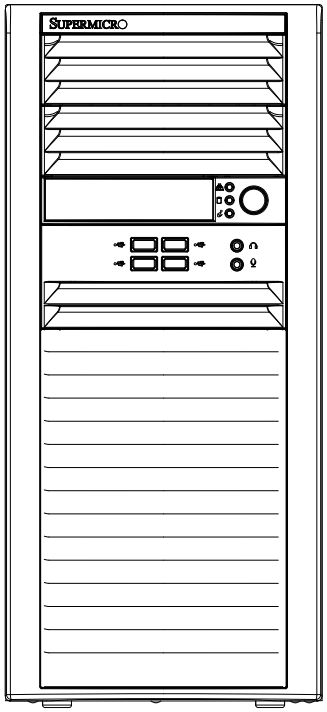
SuperWorkstation®
5039A-IL



USER'S MANUAL

Revision 1.0a

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Manual Revision 1.0a

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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 SuperWorkstation 5039A-IL. Installation and maintainance should be performed by experienced technicians only.

Please refer to the 5039A-IL 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: ftp://ftp.supermicro.com
- 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.

Table of Contents

Chapter 1 Introduction

1.1 Overview....7
1.2 Unpacking the System....7
1.3 System Specifications....8
1.4 Server Chassis Features....9
Control Panel....9
Front Features....10
Rear Features....11
1.5 Motherboard Layout....12
Quick Reference Table....13

Chapter 2 Workstation Setup

2.1 Overview....16
2.2 Preparing for Setup....16
Choosing a Setup Location....16
General Precautions....16

Chapter 3 Maintenance and Component Installation

3.1 Removing Power....18
3.2 Accessing the System....18
3.3 Motherboard Components....19
Processor and Heatsink Installation....19
Memory Installation....24
Memory Support....24
DIMM Module Population Sequence....25
PCI Expansion Card Installation....26
Motherboard Battery....26
3.4 Chassis Components....27
3.5" Hard Drives....27
Removing Hard Drives from the Carriers....29
2.5" Hard Drives....29
Installing a 3.5" Device....31
System Cooling....32
Power Supply....34

Chapter 4 Motherboard Connections

4.1 Power Connections 35
4.2 Headers and Connectors 36
Control Panel 39
Data Cables 41
Power Cables 41
4.3 Ports 42
Rear I/O Ports 42
4.4 Jumpers 45
Explanation of Jumpers 45
4.5 LED Indicators 48

Chapter 5 Software

5.1 OS Installation 49
Installing the Windows OS for a RAID System 49
Installing Windows to a Non-RAID System 49
5.2 Driver Installation 50
5.3 SuperDoctor® 5 51

Chapter 6 BIOS

6.1 Introduction 52
6.2 Main Setup 53
6.3 Advanced Setup Configurations 54
6.4 Event Logs 82
6.5 Security 84
6.6 Boot 86
6.7 Save & Exit 87

Appendix A BIOS Error Codes

Appendix B Standardized Warning Statements for AC Systems

Appendix C System Specifications

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Chapter 1

Introduction

1.1 Overview

This chapter provides a brief outline of the functions and features of the 5039A-IL. The 5039A-IL is based on the X11SAE motherboard and the SC732D4-500B mini-tower chassis.

In additon to the motherboard and chassis, several important parts that are included with the system are listed below.

Main Parts List		
Description	**Part Number**	**Quantity**
Fans (12-cm rear exhaust)	FAN-0124L4	2
Internal 3.5" HDD Drive Trays	MCP-220-73101-0B	4

1.2 Unpacking the System

Inspect the box the SuperWorkstation 5039A-IL 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 B.

1.3 System Specifications

The following table provides you with an overview of the main features and specifications of the 5039A-IL. Please refer to Appendix C for additional specifications.

System Specifications
Motherboard
X11SAE
Chassis
SC732D4-500B
CPU
Intel® Xeon® E3-1200 v5 and 6th Gen Core™ i7/i5/i3, Pentium and Celeron processors
Socket Type
LGA 1151 (H4)
Memory
Four 288-pin DIMM slots to support up to 64 GB of unbuffered ECC/non-ECC DDR4-2133MHz SDRAM
Chipset
C236 Express chipset
Expansion Slots
One PCI Express 3.0 x16 slot (may support two PCI-E 3.0 x8 cards) Three PCI Express 3.0 x1 slots Two PCI 33MHz slots One M.2 slot (32Mb/s)
Hard Drives
Up to four 3.5" hot-swap drives
Power
Single 500W low-noise power supply with PFC
Form Factor
Mid-tower
Dimensions
(WxHxD) 7.6 x 16.7 x 20.68 in. (193 x 424 x 525.3 mm)

1.4 Server Chassis Features

Control Panel

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

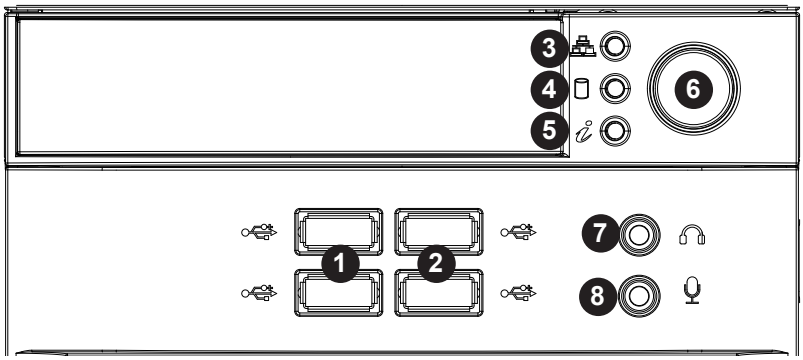


Figure 1-1. Control Panel View

Control Panel Features		
Item	**Feature**	**Description**
1	USB 2.0 Ports	Front access USB 2.0 ports (2x)
2	USB 3.0 Ports	Front access USB 3.0 ports (2x)
3	NIC LED	Indicates network activity on the LAN port when flashing.
4	HDD LED	Indicates activity on the hard drive when flashing.
5	Information LED	See table below
6	Power Button	The main power button is used to apply or remove power from the power supply to the server. Turning off system power with this button removes the main power but maintains standby power. To perform many maintenance tasks, you must also unplug system before servicing
7	Line Out	Line out jack
8	Mic	Microphone jack

Information LED	
Status	**Description**
Continuously on and red	An overheat condition has occured. (This may be caused by cable congestion.)
Blinking red (1Hz)	Fan failure, check for an inoperative fan.
Solid blue	Local UID has been activated. Use this function to locate the server in a rackmount environment.
Blinking blue	Remote UID is on. Use this function to identify the server from a remote location.

Front Features

The SC732D4-500B is a mid-tower chassis. See the illustration below for the features included on the front of the chassis.

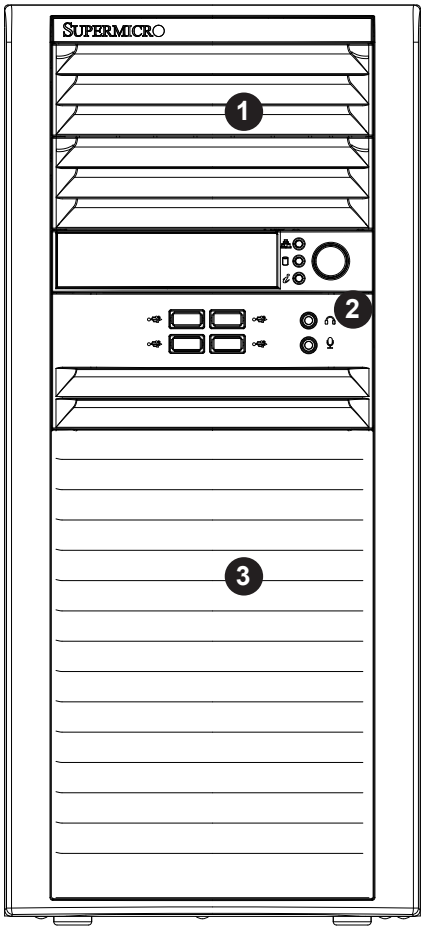


Figure 1-2. Chassis Front View

Front Chassis Features		
Item	**Feature**	**Description**
1	Fixed Drive Area	Supports two fixed 5.25" drives (such as a DVD-ROM or HDD)
2	Control Panel	Front control panel (see preceding page)
3	Internal HDD Cage (behind bezel)	Supports four 3.5" hard drives in a rotatable cage

Rear Features

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

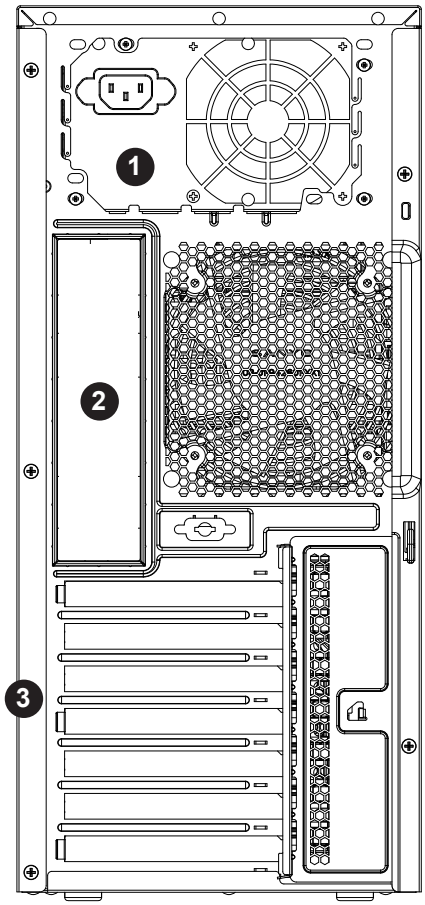


Figure 1-3. Chassis Rear View

Rear Chassis Features		
Item	**Feature**	**Description**
1	Power Supply	500W 80Plus Bronze Level power supply (p/n PWS-502-PQ)
2	I/O Backpanel	Rear I/O ports (see Section 4.3)
3	PCI Slots	Supports seven full-height, full-length PCI expansion cards

1.5 Motherboard Layout

Below is a layout of the X11SAE 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 5.

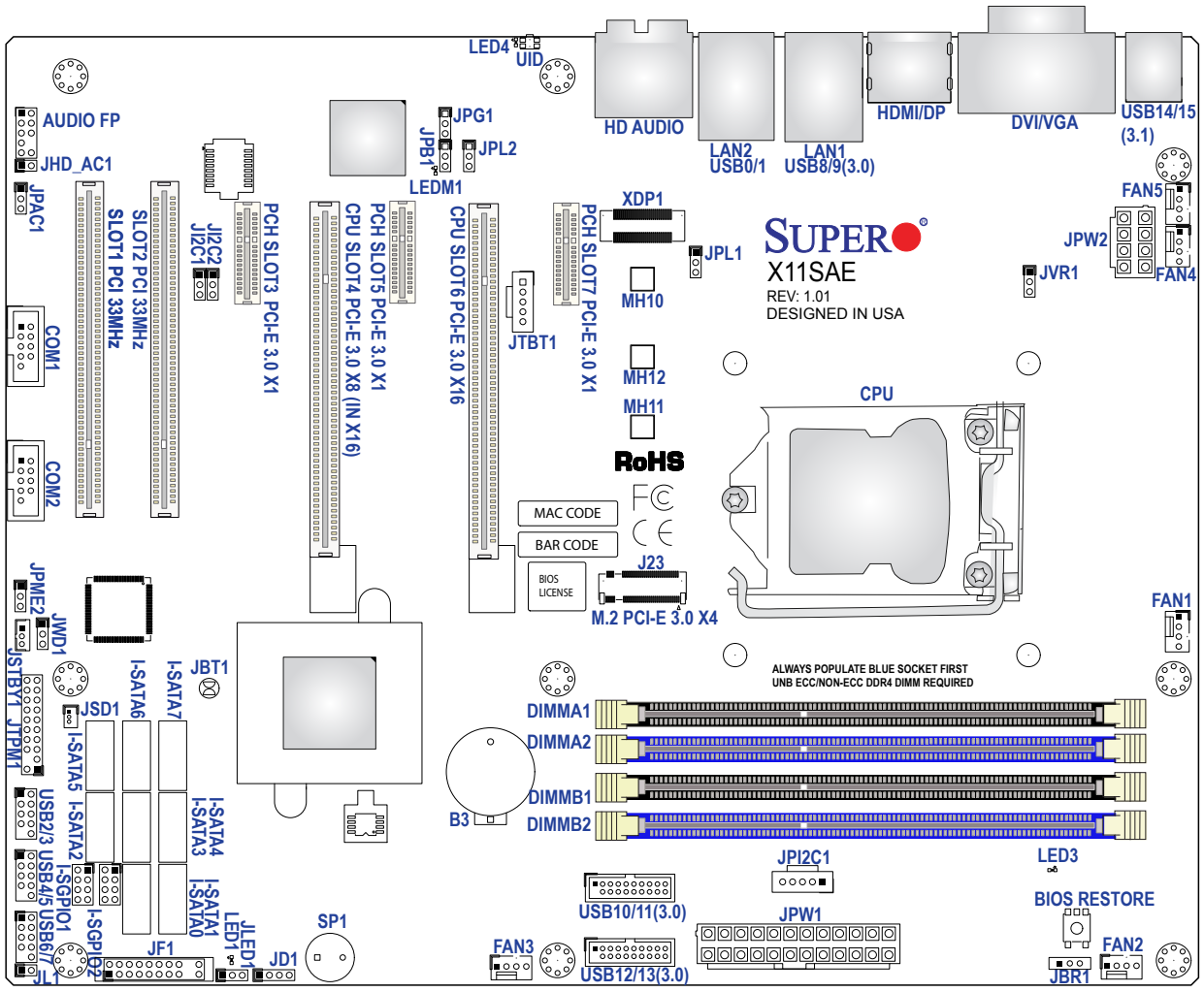


Figure 1-4. Motherboard Layout

Notes:

"■" indicates the location of pin 1.

Jumpers/LED indicators not indicated are used for test purposes only.

The COM2, PCI-E Slot 4, I-SATA6 and I-SATA 7 ports shown above are not included on the X11SAE.

Quick Reference Table

Jumper	Description	Default Setting
JI²C1/JI²C2	SMB to PCI Slots Enable/Disable	Pins 1-2 (Enabled)
JBR1	BIOS Recovery	Pins 1-2 (Normal)
JBT1	Clear CMOS	Open (Normal)
JPB1	BMC Enable/Disable	Pins 1-2 (Enabled)
JPG1	VGA Enable/Disable	Pins 1-2 (Enabled)
JPL1/JPL2	LAN1/LAN2 Enable/Disable	Pins 1-2 (Enabled)
JPME2	Manufacturing Mode Select	Pins 1-2 (Normal)
JWD1	Watch Dog	Pins 1-2 (Reset)

LED	Description	Status
LE1	Rear UID LED	Blue: On; Unit Identified
LEDBMC	BMC Heartbeat LED	Green: Blinking; BMC Normal
LEDPWR	Onboard Power LED	Orange: Sollid On; Power On

Connector	Description
BT1	Onboard Battery
COM1	COM1 (Serial Port) Header
Fan1-Fan4, FanA	System/CPU Fan Headers
I-SATA0-I-SATA5	(Intel PCH) SATA (Serial ATA) 3.0 Ports
I-SGPIO 1/2	Serial Link General Purpose I/O Headers
JD1	Speaker/Power LED Indicator
JF1	Front Panel Control Header
JIPMB1	4-pin External BMC I2C Header (for an IPMI Card)
JL1	Chassis Intrusion Header
JPI²C1	Power System Management Bus (not included on the X11SAE)
JOH1	Overheat LED Indicator
JPWR1	24-pin ATX Main Power Connector (Required Connection)
JPWR2	+12V 8-pin CPU Power Connector (Required Connection)
JSD1/JSD2	SATA DOM (Device On Module) Power Connectors
JSTBY1	Inject External P5V Standby Power
JTPM1	Trusted Platform Module/Port 80 Connector
JUIDB1	Unit Identifier Switch
LAN1/LAN2	Gigabit (RJ45) Ports
PCI-E (CPU) Slot 7	PCI-Express 3.0 x8 Slot
PCI-E (CPU) Slot 6	PCI-Express 3.0 x8 in x16 Slot

Table continued on next page.

Connector	Description
PCI-E (PCH) Slot 5	PCI-Express 3.0 x4 in x8 Slot
SP1	Internal Speaker/Buzzer
USB 0/1	Back Panel USB 2.0 Ports
USB 2/3, USB 4/5	Front Accessible USB 2.0 Headers
USB 6/7	Back Panel USB 3.0 Ports
USB 8/9	Front Accessible USB 3.0 Header
USB 10	USB 3.0 Type-A Header
VGA	VGA Port

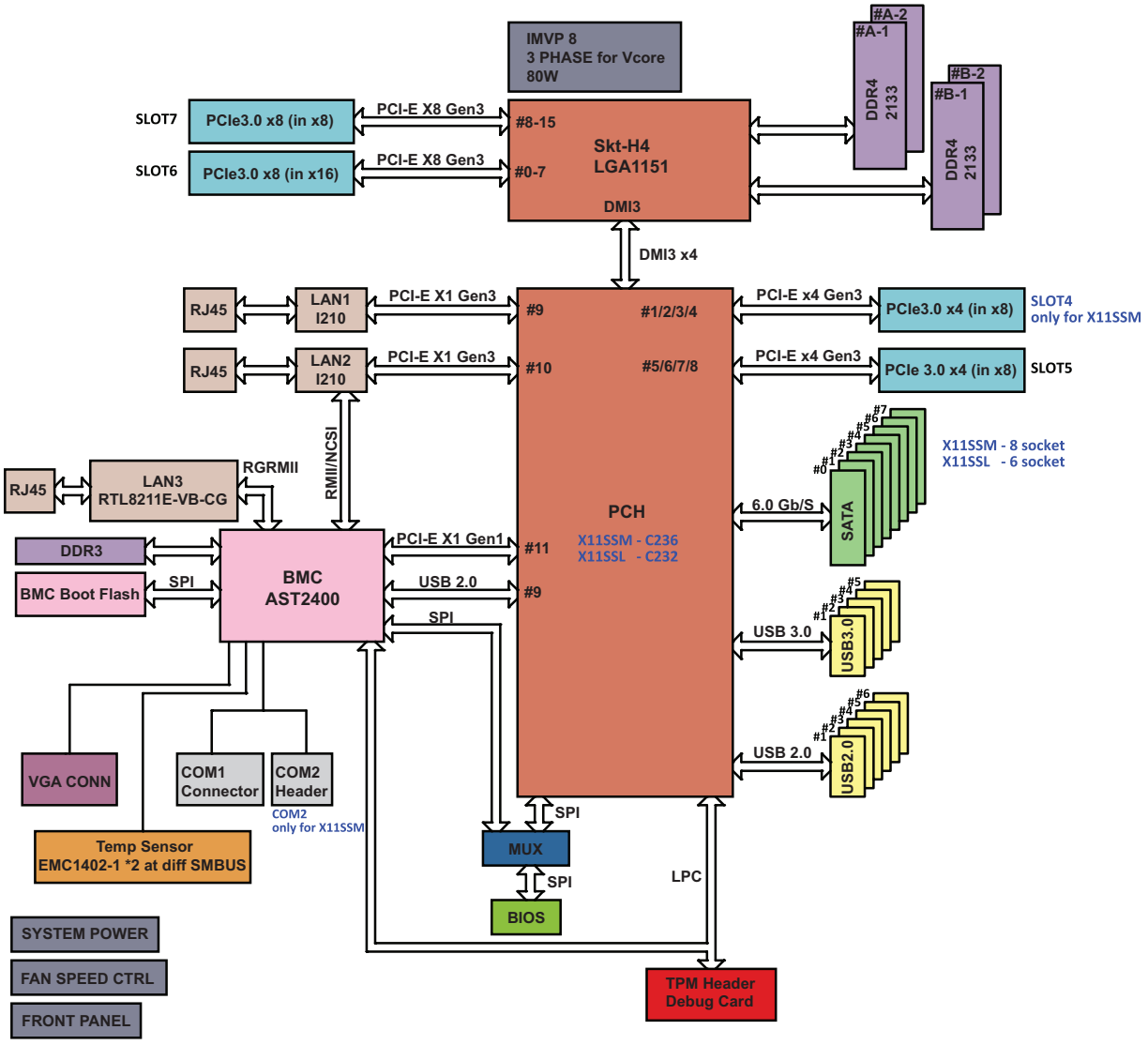


Figure 1-5. C236 Express Chipset: System Block Diagram

Note: This is a general block diagram and may not exactly represent the features on your motherboard. Note the differences marked between the X11SAE (included in the 5039A-IL) and the X11SSM. See the Appendix C for the actual specifications of your motherboard.

Chapter 2

Workstation Setup

2.1 Overview

This chapter provides advice setting up your system. 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 acccording to §2 of the the German Ordinance for Work with Visual Display Units.

General Precautions

- Review the electrical and general safety precautions in Appendix B.
- 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.

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 from the power strip or outlet.
3. Disconnect the power cord from the power supply module.

3.2 Accessing the System

The SC732D4-500B features two removable side covers, allowing easy access to the chassis interior.

Removing the Side Cover

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

1. Remove the two screws securing the left side cover to the chassis.
2. Slide the left cover toward the rear of the chassis.
3. Lift the left cover from the chassis.
4. Remove the three screws securing the right side cover to the chassis.
5. Slide the right cover toward the rear of the chassis
6. Lift the right cover from 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.

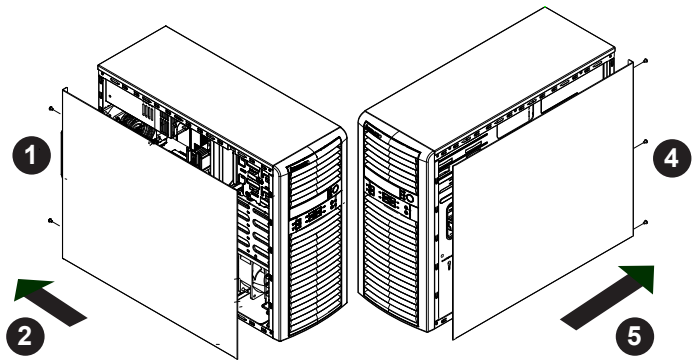


Figure 3-1. Accessing the System

3.3 Motherboard Components

Processor and Heatsink Installation

Follow the procedures in this section to install a processor (CPU) and heatsink to the motherboard.

Notes:

- The motherboard should be installed into the chassis first and the processor should be installed into the CPU socket before you install a CPU heatsink.
- If you bought a CPU separately, make sure that you use an Intel-certified multi-directional heatsink only.
- 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(s)

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

1. Remove the cover plate that protects the CPU#1 socket. Lift the lever on the socket until it points straight up. With the lever raised, lift open the processor retention plate.

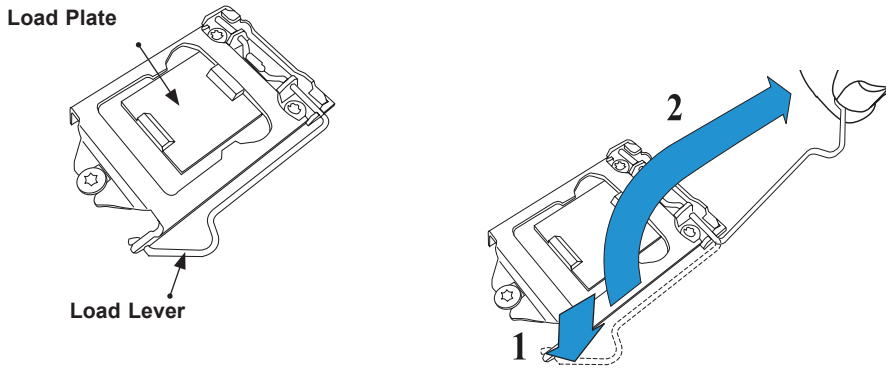


Figure 3-2. Removing the Processor Cover Plate

2. Gently lift the load lever to open the load plate. Remove the plastic cover plate.

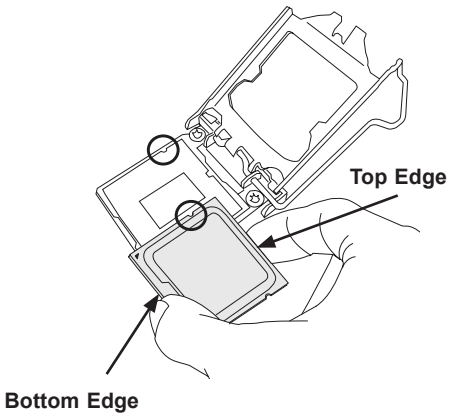


Figure 3-3. Placing the Processor into the Socket

3. Use your thumb and your index finger to hold the edges of the processor. Align the CPU key (the semi-circle cutouts) with the socket keys.

4. Once aligned, carefully place the processor into the socket. Do not drop the processor on the socket, move or rub the processor against the socket or against any socket pins, which may damage the components.

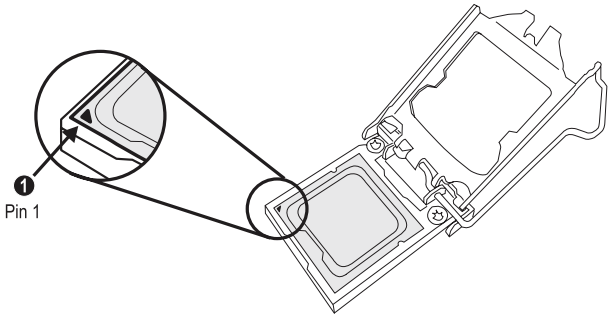


Figure 3-4. Inspecting the Processor Installation

5. With the processor inserted into the socket, inspect the four corners of the CPU to make sure that it is properly installed and flush with the socket.

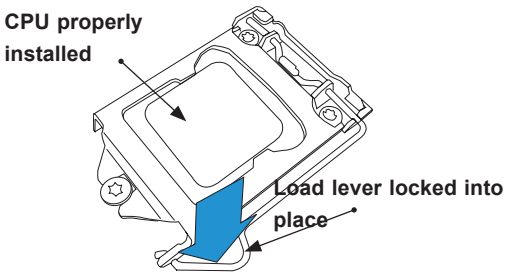


Figure 3-5. Installing/Removing the Heatsink

6. Carefully press the processor load lever down until it locks into its retention tab.

Installing a Heatsink

An active type heatsink is used on the X11SAE.

Note: You should apply thermal grease to the heatsink if it has not already been pre-applied.

1. Place the heatsink on top of the CPU so that the four mounting holes are aligned with those on the heatsink retention mechanism.
2. Screw in two diagonal screws (i.e. the #1 and the #2 screws) until they are just snug. Do not fully tighten the screws or you may damage the CPU.
3. Add the two remaining screws then finish the installation by fully tightening all four screws (be careful not to overtighten).

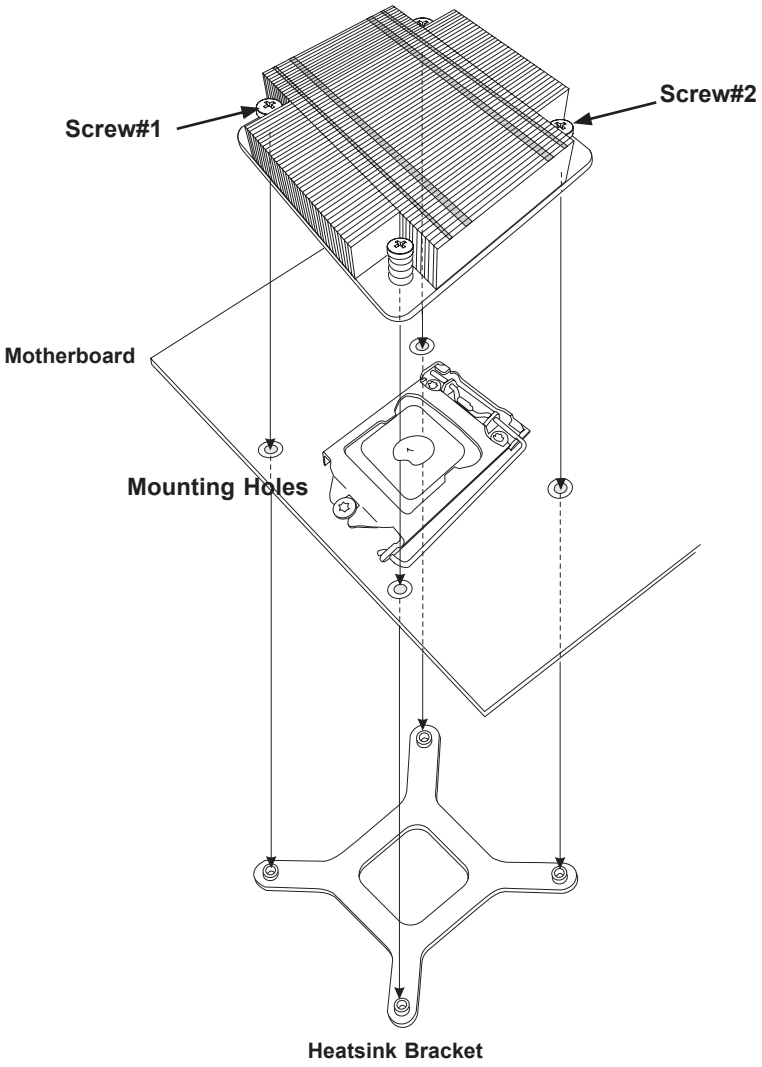


Figure 3-6. Installing the Heatsink

Note: the image above is for illustrative purposes only.

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.

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.

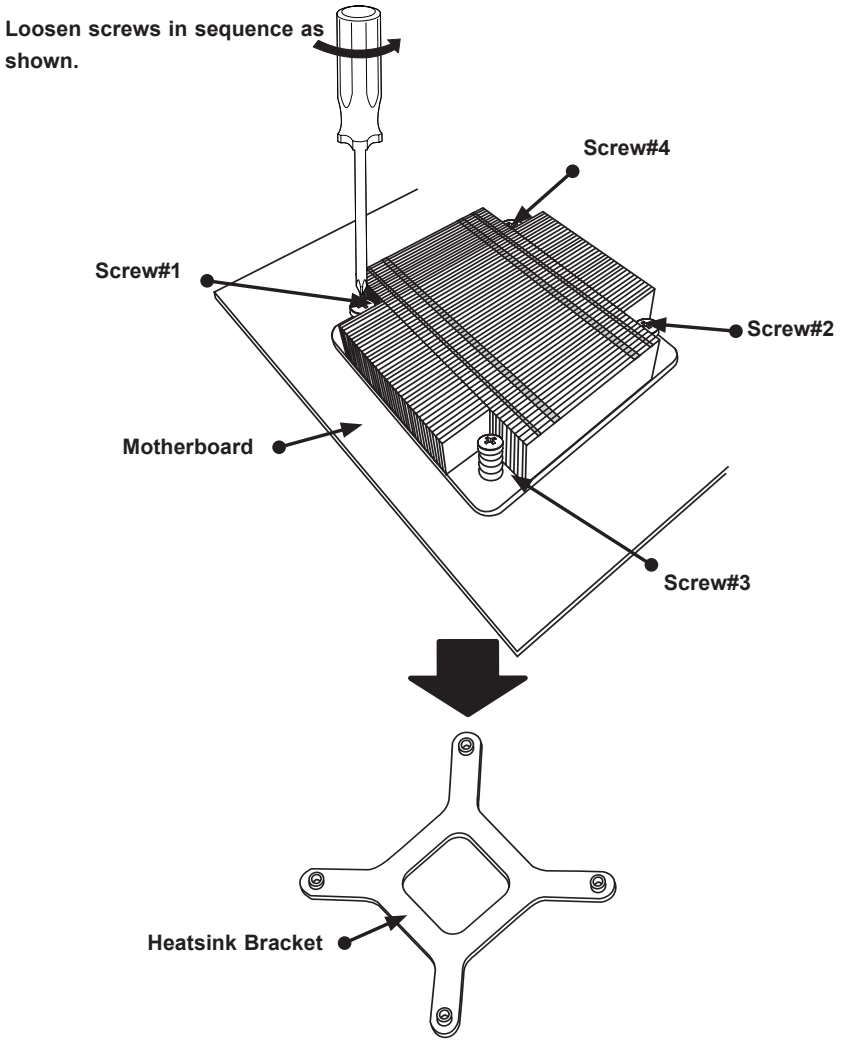


Figure 3-7. Removing the Heatsink

Note: the image above is for illustrative purposes only.

4. Clean the surface of the CPU and the heatsink to get rid of the old thermal grease. Reapply the proper amount of thermal grease to the surface before you re-install the heatsink.

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

Memory Installation

Memory Support

The X11SAE supports up to 64GB of ECC DDR4-2133/1866/1600/1333 unbuffered (UDIMM) memory in four memory slots. Populating these DIMM slots with memory modules of the same type and size will result in interleaved memory, which will improve memory performance.

Check the Supermicro website for possible updates to memory support.

Installing Memory

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

1. Starting with DIMMA2 (blue slot), push the release tabs outwards on both ends of the DIMM slot to unlock it.
2. Align the key of the DIMM with the receptive point on the memory slot and the notches on both ends of the module with the receptive points on the slot.
3. With your thumbs on both ends of the module, press it straight down into the slot until the module snaps into place.
4. Press the release tabs to the locked positions to secure the DIMM module into the slot. Repeat for other DIMM slots as needed. See next page for population sequence.
5. To remove a DIMM, unlock the release tabs then pull the DIMM from the memory slot.

Caution: Exercise extreme caution when installing or removing memory modules to prevent any possible damage to the DIMMs or slots.

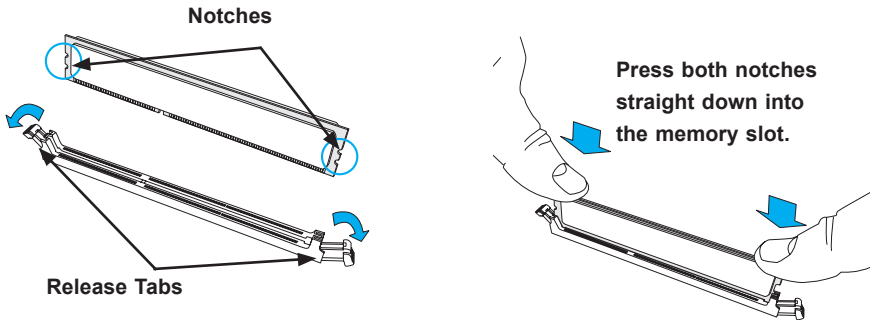


Figure 3-8. Installing DIMMs

Note: Visit the product page on the Supermicro website for possible updates to memory support (www.supermicro.com).

DIMM Module Population Sequence

When installing memory modules, the DIMM slots should be populated in the following order: DIMMA2, DIMMB2, DIMMA1, DIMMB1.

- Always use DDR4 DIMM modules of the same type, size and speed.
- For best memory performance, install DIMM modules in pairs to activate memory interleaving.

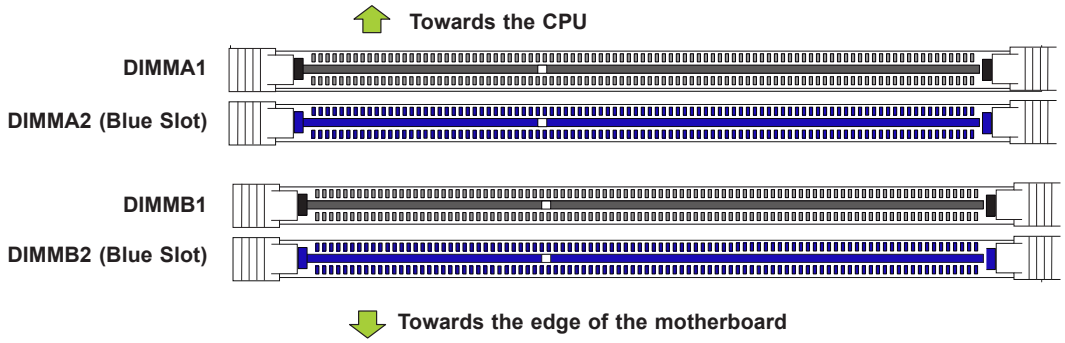


Figure 3-9. Populating DIMMs

Possible System Memory Allocation & Availability		
System Device	**Size**	**Physical Memory Remaining (with 4GB System Memory)**
Firmware Hub flash memory (System BIOS)	1 MB	3.99
Local APIC	4 KB	3.99
Area Reserved for the chipset	2 MB	3.99
I/O APIC (4 Kbytes)	4 KB	3.99
PCI Enumeration Area 1	256 MB	3.76
PCI Express (256 MB)	256 MB	3.51
PCI Enumeration Area 2 (if needed) -Aligned on 256-MB boundary-	512 MB	3.01
VGA Memory	16 MB	2.85
TSEG	1 MB	2.84
Memory available to OS and other applications		2.84

Recommended Population (Balanced)				
DIMMA2	**DIMMB2**	**DIMMA1**	**DIMMB1**	**Total System Memory**
4GB	4GB			8GB
4GB	4GB	4GB	4GB	16GB
8GB	8GB			16GB
8GB	8GB	8GB	8GB	32GB
16GB	16GB			32GB
16GB	16GB	16GB	16GB	64GB

PCI Expansion Card Installation

Three standard size PCI expansion (add-on) cards may be installed in the system.

Installing PCI Expansion Cards

Before installing a PCI add-on card, make sure it is supported by the card slot on the motherboard.

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

1. Remove the chassis cover to access the inside of the system.
2. Remove the PCI slot shield on the chassis by releasing the locking tab.
3. Insert the expansion (add-on) card into the appropriate PCI slot on the motherboard.
4. Secure the card with the locking tab.

Motherboard Battery

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

Replacing the Battery

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

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

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

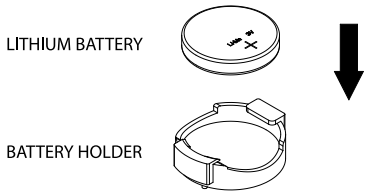


Figure 3-10. Installing the Onboard Battery

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

3.4 Chassis Components

3.5" Hard Drives

3.5" SATA drives may be installed into the chassis. In order to access and install 3.5" hard drives, it is necessary to rotate the hard drive cage. Note that the 5039A-IL must be powered down before hard drives can be installed or removed

Rotating the Hard Drive Cage

Begin by removing power from the system as described in section 3.1 and remove the chassis cover as described in section 3.2.

1. To rotate the hard drive cage, lift the release tab (A) as shown in Figure 3-11.
2. Rotate the hard disk drive cage (B) outward.

Installing Hard Drives to the Hard Drive Cage

1. Press the release tab on the side of the hard drive carrier that is to be removed from the hard drive cage as shown in Figure 3-12.
2. Gently slide the hard drive carrier out of the hard drive cage.
3. Insert a new hard drive into a hard drive tray by sliding it towards the back of the the hard drive cage until it clicks into a locked position. To remove a hard drive already present, see the next section.
4. Connect the power and data cables to the hard drive.
5. Rotate the hard drive cage 90 degrees inward, returning it to the closed, operational position in the chassis.
6. If desired, each hard drive may be further secured to the drive cage with an additional (optional) screw at the middle of the drive.)

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

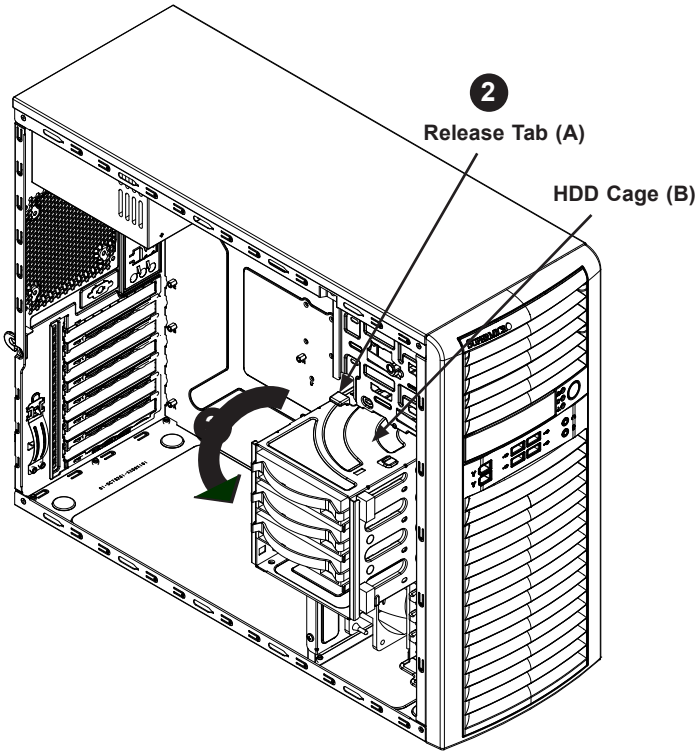


Figure 3-11. Rotating the Hard Drive Cage

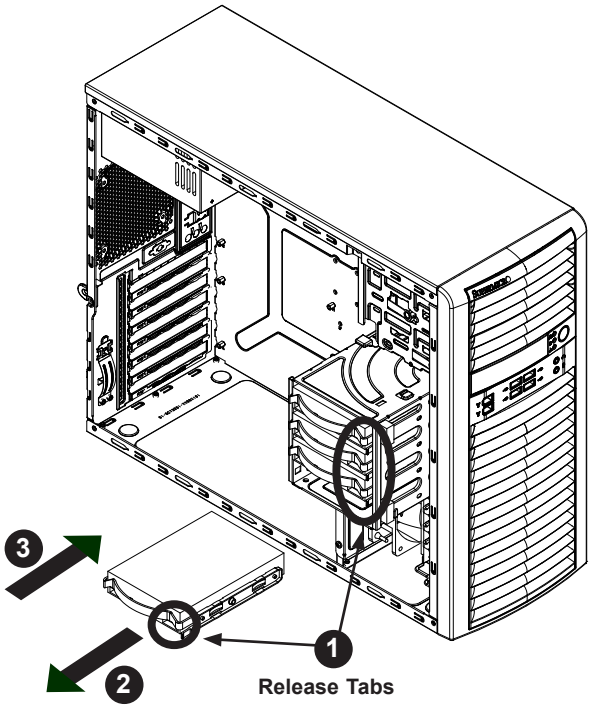


Figure 3-12. Installing Drives in the Hard Drive Cage

Removing Hard Drives from the Carriers

Installing an Optional Device

Begin by removing power from the system as described in section 3.1 and remove the chassis cover as described in section 3.2.

1. If a hard drive is already present, remove it by carefully pulling the sides of the hard drive carrier outward.
2. Remove the hard drive from the hard drive carrier.
3. Insert the new hard drive into the hard drive carrier.
4. Insert the hard drive carrier into the hard drive cage, sliding it towards the back of the the hard drive cage until it clicks into a locked position.
5. If desired, each hard drive carrier may be secured to the exterior of the hard drive cage using one optional screw.
6. Rotate the hard drive cage 90 degrees inward, returning it to the closed, operational position in the chassis.

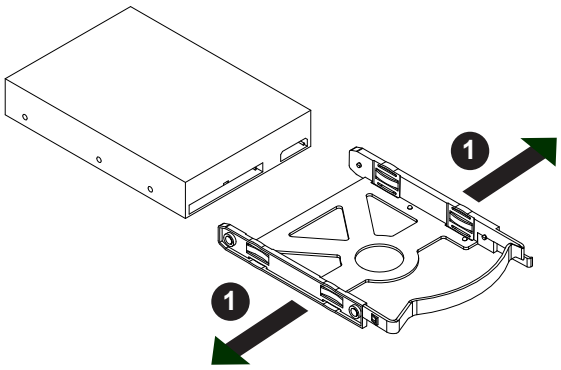


Figure 3-13. Removing a 3.5" Hard Drive from a Drive Carrier

2.5" Hard Drives

2.5" SATA drives may be installed into the chassis (using an optional HDD cage: p/n MCP-220-73201-0N).The SC732D4-500B chassis must be powered-down before hard drives can be removed from the hard drive carriers.

Removing and Installing 2.5" Hard Drives

Begin by removing power from the system as described in section 3.1 and remove the chassis cover as described in section 3.2.

1. Disconnect the chassis from any power source.
2. Loosen the thumb screw securing the 2.5" hard drive cage to the chassis.
3. Disconnect all cables from the hard drive.

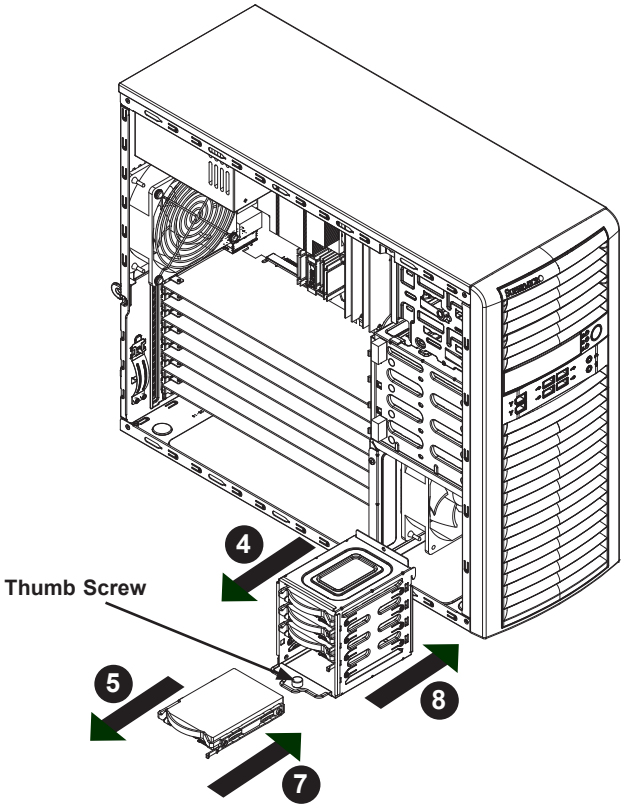


Figure 3-14. Installing a 2.5" Hard Drive from a Drive Carrier

4. Slide the 2.5" hard drive cage out of the chassis.
5. If a hard drive is already present, remove it by carefully pulling the sides of the hard drive carrier outward.
6. Remove the hard drive from the hard drive carrier.
7. Insert the new hard drive into the hard drive carrier.
8. Insert the hard drive carrier into the hard drive cage, sliding it towards the back of the the hard drive cage until it clicks into a locked position.

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

Installing a 3.5" Device

The SC732D4-500B chassis has one 3.5" device slot, which supports an optional device such as an all-in-one card reader.

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

Installing a 3.5" Device

1. Remove the front bezel from the chassis by lifting it upwards from the bottom, and pulling off the front of the chassis.
2. Remove the cover plate from the 3.5" device slot on the front of the chassis.
3. Install the bracket rail (A) onto one side of the 3.5" device, by inserting the pins of the bracket into the mounting holes on the sides of the optical device.
4. Slide the 3.5" device into the chassis.

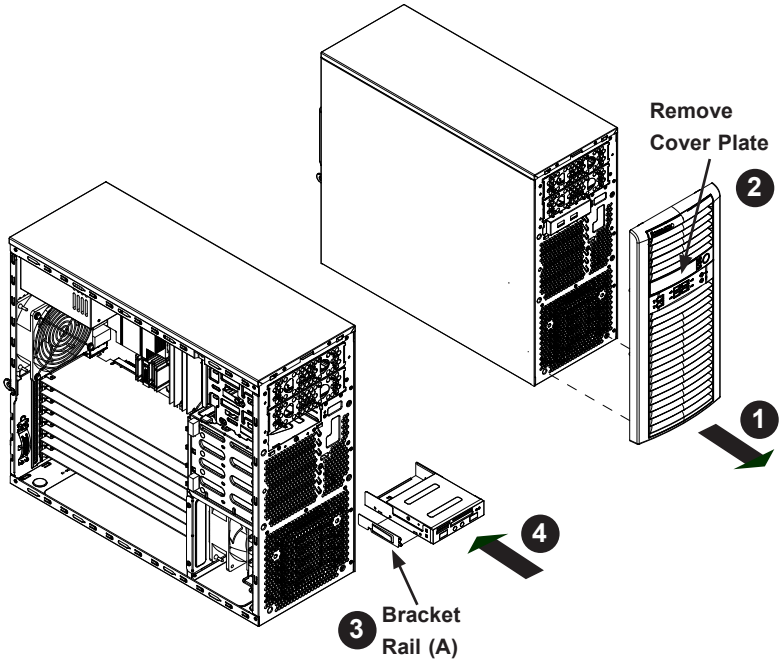


Figure 3-15. Installing a 3.5" Device

System Cooling

The SC732D4-500B includes a super quiet system fan that provides cooling for the chassis. No tools or screws are required to install the system fan.

If the chassis fan fails, the system must be powered down before replacing it. If the power supply fan fails, the power supply itself must be replaced.

Installing the Rear Exhaust Fan

Begin by removing power from the system as described in section 3.1 and remove the chassis cover as described in section 3.2.

1. Remove the left chassis cover as described in section 3-2.
2. Insert the four rubber pins into the four mounting holes surrounding the fan grill on the rear of the chassis.
3. Pull the rubber pins through the mounting holes of the fan to secure the fan to the chassis.
4. Connect the fan cable to the serverboard.

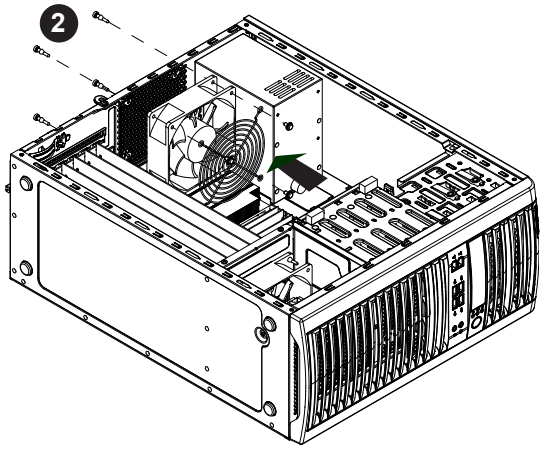


Figure 3-16. Replacing the System Fan

Installing the Front Cooling Fan (Optional)

Begin by removing power from the system as described in section 3.1 and remove the chassis cover as described in section 3.2.

1. Insert the four rubber pins through the front fan bracket and into the mounting holes in the front fan.
2. Pull the rubber pins through the mounting holes of the system fan to secure the fan to the chassis.
3. Lower the fan into the chassis, aligning the holes at the top of the front fan bracket with the holes in the chassis.
4. Secure the fan to the chassis using the two screws provided.
5. Connect the fan cable to the serverboard.

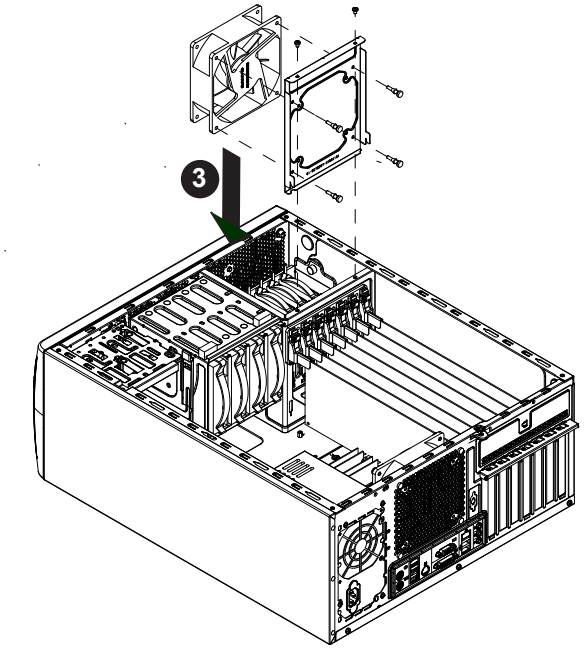


Figure 3-17. Installing the Front Cooling Fan (Optional)

Power Supply

The SC732D4-500B chassis includes a 500 Watt power supply. In the event that it becomes necessary to replace the power supply, follow the instructions below.

Changing the Power Supply

Begin by removing power from the system as described in section 3.1 and remove the chassis cover as described in section 3.2.

1. Disconnect the cables from the serverboard to the power supply.
2. Remove the screws securing the power supply to the chassis, which are located on the rear of the chassis. Set these screws aside for later use.
3. Gently lift the power supply out of the chassis.
4. Replace the failed power supply with an identical power supply model.
5. Secure the new power supply using the screws previously set aside.
6. Plug the AC power cord back into the module and power-up the system.

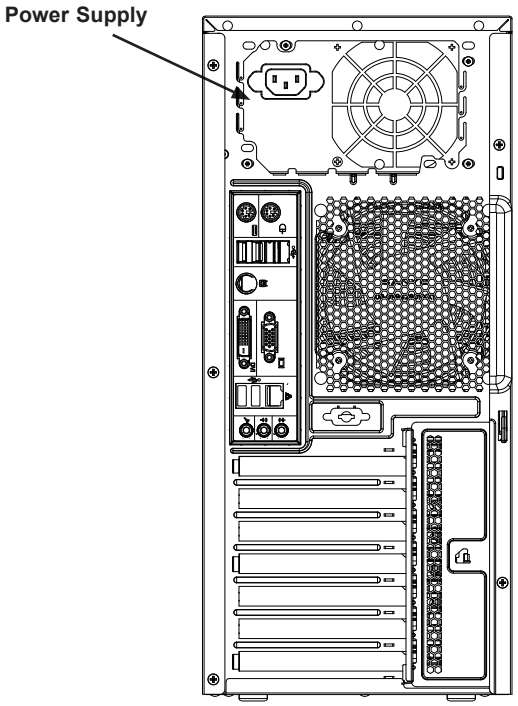


Figure 3-18. Removing the Power Supply

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 severboard layout indicating component locations may be found in Chapter 1.

Please review the Safety Precautions in Chapter 3 before installing or removing components.

4.1 Power Connections

Two power connections on the X11SAE must be connected to the power supply. The wiring is included with the power supply.

- 24-pin Primary ATX Power (JPW1)
- 8-pin Processor Power (JPW2)

Main ATX Power Connector

The primary power connector (JPW1) meets the ATX SSI EPS 12V specification. You must also connect the 8-pin (JPW2) processor power connector to your power supply (see below).

ATX Power 24-pin Connector Pin Definitions

Pin#	Definition	Pin#	Definition
13	+3.3V	1	+3.3V
14	-12V	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.

Processor Power Connector

JPW2 must also be connected to the power supply. This connector is used to power the processor.

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

Required Connection

4.2 Headers and Connectors

Fan Headers

There are five 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. The use of 4-pin fans is recommended to use fan speed control.

Fan Header Pin Definitions	
Pin#	Definition
1	Ground (Black)
2	2.5A/+12V (Red)
3	Tachometer
4	PWM_Control

Front Panel Audio Header (AUDIO FP)

The 10-pin Audio header allows you to connect the motherboard to a front panel audio control panel, if needed.

10-pin Audio Header Pin Definitions			
Pin#	Definition	Pin#	Definition
1	Microphone (Left)	2	Audio Ground
3	Microphone (Right)	4	Audio Detect
5	Line 2 (Right)	6	Ground
7	Jack Detect	8	Key
9	Line 2 (Left)	10	Ground

Speaker

Pins 3-4 of JD1 are used for the internal speaker connection. Close pins 3-4 with a jumper to use the onboard speaker. Please note that the speaker connector pins (4-7) are used with an external speaker. If you wish to use an external speaker, attach the speaker cable to pins 1-4.

Speaker Connector Pin Definitions

Pin Setting	Definition
Pins 3-4	Internal Speaker
Pins 1-4	External Speaker

SGPIO Headers

Two SGPIO (Serial General Purpose Input/Output) headers are used to communicate with the enclosure management chip in the system.

SGPIO Header Pin Definitions

Pin#	Definition	Pin#	Definition
1	NC	2	NC
3	Ground	4	Data
5	Load	6	Ground
7	Clock	8	NC

Disk-On-Module Power Connector

A power connector for SATA DOM (Disk On Module) devices is located at JSD1. Connect the appropriate cable here to provide 5V power for a DOM storage device connected to one of the SATA ports.

DOM Power Pin Definitions

Pin#	Definition
1	5V
2	Ground
3	Ground

Chassis Intrusion

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

Chassis Intrusion Pin Definitions

Pin#	Definition
1	Intrusion Input
2	Ground

TPM/Port 80 Header

A Trusted Platform Module (TPM)/Port 80 header is located at JTPM1 to provide TPM support and Port 80 connection. Use this header to enhance system performance and data security.

Trusted Platform Module Header Pin Definitions

Pin#	Definition	Pin#	Definition
1	LCLK	2	Ground
3	LFRAME#	4	<(KEY)>
5	LRESET#	6	+5V
7	LAD3	8	LAD2
9	+3.3V	10	LAD1
11	LAD0	12	Ground
13	SMB_CLK	14	SMB_DAT
15	+3V Stdby	16	SERIRQ
17	Ground	18	CLKRUN#
19	LPCPD#	20	LDRQ#

Onboard Power LED (JLED1)

An onboard Power LED header is located at JLED1. This Power LED header is connected to Front Control Panel located at JF1 to indicate the status of system power.

Onboard Power LED Connection Pin Definitions

Pin#	Definition
1	VCC
2	No Connection
3	Connection to Power LED on JF1

Standby Power Header

The Standby Power header is located at JSTBY1. You must have a card with a Standby Power connector and a cable to use this feature.

Standby Power Pin Definitions

Pin#	Definition
1	+5V Standby
2	Ground
3	N/A

PCI-E M.2 Connector (PCI-E M.2)

The PCI-E M.2 connector is for devices such as memory cards, wireless adapters, etc. These devices must conform to the PCIE M.2 specifications (fromerly known as NGFF). This particular PCIe M.2 supports M-Key (PCIe3.0 x4) storage card only.

Control Panel

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

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

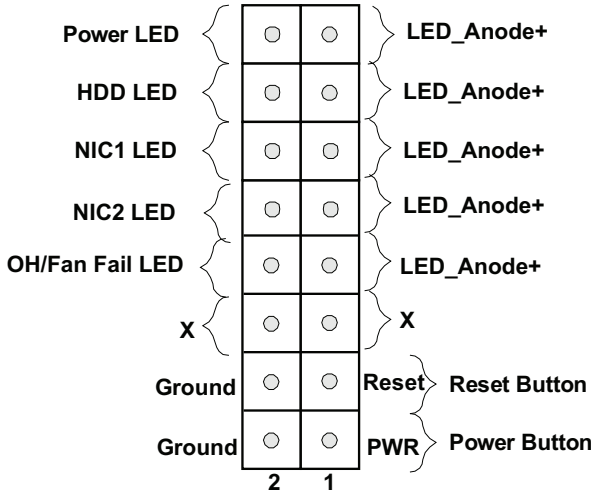


Figure 4-1. JF1: Control Panel Pins

Power Button

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

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 on the right for pin definitions.

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

Note: pinout information for the reset button is included for reference purposes only; there is no reset button on the SC732D4-500B chassis.

Overheat (OH)/Fan Fail

Connect an LED cable to OH/Fan Fail connections on pins 7 and 8 of JF1 to provide warnings for chassis overheat/fan failure.

OH/Fan Fail Pin Definitions (JF1)	
Pin#	**Definition**
7	+3.3V
8	OH/Fan Fail LED

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

NIC1/NIC2 (LAN1/LAN2)

The NIC (Network Interface Controller) LED connection for LAN port 2 and LAN port 1 are located on pins 9/10 and 11/12 of JF1 respectively. Attach an LED indicator to this header to display network activity.

LAN LED Pin Definitions (JF1)	
Pin#	**Definition**
9/11	+3.3V Standby
10/12	NIC1/NIC2 Activity

HDD LED

The HDD LED connection is located on pins 13 and 14 of JF1. Attach a cable here to show hard drive activity status.

HDD LED Pin Definitions (JF1)	
Pin#	**Definition**
13	+3.3V Standby
14	HDD Active

Power LED

The Power LED connection is located on pins 15 and 16 of JF1.

Power LED Pin Definitions (JF1)	
Pin#	**Definition**
15	+3.3V Standby
16	Power LED

Data Cables

The data cables in the system have been carefully routed to maintain airflow efficiency. If you disconnect any of these cables, take care to re-route them as they were originally when reconnecting them.

Important! Make sure the the cables do not come into contact with the fans.

Power Cables

Three power connections on the X11SAE must be connected to the power supply. The wiring is included with the power supply.

- 24-pin Primary ATX Power (JPW1)
- 8-pin Processor Power (JPW2)

4.3 Ports

Serial Ports

There are two serial (COM) port headers on the motherboard. Both ports are located next to expansion Slot #1 (PCI 33MHz).

SATA Ports

The X11SAE includes a total of eight SATA 3.0 ports. I-SATA0-7 are supported by the Intel C236 Express PCH chip. These SATA ports support RAID 0, 1, 5, and 10.

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.

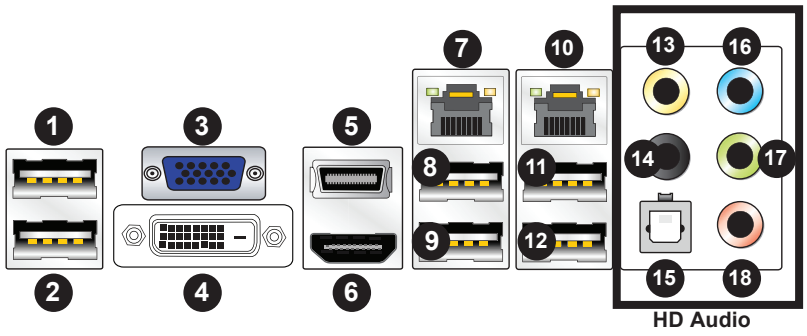


Figure 4-2. Rear I/O Ports

Rear I/O Ports						
#	**Description**	**#**	**Description**		**#**	**Description**
1.	USB14 (USB 3.1)	7	LAN Port 1		13	SPDIF Out
2.	USB15 (USB 3.1)	8	USB8 (USB 3.0)		14	Surround Out
3	VGA Port	9	USB9 (USB 3.0)		15	Center/LFE Out
4	DVI Port	10	LAN Port 2		16	Mic In
5	Display Port	11	USB0 (USB 2.0)		17	Line Out
6	HDMI Port	12	USB1 (USB 2.0)		18	Line In

VGA Port

A legacy 15-pin VGA port port is located on the I/O backpanel to provide backward compatibility. Use this port to connect to a compatible VGA monitor.

DVI-D Port

A DVI-D port is located on the I/O backpanel. Use this port to connect to a compatible DVI (Digital Visual Interface) display.

VESA® DisplayPort™

DisplayPort, develped by the VESA consortium, delivers digital display at a fast refresh rate. It can connect to virtually any display device using a DisplayPort adapter for devices such as VGA, DVI or HDMI.

HDMI Port

One HDMI (High-Definition Multimedia Interface) is located on the I/O backpanel. This connector is used to display both high definition video and digital sound through an HDMI capable display, using a single HDMI cable (not included).

Ethernet Port

Two Gigabit Ethernet ports (LAN) are located on the rear I/O panel to provide network connections. These ports will accept RJ45 type cables.

Universal Serial Bus (USB)

Two USB 2.0 ports (USB0/1), two USB 3.0 ports (USB8/9) and two USB 3.1 'type A' ports (USB14/15) are located on the I/O back panel. In addition, two USB 3.0 headers (USB10/11, 12/13), and three USB 2.0 headers (USB2/3, 4/5, 6/7) are also located on the motherboard to provide front chassis access using USB cables (not included). See the tables below for pin definitions.

Back Panel USB 2.0 Pin Definitions

Pin#	Definition	Pin#	Definition
1	+5V	5	+5V
2	USB_PN1	6	USB_PN0
3	USB_PP1	7	USB_PP0
4	Ground	8	Ground

Front Panel USB 2.0 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 Header Pin Definitions

Pin#	Definition	Pin#	Definition
1	VBUS	10	Power
2	D-	11	USB 2.0 Differential Pair
3	D+	12	
4	GND	13	Power Return Ground
5	Stda_SSRX-	14	SuperSpeed Receiver
6	Stda_SSRX+	15	Differential Pair
7	GND_DRAIN	16	Ground for Signal Return
8	Stda_SSTX-	17	SuperSpeed Transmitter
9	Stda_SSTX+	18	Differential Pair

Type A USB 10 (USB 3.0) Pin Definitions

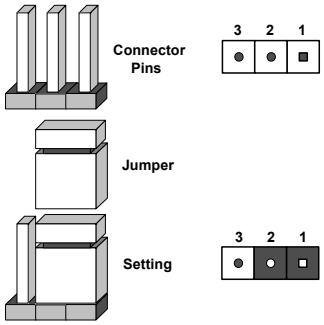
Pin#	Definition	Pin#	Definition
1	VBUS	5	SSRX-
2	USB_N	6	SSRX+
3	USB_P	7	GND
4	Ground	8	SSTX-
		9	SSTX+

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.


JBT1 contact pads

LAN1/2 Enable/Disable

Change the setting of jumper JPL1 and JPL2 to enable or disable the LAN1 and LAN2 Ethernets ports, respectively. The default setting is Enabled.

PCI Slot SMB Enable/Disable

Use jumpers JI^{2}C1/JI^{2}C2 to enable PCI SMB (System Management Bus) support to improve system management for the PCI slots. The default setting is Disabled.

PCI Slot SMB Enable/Disable Jumper Settings	
Jumper Setting	**Definition**
Pins 1-2	Enabled
Pins 2-3	Disabled

Audio Enable (JPAC1)

JPAC1 allows you to enable or disable the onboard audio support. The default position is Enabled.

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

HD Audio Enable (JHD_AC1)

JHD_AC1 allows you to enable or disable the onboard High Definition audio support. The default setting is Enabled.

HD Audio Enable/Disable Jumper Settings	
Jumper Setting	**Definition**
Open	Enabled
Closed	Disabled

Watch Dog

JWD 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
Pins 2-3	NMI

Manufacturer Mode Select

Close pins 2 and 3 of jumper JPME2 to bypass SPI flash security and force the system to operate in the manufacturer mode, which will allow the user to flash the system firmware from a host server for system setting modifications. The default setting is Normal.

Manufacturer Mode Jumper Settings	
Jumper Setting	**Definition**
Pins 1-2	Normal
Pins 2-3	Manufacturer Mode

BIOS Restore

When the BIOS Restore button is pressed, the 'SUPER.ROM' file will be loaded from a USB memory device installed in any of the USB ports to update the BIOS. Do not turn off the system when the BIOS is updating.

4.5 LED Indicators

LAN LEDs

Two LAN ports are located on the rear I/O panel of the motherboard. Each Ethernet LAN port has two LEDs. The yellow LED indicates activity, while the Link LED may be green, amber, or off to indicate the speed of the connection.

LAN Activity LED (Right) LED State		
Color	**Status**	**Definition**
Yellow	Flashing	Active

LAN Link LED LED State	
LED Color	**Definition**
Off	No Connection/10 Mbps/100 Mbps
Amber	1 Gbps
Green	10 Gbps

Onboard Power LED

An onboard Power LED is located at LED1. When LED1 is on, the AC power cable is connected. Make sure to disconnect the power cable before removing or installing any non hot-swap components.

Onboard Power LED Indicator LED State	
LED Color	**Definition**
Off	System off
On	System on

Onboard Standby Power LED

An onboard Standby Power LED is located at LED3. When LED3 is on, the AC power cable is connected and the power supply hard switch is on. Make sure to disconnect the power cable before removing or installing any component.

Onboard Standby Power LED Indicator LED State	
LED Color	**Definition**
Off	Power supply is off (hard switch)
On	Power supply is on (hard switch)

Chapter 5

Software

After the hardware has been installed, you should install the Operating System (OS), configure RAID settings and install the drivers. Necessary drivers and utilities may be found at ftp://ftp.supermicro.com/driver.

5.1 OS Installation

You must first configure RAID settings (if using RAID) before you install the Windows OS and the software drivers. To configure RAID settings, please refer to the RAID Configuration User Guides posted on our website at www.supermicro.com/support/manuals.

Installing the Windows OS for a RAID System

1. Insert Microsoft's Windows Setup DVD in the DVD drive and the system will start booting up from the DVD.
2. Insert the USB stick containing Windows drivers to a USB port on the system.
   Note: for older legacy OS's, please use a method to slipstream the drivers.
3. Select the partition on the drive in which to install Windows.
4. Browse the USB folder for the proper driver files.
5. Choose the RAID driver indicated in the Windows OS Setup screen, then choose the hard drive in which you want to install it.
6. Once all devices are specified, continue with the installation.
7. After the Windows OS installation is completed, the system will automatically reboot.

Installing Windows to a Non-RAID System

1. Insert Microsoft's Windows OS Setup DVD in the DVD-ROM drive and the system will start booting up from the DVD.
2. Continue with the installation. The Windows OS Setup screen will display.
3. From the Windows OS Setup screen, press the <Enter> key. The OS Setup will automatically load all device files and then continue with the Windows installation.
4. After the installation has completed, the system will automatically reboot.

5.2 Driver Installation

The Supermicro FTP site contains drivers and utilities for your system at ftp://ftp.supermicro.com. Some of these must be installed, such as the chipset driver.

After accessing the FTP site, go into the CDR_Images directory and locate the ISO file for your motherboard. Download this file to create a DVD of the drivers and utilities it contains. (You may also use a utility to extract the ISO file if preferred.)

After creating a DVD with the ISO files, insert the disk into the DVD drive on your system and the display shown in Figure 5-1 should appear.

Another option is to go to the Supermicro website at http://www.supermicro.com/products/. Find the product page for your motherboard here, where you may download individual drivers and utilities to your hard drive or a USB flash drive ans install from there.

Note: To install the Windows OS, please refer to the instructions posted on our website at http://www.supermicro.com/support/manuals/.

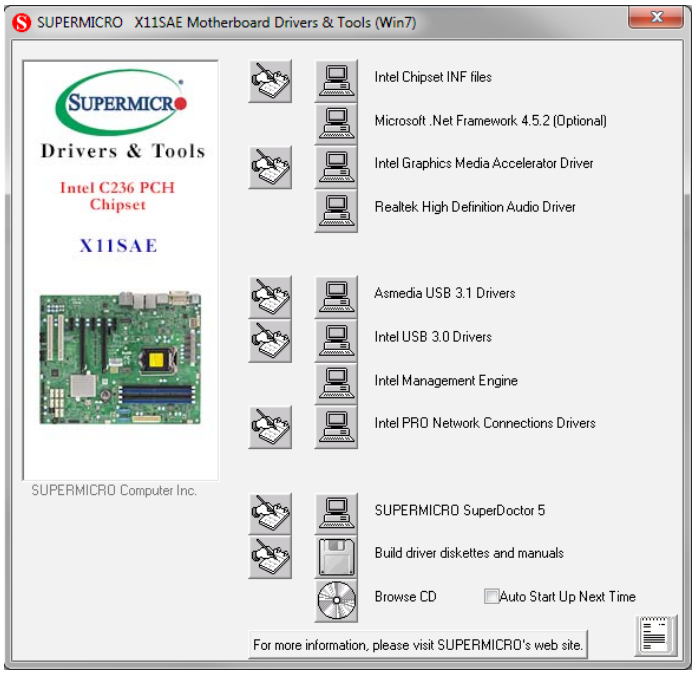


Figure 5-1. Driver & Tool Installation Screen

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.

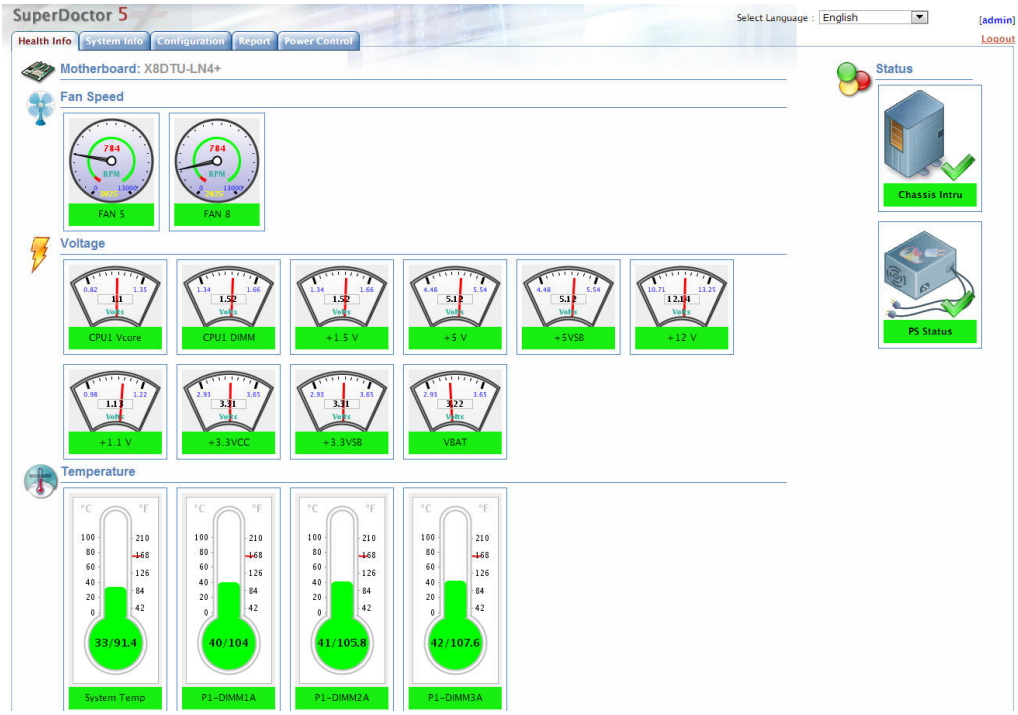
5.3 SuperDoctor® 5

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 5-2. SuperDoctor 5 Interface Display Screen (Health Information)



*IPMI must be provided with an add-on card as the X11SAE does not have onboard IPMI

Chapter 6

BIOS

6.1 Introduction

This chapter describes the AMIBIOS™ Setup utility for the X11SAE/X11SAE-F 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.

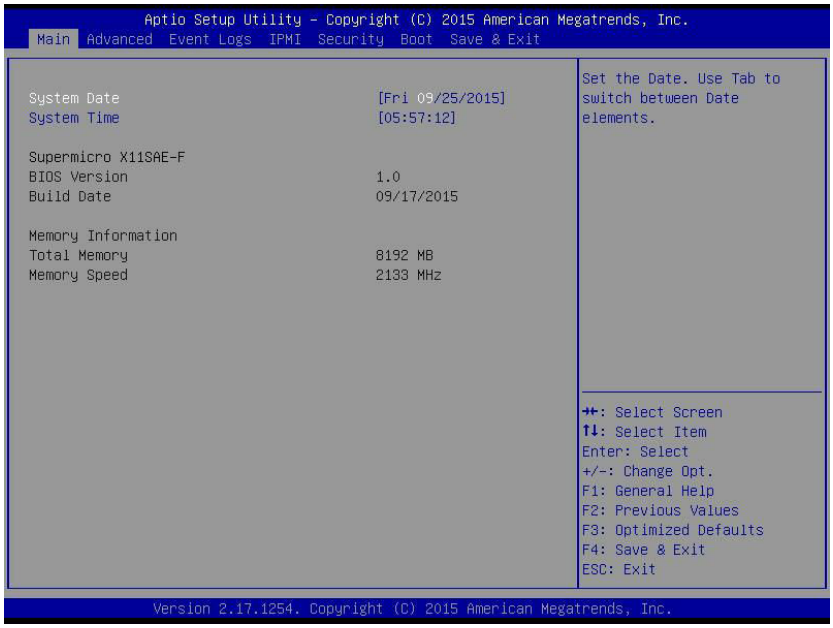
The Main BIOS screen has two main frames. The left frame displays all the options that can be configured. “Grayed-out” options cannot be configured. The right frame displays the key legend. Above the key legend is an area reserved for a text message. When an option is selected in the left frame, it is 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 Day 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 X11SAE/X11SAE-F

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.

Memory Information

Total Memory

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

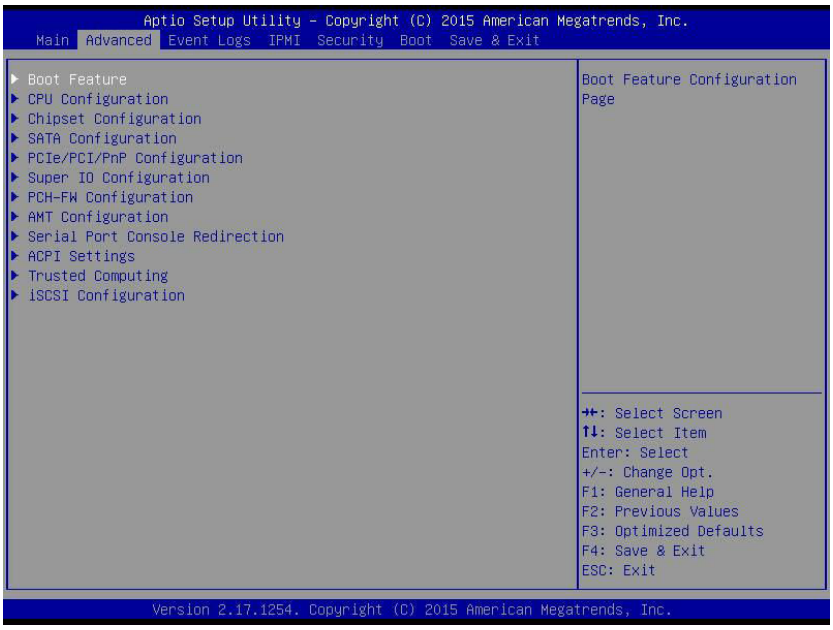
Memory Speed

This item displays the memory speed.

6.3 Advanced Setup Configurations

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.

AddOn ROM Display Mode

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 Enabled and **Disabled.**

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 4 Seconds Override and **Instant Off.**

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**.

▶CPU Configuration

The following CPU information will display:

- CPU Signature
- Microcode Patch
- Max CPU Speed
- Min CPU Speed
- CPU Speed
- Processor Cores
- Hyper Threading Technology
- Intel VT-x Technology
- Intel SMX Technology
- 64-bit
- EIST Technology
- CPU C3 State
- CPU C6 State
- CPU C7 State
- L1 Data Cache
- L1 Code Cache
- L2 Cache
- L3 Cache
- L4 Cache

Hyper-threading (Available when supported by the CPU)

Select Enabled to support Intel Hyper-threading Technology to enhance CPU performance. The options are **Enabled** and Disabled.

Active Processor Cores

This feature determines how many CPU cores will be activated for each CPU. When all is selected, all cores in the CPU will be activated. (Please refer to Intel's website for more information.) The options are **All** and 1, 2, and 3.

Intel® Virtualization Technology

Select Enable to use Intel Virtualization Technology so that I/O device assignments will be reported directly to the VMM (Virtual Memory Management) through the DMAR ACPI Tables. This feature offers fully-protected I/O resource-sharing across the Intel platforms, providing the user with greater reliability, security and availability in networking and data-sharing. The options are Disabled and **Enabled**.

Hardware Prefetcher (Available when supported by the CPU)

If set to Enabled, the hardware prefetcher will prefetch streams of data and instructions from the main memory to the L2 cache to improve CPU performance. The options are Disabled and **Enabled**.

Adjacent Cache Line Prefetch (Available when supported by the CPU)

The CPU prefetches the cache line for 64 bytes if this feature is set to Disabled. The CPU prefetches both cache lines for 128 bytes as comprised if this feature is set to **Enabled**.

CPU AES

Select Enabled to enable Intel CPU Advanced Encryption Standard (AES) Instructions for CPU to enhance data integrity. The options are **Enabled** and Disabled.

Boot Performance Mode

This feature allows the user to select the performance state that the BIOS will set before the operating system handoff. The options are Power Saving, **Max Non-Turbo Performance,** and Turbo Performance.

HardWare P-States (HWP)

Use this feature to enable or disable hardware P-States support. The options are **Disabled** and Enabled.

Intel® SpeedStep™

Intel SpeedStep Technology allows the system to automatically adjust processor voltage and core frequency to reduce power consumption and heat dissipation. The options are Disabled and **Enabled**.

Turbo Mode

Select Enabled for processor cores to run faster than the frequency specified by the manufacturer. The options are Disabled and **Enabled**.

Package Power Limit MSR Lock

Select Enabled to lock the package power limit for the model specific registers. The options are **Disabled** and Enabled.

Power Limit 1 Override

Select Enabled to support average power limit (PL1) override. The default setting is **Disabled**.

Power Limit 2 Override

Select Enabled to support rapid power limit (PL2) override. The default setting is **Enabled**.

Power Limit 2

Use this item to configure the value for Power Limit 2. The value is in milli watts and the step size is 125mW. Use the number keys on your keyboard to enter the value. Enter 0 to use the manufacture default setting If the value is 0, the BIOS will set PL2 as 1.25* TDP.

1-Core Ratio Limit Override

This increases (multiplies) 1 clock speed in the CPU core in relation to the bus speed when one CPU core is active. Press "+" or "-" on your keyboard to change the value. Enter 0 to use the manufacture default setting.

2-Core Ratio Limit Override

This increases (multiplies) 2 clock speeds in the CPU core in relation to the bus speed when two CPU cores are active. Press "+" or "-" on your keyboard to change the value. Enter 0 to use the manufacture default setting.

3-Core Ratio Limit Override

This increases (multiplies) 3 clock speeds in the CPU core in relation to the bus speed when three CPU cores are active. Press "+" or "-" on your keyboard to change the value. Enter 0 to use the manufacture default setting.

4-Core Ratio Limit Override

This increases (multiplies) 4 clock speeds in the CPU core in relation to the bus speed when three CPU cores are active. Press "+" or "-" on your keyboard to change the value. Enter 0 to use the manufacture default setting.

CPU C-States

Use this feature to enable the C-State of the CPU. The options are Disabled and **Enabled**.

Enhanced C-States

Use this feature to enable the enhanced C-State of the CPU. The options are Disabled and **Enabled**.

C-State Auto Demotion

Use this feature to prevent unnecessary excursions into the C-states to improve latency. The options are Disabled, C1, C3, and **C1 and C3**.

C-State Un-Demotion

This feature allows the user to enable or disable the un-demotion of C-State. The options are Disabled, C1, C3, and **C1 and C3**

Package C-State Demotion

Use this feature to enable or disable the Package C-State demotion. The options are **Disabled** and Enabled.

Package C-State Un-Demotion

Use this feature to enable or disable the Package C-State un-demotion. The options are **Disabled** and Enabled.

C-State Pre-Wake

This feature allows the user to enable or disable the C-State Pre-Wake. The options are Disabled and **Enabled**.

Package C-State Limit

Use this feature to set the Package C-State limit. The options are C0/C1, C2, C3, C6, C7, C7s, C8, and **AUTO**.

▶CPU Thermal Configuration

CPU DTS

Select Enabled for the ACPI thermal management to use the DTS SMM mechanism to obtain CPU temperature values. Select Disabled for EC to report the CPU temperature values. The options are **Disabled** and Enabled.

ACPI 3.0 T-States

Select Enabled to support CPU throttling by the operating system to reduce power consumption. The options are **Disabled** and Enabled.

▶Chipset Configuration

Warning: Setting the wrong values in the following features may cause the system to malfunction.

▶System Agent (SA) Configuration

The following System Agent information will display:

- System Agent Bridge Name
- SA PCIe Code Version
- VT-d

VT-d

Select Enabled to enable Intel Virtualization Technology support for Direct I/O VT-d by reporting the I/O device assignments to VMM through the DMAR ACPI Tables. This feature offers fully-protected I/O resource-sharing across the Intel platforms, providing the user with greater reliability, security and availability in networking and data-sharing. The options are **Enabled** and Disabled.

Gaussian Mixture Model

This feature is to enable or disable the System Agent Gaussian Mixture Model device. The opitons are **Enabled** and Disabled.

▶Graphics Configuration

The following graphics information will display:

- IGFX VBIOS Version

Graphics Turbo IMON Current

Use this feature to set the limit on the current voltage regulator. Press "+" or "-" on your keyboard to change this value. The default setting is **31**.

Primary Display

Use this feature to select the graphics device to be used as the primary display. The options are Auto, IGFX, PEG, and **PCIE.**

Primary PEG

This feature allows the user to select the primary PCI Express Graphics (PEG) slot. The options are **Auto**, CPU SLOT6 PCI-E 3.0 X16, and CPU SLOT4 PCI-E 3.0 X8 (IN X16).

Primary PCIE (PCI-Express Graphics)

This feature allows the user to specify which graphics card to be used as the primary graphics card. The options are Auto, **Onboard**, PCH Slot3 PCI-E 3.0 X1, and PCH Slot7 PCI-E 3.0 X1.

Internal Graphics

Select Auto to keep an internal graphics device installed on an expansion slot supported by the CPU to be automatically enabled. The options are **Auto**, Disabled, and Enabled.

GTT Size

Use this feature to set the memory size to be used by the graphics translation table (GTT). The options are 2MB, 4MB, and **8MB**.

Aperture Size

Use this feature to set the Aperture size, which is the size of system memory reserved by the BIOS for graphics device use. The options are 128MB, **256MB,** 512 MB, 1024MB, 2048MB, and 4096MB.

DVMT Pre-Allocated

Dynamic Video Memory Technology (DVMT) allows dynamic allocation of system memory to be used for video devices to ensure best use of available system memory based on the DVMT 5.0 platform. The options are 16M, **32M**, 64M, 96M, 128M, 160M, 192M, 224M, 256M, 288M, 320M, 352M, 384M, 416M, 448M, 480M, 512M, 1024M, 1536M, 2048M, 4M, 8M, 12M, 20M, 24M, 28M, 32M/F7, 36M, 40M, 44M, 48M, 52M, 56M, and 60M. .

DVMT Total IGFX Memory

Use this feature to set the total memory size to be used by internal graphics devices based on the DVMT 5.0 platform. The options are 128MB, **256MB,** and MAX.

IGFX (Graphics) Low Power Mode

Select Enabled to use the low power mode for internal graphics devices installed in a small form factor (SFF) computer. The options are **Enabled** and Disabled.

PM Support

Use this item to enable the IGFX Power Management function. The options are **Enabled** and Disabled.

PAVP Enable

Use this feature to enable or disable the protected audio video path (PAVP). The options are Disabled or **Enabled**.

▶DMI/OPI Configuration

The following DMI information will display:

- DMI

DMI VC1 Control

Use this feature to enable or disable DMI Virtual Channel 1. The options are Enabled and **Disabled**.

DMI VCm Control

Use this feature to enable or disable the DMI Virtual Channel map. The options are **Enabled** and Disabled.

DMI Link ASPM Control

Use this feature to set the ASPM (Active State Power Management) state on the SA (System Agent) side of the DMI Link. The options are Disabled and **L1**.

DMI Extended Sync Control

Use this feature to enable or disable the DMI extended synchronization. The options are Enabled and **Disabled**.

DMI De-Emphasis Control

Use this feature to configure the De-emphasis control on DMI. The options are -6dB and **-3.5dB**.

▶PEG Port Configuration

CPU SLOT6 PCI-E 3.0 X16

SLOT6 Max Link Speed

Use this item to configure the link speed of a PCI-E port specified by the user. The options are **Auto**, Gen1, Gen2, and Gen3.

SLOT6 Max Payload Size

Select Auto for the system BIOS to automatically set the maximum payload value for a PCI-E device to enhance system performance. The options are **Auto**, 128 TLP, and 256 TLP.

SLOT6 Slot Power Limit Value

Use this feature to set the upper limit on the power supplied by the PCIE slot. Press "+" or "-" on your keyboard to change this value. The default setting is **75**.

SLOT6 Slot Power Limit Scale

Use this feature to select the scale used for the slot power limit value. The options are **1.0x**, 0.1x, 0.01x, and 0.001x.

CPU SLOT4 PCI-E 3.0 X8 (IN X16)

SLOT4 Max Link Speed

Use this item to configure the link speed of a PCI-E port specified by the user. The options are **Auto**, Gen1, Gen2, and Gen3.

SLOT4 Max Payload Size

Select Auto for the system BIOS to automatically set the maximum payload value for a PCI-E device to enhance system performance. The options are **Auto**, 128 TLP, and 256 TLP.

SLOT4 Slot Power Limit Value

Use this feature to set the upper limit on the power supplied by the PCIE slot. Press "+" or "-" on your keyboard to change this value. The default setting is **75**.

SLOT4 Slot Power Limit Scale

Use this feature to select the scale used for the slot power limit value. The options are **1.0x**, 0.1x, 0.01x, and 0.001x.

Program PCIe ASPM After OPROM

Enable this feature to program the PCIe ASPM after the OPROM. The options are **Disabled**, and Enabled.

▶Memory Configuration

The following memory information will display:

- Memory RC Version
- Memory Frequency
- Total Memory
- VDD
- DIMMA1
- DIMMA2
- DIMMB1
- DIMMB2
- Memory Timings (tCL-tRCD-tRP-tRAS)

Maximum Memory Frequency

Use this feature to set the maximum memory frequency for onboard memory modules. The options are **Auto**, 1067, 1200, 1333, 1400, 1600, 1800, 1867, 2000, 2133, 2200, and 2400.

Max TOLUD

This feature sets the maximum TOLUD value, which specifies the "Top of Low Usable DRAM" memory space to be used by internal graphics devices, GTT Stolen Memory, and TSEG, respectively, if these devices are enabled. The options are **Dynamic**, 1 GB, 1.25 GB, 1.5 GB, 1.75 GB, 2 GB, 2.25 GB, 2.5 GB, 2.75 GB, 3 GB, 3.25 GB, and 3.5 GB.

Energy Performance Gain

Use this feature to enable or disable the energy performance gain. The options are **Disabled** and Enabled.

Memory Scrambler

Select Enabled to enable memory scrambler support. The options are Disabled and **Enabled**.

Fast Boot

Use this feature to enable or disable fast path through the memory reference code. The options are **Enabled** and Disabled.

REFRESH_2X_MODE

Use this feature to select the refresh mode. The options are **Disabled**, 1-Enabled for WARM or HOT, and 2-Enabled HOT only.

Closed Loop Thermal Management

Use this feature to monitor the power consumption and temperature of the system to predict a thermal trend. The options are Disabled and **Enabled**.

▶GT - Power Management Control

The following GT - Power Management Control information will display:

- GT Info

RC6 (Render Standby)

Select Enabled to enable render standby support.The options are Disabled and **Enabled**.

▶PCH-IO Configuration

The following PCH-IO information will display:

- Intel PCH RC Version
- Intel PCH SKU Name
- Intel PCH Rev ID

▶PCI Express Configuration

DMI Link ASPM Control

Use this feature to set the ASPM (Active State Power Management) state on the SA (System Agent) side of the DMI Link. The options are Disabled and **Enabled**.

Peer Memory Write Enable

Use this feature to enable or disable peer memory write. The options are **Disabled** or Enabled.

▶PCH SLOT3 PCI-E 3.0 X1

Port 7 ASPM

Use this item to set the Active State Power Management (ASPM) level for a PCI-E device. Select Auto for the system BIOS to automatically set the ASPM level based on the system configuration. Select Disabled to disable ASPM support. The options are Disabled, L0s, L1, L0s & L1, and **Auto**.

Port 7 L1 Substates

Use this feature to configure the PCI Express L1 Substates. The options are Disabled, L1.1, L1.2, and **L1.1 & L1.2**

Port 7 PCIe Speed

Use this feature to select the PCI Express port speed. The options are **Auto**, Gen1, Gen2, and Gen3.

Port 7 Detect Non-Compliant Device

Select Enabled for the AMI BIOS to automatically detect a PCI-E device that is not compliant with the PCI-E standards. The options are **Disabled** and Enabled.

▶PCH SLOT7 PCI-E 3.0 X1

Port 8 ASPM

Use this item to set the Active State Power Management (ASPM) level for a PCI-E device. Select Auto for the system BIOS to automatically set the ASPM level based on the system configuration. Select Disabled to disable ASPM support. The options are Disabled, L0s, L1, L0s & L1, and **Auto**.

Port 8 L1 Substates

Use this feature to configure the PCI Express L1 Substates. The options are Disabled, L1.1, L1.2, and **L1.1 & L1.2**

Port 8 PCIe Speed

Use this feature to select the PCI Express port speed. The options are **Auto**, Gen1, Gen2, and Gen3.

Port 8 Detect Non-Compliant Device

Select Enabled for the AMI BIOS to automatically detect a PCI-E device that is not compliant with the PCI-E standards. The options are **Disabled** and Enabled.

Port 61h bit-4 Emulation

Select Enabled to enable the emulation of Port 61h bit-4 toggling in SMM (System Management Mode). The options are Disabled and **Enabled**.

PCIe PLL SSC

Enable this feature to reduce EMI interference by down spreading clock 0.5%. Disable this feature to centralize the clock without spreading. The options are **Disabled** and Enabled.

USB 3.1 Device

This setup item is used to Enable of Disable the onboard USB 3.1 device. The options are Disabled and **Enabled**.

▶SATA Configuration

When this submenu is selected, the AMI BIOS automatically detects the presence of the SATA devices that are supported by the Intel PCH chip and displays the following items:

SATA Controller(s)

This item enables or disables the onboard SATA controller supported by the Intel PCH chip. The options are **Enabled** and Disabled.

SATA Mode Selection

Use this item to select the mode for the installed SATA drives. The options are **AHCI** and RAID.

SATA Frozen

Use this item to enable the HDD Security Frozen Mode. The options are Enabled and **Disabled**.

If the item above "SATA Mode Selection" is set to RAID, the following items will display:

SATA RAID Option ROM/UEFI Driver

Select UEFI to load the EFI drvier for system boot. Select Legacy to load a legacy driver for system boot. The options are **Legacy ROM** and UEFI Driver.

SATA Port 0 ~ Port 7

This item displays the information detected on the installed SATA drive on the particular SATA port.

- Model number of drive and capacity
- Software Preserve Support Information

Port 0 ~ Port 7 Spin Up Device

On an edge detect from 0 to 1, set this item to allow the PCH to initialize the device. The options are Enabled and **Disabled**.

Port 0 ~ Port 7 SATA Device Type

Use this item to specify if the SATA port specified by the user should be connected to a Solid State drive or a Hard Disk Drive. The options are **Hard Disk Drive** and Solid State Drive.

▶PCIe/PCI/PnP Configuration

The following information will display:

- PCI Bus Driver Version
- PCI Devices Common Settings:

PCI Latency Timer

Enter the value to be programmed into the PCI Latency Timer Register. The options are **32 PCI Bus Clocks,** 64 PCI Bus Clocks, 96 PCI Bus Clocks, 128 PCI Bus Clocks, 160 PCI Bus Clocks, 192 PCI Bus Clocks, 224 PCI Bus Clocks, and 248 PCI Bus Clocks,.

PCI PERR/SERR Support

Select Enabled to allow a PCI device to generate a PERR/SERR number for a PCI Bus Signal Error Event. The options are **Disabled** and Enabled.

Above 4G Decoding (Available if the system supports 64-bit PCI decoding)

Select Enabled to decode a PCI device that supports 64-bit in the space above 4G Address. The options are Enabled and **Disabled**.

SLOT1 PCI 33MHz OPROM

Use this feature to select which firmware type to be loaded for the add-on card in this slot. The options are Disabled, **Legacy**, and EFI.

SLOT2 PCI 33MHz OPROM

Use this feature to select which firmware type to be loaded for the add-on card in this slot. The options are Disabled, **Legacy**, and EFI.

PCH SLOT3 PCI-E 3.0 X1 OPROM

Use this feature to select which firmware type to be loaded for the add-on card in this slot. The options are Disabled, **Legacy**, and EFI.

CPU SLOT4 PCI-E 3.0 X8 (IN X16) OPROM

Use this feature to select which firmware type to be loaded for the add-on card in this slot. The options are Disabled, **Legacy**, and EFI.

CPU SLOT6 PCI-E 3.0 X16 OPROM

Use this feature to select which firmware type to be loaded for the add-on card in this slot. The options are Disabled, **Legacy**, and EFI.

PCH SLOT7 PCI-E 3.0 X1 OPROM

Use this feature to select which firmware type to be loaded for the add-on card in this slot. The options are Disabled, **Legacy**, and EFI.

Onboard LAN Option ROM Type

Select Enabled to enable Option ROM support to boot the computer using a network device specified by the user. The options are **Legacy** and EFI.

Onboard LAN1 Option ROM

Use this option to select the type of device installed in LAN Port1 used for system boot. The default setting for LAN1 Option ROM is **PXE**.

Onboard LAN2 Option ROM

Use this option to select the type of device installed in LAN Port2 used for system boot. The default setting for LAN2 Option ROM is **Disabled**.

Onboard Video Option ROM

Use this item to select the Onboard Video Option ROM type. The options are Disabled, **Legacy,** and EFI.

Network Stack

Select Enabled to enable PXE (Preboot Execution Environment) or UEFI (Unified Extensible Firmware Interface) for network stack support. The options are **Enabled** and Disabled.

IPv4 PXE Support

Select Enabled to enable IPv4 PXE boot support. The options are **Enabled** and Disabled.

IPv6 PXE Support

Select Enabled to enable IPv6 PXE boot support. The options are Enabled and **Disabled**.

PXE boot wait time

Use this option to specify the wait time to press the ESC key to abort the PXE boot. Press "+" or "-" on your keyboard to change the value. The default setting is **0**.

Media detect count

Use this option to specify the number of times media will be checked. Press "+" or "-" on your keyboard to change the value. The default setting is **1**.

▶Super IO Configuration

The following Super IO information will display:

- AMI SIO Driver Version

Super IO Chip Logical Device(s) Configuration

▶Serial Port 1

Serial Port 1 Configuration

This submenu allows the user the configure settings of Serial Port 1.

Serial Port 1

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

Logical Device Settings

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

Serial Port 1 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 for Serial Port 1 are **Use Automatic Settings**, (IO=3F8h; IRQ=4; DMA), (IO=3F8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12; DMA), (IO=2F8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12; DMA), (IO=3E8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12; DMA), and (IO=2E8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12; DMA).

▶Serial Port 2

Serial Port 2 Configuration

This submenu allows the user the configure settings of Serial Port 1.

Serial Port 2

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

Logical Device Settings

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

Serial Port 2 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 for Serial Port 2 are **Use Automatic Settings**, (IO=2F8h; IRQ=3; DMA), (IO=3F8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12; DMA), (IO=2F8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12; DMA), (IO=3E8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12; DMA), and (IO=2E8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12; DMA).

▶Serial Port 3

Serial Port 3 Configuration

This submenu allows the user the configure settings of Serial Port 1.

Serial Port 3

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

Logical Device Settings

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

Serial Port 3 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 for Serial Port 2 are **Use Automatic Settings**, (IO=248h; IRQ=7; DMA),

(IO=240h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12; DMA), (IO=248h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12; DMA), (IO=250h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12; DMA), and (IO=258h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12; DMA).

▶PCH-FW Configuration

The following Intel Server Platform Services information will display:

- ME Firmware Version Inforation
- ME Firmware Mode Information
- ME Firmware Type Information
- ME FW SKU Information

ME FW Image Re-Flash

Use this feature to enable or disable the ME Firmware image re-flash capability. The options are **Disabled** and Enabled.

▶AMT Configuration

Intel AMT

Select Enabled to use Intel AMT (Active Management Technology) to enhance system performance. The options are **Enabled** and Disabled.

BIOS Hotkey Pressed

Select Enabled to use the BIOS Hotkey feature. The options are Enabled and **Disabled**.

Watch Dog

Select Enabled to allow AMT to reset or power down the system if the operating system or BIOS hangs or crashes. The options are **Disabled**, and Enabled.

OS Timer / BIOS Timer

These options appear if Watch Dog Timer (above) is enabled. This is a timed delay in seconds, before a system power down or reset after a BIOS or operating system failure is detected. Directly enter the value in seconds.

▶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:

▶COM1 Console Redirection Settings

This feature allows the user to specify how the host computer will exchange data with the client computer, which is the remote computer used by the user.

COM1 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.

COM1 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).

COM1 Data Bits

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

COM1 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.

COM1 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.

COM1 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.

COM1 VT-UTF8 Combo Key Support

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

COM1 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.

COM1 Resolution 100x31

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

COM1 Legacy OS Redirection Resolution

Use this feature to select the number of rows and columns used in Console Redirection for legacy OS support. The options are 80x24 and **80x25**.

COM1 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.

COM1 Redirection After BIOS POST

Use this feature to enable or disable legacy console redirection after BIOS POST. When set to Bootloader, legacy console redirection is disabled before booting the OS. When set to Always Enable, legacy console redirection remains enabled when booting the OS. The options are **Always Enable** and Bootloader.

COM2

COM2 Console Redirection

Select Enabled to use the SOL port for Console Redirection. The options are **Disabled** and Enabled.

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

▶COM2 Console Redirection Settings

Use this feature to specify how the host computer will exchange data with the client computer, which is the remote computer used by the user.

COM2 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 ANSI, VT100, **VT100+**, and VT-UTF8.

COM2 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).

COM2 Data Bits

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

COM2 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.

COM2 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.

COM2 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.

COM2 VT-UTF8 Combo Key Support

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

COM2 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.

COM2 Resolution 100x31

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

COM2 Legacy OS Redirection Resolution

Use this feature to select the number of rows and columns used in Console Redirection for legacy OS support. The options are 80x24 and **80x25**.

COM2 Putty KeyPad

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

COM2 Redirection After BIOS Post

Use this feature to enable or disable legacy Console Redirection after BIOS POST. When set to Bootloader, legacy Console Redirection is disabled before booting the OS. When set to Always Enable, legacy Console Redirection remains enabled when booting the OS. The options are **Always Enable** and Bootloader.

BMC SOL

COM3 Console Redirection

Select Enabled to use the SOL port for Console Redirection. The options are Disabled and **Enabled.**

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

▶COM3 Console Redirection Settings

Use this feature to specify how the host computer will exchange data with the client computer, which is the remote computer used by the user.

COM3 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 ANSI, VT100, **VT100+**, and VT-UTF8.

COM3 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).

COM3 Data Bits

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

COM3 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.

COM3 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.

COM3 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.

COM3 VT-UTF8 Combo Key Support

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

COM3 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.

COM3 Resolution 100x31

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

COM3 Legacy OS Redirection Resolution

Use this feature to select the number of rows and columns used in Console Redirection for legacy OS support. The options are 80x24 and **80x25**.

COM3 Putty KeyPad

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

COM3 Redirection After BIOS Post

Use this feature to enable or disable legacy Console Redirection after BIOS POST. When set to Bootloader, legacy Console Redirection is disabled before booting the OS. When set to Always Enable, legacy Console Redirection remains enabled when booting the OS. The options are **Always Enable** and Bootloader.

EMS (Emergency Management Services) Console Redirection

Select Enabled to use a COM port selected by the user for EMS Console Redirection. The options are Enabled and **Disabled.**

AMT SOL

Console Redirection

Select Enabled to use the SOL port for Console Redirection. The options are **Disabled** and Enabled.

▶EMS Console Redirection Settings

This feature allows the user to specify how the host computer will exchange data with the client computer, which is the remote computer used by the user.

Out-of-Band Management 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, BMC SOL 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

▶ACPI Settings

ACPI Sleep State

This feature selects the ACPI Sleep State that the system will enter into when the suspend button is activated. The options are Suspend Disabled and **S3 (Suspend to RAM)**.

High Precision Event Timer

Select Enabled to activate the High Performance Event Timer (HPET) that produces periodic interrupts at a much higher frequency than a Real-time Clock (RTC) does in synchronizing multimedia streams, providing smooth playback and reducing the dependency on other timestamp calculation devices, such as an x86 RDTSC Instruction embedded in the CPU. The High Performance Event Timer is used to replace the 8254 Programmable Interval Timer. The options are **Enabled** and Disabled.

WHEA Support

This feature Enables the Windows Hardware Error Architecture (WHEA) support for the Windows 2008 (or a later version) operating system. The options are **Enabled** and Disabled.

▸Trusted Computing Configuration

Security Device Support

If this feature and the TPM jumper on the motherboard are both set to Enabled, onbaord 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 Disabled and **Enabled**.

TPM State

This feature changes the TPM State. The options are **Disabled** and Enabled. Note: The system will restart to change the TPM State.

Pending TPM operation

Use this item to schedule a TPM-related operation to be performed by a security device for system data integrity. Your system will reboot to carry out a pending TPM operation. The options are **None** and TPM Clear.

Device Select

Use this feature to select the TPM version. TPM 1.2 will restrict support to TPM 1.2 devices. TPM 2.0 will restrict support for TPM 2.0 devices. Select Auto to enable support for both versions. The default setting is **Auto**.

The following are informational status messages that indicate the current TPM State:

TPM Enabled Status

TPM Active Status

TPM Owner Status

TXT Support

Intel TXT (Trusted Execution Technology) helps protect against software-based attacks and ensures protection, confidentiality and integrity of data stored or created on the system. Use this feature to enable or disable TXT Support. The options are **Disabled** and Enabled.

▶iSCSi Configuration

iSCSI Initiator Name

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

▶Add an Attempt

▶Delete Attempts

▶Change Attempt order

▶Intel(R) I210 Gigabit Network Connection

▶NIC Configuration

Link Speed

This feature allows the user to specify the port speed used for the selected boot protocol. The options are **Auto Negotiated**, 10 Mbps Half, 10 Mbps Full, 100 Mbps Half, and 100 Mbps Full.

Wake On LAN

Select Enabled for Wake_On_LAN support, which will allow the system to "wake up" when an onboard device receives an incoming signal. The options are Disabled and **Enabled**.

Blink LEDs

Use this feature to identify the physical network port by blinking the associated LED. Use the keybaord to select a value.

UEFI Driver

This item displays the UEFI driver version.

Adapter PBA

This item displays the Processor Bus Adapter (PBA) model number. The PBA number is a nine digit number (i.e., 010B00-000) located near the serial number.

Device Name

This item displays the adapter device name.

Chip Type

This item displays the network adapter chipset name.

PCI Device ID

This item displays the device ID number.

PCI Address

This item displays the PCI address for this computer. PCI addresses are 3 two-digit hexadecimal numbers.

Link Status

This item displays the connection status.

MAC Address

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

Virtual MAC Address

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

▶Intel I219 Gigabit Network Connection

▶NIC Configuration

Link Speed

This feature allows the user to specify the port speed used for the selected boot protocol. The options are **Auto Negotiated**, 10 Mbps Half, 10 Mbps Full, 100 Mbps Half, and 100 Mbps Full.

Wake On LAN

This feature displays the status of Wake on LAN.

Blink LEDs

Use this feature to identify the physical network port by blinking the associated LED. Use the keybaord to select a value.

UEFI Driver

This item displays the UEFI driver version.

Adapter PBA

This item displays the Processor Bus Adapter (PBA) model number. The PBA number is a nine digit number (i.e., 010B00-000) located near the serial number.

Chip Type

This item displays the network adapter chipset name.

PCI Device ID

This item displays the device ID number.

PCI Address

This item displays the PCI address for this computer. PCI addresses are 3 two-digit hexadecimal numbers.

Link Status

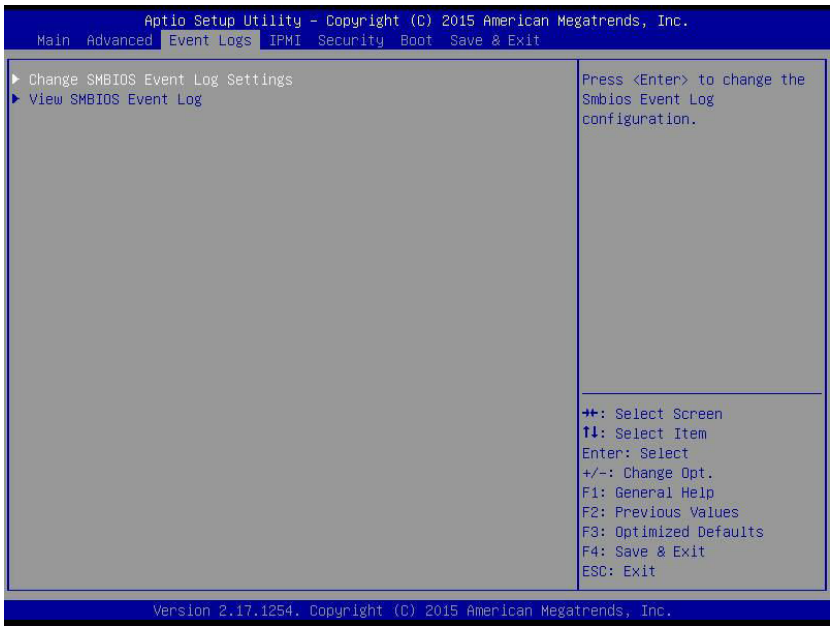
This item displays the connection status.

MAC Address

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

6.4 Event Logs

Use this feature to configure Event Log settings.



▶Change SMBIOS Event Log Settings

Enabling/Disabling Options

SMBIOS Event Log

Change this item to enable or disable all features of the SMBIOS Event Logging during system boot. The options are **Enabled** and Disabled.

Erasing Settings

Erase Event Log

If No is selected, data stored in the event log will not be erased. Select Yes, Next Reset, data in the event log will be erased upon next system reboot. Select Yes, Every Reset, data in the event log will be erased upon every system reboot. The options are **No**, Yes, Next reset, and Yes, Every reset.

When Log is Full

Select Erase Immediately for all messages to be automatically erased from the event log when the event log memory is full. The options are **Do Nothing** and Erase Immediately.

SMBIOS Event Long Standard Settings

Log System Boot Event

This option toggles the System Boot Event logging to enabled or disabled. The options are **Disabled** and Enabled.

MECI

The Multiple Event Count Increment (MECI) counter counts the number of occurences that a duplicate event must happen before the MECI counter is incremented. This is a numeric value. The default value is **1**.

METW

The Multiple Event Time Window (METW) defines number of minutes must pass between duplicate log events before MECI is incremented. This is in minutes, from 0 to 99. The default value is **60**.

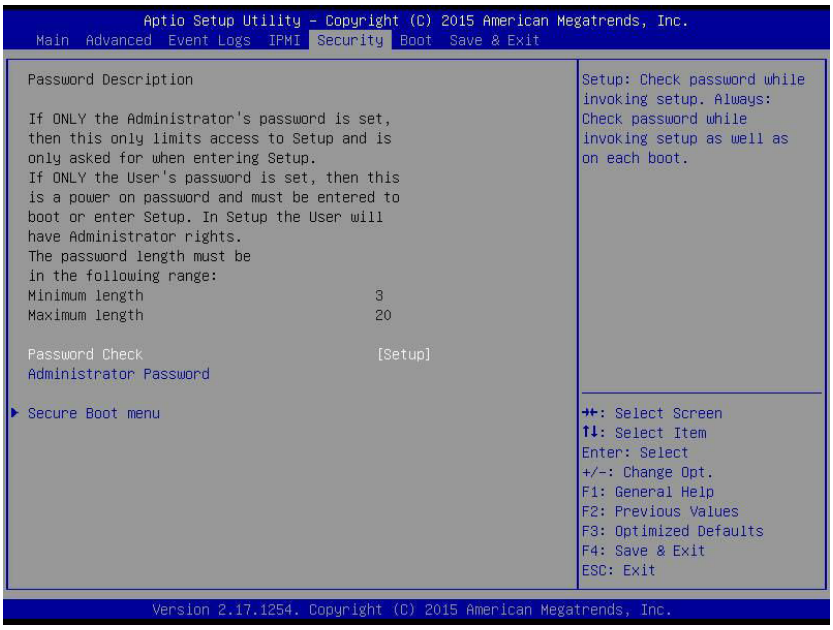
> **Note**: After making changes on a setting, be sure to reboot the system for the changes to take effect.

▶View SMBIOS Event Log

This section displays the contents of the SMBIOS Event Log.

6.5 Security

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



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.

Administrator Password

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

▶Secure Boot Menu

This section displays the contents of the following secure boot features:

- System Mode
- Secure Boot
- Vendor Keys

Secure Boot

Use this item to enable secure boot. The options are **Disabled** and Enabled.

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 **Enabled** and Disabled.

▶Key Management

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

Provision Factory Default Keys

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

▶Enroll All Factory Default Keys

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

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.

▶Key Exchange Key

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.

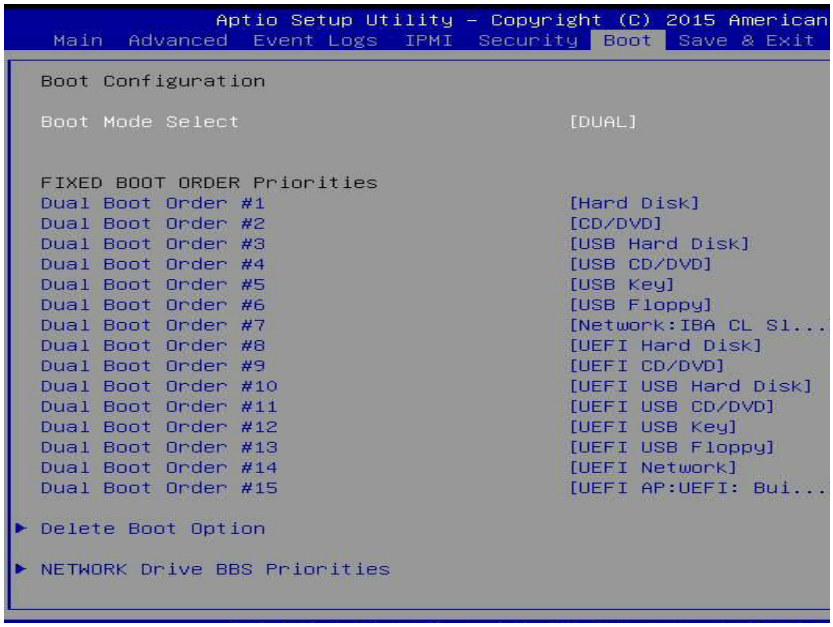
▶Authorized Signatures

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.

6.6 Boot

Use this feature 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.

Fixed Boot Order Priorities

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

If the item above set to Legacy, UEFI/Dual the following items will be displayed:

- Legacy/UEFI/Dual/Boot Order #1
- Legacy/UEFI/Dual/Boot Order #2
- Legacy/UEFI/Dual/Boot Order #3
- Legacy/UEFI/Dual/Boot Order #4
- Legacy/UEFI/Dual/Boot Order #5
- Legacy/UEFI/Dual/Boot Order #6
- Legacy/UEFI/Dual/Boot Order #7
- Legacy/UEFI/Dual/Boot Order #8
- Legacy/UEFI/Dual/Boot Order #9

- Legacy/UEFI/Dual/Boot Order #10
- Legacy/UEFI/Dual/Boot Order #11
- Legacy/UEFI/Dual/Boot Order #12
- Legacy/UEFI/Dual/Boot Order #13
- Legacy/UEFI/Dual/Boot Order #14
- Legacy/UEFI/Dual/Boot Order #15

▶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].

▶NETWORK Drive BBS Priorities

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

- UEFI Boot Order #1
- UEFI Boot Order #2

▶UEFI Application Boot Priorities

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

- UEFI Boot Order #1

6.7 Save & Exit

Select the Exit tab from the BIOS setup utility screen to enter the 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

When you have completed the system configuration changes, select this option to leave the BIOS setup utility and reboot the computer, so the new system configuration parameters can take effect. Select Save Changes and Exit from the Exit menu and press <Enter>.

Save Changes

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

Discard Changes

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

Default Options

Restore Optimized Defaults

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

Save As User Defaults

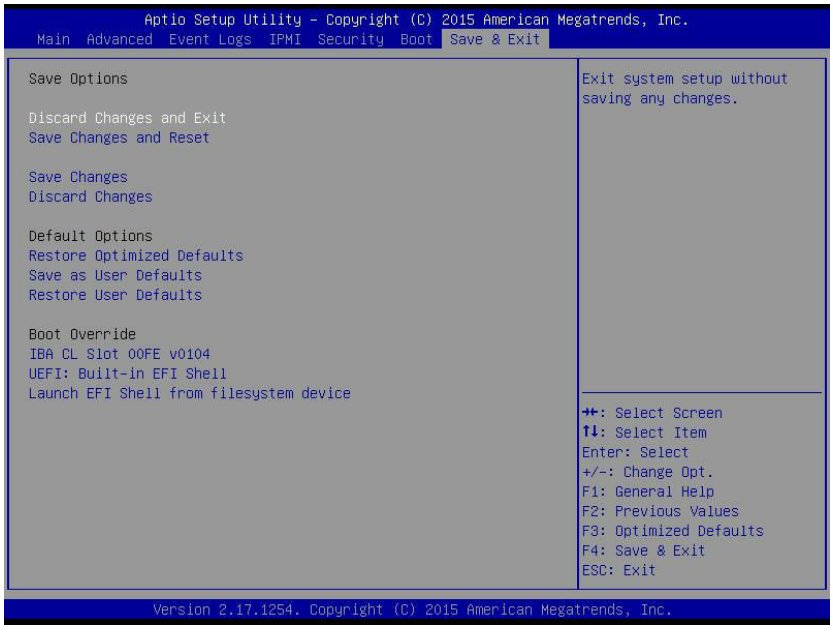
To set this feature, select Save as User Defaults from the Exit menu and press <Enter>. This enables the user to save any changes to the BIOS setup for future use.

Restore User Defaults

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

Boot Override

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



Appendix A

BIOS Error Codes

A-1 BIOS Error Beep (POST) Codes

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

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

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

These fatal errors are usually communicated through a series of audible beeps. The numbers on the fatal error list (on the following page) correspond to the number of beeps for the corresponding error. All errors listed, with the exception of Beep Code 8, are fatal errors.

BIOS Error Beep (POST) Codes		
Beep Code	**Error Message**	**Description**
1 beep	Refresh	Circuits have been reset (Ready to power up)
5 short, 1 long	Memory error	No memory detected in system
5 short beeps	Display error	System display error

A-2 Additional BIOS POST Codes

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

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

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

Appendix B

Standardized Warning Statements for AC Systems

B.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。

此警告符号代表危险。

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

此警告符號代表危險。

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

Warnung

WICHTIGE SICHERHEITSHINWEISE

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

BEWAHREN SIE DIESE HINWEISE GUT AUF.

INSTRUCCIONES IMPORTANTES DE SEGURIDAD

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

GUARDE ESTAS INSTRUCCIONES.

IMPORTANTES INFORMATIONS DE SÉCURITÉ

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

CONSERVEZ CES INFORMATIONS.

תקנון הצהרות אזהרה

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

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

تحذير! هذا الرمز يعني خطر انك في حالة يمكن أن تتسبب في اصابة جسدية .
قبل أن تعمل على أي معدات،كن على علم بالمخاطر الناجمة عن الدوائر
الكهربائية
وكن على دراية بالممارسات الوقائية لمنع وقوع أي حوادث
استخدم رقم البيان المنصوص في نهاية كل تحذير للعثور ترجمتها

안전을 위한 주의사항

경고!

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

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

BELANGRIJKE VEILIGHEIDSINSTRUCTIES

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

BEWAAR DEZE INSTRUCTIES

Installation Instructions



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

設置手順書

システムを電源に接続する前に、設置手順書をお読み下さい。

警告
将此系统连接电源前,请先阅读安装说明。

警告
將系統與電源連接前，請先閱讀安裝說明。

Warnung

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

¡Advertencia!

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

Attention

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

יש לקרוא את הוראות התקנה לפני חיבור המערכת למקור מתח.

اقر إرشادات التركيب قبل توصيل النظام إلى مصدر للطاقة

시스템을 전원에 연결하기 전에 설치 안내를 읽어주십시오.

Waarschuwing

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

Circuit Breaker



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

サーキット・ブレーカー

この製品は、短絡（過電流）保護装置がある建物での設置を前提としています。

保護装置の定格が250 V、20 Aを超えないことを確認下さい。

警告

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

警告

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

Warnung

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

¡Advertencia!

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

Attention

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

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

هذا المنتج يعتمد على الحماية من الدوائر القصيرة التي تم تثبيتها في المبنى
تأكد من أن الجهاز الواقي ليس أكثر من: 20A, 250VDC

경고!

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

Waarschuwing

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

Power Disconnection Warning



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

電源切断の警告

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

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

警告

在你打开机箱并安装或移除内部器件前,必须将系统完全断电,并移除电源线。

警告

在您打開機殼安裝或移除內部元件前，必須將系統完全斷電，並移除電源線。

Warnung

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

¡Advertencia!

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

Attention

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

אזהרה מפני ניתוק חשמלי

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

يجب فصل النظام من جميع مصادر الطاقة وإزالة سلك الكهرباء من وحدة امداد
الطاقة قبل
الوصول إلى المناطق الداخلية للهيكل لتثبيت أو إزالة مكونات الجهاز

경고!

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

Waarschuwing

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

Equipment Installation



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

機器の設置

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

警告

只有经过培训且具有资格的人员才能进行此设备的安装、更换和维修。

警告

只有經過受訓且具資格人員才可安裝、更換與維修此設備。

Warnung

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

¡Advertencia!

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

Attention

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

אזהרה !

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

يجب أن يسمح فقط للموظفين المؤهلين والمدربين لتركيب واستبدال أو خدمة هذا الجهاز

경고!

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

Waarschuwing

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

Restricted Area



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

アクセス制限区域

このユニットは、アクセス制限区域に設置されることを想定しています。

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

警告

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

警告

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

Warnung

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

¡Advertencia!

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

Attention

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

אזור עם גישה מוגבלת

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

تم تخصيص هذه الوحدة لتركيبها في مناطق محظورة .
يمكن الوصول إلى منطقة محظورة فقط من خلال استخدام أداة خاصة،
قفل ومفتاح أو أي وسيلة أخرى للالأمان

경고!

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

Waarschuwing

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

Battery Handling



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

電池の取り扱い

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

警告

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

警告

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

Warnung

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

Attention

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

¡Advertencia!

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

אזהרה !

קיימת סכנת פיצוץ של הסוללה במידה והוחלפה בדרך לא תקינה. יש להחליף את הסוללה בסוג התואם מחברת יצרן מומלצת.

סילוק הסוללות המשומשות יש לבצע לפי הוראות היצרן.

هناك خطر من انفجار في حالة استبدال البطارية بطريقة غير صحيحة فعليك
استبدال البطارية
فقط بنفس النوع أو ما يعادلها كما أوصت به الشركة المصنعة
تخلص من البطاريات المستعملة وفقا لتعليمات 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 ontploffingsgevaar indien de batterij verkeerd vervangen wordt. Vervang de batterij slechts met hetzelfde of een equivalent type die door de fabrikant aanbevolen wordt. Gebruikte batterijen dienen overeenkomstig fabrieksvoorschriften afgevoerd te worden.

Redundant Power Supplies



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

冗長電源装置

このユニットは複数の電源装置が接続されている場合があります。

ユニットの電源を切るためには、すべての接続を取り外さなければなりません。

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

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

Warnung

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

¡Advertencia!

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

Attention

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

אם קיים יותר מספק אחד

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

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

경고!

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

Waarschuwing

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

Backplane Voltage



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

バックプレーンの電圧

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

修理する際には注意ください。

警告
当系统正在进行时，背板上有很危险的电压或能量，进行维修时务必小心。

警告
當系統正在進行時，背板上有危險的電壓或能量，進行維修時務必小心。

Warnung

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

¡Advertencia!

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

Attention

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

מתח בפנל האחורי

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

هناك خطر من التيار الكهربائي أوالطاقة الموجودة على اللوحة
عندما يكون النظام يعمل كن حذرا عند خدمة هذا الجهاز

경고!

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

Waarschuwing

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

Comply with Local and National Electrical Codes



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

地方および国の電気規格に準拠

機器の取り付けはその地方および国の電気規格に準拠する必要があります。

警告

设备安装必须符合本地与本国电气法规。

警告

設備安裝必須符合本地與本國電氣法規。

Warnung

Die Installation der Geräte muss den Sicherheitsstandards entsprechen.

¡Advertencia!

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

Attention

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

תיאום חוקי החשמל הארצי

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

تركيب المعدات الكهربائية يجب أن يمتثل للقوانين المحلية والوطنية 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.

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

경고!

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

Waarschuwing

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

Hot Swap Fan Warning



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

ファン・ホットスワップの警告

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

警告!

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

警告

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

Warnung

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

¡Advertencia!

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

Attention

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

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

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

경고!

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

Waarschuwing

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

Power Cable and AC Adapter



Warning! When installing the product, use the provided or designated connection or procure cables, power cables and AC adaptors complying with local codes and safety requirements including proper cord size and plug. 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 Adapater, die Ihre örtlichen Sicherheitsstandards einhalten. Der Gebrauch von anderen Kabeln und Adapter können Fehlfunktionen oder Feuer verursachen. Die Richtlinien untersagen das Nutzen von UL oder CAS zertifizierten Kabeln (mit UL/CSA gekennzeichnet), an Geräten oder Produkten die nicht mit Supermicro gekennzeichnet sind.

¡Advertencia!

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

Attention

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

AC ימאתמו סיילמשח סילבכ

!הרהזא

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

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

전원 케이블 및 AC 어댑터

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

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

Stroomkabel en AC-Adapter

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

Appendix C

System Specifications

Processors

Single Intel® Xeon® E3-1200 v5 and 6th Gen Core™ i7/i5/i3, Pentium and Celeron processors in LGA 1151 (H4) type socket
Note: Please refer to the motherboard specifications pages on our website for updates to supported processors.

Chipset

Intel C236 Express chipset

BIOS

128 MB AMI® Flash ROM

Memory

Four 288-pin DIMM slots that can support up to 64 GB of unbuffered ECC/non-ECC DDR4-2133MHz SDRAM
Note: See the memory section in Chapter 3 for details and our website for updates to supported memory.

SATA Controller

On-chip (C236 Express) controller

Drive Bays

Four hot-swap drive bays for 3.5" SATA drives

PCI Expansion Slots

One PCI Express 3.0 x16 slot (may support two PCI-E 3.0 x8 cards)
Three PCI Express 3.0 x1 slots
Two PCI 33MHz slots
One M.2 slot (32Mb/s)

Motherboard

X11SAE: ATX form factor (12 x 9.6 in. / 305 x 244 mm.)

Chassis

SC732D4-500B: mid-tower, 7.6 x 16.7 x 20.68 in. / 193 x 424 x 525.3 mm. (W x H x D)

System Cooling

One 12-cm low-noise exhaust fan and (optional) one 12-cm low-noise front cooling fan

Power Supply

Model: PWS-502-PQ
AC Input Voltages: 100-240 VAC
Rated Input Current: 7A (115V) to 3.5A (240V)
Rated Input Frequency: 50-60 Hz
Rated Output Power: 500W
Rated Output Voltages: +3.3V (15A), +5V (20A), +12V (17A), -12V (0.5A), +5Vsb (3A)

Operating Environment

Operating Temperature: 10º to 35º C (50º to 95º F)
Non-operating Temperature: -40º to 70º C (-40º to 158º F)
Operating Relative Humidity: 8% to 90% (non-condensing)
Non-operating Relative Humidity: 5% to 95% (non-condensing)

Regulatory Compliance

Electromagnetic Emissions: FCC Class B, EN 55022 Class B, EN 61000-3-2/3-3, CISPR 22 Class B
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)

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"