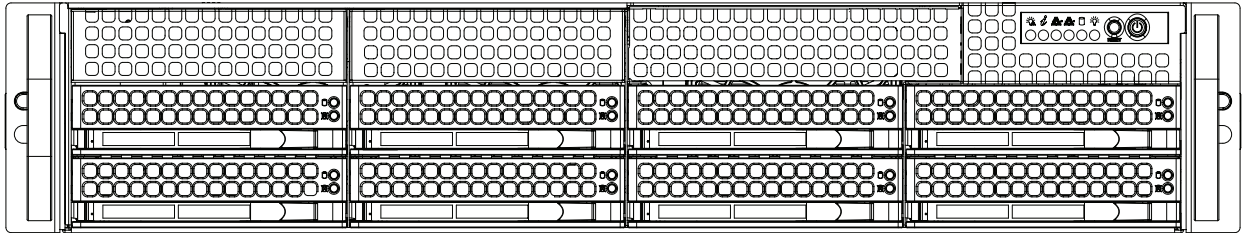




A+ Server AS -2013S-C0R



USER'S MANUAL

Revision 1.0b

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Manual Revision 1.0b

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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 SuperServer AS -2013S-C0R. Installation and maintenance should be performed by experienced technicians only.

Please refer to the AS -2013S-C0R 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/wftp/driver/AMD/SP3
- Product safety info: http://www.supermicro.com/about/policies/safety_information.cfm

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

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

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 UEFI BIOS Recovery

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Chapter 1

Introduction

1.1 Overview

This chapter provides a brief outline of the functions and features of the AS -2013S-C0R. The AS -2013S-C0R is based on the H11SSL-C motherboard and the 825TS-R740LPBP chassis.

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
Air Shroud	MCP-310-29001-0N	1
2U 8-Slot 12G backplane for 8 x 3.5" SAS/SATA HDD/SSD	BPN-SAS3-825TQ	1
2U passive CPU heat sink for AMD Socket SP3 processors	SNK-P0063P	1
Black gen 5.5 hot-swap 3.5" HDD tray (w/ hollowed dummy)	MCP-220-00075-0B	8
80x80x38 mm 7K RPM chassis middle fan w/ housing	FAN-0126L4	3
1U 740W Platinum redundant single output power supply	PWS-741P-1R	2
Rail set, quick/quick, default for 2,3U 17.2"W	MCP-290-00053-0N	1

1.2 Unpacking the System

Inspect the box the SuperServer AS -2013S-C0R 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 provides you with an overview of the main features of the AS -2013S-C0R. Please refer to Appendix B for additional specifications.

System Features
Motherboard
H11SSL-C
Chassis
825TS-R740LPBP
CPU
Single Single EPYC 7001/7002* Series processor *AMD EPYC 7002 series drop-in support requires board revision 2.x
Socket Type
Socket SP3
Memory
Supports up to 1TB Registered ECC DDR4 2666MHz SDRAM in 8 DIMMs 2TB Registered ECC DDR4 3200MHz SDRAM in 8 DIMMs (board revision 2.x required)
Chipset
AMD SoC (System on Chip)
Expansion Slots
Three PCIe 3.0 x16 slots Three PCIe 3.0 x8 slots One PCIe 3.0 x4 M.2 NVMe slot
Hard Drives
Four hot-swap 3.5" drive bays [choice of SATA3 (default) or SAS3 (with optional SAS card)]
Power
Redundant 740W hot-swap power supply modules (PWS-741P-1R)
Form Factor
2U rackmount
Dimensions
WxHxD: 16.8 x 3.5 x 25.5 in. (427 x 89 x 648 mm)

1.4 Server Chassis Features

Control Panel

The switches and LEDs located on the control panel are described below. See Chapter 4 for details on the control panel connections.

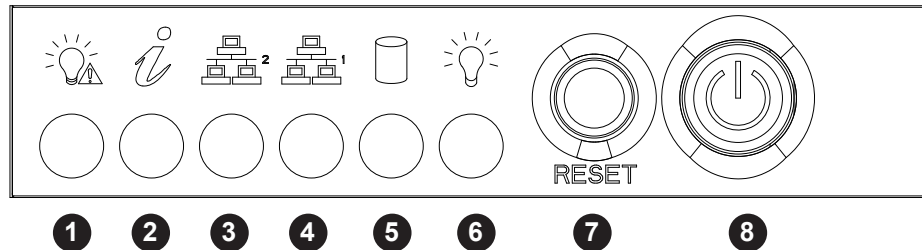


Figure 1-1. Control Panel View

Control Panel Features		
Item	Feature	Description
1	Power Fail	Indicates a power supply failure when flashing.
2	Information LED	See table below.
3	NIC2 LED	Indicates network activity on the LAN2 port when flashing.
4	NIC1 LED	Indicates network activity on the LAN1 port when flashing.
5	HDD LED	Indicates hard drive activity when flashing.
6	Power LED	Indicates power is being supplied to the power supply modules
7	Reset Button	Used to reboot the system.
8	Power Button	Main power button to apply or remove power from the system.

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.
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.

Front Features

The 825TS-R740LPBP is a 2U rackmount chassis. See the illustration below for the features included on the front of the chassis.

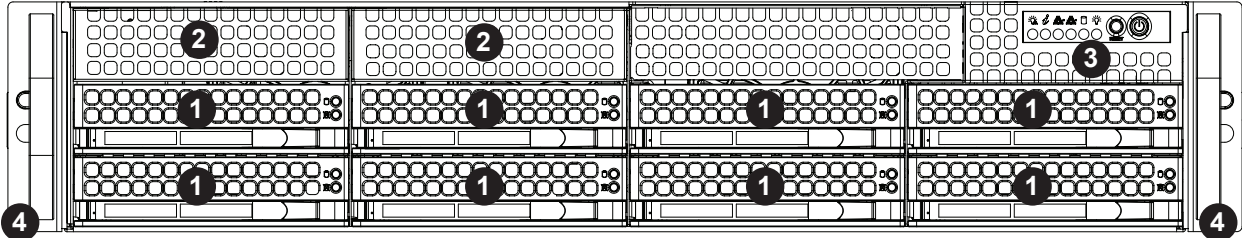


Figure 1-2. Chassis Front View

Front Chassis Features		
Item	Feature	Description
1	HDD Carriers	3.5" hot-swap hard drive carriers
2	Optional Drive Bays	Optional drive bays for DVD-ROM or extra hard drives
3	Control Panel	Front control panel with LEDs and buttons (see preceding page)
4	Rack Ear Brackets	Secures the server chassis to the rack

Rear Features

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

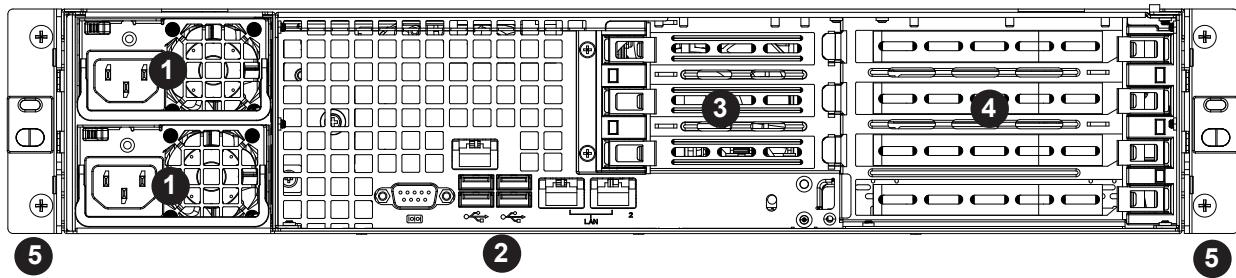


Figure 1-3. Chassis Rear View

Rear Chassis Features		
Item	Feature	Description
1	Power Supply	740W power supply module (2x for redundancy)
2	I/O Backpanel	Rear I/O ports (see Section 4.3)
3	Expansion Card Slots	Low-profile PCI slots (with pre-installed riser cards)
4	Expansion Card Slots	Full-height, half-length PCI slots (with pre-installed riser cards)
5	Rack Ear Brackets	Secures the server chassis to the rack

1.5 Motherboard Layout

Below is a layout of the H11SSL-C 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.

Quick Reference Table

Jumper	Description	Default Setting
UID SW	Unit ID switch (push-button toggle switch ON/OFF)	Off
JBT1	Clear CMOS	Open (Normal)
JPB1	BMC Enable/Disable	Pins 1-2 (Enabled)
JPG1	VGA Enable/Disable	Pins 1-2 (Enabled)
JPS1	SAS Enable/Disable (H11SSL-C & H11SSL-NC only)	Pins 1-2 (Enabled)
JWD1	Watch Dog control	Pins 1-2 (Reset)
JPL1, JPL2	LAN1, LAN2 Enable/Disable	Pins 1-2 (Enabled)

LED	Description	Status
UID LED	Rear unit ID LED	Solid blue: UID switched to ON, unit identified
LEDM1	BMC heartbeat LED	Green: Blinking (BMC normal), Green: Fast blinking (BMC initializing)
LE1	Power OK LED	Green: System power OK
LE3	M.2 active LED	Green: M.2 PCIe port active
LEDSAS	SAS port active LED	Green: SAS port active

Connector	Description
Battery (BT1)	Onboard CMOS battery
JNCSI1	NCSI header
COM 1	Rear panel COM port #1
FAN 1~5, A, B	System cooling fan headers
IPMI_LAN	Dedicated IPMI LAN port
JF1	Front control panel
JSEN1	Intel sensor header
JSD1, JSD2	SATA DOM power connector
J23	M.2 PCIe Interface
JTPM1	Trusted Platform Module (TPM)/Port 80 connector
I-SATA0~I-SATA7	Internal SATA Ports
L-SAS0~L-SAS7	Internal SAS Ports
JNVME0	Internal NVMe Ports
JNVME1	Internal NVMe Ports
JL1	Chassis intrusion header
JOH1	Chassis overheat header
USB 0/1 (2.0)	Back panel USB 2.0 ports (USB 0/1)
USB 2/3 (2.0)	Internal USB 2.0 header (USB 2/3)
USB 4/5	Back panel USB 3.0 ports (USB 4/5)
USB 6/7	Internal USB 3.0 header (USB 6/7)
USB8	Internal USB 3.0, Type A port (USB 8)
JSTBY1	Stand by power header

Connector	Description
JIPMB1	4-pin BMC external IC header
JPWR2	24-pin ATX power supply connector
JPWR1	12V 8-pin ATX CPU power connector
JPW1	4-pin ATX auxiliary power supply connector
JD1	Front panel external speaker header
PWR12C	Power supply SMBus I2C header
LAN1, LAN2	Back panel LAN1, LAN2 connectors
VGA	Back panel VGA port
SP1	Onboard speaker

Note: Jumpers, connectors, switches, and LED indicators that are not described in the preceding tables are for manufacturing testing purposes only, and are not covered in this manual.

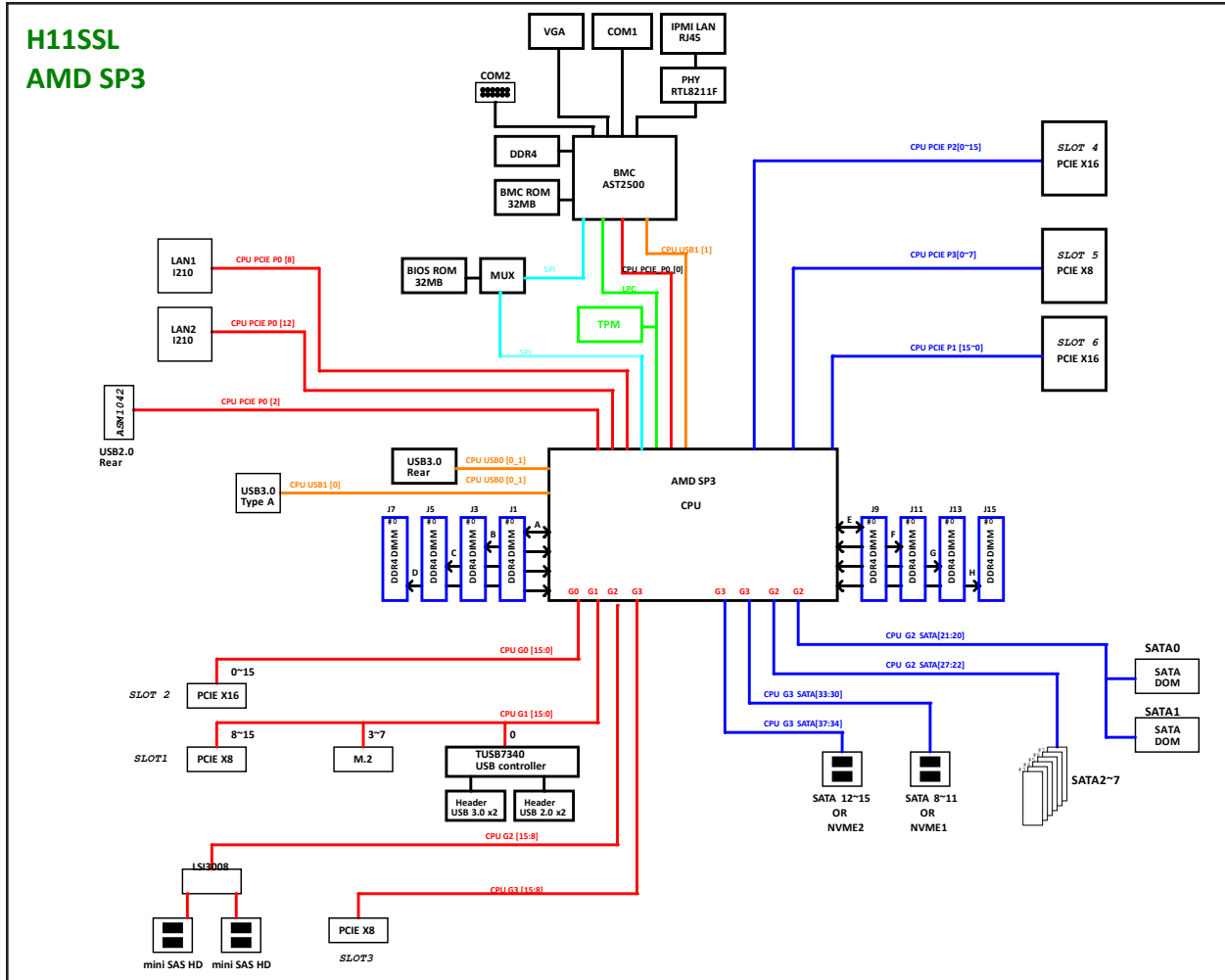


Figure 1-5. H11SSL-C Chipset: System Block Diagram

Note: This is a general block diagram and may not exactly represent the features on your motherboard. See the System Specifications appendix 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.



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

2.3 Installing the System into a Rack

This section provides information on installing the SC825TQC chassis into a rack unit with the quick-release rails provided. There are a variety of rack units on the market, which may mean the assembly procedure will differ slightly. You should also refer to the installation instructions that came with the rack unit you are using.

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

Separating the Sections of the Rack Rails

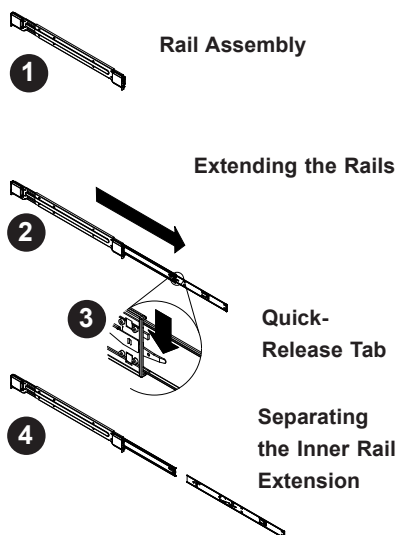
The chassis package includes two rail assemblies in the rack mounting kit. Each assembly consists of two sections: an inner fixed chassis rail that secures directly to the server chassis and an outer fixed rack rail that secures directly to the rack itself.

Installing the Inner Rails

The SC825TQC chassis includes a set of inner rails in two sections: inner rails and inner rail extensions. Inner rail extensions are attached to the inner rails to mount the chassis in the rack.

Installing the Inner Rails

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



Separating the Inner and Outer Rails

1. Locate the rail assembly in the chassis packaging.
2. Extend the rail assembly by pulling it outward.
3. Press the quick-release tab.
4. Separate the inner rail extension from the outer rail assembly.

Figure 2-1. Separating the Rack Rails

Installing the Inner Rail Extension

The SC825TQC chassis includes a set of inner rails in two sections: inner rails and inner rail extensions. The inner rails are pre-attached to the chassis, and do not interfere with normal use of the chassis if you decide not to use a server rack. The inner rail extension is attached to the inner rail to mount the chassis in the rack.

Installing the Inner Rails

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

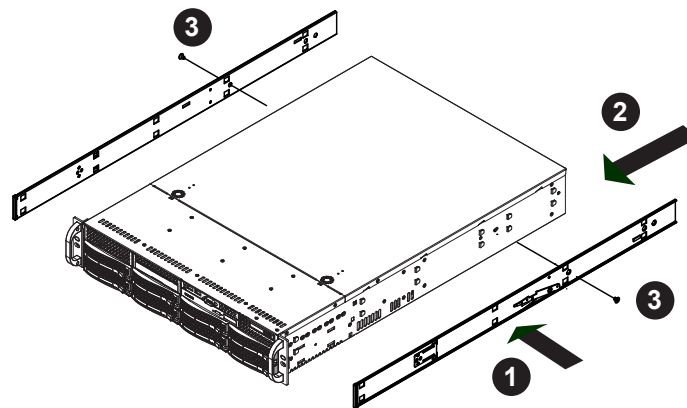


Figure 2-2. Installing the Inner Rail Extensions

Outer Rack Rails

Outer rails attach to the rack and hold the chassis in place. The outer rails for the SC825 chassis extend between 30 inches and 33 inches.

Installing the Outer Rails to the Rack

1. Secure the back end of the outer rail to the rack, using the screws provided.
2. Press the button where the two outer rails are joined to retract the smaller outer rail.
3. Hang the hooks of the rails onto the rack holes and if desired, use screws to secure the front of the outer rail onto the rack.
4. Repeat steps 1-3 for the remaining outer rail.

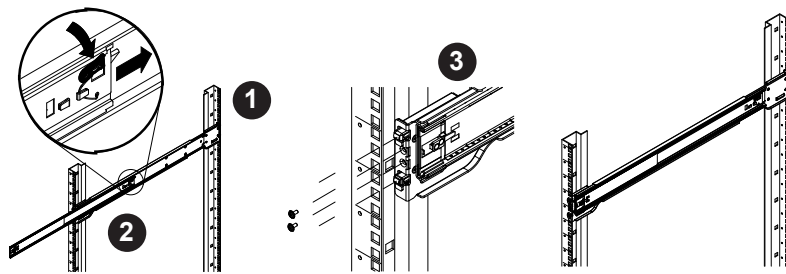


Figure 2-3. Assembling the Outer Rails



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



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

Installing the Server into a Rack

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

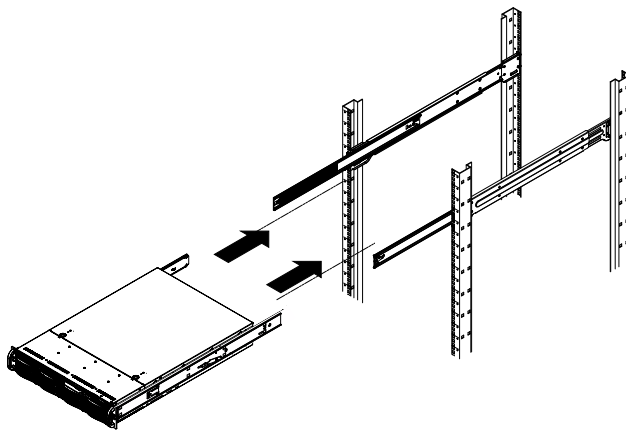


Figure 2-4. Installing the Server into a Rack

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

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 825TS-R740LPBP features a removable top cover, which allows easy access to the inside of the chassis.

Removing the Top Cover

1. Begin by removing power from the system as described in Section 3.1.
2. Remove the two screws on each side of the cover, which secure the cover to the chassis.
3. Press the release tabs to remove the cover from the locked position. Press both tabs at the same time.
4. Once the top cover is released from the locked position, slide the cover toward the rear of the chassis.
5. Lift the cover off the chassis.

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

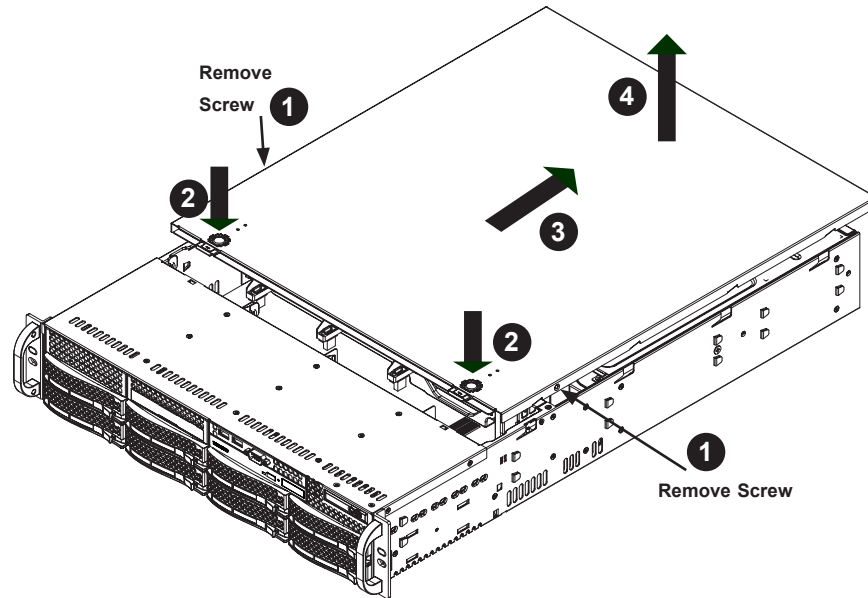


Figure 3-1. Removing the Chassis Cover

3.3 Motherboard Components

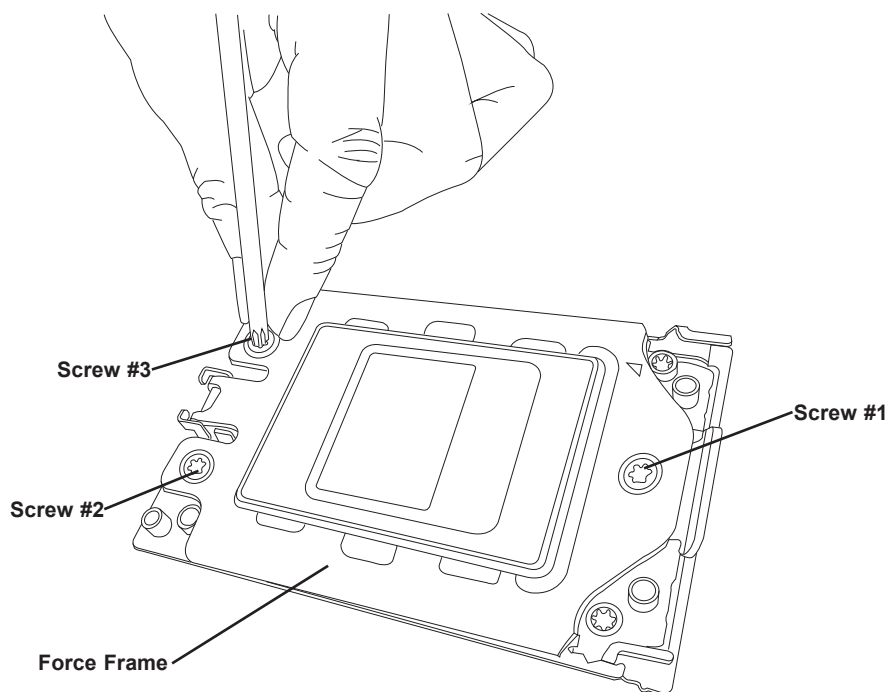
Warning: When handling the processor package, avoid placing direct pressure on the label area of the fan.

Important:

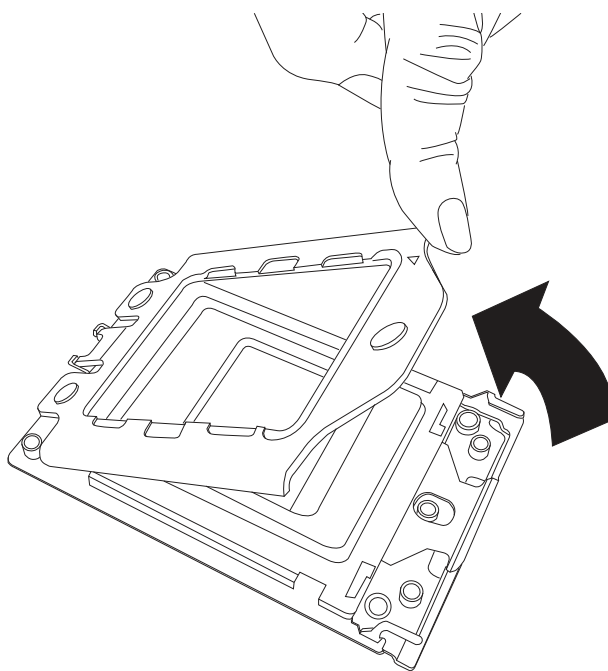
- For the Processor/Heatsink installation you need to use a T20 screwdriver when opening/closing the CPU socket.
- Always connect the power cord last, and always remove it before adding, removing or changing any hardware components. Make sure that you install the processor into the CPU socket before 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.

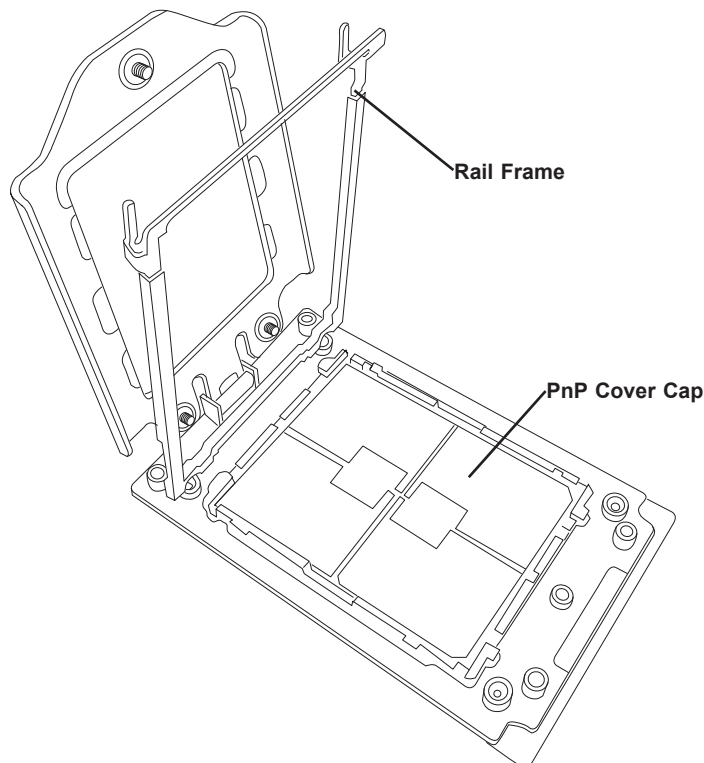


2. The spring-loaded force frame will raise up after the last screw securing it (#1) is removed. Gently allow it to lift up to its stopping position.

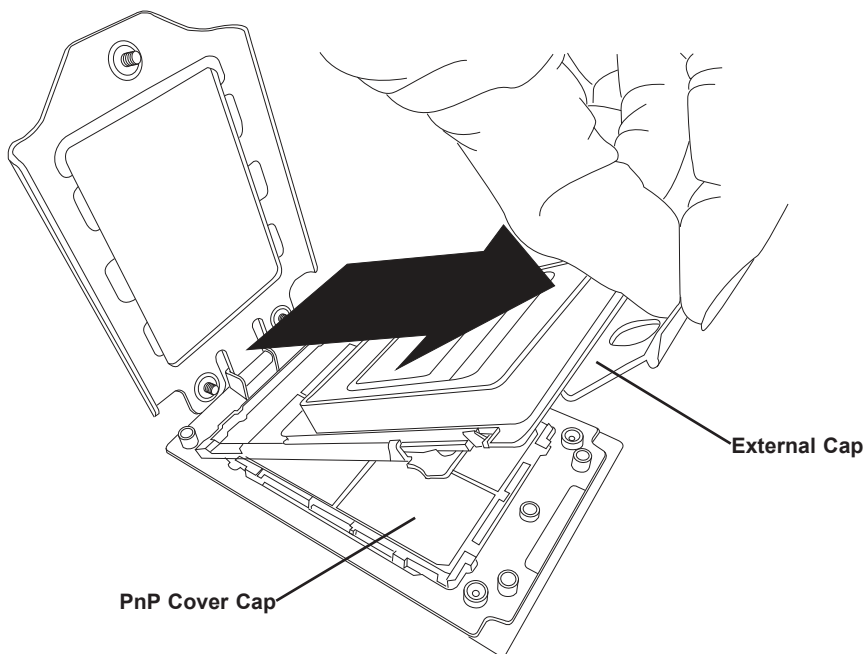


3. Lift the rail frame up by gripping the lift tabs near the front end of the rail frame. While keeping a secure grip of the rail frame, lift it to a position so you can do the next step of removing the external cap.

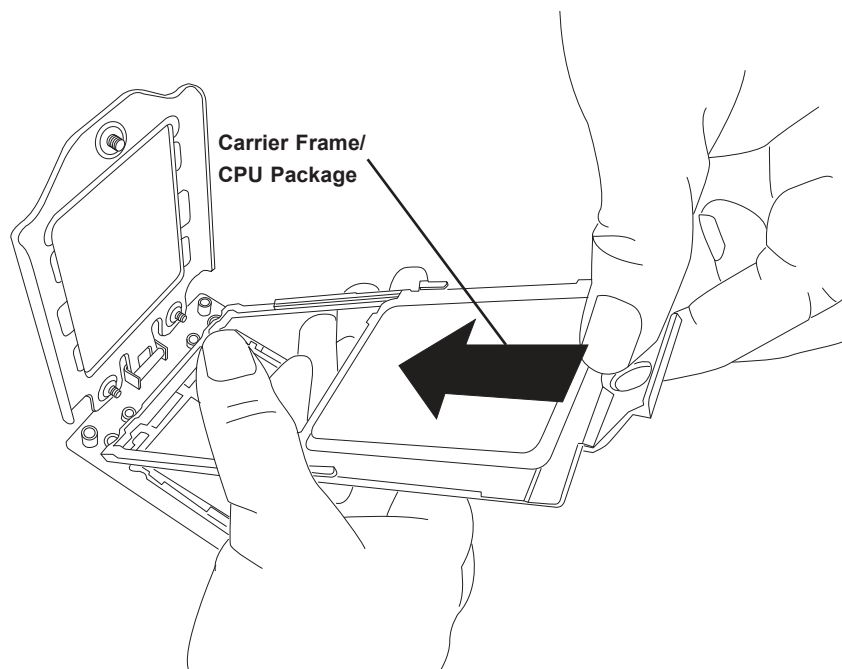
Note: The rail frame is spring loaded, so keep a secure grip on it as you lift it so it does not snap up.



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.

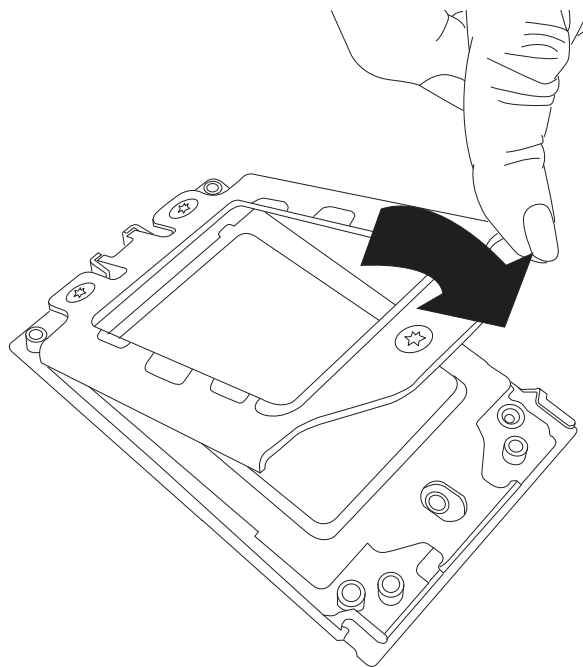


Note: You can only install the CPU inside the socket in one direction with the handle at the top. Make sure that it is properly inserted into the CPU socket before closing the rail frame plate. If it doesn't close properly, do not force it as it may damage your CPU. Instead, open the rail frame plate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

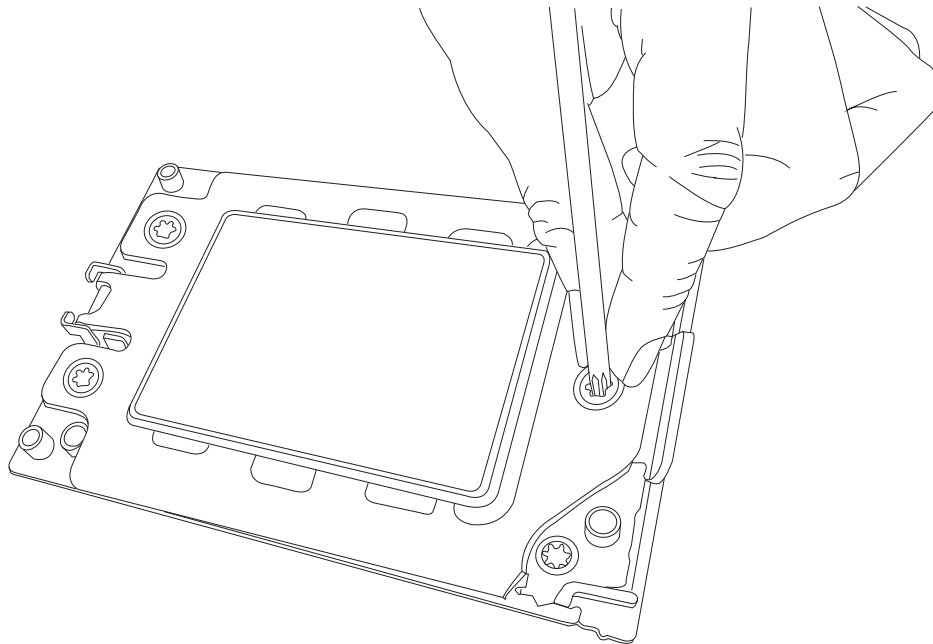
7. Lift up the rail frame till it securely rests in upright position. Then remove the PnP cover cap from the CPU socket below. Grip the two lift tabs marked "Remove" at the middle of the cap and pull vertically upwards to remove the PnP cover cap.

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!

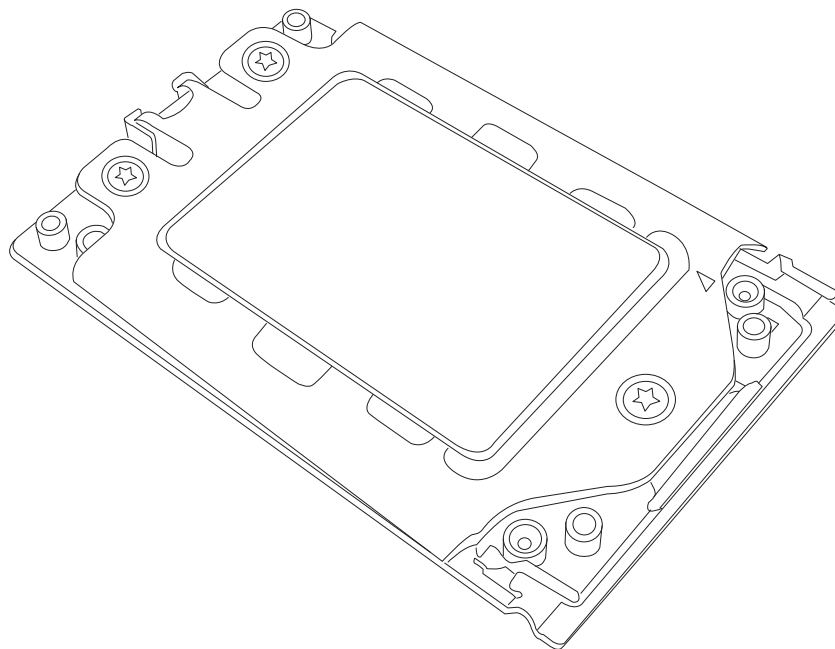


9. Gently lower the force frame down onto the rail frame and hold it in place until it is seated in the Socket housing. Note that the force frame is spring loaded and has to be held in place before it is secured. **Important: Use a torque screwdriver, set it at 16.1 kgf-cm (14.0 lbf-in) with a Torx T20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

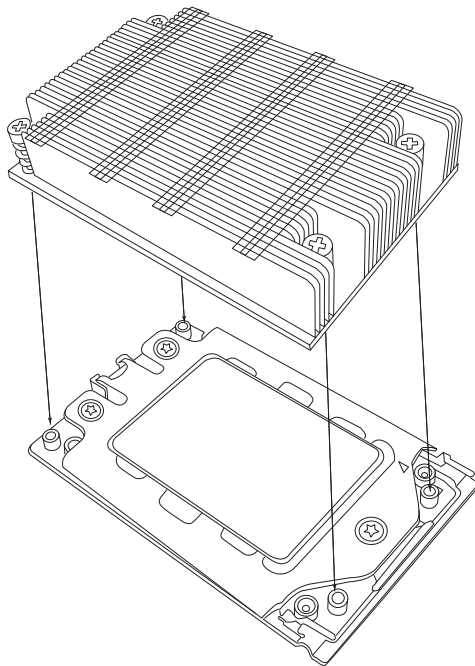


10. Place and re-screw the screws in the order 1-2-3, tightening to 16.1 kgf-cm (14 lbf-in) of torque. The Force Frame secures both the Rail Frame and CPU Package.

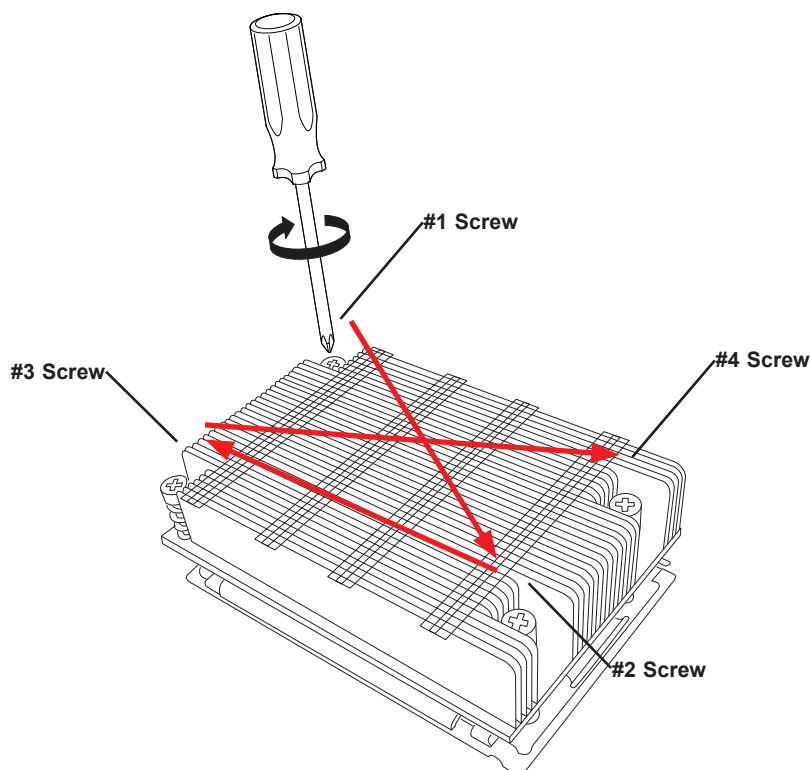
Caution: Use a torque screwdriver, set it at 16.1 kgf-cm (14.0 lbf-in) with a Torx T20 screw head bit, to prevent damage to the CPU.



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 and a Torx T20 driver, tighten the four heatsink screws evenly to 16.1 kgf-cm (14.0 lbf-in) of torque 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 a Heatsink

We do not recommend removing the heatsink. If necessary, please follow the instructions below to prevent damage to the CPU or the CPU socket.

Note: Wait for the heatsink to cool down before removing it.

1. Unscrew and remove the heatsink screws from the motherboard in the sequence as show in the figure above.
2. Hold and gently pivot the heatsink back and forth to loosen it from the CPU. (Do not use excessive force when dislodging the heatsink!)
3. Once the heatsink is loose, remove it from the CPU.
4. Clean the surface of the CPU and the heatsink to get rid of the old thermal grease. Reapply the proper amount of thermal grease to the surface before you re-install the heatsink.

Un-installing the Processor and Heatsink

5. Remove the heatsink attached to the top of the CPU package using the previous procedure for removing a heatsink before proceeding.
6. 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.
7. 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.
8. 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.
9. Grip the handle on the external cap and return it to the rail frame sliding it downwards till it rests in the frame.
10. Gripping the rail frame, rotate it downwards till it rests above and locks over the socket housing in its horizontal position.
11. Push and rotate down the force frame till it is over the external cap and rail frame into a horizontal position.
12. 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.

Memory Support and Installation

Note: Check the Supermicro website for recommended memory modules.

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

The H11SSL-C supports up to 1TB Registered ECC DDR4 2666MHz SDRAM in 8 DIMM slots or 2TB Registered ECC DDR4 3200MHz SDRAM in 8 DIMM slots (board revision 2.x required). Refer to the tables below for additional memory information.

Memory Support for AMD 7001 Processors

DIMM Population Guide (with AMD 7001 Processor)								
CPU#	Channel							
	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								
CPU1		X		X	X		X	
6 DIMMs								
CPU1	Unbalanced and not recommended							
8 DIMMs								
CPU1	X	X	X	X	X	X	X	X

Populating RDIMM/RDIMM 3DS/LRDIMM/LRDIMM 3DS DDR4 Memory Modules with 7001 Processor				
Type	DIMM Population	Maximum DIMM Capacity (GB)		Maximum Frequency (MHz)
		1 Channel	4 Channel	
RDIMM	1R	16GB	128GB	2666
	2R	64GB	512GB	2666
LRDIMM	4R	64GB	512GB	2666
	8R	128GB	1TB	2666
3DS LRDIMM	2R2H	64GB	512GB	2666
	2R4H	128GB	1TB	2666

Memory Support for AMD 7002 Processors

DIMM Population Guide (with AMD 7002 Processor)								
CPU#	Channel							
	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								
CPU1	X	X					X	X
6 DIMMs								
CPU1	Unbalanced and not recommended							
8 DIMMs								
CPU1	X	X	X	X	X	X	X	X

Populating RDIMM/RDIMM 3DS/LRDIMM/LRDIMM 3DS DDR4 Memory Modules with 7002 Processor				
Type	DIMM Population	Maximum DIMM Capacity (GB)		Maximum Frequency (MHz)
		1 Channel	8 Channel	
RDIMM	1R	32GB	256GB	3200
	2R or 2DR	64GB	512GB	3200
3DS LRDIMM	2S2R	128GB	1TB	3200
	2S4R	256GB	2TB	3200
3DS RDIMM	2S2R	128GB	1TB	3200
	2S4R	256GB	2TB	3200

DIMM Module Population

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

- Always use DDR4 DIMM modules of the same type, size and speed.
- Mixed DIMM speeds can be installed. However, all DIMMs will run at the speed of the slowest DIMM.
- The motherboard will support odd-numbered modules (1 or 3 modules installed). However, to achieve the best memory performance, a balanced memory population is recommended.

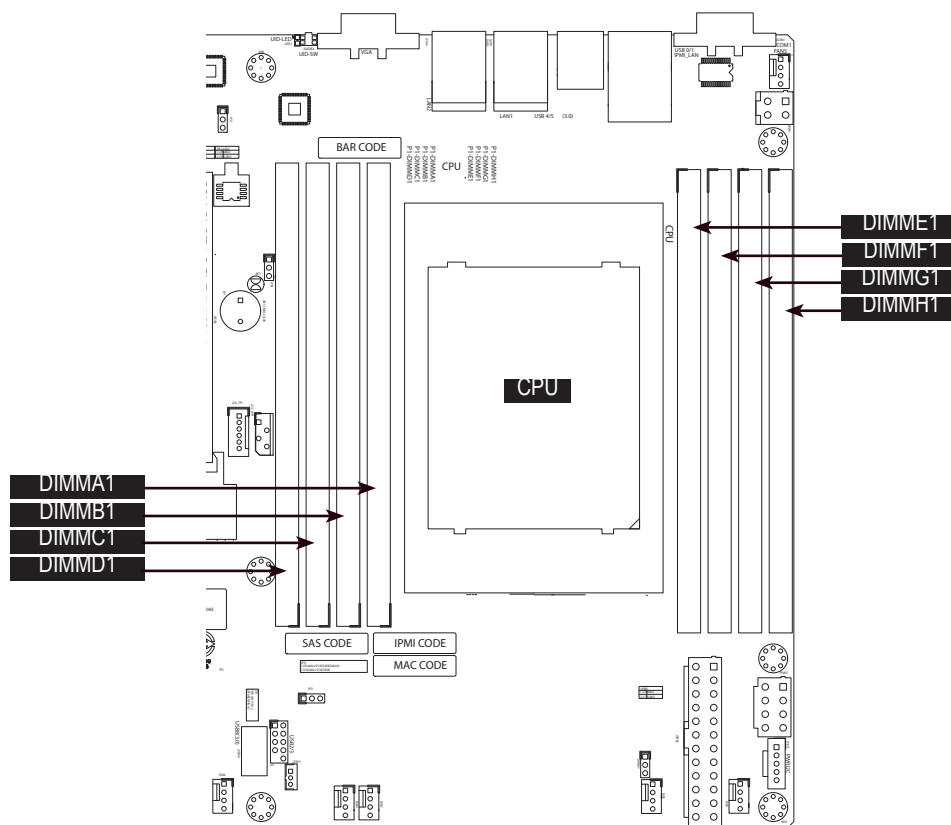
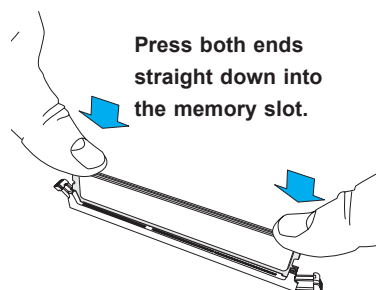
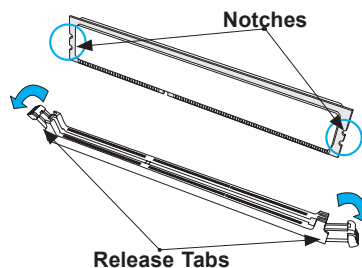
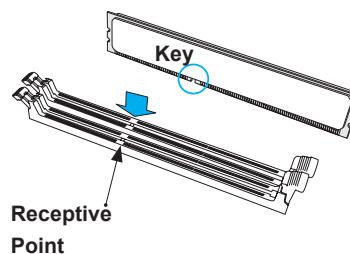


Figure 3-2. DIMM Numbering

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 ends on the module to unlock it. Once the DIMM module is loosened, remove it from the memory slot.

PCI Expansion Card Installation

The AS -2013S-C0R has three PCIe 3.0 x16 slots and three PCIe 3.0 x8 slots for expansion cards.

Installing PCI Expansion Cards

1. Release the locking tab that corresponds to the slot you wish to populate.
2. Insert the expansion card into the riser card, pushing down with your thumbs evenly on both sides of the card.

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 and the chassis cover as described in section 3.2.

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

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

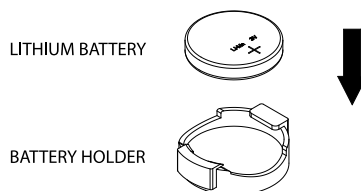


Figure 3-3. Installing the Onboard Battery

Warning: There is a danger of explosion if the onboard battery is installed upside down (which reverses its polarities). This battery must be replaced only with the same or an equivalent type recommended by the manufacturer (BR2032).

3.4 Chassis Components

Hard Drives

Eight 3.5" hot-swap SAS/SATA drives are mounted in drive carriers to simplify their installation and removal from the chassis. These carriers also help promote proper airflow for the drive bays. For this reason, even empty carriers without drives installed must remain in the chassis.

Removing a Hot-Swap Drive Carrier

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

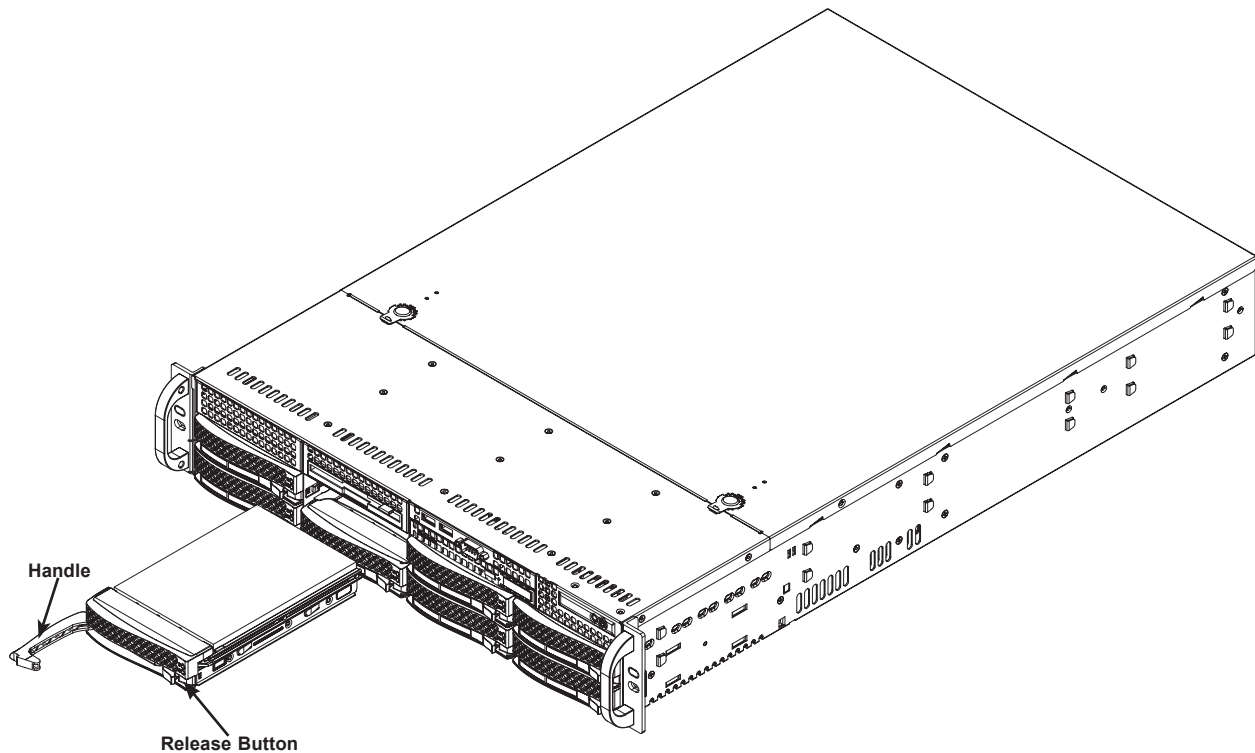


Figure 3-4. Removing a Hard Drive

Mounting a Drive in a Drive Carrier

1. To add a new drive, install it into the carrier with the printed circuit board side facing down so that the mounting holes align with those in the carrier.
2. Secure the drive to the carrier with screws as illustrated below.
3. Insert the drive carrier back into its bay, orienting the carrier so that the release button is on the right. When the carrier reaches the rear of the bay, the release handle will retract.
4. Push the handle in until it clicks into its locked position.

Removing a Drive from a Drive Carrier

1. After removing a carrier from the server, remove the screws that secure the hard drive to the carrier and separate the hard drive from the carrier.
2. Replace the carrier back into the drive bay.

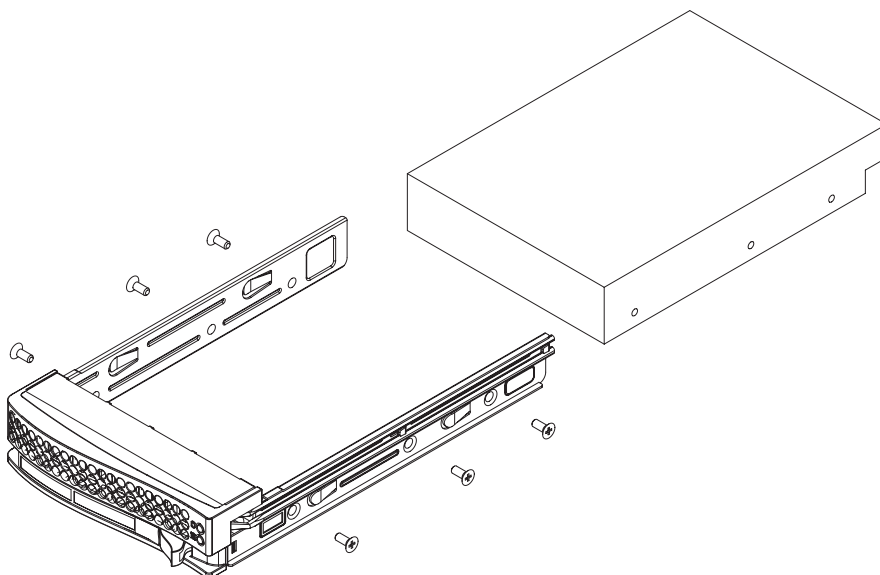


Figure 3-5. Mounting a Drive into a Carrier

Caution: Enterprise level hard disk drives are recommended for use in Supermicro chassis and servers. For information on recommended HDDs, visit the Supermicro Web site at <http://www.supermicro.com/products/info/files/storage/SAS-CompList.pdf>.

Installing an M.2 Solid State Drive

Note: There are some thermal limitations. Please contact Supermicro Support before installing an M.2 device.

The motherboard can accommodate an M.2 solid state drive (SSD). The M.2 socket supports PCIe 3.0 x4 (32 Gb/s) SSD cards in the 2280 or 22110 form factors. The 22110 form factor is recommended because the appropriate standoff comes pre-installed on the motherboard. To install a 2280 device, the motherboard must be removed to move the standoff, which incurs accompanying risks.

Caution: Use industry-standard anti-static equipment, such as gloves or wrist strap, and follow precautions to avoid damage caused by ESD.

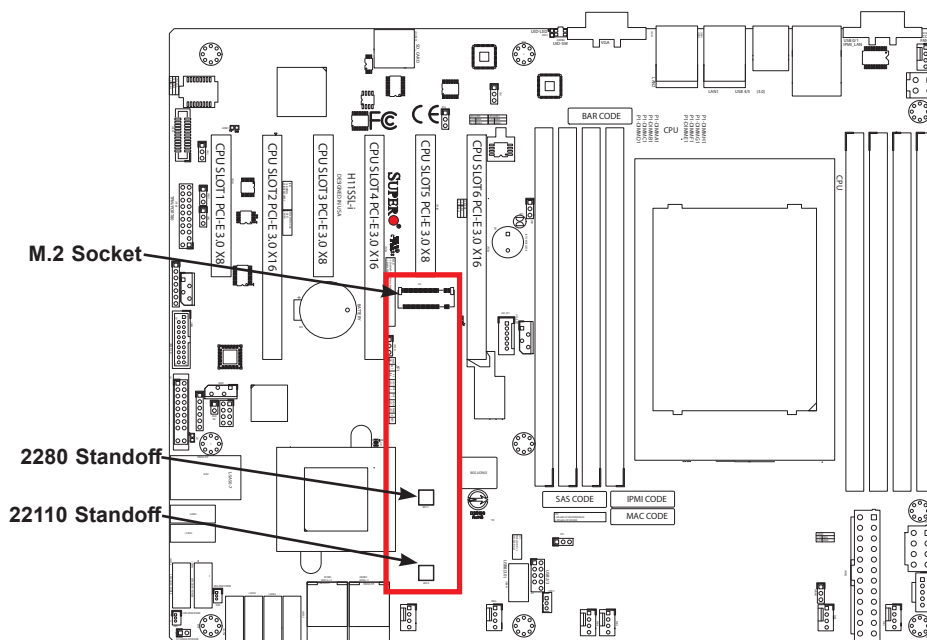


Figure 3-6. Position of M.2 Socket and Standoffs

Installing the M.2 SSD

Caution: Please make sure to power off the system, and **remove the power cord first**, before you add and remove any device from the motherboard.

1. Remove the node from the chassis, exposing the motherboard.
2. Insert the SSD into the socket (J2) on the motherboard, then push it flat against the standoff.
3. Secure the SSD by firmly inserting the standoff plug.
4. Replace the node into the chassis.

Installing an Optional Fixed Hard Drive

The SC825TQC chassis includes two open slots for optional hard disk drives. To utilize these slots, the dummy drive and the slot cover must be removed.

Removing the Dummy Drive or Hard Disk Drive

1. Begin by removing power from the system as described in section 3.1 and the chassis cover as described in section 3.2.
2. Press the release tab.
3. Push against the back of the dummy drive, sliding the dummy drive and slot cover forward, out through the front of the chassis.
4. Insert the drive into rear of the open slot and connect the wiring.

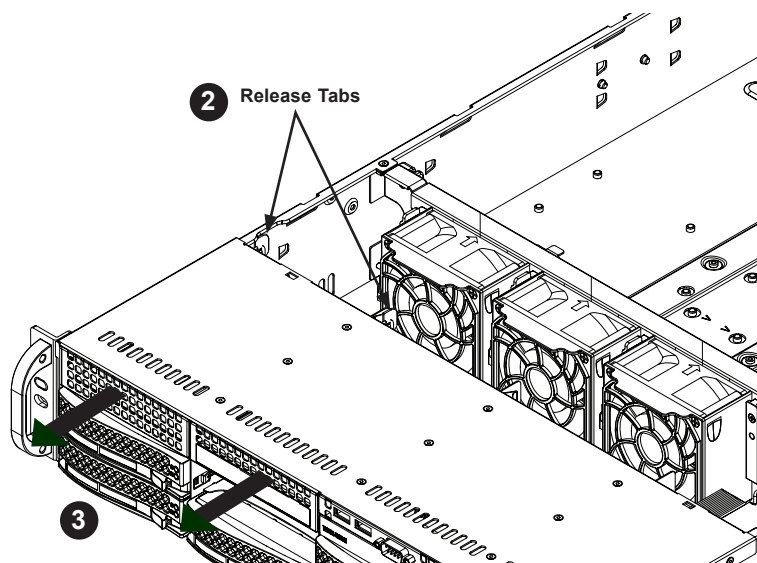


Figure 3-5. Removing a Dummy Drive and Slot Cover

System Cooling

Three 8-cm fans provide the cooling for the system. It is very important that the chassis top cover is installed for the cooling air to circulate properly through the chassis and cool the components.

Installing Fans

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

Replacing a System Fan

If necessary, open the chassis while the power is running to determine which fan has failed. (Never run the server for an extended period of time with the chassis open.)

1. Begin by removing power from the system as described in section 3.1 and the chassis cover as described in section 3.2.
2. Remove the failed fan's power cord from the motherboard.
3. Press the fan release tab to lift the failed fan from the chassis and pull it completely from the chassis.
4. Place the new fan into the vacant space in the housing while making sure the arrows on the top of the fan (indicating air direction) point in the same direction as the arrows on the other fans.
5. Plug the power cords into the rear of the power supply, power up the system and check that the fan is working properly before replacing the chassis cover.

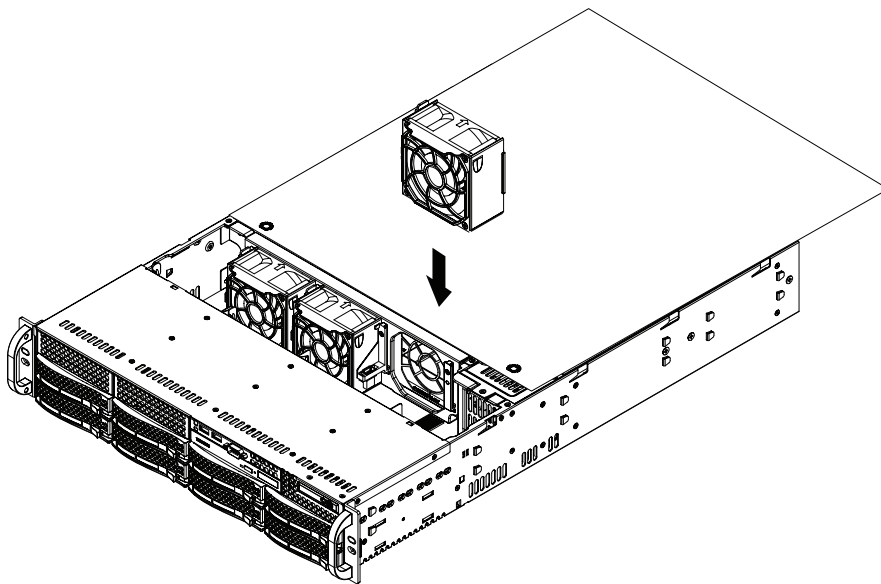


Figure 3-6. Replacing a System Fan

Air Shroud

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

Installing the Air Shroud

1. Begin by removing power from the system as described in section 3.1 and the chassis cover as described in section 3.2.
2. Place air shroud in the chassis. The air shroud fits behind the two fans closest to the power supply.

Power Supply

The AS -2013S-C0R has a redundant, hot-plug 740W power supply consisting of two power modules. Each power supply module has an auto-switching capability, which enables it to automatically sense and operate at a 100V - 240V input voltage.

Power Supply Failure

If either of the two power supply modules fail, the other module will take the full load and allow the system to continue operation without interruption. The Power Fail LED will illuminate and remain on until the failed unit has been replaced. Replacement units can be ordered directly from Supermicro. The hot-swap capability of the power supply modules allows you to replace the failed module without having to power down the system.

Replacing the Power Supply

1. Check the LEDs on the power supplies to determine which module has failed.
2. Unplug the power cord from the failed module.
3. Push the release tab (on the back of the power supply) as illustrated, then pull the power supply out using the handle provided.
4. Push the new power supply module into the power bay until you hear a click (replace with the same model).
5. Reconnect the power cord to the new module.

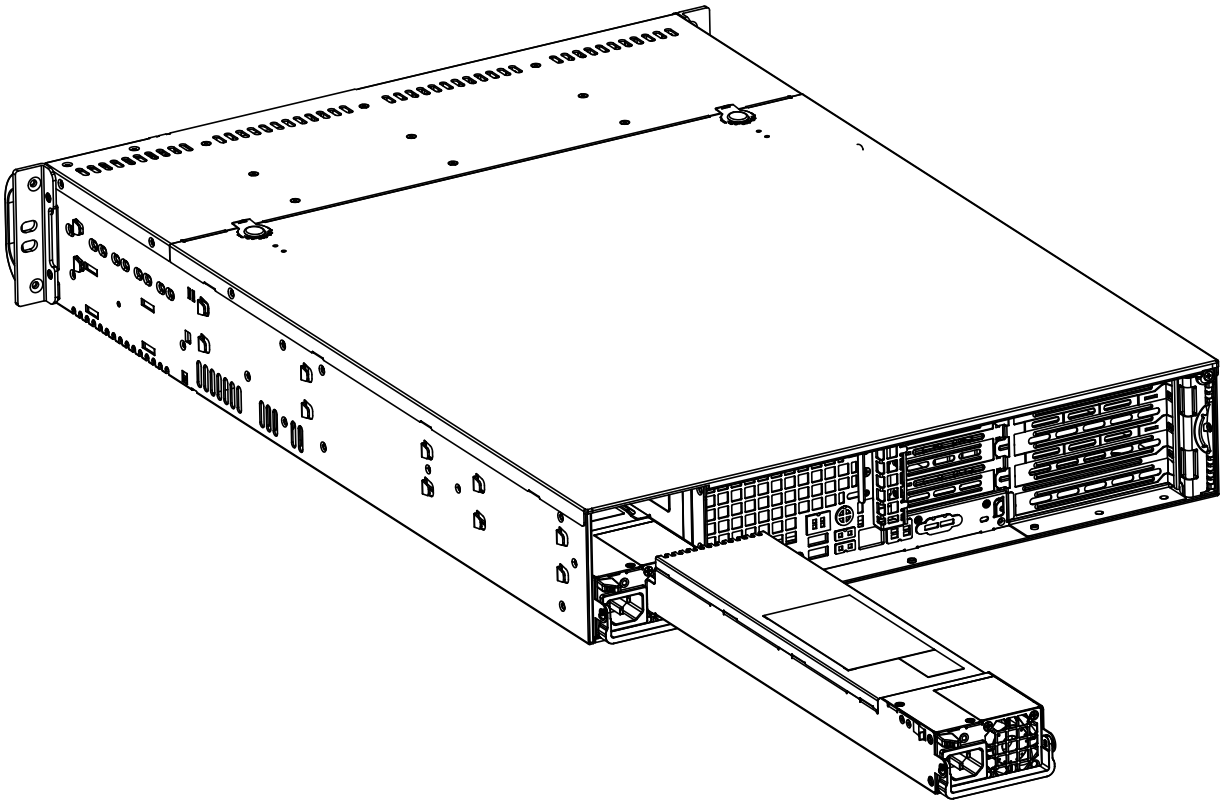


Figure 3-7. Replacing a Power Supply Module

Chapter 4

Motherboard Connections

This section describes the connections on the motherboard and provides pinout definitions. Note that depending on how the system is configured, not all connections are required. The LEDs on the motherboard are also described here. A serverboard 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

Two power connections on the H11SSL-C must be connected to the power supply. The wiring is included with the power supply.

- 24-pin Primary ATX Power (JPWR2)
- 8-pin Processor Power (JPWR1/JPW2)

Main Power Supply Connector (JPWR2)

The primary power supply connector (JPWR2) is an ATX power connector that the power supply plugs into directly.

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

Required Connection

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

12V 8-pin Auxilliary Power Connector (JPWR1)

JPWR1 is an 8-pin ATX power input to provide auxiliary power to the processor. Refer to the table below for pin definitions.

12V 8-pin Power Connector Pin Definitions	
Pins	Definition
1 through 4	Ground
5 through 8	+12V

Required Connection

12V 4-pin Auxilliary Power Connector (JPW1)

JPW1 is an 4-pin ATX power input to provide auxiliary power to peripheral devices. Refer to the table below for pin definitions.

12V 4-pin Power Connector Pin Definitions	
Pins	Definition
1 through 2	Ground
3 through 4	+12V

Required Connection

4.2 Headers and Connectors

Onboard Fan Headers (FAN1~FAN5, FANA, FANB)

There are seven fan headers on the motherboard. These are 4-pin fan headers; pins 1-3 are backward compatible with traditional 3-pin fans. The onboard fan speeds are controlled by Thermal Management (via Hardware Monitoring) in the BMC. When using Thermal Management setting, please use all 4-pin fans.

Fan Header Pin Definitions	
Pin#	Definition
1	Ground (Black)
2	+12V (Red)
3	Tachometer (Yellow)
4	PWM Control (Blue)

PCIe M.2 Connector (J23)

The PCIe M.2 (J2) connector is for devices such as memory cards, wireless adapters, etc. These devices must conform to the PCIe M.2 specifications (formerly known as NGFF). This particular PCIe M.2 supports M-Key (PCIe x4) storage card.

NCSI Header (JNCSI1)

The NCSI (Network Controller Sideband Interface) header is located at JNCSI1. This header is an interface used to connect the BMC (Baseboard Management Controller) to a set of Network Interface Controllers to enable out-of-band remote manageability.

Disk-On-Module Power Connector (JSD1 & JSD2)

The Disk-On-Module (DOM) power connector at JSD1 provides 5V power to a solid-state DOM storage device connected to one of the SATA ports. See the table below for pin definitions.

DOM Power Pin Definitions	
Pin#	Definition
1	5V
2	Ground
3	Ground

I-SATA Ports (I-SATA0~I-SATA15), H11SSL-i Only

The H11SSL-C has sixteen (16) available SATA 3.0 ports (SATA0~15) on the motherboard. SATA0~SATA7 are standard SATA 3.0 ports, while SATA8~SATA11 (JNVME0) and SATA12~SATA15 (JNVME1) supports NVMe (Non-Volatile Memory Express) SSD drives.

SATA Connectors Pin Definitions	
Pin#	Signal
1	Ground
2	SATA_TXP
3	SATA_TXN
4	Ground
5	SATA_RXN
6	SATA_RXP
7	Ground

L-SAS Ports (L-SAS0~L-SAS7), H11SSL-NC & H11SSL-C Only

The motherboard supports eight (8) SAS ports on two onboard connectors, L-SAS0~L-SAS3 and L-SAS4~L-SAS7. Connect hard drives to these SAS ports using a MiniSAS to 4 breakout cable, one for each connector that supports up to four drives each.

SATA/SAS Connectors Pin Definitions	
Pin#	Signal
1	Ground
2	SATA_TXP
3	SATA_TXN
4	Ground
5	SATA_RXN
6	SATA_RXP
7	Ground

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.

TPM Header/Port 80 Connector (TPM Port)

The JTPM1 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)

Expansion Slots

The motherboard features several expansion slots. The table below describes each slot's type and speed.

Expansion Slots	
Name	Description
SLOT1	PCIe 3.0 x8
SLOT2	PCIe 3.0 x16
SLOT3	PCIe 3.0 x8
SLOT4	PCIe 3.0 x16
SLOT5	PCIe 3.0 x8
SLOT6	PCIe 3.0 x16

Chassis Intrusion (JL1)

A Chassis Intrusion header is located at JL1 on the motherboard. Attach the appropriate cable from the chassis to the header to inform you when the chassis is opened.

Chassis Intrusion Pin Definitions	
Pins	Definition
1	Ground
2	Intrusion Input

USB Ports (USB0~USB8)

There are a total of nine (9) USB ports supported on the motherboard. Four are located on the back panel (USB 0/1 (2.0) and USB 4/5 (3.0)). There are also five ports located on the motherboard, four are on two headers (USB 2/3 (2.0) and USB 6/7 (3.0)), and one is on a "Type A" connector (USB 8).

Front Panel USB 2.0 Header Pin Definitions			
Pin#	Definition	Pin#	Definition
1	+5V	2	+5V
3	USB_PN2	4	USB_PN3
5	USB_PP2	6	USB_PP3
7	Ground	8	Ground
9	Key	10	Ground

Front Panel USB 3.0) Pin Definitions			
Pin#	Definition	Pin#	Definition
1	VBUS	19	Power
2	Stda_SSRX-	18	USB3_RN
3	Stda_SSRX+	17	USB3_RP
4	GND	16	GNd
5	Stda_SSTX-	15	USB3_TN
6	Stda_SSTX+	14	USB3_TP
7	GND	13	GND
8	D-	12	USB_N
9	D+	11	USB_P
10		x	

Sensor Header (JSEN1)

This header (JSEN1) allows BMC to monitor thermal inlet temperature. A special module is required. Please contact Supermicro at www.supermicro.com to purchase the module for this header. Refer to the table below for pin definitions

Intel Sensor Header Pin Definitions	
Pin#	Definition
1	SMBDAT
2	Ground
3	SMBCLK
4	3.3V STBY

Overheat LED/Fan Fail (JOH1)

The JOH1 header is used to connect an LED indicator to provide warnings of chassis overheating or fan failure. This LED will blink when a fan failure occurs. Refer to the table below for pin definitions.

Overheat / Fan Fail Pin Definitions	
Pins	Definition
1	5vDC
2	OH Active

Overheat / Fan Fail LED Status	
Status	Definition
Off	Normal
On, Solid	Overheat
On, Blinking	Fan Failure

Standby Power Header (JSTBY1)

The Standby Power header is located at JSTBY1 on the motherboard.

Standby Power Pin Definition	
Pins	Definition
1	+5V Standby
2	Ground
3	Wake-up

IPMB System Management Bus Header (JIPMB1)

A System Management Bus header for IPMI 2.0 is located at JIPMB1. Connect the appropriate cable here to use the IPMB I²C connection on your system.

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

Speaker (JD1)

On the JD1 header, pins 3~4 are used for the internal speaker. Close pins 3~4 with a cap to use the onboard speaker. If you wish to use an external speaker, attach an external speaker to pins 6~7. See the table below for pin definitions.

Speaker Connector Pin Definitions	
Pin Setting	Definition
Pins 1~2	Power LED
Pins 6~7	External Speaker

Power SMB Header (PWRI2C)

Power System Management Bus (I2C) header monitors power supply, fan and system temperatures. See the table below for pin definitions.

Power SMB Header Pin Definitions	
Pin#	Definition
1	Clock
2	Data
3	PWR Fail
4	Ground
5	+3.3V

4.3 Ports

Rear I/O Ports

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

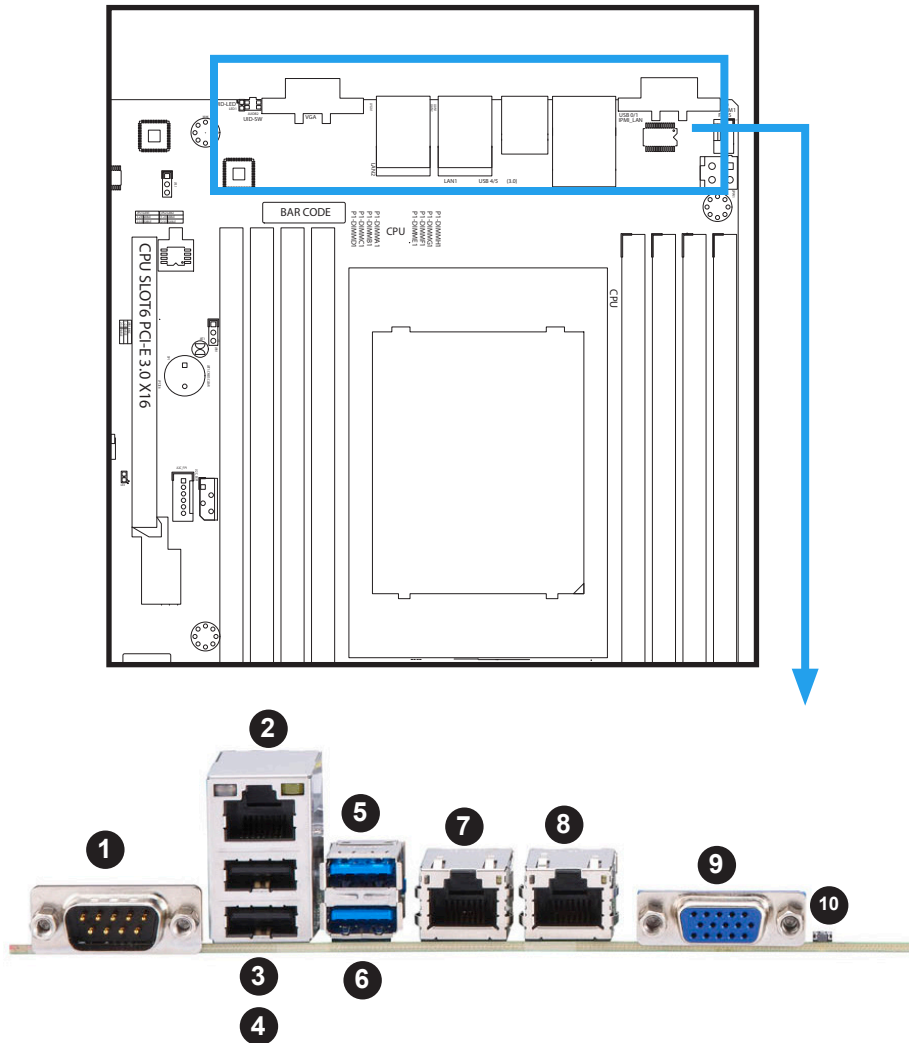


Figure 4-1. I/O Port Locations and Definitions

Rear I/O Ports					
#	Description	#	Description	#	Description
1	COM Port	5	USB 4 (3.0)	9	VGA Port
2	IPMI LAN Port	6	USB 5 (3.0)	10	UID Switch & UID LED
3	USB 0 (2.0)	7	LAN Port #1		
4	USB 1 (2.0)	8	LAN Port #2		

1. COM Port

There is one serial communications port (COM1) on the rear I/O panel.

2. IPMI LAN Port

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

3~6. Universal Serial Bus (USB) Ports

There are two USB 2.0 ports (USB0/1) and two USB 3.0 ports (USB4/5) on the I/O back panel. These support the type A connector.

7~8. Gigabit LAN Ports

There are two gigabit LAN ports located on the I/O back panel (LAN1 & LAN2). These ports accept an RJ45 type cable.

9. VGA Port

There is one VGA port on the rear I/O panel.

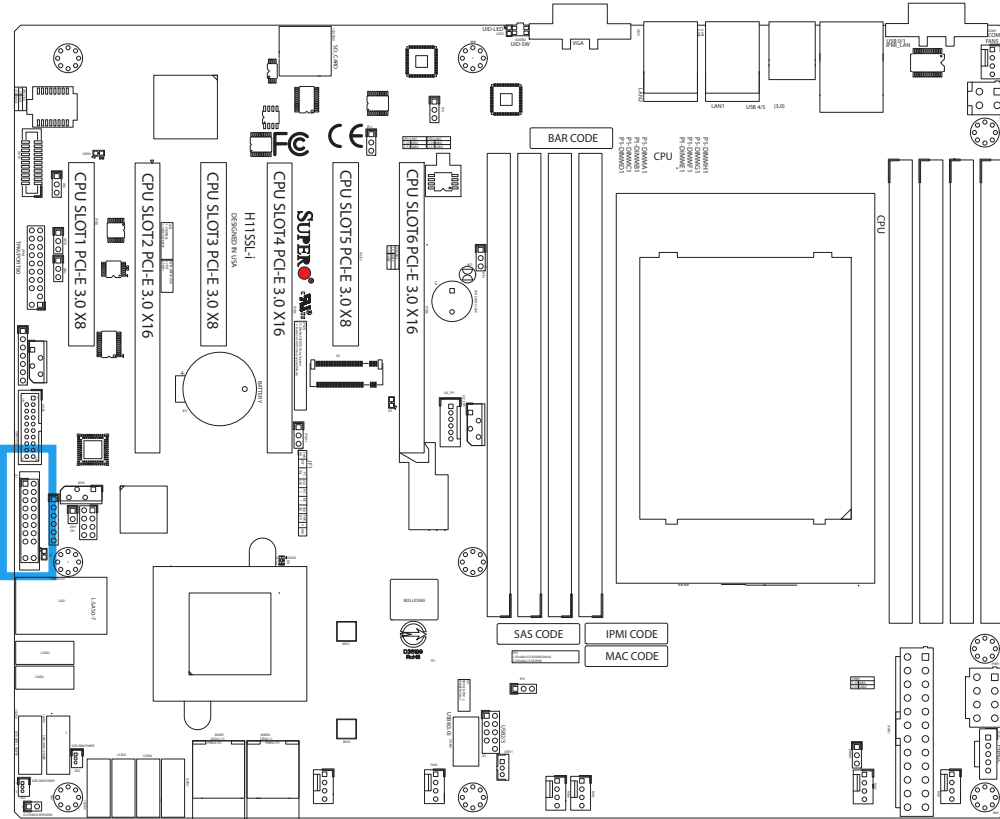
10. UID Switch and LED Indicator

A Unit Identifier (UID) switch and UID LED are located on the I/O backpanel. The rear UID LED 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.

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>

Front Control Panel

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



	20	19	
NMI	○	○	X
X	○	○	X
PWR LED	○	○	3.3V
HDD LED	○	○	3.3V Stby
NIC1 Link LED	○	○	3.3V Stby
NIC2 Link LED	○	○	3.3V Stby
UID LED	○	○	3.3V Stby
Power Fail LED	○	○	3.3 V
Ground	○	○	Reset } Reset Button
Ground	○	○	PWR } Power Button
	2	1	

Figure 4-2. JF1 Pin Definitions

Power Button

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

Power Button Pin Definitions (JF1)	
Pin#	Definition
1	Signal
2	Ground

Reset Button

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

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

Power Fail LED

The Power Fail LED connection is located on pins 5 and 6 of JF1. Refer to the table below for pin definitions.

Power Fail LED Pin Definitions (JF1)	
Pin#	Definition
5	3.3V
6	PWR Supply Fail

Fan Fail and UID LED

Connect an LED cable to pins 7 and 8 of the front control panel to use the Overheat/Fan Fail LED connections. The LED on pin 8 provides warnings of overheat or fan failure. Refer to the tables below for pin definitions and status.

OH/Fan Fail LED Pin Definitions (JF1)	
Pin#	Definition
7	Blue LED
8	OH/Fan Fail LED

OH/Fan Fail Indicator Status	
State	Status
Off	Normal
On	Overheat
Flashing	Fan Fail

NIC1/NIC2 (LAN1/LAN2)

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

LAN1/LAN2 LED Pin Definitions (JF1)	
Pin#	Definition
9	NIC 2 Activity LED
10	3.3V Stby
11	NIC 1 Activity LED
12	3.3V Stby

HDD LED

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

HDD LED Pin Definitions (JF1)	
Pin#	Definition
13	3.3V Stby
14	HDD Active

Power LED

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

Power LED Pin Definitions (JF1)	
Pin#	Definition
15	3.3V
16	PWR LED

NMI Button

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

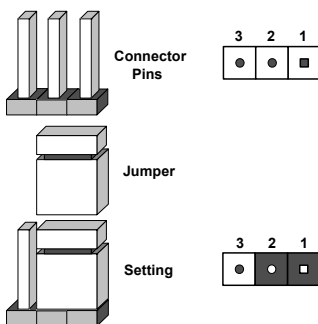
NMI Button Pin Definitions (JF1)	
Pin#	Definition
19	Control
20	Ground

4.4 Jumpers

Explanation of Jumpers

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

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



CMOS Clear

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

To Clear CMOS

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

Notes: Clearing CMOS will also clear all passwords.

Do not use the PW_ON connector to clear CMOS.



BMC Enable/Disable (JPB1)

Jumper JPB1 will enable or disable the Baseboard Management Control (BMC) on the motherboard. See the table below for jumper settings. The default setting is enabled.

BMC Enable/Disable Jumper Settings (JPB1)	
Jumper Setting	Definition
Pins 1-2	Enabled (default)
Pins 2-3	Disabled

VGA Enable/Disable (JPG1)

JPG1 allows you to enable or disable the VGA port. The default position is on pins 1 and 2 to enable VGA. See the table below for jumper settings.

VGA Enable/Disable Jumper Settings (JPG1)	
Jumper Setting	Definition
Pins 1-2	Enabled (default)
Pins 2-3	Disabled

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

LAN Enable/Disable (JPL1, JPL2)

Jumper JPL1 and JPL2 will enable or disable the LAN1 or LAN2 ports, respectively on the motherboard. See the table below for jumper settings. The default setting is enabled.

GLAN Enable Jumper Settings	
Pin#	Definition
1-2	Enabled (default)
2-3	Disabled

SAS Enable/Disable (JPS1)

Jumper JPS1 will enable or disable the SAS ports on the motherboard. See the table below for jumper settings. The default setting is enabled.

SAS Enable Jumper Settings	
Pin#	Definition
1-2	Enabled (default)
2-3	Disabled

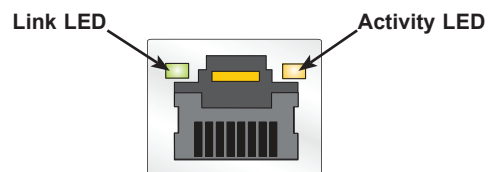
4.5 LED Indicators

LAN Port LEDs

The motherboard's Ethernet ports have two LED indicators. The Activity LED is yellow and indicates connection and activity. The Link LED may be green, 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
None	10 Mb/s
Green	100 Mb/s
Amber	1 Gb/s

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



UID Switch and LED Indicator (UID LED & UID-SW)

The rear UID LED 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 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 LEDM1 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

Onboard Power OK LED (LE1)

LE1 is an onboard power OK LED. When this LED is lit, it means the system is turned on, and all the system power rails are ready. When the system is turned off, or any one of the system power rails fails, this LED will turn off. Turn off the system, and unplug the power cord before removing or installing any component(s).

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

M.2 Active LED (LE3)

When LE3 is lit, it means that the M.2 PCIe interface has detected a compatible M.2 device attached, and is working normally.

M.2 Active LED Indicator	
LED Color	Definition
Off	Off (No device installed/detected)
Green	On (Device detected and working)

SAS Port Active LED (LEDSAS)

When LEDSAS is on, it indicates that the onboard SAS interface is active.

SAS Port Active LED Indicator	
LED Color	Definition
Off	Off
Green	On / Active

Chapter 5

Software

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

5.1 Microsoft Windows OS Installation

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

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.

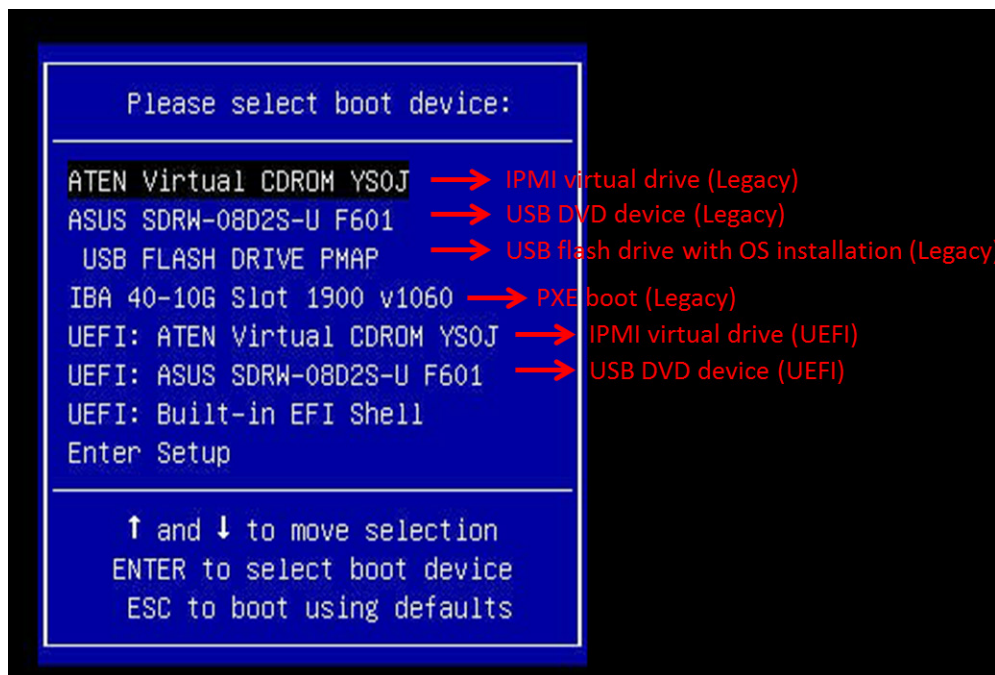


Figure 5-1. Select Boot Device

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.

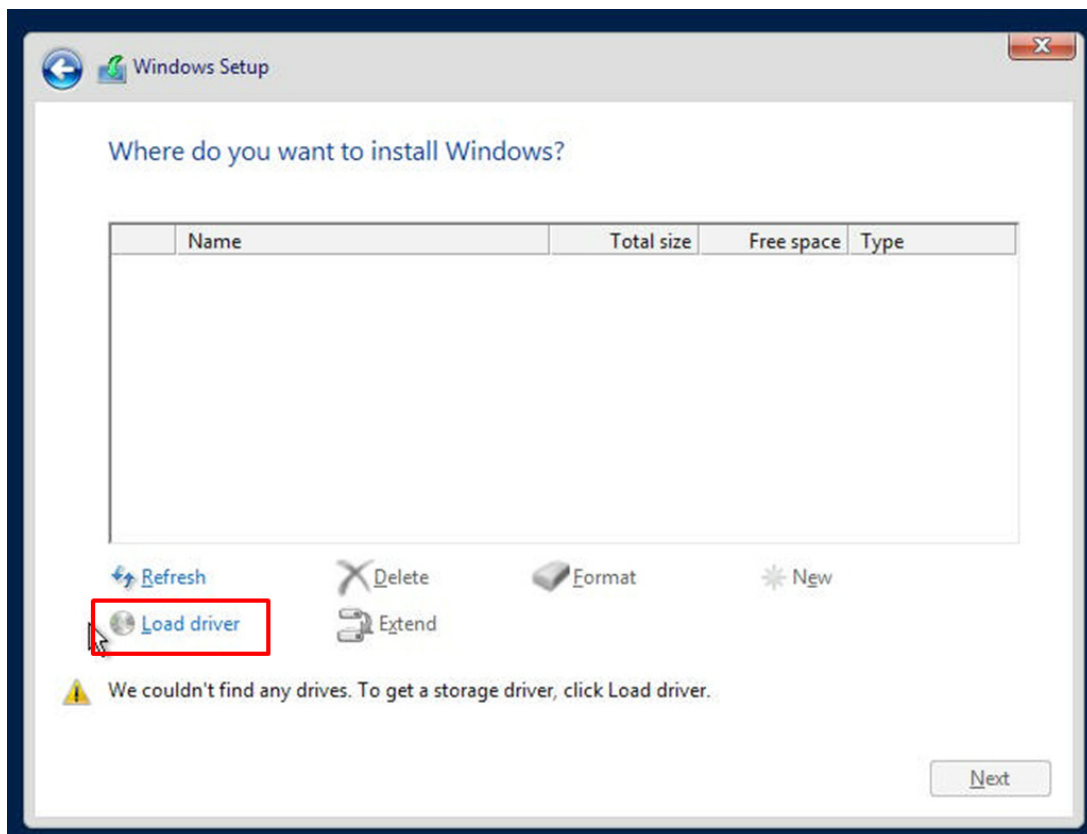


Figure 5-2. Load Driver Link

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

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

5.2 Driver Installation

The Supermicro website contains drivers and utilities for your system at www.supermicro.com/wftp/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 www.supermicro.com/. Find the product page for your motherboard, and "Download the Latest Drivers and Utilities".

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

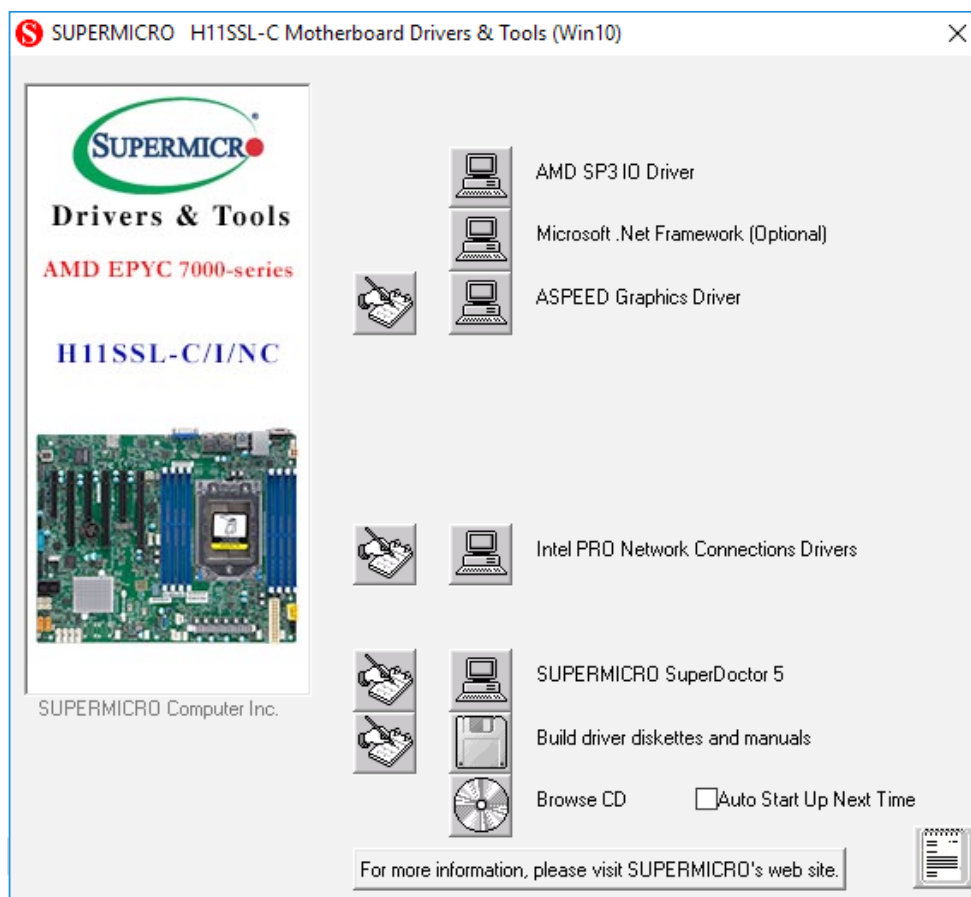


Figure 5-3. Driver & Tool Installation Screen

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.

Note: The default User Name and Password for SuperDoctor 5 is ADMIN / ADMIN.

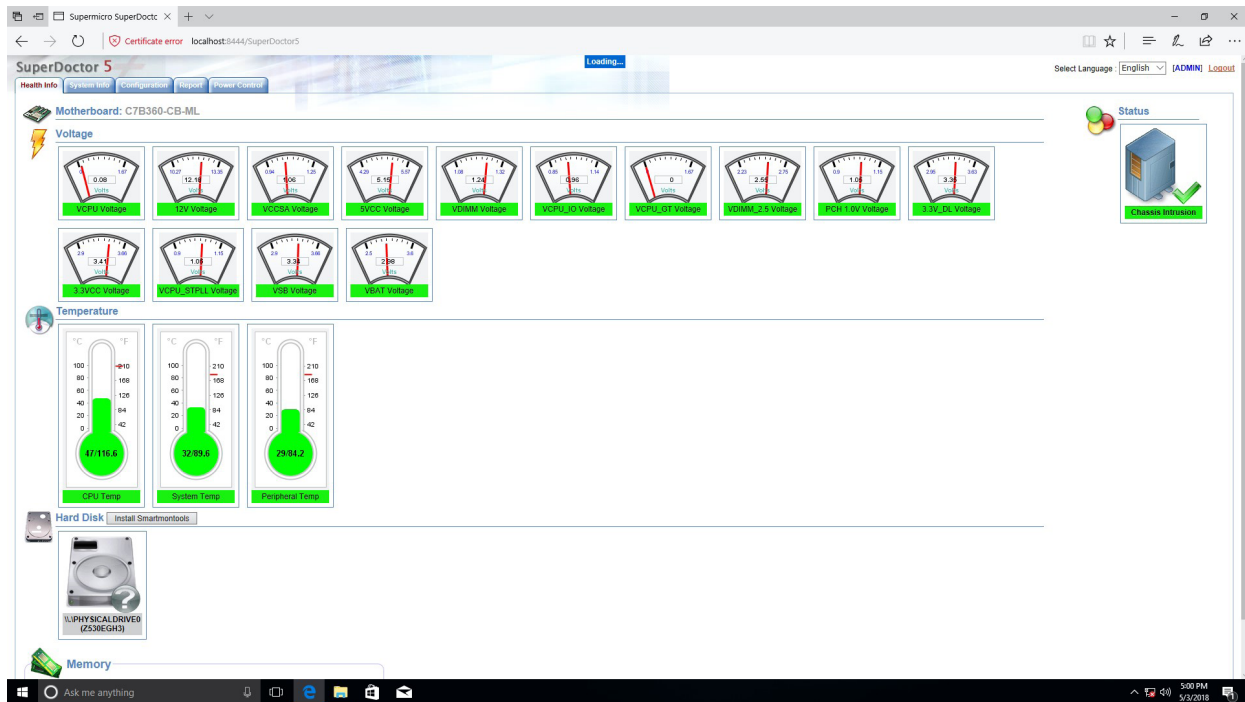


Figure 5-4. SuperDoctor 5 Interface Display Screen (Health Information)

5.4 IPMI

The H11SSL-C supports the Intelligent Platform Management Interface (IPMI). IPMI is used to provide remote access, monitoring and management. There are several BIOS settings that are related to IPMI.

For general documentation and information on IPMI, please visit our website at: <http://www.supermicro.com/products/nfo/IPMI.cfm>.

Chapter 6

BIOS

6.1 Introduction

This chapter describes the AMIBIOS™ Setup utility for the H11SSL-C 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.

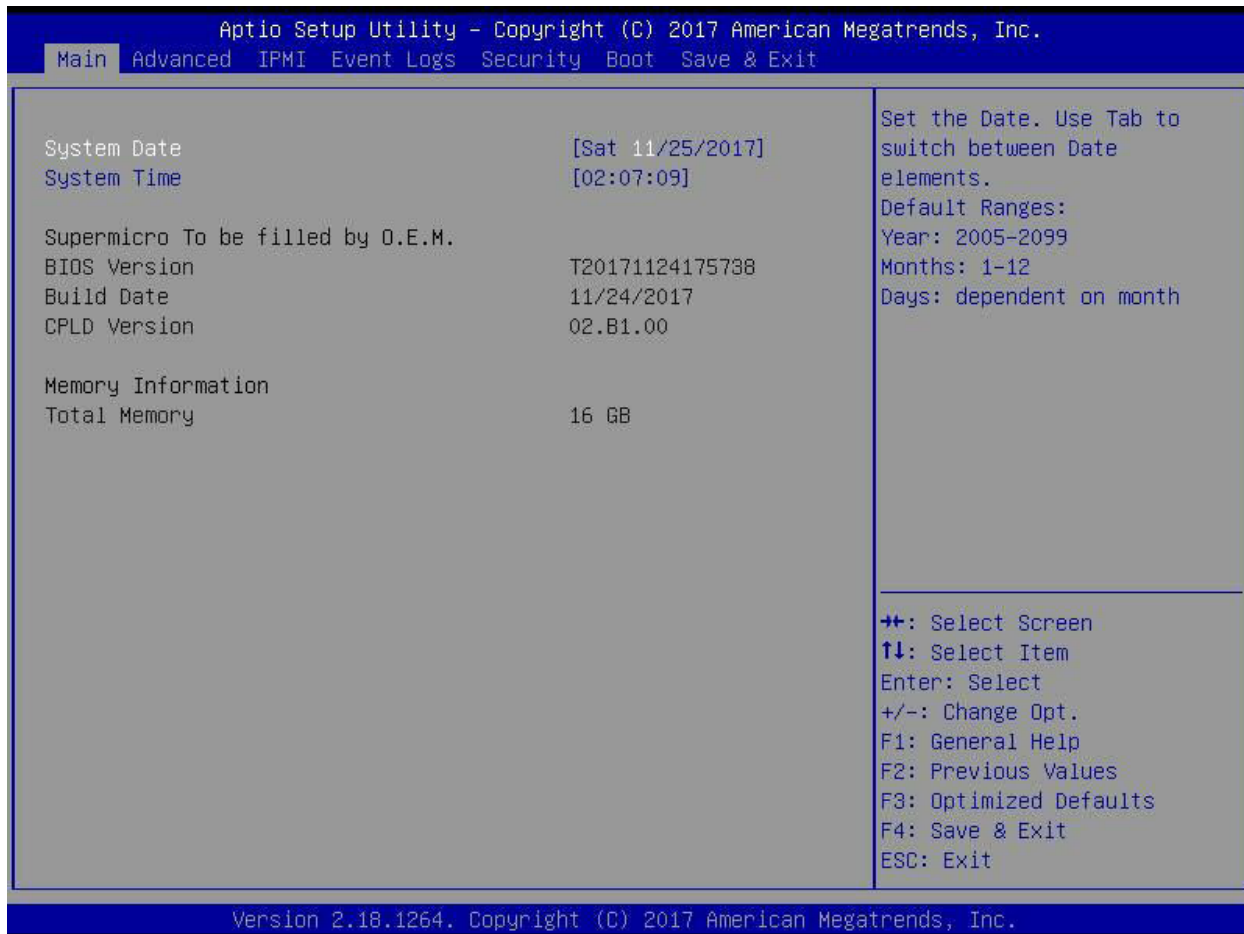
The Main BIOS screen has two main frames. The left frame displays all the options that can be configured. “Grayed-out” options cannot be configured. The right frame displays the key legend. Above the key legend is an area reserved for a text message. When an option is selected in the left frame, it is 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 H11SSL-i / H11SSL-C / H11SSL-NC

BIOS Version

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

Build Date

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

CPLD Version

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

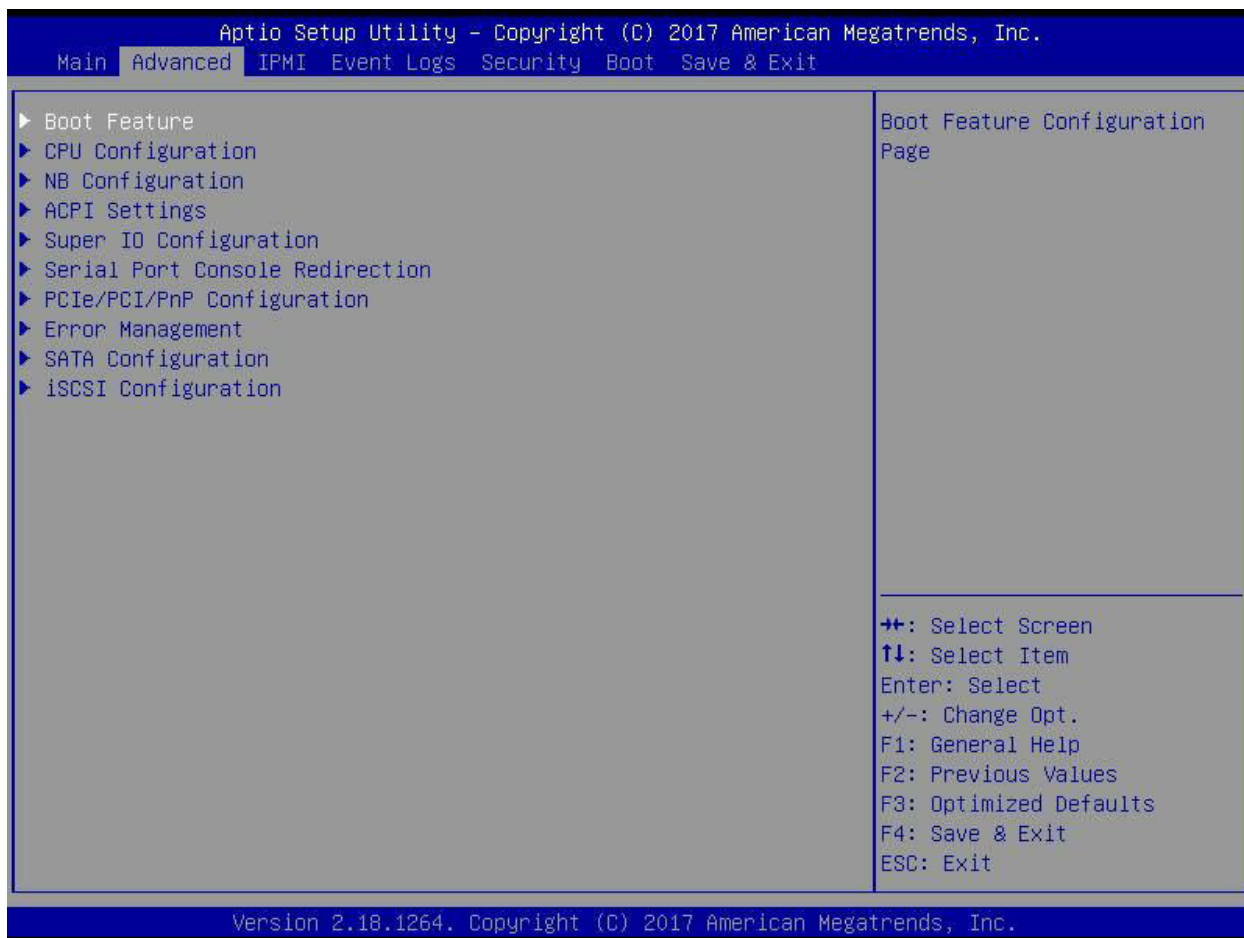
Memory Information

Total Memory

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

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 manufacture 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 **Enabled** and Disabled.

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 Off and **On**.

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

Security Device Support

If this feature and the TPM jumper on the motherboard are both set to Enabled, onboard security devices will be enabled for TPM (Trusted Platform Module) support to enhance data integrity and network security. Please reboot the system for a change on this setting to take effect. The options are Disable and **Enable**.

SHA-1 PCR Bank

This feature will enable or disable the SHA-1 PCR Bank. The options are **Enabled** and Disabled

SHA256 PCR Bank

This feature will enable or disable the SHA256 PCR Bank. The options are **Enabled** and Disabled

Pending Operation

This feature will schedule an operation for the the security device, select TPM Clear to clear any pending operation. The options are **None** and TPM Clear

Platform Hierarchy

This feature will enable or disable the Platform Hierarchy. The options are **Enabled** and Disabled.

Storage Hierarchy

This feature will enable or disable the Storage Hierarchy. The options are **Enabled** and Disabled.

Endorsement Hierarchy

This feature will enable or disable the Endorsement Hierarchy. The options are **Enabled** and Disabled.

Device Select

Selecting TPM 1.2 will restrict support to TPM 1.2 devices, TPM 2.0 to TPM 2.0 devices and Auto will auto-select according to the version of the device installed, with the default set to TPM 2.0. The options are TPM 1.2, TPM 2.0 and **Auto**.

► CPU Configuration

SMT Mode

Use this setting to specify Simultaneous Multithreading. Options include Off for 1T single thread and **Auto** for 2T two-thread if your system is capable of it.

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 **Auto**, Disabled and Enabled.

Downcore Control

This sets the number of cores to be used by your system. Once this option has been used to remove any cores, a power cycle is required in order for the future selections to take effect. Options include TWO (1+1), Two (2 + 0), Three (3 + 0), Four (2 + 2), Four (4+0), Six (3 + 3) and **Auto**. If unsure, leave this to Auto.

L1 Stream HW Prefetcher

This feature sets the option to enable or disable the L1 Stream Prefetcher. The options are Disable, Enable and **Auto**. If unsure, leave this to Auto.

L2 Stream HW Prefetcher

This feature sets the option to enable or disable the L2 Stream Prefetcher. The options are Disable, Enable and **Auto**. If unsure, leave this to Auto.

SVM Mode

This feature sets the option to enable or disable CPU Virtualization. The options are Disabled, **Enabled**.

SMEE

This feature sets the option to enable or disable Secure Memory Encryption. The options are Disabled, **Enabled**.

► 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 Socket (Size/Method)

► NB Configuration

Determinism Slider

Use this setting to configure the Determinism Slider. Options include **Auto**, Power and Performance.

cTDP Control

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

IOMMU

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

ACS Enable

This feature sets the option to enable or disable PCI-E Access Control Support (ACS) for the processor. The options are Disabled, Enabled and **Auto**. If unsure, leave this setting to Auto.

► Memory Configuration

Memory Clock

This setting allows you to select different memory clock speed. Options include **Auto** and speed settings from 1333Mhz to 2666Mhz.

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 None, Channel, Die, Socket 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 or Auto.

Chipset Interleaving

When enabled, this setting will interleave memory blocks across the DRAM selects for Node 0. Options include Disabled and **Auto**.

BankGroupSwap

Use this setting to enable/disable BankGroupSwap. Options include Enabled, Disabled and **Auto**.

► CPU1 Memory Information

These sections are for informational purposes. They will display some details about the detected memory according to each CPU on the motherboard, such as:

- Detected Size (per slot, in MB)
- Current Speed (MT/s)

► ACPI Settings

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.

► Super IO Configuration

The following Super IO information will display:

- Super IO Chip AST2500

► 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**.

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**.

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.

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 Console Redirection Settings****Redirection COM Port**

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

Resolution

For Legacy OS systems, use this setting to specify the number of Rows and Columns supported for redirection. Options include **80x24** and 80x25.

Redirect After Post

For this setting, when the Bootloader is selected, then the Legacy Console Redirection is disabled before booting to the legacy OS. If you select Always Enable, then the Legacy

Console Redirection is enabled for legacy OS systems. Default option for this system is **Always Enable**.

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**, COM2 (Disabled), and AMT 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

Parity

Stop Bits

► PCIe/PCI/PnP Configuration

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

PCI Bus Driver Version

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.

PCIe Spread Spectrum

Use this setting to Enable or **Disable** PCI-E Spread Spectrum for your system.

Target Link Speed

If supported by hardware and set to Force to x.S GT/S (x being a value of 2.5, 5.0 or 8.0) for Downstream Ports, this sets an upper limit on Link Operational Speed by restricting the values advertised by the UPstream component in its training sequences. When **Auto** is selected, the HW initialized data will be used.

PCIe Link Training Type

Use this setting to select PCIe Link Training between 1 or 2 steps. The options are **1 Step** and 2 Steps..

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 the NVMe firmware between AMI Native or Vendor Defined. The options are **Vendor Defined Firmware** and AMI Native Support.

PCI PERR/SERR Support

Use this setting to Enable or **Disable** the PCI device to generate PERR# (parity error) and SERR# (system error) on a PCI bus.

CPU Slot 1 PCI-E 3.0 x8 OPROM

This setting enables or disables the listed PCI/PCIX/PCIe Slot OPROM option. Options include Disabled, **Legacy** or EFI.

CPU Slot 2 PCI-E x16 OPROM

This setting enables or disables the listed PCI/PCIX/PCIe Slot OPROM option. Options include Disabled, **Legacy** or EFI.

CPU Slot 3 PCI-E x8 OPROM

This setting enables or disables the listed PCI/PCIX/PCIe Slot OPROM option. Options include Disabled, **Legacy** or EFI.

CPU Slot 4 PCI-E x16 OPROM

This setting enables or disables the listed PCI/PCIX/PCIe Slot OPROM option. Options include Disabled, **Legacy** or EFI.

CPU Slot 5 PCI-E x8 OPROM

This setting enables or disables the listed PCI/PCIX/PCIe Slot OPROM option. Options include Disabled, **Legacy** or EFI.

CPU Slot 6 PCI-E x16 OPROM

This setting enables or disables the listed PCI/PCIX/PCIe Slot OPROM option. Options include Disabled, **Legacy** or EFI.

M.2 PCI-E x4 OPROM

This setting enables or disables the listed M.2 PCI-E OPROM option. Options include Disabled, **Legacy** or EFI.

Onboard SAS LSI3008 Option ROM

Use this setting to select which firmware type to be loaded for onboard LAN on the system. Options include Disabled, **Legacy** and EFI.

Onboard LAN Option ROM Type

Use this setting to select which firmware type to be loaded for onboard LAN on the system. Options include **Legacy** and EFI.

Onboard LAN1 Option ROM

Use this setting to select which firmware function is to be loaded for onboard LAN1 on the system. Options include Disabled, **PXE** and iSCSI.

Onboard LAN2 Option ROM

Use this setting to select which firmware function is to be loaded for onboard LAN2 on the system. Options include **Disabled**, PXE and iSCSI.

JNVMe0 OpROM

Use this setting to select which firmware function is to be loaded for JNVMe0 OpROM on the system. Options include Disabled, and **EFI**.

JNVMe1 OpROM

Use this setting to select which firmware function is to be loaded for JNVMe1 OpROM on the system. Options include Disabled, and **EFI**.

Onboard Video Option ROM

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

► Error Management**RCD Parity**

This setting enables or disables DDR4 RCD (Register Clock Driver) Parity (RDimmParEn). The options are **Enabled** and Disabled.

DRAM Address Command Parity Retry

This setting enables or disables DRAM Address Command Parity Retry. The options are Enabled and **Disabled**.

Write CRC Enable

This setting enables or disables Write CRC (Cyclic Redundancy Check). The options are Enabled and **Disabled**.

► SATA Configuration

This section displays the detected SATA devices installed on the system.

SATA Controller

This setting enables or disables the on chip SATA controller. The options are Enabled, Disabled or **Auto**.

► SATA Information

This section displays information on the detected SATA devices:

- I-SATA0 ~ I-SATA7

► iSCSI Configuration

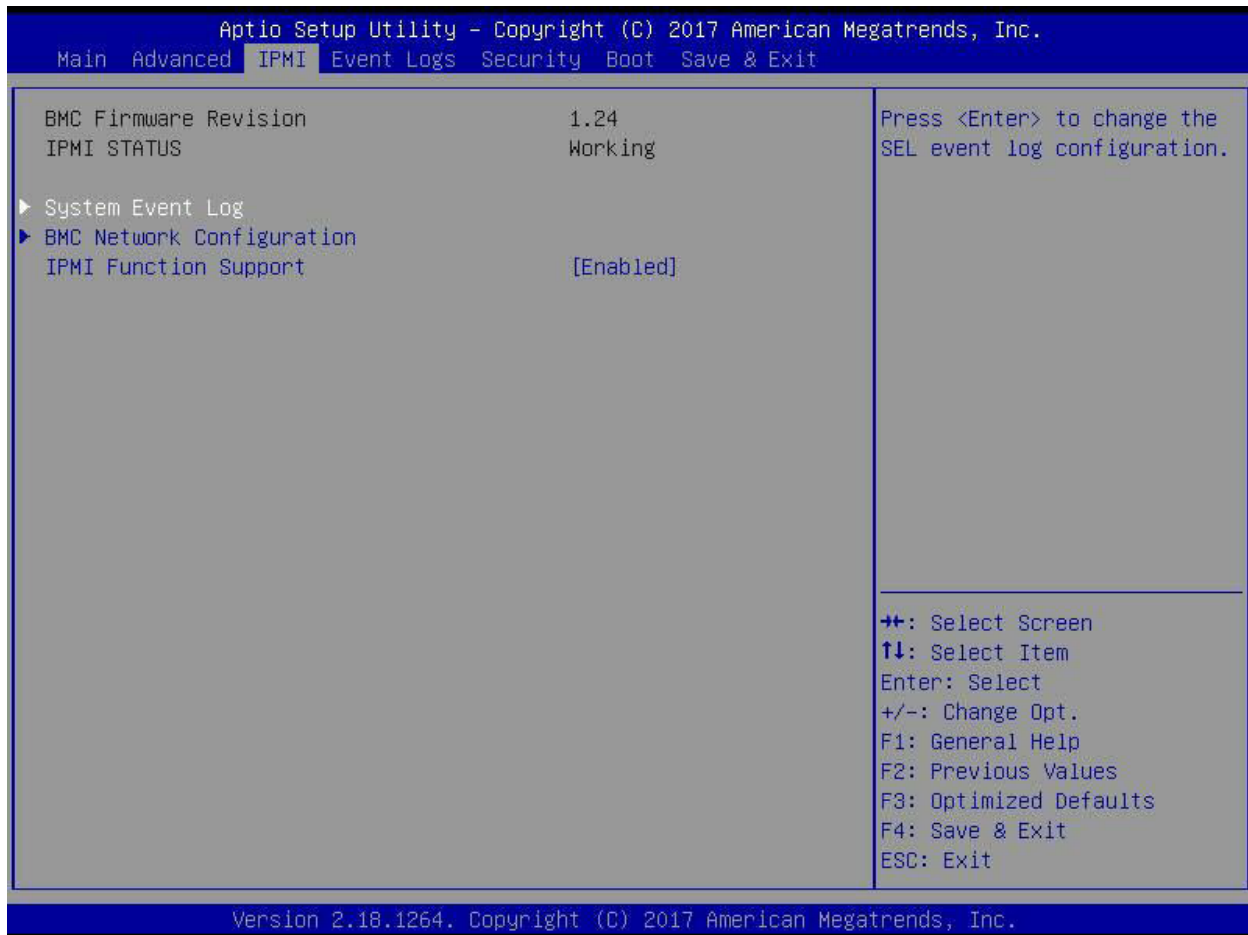
iSCSI Initiator Name

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

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 (Baseboard Management Controller)

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

▶ System Event Log

Enabling/Disabling Options

SEL Components

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

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 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**.

Update IPMI LAN Configuration

Select Yes for the BIOS to implement all IP/MAC address changes at the next system boot. The options are **No** and Yes.

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

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.

Subnet Mask

This item displays the sub-network that this computer belongs to. The value of each three-digit number separated by dots should not exceed 255.

Station MAC Address

This item displays the Station MAC address for this computer. Mac addresses are 6 two-digit hexadecimal numbers.

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 Disable and Enable.

Configure IPV6 Support

This section displays configuration features for IPV6 support.

IPV6 Support

Use this feature to enable IPV6 support. The options are **Enabled** and Disabled.

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 **Unspecified**, Static, and DHCP.

****If the item "Configuration Address Source" above is set to Static, the following items will become available for configuration:***

- Station IPV6 Address
- Prefix Length
- IPV6 Router1 IP Address

IPMI Function Support

Use this feature to enable or disable IPMI support. The options are **Enabled** and Disabled.

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 **Enabled** and Disabled.

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 **Disabled** and Enabled.

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.

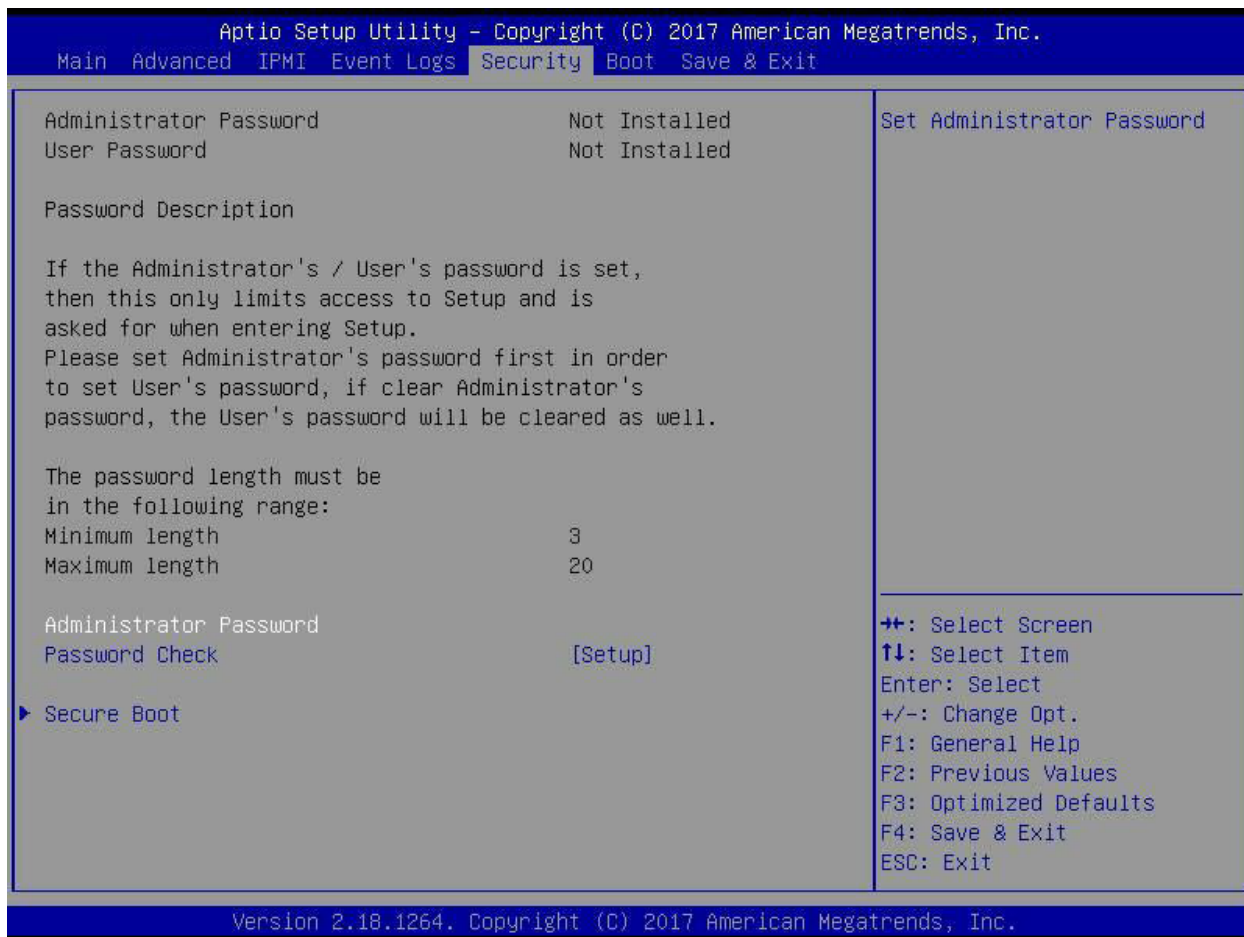
►View SMBIOS Event Log

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.

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.

► Secure Boot

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

Attempt 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**.

▶ Key Management

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

▶ Install Factory Default Keys

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

▶ 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).

▶ Save All Secure Boot Variables

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

▶ Platform Key (PK)

This feature allows the user 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

Set New Key

Select Yes to load the KEK from the manufacturer's defaults. Select No to load the KEK from a file. The options are Yes and No.

Append Key

Select Yes to add the KEK from the manufacturer's defaults list to the existing KEK. Select No to load the KEK from a file. The options are Yes and No.

▶ Authorized Signatures

Set New Key

Select Yes to load the database from the manufacturer's defaults. Select No to load the DB from a file. The options are Yes and No.

Append Key

Select Yes to add the database from the manufacturer's defaults to the existing DB. Select No to load the DB from a file. The options are Yes and No.

▶ Forbidden Signatures

Set New Key

Select Yes to load the DBX from the manufacturer's defaults. Select No to load the DBX from a file. The options are Yes and No.

Append Key

Select Yes to add the DBX from the manufacturer's defaults to the existing DBX. Select No to load the DBX from a file. The options are Yes and No.

▶ Authorized TimeStamps

Set New Key

Select Yes to load the DBT from the manufacturer's defaults. Select No to load the DBT from a file. The options are Yes and No.

Append Key

Select Yes to add the DBT from the manufacturer's defaults list to the existing DBT. Select No to load the DBT from a file. The options are Yes and No.

▶ OsRecovery Signature

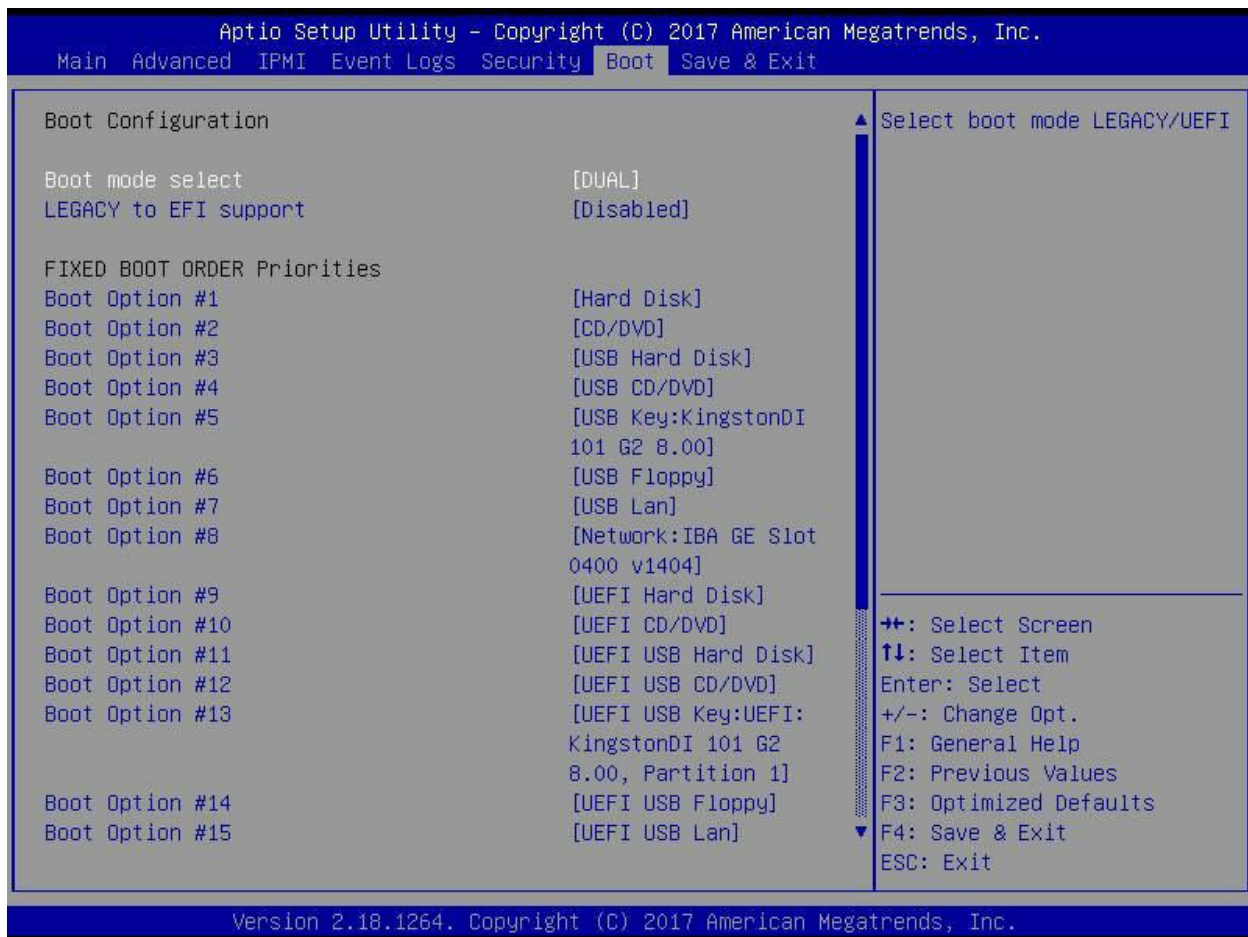
This item uploads and installs an OSRecovery Signature. You may select options for Set New for a factory default key, or select Append to get it from a file. The file formats accepted are:

- 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 Section

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.

► 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 Application Boot Priorities**

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

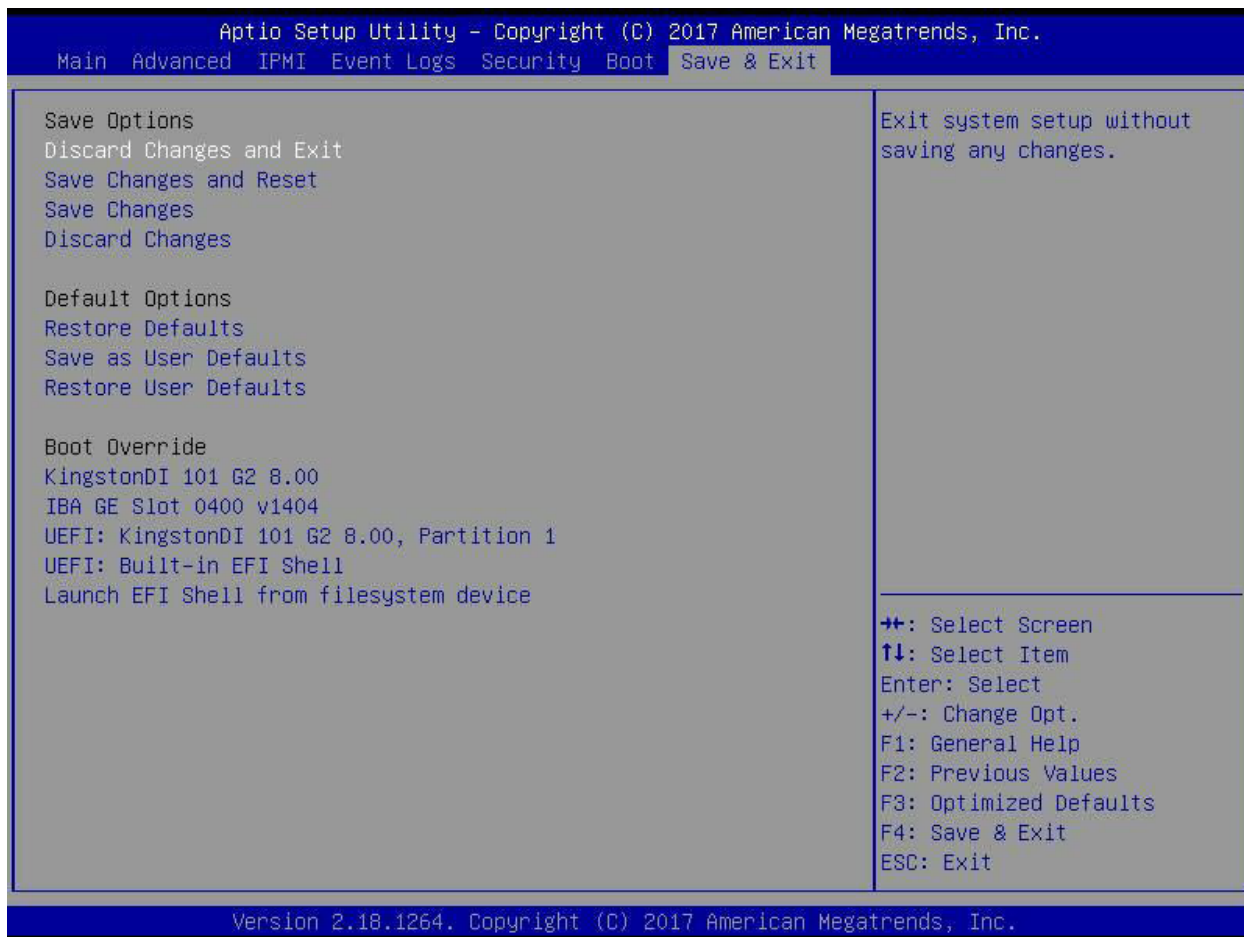
- UEFI Boot Order #1

▶ **NETWORK Drive BBS Priorities**

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

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 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 Section

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.

6.9 BIOS Update Using IPMI

If necessary, the system BIOS can be updated using IPMI. Documentation on IPMI is available at <http://www.supermicro.com/products/nfo/IPMI.cfm>.

1. Download the BIOS file using the link on the server web page. Unzip and save it.
2. Access the IPMI web interface. Enter the IP address and log in. The default username and password are ADMIN/ADMIN. (For details on IPMI, use the link above.)
3. Click the **Maintenance** tab, then **BIOS Update**.

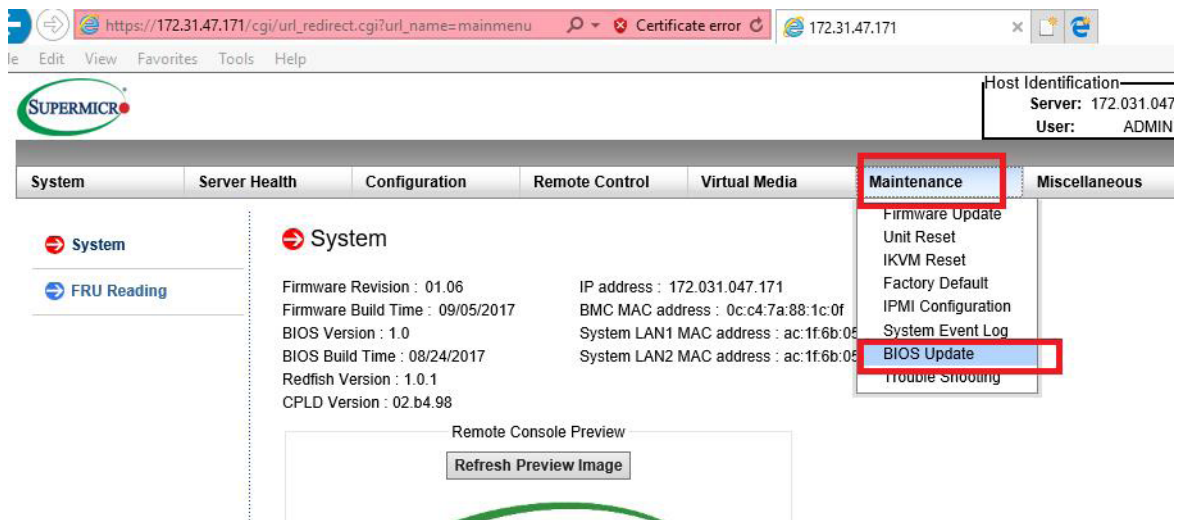


Figure 6-1. IPMI Maintenance Tab

4. **Browse** to select the saved BIOS file and click **Open**.

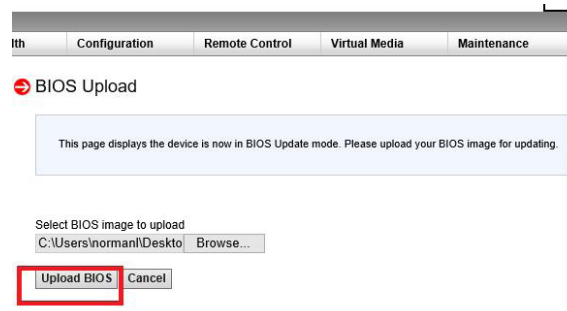


Figure 6-2. Browse and Upload Dialog

5. Click the **Upload BIOS** button. The message appears, "Uploading image & checking BIOS information... Please wait. This may take a while."

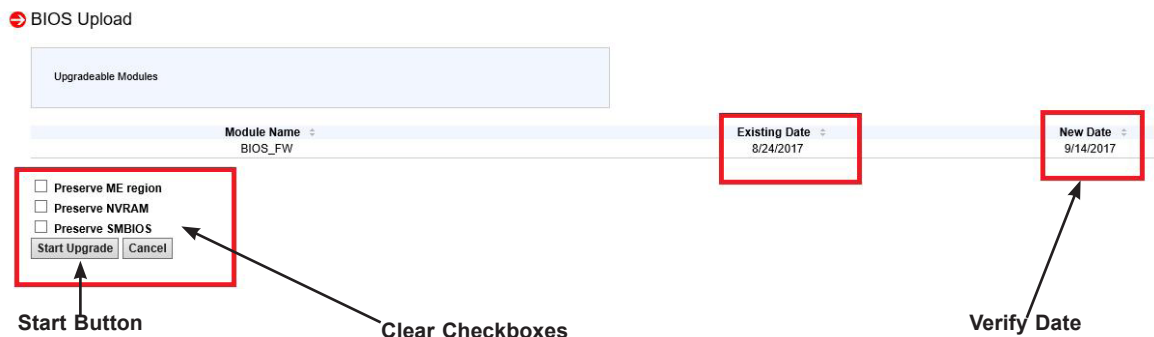


Figure 6-3. Start Upgrade Dialog

6. In the Start Upgrade dialog, make sure the three checkboxes are not checked, and verify the date of the BIOS file you uploaded before proceeding.
7. Click the **Start Upgrade** button.

Appendix A

Standardized Warning Statements for AC Systems

A.1 About Standardized Warning Statements

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

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

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

Warning Definition



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

警告の定義

この警告サインは危険を意味します。

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

此警告符号代表危險。

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

此警告符號代表危險。

您目前所處的工作環境可能讓您受傷。在您使用任何設備之前，請注意觸電的危險，並且要熟悉預防事故發生的標準工作程序。請依照每一注意事項後的號碼找到相關的翻譯說明內容。

Warnung

WICHTIGE SICHERHEITSHINWEISE

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

BEWAHREN SIE DIESE HINWEISE GUT AUF.

INSTRUCCIONES IMPORTANTES DE SEGURIDAD

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

GUARDE ESTAS INSTRUCCIONES.

IMPORTANTES INFORMATIONS DE SÉCURITÉ

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

CONSERVEZ CES INFORMATIONS.

תקנון הזהרות אזהרה

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

اَكْ ف حالة وُكِي اَي تتسبب ف اصابة جسدهُ هذا الزهز عُ خطر! تحذُرُ .
قبل اَي تعول على اَي هعدات، كي على علن بالوخاطز ال اُجوة عي الذوائر
الكهزبائِة
وكي على دراةُ بالووارسات النقاىِة لو عُ وقع اَي حادث
استخدم رِقن الب اِى الو صُص ف هاةُ كل تحذُرُ للعشر تزجوتها

안전을 위한 주의사항

경고!

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

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

BELANGRIJKE VEILIGHEIDSINSTRUCTIES

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

BEWAAR DEZE INSTRUCTIES

Installation Instructions



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

設置手順書

システムを電源に接続する前に、設置手順書をお読み下さい。

警告

将此系统连接电源前,请先阅读安装说明。

警告

將系統與電源連接前，請先閱讀安裝說明。

Warnung

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

¡Advertencia!

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

Attention

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

יש לקרוא את הוראות התקנה לפני חיבור המערכת למקור מתח.

اقرأ إرشادات التركيب قبل توصيل النظام إلى مصدر للطاقة

시스템을 전원에 연결하기 전에 설치 안내를 읽어주십시오.

Waarschuwing

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

Circuit Breaker



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

サーキット・ブレーカー

この製品は、短絡(過電流)保護装置がある建物での設置を前提としています。

保護装置の定格が250 V、20 Aを超えないことを確認下さい。

警告

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

警告

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

Warnung

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

¡Advertencia!

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

Attention

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

מוצר זה מסתמך על הגנה המותקנת במבנים למניעת קצר חשמלי. יש לוודא כי המכשיר המגן מפני הקצר החשמלי הוא לא יותר מ-60VDC, 20A

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

경고!

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

Waarschuwing

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

Power Disconnection Warning



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

電源切断の警告

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

警告

在你打开机箱并安装或移除内部器件前,必须将系统完全断电,并移除电源线。

警告

在您打開機殼安裝或移除內部元件前，必須將系統完全斷電，並移除電源線。

Warnung

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

¡Advertencia!

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

Attention

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

אזהרה מפני ניתוק חשמלי

אזהרה!

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

يجب فصل انظاؤ من جميع مصادر انطاقت وإزانت سهك انكهرباء من وحدة امداد
انطاقت قبم
انصل إلى امناطق انداخهيت نههيكم نتشيج أو إزانت مكناث الجهاز

경고!

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

Waarschuwing

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

Equipment Installation



Warning! Only 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せん。

警告

只有经过培训且具有资格的人员才能进行此设备的安装、更换和维修。

警告

只有經過受訓且具資格人員才可安裝、更換與維修此設備。

Warnung

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

¡Advertencia!

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

Attention

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

אזהרה!

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

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

경고!

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

Waarschuwing

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

Restricted Area

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

アクセス制限区域

このユニットは、アクセス制限区域に設置されることを想定しています。

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

警告

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

警告

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

Warnung

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

¡Advertencia!

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

Attention

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

אזור עם גישה מוגבלת

אזהרה!

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

تخصيص هذه انحدة نترك بُها ف مناطق محظورة تم .
ممكن اننصل إن منطقت محظورة فقط من خلال استخذاو أداة خاصت
أو أ وس هُت أخري نلالأمما ققم ومفتاح

경고!

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

Waarschuwing

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

Battery Handling



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

電池の取り扱い

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

警告

電池更換不當會有爆炸危險。請只使用同類電池或制造商推薦的功能相當的電池更換原有電池。請按製造商的說明處理廢舊電池。

警告

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

Warnung

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

Attention

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

¡Advertencia!

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

אזהרה!

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

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

경고!

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

Waarschuwing

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

Redundant Power Supplies



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

冗長電源装置

このユニットは複数の電源装置が接続されている場合があります。

ユニットの電源を切るためには、すべての接続を取り外さなければなりません。

警告

此部件连接的电源可能不止一个，必须将所有电源断开才能停止给该部件供电。

警告

此装置连接的电源可能不只一个，必须切断所有电源才能停止对该装置的供电。

Warnung

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

¡Advertencia!

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

Attention

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

אם קיים יותר מספק אחד

אזהרה!

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

قد يكون لهذا الجهاز عدة اتصالات بوحدات امداد الطاقة .

يجب إزالة كافة الاتصالات لعسل الوحدة عن الكهرباء

경고!

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

Waarschuwing

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

Backplane Voltage



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

バックプレーンの電圧

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

修理する際には注意ください。

警告

当システム正在进行時、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、背板上危險的電壓或能量、進行維修時務必小心。

Warnung

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

¡Advertencia!

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

Attention

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

מתח בפנל האחורי

אזהרה!

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

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

경고!

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

Waarschuwing

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

Comply with Local and National Electrical Codes



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

地方および国の電気規格に準拠

機器の取り付けはその地方および国の電気規格に準拠する必要があります。

警告

设备安装必须符合本地与本国电气法规。

警告

設備安裝必須符合本地與本國電氣法規。

Warnung

Die Installation der Geräte muss den Sicherheitsstandards entsprechen.

¡Advertencia!

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

Attention

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

תיאום חוקי החשמל הארצי
אזהרה!

התקנת הציוד חייבת להיות תואמת לחוקי החשמל המקומיים והארציים.

تركيب المعدات الكهربائية يجب أن يمتثل للقوايه المحلية والبطية المتعلقة
بالكهرباء

경고!

현 지역 및 국가의 전기 규정에 따라 장비를 설치해야 합니다.

Waarschuwing

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

Product Disposal



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

製品の廃棄

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

警告

本产品的废弃处理应根据所有国家的法律和规章进行。

警告

本產品的廢棄處理應根據所有國家的法律和規章進行。

Warnung

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

¡Advertencia!

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

Attention

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

סילוק המוצר

אזהרה!

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

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

경고!

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

Waarschuwing

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

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

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

Warnung

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

¡Advertencia!

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

Attention

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

אזהרה!

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

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

경고!

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

Waarschuwing

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

Power Cable and AC Adapter



Warning! When installing the product, use the provided or designated connection cables, power cables and AC adaptors. Using any other cables and adaptors could cause a malfunction or a fire. Electrical Appliance and Material Safety Law prohibits the use of UL or CSA -certified cables (that have UL/CSA shown on the code) 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/CSEマークがコードに表記)を Supermicro が指定する製品以外に使用することを禁止しています。

警告

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

警告

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

Warnung

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

전원 케이블 및 AC 어댑터

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

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

Stroomkabel en AC-Adapter

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

Appendix B

System Specifications

Processors

Single EPYC 7001/7002* Series processor in an SP3 socket

*AMD EPYC 7002 series drop-in support requires board revision 2.x

Note: Please refer to the motherboard specifications pages on our website for updates to supported processors.

Chipset

AMD SoC (System on a Chip) chipset

BIOS

128 Mb AMI® BIOS

Memory

Supports up to 1 TB of ECC DDR4 2666 MHz speed, RDIMM/LRDIMM/3DS/NVDIMM in eight (8) slots

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

SATA/SAS Controller

On-chip (AMD SoC) SATA controller / On-board Broadcom 3008 SAS controller

Drive Bays

Four hot-swap 3.5" drive bays [choice of SATA3 (default) or SAS3 (with optional SAS card)]

PCI Expansion Slots

Three PCIe 3.0 x16 slots

Three PCIe 3.0 x8 slots

One PCIe 3.0 x4 M.2 NVMe slot

Motherboard

H11SSL-C; Proprietary form factor 12.0" (L) x 9.6" (W)

Chassis

825TS-R740LPBP; 2U Rackmount, WxHxD: 16.8 x 3.5 x 25.5 in. (427 x 89 x 648 mm)

System Cooling

Three 8-cm PWM fans

Power Supply

Model: PWS-741P-1R

AC Input Voltages: 100-240 VAC

Rated Input Current: 10-3.5A

Rated Input Frequency: 50-60 Hz

Rated Output Power: 740W

Rated Output Voltages: +12V Max/Min: (61.7A/0.2A), +5Vsb (4A/0A)

Operating Environment

Operating Temperature: 5° to 35° C (41° to 95° F)

Non-operating Temperature: -40° to 70° C (-40° to 158° F)

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

Non-operating Relative Humidity: 5% to 95% (non-condensing)

Regulatory Compliance

Electromagnetic Emissions: FCC Class A, EN 55032 Class A, EN 61000-3-2/3-3, CISPR 32 Class A

Electromagnetic Immunity: EN 55024/CISPR 24, (EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN 61000-4-8, EN 61000-4-11)

Safety: CSA/EN/IEC/UL 60950-1 Compliant, UL or CSA Listed (USA and Canada), CE Marking (Europe)

Other: VCCI-CISPR 32 and AS/NZS CISPR 32

Environmental: Directive 2011/65/EU and Directive 2012/19/EU

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"

Appendix C

UEFI BIOS Recovery

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

C.1 Overview

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

C.2 Recovering the UEFI BIOS Image

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

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

Note 2: When the BIOS recovery block crashes, you will need to follow the procedures to make a Returned Merchandise Authorization (RMA) request. (For a RMA request, please see section 3.5 for more information). Also, you may use the Supermicro Update Manager (SUM) Out-of-Band (OOB) (https://www.supermicro.com.tw/products/nfo/SMS_SUM.cfm) to reflash the BIOS.

C.3 Recovering the Main BIOS Block with a USB Device

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

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

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

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

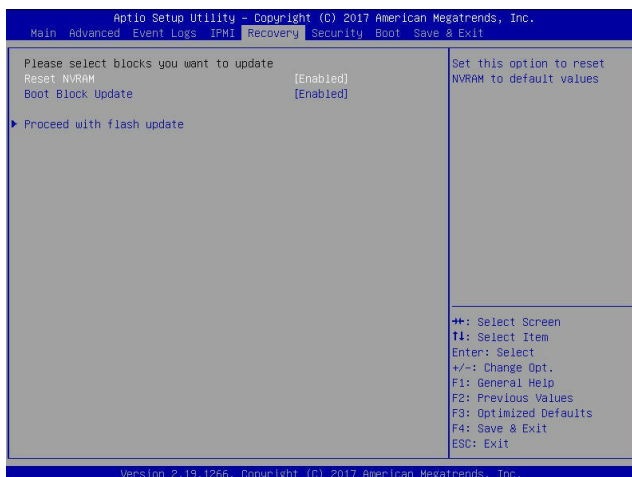
Note 1: If you cannot locate the "Super.ROM" file in your drive disk, visit our website at www.supermicro.com to download the BIOS package. Extract the BIOS binary image into a USB flash device and rename it "Super.ROM" for the BIOS recovery use.

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

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



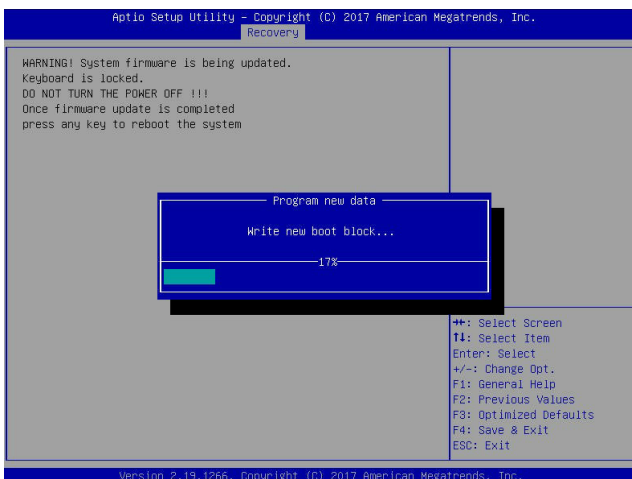
Note: At this point, you may decide if you want to start the BIOS recovery. If you decide to proceed with BIOS recovery, follow the procedures below.



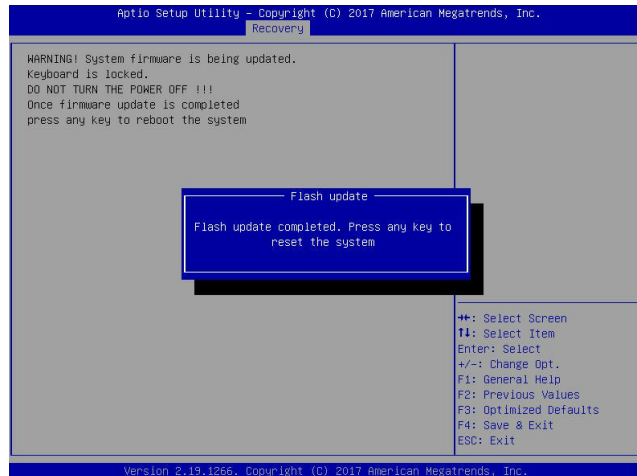
4. When the screen as shown above displays, use the arrow keys to select the item "Proceed with flash update" and press the <Enter> key. You will see the BIOS recovery progress as shown in the screen below.

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

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



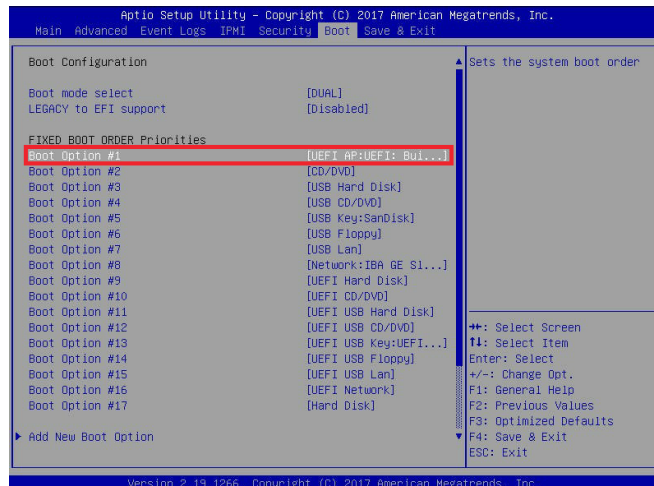
- Press continuously during system boot to enter the BIOS Setup utility. From the top of the tool bar, select Boot to enter the submenu. From the submenu list, select Boot



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

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

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



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

```

UEFI Interactive Shell v2.1
EDK II
UEFI v2.50 (American Megatrends, 0x0005000C)
Mapping table
  FS0: Alias(s):HD0:0:0:BLK1:
      PciRoot(0x0)/Pci(0x14,0x0)/USB(0x11,0x0)/HD(1,MBR,0x37901072,0x800,0x1
DR3592)
  BLK0: Alias(s):
      PciRoot(0x0)/Pci(0x14,0x0)/USB(0x11,0x0)
Press F8 in 1 seconds to skip startup.nsh or any other key to continue.
Shell> fs0:
FS0:\> cd \AFUDOS
FS0:\AFUDOS> cd \SNJPME2_03162017
FS0:\AFUDOS\SNJPME2_03162017> flash.nsh X110PU7_314

```

10. Press continuously to enter the BIOS Setup utility.

```

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

Done.
*****
* Program BIOS and ME (including FDT) regions...
*****
| AMT Firmware Update Utility v5.09.01.1917 |
| Copyright (C)2017 American Megatrends Inc. All Rights Reserved. |
-----
CPUID = 50652

Reading flash ..... done
- ME Data Size checking - ok
- FFS checksums ..... ok
- Check RomLayout ..... Ok
Erasing Boot Block ..... done
Updating Boot Block ..... done
Verifying Boot Block ..... done
_Erasing Main Block ..... 0x00132000 (0x)

```

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

```

Verifying NDB Block ..... done
- Update success for FDR
- Update success for IE
- Successful Update Recovery Loader to OPRx!!
- Successful Update MFSB!!
- Successful Update FPR!!
- Successful Update MFS, IVBI and IVB2!!
- Successful Update FLOG and UTDK!!
- ME Entire Image update success !!
WARNING : System must power-off to have the changes take effect!
Moving FS0:\AFUDOS\SNJPME2_03162017\Fdtv64.efi -> FS0:\AFUDOS\SNJPME2_03162017\
dt1.smc
- [ok]
Moving FS0:\AFUDOS\SNJPME2_03162017\afuef1x64.efi -> FS0:\AFUDOS\SNJPME2_0316201
7\afuef1.smc
- [ok]
*****
* Please ignore this 'Shell: Cannot read from file - Device Error'
* warning message due to it does not impact flashing process.
*****
Deleting "Setup.com"
Delete successful.
FS0:\>

```