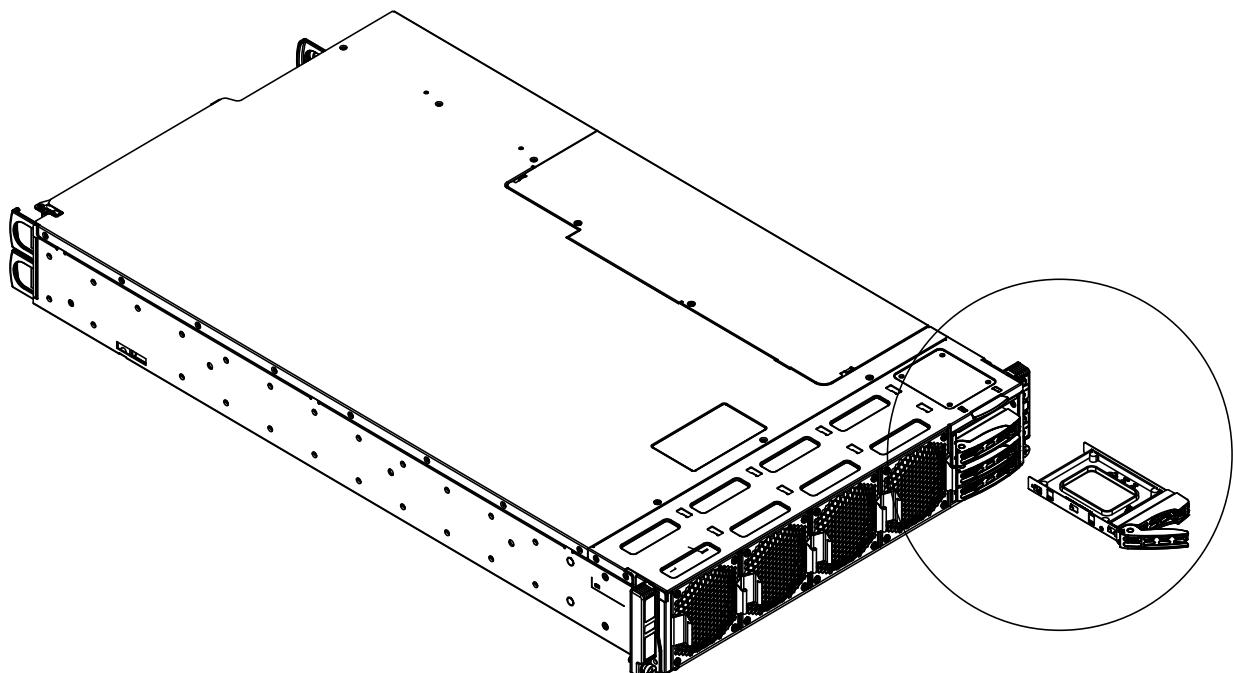
Drive Carrier LED Indicators			
	Color	Blinking Pattern	Behavior for Device
Activity LED	Blue	Solid On	SAS drive installed
	Blue	Blinking	I/O activity
Status LED	Red	Solid On	Failure of drive with RSTe support
	Red	Blinking at 1 Hz	Rebuild drive with RSTe support
	Red	Blinking with two blinks and one stop at 1 Hz	Hot spare for drive with RSTe support <i>(not supported in VMD mode)</i>
	Red	On for five seconds, then off	Power on for drive with RSTe support
	Red	Blinking at 4 Hz	Identify drive with RSTe support

## ***Removing/Installing Drives***

### ***Removing Drive Carriers from the Chassis***

1. Push the release button on the drive carrier. This releases and extends the drive carrier handle. If the release button does not release it, the handle may be locked: use a flat-head screwdriver to unlock the release.
2. Use the handle to pull the carrier out of the chassis as shown below.

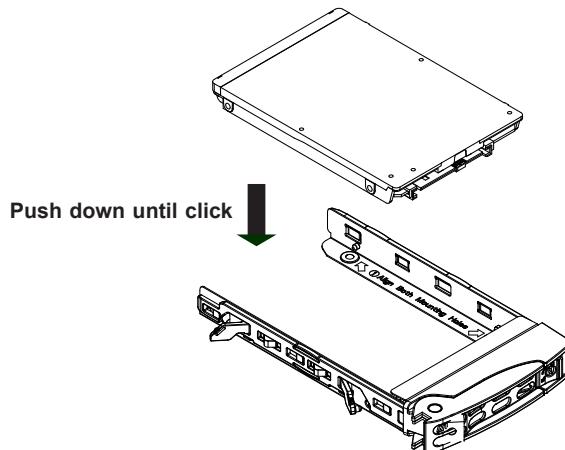
**Caution:** Except for short periods of time (swapping drives), do not operate the server with the drive carriers removed from the bays, regardless of how many drives are installed, for proper airflow.



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

**Installing a 2.5" Hard Drive**

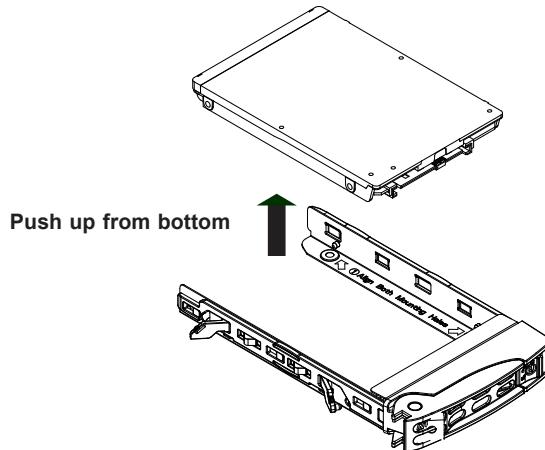
1. Place the hard drive carrier on a flat surface.
2. Orient the drive with the connector facing the bottom rear of the carrier. The drive can be inserted from above into the clips until a "click" is heard.
3. Use the open handle of the drive carrier to insert the carrier into the open drive bay.
4. Secure the drive carrier into the drive bay by closing the drive carrier handle. Toolless drive carriers (supported) have a lock feature that functions by turning with a small flat-head screwdriver when the latch is in the closed position.



**Figure 3-4. Installing a 2.5" Hard Drive**

**Removing a 2.5" Hard Drive**

1. After removing the carrier from the system, push up from the bottom of the drive to remove it from the carrier.
2. Replace with a new drive and insert the carrier back into the open drive bay.



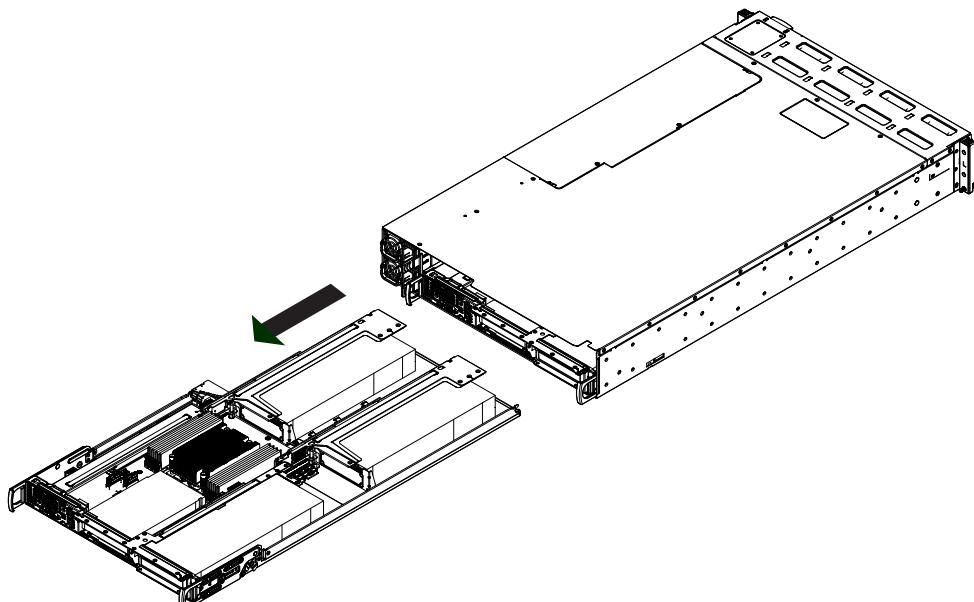
**Figure 3-5. Removing a 2.5" Hard Drive**

## Installing Expansion Cards

The system has four low-profile (LP) PCIe Gen4 x16 slots for expansion add-on cards (AOCs, such as RDMA, 200G IB, and 200G Ethernet) and one LP PCIe Gen4 x8 slot for an AOC up to 100G or HBA/RAID. In addition, there is one mechanical LP slot for a RAID Battery Backup Unit (BBU)/SuperCap/CacheVault. AOCs are recommended to be serviced by Supermicro due to the optimized density of the 2U form factor.

### *Installing an Expansion Card*

1. Power down the system, remove power cables and wait 30 seconds then remove cover.  
**Note:** Due to the weight of the system, this should not be attempted in the rack. The system needs to be placed on a flat ESD-safe surface with ample support.
2. Begin by removing the riser assemblies from left to right (when viewed from the rear).
3. At the rear of the chassis, remove the PCI riser by unlatching the riser release (see Figure 1-4 for locations). There are three at rear of the chassis and one for each riser located at the metal chassis rear crossbar.
4. Slide the PCI riser out of expansion slot from the back of the chassis by lifting each riser assembly vertically.
5. Once the riser releases are extended to the open position, lift each riser assembly vertically. Be careful not to damage the power or data cables attached to the assemblies. If more room is needed the cables can be detached, however, it is important to note the cable numbers and their mated connectors.
6. Install and secure the expansion cards into the PCI riser.
7. Return and lock the PCI riser back into the back of the chassis and lock its release.



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**Figure 3-6. Installing Expansion Cards**

## GPU Installation

The AS -2114GT-DNR include three riser cards (RSC-GF-66G4, RSC-GF-6G4, and RSC-GB-66G4) to support double-width GPUs (three total). The AS -2114GT-DNR supports GPUs installed on the AOM-TPM-9670V , and AOM-TPM-9671V add-on modules.

### GPU Kitting

Before installing the GPUs on the riser card, the default brackets of the two GPUs on the front need to be replaced with the Supermicro brackets.

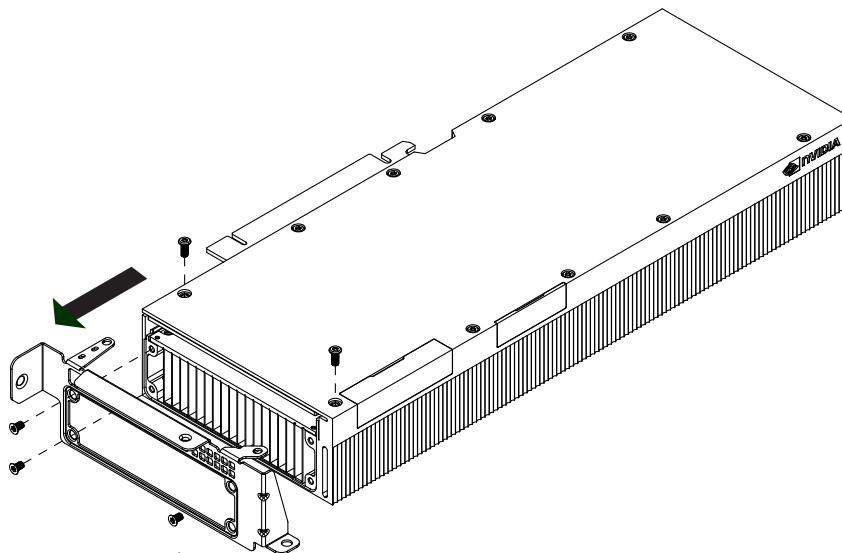


Figure 3-7. Remove the Default Bracket

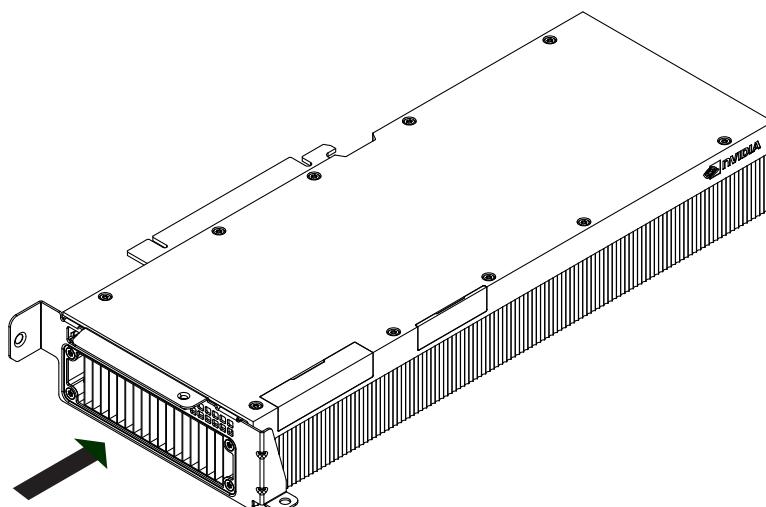


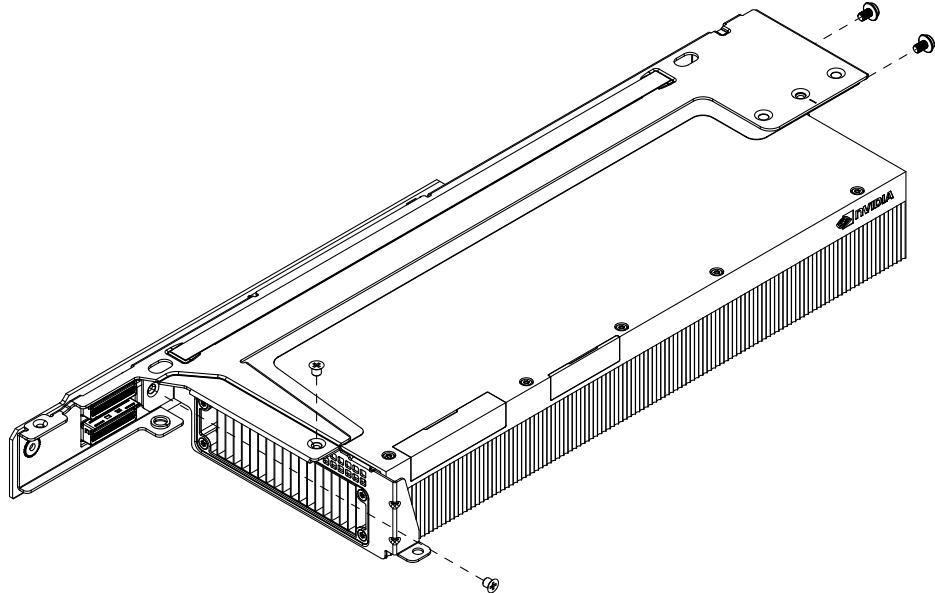
Figure 3-8. Replace with the Supermicro Bracket

### Installing the Front GPUs on the Riser Card

Install the front GPUs using the front riser card (RSC-GF-66G4, and RSC-GF-6G4).

1. Remove the riser card bracket.

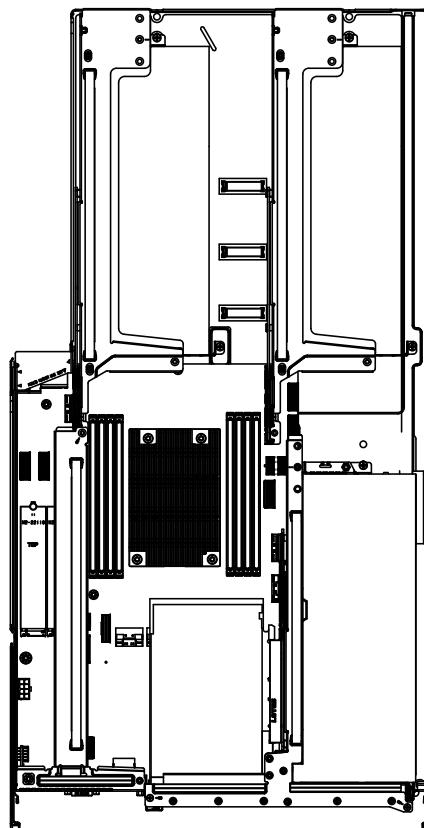
2. Attach the riser card to the bracket.
3. Insert the GPU into the riser card slot.
4. Connect the cables.



**Figure 3-9. Install the Riser Card on the Bracket**

#### ***Whole set on the Motherboard***

The whole set on the motherboard looks like the below image.



## Replacing GPUs

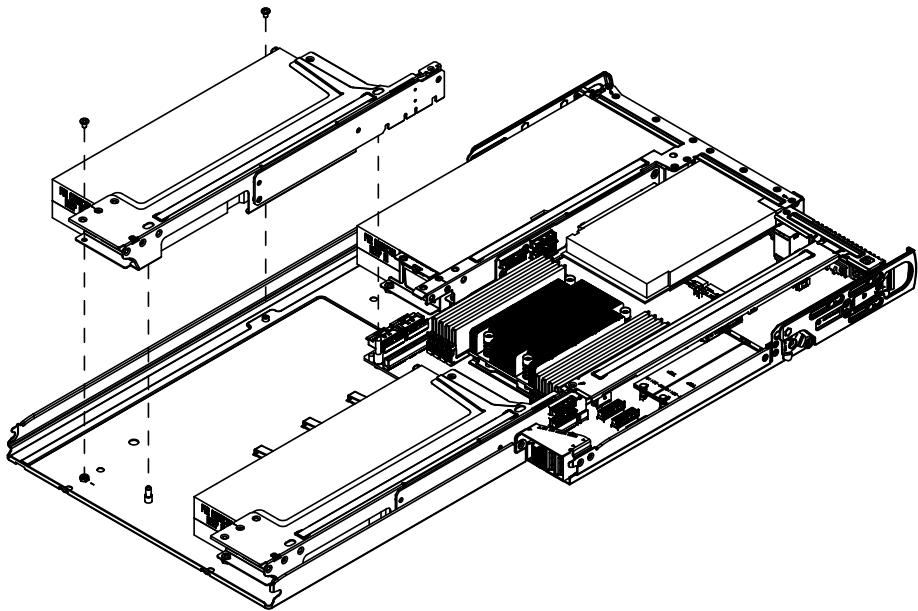
Individual GPU and GPU baseboards are recommended to be serviced by Supermicro due to the optimized density of the 2U form factor.

Prior to submitting an RMA for GPUs, Nvidia requires that their Field Diagnostic tool is first run to isolate hardware failures and obtain a log file for review. Check with Supermicro Technical Services for more details. In addition, more details can be found in Nvidia reference document Baseboard Field Diagnostics Software Guide DU-09163-001.

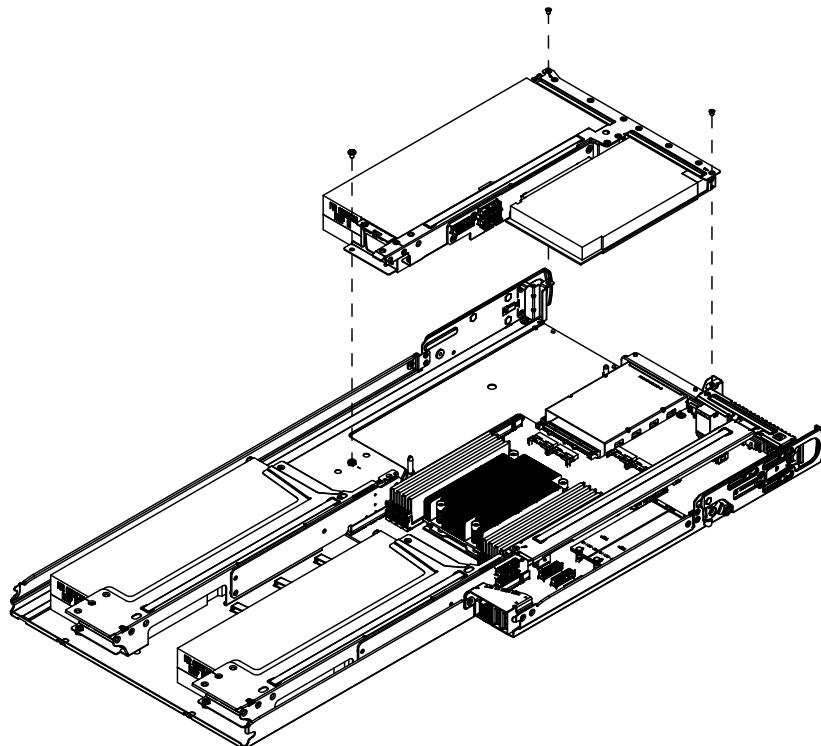
### ***Replacing GPU Baseboard Module***

5. Run Nvidia's Field Diagnostic tool to isolate failures and obtain a log file for review.
6. Remove the GPU heatsinks on the GPU baseboard so that it is lighter and easier to handle.
7. Disconnect the GPU baseboard module's 54V power cable by extending the red colored finger release of the Radsok/Surlok cable (cable #27 as illustrated in [Chapter 1](#)) and pulling up. Use a small plastic tool or Velcro loop to gain access to the finger release if needed.
8. Unscrew the GPU baseboard latch and T-handle screws using a T10 torx head driver
9. Release the "bail latch", which will separate the GPU baseboard from the PCIe transition board assembly. The baseboard should then be loose.
10. Hold the "T" handle with one hand while lifting the bail latch at the other end of the baseboard.
11. Lift the GPU baseboard vertically and at a slight angle to remove the GPU baseboard. Be careful not to scratch the GPU baseboard or your hands on the chassis metal edges.

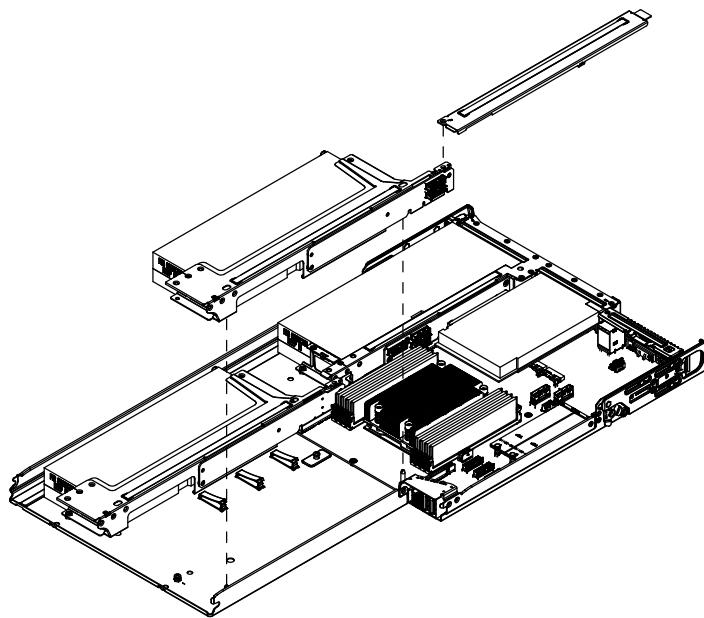
For installation reverse the above steps.



**Figure 3-7. Riser-F Expansion Card**



**Figure 3-8. Riser-B Expansion Card**



**Figure 3-9. Riser-FR Expansion Card**

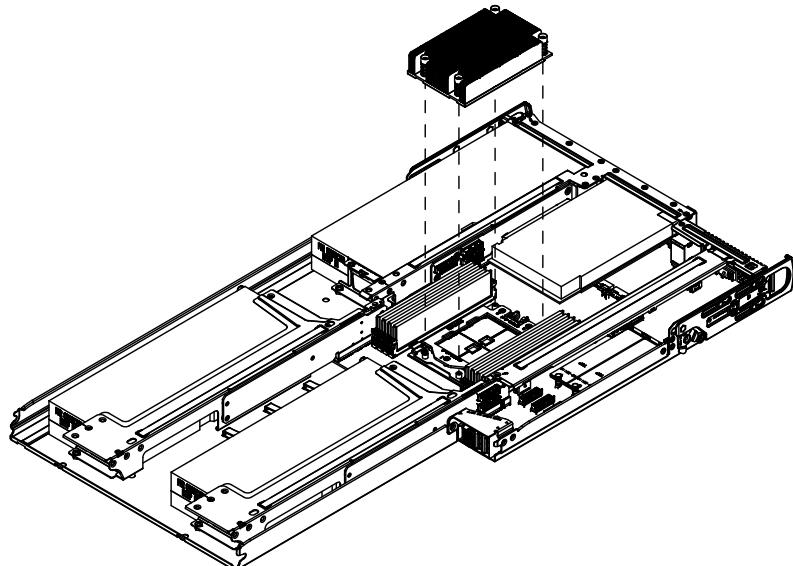
### ***Replacing Individual GPUs***

Prior to submitting an RMA for GPUs, Nvidia requires that their Field Diagnostic tool is first run to isolate hardware failures and obtain a log file for review. Check with Supermicro Technical Services for more details. In addition, more details can be found in Nvidia reference document Baseboard Field Diagnostics Software Guide DU-09163-001. Use these tools to determine the failed GPU and locate using the Cable Mapping Guide Figure and GPU Mapping Table. Be sure to identify the failed GPU correctly and if any questions reach out to Supermicro Technical Service team to help.

**Note:** GPU heatsink and individual GPU SXM4 replacement is recommended to be done by qualified a Supermicro service technician. Always ensure that new heatsinks are used. Qualified heatsinks include thermal interface material (TIM) with specified dimension and thickness.”

1. Prior to assembly, ensure the GPU devices have no thermal material or grease. Also check that the heatsinks are new and have unused thermal interface material (TIM) present.
2. Gently place the heatsink over the GPU baseboard's SXM4 socket while keeping the heatsink steady and level with one hand while using a screwdriver with the other hand.
3. Line up the screws to the socket screw holes underneath prior to screwing down
4. Use a Philips-head screwdriver to screw down screws in this order: 1,2,3,4. Ensure a torque force between 3 to 4 lbf-in is used. The use of a torque screwdriver with torque setting feature is recommended.
5. To remove the individual GPU SXM4 module, please follow "Nvidia A100 SXM4/GPU Module: Removal and Installation Instruction" in Nvidia document #1055915.

For installation reverse the above steps.



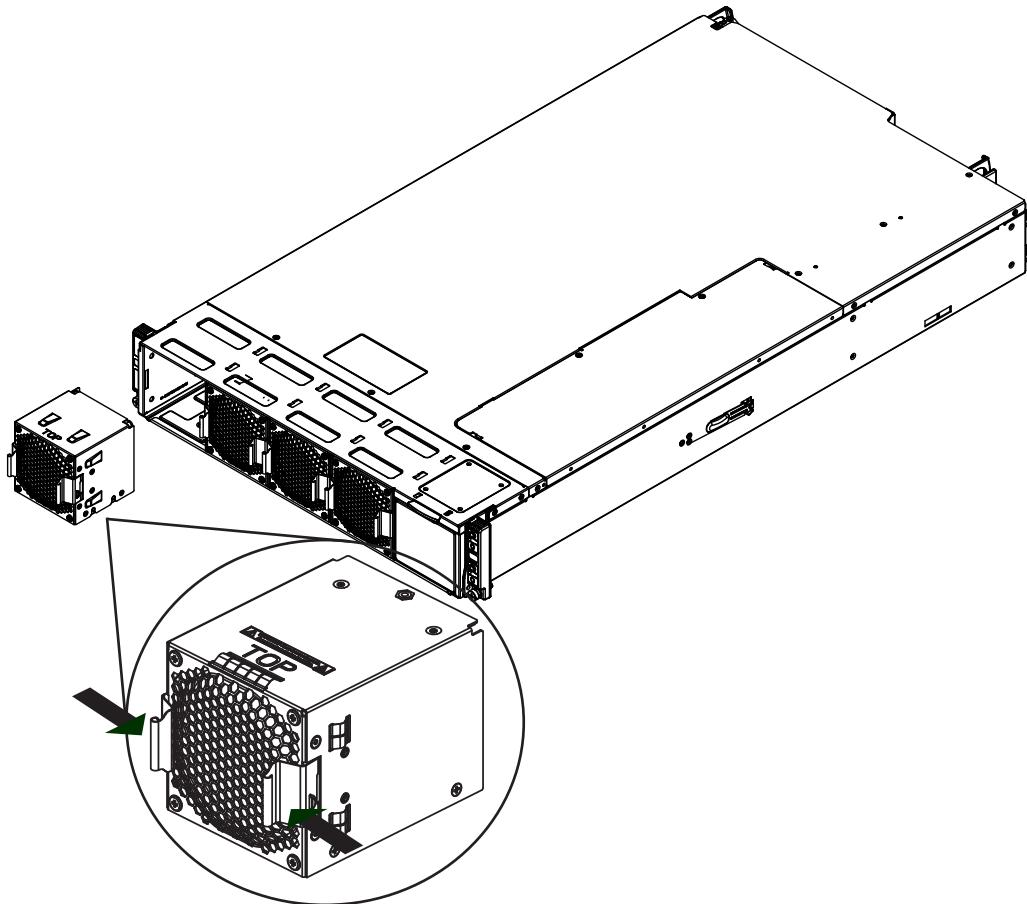
**Figure 3-10. Installing CPU Heatsinks (screw locations shown))**

## AOC Installation

Four hot-swap fans provide cooling. They can be replaced without powering down the system. However, failed fans should be replaced quickly to maintain proper system airflow.

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

**Note:** For system fan operation the following hardware is required: GPU Baseboard module, PCIe transition board, fan board, motherboard, PSUs, and cabling.



**Figure 3-11. Removing System Fans**

### **Changing a System Fan**

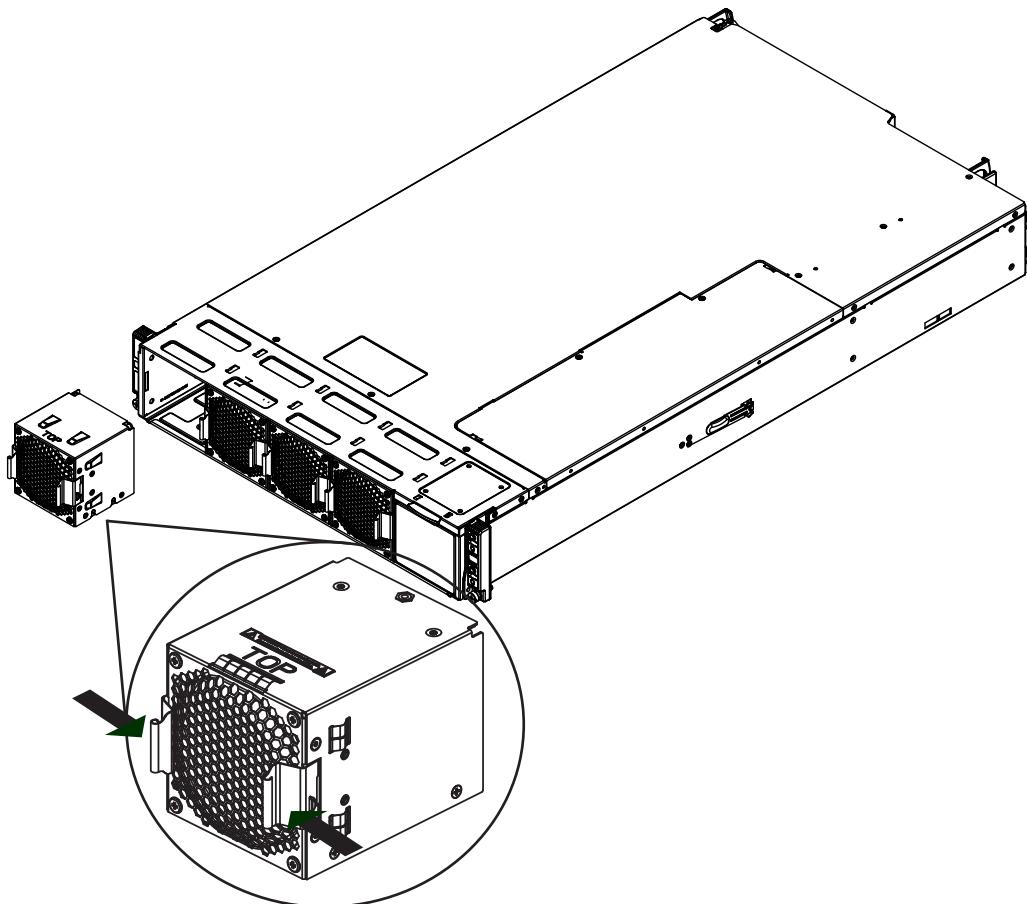
1. Determine which fan is failing. If possible, use IPMI. If not, while the power is on, examine the fans to determine which one has failed.
2. Remove the failed fan from the chassis by squeezing together the two tabs on either side then pulling it out from the chassis.
3. Replace the fan with a new one, making sure it is within specifications.

## System Fans

Four hot-swap fans provide cooling. They can be replaced without powering down the system. However, failed fans should be replaced quickly to maintain proper system airflow.

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

**Note:** For system fan operation the following hardware is required: GPU Baseboard module, PCIe transition board, fan board, motherboard, PSUs, and cabling.



**Figure 3-11. Removing System Fans**

### ***Changing a System Fan***

1. Determine which fan is failing. If possible, use IPMI. If not, while the power is on, examine the fans to determine which one has failed.
2. Remove the failed fan from the chassis by squeezing together the two tabs on either side then pulling it out from the chassis.
3. Replace the fan with a new one, making sure it is within specifications.

4. Push the fan into the housing until it is secure and running.
5. Confirm that the fan is working properly.

### ***Checking the Server Air Flow***

- Make sure there are no objects to obstruct airflow in and out of the server.
- If you are using a front bezel, make sure the bezel filter is replaced periodically.
- Do not operate the server without drives or drive trays in the drive bays.
- Use only recommended server parts.
- Make sure no wires or foreign objects obstruct air flow through the chassis. Pull all excess cabling out of the airflow path or use shorter cables.

The control panel LEDs display system heat status. See “Control Panel” in [Chapter 1](#) for details.

### ***Overheating***

There are several possible responses if the system overheats.

#### ***Overheat Temperature Setting***

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

#### ***Responses***

##### ***If the server overheats:***

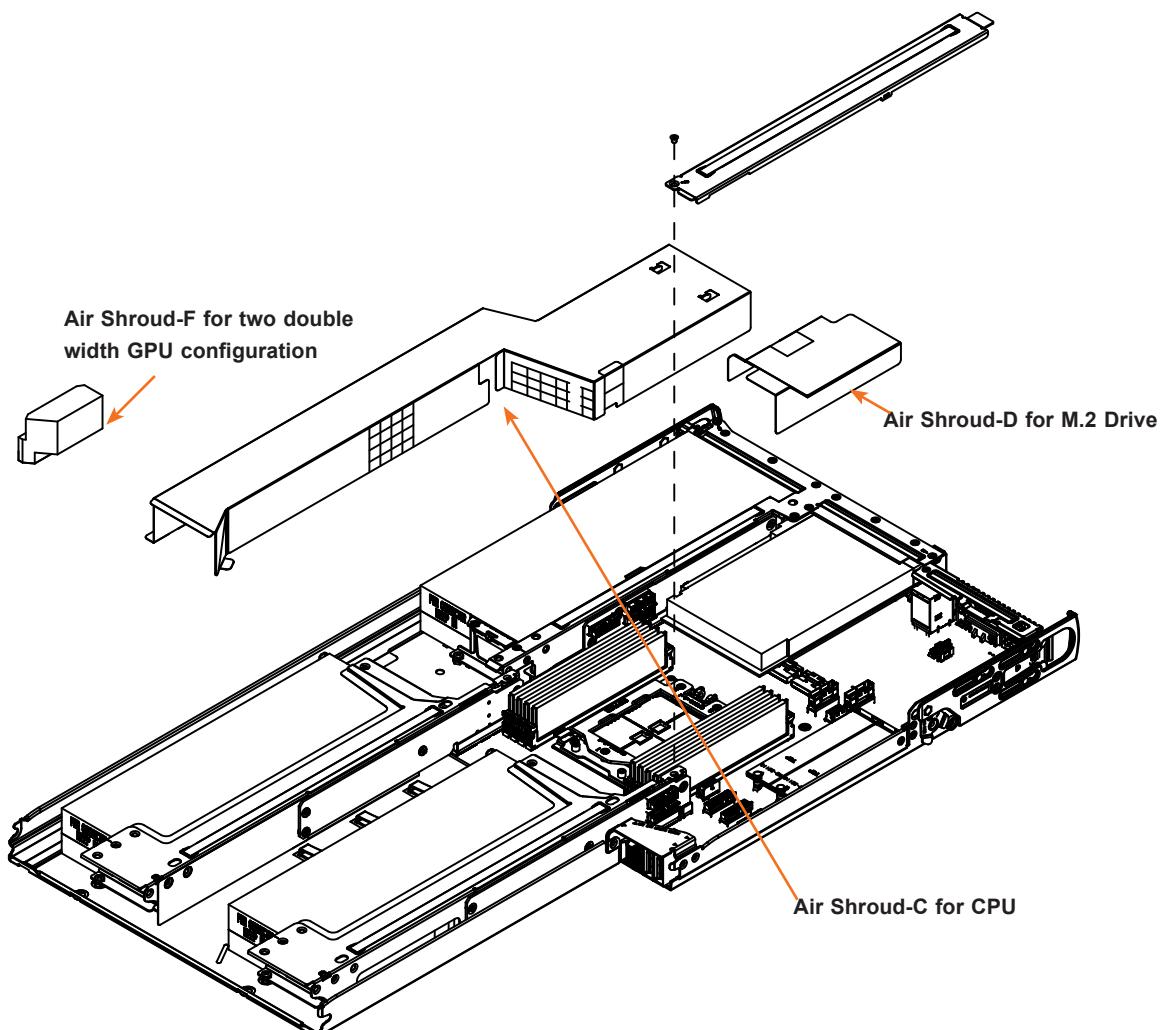
1. Use the LEDs to determine the nature of the overheating condition.
2. Confirm that the chassis covers are installed properly.
3. Make sure all fans are present and operating normally.
4. Check the routing of the cables.
5. Verify that the heatsinks are installed properly.

## Air Shroud

Air shrouds help to funnel the airflow provided by the fans over the system components that generate the most heat.

### ***Installing the Air Shroud***

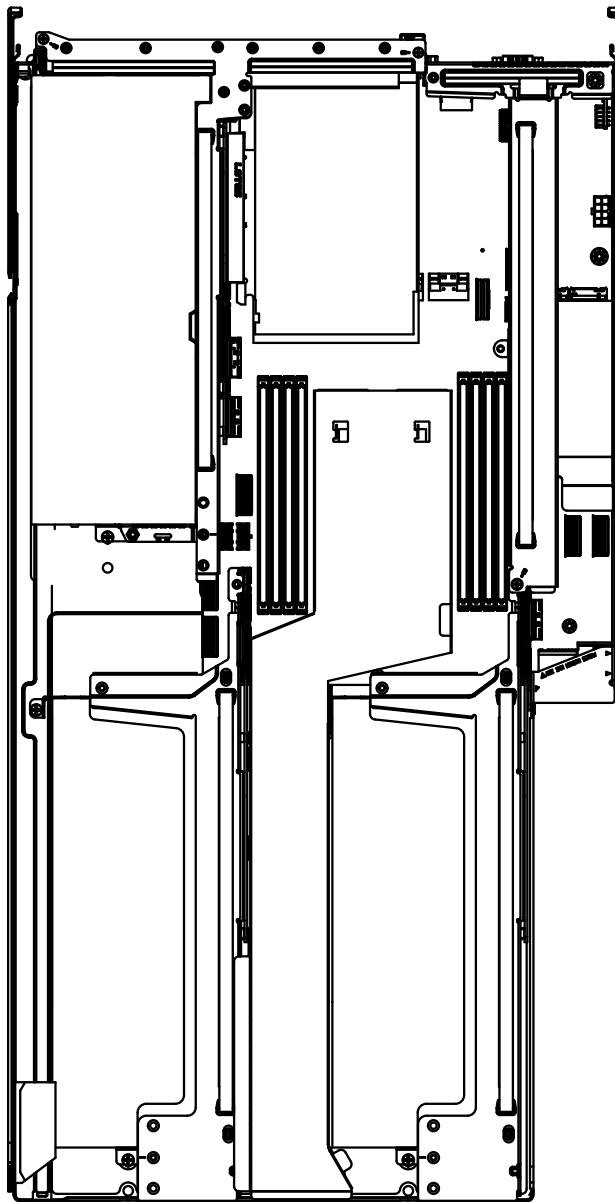
1. First ensure the CPU, CPU heatsinks, and configured DIMMs are installed
2. Gently place the air shroud over the CPU heatsinks with the front snap locations lining up with metal chassis middle crossbar. Be careful that the air shroud legs at either end do not interfere with any motherboard components such as DIMMs. Guide the air shroud around cable bundles as necessary.



**Figure 3-12. Installing Air Shroud-C for CPU**

***Whole air shroud set on the Motherboard***

The whole air shroud set on the motherboard looks like the below image.

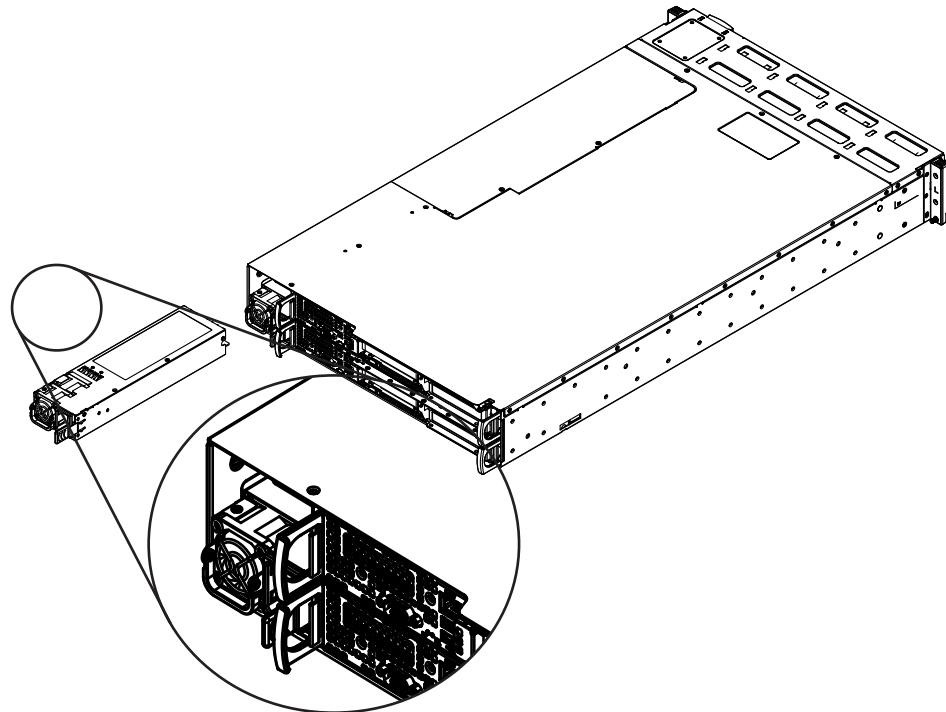


**Figure 3-13. All Air Shrouds Installed**

## Power Supply

The chassis features dual or fully redundant power supplies. In redundant mode, single power modules can be changed without powering down the system. New units can be ordered directly from Supermicro or authorized distributors.

These power supplies are auto-switching capable. This feature enables them to automatically sense the input voltage and operate at a 100-120v or 180-240v (For high-power or fully configured systems 180-240V service is required). An amber light will be illuminated on the power supply when the power is off. An illuminated green light indicates that the power supply is operating.



**Figure 3-14. Removing the Power Supply**

### ***Replacing the Power Supply***

1. Unplug the AC cord from the module to be replaced.
2. Push the release latch on the back of the power supply down (see above figure).
3. Pull the power supply out using the latch once released.
4. Replace the failed power module with the same model.
5. Push the new power supply module into the power bay until it clicks.
6. Plug the AC power cord back into the module.

# Chapter 4

## Motherboard Connections

This section describes the connections, jumpers and LED indicators on the motherboard and provides pinout definitions. Not all connections are required. A motherboard layout indicating component locations may be found in [Chapter 1](#).

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

### 4.1 Power Connections

The power connections on the H12SSG-AN6 (JPRW1 and JPRW2) are automatically made when the motherboard node is installed into the chassis.

### 4.2 Headers and Connectors

#### M.2 Slots (JM2\_A1, JM2\_B1)

The M.2 slots are for Solid State Devices (SSDs) that conform to the PCIe M.2 specifications (formerly known as NGFF). These M.2 slots supports M-Key PCIe 4.0 storage cards with form factors of 2242, 2260, 2280, and 22110.

#### TPM Header/Port 80 Connector (TPM Port)

The JTPM2 header is used to connect a Trusted Platform Module (TPM), which is available from a third-party vendor. A TPM is a security device that supports encryption and authentication in hard drives. It enables the motherboard to deny access if the TPM associated with the hard drive is not installed in the system.

Please go to the following link for more information on TPM: <http://www.supermicro.com/manuals/other/TPM.pdf>.

Trusted Platform Module Header Pin Definitions			
Pin#	Definition	Pin#	Definition
1	LCLK	2	GND
3	LFRAME#	4	Key
5	LRESET#	6	N/C
7	LAD3	8	LAD2
9	3.3V	10	LAD1
11	LAD0	12	GND
13	SMB_CLK (optional)	14	SMB_DAT (optional)
15	P3V3_STBY	16	SERIRQ
17	GND	18	LP_CLKRUN (optional)
19	LPC_PD (optional)	20	LPC_DRQ (optional)

## 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.

## USB Ports (USB0/1, USB13)

There are a total of three USB ports supported on the motherboard, two are located on the rear I/O panel and one is provided as an onboard header for front system access.

Onboard USB 13 (2.0) Pin Definitions			
Pin#	Definition	Pin#	Definition
1	+5V	6	USB_P
2	+5V	7	Ground
3	USB_N	8	Ground
4	USB_N	9	Key
5	USB_P	10	NC

Rear I/O Panel USB 0/1 (USB3.1) Pin Definitions			
Pin#	Definition	Pin#	Definition
A1	VBUS	B1	Power
A2	D-	B2	USB_N
A3	D+	B3	USB_P
A4	GND	B4	GND
A5	Stda_SSTX-	B5	USB_3RN
A6	Stda_SSTX+	B6	USB3_RP
A7	GND	B7	GND
A8	Stda_SSTX-	B8	USB3_TN
A9	Stda_SSTX+	B9	USB3_TP

## AIOM Slot

The Supermicro Advanced I/O Module (AIOM) PCIe 4.0 x16 slot (AIOM1) can be utilized to offer additional LAN ports, VPU, storage devices, etc. on the motherboard. Please visit the Supermicro website for all available module options. Also, please note that it is mandatory to unplug power cords prior to removing or installing an AIOM module card.

## SlimSAS Ports

The H12SSG-AN6 has 11 PCIe 4.0 SlimSAS ports designated JPCE1 through JPCE11. These SAS ports are supported by the chipset

## IPMB (I<sup>2</sup>C) Header

A Management Bus header is located at JIPMB1. Connect the appropriate cable here to use the IPMB I<sup>2</sup>C connection on your system. Refer to the table below for pin definitions.

IPMB Header Pin Definitions	
Pin#	Definition
1	Data
2	Ground
3	Clock
4	No connection

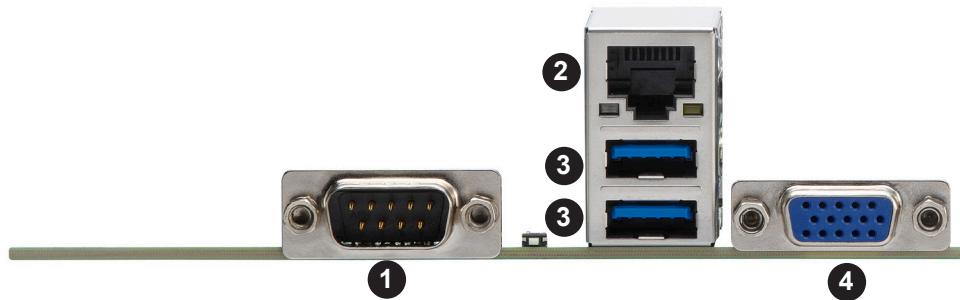
**GPU 12V 8-pin Power Connectors (JPWR1 - JPWR4)**

JPWR1, JPWR2, JPWR3, and JPWR4 are all 8-pin 12V DC power inputs for GPUs that have been installed in the system's PCIe slots. Refer to the table below for pin definitions.

GPU 12V 8-pin Power Pin Definitions			
Pin#	Definition	Pin#	Definition
1	Ground	5	+12V
2	Ground	6	+12V
3	Ground	7	+12V
4	Ground	8	+12V

## 4.3 Rear I/O Ports

See Figure 2-1 below for the locations and descriptions of the various I/O ports on the rear of the motherboard.



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

Rear I/O Ports			
#	Description	#	Description
1	COM Port	3	USB Ports (USB3.1)
2	IPMI LAN Port	4	VGA Port

### COM Port

One serial communications (COM) port is included on the rear I/O panel.

### IPMI LAN Port

One dedicated IPMI LAN port is located on the rear I/O panel. This port accepts an RJ45 type cable.

### Universal Serial Bus (USB) Ports

There are two USB 3.1 ports (USB0/1) on the rear I/O panel. These support the type A connector.

### VGA Port

There is one VGA port to the right of the USB ports on the rear I/O panel.

### **UID Switch and UID LED Indicator**

A Unit Identifier (UID SW) switch and UID LED (LED1) are located on the rear I/O panel. The rear UID LED (LED1) is located next to the UID switch. When you press the UID switch, both rear and front UID LED indicators will turn on. Press the UID switch again to turn off the LED indicators. The UID Indicator provides easy identification of a system that may be in need of service. See 2.6 for the front panel UID LED header location on JF1.

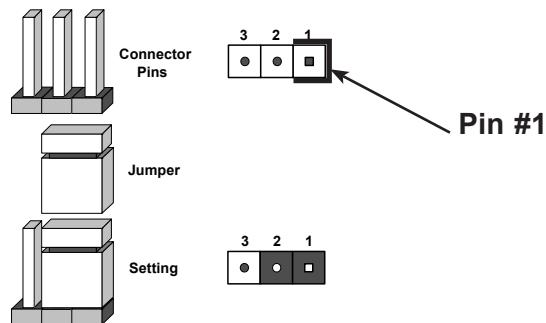
**Note:** UID can also be triggered via IPMI on the serverboard. For more information on IPMI, please refer to the IPMI User's Guide posted on our website at <http://www.supermicro.com>

## 4.4 Jumper Settings

### How Jumpers Work

To modify the operation of the motherboard, jumpers can be used to choose between optional settings. Jumpers create shorts between two pins to change the function of the connector. Pin #1 is identified with a thicker border line 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.



### Clear CMOS (JBT1)

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

#### To Clear CMOS

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

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

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



### Watch Dog (JWD1)

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

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

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

## 4.5 LED Indicators

### IPMI LAN Port LEDs

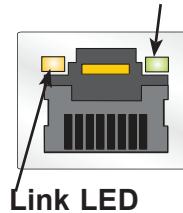
The IPMI LAN port has two LED indicators. The Activity LED is green and indicates connection and activity. The Link LED may be green, orange/amber, or off to indicate the speed of the connection. Refer to the tables below for more information.

Link LED, Connection Link, Speed Indicator		
LED Color	Definition	
Orange	1 Gb/s	
Green	100 Mb/s	

Activity LED		
Color	State	Definition
None	No Connection	
None	Off	Link
Yellow	Flashing	Active

### Activity LED



### Link LED

### UID LED Indicator (LED1)

The rear LED1 is located next to the UID switch. The front UID LED is located on the front panel. When you press the UID switch, both rear LED1 and front UID LED indicators will turn on. Press the UID switch again to turn off the LED indicators. Use this UID Indicator to 'mark' the system, so the system can be easily identified whether on the front or back (e.g., a system rack with multiple units installed).

UID LED LED Indicator		
Color	State	Definition
Blue	Solid On	Unit Identified
None	Off	UID Off

### BMC Heartbeat LED (LEDM1)

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

BMC Heartbeat LED State		
Color	State	Definition
Green	Solid On	BMC is not ready
Green	Blinking	BMC Normal
Green	Fast Blinking	BMC: Initializing

## Power LED

The Power LED is designated as LED2 on the motherboard. When this LED is lit, it means that power is present on the motherboard. In suspend mode, this LED will blink on and off. Be sure to turn off the system and unplug the power cord(s) before removing or installing components.

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

## M.2 Active LEDs (LED4 and LED5)

The M.2 Interface Detection LEDs indicate that an M.2 interface is detected, active and working correctly on either M.2-B1 (LE1) or M.2-A1 (LE2).

**Note:** M.2 SATA devices are not supported, but these LEDs turns on (green light) when they are installed.

M.2 Active LED Indicator	
LED Color	Definition
Off	Off (Normal)
Green	On (Device active or a M.2 SATA device detected)

# Chapter 5

## Software

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

### 5.1 Microsoft Windows OS Installation

#### *Installing the OS*

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

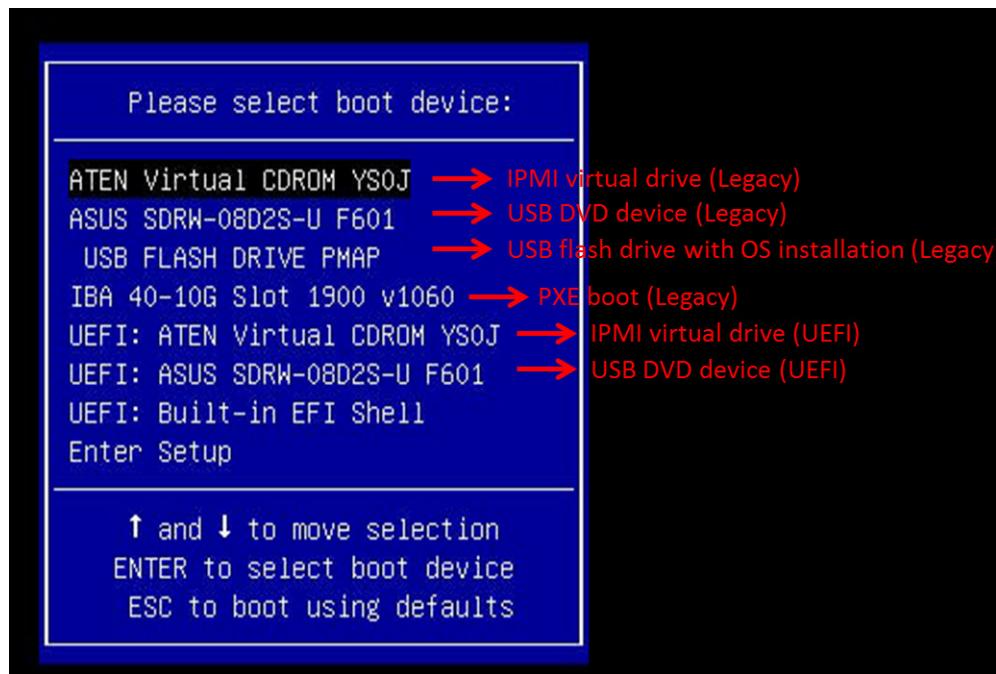
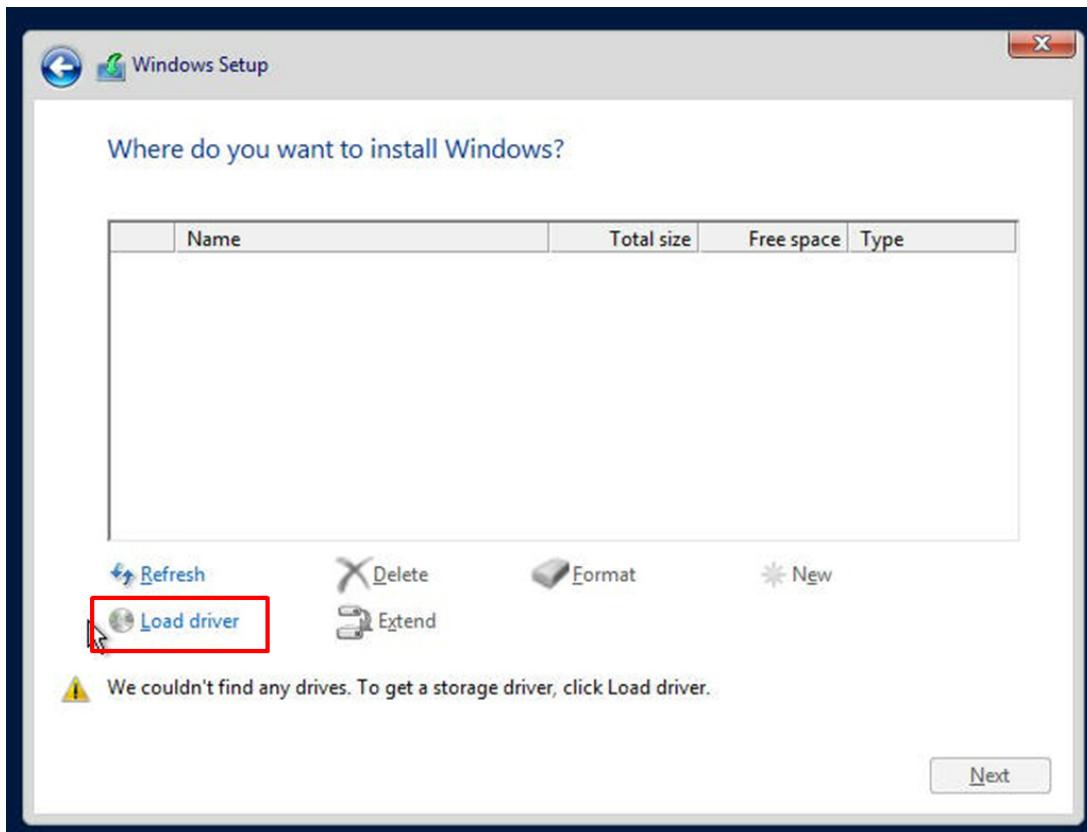


Figure 5-1. Select Boot Device

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



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

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

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

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

## 5.2 Driver Installation

The Supermicro website contains drivers and utilities for your system at [www.supermicro.com/wdl/driver/AMD/SP3](http://www.supermicro.com/wdl/driver/AMD/SP3). Some of these must be installed, such as the chipset driver.

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

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

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



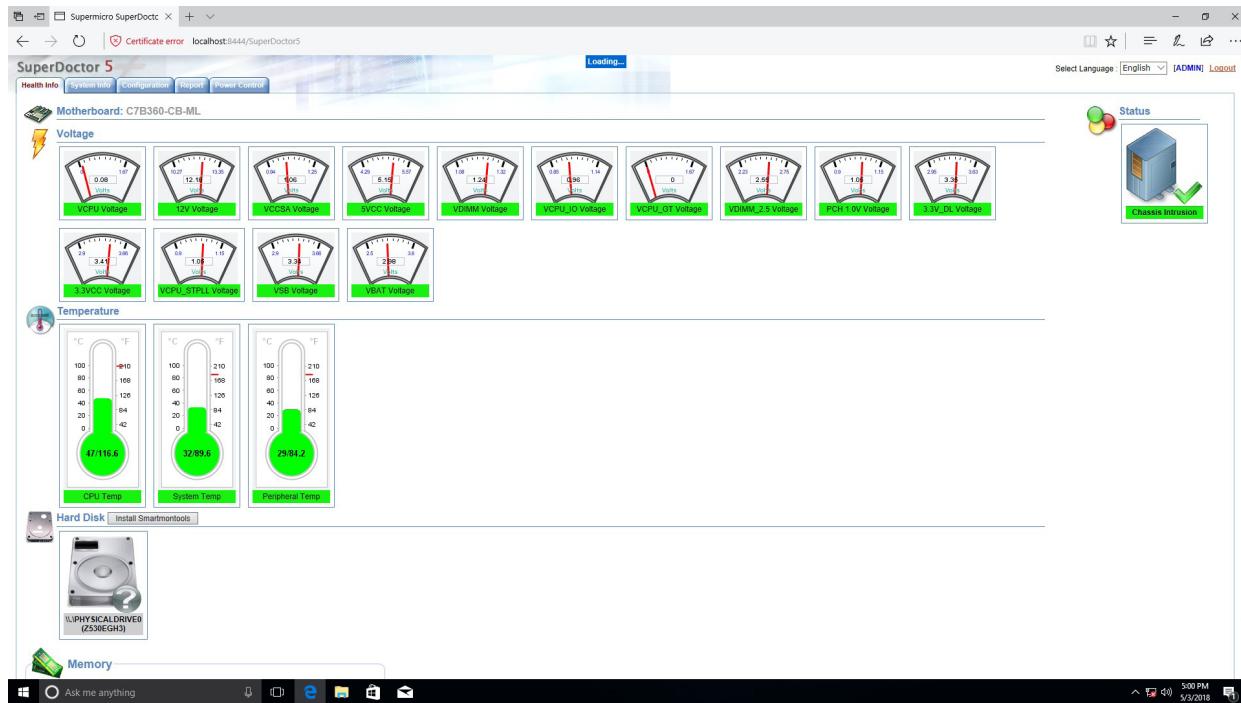
**Figure 5-3. Driver and Tool Installation Screen**

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

## 5.3 SuperDoctor®5

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

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



## 5.4 IPMI

The H12SSG-AN6 supports the Intelligent Platform Management Interface (IPMI). IPMI 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 IPMI. For general documentation and information on IPMI, visit our website at: <http://www.supermicro.com/products/info/IPMI.cfm>.

### BMC ADMIN User Password

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



**Figure 5-5. BMC Password Label**

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

# Chapter 6

## UEFI BIOS

### 6.1 Introduction

This chapter describes the AMIBIOS™ Setup utility for the H12SSG-AN6 motherboard. The BIOS is stored on a chip and can be easily upgraded using a flash program.

**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. Please refer to the Manual Download area of our website for any changes to BIOS that may not be reflected in this manual.

#### Starting the Setup Utility

To enter the BIOS Setup Utility, hit 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 keys are used, such as **<F1>**, **<F2>**, etc.) Each main BIOS menu option is described in this manual.

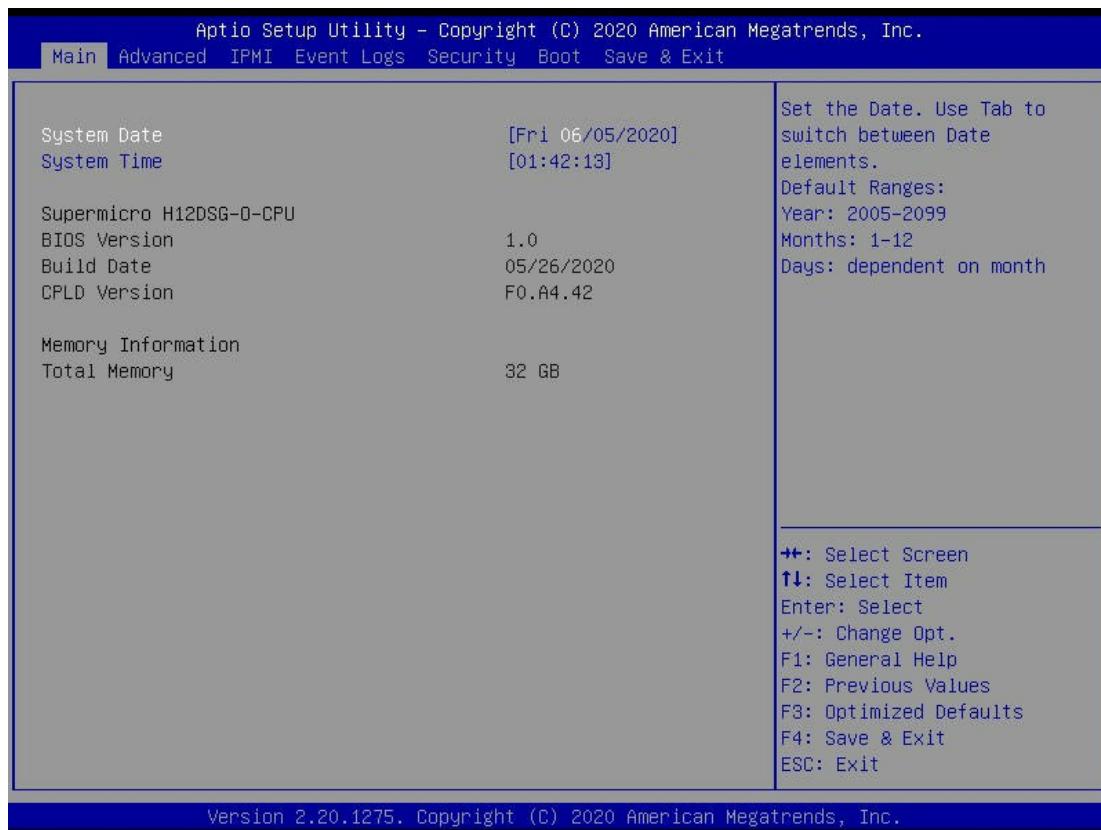
The Main BIOS screen has two main frames. The left frame displays all the options that can be configured. “Grayed-out” options cannot be configured. The right frame displays the key legend. Above the key legend is an area reserved for a text message. When an option is selected in the left frame, it is 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 will 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>**, **<Enter>**, **<ESC>**, **<Arrow>** keys, etc.) can be used at any time during the setup navigation process.

## 6.2 Main Setup

When you first enter the AMI BIOS setup utility, you will 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. The following Main menu items will be displayed:



### System Date/System Time

Use this option 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. The date's default value is 01/01/2015 after RTC reset.

### Supermicro H12SSG-AN6

#### BIOS Version

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

### **CPLD Version**

This item displays the CPLD version of the BIOS ROM used in the system.

### **Memory Information**

#### **Total Memory**

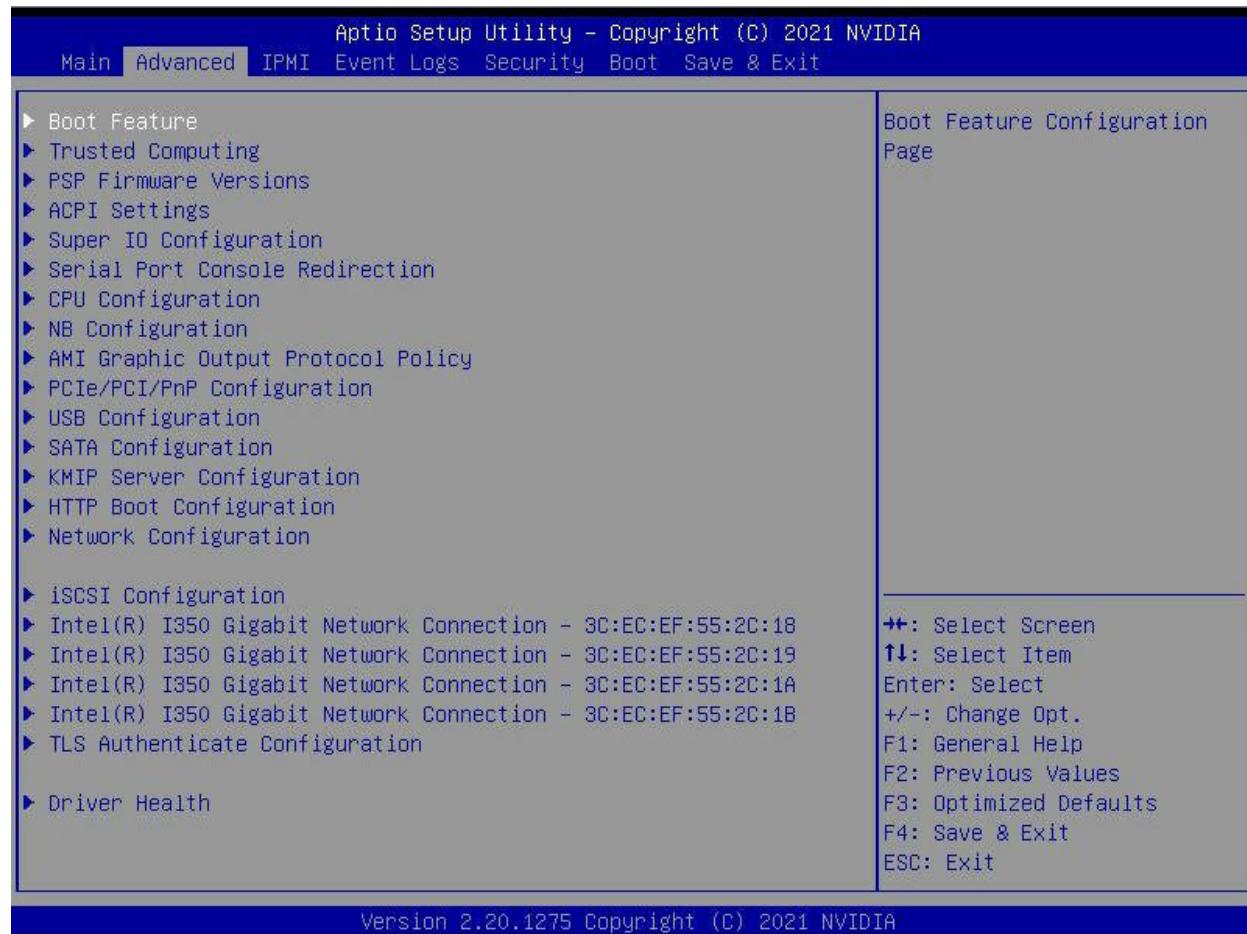
This item displays the total size of memory available in the system.

#### **Total Memory**

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

## 6.3 Advanced

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



**Warning:** Take caution when changing the Advanced settings. An incorrect value, a very high DRAM frequency, or an incorrect DRAM timing setting may make the system unstable. When this occurs, revert to the default to the manufacturer default settings.

### ►Boot Feature

#### Quiet Boot

Use this feature to select the screen display between the POST messages and the OEM logo upon bootup. Select Disabled to display the POST messages. Select Enabled to display the OEM logo instead of the normal POST messages. The options are Disabled and **Enabled**.

#### Option ROM Messages

Use this feature to set the display mode for the Option ROM. Select Keep Current to display the current AddOn ROM setting. Select Force BIOS to use the Option ROM display set by the system BIOS. The options are **Force BIOS** and **Keep Current**.

### **Bootup NumLock State**

Use this feature to set the Power on state for the <Numlock> key. The options are **On** and Off.

### **Wait For "F1" If Error**

Use this feature to force the system to wait until the 'F1' key is pressed if an error occurs. The options are **Disabled** and **Enabled**.

### **INT19 (Interrupt 19) Trap Response**

Interrupt 19 is the software interrupt that handles the boot disk function. When this item is set to **Immediate**, the ROM BIOS of the host adaptors will "capture" Interrupt 19 at bootup immediately and allow the drives that are attached to these host adaptors to function as bootable disks. If this item is set to **Postponed**, the ROM BIOS of the host adaptors will not capture Interrupt 19 immediately and allow the drives attached to these adaptors to function as bootable devices at bootup. The options are **Immediate** and **Postponed**.

### **Re-try Boot**

If this item is enabled, the BIOS will automatically reboot the system from a specified boot device after its initial boot failure. The options are **Disabled**, **Legacy Boot**, and **EFI Boot**.

### **Power Configuration**

#### **Watch Dog Function**

If enabled, the Watch Dog Timer will allow the system to reset or generate NMI based on jumper settings when it is expired for more than 5 minutes. The options are **Disabled** and **Enabled**.

#### **Restore on AC Power Loss**

Use this feature to set the power state after a power outage. Select **Stay-Off** for the system power to remain off after a power loss. Select **Power-On** for the system power to be turned on after a power loss. Select **Last State** to allow the system to resume its last power state before a power loss. The options are **Stay Off**, **Power On**, and **Last State**.

#### **Power Button Function**

This feature controls how the system shuts down when the power button is pressed. Select **4 Seconds Override** for the user to power off the system after pressing and holding the power button for 4 seconds or longer. Select **Instant Off** to instantly power off the system as soon as the user presses the power button. The options are **Instant Off** and **4 Seconds Override**.

## ►Trusted Computing

### Configuration

#### Security Device Support

Enables or disables BIOS support for security device. OS will not show Security Device. TCG EFI protocol and INT1A interface will not be available. The options are **Disabled** and **Enabled**.

#### Disable Block Sid

Override to allow SID authentication in TCG storage device. The options are **Disabled** and **Enabled**.

## ►PSP Firmware Versions

This section displays the Platform Security Processor (PSP) firmware versions.

#### PSP Directory Level 1 (Fixed)

- PSP Recovery BL Ver
- SUM FW Version
- ABL Version

#### PSP Directory Level 2 (Updateable)

- PSP Bootloader Version
- SUM FW Version
- ABL Version

## ►ACPI Settings

### PCI AER Support

The options are **Disabled** and **Enabled**.

### High Precision Event Timer

The High Precision Event Timer (HPET) can produce periodic interrupts and is used to synchronize multimedia streams, providing smooth playback and reducing the need to use other timestamp calculations. The options are **Enabled** and **Disabled**.

### NUMA Nodes Per Socket

The options are NPS0, NPS1, NPS2, NPS4 and **Auto**.

### ACPI SRAT L3 Cache As NUMA Domain

The options are **Disabled**, **Enabled** and **Auto**.

## ►Super IO Configuration

The following Super IO information will display:

- Super IO Chip AST2600

## ►Serial Port 1 Configuration

### Serial Port

Select Enabled to enable the selected onboard serial port. The options are Disabled and **Enabled**.

### Device Settings

This item displays the status of a serial part specified by the user.

### Change Settings

This feature specifies the base I/O port address and the Interrupt Request address of a serial port specified by the user. Select Auto to allow the BIOS to automatically assign the base I/O and IRQ address. The options are **Auto**, (IO=3F8h; IRQ=4;); (IO=3F8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12;); (IO=2F8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12;); (IO=3E8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12;); and (IO=2E8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12;).

## ►SOL Configuration

### Serial Port

Select Enabled to enable the selected onboard serial port. The options are Disabled and **Enabled**.

### Device Settings

This item displays the status of a serial part specified by the user.

### Change Settings

This feature specifies the base I/O port address and the Interrupt Request address of a serial port specified by the user. Select Auto to allow the BIOS to automatically assign the base I/O and IRQ address. The options are **Auto**, (IO=2F8h; IRQ=3;); (IO=3F8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12;); (IO=2F8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12;); (IO=3E8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12;); and (IO=2E8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12;)

## ►Serial Port Console Redirection

### COM1

#### Console Redirection

Select Enabled to enable console redirection support for a serial port specified by the user. The options are Enabled and **Disabled**.

*\*If the item above set to Enabled, the following items will become available for user's configuration:*

#### ►Console Redirection Settings

##### Terminal Type

This feature allows the user to select the target terminal emulation type for Console Redirection. Select VT100 to use the ASCII Character set. Select VT100+ to add color and function key support. Select ANSI to use the Extended ASCII Character Set. Select VT-UTF8 to use UTF8 encoding to map Unicode characters into one or more bytes. The options are VT100, **VT100+**, VT-UTF8, and ANSI.

##### Bits per second

Use this feature to set the transmission speed for a serial port used in Console Redirection. Make sure that the same speed is used in the host computer and the client computer. A lower transmission speed may be required for long and busy lines. The options are 9600, 19200, 38400, 57600 and **115200** (bits per second).

##### Data Bits

Use this feature to set the data transmission size for Console Redirection. The options are **7** and **8**.

##### Parity

A parity bit can be sent along with regular data bits to detect data transmission errors. Select Even if the parity bit is set to 0, and the number of 1's in data bits is even. Select Odd if the parity bit is set to 0, and the number of 1's in data bits is odd. Select None if you do not want to send a parity bit with your data bits in transmission. Select Mark to add a mark as a parity bit to be sent along with the data bits. Select Space to add a Space as a parity bit to be sent with your data bits. The options are **None**, Even, Odd, Mark, and Space.

##### Stop Bits

A stop bit indicates the end of a serial data packet. Select 1 Stop Bit for standard serial data communication. Select 2 Stop Bits if slower devices are used. The options are **1** and **2**.

## Flow Control

Use this feature to set the flow control for Console Redirection to prevent data loss caused by buffer overflow. Send a "Stop" signal to stop sending data when the receiving buffer is full. Send a "Start" signal to start sending data when the receiving buffer is empty. The options are **None** and Hardware RTS/CTS.

## VT-UTF8 Combo Key Support

Select Enabled to enable VT-UTF8 Combination Key support for ANSI/VT100 terminals. The options are Disabled and **Enabled**.

## Recorder Mode

Select Enabled to capture the data displayed on a terminal and send it as text messages to a remote server. The options are **Disabled** and Enabled.

## Resolution 100x31

Select Enabled for extended-terminal resolution support. The options are **Disabled** and **Enabled**.

## Legacy OS Redirection Resolution

Set number of rows and columns supported by legacy OS redirection to 80x24 or **80x25**.

## Putty KeyPad

This feature selects the settings for Function Keys and KeyPad used for Putty, which is a terminal emulator designed for the Windows OS. The options are **VT100**, **LINUX**, **XTERMR6**, **SC0**, **ESCN**, and **VT400**.

## Redirection after BIOS POST

When Bootloader selected, legacy console redirection is disabled before booting to legacy OS. When Always Enabled is selected, legacy console redirection is enabled for legacy OS. Options are **Always Enabled** and **Bootloader**.

## SOL

### Console Redirection

Select Enabled to enable SOL console redirection support for a serial port specified by the user. The options are **Enabled** and **Disabled**.

***\*If the item above set to Enabled, the following items will become available for user's configuration:***

## ►Console Redirection Settings

### Terminal Type

This feature allows the user to select the target terminal emulation type for Console Redirection. Select VT100 to use the ASCII Character set. Select VT100+ to add color

and function key support. Select ANSI to use the Extended ASCII Character Set. Select VT-UTF8 to use UTF8 encoding to map Unicode characters into one or more bytes. The options are VT100, **VT100+**, VT-UTF8, and ANSI.

### **Bits per second**

Use this feature to set the transmission speed for a serial port used in Console Redirection. Make sure that the same speed is used in the host computer and the client computer. A lower transmission speed may be required for long and busy lines. The options are 9600, 19200, 38400, 57600 and **115200** (bits per second).

### **Data Bits**

Use this feature to set the data transmission size for Console Redirection. The options are **7** and **8**.

### **Parity**

A parity bit can be sent along with regular data bits to detect data transmission errors. Select Even if the parity bit is set to 0, and the number of 1's in data bits is even. Select Odd if the parity bit is set to 0, and the number of 1's in data bits is odd. Select None if you do not want to send a parity bit with your data bits in transmission. Select Mark to add a mark as a parity bit to be sent along with the data bits. Select Space to add a Space as a parity bit to be sent with your data bits. The options are **None**, Even, Odd, Mark, and Space.

### **Stop Bits**

A stop bit indicates the end of a serial data packet. Select 1 Stop Bit for standard serial data communication. Select 2 Stop Bits if slower devices are used. The options are **1** and **2**.

### **Flow Control**

Use this feature to set the flow control for Console Redirection to prevent data loss caused by buffer overflow. Send a "Stop" signal to stop sending data when the receiving buffer is full. Send a "Start" signal to start sending data when the receiving buffer is empty. The options are **None** and Hardware RTS/CTS.

### **VT-UTF8 Combo Key Support**

Select Enabled to enable VT-UTF8 Combination Key support for ANSI/VT100 terminals. The options are **Disabled** and **Enabled**.

### **Recorder Mode**

Select Enabled to capture the data displayed on a terminal and send it as text messages to a remote server. The options are **Disabled** and **Enabled**.

### Resolution 100x31

Select Enabled for extended-terminal resolution support. The options are **Disabled** and **Enabled**.

### Putty KeyPad

This feature selects the settings for Function Keys and KeyPad used for Putty, which is a terminal emulator designed for the Windows OS. The options are **VT100**, **LINUX**, **XTERMR6**, **SC0**, **ESCN**, and **VT400**.

## Legacy Console Redirection

### Legacy Serial Redirection Port

For this setting, select a COM port to display redirection of Legacy OS and Legacy OPROM messages. Options include **COM1** and **SOL**.

### Serial Port for Out-of-Band Management / Windows Emergency Management Services (EMS)

#### Console Redirection

Select Enabled to enable EMS console redirection support for a serial port specified by the user. The options are **Enabled** and **Disabled**.

*\*If the item above set to Enabled, the following items will become available for user's configuration:*

## ►Console Redirection Settings

### Out-of-Band Mgmt Port

The feature selects a serial port in a client server to be used by the Microsoft Windows Emergency Management Services (EMS) to communicate with a remote host server. The options are **COM1**, and **SOL**.

### Terminal Type

Use this feature to select the target terminal emulation type for Console Redirection. Select **VT100** to use the ASCII character set. Select **VT100+** to add color and function key support. Select **ANSI** to use the extended ASCII character set. Select **VT-UTF8** to use **UTF8** encoding to map Unicode characters into one or more bytes. The options are **VT100**, **VT100+**, **VT-UTF8**, and **ANSI**.

### Bits per Second

This item sets the transmission speed for a serial port used in Console Redirection. Make sure that the same speed is used in the host computer and the client computer. A lower transmission speed may be required for long and busy lines. The options are **9600**, **19200**, **57600**, and **115200** (bits per second).

### Flow Control

Use this item to set the flow control for Console Redirection to prevent data loss caused by buffer overflow. Send a "Stop" signal to stop sending data when the receiving buffer is full. Send a "Start" signal to start sending data when the receiving buffer is empty. The options are **None**, Hardware RTS/CTS, and Software Xon/Xoff.

### Data Bits EMS

### Parity EMS

### Stop Bits EMS

## ►CPU Configuration

### SMT Control

Use this setting to disable symmetric multithreading. Options include **Disabled** and **Auto**.

### Core Performance Boost

This setting is used to configure for Core Performance Boost. Options include **Auto** and **Disabled**.

### Global C-state Control

This setting is used to configure for Global C-state Control. Options include **Disabled**, **Enabled**, and **Auto**.

### Local APIC Mode

Options include **Compatibility**, **xAPIC**, **x2APIC**, and **Auto**.

### CCD Control

Sets the number of CCDs to be used. Once this option has been used to remove any CCDs, a POWER CYCLE is required in order for future selections to take effect. Options include **Auto**, **2 CCDs**, **3 CCDs**, **4 CCDs**, and **6 CCDs**.

### Core Control

Sets the number of cores to be used. Once this option has been used to remove any CCDs, a POWER CYCLE is required in order for future selections to take effect. Options include **Auto**, **ONE (1+0)**, **TWO (2+0)**, **THREE (3+0)**, **FOUR (4+0)**, **FIVE (5+0)**, **SIX (6+0)**, and **SEVEN (7+0)**.

### L1 Stream HW Prefetcher / L2 Stream HW Prefetcher

This setting is used to enable or disable the L1/L2 Stream Hardware Prefetcher. The options are **Disabled**, **Enabled**, and **Auto**.

### SEV ASID Count

This field specifies the maximum valid ASID, which affects the maximum system physical address space. The options are 253 ASIDs, 509 ASIDs, and **Auto**.

### SEV-ES ASID Space Limit Control

Auto or Manual to control SEV-ES ASID Space Limit. The options are **Auto** and Manual.

### SVM Mode

This setting **Enables** or **Disables** CPU Virtualization.

## ►CPU1 Information

These sections are for informational purposes. They will display some details about the detected CPUs on the motherboard, such as:

- CPU Version
- Number of Cores Running
- Processor Family
- Processor Model
- Microcode Patch Level
- L1 Instruction Cache (Size/Method)
- L1 Data Cache (Size/Method)
- L2 Data Cache (Size/Method)
- L3 Cache per Scoket (Size/Method)

## ►NB Configuration

### Determinism Control

Use this setting to configure the Determinism Slider. Options include Manual and **Auto**.

### cTDP Control

Use this setting to configure the cTDP Control. Options include **Auto** and Manual.

### IOMMU

Use this setting to enable or disable IOMMU. Options include Disabled, Enabled, and **Auto**.

### **ACS Enable**

AER must be enabled for ACS to work. Options are Enabled, **Disabled**, and **Auto**.

### **Package Power Limit Control**

Set to **Auto** to use the fused PPT or Manual to allow the user to set a customized PPT.

### **APBDIS**

Use this setting to . Options include 0, 1, and **Auto**.

### **DF Cstates**

Options include Disabled, Enabled, and **Auto**.

### **Preferred IO**

Options include Manual and **Auto**.

## **►Memory Configuration**

### **Memory Clock**

This setting allows you to select different memory clock speed. Options include **Auto**, 2667 MHz, 2933 MHz, and 3200 MHz.

### **Memory interleaving**

This setting controls fabric level memory interleaving. Note that the channel, die and socket have requirements on memory populations and it will be ignored if the memory doesn't support the selected option. Options include Disabled and **Auto**.

### **Memory interleaving size**

This setting controls the memory interleaving size. This determines the starting address of the interleave (bit 8, 9, 10 or 11). Options include 256 Bytes, 512 Bytes, 1 KB, 2 KB, 4 KB, and **Auto**.

### **Chipset Interleaving**

This setting controls interleave memory blocks across the DRAM chip for node 0. Options include Disabled and **Auto**.

### **BankGroupSwap**

This setting controls the Bank Group Swap. Options include Enabled, Disabled and **Auto**

### **DRAM Scrub Time**

This setting provides a value that is the number of hours to scrub memory. Options include Disabled, 1 hour, 4 hours, 8 hours, 16 hours, 24 hours, 48 hours, and **Auto**.

**TSME**

Use this setting to enable or disable TSME. Options include Disabled, Enabled, and **Auto**.

**DDR Power Down Enable**

Use this setting to control DDR Power Down Enable. Options include Disabled, Enabled, and **Auto**.

**►CPU1 Memory Information**

Provides information on CPU1 DIMMs.

**►AMI Graphic Output Protocol Policy**

User select monitor output by graphic output protocol.

**►PCIe/PCI/PnP Configuration**

This menu provides PCIe/PCI/PnP configuration settings and information.

**PCI Bus Driver Version****PCI Devices Common Settings:****Above 4G Decoding**

This setting **Enables** or **Disables** 64-bit capable devices ability to be decoded in above 4G address space (only if the system supports 64-bit PCI decoding).

**SR-IOV Support**

If the system has SR-IOV capable PCI-E devices, this setting will **Enable** or **Disable** the Single Root IO Virtualization Support for the system.

**BME DMA Mitigation**

Use this setting to re-enable the Bus Master Attribute that was disabled during PCI enumeration for PCI bridges after SMM is locked. The options are **Disabled** and **Enabled**.

**PCIe ARI Support**

Use this setting to enable or **disables** Alternative Routing-ID Interpretation. The options are **Disabled**, **Enabled** and **Auto**.

**PCIe Ten Bit Tag Support**

Use this setting to enable PCIe ten bit tags for supported devices. The options are **Disabled**, **Enabled** and **Auto**.

**PCIe Spread Spectrum**

Use this setting to **Enable** or **Disable** PCIe Spread Spectrum for your system.

### **Relaxed Ordering**

Use this setting to Enable or **Disable** PCI Express Device Relaxed Ordering.

### **No Snoop**

Use this setting to **Enable** or Disable PCI Express Device No Snoop option.

### **VGA Priority**

Use this setting to select between onboard or offboard VGA support. The options are **Onboard** and **Offboard**.

### **NVMe Firmware Source**

Use this setting to select between the AMI Native firmware support or the device vendor-defined firmware support. The options are **AMI Native Support** and **Vendor Defined Firmware**.

### **M.2 (AHCI) Firmware Source**

Use this setting to select between the AMI Native firmware support or the device vendor-defined firmware support. The options are **AMI Native Support** and **Vendor Defined Firmware**.

### **JM2\_A1 OPROM**

Use this setting to enable or disable the JM2\_A1 OPROM option. The options are **Disabled** and **EFI**.

### **JM2\_B1 OPROM**

Use this setting to enable or disable the JM2\_B1 OPROM option. The options are **Disabled** and **EFI**.

### **RSC-GFR-66G4 Slot1 PCI-E 4.0 x16 OPROM**

Use this setting to enable or disable PCI/PCIX/PCIe slot 6. The options are **Disabled** and **EFI**.

### **RSC-GB-66G4 Slot1 PCI-E 4.0 x16 OPROM**

Use this setting to enable or disable PCI/PCIX/PCIe slot 6. The options are **Disabled** and **EFI**.

### **RSC-GB-66G4 Slot2 PCI-E 4.0 x16 OPROM**

Use this setting to enable or disable PCI/PCIX/PCIe slot 6. The options are **Disabled** and **EFI**.

### **RSC-GB-66GF Slot1 PCI-E 4.0 x16 OPROM**

Use this setting to enable or disable PCI/PCIX/PCIe slot 6. The options are **Disabled** and **EFI**.

### **AIOM OPROM**

Use this setting to enable or disable the AIOM OPROM option. The options are **Disabled** and **EFI**.

## Onboard Video Option ROM

This setting selects which onboard video firmware type to be selected. Options include **Disabled** and **EFI**.

# ►Network Stack Configuration

## Network Stack

This setting allows you to **Enable** or **Disable** the UEFI Network Stack.

### IPv4 PXE Support

This setting allows you to **Enable** or **Disable** IPv4 PXE boot support. If disabled, IPv4 PXE boot support will not be available.

### IPv4 HTTP Support

This setting allows you to **Enable** or **Disable** IPv4 HTTP boot support. If disabled, IPv4 HTTP boot support will not be available.

### IPv6 PXE Support

This setting allows you to **Enable** or **Disable** IPv6 PXE boot support. If disabled, IPv6 PXE boot support will not be available.

### IPv6 HTTP Support

This setting allows you to **Enable** or **Disable** IPv6 HTTP boot support. If disabled, IPv6 HTTP boot support will not be available.

## PXE Boot Wait Time

This setting allows you to set in a number field the wait time to press the ESC key to abort the PXE boot. Default is **0**.

## Media Detect Count

This setting allows you set in a number field the number of times presence of media will be checked. Default is **1**.

# ►USB Configuration

## Legacy USB Support

Use this setting to enable USB legacy support. Auto disabled support if no USB devices are connected. Disable will keep USB devices available only for EFI applications Options are **Enabled**, **Disabled**, and **Auto**.

### **XHCI Hand-off**

Workaround for OS's without XHCI support. The XHCI ownership change should be claimed by the XHCI driver. Options are **Enabled** and **Disabled**.

### **Port 60/64 Emulation**

Enables I/O port 60h/64h emulation support. This should be enabled for complete USB keyboard legacy support for non-USB aware OS's. Options are **Enabled** and **Disabled**.

## **►SATA Configuration**

### **SATA Information**

#### **SATA Enable**

Use this setting to disable or enable OnChip SATA controller. Options are **Disabled**, **Enabled**, and **Auto**.

#### **SATA Hotplug**

Use this setting to disable or enable OnChip SATA Hotplug function. Options are **Disabled** and **Enabled**.

### **►SATA Information**

Use this setting to view SATA devices information.

## **►KMIP Server Configuration**

### **KMIP Server IP address**

Enter IP4 address in dotted-decimal notation

### **KMIP TCP Port number**

Enter KMIP TCP Port number 100 ... 9999. Default is 5696.

### **TimeZone**

Enter current time zone. Default is GMT+8 Taiwan time.

### **Client Username**

Enter client identity/ Username.

### **Client Password**

Enter Client identity: password. password length: 0 to 31 characters.

### **KMS TLS Certificate Size**

### ► **CA Certificate**

Entroll factory defaults or load the KMS TLS certificates from the file. Options include **Update**, **Delete**, and **Export**.

### ► **Client Certificate**

Entroll factory defaults or load the KMS TLS certificates from the file. Options include **Update**, **Delete**, and **Export**.

### ► **Client Private Key**

Entroll factory defaults or load the KMS TLS certificates from the file. Options include **Update**, **Delete**, and **Export**.

## ► **HTTB Boot Configuration**

### **HTTP Boot Configuration**

#### **HTTP Boot Policy**

Sets the HTTP boot policy to **Apply to all LANs**, **Apply to each LAN**, and **Boot Priority #1** instantly.

#### **Priority of HTTP Boot**

#### **Instance of Priority 1**

Default to 1.

#### **Select IPv4 or IPv6**

Choose to set the targeted LAN port to boot from **IPv4** or **IPv6**.

#### **Boot Description**

Must be filled out, otherwise boot option for the URI will not be created. Length of description cannot exceed 75 characters.

#### **Boot URI**

This option is an input field used to enter a web or network address to point to the HTTP boot files. This supports the HTTP or HTTPS protocols only.

## ► **Network Configuration**

### **VLAN Configuration**

Submenus allow the user to set a new ID, Priority, add a new VLAN or remove an existing VLAN at the address specified.

## **MAC Network Configuration**

Submenus allow the user to set a new ID, Priority, add a new VLAN or remove an existing VLAN at the address specified.

## **►iSCSI Configuration**

### **iSCSI Initiator Name**

This feature allows the user to enter the unique name of the iSCSI Initiator in IQN format. Once the name of the iSCSI Initiator is entered into the system, configure the proper settings for the following items.

**►Add an Attempt**

**►Delete Attempts**

**►Change Attempt Order**

## **►Intel I350 Gigabit Network Connection**

### **Port Configuration Menu**

#### **Blink LEDs (range 0-15 seconds)**

Set to blink LEDs for the specifies duration (uo to 15 seconds).

### **Port Configuration Information**

**UEFI Driver**

**Adapter PBA**

**Chip Type**

**PCI Device ID**

**PCI Bus:Device:Function:**

**Link Status**

**Factory MAC Address**

**Alternate MAC Address**

## **►TLS Authenticate Configuration**

This submenu allows the user to configure Transport Layer Security (TLS) settings.

## ► Server CA Configuration

### ► Enroll Certification

#### ► Enroll Certification Using File

Use this feature to enroll certification from a file.

#### Certification GUID

Use this feature to input the certification GUID.

#### ► Commit Changes and Exit

Use this feature to save all changes and exit TLS settings.

#### ► Discard Changes and Exit

Use this feature to discard all changes and exit TLS settings.

### ► Delete Certification

Use this feature to delete certification. The options include **Disabled** and **Enabled**.

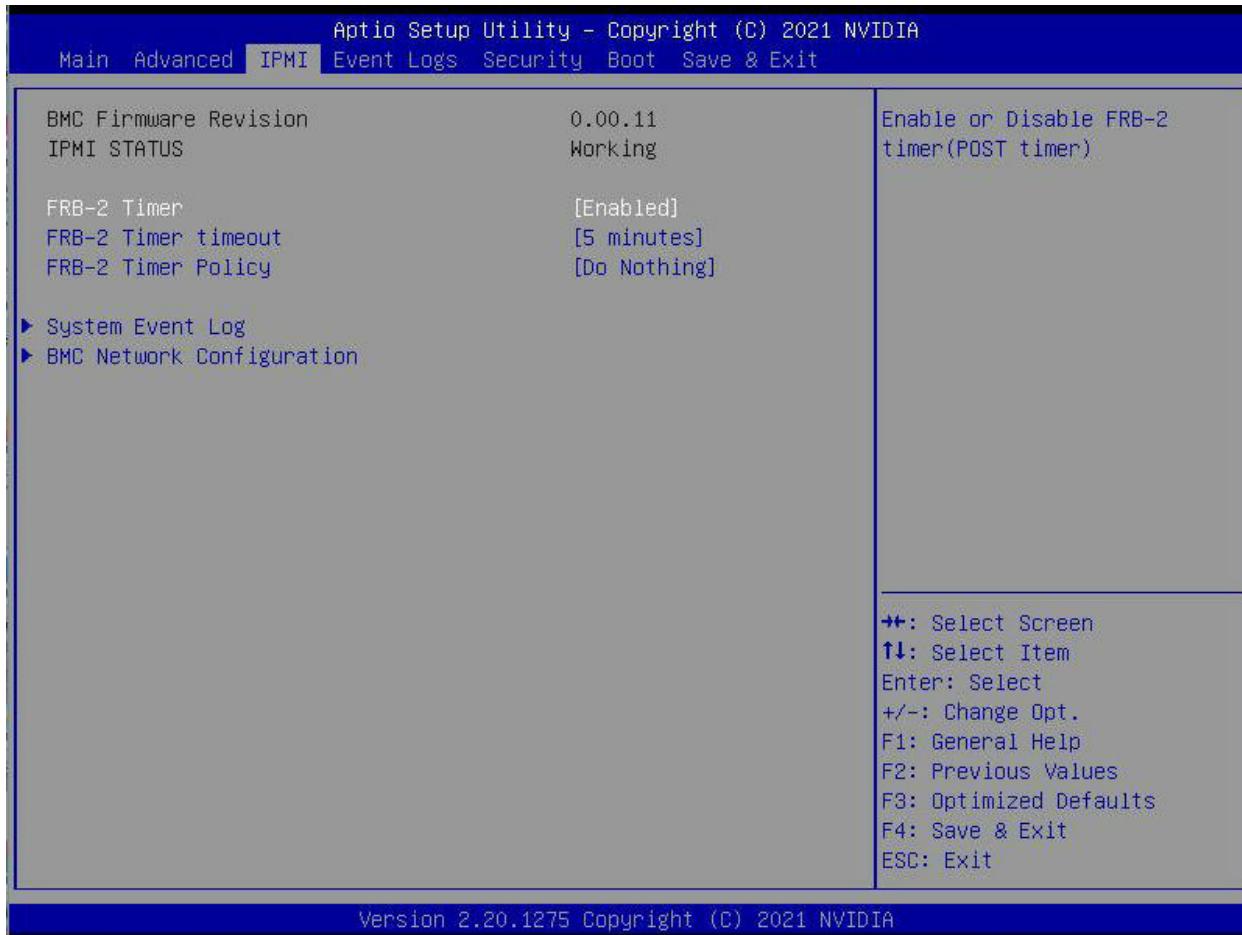
## ► Driver Health

### ► Intel 10GbE Driver 5.8.06 x64

This provides the health status for the drivers and controllers.

## 6.4 IPMI

This tab allows you to configure the following IPMI settings for the system.



Use this feature to configure Intelligent Platform Management Interface (IPMI) settings.

### BMC Firmware Revision

This item indicates the IPMI firmware revision used in your system.

### IPMI Status

This item indicates the status of the IPMI firmware installed in your system.

### FRB-2 Timer

Use to enable or disable the FRB-2 timer (POST timer).

### FRB-2 Timer Timeout

Enter a value between 3 and 6 minutes for FRB-2 timer expiration.

## FRB-2 Timer Policy

Configure how the system should respond if the FRB-2 timer expires. Not available if the timer is disabled. Options are **Do Nothing**, Reset, Power Down, and Power Cycle.

# ►System Event Log

## Enabling/Disabling Options

### SEL Components

Select Enabled for all system event logging at bootup. The options are Disabled and **Enabled**.

## Erasing Settings

### Erase SEL

Select Yes, On next reset to erase all system event logs upon next system reboot. Select Yes, On every reset to erase all system event logs upon each system reboot. Select No to keep all system event logs after each system reboot. The options are **No**, Yes, On next reset, and Yes, On every reset.

### When SEL is Full

This feature allows the user to decide what the BIOS should do when the system event log is full. Select Erase Immediately to erase all events in the log when the system event log is full. The options are **Do Nothing** and Erase Immediately.

**Note:** After making changes on a setting, be sure to reboot the system for the changes to take effect.

# ►BMC Network Configuration

## BMC Network Configuration

### Configure IPV4/IPV6 Support

This section displays static configuration features for IPV4 support.

### IPMI LAN Selection

This item displays the IPMI LAN setting. The default setting is **Failover**.

### IPMI Network Link Status

This item displays the IPMI Network Link status. The default setting is **Shared LAN**.

### **Configuration Address Source**

This feature allows the user to select the source of the IP address for this computer. If Static is selected, you will need to know the IP address of this computer and enter it to the system manually in the field. If DHCP is selected, the BIOS will search for a DHCP (Dynamic Host Configuration Protocol) server in the network that is attached to and request the next available IP address for this computer. The options are **DHCP** and Static.

***\*If the item above is set to Static, the following items will become available for configuration:***

#### **Station IP Address**

This item displays the Station IP address for this computer. This should be in decimal and in dotted quad form.

#### **Gateway IP Address**

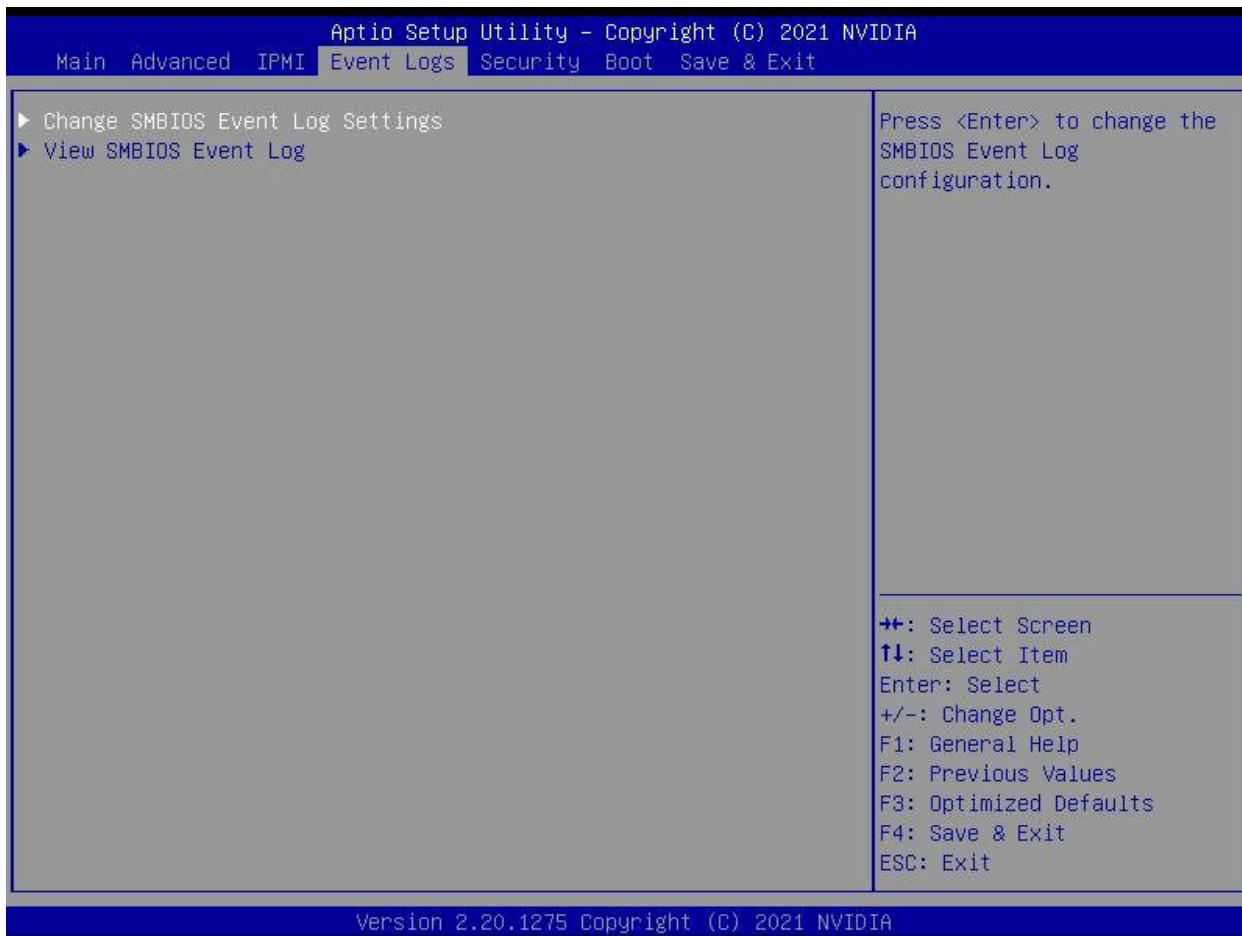
This item displays the Gateway IP address for this computer. This should be in decimal and in dotted quad form (i.e., 172.31.0.1).

#### **VLAN**

This item displays the virtual LAN settings. The options are **Disabled** and Enabled.

## 6.5 Event Logs

This tab allows the user to configure the following event logs settings for the system.



### ►Change SMBIOS Event Log Settings

This feature allows the user to configure SMBIOS Event settings.

#### Enabling/Disabling Options

##### SMBIOS Event Log

Select Enabled to enable SMBIOS (System Management BIOS) Event Logging during system boot. The options are Disabled and **Enabled**.

#### Erasing Settings

##### Erase Event Log

Select Yes to erase all error events in the SMBIOS (System Management BIOS) log before an event logging is initialized at bootup. The options are **No**, Yes, Next reset, and Yes, every reset.

### **When Log is Full**

Select Erase Immediately to immediately erase all errors in the SMBIOS event log when the event log is full. Select Do Nothing for the system to do nothing when the SMBIOS event log is full. The options are **Do Nothing** and Erase Immediately.

## **SMBIOS Event Log Standard Settings**

### **Log System Boot Event**

Select Enabled to log system boot events. The options are Enabled and **Disabled**.

### **MECI (Multiple Event Count Increment)**

Enter the increment value for the multiple event counter. Enter a number between 1 to 255. The default setting is **1**.

### **METW (Multiple Event Count Time Window)**

This item is used to determine how long (in minutes) the multiple event counter should wait before generating a new event log. Enter a number between 0 to 99. The default setting is **60**.

**Note:** Please reboot the system for these changes to take effect.

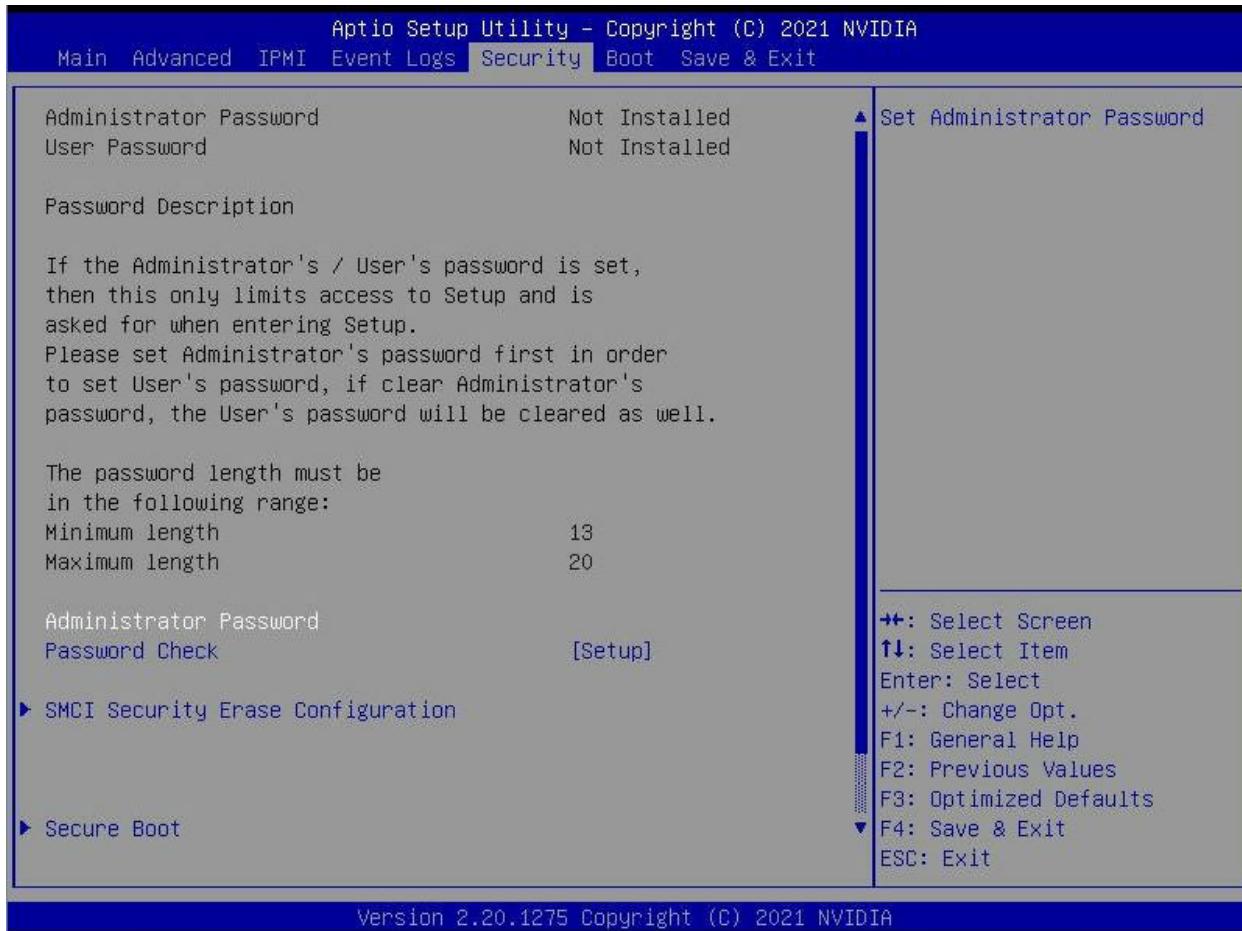
## **►View SMBIOS Event Log**

When Event Logging is on, this item allows the user to view the entries in the SMBIOS event log. The following categories are displayed:

### **Date/Time/Error Code/Severity**

## 6.6 Security

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



### Administrator Password

Press Enter to create a new, or change an existing Administrator password. Note that if the Administrator Password is erased, the User Password will be cleared as well.

### User Password

Press Enter to create a new, or change an existing User password.

### Administrator Password

Press Enter to set the administrator password.

### Password Check

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

## ►SMCI Security Erase Configuration

This submenu allows the user to configure the following Key Management settings.

### Security Function

This setting determines the security of the password. Options are **Disable**, Set Password, Security Erase - Password, Security Erase - PSID, and Security Erase - Without Passord.

### Password

This setting allows you to set the password.

## ►Secure Boot

This section contains options and menus for securing your boot mode and for key management.

### Secure Boot

This option allows you specify when the Platform Key (PK) is enrolled. When enabled, the System Mode is user deployed, and the CSM function is disabled. Options include Enabled and **Disabled**.

### Secure Boot Mode

Use this item to select the secure boot mode. The options are Standard and **Custom**.

### CSM Support

Select Enabled to support the EFI Compatibility Support Module (CSM), which provides compatibility support for traditional legacy BIOS for system boot. The options are Disabled and **Enabled**.

## ►Enter Audit Mode

This submenu allows the user to enable audit.

## ►Key Management

This submenu allows the user to configure the following Key Management settings.

### Vendor Keys

#### Provision Factory Defaults

Select Enabled to install the default Secure-Boot keys set by the manufacturer. The options are Disabled and Enabled. The options include Disabled and **Enabled**.

## ►Restore Factory Keys

Select Yes to install all default secure keys set by the manufacturer. The options are **Yes** and No.

**►Reset To Setup Mode****►Export Secure Boot variables****►Enroll EFI Image**

This allows the image to run in Secure Boot Mode, and enroll SHA256 hash of the binary into an Authorized Signature Database (db).

**Device Guard Ready****►Remoe 'UEFI CA' from DB****►Restore DB defaults**

The options are **Yes** and No.

**Secure Boot Variable**

This feature allows you to decide if all secure boot variables should be saved.

**►Platform Key (PK)**

This feature allows you to configure the settings of the platform keys.

**Set New Key**

Select Yes to load the new platform keys (PK) from the manufacturer's defaults. Select No to load the platform keys from a file. The options are **Yes** and No.

**Provision Factory Default Keys**

Select Enabled to install the default Secure-Boot keys set by the manufacturer. The options are **Disabled** and **Enabled**.

**►Key Exchange Keys**

This feature allows you to configure the settings of the Key Exchange Keys. The options include **Update** and Append.

**►Authorized Signatures**

This feature allows you to configure the settings of the Authorized Signatures. The options include **Update** and Append.

**►Forbidden Signatures**

This feature allows you to configure the settings of the Forbidden Signatures. The optioons include **Update** and Append.

### ►Authorized TimeStamps

This feature allows you to configure the settings of the authorized TimeStamps. The options include **Update** and Append.

### ►OsRecovery Signature

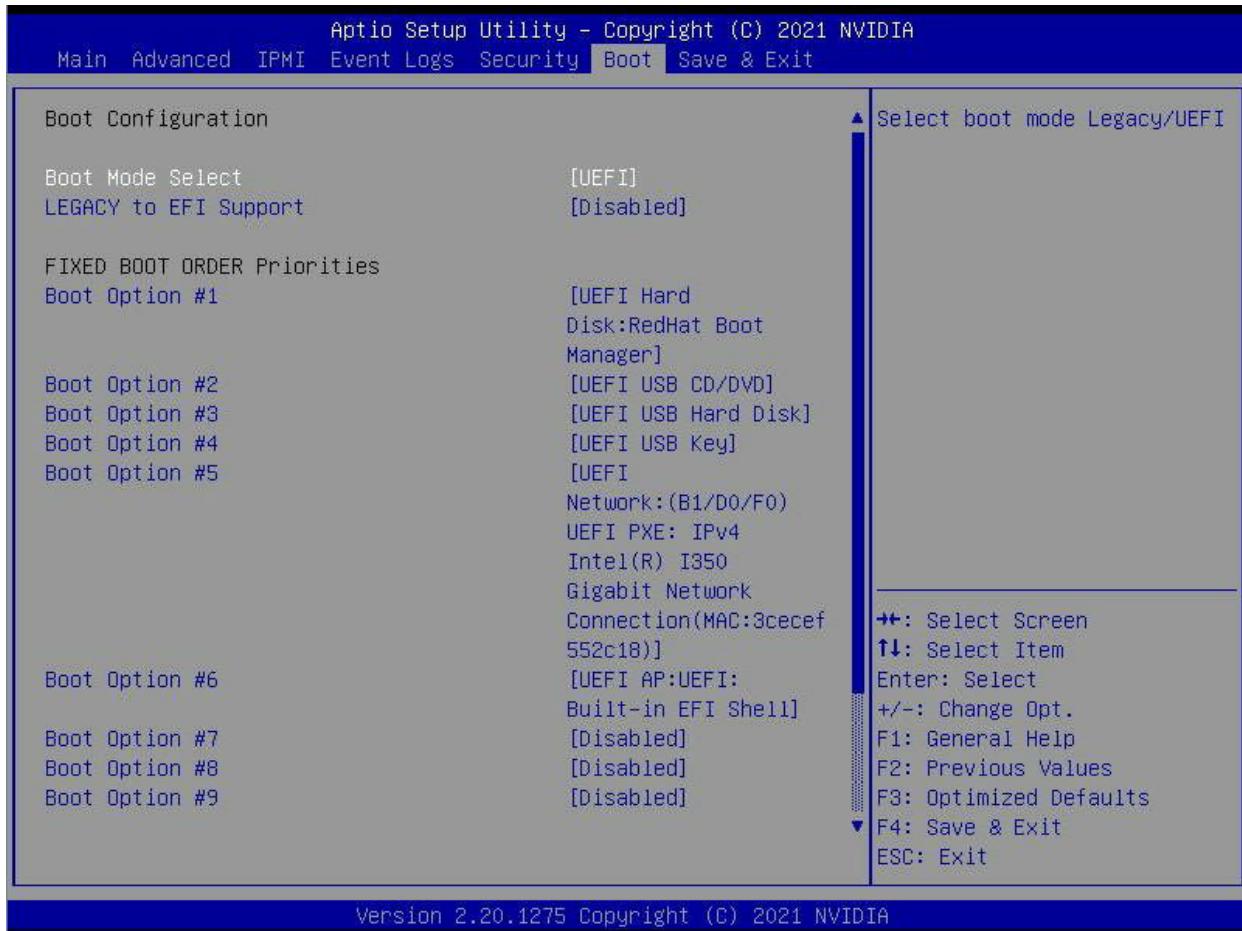
This item uploads and installs an OSRecovery Signature. You may select options for Set New for a factory default key, or select Append to get it from a file. The file formats accepted are:

- 1) Public Key Certificate
  - a. EFI Signature List
  - b. EFI CERT X509 (DER Encoded)
  - c. EFI CERT RSA2048 (bin)
  - d. EFI SERT SHA256 (bin)
- 2) EFI Time Based Authenticated Variable

When prompted, select "Yes" to load Factory Defaults or "No" to load from a file.

## 6.7 Boot

Use this tab to configure Boot Settings:



### Boot Mode Select

Use this item to select the type of device that the system is going to boot from. The options are Legacy, **UEFI**, and Dual. The default setting is DUAL.

### Legacy to EFI Support

This option **Enables** or **Disables** the system to boot to an EFI OS after the boot failed from the legacy boot order.

### FIXED BOOT ORDER Priorities

This option prioritizes the order of bootable devices that the system to boot from. Press <Enter> on each entry from top to bottom to select devices.

### ►Add New Boot Option

Use this feature to add a boot option to the boot order.

### ►Delete Boot Option

Use this feature to remove a pre-defined boot device from which the system will boot during startup. The settings are [any pre-defined boot device].

### ►UEFI Hard Disk Drive BBS Priorities

This feature allows the user to specify which UEFI devices are boot devices.

- Boot Option #1

### ►UEFI Network Drive BBS Priorities

This feature specifies the boot device priority sequence from the available UEFI network drives.

- Boot Option #1

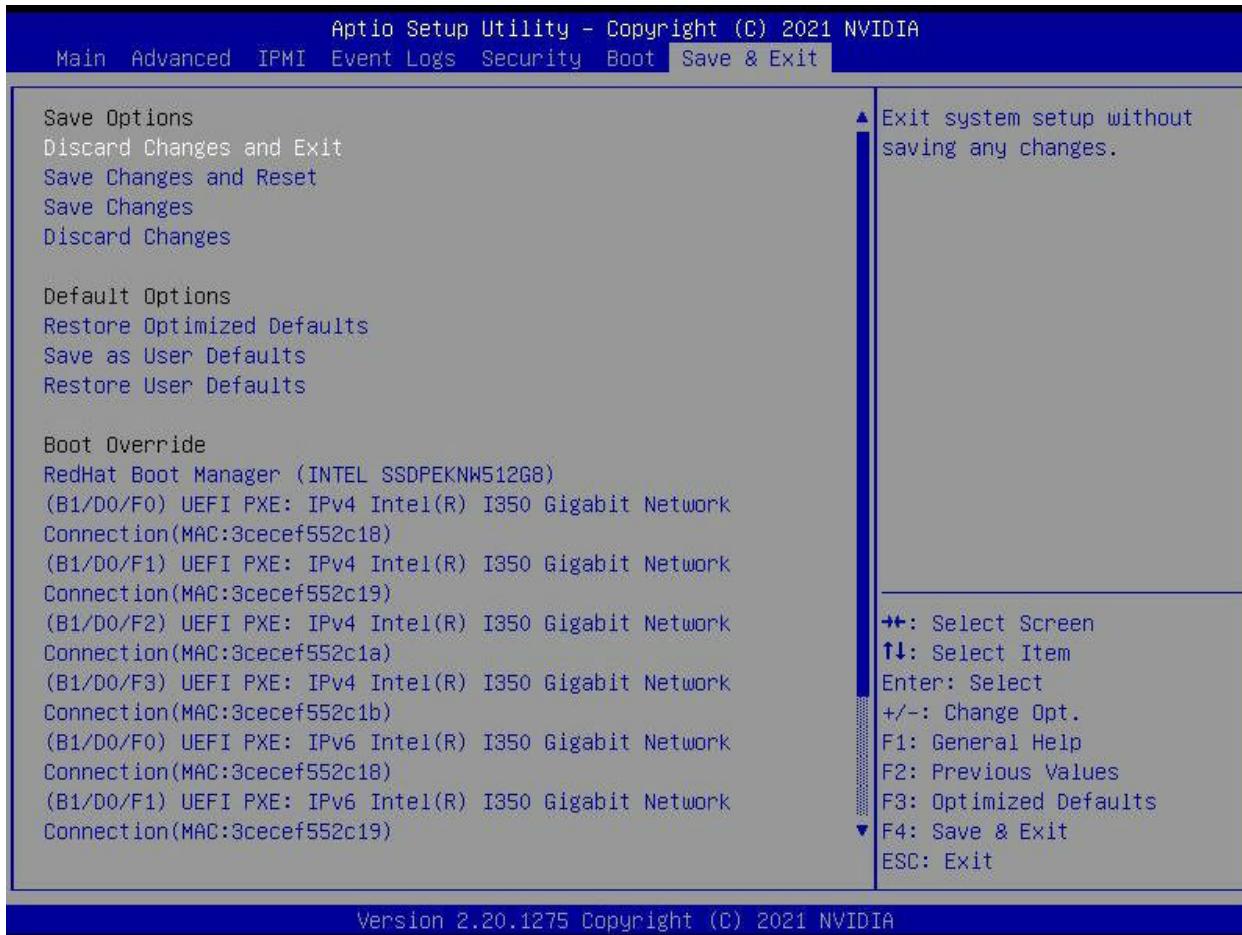
### ►UEFI Application Boot Priorities

This feature allows the user to specify which UEFI devices are boot devices.

- Boot Option #1

## 6.8 Save & Exit

Select the Save & Exit tab to enter the Save & Exit BIOS Setup screen.



### Discard Changes and Exit

Select this option to quit the BIOS Setup without making any permanent changes to the system configuration, and reboot the computer. Select Discard Changes and Exit from the Exit menu and press <Enter>.

### Save Changes and Reset

Select this option to reset the system after saving the changes.

### Save Changes

After completing the system configuration changes, select this option to save the changes you have made. This will not reset (reboot) the system.

### Discard Changes

Select this option and press <Enter> to discard all the changes and return to the AMI BIOS utility Program.

## **Default Options**

### **Restore Optimized Defaults**

To set this feature, select Restore Defaults from the Save & Exit menu and press <Enter>. These are factory settings designed for maximum system stability, but not for maximum performance.

### **Save as User Defaults**

To set this feature, select Save as User Defaults from the Exit menu and press <Enter>. This enables the user to save any changes to the BIOS setup for future use.

### **Restore User Defaults**

To set this feature, select Restore User Defaults from the Exit menu and press <Enter>. Use this feature to retrieve user-defined settings that were saved previously.

## **Boot Override**

Listed on this section are other boot options for the system (i.e., Built-in EFI shell). Select an option and press <Enter>. Your system will boot to the selected boot option.

### **Launch EFI Shell from filesystem device**

Use this feature to launch an EFI Shell application (Shell.efi) from one of the available file system devices.

## Appendix A

# Standardized Warning Statements for AC Systems

### About Standardized Warning Statements

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

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

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

### Warning Definition



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

警告の定義

この警告サインは危険を意味します。

人身事故につながる可能性がありますので、いずれの機器でも動作させる前に、電気回路に含まれる危険性に注意して、標準的な事故防止策に精通して下さい。

此警告符号代表危险。

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

此警告符号代表危險。

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

## Warnung

### WICHTIGE SICHERHEITSHINWEISE

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

BEWAHREN SIE DIESE HINWEISE GUT AUF.

### INSTRUCCIONES IMPORTANTES DE SEGURIDAD

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

GUARDE ESTAS INSTRUCCIONES.

### IMPORTANTES INFORMATIONS DE SÉCURITÉ

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

CONSERVEZ CES INFORMATIONS.

תקנון הצהרות אזהרה

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

اًكَفَ حَالَةٌ وُكِيَّ أَيْ تَسْبِبُ فِي اصَابَةِ جَسْدٍ هُنَّ هَذَا الزَّهْرُ عُ خَطْرٌ تَحْذِيْزٌ .  
قَبْلَ أَيْ تَعْوِلَ عَلَى أَيْ هَعْدَاتٍ، كَيْ عَلَى عَلَنْ بِالوَخَاطِرِ إِلَّا أَجْوَهُ عَيْ الدَّوَائِزِ  
الْكَهْرَبَائِيَّةِ هُنَّ

وَكَيْ عَلَى دَرَّةٍ بِالْوَوَارِسَاتِ الْقَائِمَةِ لَوْ عُوقَبَ أَيْ حِادَثٍ  
اسْتَعْذُمُ رَقْنَ الْبَأْيِ الْوَصُّصِ فَهَاهُ كُلُّ تَحْذِيرٍ لِلْعَشْرِ تَزْجُوْهَا

## 안전을 위한 주의사항

경고!

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

해당 벅역문을 찾기 위해 각 경고의 마지막 부분에 제공된 경고문 번호를 참조하십시오.

## BELANGRIJKE VEILIGHEIDSINSTRUCTIES

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

## BEWAAR DEZE INSTRUCTIES

## Installation Instructions



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

## 設置手順書

システムを電源に接続する前に、設置手順書をお読み下さい。

## 警告

将此系统连接电源前,请先阅读安装说明。

## 警告

將系統與電源連接前，請先閱讀安裝說明。

### Warnung

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

### ¡Advertencia!

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

### Attention

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

יש לקרוא את הוראות התקינה לפני חיבור המערכת למקור מתח.

اقر إرشادات التركيب قبل توصيل النظام إلى مصدر للطاقة

시스템을 전원에 연결하기 전에 설치 안내를 읽어주십시오.

### Waarschuwing

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

## Circuit Breaker



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

### サーキット・ブレーカー

この製品は、短絡(過電流)保護装置がある建物での設置を前提としています。

保護装置の定格が250 V、20 Aを超えないことを確認下さい。

### 警告

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

### 警告

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

### Warnung

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

### ¡Advertencia!

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

### Attention

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

מווצר זה מסתמך על הגנה המותקנת במבנים **למניעת קוצר חשמל**. יש לוודא כי  
המיכשיר המגן מפני הקוצר החשמלי הוא לא יותר מ- 250VDC, 20A

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

### 경고!

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

### Waarschuwing

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

## Power Disconnection Warning



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



### 電源切断の警告

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

### 警告

在你打开机箱并安装或移除内部器件前,必须将系统完全断电,并移除电源线。

### 警告

在您打開機殼安裝或移除內部元件前，必須將系統完全斷電，並移除電源線。

### Warnung

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

### ¡Advertencia!

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

### Attention

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

אזהרה מפני ניתוק חשמלי

אזהרה!

יש לנתק את המערכת מכל מקורות החשמל וייש להסיר את כבל החשמלי מהספק.  
לפניהם יש להסיר את המארז לצורכי התקנת או הסרת רכיבים.

يجب فصل جميع مصادر الطاقة وإزالة سلك التيار الكهربائي من وحدة إمداد الطاقة  
بالكامل.

انفصل عن المناطق الداخلية للجهاز أو إزالة مكوناته.

경고!

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

#### Waarschuwing

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

## Equipment Installation



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

#### 機器の設置

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

#### 警告

只有经过培训且具有资格的人员才能进行此设备的安装、更换和维修。

#### 警告

只有經過受訓且具資格人員才可安裝、更換與維修此設備。

#### Warnung

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

#### ¡Advertencia!

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

**Attention**

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

אזהרה!

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

والمدربين لتزكيب واستبدال أو خدمة هذا الجهاز يجب أن يسمح فقط للموظفه المؤهلية

**경고!**

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

**Waarschuwing**

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

**Restricted Area**

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

**アクセス制限区域**

このユニットは、アクセス制限区域に設置されることを想定しています。

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

**警告**

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

**警告**

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

### Warnung

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

### ¡Advertencia!

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

### Attention

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

אזור עם גישה מוגבלת  
ゾーンに制限されたアクセスがあります

יש להתקן את היחידה באזוריים שיש בהם הגבלת גישה. הגישה ניתנת בעזרת  
'כלי אבטחה בלבד (מפתח, מנעול ועוד).

تحصيص هذه انحذة ترك بها ف مناطق محظورة تم .  
يمكن انتصيل إن منطق ممحظورة فقط من خلال استخدام أداة خاصة  
أو أوس هُت أخرى نلاًاما قم و مفتاح

### 경고!

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

### Waarschuwing

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

## Battery Handling



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

### 電池の取り扱い

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

### 警告

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

### 警告

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

### Warnung

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

### Attention

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

### ¡Advertencia!

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

### אזהרה!

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

هناك خطر من انفجار في حالة اسحذال البطارية بطريقة غير صحيحة فعليل  
اسحذال البطارية

فقط بنفس النوع أو ما يعادلها مما أوصى به الشرمة المصنعة  
جخلص من البطاريات الممسحعملة وفقا لتعليمات الشرمة الصانعة

경고!

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

Waarschuwing

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

## Redundant Power Supplies



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

冗長電源装置

このユニットは複数の電源装置が接続されている場合があります。

ユニットの電源を切るためには、すべての接続を取り外さなければなりません。

警告

此部件连接的电源可能不止一个，必须将所有电源断开才能停止给该部件供电。

警告

此裝置連接的電源可能不只一個，必須切斷所有電源才能停止對該裝置的供電。

Warnung

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

### ¡Advertencia!

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

### Attention

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

אם קיים יותר מספק אחד  
אוורה!

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

قد يكون لهذا الجهاز عدة اتصالات بوحدات امداد الطاقة .  
يجب إزالة كافة الاتصالات لعزل الوحدة عن الكهرباء

### 경고!

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

### Waarschuwing

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

## Backplane Voltage



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

バックプレーンの電圧

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

修理する際には注意ください。

警告

当系统正在进行时，背板上有很危险的电压或能量，进行维修时务必小心。

警告

當系統正在進行時，背板上有危險的電壓或能量，進行維修時務必小心。

Warnung

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

¡Advertencia!

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

Attention

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

מתה בפנל האחורי

אוורה!

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

هناك خطر مه التيار الكهربائي أو الطاقة المبذدة على اللحمة  
عندما يكن النظام يعمل كه حذرا عند خدمة هذا الجهاز

경고!

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

Waarschuwing

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

## Comply with Local and National Electrical Codes



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

地方および国の電気規格に準拠

機器の取り付けはその地方および国の電気規格に準拠する必要があります。

警告

设备安装必须符合本地与本国电气法规。

警告

設備安裝必須符合本地與本國電氣法規。

Warnung

Die Installation der Geräte muss den Sicherheitsstandards entsprechen.

¡Advertencia!

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

Attention

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

תיאום חוקי החשמל הארצי

אוורה!

התקנת הציוד חייבת להיות תואמת לחוקי החשמל המקומיים והלאומיים.

تركيب المعدات الكهربائية يجب أن يمتثل للقوانين المحلية والدولية المتعلقة بالكهرباء.

경고!

현 지역 및 국가의 전기 규정에 따라 장비를 설치해야 합니다.

Waarschuwing

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

## Product Disposal



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

製品の廃棄

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

警告

本产品的废弃处理应根据所有国家的法律和规章进行。

警告

本產品的廢棄處理應根據所有國家的法律和規章進行。

Warnung

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

¡Advertencia!

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

## Attention

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

סילוק המוצר

ازורה!

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

التخلص النهائي من هذا المنتج ينبغي التعامل معه وفقاً لجميع القوانين واللائحة البيئية عند

경고!

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

## Waarschuwing

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

## Hot Swap Fan Warning



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

ファン・ホットスワップの警告

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

警告!

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

警告

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

### Warnung

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

### ¡Advertencia!

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

### Attention

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

### ازهارה!

חלקים נייחים מסוכנים. התרחק מלהבי המא Orr בפעולת הכח מסירם את חלקו המא Orr מהמארז, יתכן והמא Orrים עדיין עובדים. יש להרחק למרחק בטוח את הא צבעות וכל עבודה שונות מהפתחים בתוך המא Orr

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

### 경고!

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

### Waarschuwing

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

## Power Cable and AC Adapter



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

### 電源コードとACアダプター

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

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

### 警告

安装此产品时,请使用本身提供的或指定的或采购的连接线,电源线和电源适配器, 包含遵照当地法规和安全要求的合规的电源线尺寸和插头. 使用其它线材或适配器可能会引起故障或火灾。

除了Supermicro所指定的产品,电气用品和材料安全法律规定禁止

使用未经UL或CSA认证的线材。(线材上会显示UL/CSA符号)。

### 警告

安裝此產品時,請使用本身提供的或指定的或採購的連接線,電源線和電源適配器, 包含遵照當地法規和安全要求的合規的電源線尺寸和插頭. 使用其它線材或適配器可能會引起故障或火災。

除了Supermicro所指定的產品,電氣用品和材料安全法律規定禁止

使用未經UL或CSA認證的線材。(線材上會顯示UL/CSA符號)。

### Warnung

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

**¡Advertencia!**

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

**Attention**

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

AC ימאתו סילבך סילבך  
הרזה!

רוצל ומאותה וא שכרנו רשא AC סימאתמו מיקפו, סילבכ שמתshall שי, רצומה תא מיניקתם רשאכ לבב שומיש. עקתו לבכה לש הנוכנ הדימ לLOC, תויומקמה תוחיתבה תושירידל ומאותה רשאו, הנקתתא לשחה ירישכמב שומישה י��ול מאתהב. יلمשה רצק וא הלקטל סורגל לולע, רחא גוסם מאטם וא לבכ לש דוק מהילע עיפומ רשאכ) A-CB ו-AUL-ב סיכמסומה סילבכ שמתshall רוסיא מיק, תוחיתבה י��וח דבלב Supermicro. י"ע מאותה רשא רצומב קר אלא, רחא ילמשח רצום לכ חובע (UL/CSA).

تالب اكلا ءارشب مق وأ قدحـملـا وـأـ قـرفـوتـمـلـاـ تـالـيـصـوـتـلـاـ مـادـخـتـسـابـ مقـ ،ـجـتنـمـلـاـ بـيـكـرـتـ دـنـعـ  
كلـذـ يـفـ اـمـبـ ئـيـلـحـمـلـاـ قـمـالـسـلـاـ تـابـلـطـتـمـوـ نـيـنـاـوـقـبـ مـازـتـلـالـاـ عـمـ دـدـرـتـمـلـاـ رـايـتـلـاـ رـايـتـلـاـ بـيـكـلـاـ  
قـيـرـحـ وـأـ لـطـعـ يـفـ بـبـسـتـيـ دـقـ ئـرـخـأـ تـالـوـحـمـوـ تـالـبـاـكـ يـأـ مـادـخـتـسـاـ.ـمـيـلـسـلـاـ سـبـاـقـلـاوـ لـصـوـمـلـاـ مـجـحـ  
وـأـ ULـ لـبـقـ نـمـ قـدـمـتـعـمـلـاـ تـالـبـاـكـلـاـ مـادـخـتـسـاـ تـادـعـمـلـاوـ ئـيـأـبـرـهـكـلـاـ قـزـهـجـأـلـلـ قـمـالـسـلـاـ نـونـاـقـ رـظـحـيـ  
لـبـقـ نـمـ قدـحـمـلـاوـ ئـيـنـعـمـلـاـ تـاجـتـنـمـلـاـ رـيـغـ ئـرـخـأـ تـادـعـمـ يـأـ عـمـ (UL/CSA)ـ قـمـالـعـ لـمـحـتـ يـتـلـاوـ Supermicro.

### 전원 케이블 및 AC 어댑터

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

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

### Stroomkabel en AC-Adapter

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

# Appendix B

## System Specifications

### Processor Support

Single AMD EPYC™ 7002/7003 Series Processors in SP3 socket

**Note:** 7003 series processor drop-in support requires BIOS version 2.0 or newer.

### Chipset

ASPEED A2600 BMC/IPMI management controller with enhanced security System on Chip (SoC)

### BIOS

AMI 256Mb SPI Flash ROM

### Memory (per node)

Supports up to 2TB of ECC DDR4 3200MHz RDIMM/LRDIMM/3DS/NVDIMM memory in eight slots

Note: See the memory section in Chapter 3 for details and our website for updates to supported memory

### GPU Support (per node)

Three double-width or six single-width GPUs

### Drive Bays (per node)

Four 2.5" hot-swap hard drive carriers for NVMe drives

### PCI Expansion Slots (per node)

One PCIe 4.0 x16 (FHHL) slot

One PCIe 4.0 x8 AIOM/ OCP3.0 slot

M.2 Interface: 2 PCIe 4.0 x4

M.2 Form Factor: 2280, 22110

M.2 Key: M-key

### Motherboard (per node)

H12SSG-AN6; 9.6"" (L) x 14.5"" (W) (243.8 x 368.3 mm)

### Chassis

CSE-227GTS-R2K63P; 2U rackmount, 17.6 (W) x 3.5 (H) x 29.9 (D) in. (447 x 88 x 760 mm)

### System Cooling

Four hot-swap 80-mm, counter-rotating PWM fans; one CPU air shroud, one CPU heatsink per one node

### Power Supply

Model PWS-2K63A-1R; 80Plus Platinum level

Total Output Power: 2600W with Input 200-240Vac

Power and Input: 2600W with Input 200-240Vdc (for CQC only)

+12V

Max: 216A / Min: 0A (200-240 Vac)

+12vsb

Max: 4.5A / Min: 0A

### Operating Environment

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

### Regulatory Compliance

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

### Applied Directives, Standards

Electromagnetic Compatibility Regulations 2016

FCC Part 15

ICES-003

VCCI-CISPR 32

AS/NZS CISPR 32

BS/EN 55032

BS/EN 55035

CISPR 32

CISPR 24/CISPR 35

BS/EN 61000-3-2

BS/EN 61000-3-3

BS/EN 61000-4-2

BS/EN 61000-4-3

BS/EN 61000-4-4

BS/EN 61000-4-5

BS/EN 61000-4-6

BS/EN 61000-4-8

BS/EN 61000-4-11

BS/EN 55024

KN 32

KN 35

CNS 13438

CNS 14336-1

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

UL/CSA 62368-1 (USA and Canada)

Electrical Equipment (Safety) Regulations 2016

IEC/BS/EN 62368-1

Environment:

2011/65/EU (RoHS Directive)

EC 1907/2006 (REACH)

2012/19/EU (WEEE Directive)

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

### Perchlorate Warning

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

# Appendix C

## BSMI Chinese Safety Warnings

### 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) : 227G-R26H12 (系列型號: 227G-R20H12, 227G-26, 227G-20, 227G-GPU, AS -2114GT-DNR )						
Type designation (Type)						
單元 Unit		限用物質及其化學符號 Restricted substances and its chemical symbols				
單元 Unit		鉛Lead (Pb)	汞Mercury (Hg)	鎘Cadmium (Cd)	六價鉻 Hexavalent chromium (Cr <sup>+6</sup> )	多溴聯苯 Polybrominated biphenyls (PBB)
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, M.2)		-	○	○	○	○
附加卡 (Add-on Card)		-	○	○	○	○
<b>備考 1.</b> “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.						
<b>備考 2.</b> “○” 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.						
<b>備考 3.</b> “-” 係指該項限用物質為排除項目。 Note 3 : The “-” indicates that the restricted substance corresponds to the exemption.						

警告使用者：

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

輸入額定：

電源供應器: PWS-2K63A-1R  
200-240V ~, 60-50Hz, 15-12.5A (x2)

電源供應器: PWS-2K05A-1R  
100-127V ~, 60-50Hz, 12-9.5A (x2)  
200-240V ~, 60-50Hz, 10-9.8A (x2)

\*使用者不能任意拆除或替換內部配備

\*報驗義務人之姓名或名稱：美超微電腦股份有限公司

\*報驗義務人之地址：新北市中和區建一路 150 號 3 樓