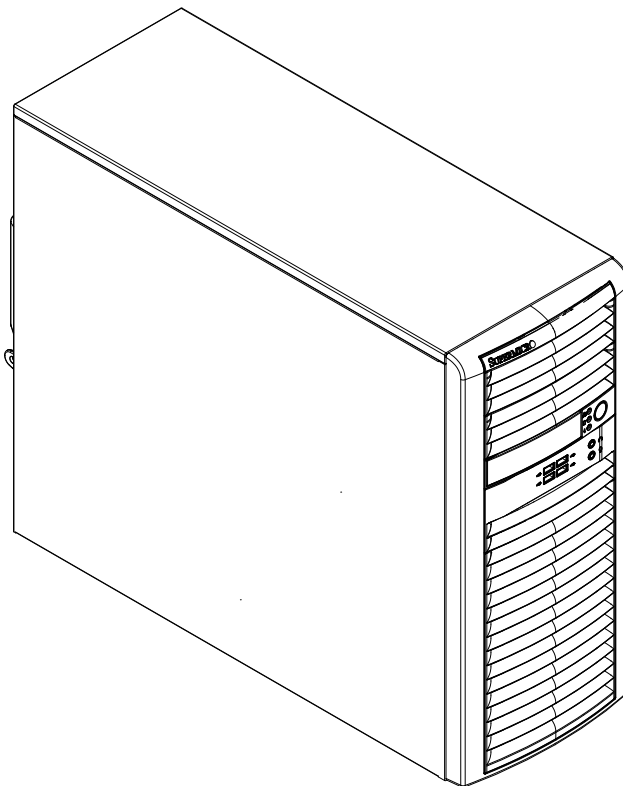




SuperWorkstation 5039C-T



USER'S MANUAL

Revision 1.0

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Manual Revision 1.0

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Preface

About this Manual

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

Please refer to the 5039C-T workstation 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.

Contents

Chapter 1 Introduction

1.1 Overview.....	7
1.2 Unpacking the System	7
1.3 System Features	8
1.4 Chassis Features	9
Control Panel	9
Front Features.....	10
Rear Features	11
1.5 Motherboard Layout	12
Quick Reference	13
Block Diagram.....	15

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	17
3.2 Accessing the System.....	17
3.3 Motherboard Components.....	19
Processor and Heatsink Installation.....	19
Installing the LGA1151 Processor	19
Installing a Heatsink	22
Removing the Heatsink	23
Memory Installation	24
Memory Support	24
Memory Population Guidelines.....	24
Memory Population Sequence	24
Installing Memory.....	25
Motherboard Battery	26
3.4 Chassis Components	27
Storage Drives	27
Adding 2.5" Storage Drives	29

U.2 SSD Storage	31
Adding an M.2 Storage Card.....	32
Installing an Optional Device	33
System Cooling	34
Rear Fan.....	34
Optional Front Fan.....	35
Power Supply	36
Expansion Card Installation	37
Chapter 4 Motherboard Connections	
4.1 Power Connections	38
4.2 Headers and Connectors	39
Control Panel	42
4.3 Input/Output Ports	44
Rear I/O Ports	44
4.4 Jumpers.....	46
4.5 LED Indicators.....	48
4.6 Storage Ports	48
Chapter 5 Software	
5.1 OS Installation.....	49
5.2 Driver Installation.....	50
5.3 SuperDoctor® 5.....	51
Chapter 6 BIOS	
6.1 Introduction.....	52
Starting BIOS Setup Utility.....	52
6.2 Main Setup	53
6.3 Advanced Setup Configurations.....	54
6.4 Event Logs	77
6.5 Security.....	79
6.6 Boot.....	80
6.7 Save & Exit.....	81
Appendix A BIOS Error Codes	
Appendix B Standardized Warning Statements for AC Systems	
Appendix C System Specifications	
Appendix D UEFI BIOS Recovery	
Appendix E Chinese BSMI-RoHS	

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Chapter 1

Introduction

1.1 Overview

The SuperWorkstation 5039C-T is a single processor workstation in the SC732D4-500B chassis with an X11SCA motherboard. It is useful as an entry level workstation or server for small and medium businesses.

In addition to the motherboard and chassis, several included parts are listed below.

Main Parts List		
Description	Part Number	Quantity
Power supply	PWS-502-PQ	1
Fans	FAN-0124L4	1 standard, 1 optional
<i>(Optional)</i> Active CPU heatsink	SNK-P0051AP4	1
<i>(Optional)</i> 2.5" to 3.5" SSD/HDD adapter tray	MCP-220-73102-0N	1
<i>(Optional)</i> 2.5" HDD cage (4x Internal 2.5" HDD)	MCP-220-73201-0N	1
<i>(Optional)</i> 5.25" HH 24X DVD-RW SATA Drive PBF	DVM-LITE-DVDRW24-HBT	1

1.2 Unpacking the System

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

1.3 System Features

The following is an overview of the main features.

System Features
Motherboard
X11SCA
Chassis
SC732D4-500B
CPU
Single Intel® Xeon® E Family/ 8th Intel Core™ i3/ Pentium/ Celeron processors in Socket H4 (LGA 1511), up to 6 cores, 95W max TDP
Memory
Four DDR4 ECC/ non-ECC UDIMM slots, up to 2666MHz, max. capacity 64GB
Chipset
Intel C246
Expansion Slots
Two PCI-E 3.0 x16 ** (16/NA or 8/8) ** One PCI-E 3.0 x4 (shared with M.2 M-key #1) via PCH One PCI-E 3.0 x1 via PCH One PCI 32bit 5V One M.2 E-key vertical socket for WIFI/ Bluetooth
Storage Drives
Four 3.5" internal drive bays <i>(Optional)</i> Four 2.5" internal drive bays One U.2 connector (shared with M.2 M-key#2 via PCH) Two M.2 (M-key, 2260/2280/ 22110)
Power
500W 80PLUS Bronze certified power supply
Cooling
One rear 120mm PWM fan (1850 RPM); One optional front 120mm fan (1850 RPM)
Form Factor
Mid-size tower; (WxHxD) 7.6 x 16.7 x 20.68 in. (193 x 424 x 525 mm)
Input/Output
Network: two 1Gb LAN ports (one Intel I219LM with vPro, one Intel I210-AT) USB: Front: two USB 3.1 Gen 1, two USB 2.0 Rear: one USB3.1 Gen 2 Type A, USB3.1 Gen 2 Type C, two USB 3.1 Gen 1 Video: DisplayPort, HDMI2.0a (audio/video), and DVI-D Audio: Front: headset and mic jacks Rear: line in, line out, surround out, Center/LFE Out, SPDIF out, mic in

1.4 Chassis Features

The SC732D4-500B is a mid-tower chassis.

Control Panel

The chassis front features a control panel to monitor functions and power off and on the system.

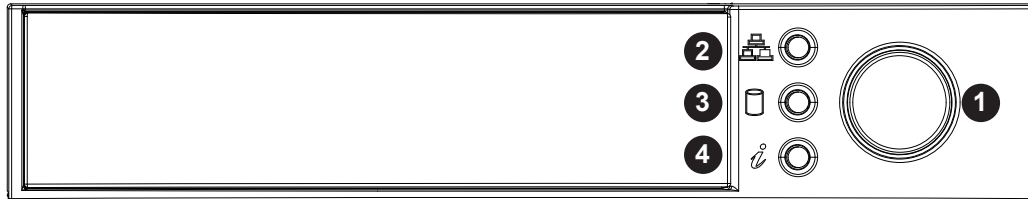


Figure 1-1. Control Panel View

Control Panel Features		
Item	Feature	Description
1	Power button	Turns primary power on or off to the workstation from the power supply, but maintains standby power
2	NIC LED	Indicates network activity on the LAN port when flashing.
3	HDD LED	Indicates activity on a hard drive when flashing.
4	Information LED	See table below

Information LED	
Status	Description
Continuously on and red	An overheat condition has occurred. (This may be caused by cable congestion.)
Blinking red (1Hz)	Fan failure, check for an inoperative fan.

Front Features

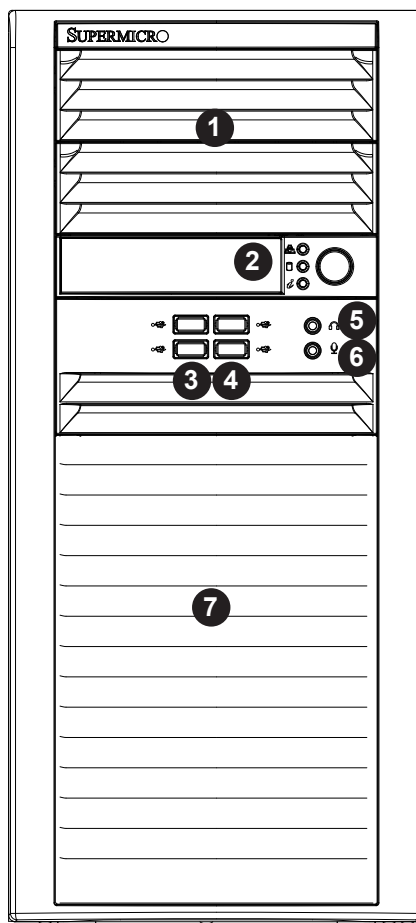


Figure 1-2. Chassis Front View

Front Chassis Features		
Item	Feature	Description
1	Optional Drive Area	Supports two optional peripheral 5.25" drives (such as a DVD)
2	Control Panel	Front control panel (see preceding page)
3	USB	Two USB 2.0 ports
4	USB	Two USB 3.1 Gen 1 ports
5	Line Out	Headphone jack
6	Mic	Microphone jack
7	Internal Drives (behind bezel)	Supports four 3.5" fixed internal storage drives

Rear Features

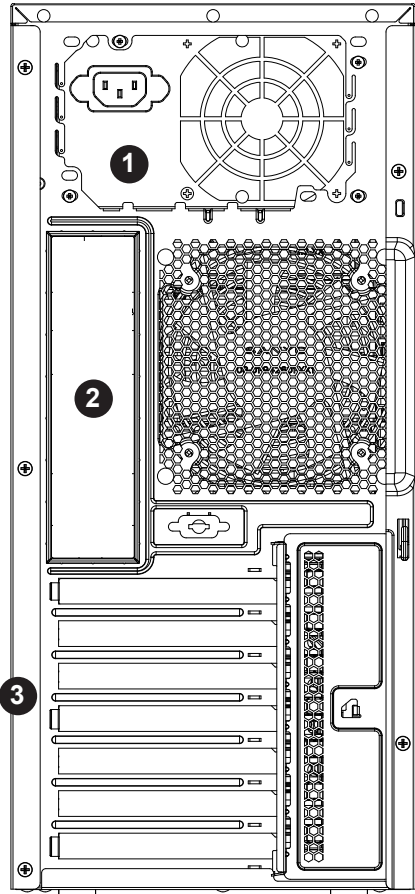


Figure 1-3. Chassis Rear View

Rear Chassis Features		
Item	Feature	Description
1	Power Supply	Fixed module
2	I/O Backpanel	Rear input/output ports (see Section 4.3 and figure below)
3	PCI-E Slots	Supports four full-height, full-length PCI-E expansion cards

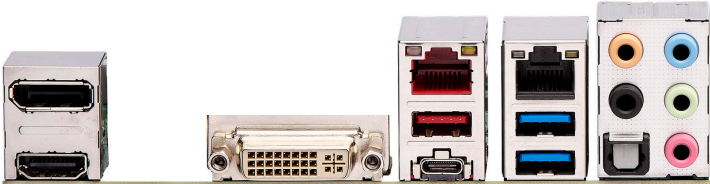


Figure 1-4. Input/Output Ports

1.5 Motherboard Layout

Below is a layout of the X11SCA motherboard with jumper, connector and LED locations. See the table on the following page for brief descriptions. For detailed descriptions, pinout information and jumper settings, refer to Chapter 4.

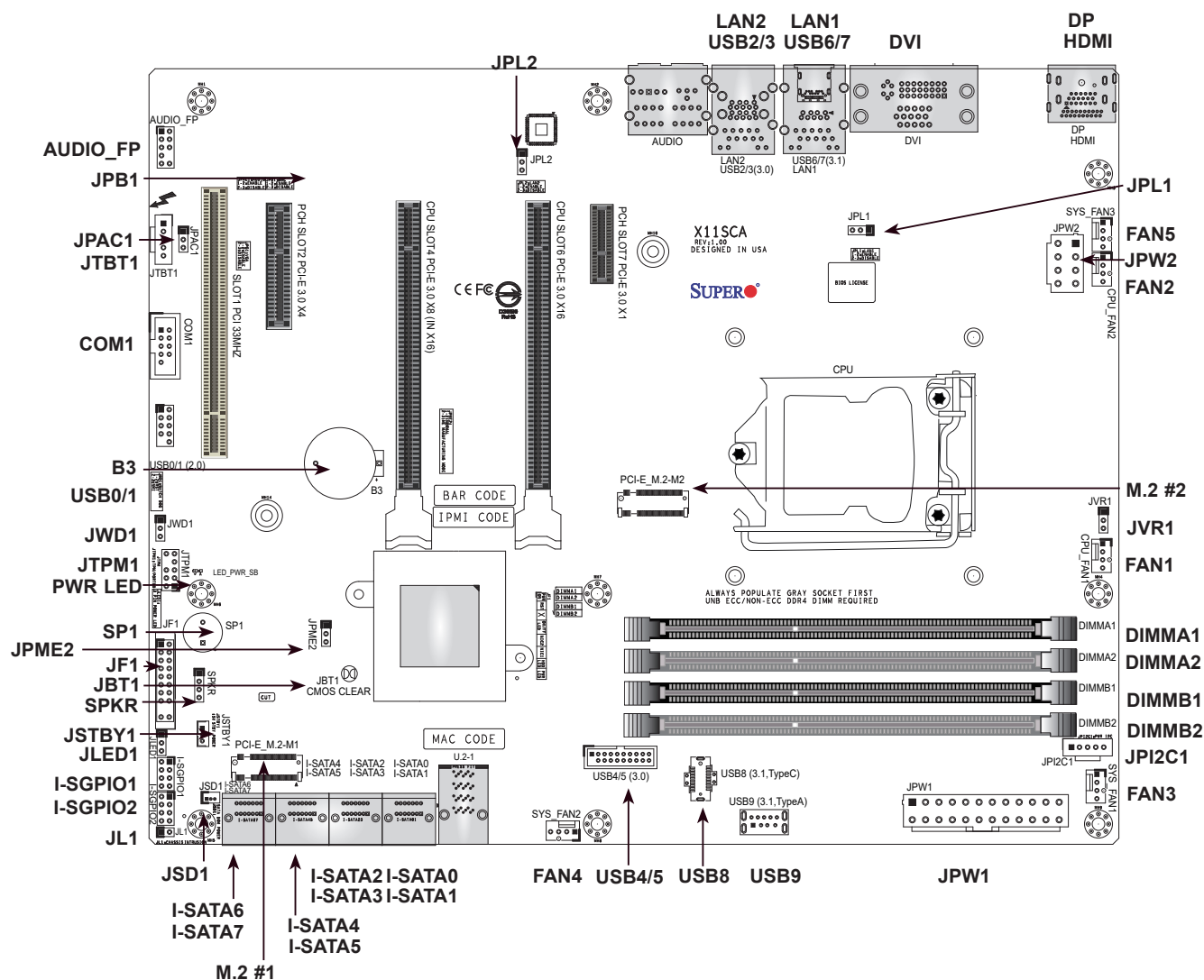


Figure 1-5. Motherboard Layout

Notes:

- "■" indicates the location of pin 1.
- Jumpers/LED indicators not indicated are used for testing only.
- When JLED1 (Onboard Power LED indicator) is on, system power is on. Unplug the power cable before installing or removing any components.

Quick Reference

Jumper	Description	Default Setting
JBT1	Clear CMOS	Short: Clear CMOS, Open: Normal
JPAC1	Audio Enable	Pins 1-2 (Enabled)
JPL1	LAN1 Enable	Pins 1-2 (Enabled)
JPL2	LAN2 Enable	Pins 1-2 (Enabled)
JPME2	Manufacturing Mode Select	Pins 1-2 (Normal)
JWD1	Watch Dog Enable	Pins 1-2 (Reset)

Connector	Description
AUDIO_FP	Front Panel Audio Header
B3	Onboard Battery
COM1	COM1: Header
CPU SLOT4 PCI-E 3.0 x8 (INx16)	PCI-E x16 Slot (PCI-E 3.0 x8 link)
CPU SLOT6 PCI-E 3.0 x16	PCI-E x16 Slot (PCI-E 3.0 x16 link; x8 link when SLOT4 is used)
PCH SLOT7 PCI-E 3.0 x1	PCI-E x1 Slot
PCH SLOT2 PCI-E 3.0 x4	PCI-E x4 Slot (shared with M.2 #1)
PCI SLOT1 33MHZ	PCI-E Slot, 32 Bit/ 33MHZ wirth 5V single voltage
DP	Back Panel DisplayPort
DVI	Digital Video Interface
CPU_FAN1–2	CPU Fan Headers
SYS_FAN1–3	System Fan Headers
HD AUDIO	Back Panel HD Audio Connectors
HDMI	Back Panel HDMI port
I-SATA0 – I-SATA7	SATA 3.0 Connectors via Intel PCH (6Gb/s)
I-SGPIO 1/2	Serial Link General Purpose I/O Connection Headers for I-SATA 3.0 connections (I-SGPIO1 for I-SATA0~3, I-SGPIO2 for I-SATA4~5)
JF1	Front Control Panel Header
JL1	Chassis Intrusion Header
JLED1	3-pin Power LED Indicator Header
JPW1	24-pin ATX Main Power Connector (Required)
JPW2	+12V 8-pin CPU Power Connector (Required)
JSD1	SATA Disk On Module (DOM) Power Connector
JSTBY1	Standby Power Header
JTBT1	General Purpose Header for Thunderbolt AIC
JTPM1	Trusted Platform Module (TPM)/Port 80 Connector
LAN1/LAN2	1 Gigabit (RJ45) LAN Ports
PCI-E M.2 CONNECTORS (M1, M2)	PCI-E M.2 connectors; small form factor devices and other portable devices for high speed NVMe SSDs
SP1	Internal Speaker/Buzzer
SPKR	Header for Speaker/Buzzer

Connector	Description
USB 0/1	Front Accessible USB 2.0 Header
USB 2/3	Back Panel USB 3.1 Gen 1 Ports
USB 4/5	Front Accessible USB 2.0 Header
USB 6/7	Back Panel USB 3.1 Gen 2 Ports (USB6: Type-C, USB7: Type-A)
USB 8	Front Accessible USB 3.1 Gen 2 Type-C Header
USB 9	Front Accessible USB 3.1 Gen 2 Type-A Header

LED	Description	Status
LED_PWR_SB	Standby Power LED	GREEN: P3V3 Standby Power Ready
PWR_LED	Onboard Power LED	GREEN: Power On

Block Diagram

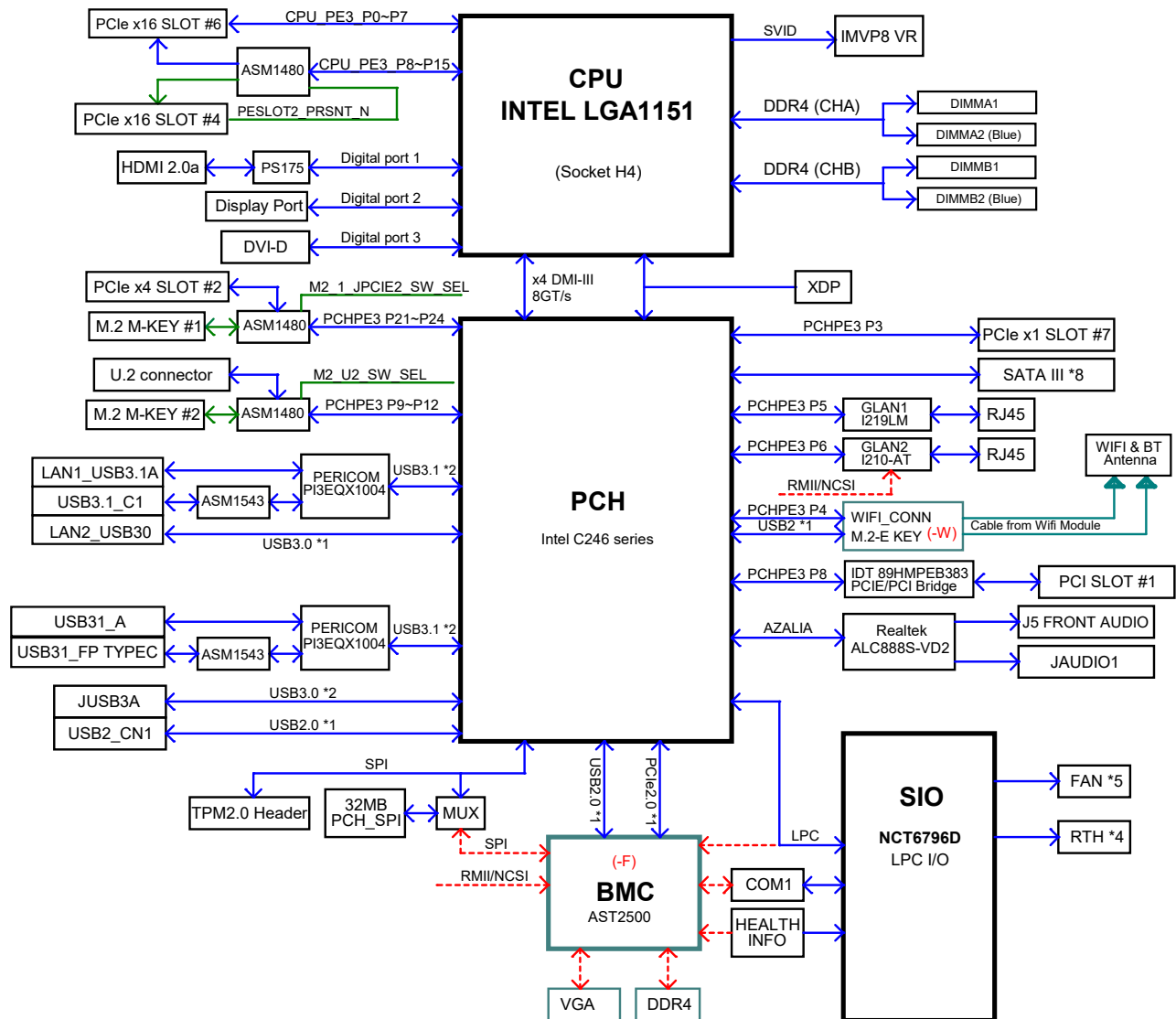


Figure 1-6. Intel C246 Chipset: Block Diagram

Note: This is a general block diagram and may not exactly represent the features on 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 3 for details on installing those 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

Please read this section 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 and back of the system to allow sufficient airflow and access when servicing.
- This product should be installed only in a Restricted Access Location (dedicated equipment rooms, service closets, etc.).
- This product is not suitable for use with visual display workplace devices according to §2 of the German Ordinance for Work with Visual Display Units.

General Precautions

- Review the electrical and general safety precautions in Appendix B.
- Use a regulating uninterruptible power supply (UPS) to protect the workstation 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.

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 part numbers.

Installation or replacement of most components require that power first be removed from the system.

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 modules.

3.2 Accessing the System

The SC732 chassis features two removable side covers, allowing access to the interior.

Removing the Side Covers

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.

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

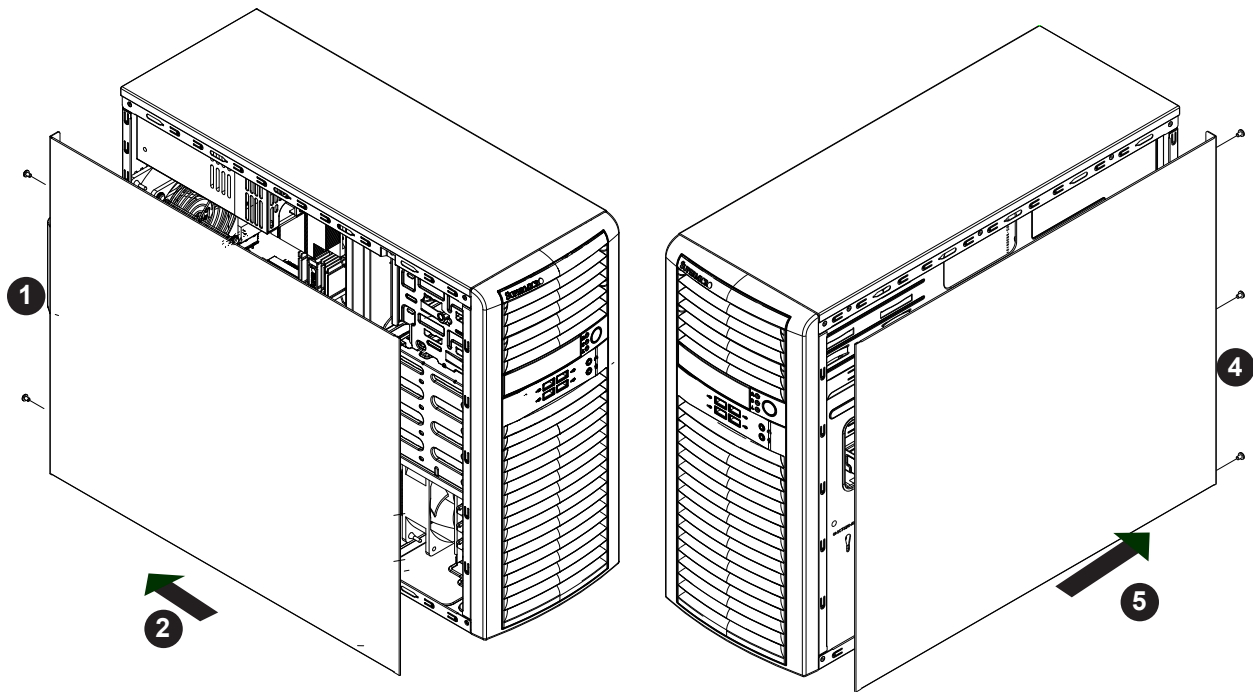


Figure 3-1. Removing the Chassis Covers

3.3 Motherboard Components

Processor and Heatsink Installation

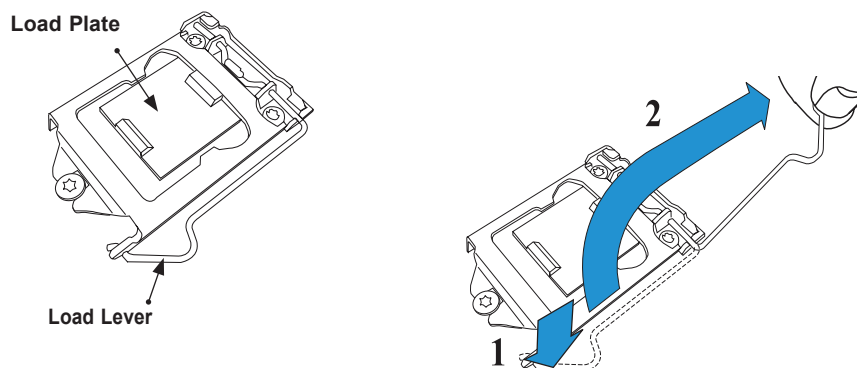
Follow the procedures in this section to install a processor (CPU) and heatsink onto the motherboard mounted in the chassis.

Notes:

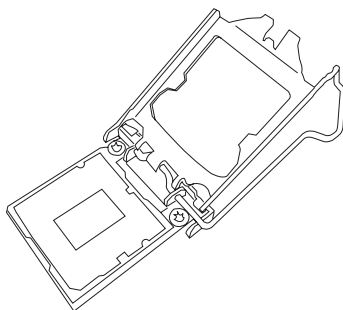
- When handling the processor package, avoid placing direct pressure on the label area of the fan.
- When receiving a motherboard without a processor pre-installed, make sure that the plastic protective socket cover is in place and none of the socket pins are bent; otherwise, contact your retailer immediately.
- Install the the processor into the socket and the motherboard into the chassis before installing the CPU heatsink.
- Use an Intel-certified multi-directional heatsink.
- Refer to the Supermicro website for updates on CPU support.

Installing the LGA1151 Processor

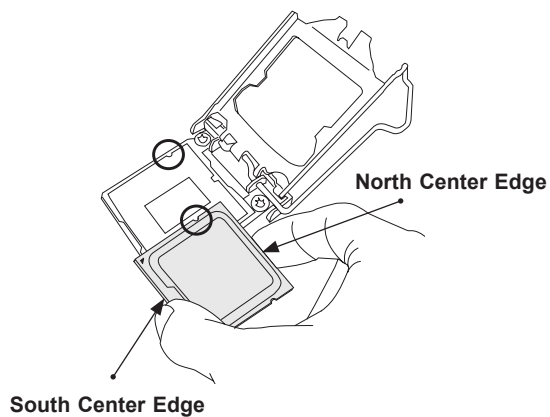
1. Press the load lever to release the load plate, which covers the CPU socket, from its locked position.



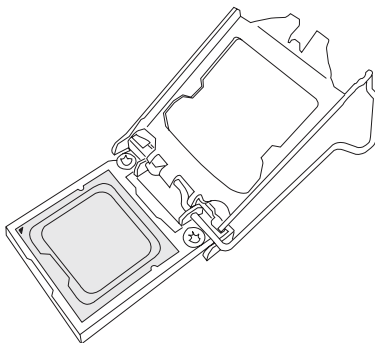
2. Gently lift the load lever to open the load plate. Remove the plastic cap.



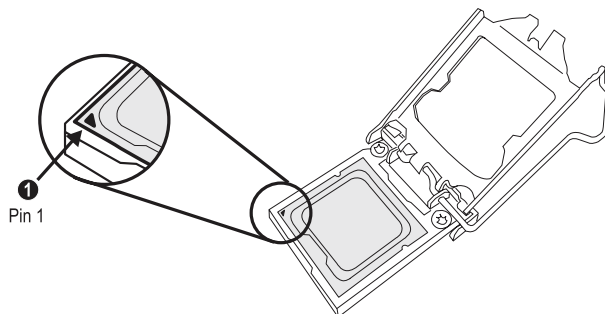
3. Use your thumb and your index finger to hold the CPU at the North center edge and the South center edge of the CPU.



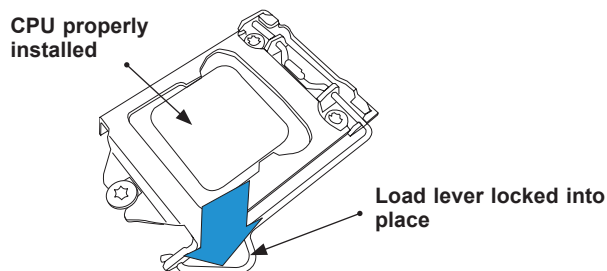
4. Align the CPU key that is the semi-circle cutouts against the socket keys. Once it is aligned, carefully lower the CPU straight down into the socket. Do not drop the CPU on the socket. Do not move the CPU horizontally or vertically.



5. Do not rub the CPU against the surface or against any pins of the socket to avoid damaging the CPU or the socket.



6. With the CPU inside the socket, inspect the four corners of the CPU to make sure that the CPU is properly installed.
7. Use your thumb to gently push the load lever down to the lever lock.



Note: You can only install the CPU inside the socket in one direction. Make sure that it is properly inserted into the CPU socket before closing the load plate. If it does not close properly, do not force it as it may damage your CPU. Instead, open the load plate again and double-check that the CPU is aligned properly.

Installing the CPU Heatsink

Do not apply thermal grease to the heatsink or the CPU--the required amount has already been applied.

1. Remove the power cord from the system.
2. Place the heatsink on top of the CPU so that the four mounting screws on the heatsink are aligned with holes on the socket.
3. Tighten the screws in the order noted below, evenly and gradually. Do not over-tighten.
4. Connect the heatsink fan wires to the proper motherboard connector (see Section 1.5).

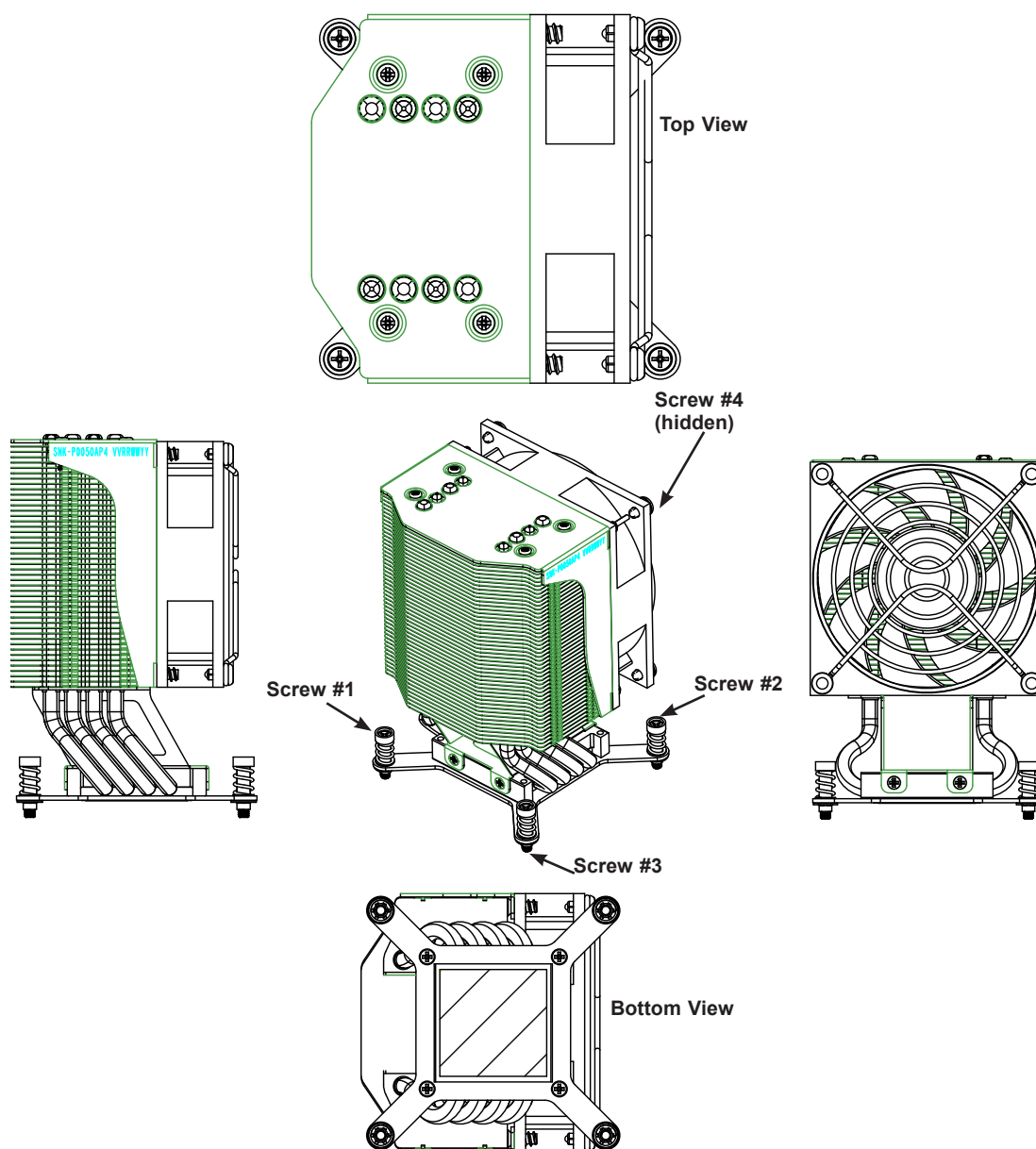


Figure 3-2. CPU Heatsink

Removing the Heatsink

Note: We do not recommend that the CPU or the heatsink be removed. However, if you must remove the heatsink, follow the instructions below to avoid damage.

1. Remove power from the system as described in Section 3.1.
2. Disconnect the heatsink fan wires from the CPU fan header.
3. Loosen the screws evenly and gradually in the order above.
4. Gently wriggle the heatsink to loosen and remove it. Do not use excessive force.

Memory Installation

Memory Support

The motherboard features four DIMM slots that can support up to 64 GB of of unbuffered, ECC/non-ECC DDR4 with speeds up to 2666MHz memory. Check the Supermicro website for possible updates to memory support.

Memory Population Guidelines

- All DIMMs must be DDR4.
- Balance memory. Using unbalanced memory topology, such as populating two DIMMs in one channel while populating one DIMM in another channel, reduces performance. It is not recommended for Supermicro systems.

Guidelines Regarding Mixing DIMMs

- Populating slots with a pair of DIMM modules of the same type and size results in interleaved memory, which improves memory performance.
- Use memory modules of the same type and speed, as mixing is not allowed.
- x4 and x8 DIMMs can be mixed in the same channel.

Memory Population Sequence

Slots should be populated in the following order: DIMMA2, DIMMB2, DIMMA1, and DIMMB1.

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

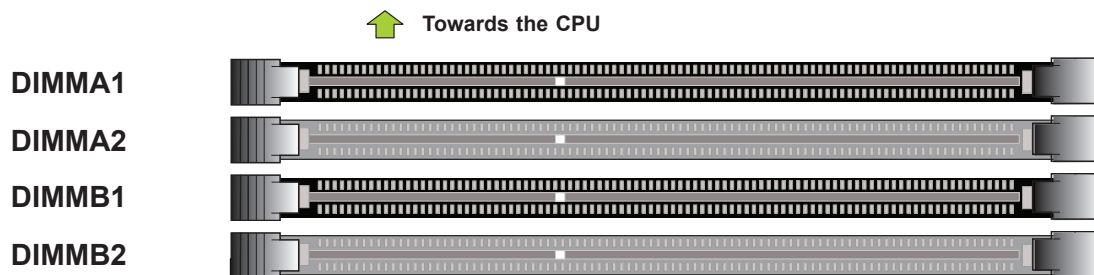
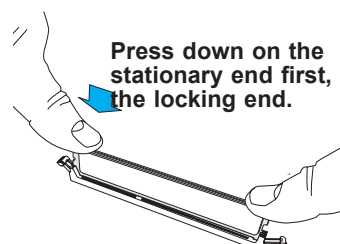
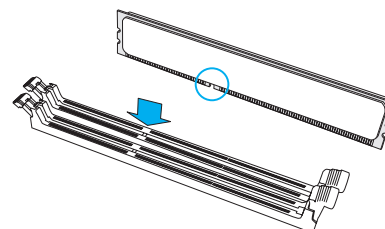
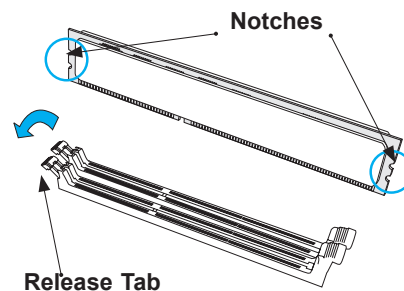


Figure 3-3. Memory Slots

Installing Memory

1. Push the release tab outwards on the end of the DIMM slot to unlock it.
2. Align the key of the DIMM module with the receptive point on the memory slot.
3. Align one end of the DIMM module to the receptive point on the stationary end of the slot, and the other end of the DIMM to the locking end of the slot.
4. Press down on the stationary end of the slot first, then the locking end until the module snaps into place.
5. Press the release tab to the locked position to secure the DIMM module into the slot.



Motherboard Battery

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

Replacing the Battery

1. Remove power from the system as described in section 3.1 and remove the left cover from the chassis.
2. Push aside the small clamp that covers the edge of the battery. When the battery is released, lift it out of the holder.
3. 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.

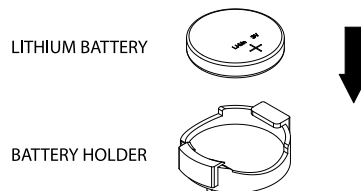


Figure 3-4. Installing the Onboard Battery

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

Storage Drives

Primary data storage capability is provided by up to four 3.5" drives that can be installed in the chassis. To replace or install them, the drive cage must be rotated.

Rotating the Drive Cage

1. Remove power from the system as described in section 3.1 and remove the chassis cover.
2. Lift the release tab (A) as shown below.
3. Rotate the drive cage outward.

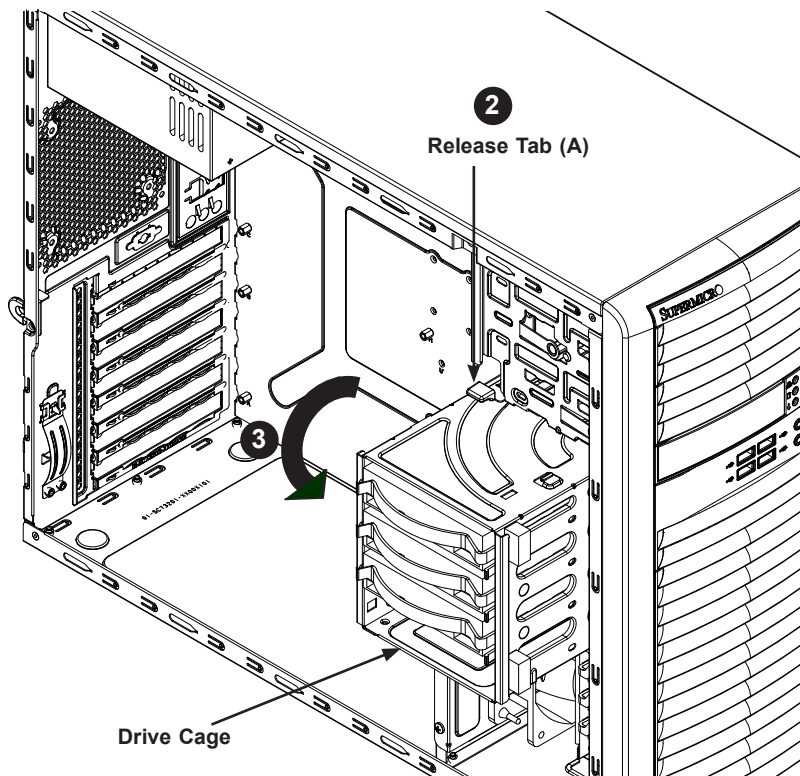


Figure 3-5. Rotating the Drive Cage

Note: Enterprise level drives are recommended for use in Supermicro servers. For information on recommended drives, visit the Supermicro website at <http://www.supermicro.com/products/nfo/storage.cfm>.

Installing a 3.5" Storage Drive

1. Rotate the drive cage.
2. Press the release tab on the side of the drive carrier and slide the carrier out of the drive cage.

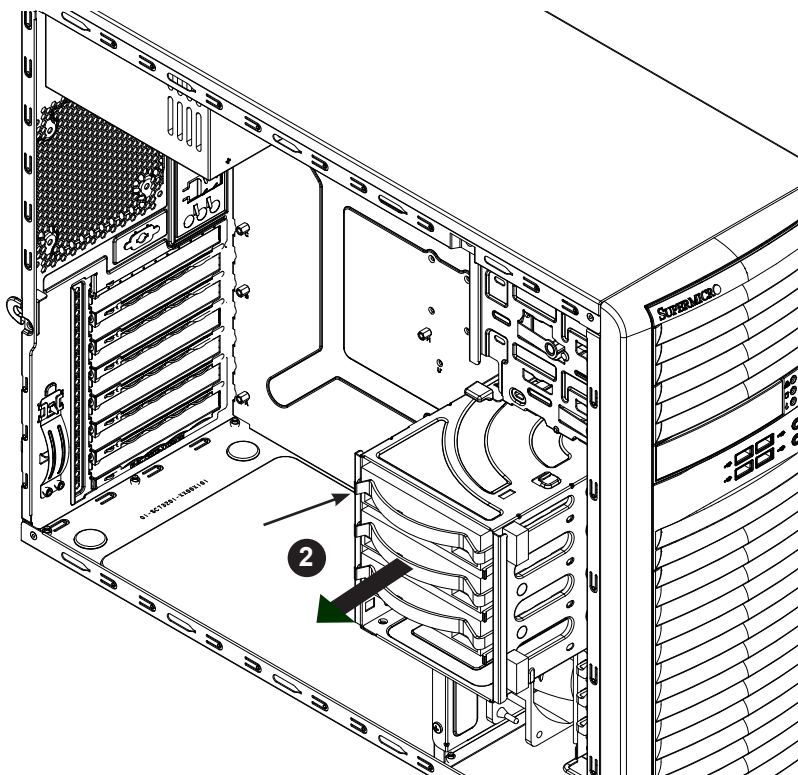


Figure 3-6. Installing Drives in the Primary Drive Cage

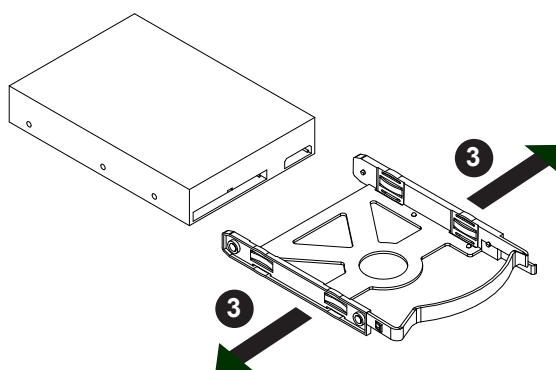


Figure 3-7. Removing a Drive from the Carrier

3. If you are replacing a drive, remove the drive from the carrier by pulling the sides of the carrier outwards.
4. Insert a new drive into a drive carrier by snapping it in.

5. Slide the drive assembly into the drive cage until it clicks into a locked position.
6. Connect the power and data cables to the hard drive.
7. Rotate the drive cage back..

Adding 2.5" Storage Drives

Up to four 2.5" drives may be installed into the chassis using an optional drive cage (p/n MCP-220-73201-0N).

Installing 2.5" Drives

1. Remove power from the system as described in section 3.1 and remove the chassis cover.
2. Loosen the thumb screw securing the drive cage to the chassis.
3. Slide the drive cage out of the chassis. If you are replacing a drive, unplug the power and data cables.

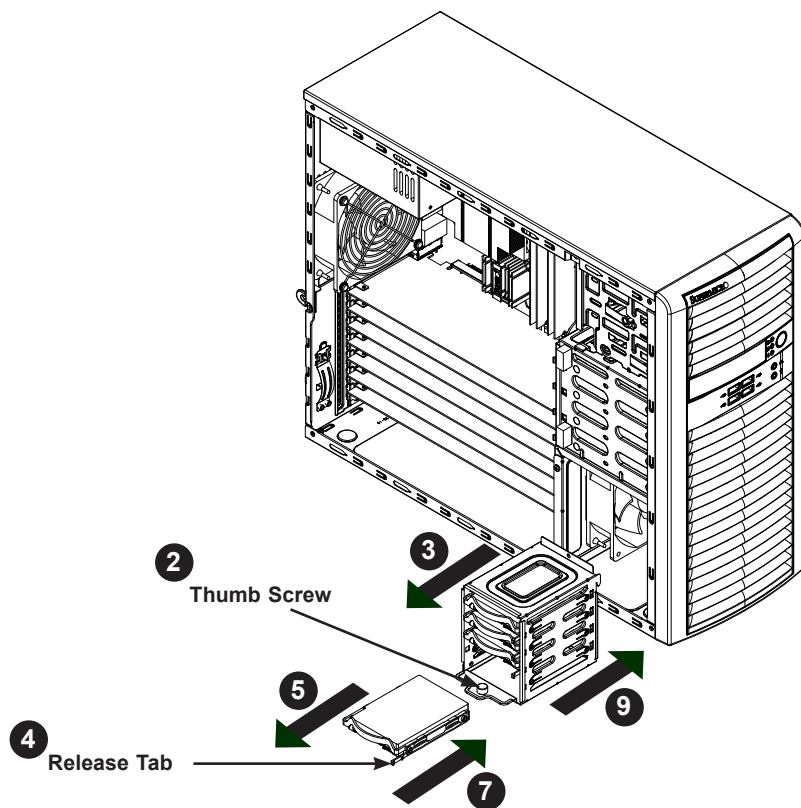


Figure 3-8. Installing a 2.5" Drive in the Optional Cage

4. Press the release tab on the side of the drive carrier and slide the carrier out of the drive cage.
5. If you are replacing a drive, remove the drive from the carrier by pulling the sides of the carrier outwards.
6. Insert a new drive into a drive carrier by snapping it in.
7. Slide the drive assembly into the drive cage until it clicks into a locked position.
8. Connect the power and data cables to the hard drive.
9. Slide the drive cage into of the chassis and tighten the thumb screw.

U.2 SSD Storage

One U.2 solid state storage drive is supported. The drive can be mounted in the primary 3.5" storage drive cage using an adapter (MCP-220-73102-0N) or in the optional 2.5" cage (MCP-220-73201-0N).

An optional cable (CBL-SAST-0957) is required for each port. It plugs into the U.2-1 connector on the motherboard. See the following figure for that location.

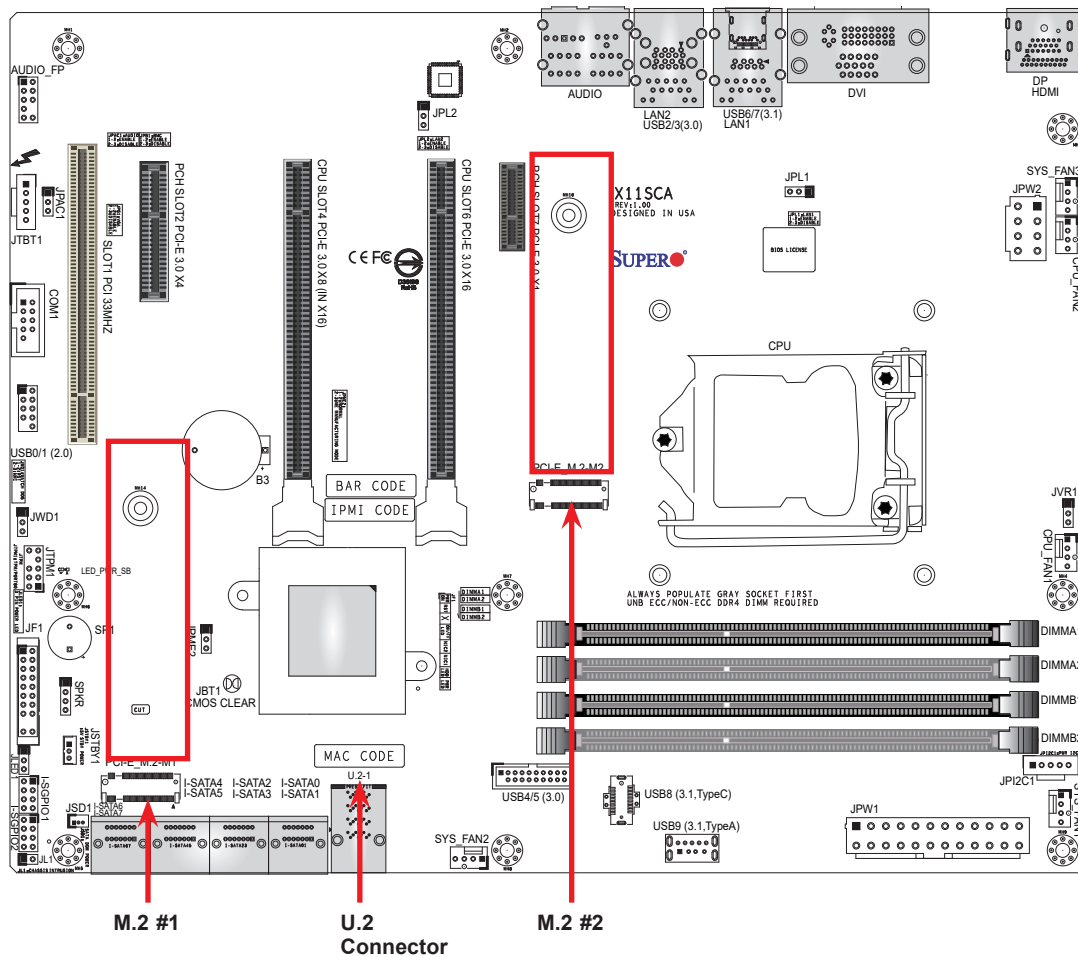


Figure 3-9. Locations for M.2 and U.2 Storage

Adding an M.2 Storage Card

One or two M.2 SSD cards may be installed on the motherboard. Supported cards are PCI-E 3.0 x4 (32 Gb/s) with form factors 2260, 2280 and 22110. (See Figure 3-9 for locations.)

Note: If using an M.2 device with a low thermal tolerance, a heatsink should be installed on the top of the M.2 device and the device should be set to "boot up device" (refer to BIOS section).

Installing an M.2 SSD

An M.2 device is installed onto a black plastic holder, mounted on the motherboard.

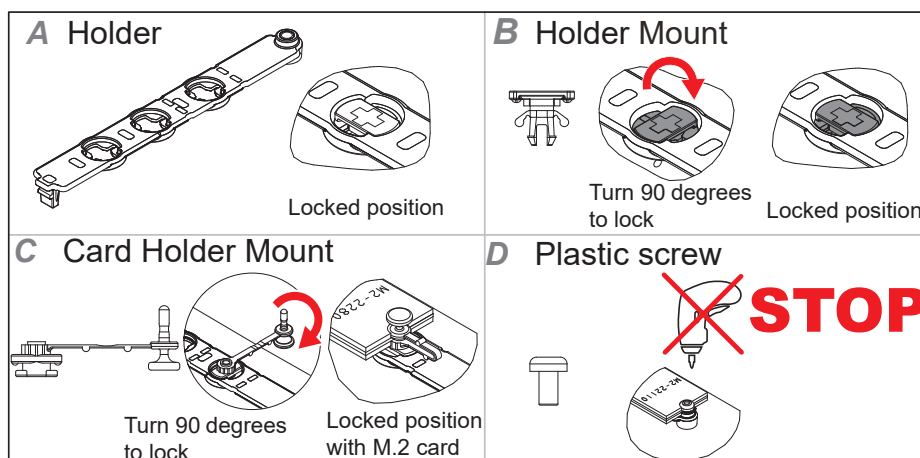


Figure 3-10. M.2 Installation Components

1. Remove power from the system as described in section 3.1 and remove the chassis cover.
2. The black plastic holder (section A) should be snapped into the motherboard. Prepare the holder:
 - If the M.2 length is 60, install the card holder mount (section C) as pictured.
 - If the M.2 length is 80, remove the holder mount pictured in section B and replace it with a mount similar to that pictured in section C. It should have a shaft that attaches to the mounting hole in the motherboard, and a plastic pin that will hold the M.2 device.
 - If the M.2 length is 110, proceed to the next step.
3. Holding the M.2 device nearly horizontal, insert it into the slot on the motherboard (PCI-E_M.2-M1 or PCI-E_M.2-M2) and lower it onto the holder.
4. Secure the M.2 device.
 - If the M.2 device is 60 or 80, use the plastic pin (section C) to secure it. The pin snaps into place.
 - If the M.2 device is 110, use the plastic screw, tightening gently. (section D).

Installing an Optional Device

The system supports a 3.5" optional device, such as an all-in-one card reader.

Installing a 3.5" Device

1. Remove power from the system as described in section 3.1.
2. Remove the front bezel from the chassis by lifting it upwards from the bottom, and pulling off the front of the chassis.
3. Remove the cover plate from the bezel.
4. Install the bracket rail (A) onto one side of the device, by inserting the pins of the bracket into the mounting holes on the sides of the device.
5. Slide the device into the chassis.

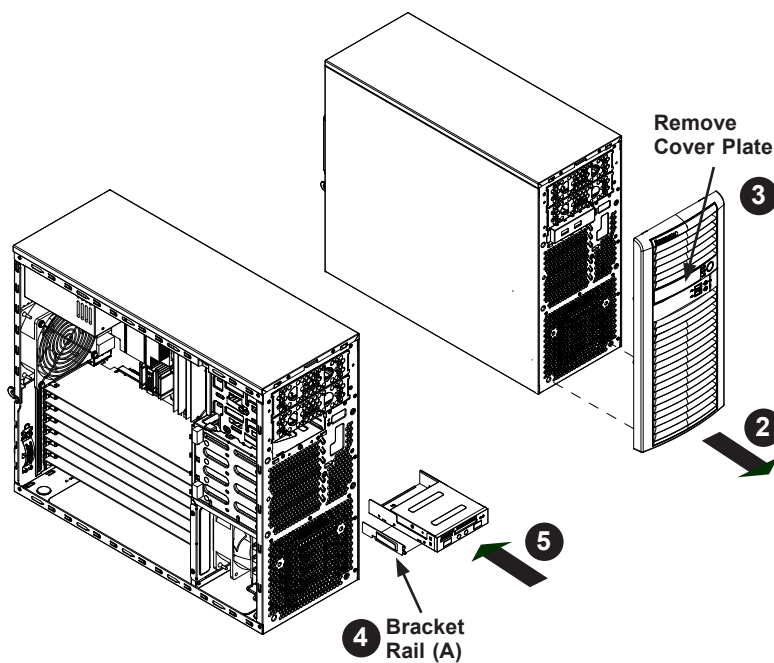


Figure 3-11. Installing a 3.5" Device

System Cooling

Rear Fan

The system includes a super quiet system exhaust fan that provides cooling. No tools or screws are required for installation.

Installing the Rear Fan

1. Remove power from the system as described in section 3.1, and remove the left chassis cover.
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 motherboard.

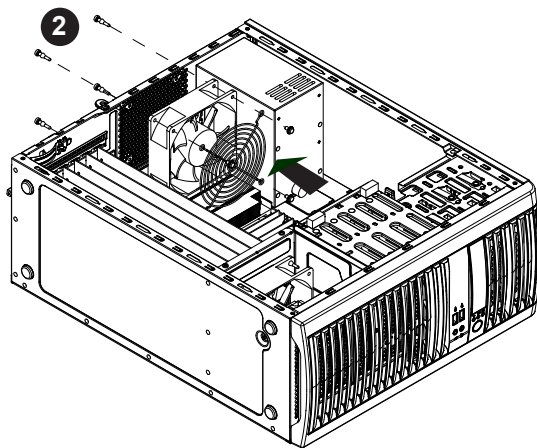


Figure 3-12. Replacing the System Fan

Optional Front Fan

1. Remove power from the system as described in section 3.1, and remove the left chassis cover.
2. Insert four rubber pins through the fan bracket and into the mounting holes in the fan.
3. Pull the rubber pins through the mounting holes of the fan to secure the fan to the bracket.
4. Lower the fan into the chassis, aligning the tabs on the bottom of the bracket with tabs in the chassis, and the holes at the top of the bracket with the screw holes in the chassis.
5. Secure the fan to the chassis using the two screws.
6. Connect the fan cable to the motherboard.

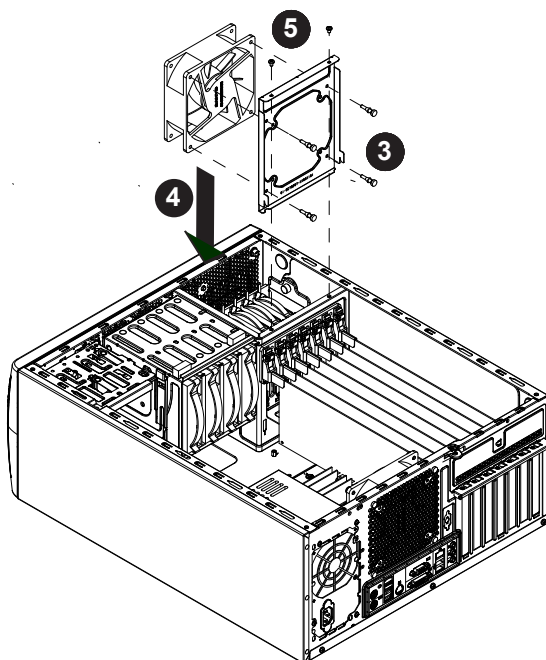


Figure 3-13. Installing the Optional Front Fan

Power Supply

The power supply is auto-switching capable. This feature enables it to automatically sense the input voltage and operate at 100-240v.

Changing the Power Supply

1. Remove power from the system as described in section 3.1, and remove the left chassis cover.
2. Disconnect the cables from the motherboard and other devices to the power supply.
3. Remove the screws securing the power supply to the chassis, which are located on the rear of the chassis. Save the screws for later use.
4. Lift the power supply out of the chassis.
5. Replace the failed power supply with an identical power supply model.
6. Secure the new power supply using the screws previously saved.
7. Reconnect the cables from the motherboard and other devices to the power supply.
8. Plug the AC power cord back into the module and power-up the system.

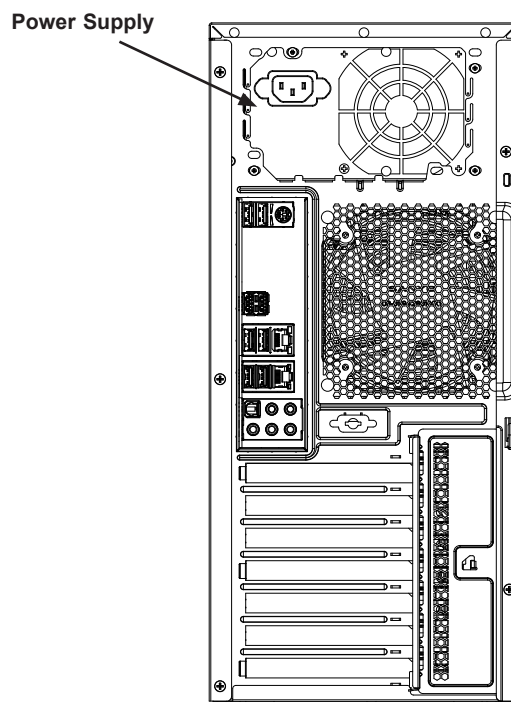


Figure 3-14. Replacing a Power Supply Module

Expansion Card Installation

Four standard size PCI-E expansion cards may be installed in the system. Make sure the card is supported by the slot on the motherboard.

Installing PCI-E Expansion Cards

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

1. Remove power from the system as described in section 3.1, and remove the left chassis cover.
2. Remove the PCI-E slot shield on the chassis by releasing the locking tab.
3. Insert the expansion card into the appropriate PCI slot on the motherboard.
4. Secure the card with the locking tab.
5. Replace the cover and power up.

Chapter 4

Motherboard Connections

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

Please review the safety precautions in Chapter 3 before installing or removing components.

4.1 Power Connections

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

Main Power Connector

The primary power supply connector (JPW1) meets the ATX SSI EPS 12V specification.

Important: To provide adequate power to the motherboard, you must also connect the 8-pin (JPW2) processor power connector to your power supply. Failure to do so may void the manufacturer's warranty on your power supply and motherboard.

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

Secondary Power Connector

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

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

Required Connection

4.2 Headers and Connectors

Fan Headers

This motherboard has five fan headers (FAN1-5). These are 4-pin fan headers, although pins 1-3 are backward compatible with traditional 3-pin fans. Four-pin fans allow fan speeds to be controlled by Thermal Management in IPMI. When using the Thermal Management setting, use all 3-pin fans or all 4-pin fans.

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

Speaker/Buzzer Header

On the SPKR header, pins 1-4 are for the speaker and pins 3 and 4 are for the buzzer. If you wish to use an external speaker, connect its cable to pins 1-4.

Speaker Connector Pin Definitions	
Pin Setting	Definition
Pins 1-4	Speaker
Pins 3-4	Buzzer

Internal Speaker/Buzzer

The Internal Speaker (SP1) can be used to provide audible notifications using various beep codes. See the layout for the location of the internal buzzer.

Internal Buzzer Pin Definitions		
Pin#	Definition	
1	Pos (+)	DC 5V
2	Neg (-)	Signal In

Thunderbolt Add-on Card Header

This motherboard supports one Thunderbolt add-on card using a header located at JTBT1.

Note: Support is limited to tested Thunderbolt cards that have 5-pin AIC cables. Please contact your distributor or sales agent for details.

SGPIO Headers

Two I-SGPIO (Serial Link General Purpose Input/Output) headers support the onboard I-SATA 3.0 ports.

I-SGPIO 1/2	
I-SGPIO1	I-SATA 3.0 Ports 0-3
I-SGPIO2	I-SATA 3.0 Ports 4-7

SGPIO Header Pin Definitions			
Pin#	Definition	Pin#	Definition
1	NC	2	NC
3	GND	4	Data
5	Load	6	GND
7	Clock	8	NC

NC = No Connection

Standby Power

The +5V Standby Power header is located at JSTBY1 on the motherboard. 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	NC

SATA DOM Power Connector

The SATA Disk-On-Module (DOM) power connectors at JSD1 and JSD2 provide 5V power to solid-state storage devices connected to the SATA ports.

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

TPM Header

The JTPM1 header is used to connect a Trusted Platform Module (TPM)/Port 80, which is available from Supermicro. A TPM/Port 80 connector is a security device that supports encryption and authentication in hard drives. It allows the motherboard to deny access if the TPM associated with the hard drive is not installed in the system.

Trusted Platform Module/Port 80 Header Pin Definitions			
Pin#	Definition	Pin#	Definition
1	VCC_3V3	2	CS
3	RST	4	MISO
5	CLK	6	GND
7	MOSI	8	NC
9	VCC_3V3SB	10	PIRQ

M.2 Connection

The system supports two M.2 solid state drives. M.2 replaces mini PCI-E and mSATA. It allows for a greater variety of card sizes, increased functionality, and spatial efficiency. The M.2 sockets support 3.0 x4 (32 Gb/s) card in 2260, 2280, and 22110 form factors.

Note: If using an M.2 device with a lower thermal tolerance, a heat sink should be installed on the top of the M.2 device and the device should be set to "boot up device" (refer to BIOS chapter).

Onboard Power LED Header

An onboard Power LED header is located at JLED1. This Power LED header is connected to the Front Control Panel located at JF1 to indicate the status of system power. See the table below for pin definitions.

Onboard Power LED Pin Definitions	
Pin#	Definition
1	VCC
2	Connection to PWR LED on JF1
3	Connection to PWR LED on JF1

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.

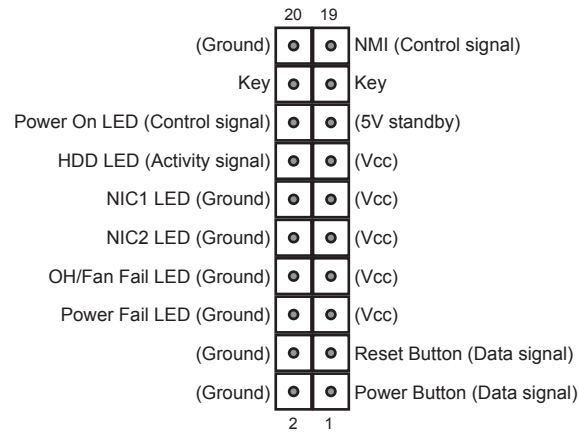


Figure 4-1. JF1 Control Panel Pins

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 - see Chapter 6). 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.

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

Power Fail LED

The Power Fail LED connection is located on pins 5 and 6 of JF1.

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

Overheat (OH)/Fan Fail

Connect an LED cable to pins 7 and 8 of JF1 to use the Overheat/Fan Fail LED connections. The LED on pin 8 provides warnings of overheat or fan failure.

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

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

NIC1/NIC2 (LAN1/LAN2)

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

LAN1/LAN2 LED Pin Definitions (JF1)	
Pin#	Definition
9	NIC2 Activity LED
10	NIC2 Link LED
11	NIC1 Activity LED
12	NIC1 Link LED

HDD LED/UID Switch

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

HDD LED Pin Definitions (JF1)	
Pin#	Definition
13	3.3V Standby/UID Switch
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
16	Power LED

NMI Button

The non-maskable interrupt button header is located on pins 19 and 20 of JF1.

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

4.3 Input/Output Ports

Rear I/O Ports

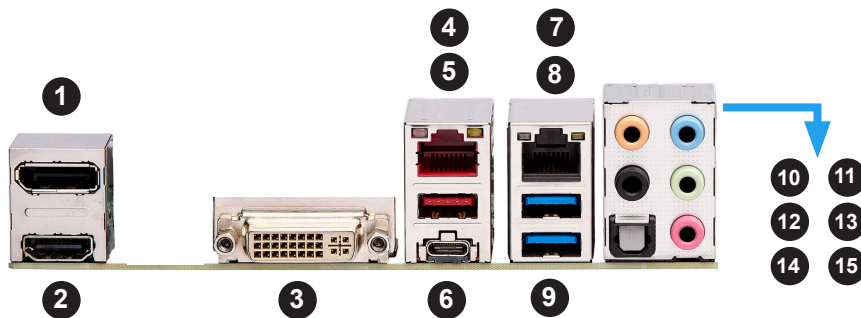


Figure 4-2. Rear I/O Ports

Rear I/O Ports							
#	Description	#	Description	#	Description	#	Description
1	DisplayPort	5	USB6 (USB3.1 Gen 2)	9	USB2 (USB3.1 Gen 1)	13	Line Out
2	HDMI	6	USB7 (USB 3.1 Gen 2, Type C)	10	Center/LFE Out	14	SPDIF Out
3	DVI	7	LAN2	11	Line In	15	Mic In
4	LAN1	8	USB3 (USB3.1 Gen 1)	12	Surround Out		

DisplayPort

DisplayPort, developed 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 used to display both high definition video and digital sound through an HDMI capable display, using a single HDMI cable (not included).

DVI Port

Use this port to connect to a compatible Digital Visual Interface (DVI) display.

LAN Ports

There are two Gigabit Ethernet ports, each with two LEDs showing activity and speed. See Section 4.5 for details.

USB Ports

There are two USB 3.1 Gen 1 ports (USB2/3) and two USB 3.1 Gen 2 ports (USB6/7).

CEN/LFE Out and Surround Out

This motherboard features a 7.1+2 Channel High Definition Audio (HDA) codec that provides 10 DAC channels. The HD Audio connections simultaneously supports multiple-streaming 7.1 sound playback with two channels of independent stereo output through the front panel stereo out for front, rear, center and subwoofer speakers. To enable this function, download the advanced software for this motherboard.

CEN/LFE is the audio output for the center channel and low frequency channel.

S/PDIF Out

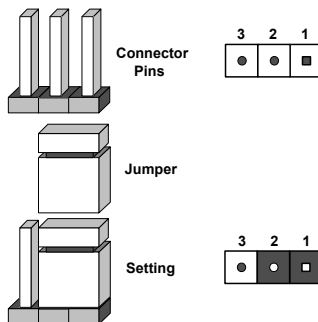
This is a fibre optic audio output for a TOSLINK connector and cable.

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.



LAN Port Enable/Disable

Jumpers JPL1 and JPL2 enable or disable LAN ports 1 and 2 respectively on the motherboard. The default setting is Enabled.

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

Watch Dog

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

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

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

Manufacturing Mode Select

Use JPME2 to bypass SPI flash security and force the system to use the Manufacturing Mode, which will allow you to flash the system firmware from a host server to modify system settings.

Manufacturing Mode Select Jumper Settings	
Jumper Setting	Definition
Pins 1-2	Normal (Default)
Pins 2-3	Manufacturing Mode

4.5 LED Indicators

LAN LEDs

The Ethernet ports each have two LEDs. One LED indicates activity when flashing, while the other LED may be green, amber or off to indicate the speed of the connection.

LAN LED (Connection Speed Indicator)	
LED Color	Definition
Off	No connection
Amber	10 Mbps/100 Mbps
Green	1 Gb/s

Standby Power LED

The Standby Power LED is located at LED_PWR_SB on the motherboard. When this LED is on, the system is receiving power—the cord is plugged in and the power supply is working.

4.6 Storage Ports

SATA Ports

Eight SATA 3.0 ports, supported by the Intel C246 PCH chip, are located on the motherboard. They support RAID 0, 1, 5, and 10.

Note: For more information on the SATA HostRAID configuration, refer to the Intel SATA HostRAID user's guide posted on our website at <http://www.supermicro.com>.

SATA 3.0 Connector Types	
Port#	Connection Type
I-SATA 0-3 (Four)	SATA 3.0/6 Gb/s RAID 0, 1, 5, 10
I-SATA 4-7 (Two)	SATA 3.0/6 Gb/s RAID 0, 1, 5, 10 SuperDOM connectors

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 and 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/>.

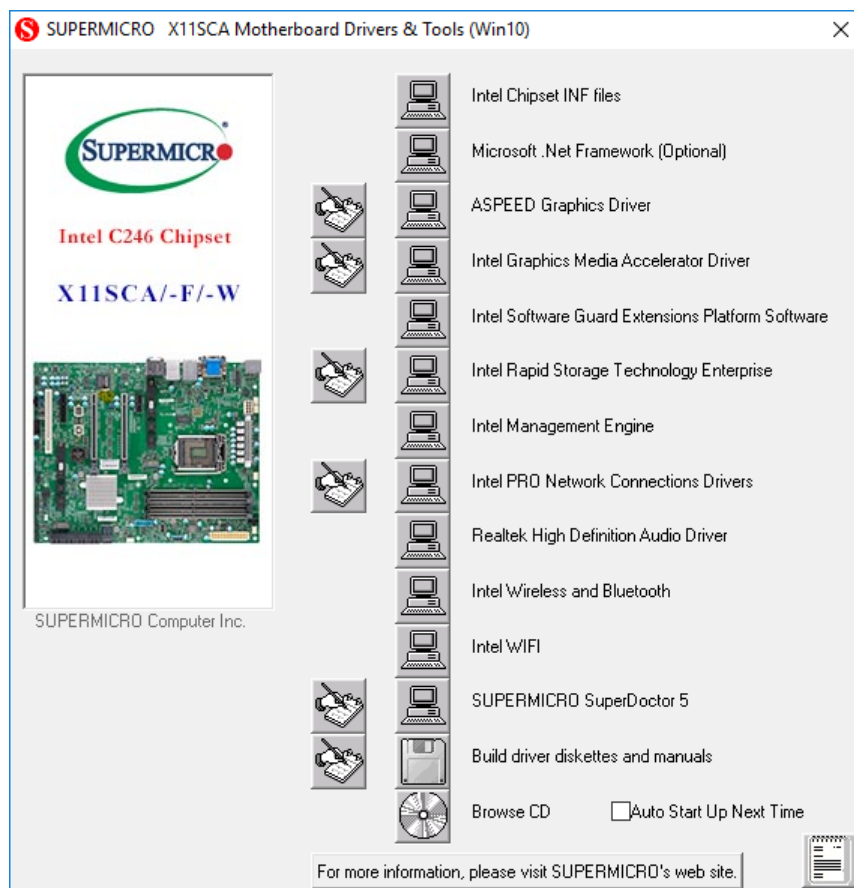


Figure 5-1. Driver & Tool Installation Screen

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. 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.

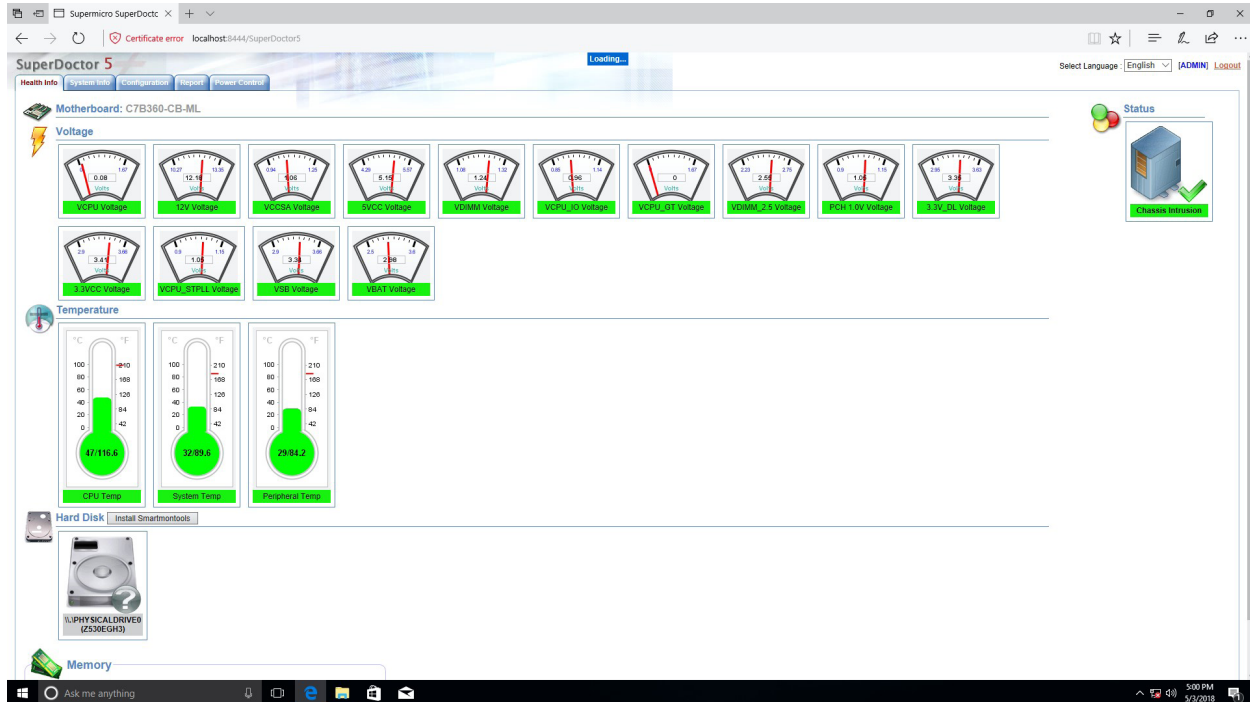


Figure 5-2. SuperDoctor 5 Interface Display Screen (Health Information)

Chapter 6

BIOS

6.1 Introduction

This chapter describes the AMI BIOS setup utility for the X11SCA and provides the instructions on navigating the setup screens. The BIOS is stored in a Flash EEPROM and can be updated.

Note: Due to periodic changes to the BIOS, some settings may have been added or deleted since this manual was published.

Starting BIOS Setup Utility

To enter the AMI BIOS setup utility screens, press the <Delete> key while the system is booting up. (There are a few cases when other keys are used, such as <F1>, <F2>, etc.)

The BIOS screens have three main frames. The large left frame displays options can be configured by the user. These are blue. When an option is selected, it is highlighted in white. Settings printed in **Bold** are the default values.

In the left frame, a " ►" indicates a submenu. Highlighting such an item and pressing the <Enter> key opens the list of settings in that submenu.

The upper right frame displays helpful information for the user. The AMI BIOS has default informational messages built in. The manufacturer retains the option to include, omit, or change any of these informational messages.

The lower right frame lists navigational methods. The AMI BIOS setup utility uses a key-based navigation system called *hot keys*. Most of these hot keys can be used at any time during setup navigation. These keys include <F3>, <F4>, <Enter>, <ESC>, arrow keys, etc.

Some system parameters may be changed.

6.2 Main Setup

When running the AMI BIOS setup utility, it starts with the Main screen. You can always return to it by selecting the Main tab on the top of the screen.



The Main tab page allows you to set the date and time, and it displays system information.

System Date/System Time

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

Note: The time is in the 24-hour format. For example, 5:30 P.M. appears as 17:30:00. The date's default value is 01/01/2016 after RTC reset.

Supermicro X11SCA (Motherboard model)

BIOS Version

Build Date (of the BIOS)

Total Memory (for the system)

6.3 Advanced Setup Configurations

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



Caution: 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. If this occurs, revert to the manufacture default settings.

► Boot Feature

Fast Boot

This feature enables the system to boot with a minimal set of required devices to launch. This has no effect on BBS boot options. The options are **Disabled** or Enabled.

Quiet Boot

Use this feature to select the screen display between the POST messages and the OEM logo upon bootup. Uncheck the box to display the POST messages. Check the box to display the OEM logo instead of the normal POST messages. The default is **Checked**.

Bootup NumLock State

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

Option ROM Messages

This feature controls the display mode for Option ROM. The options are **Force BIOS** or **Keep Current**.

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** or **Enabled**.

Re-try Boot

If this feature 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**.

Watch Dog Function

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

AC Loss Policy Depend on

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

Power Button Function

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

DeepSx Power Policies

This feature enables S4-S5 DeepSx mode. The options are **Disabled** or **Enabled** in S4-S5.

► CPU Configuration

The following information is displayed in this section:

- **CPU Signature** - the processor identification code
- **Microcode Patch** - the microcode revision number
- **MAX CPU Speed** - the maximum CPU speed
- **Min CPU Speed** - the minimum CPU speed
- **CPU Speed** - the approximate CPU speed
- **Processor Cores** - the number of processor cores
- **Hyper Threading Technology** - displays whether hyper threading is supported
- **VMX** - displays whether VMX is supported
- **SMX/TXT** - displays whether SMX/TXT is supported
- **64-bit** - displays whether 64-bit technology is supported

- **EIST Technology** - displays whether EIST technology is supported
- **CPU C3 state** - displays whether CPU C3 is supported
- **CPU C6 state** - displays whether CPU C6 is supported
- **CPU C7 state** - displays whether CPU C7 is supported
- **CPU C8 state** - displays whether CPU C8 is supported
- **CPU C9 state** - displays whether CPU C9 is supported
- **CPU C10 state** - displays whether CPU C10 is supported
- **L1 Data Cache** - the size of the L1 data cache (if supported)
- **L1 Instruction Cache** - the size of the L1 instruction cache (if supported)
- **L2 Cache** - the size of the L2 cache (if supported)
- **L3 Cache** - the size of the L3 cache (if supported)
- **L4 Cache** - the size of the L4 cache (if supported)

C6DRAM

This feature enables moving DRAM contents to PRM memory when the CPU is in a C6 state. The options are Disabled or **Enabled**.

Hardware Prefetcher

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 or **Enabled**.

Adjacent Cache Line Prefetch

Select Enabled for the CPU to prefetch both cache lines for 128 bytes as comprised. Select Disabled for the CPU to prefetch both cache lines for 64 bytes. The options are Disabled or **Enabled**.

Intel (VMX) Virtualization Technology

Select Enabled to use the Intel Virtualization Technology to allow one platform to run multiple operating systems and applications in independent partitions, creating multiple "virtual" systems in one physical computer. The options are Disabled or **Enabled**.

Note: If there is any change to this setting, you will need to power off and reboot the system for the change to take effect. Please refer to Intel's web site for detailed information.

Active Processor Cores

Use this feature to select the number of active processor cores. The options depend on how many cores are supported by the CPU (up to 8). The default is **All**.

Hyper-Threading

This feature should be enabled for Windows XP and Linux. This feature should be disabled for other operating systems, as they are not optimized for Hyper-Threading. The default is **Enabled**.

AES

This feature enables Intel CPU Advanced Encryption Standard (AES) Instructions support to enhance data integrity. The options are Disabled or **Enabled**.

Boot performance mode

This feature enables the selection of the default CPU performance during system boot. The options are **Max Non-Turbo Performance**, Power Saving, and Turbo Performance.

Intel(R) SpeedStep(tm)

Intel SpeedStep Technology allows the system to automatically adjust processor voltage and core frequency in an effort to reduce power consumption and heat dissipation. **Please refer to Intel's website for detailed information.** The options are Disabled or **Enabled**.

Intel(R) Speed Shift Technology

This feature enables Intel® Speed Shift Technology support, which exposes the CPPC v2 interface to allow for hardware controlled P-States. The options are Disabled or **Enabled**.

Turbo Mode

This feature enables Turbo Mode if EMTTM is also enabled. The options are Disabled or **Enabled**.

Package Power Limit MSR Lock

This feature enables Package Power Limit locking. If this is enabled, a reset will be required to unlock the register. The options are **Disabled** or Enabled.

Power Limit 1 Override

This feature enables Power Limit 1 override. When this is disabled, the BIOS will use default values. The default is **Disabled**.

Power Limit 2 Override

This feature enables Power Limit 2 override. When this is disabled, the BIOS will use default values. The default is **Enabled**.

Power Limit 2

Enter a value for Power Limit 2. The default is **0**.

1-core ~ 8-core Ratio Limit Override

The number of cores available to modify depends on the CPU installed. Enter a ratio limit value for individual cores (1~8).

C states

C-State architecture, a processor power management platform developed by Intel, can further reduce power consumption from the basic C1 (Halt State) state that blocks clock cycles to the CPU. Select Enabled for CPU C-State support. The options are Disabled or **Enabled**. If this feature is set to Enabled, the following items will display:

Enhanced C-states

This feature enables Enhanced C1 Power State to boost system performance. The options are Disabled or **Enabled**.

C-State Auto Demotion

When this feature is enabled, the CPU will conditionally demote C State based on un-cored auto-demote information. The options are Disabled, C1, C3, and **C1 and C3**.

C-State Un-demotion

When this feature is enabled, the CPU will conditionally undemote from demoted C3 or C1. The options are Disabled, C1, C3, and **C1 and C3**.

Package C-State Demotion

This feature enables the Package C-State demotion. The options are **Disabled** or Enabled.

Package C-State Un-demotion

When this feature is enabled, the CPU will conditionally undemote from demoted Packaged Package C-State Un-Demotion. The options are **Disabled** or Enabled.

CState Pre-Wake

Use this feature to enable the C-State pre wake. The options are Disabled or **Enabled**.

Package C State Limit

Select Auto for the AMI BIOS to automatically set the limit on the C-State package register. The options are C0/C1, C2, C3, C6, C7, C7s, C8, C9, C10, CPU Default, and **Auto**.

► Chipset Configuration

► System Agent (SA) Configuration

► Memory Configuration

The following information is displayed:

- Memory RC Version
- Memory Frequency
- Memory Timings (tCL-tRCD-tRP-tRAS)
- DIMM#A1 ~ DIMM#B2 information

Maximum Memory Frequency

This feature selects the type/speed of the memory installed. The options are 1333, 1600, 1867, 2133, 2400, 2667, 2933, and 3200. All values are in MHz. **Default speed is auto detected.**

ECC Support

This feature enables DDR ECC support. The options are Disabled or **Enabled**.

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 ~ 3.5 GB (in 0.25 GB increments).

Memory Scrambler

This feature enables memory scrambler support for memory error correction. The settings are Disabled or **Enabled**.

MRC Fast Boot

This feature enables fast path through MRC. The settings are Disabled or **Enabled**.

REFRESH_2X_MODE

This feature controls the 2xRef mode. The options are **Disabled**, 1 (Enabled WARM/HOT), and 2 (Enabled HOT).

Closed Loop Therm Manage

This feature enables Closed Loop Thermal management. The options are Disabled or **Enabled**.

► Graphics Configuration**Primary Display**

This feature controls which graphics device will be used as the primary display. The options are **Auto**, IGFX, PEG, PCI, and SG.

Primary PEG

This feature controls the graphics device to be used as the primary device. The options are **CPU SLOT6 PCI-E 3.0 X16** or CPU SLOT4 PCI-E 3.0 X8 (IN X16).

Primary PCIE

This feature controls the primary PCIE device. The options are **Auto**, OnBoard, PCH SLOT2 PCI-E 3.0 X4, and PCH SLOT7 PCI-E 3.0 X1.

Internal Graphics

This feature enables internal graphics support, based on the setup options. The options are **Auto**, Disabled, and Enabled.

GTT Size

This feature controls the memory allocation size for the graphics translation table (GTT). The options are 2MB, 4MB, and **8MB**.

Aperture Size

This feature controls the graphics aperture size. For optimal performance, select the size that matches the installed graphics card's size. The options are 128MB, **256MB**, 512MB, 1024MB, and 2048MB.

DVMT Pre-Allocated

This feature controls the DVMT 5.0 Pre-allocated graphics memory size to be used by the internal graphics device. The options are 0M, **32M**, 64M, 4M, 8M, 12M, 16M, 20M, 24M, 28M, 36M, 40M, 44M, 48M, 52M, 56M, and 60M.

DVMT Total Gfx Mem

This feature controls the DVMT 5.0 total graphics size to be used by the internal graphics device. The options are 128M, **256M**, and MAX.

VDD Enable

This feature enables VDD in the BIOS. The options are Disabled or **Enabled**.

PM Support

This feature enables PM support. The options are Disabled or **Enabled**.

PAVP Enable

This feature enables PAVP support. The options are Disabled or **Enabled**.

Cdynmax Clamping Enable

This feature enables Cdynmax Clamping. The options are Disabled or **Enabled**.

Graphics Clock Frequency

This feature controls the graphics clock frequency. Select the highest clock frequency supported by the platform. The options are 337.5 Mhz, 450 Mhz, 540 Mhz, **675 Mhz**.

Skip CD Clock Init in S3 resume

When this feature is enabled, the system will skip full CD clock initialization during S3 Resume. The options are **Disabled** or Enabled.

► DMI/OPI Configuration

DMI Link ASPM Control

This feature enables the control of Active State Power Management (ASPM) on the SA side of the DMI Link. The options are Disabled or **L0sL1**.

DMI Extended Sync Control

This feature enables DMI Extended Synchronization support. The options are **Disabled** or Enabled.

DMI De-emphasis Control

This feature controls the DMI De-emphasis setting. The options are -6 dB or **-3.5 dB**.

► PEG Port Configuration

CPU SLOT6 PCI-E 3.0 X16

This displays information if a PCI-E device is installed.

SLOT6 Max Link Speed

Select **Auto**, Gen1, Gen2, or Gen3 to set the PEG Max Link Speed.

SLOT6 Power Limit Value

Enter a value for the upper limit on power (in watts) supplied by the slot. The range is 0-255. The default is **75**.

SLOT6 Power Limit Scale

This feature controls the slot power limit scale. The options are **1.0x**, 0.1x, 0.01x, and 0.001x.

CPU SLOT4 PCI-E 3.0 X8 (IN X16)

This displays information if a PCI-E device is installed.

SLOT4 Max Link Speed

Select **Auto**, Gen1, Gen2, or Gen3 to set the PEG Max Link Speed.

SLOT4 Power Limit Value

Enter a value for the upper limit on power (in watts) supplied by the slot. The range is 0-255. The default is **75**.

SLOT4 Power Limit Scale

This feature controls the slot power limit scale. The options are **1.0x**, 0.1x, 0.01x, and 0.001x.

Program PCIe ASPM after OpROM

This feature enables PCIe ASPM programming after OpROM. If set to Disabled, programming occurs before OpROM. The options are **Disabled** or Enabled.

► GT - Power Management Control

RC6(Render Standby)

Use this feature to enable Render Standby support. The options are Disabled or **Enabled**.

Maximum GT frequency

This feature defines the Maximum GT Frequency. Choose between 300MHz (RPN) and 1200MHz (RP0). Any value beyond this range will be clipped to its min/max supported by the CPU. The options are **Default Max Frequency** or 300MHz~1200MHz (in increments of 50MHz).

Disable Turbo GT frequency

This feature disables Turbo GT frequency. Selecting Enabled disables Turbo GT frequency. If set to Disabled, GT frequency limiters will be removed. The default is **Disabled**.

VT-d

This feature enables VT-d. The options are Disabled or **Enabled**.

SW Guard Extensions (SGX)

Select Enabled to activate the Software Guard Extensions (SGX). The options are Disabled, Enabled, and **Software Controlled**.

Select Owner EPOCH input type

There are three Owner EPOCH modes (each EPOCH is 64 bit). The options are **No Change in Owner EPOCHs**, Change to New Random Owner EPOCH, and Manual User Defined Owner EPOCHs.

GNA Device (B0:D8:F0)

This feature enables the SA GNA device. The options are Disabled or **Enabled**.

X2APIC Opt Out

This feature enables X2APIC Opt Out. The options are **Disabled** or Enabled.

► PCH-IO Configuration

► PCI Express Configuration

DMI Link ASPM Control

This feature enables the control of Active State Power Management (ASPM) on the SA side of the DMI Link. The options are Disabled, L0s, L1, L0sL1, and **Auto**.

Peer Memory Write Enable

This feature enables Peer Memory Writing. The options are **Disabled** or Enabled.

► PCH SLOT7 PCI-E 3.0 X1

SLOT7 ASPM Support

This feature controls the Active State Power Management (ASPM) setting. The options are Disabled, L0s, L1, L0sL1, and **Auto**.

SLOT7 L1 Substates

This feature controls L1 Substates. The options are Disabled, L1.1, and **L1.1 & L1.2**.

PTM

This feature enables Precision Time Measurement (PTM). The options are Disabled or **Enabled**.

DPC

This feature enables Downstream Port Containment (DPC). The options are Disabled or **Enabled**.

EDPC

This feature enables rootport Extension for Downstream Port Containment. The options are Disabled or **Enabled**.

SLOT7 PCIe Speed

This feature controls the PCIe Speed. The options are **Auto**, Gen1, Gen2, and Gen3.

► PCI-E M.2-M2**M.2-M2 ASPM Support**

This feature controls the Active State Power Management (ASPM) setting. The options are Disabled, L0s, L1, L0sL1, and **Auto**.

M.2-M2 L1 Substates

This feature controls L1 Substates. The options are Disabled, L1.1, and **L1.1 & L1.2**.

PTM

This feature enables Precision Time Measurement (PTM). The options are Disabled or **Enabled**.

DPC

This feature enables Downstream Port Containment (DPC). The options are Disabled or **Enabled**.

EDPC

This feature enables rootport Extension for Downstream Port Containment. The options are Disabled or **Enabled**.

M.2-M2 PCIe Speed

This feature controls the PCIe Speed. The options are **Auto**, Gen1, Gen2, and Gen3.

► PCH SLOT2 PCI-E 3.0 X4/PCI-E M.2-M1**SLOT2/M.2-M1 ASPM Support**

This feature controls the Active State Power Management (ASPM) setting. The options are Disabled, L0s, L1, L0sL1, and **Auto**.

SLOT2/M.2-M1 L1 Substates

This feature controls L1 Substates. The options are Disabled, L1.1, and **L1.1 & L1.2**.

PTM

This feature enables Precision Time Measurement (PTM). The options are Disabled or **Enabled**.

DPC

This feature enables Downstream Port Containment (DPC). The options are Disabled or **Enabled**.

EDPC

This feature enables rootport Extension for Downstream Port Containment. The options are Disabled or **Enabled**.

SLOT2/M.2-M1 PCIe Speed

This feature controls the PCIe Speed. The options are **Auto**, Gen1, Gen2, and Gen3.

Frontside Audio Mode

This feature controls the Frontside Audio mode. The options are **HD Audio** or AC'97.

PCIe PLL SSC

This feature controls the PCIe PLL SSC setting. The options are **Auto** and 0.0~2.0% (in 0.1% increments).

▶ **NCT6796D Super IO Configuration**

▶ **Serial Port 1 Configuration**

Serial Port 1

This feature will enable Serial Port 1 (COM1). Click to check the box to enable Serial Port 1. The default is **Checked** (Enabled).

Device Settings

Change Settings

This feature configures the IRQ setting for Serial Port 1 (COM1). The default is **Auto**.

▶ **AST2500SEC Super IO Configuration**

▶ **SOL Configuration**

Serial Port 1

This feature will enable Serial Port 1 (COM1). Click to check the box to enable Serial Port 1. The default is **Checked** (Enabled).

Device Settings

Change Settings

This feature configures the IRQ setting for Serial Port 1 (COM1). The default is **Auto**.

► Serial Port Console Redirection

COM1 Console Redirection

Check the box to enable COM Port 1 Console Redirection, which will allow a client machine to be connected to a host machine at a remote site for networking. The options are **Unchecked** (Disabled) and Checked (Enabled).

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

► COM1 Console Redirection Settings

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

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) or **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** or 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** or 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 Unchecked (Disabled) or **Checked** (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 **Unchecked** (Disabled) or Checked (Enabled).

COM1 Resolution 100x31

Select Enabled for extended-terminal resolution support. The options are Unchecked (Disabled) or **Checked** (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 or **80x25**.

COM1 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.

COM1 Redirection After BIOS POST

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

SOL Console Redirection (X11SCA-F only)

Check the box to enable SOL Console Redirection, which will allow a client machine to be connected to a host machine at a remote site for networking. The options are Unchecked (Disabled) and **Checked** (Enabled).

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

► SOL Console Redirection Settings

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

SOL 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).

SOL Data Bits

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

SOL 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.

SOL 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** or 2.

SOL 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** or Hardware RTS/CTS.

SOL VT-UTF8 Combo Key Support

Select Enabled to enable VT-UTF8 Combination Key support for ANSI/VT100 terminals. The options are Unchecked (Disabled) or **Checked** (Enabled).

SOL 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 **Unchecked** (Disabled) or Checked (Enabled).

SOL Resolution 100x31

Select Enabled for extended-terminal resolution support. The options are Unchecked (Disabled) or **Checked** (Enabled).

SOL 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 or **80x25**.

SOL 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.

SOL Redirection After BIOS POST

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

AMT SOL Console Redirection (X11SCA / X11SCA-W only)

Check the box to enable AMT SOL Console Redirection, which will allow a client machine to be connected to a host machine at a remote site for networking. The options are **Unchecked** (Disabled) and Checked (Enabled).

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

► AMT SOL Console Redirection Settings

AMT SOL 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 ANSI, VT100, **VT100+**, and VT-UTF8.

AMT SOL 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).

AMT SOL Data Bits

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

AMT SOL 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.

AMT SOL 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** or **2**.

AMT SOL 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** or Hardware RTS/CTS.

AMT SOL VT-UTF8 Combo Key Support

Select Enabled to enable VT-UTF8 Combination Key support for ANSI/VT100 terminals. The options are Unchecked (Disabled) or **Checked** (Enabled).

AMT SOL 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 **Unchecked** (Disabled) or Checked (Enabled).

AMT SOL Resolution 100x31

Select Enabled for extended-terminal resolution support. The options are Unchecked (Disabled) or **Checked** (Enabled).

AMT SOL 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 or **80x25**.

AMT SOL 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.

AMT SOL Redirection After BIOS POST

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

Redirection COM Port

This feature controls which COM port displays redirection of Legacy OS and legacy OpROM messages. The options are **COM1** or SOL.

EMS Console Redirection

Select Enabled to enable Emergency Out-of-Band Management Console Redirection, which will allow a client machine to be connected to a host machine at a remote site for networking. The options are **Unchecked** (Disabled) and **Checked** (Enabled).

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

► Console Redirection Settings

Out-of-Band Mgmt Port

This feature controls which port Emergency Management Services (EMS) is allowed to remotely manage a Windows server operating system. The options are **COM1** or **SOL**.

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

EMS 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, 57600, and **115200** (bits per second).

EMS 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**, **Hardware RTS/CTS**, and **Software Xon/Xoff**.

Data Bits
Parity
Stop Bits

► SATA And RST Configuration

SATA Controller(s)

This feature enables SATA device(s). The options are **Disabled** or **Enabled**.

SATA Mode Selection

This feature controls the SATA mode. The options are **AHCI** or **RAID**.

Aggressive LPM Support

This feature enables the PCH to aggressively enter link power state. The options are Disabled or **Enabled**.

Storage Option ROM/UEFI Driver

This feature controls the execution of UEFI and legacy storage OpROM. The options are Do not launch, UEFI, and **Legacy**.

**Serial ATA Port 0~7
Hot Plug**

This feature designates the port specified for hot plugging. Set this item to Enabled for hotplugging support, which will allow the user to replace a SATA disk drive without shutting down the system. The options are Disabled or **Enabled**.

Spin Up Device

When this feature is disabled, all drives will spin up at boot. When this option is enabled, it will perform Staggered Spin Up on any drive this option is activated. The settings are **Disabled** or Enabled.

SATA Device Type

Use this feature to identify the type of HDD that is connected to the SATA port. The options are **Hard Disk Drive** and Solid State Drive.

►PCH-FW Configuration

The following information is displayed:

ME Firmware Version
ME Firmware Mode
ME Firmware SKU

ME FW Image Re-Flash

This feature enables ME FW Image Re-Flash function. The options are **Disabled** or Enabled.

Manageability Features State (X11SCA/-W only)

This feature enables Intel® Manageability features in FW. The options are Disabled or **Enabled**.

AMT BIOS Features (X11SCA/-W only)

This feature enables AMT BIOS features. When set to Disabled, MEBx Setup access is no longer available, as well as the following submenu. The options are **Disabled** or Enabled.

▶ AMT BIOS Configuration

ASF support

This feature enables Alert Standard Format (ASF) support. The options are Disabled or Enabled.

USB Provisioning of AMT

This feature enables AMT USB provisioning. The options are **Disabled** or Enabled.

▶ CIRA Configuration

Activate Remote Assistance Process

This feature triggers CIRA boot. The options are **Unchecked** (Disabled) or Checked (Enabled).

CIRA Timeout

Enter a value for the CIRA Timeout. The default is **0**.

▶ ASF Configuration

PET Progress

This feature enables the Platform Event Trap (PET) Progress to receive PET events in order to provide advanced warning of possible system failures. The options are Disabled or **Enabled**.

WatchDog

This feature enables the WatchDog Timer. The options are **Disabled** or Enabled.

OS Timer

If WatchDog (above) is set to Enabled, enter a value for OS Timer. The default is **0**.

BIOS Timer

If WatchDog (above) is set to Enabled, enter a value for BIOS Timer. The default is **0**.

ASF Sensors Table

This feature enables ASF Sensors Table. The options are **Disabled** or Enabled.

▶ Secure Erase Configuration

Secure Erase Mode

This feature controls the Secure Erase module behavior. The Simulated option performs SE flow without erasing SSD. The Real option erases SSD. The default option is **Simulated**.

Force Secure Erase

This feature forces Secure Erase on next boot. The options are **Disabled** or Enabled.

► OEM Flags Settings

MEBx hotkey Pressed

This feature enables automatic MEBx hotkey presses. The options are **Unchecked** (Disabled) or Checked (Enabled).

MEBx Selection Screen

This feature enables the MEBx selection screen. The options are **Unchecked** (Disabled) or Checked (Enabled).

Hide Unconfigure ME Confirmation Prompt

This feature hides the Unconfigure ME confirmation prompt. The options are **Unchecked** (Disabled) or Checked (Enabled).

MEBx OEM Debug Menu Enable

This feature enables the OEM debug menu in MEBx. The options are **Unchecked** (Disabled) or Checked (Enabled).

Unconfigure ME

This feature unconfigures ME and resets the MEBx password to its default. The options are **Unchecked** (Disabled) or Checked (Enabled).

► MEBx Resolution Settings

Non-UI Mode Resolution

This feature controls the resolution for non-UI text mode. The options are **Auto**, 80x25, and 100x31.

UI Mode Resolution

This feature controls the resolution for UI text mode. The options are **Auto**, 80x25, and 100x31.

Graphics Mode Resolution

This feature controls the resolution for graphics mode. The options are **Auto**, 640x480, 800x600, and 1024x768.

► ACPI Settings

WHEA Support

Enable this feature to support the Windows Hardware Error Architecture (WHEA) platform and provide a common infrastructure for the system to handle hardware errors within the Windows OS environment in order to reduce system crashes and enhance system recovery and health monitoring. The options are Disabled or **Enabled**.

High Precision Event Timer

Select Enabled to activate the High Precision 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 Disabled and **Enabled**.

Native PCIE Enable

This feature enables native PCIE. The options are Disabled or **Enabled**.

Native ASPM

This feature enables native ASPM. If set to Enabled, the native ASPM will be OS Controlled. If set to Disabled, the native ASPM will be BIOS Controlled. The default option is **Disabled**.

► PCIe/PCI/PnP Configuration

Video

This feature controls which option ROM to execute for the Video device. The options are Do Not Launch, UEFI, and **Legacy**.

PCI PERR/SERR Support

This feature enables PCI Parity Error (PERR)/System Error (SERR) support. The options are **Disabled** or Enabled.

Above 4GB MMIO BIOS assignment

Select Enable for remapping of BIOS above 4GB. The options are **Disabled** or Enabled.

Onboard Video Option ROM (*X11SCA-F only*)

This feature controls which onboard video firmware type will be loaded. The options are Disabled, **Legacy**, and EFI.

SLOT1 PCI 33MHZ OPROM

PCH SLOT2 PCI-E 3.0 X4 OPROM

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

CPU SLOT6 PCI-E 3.0 X16 OPROM

PCH SLOT7 PCI-E 3.0 X1 OPROM

PCI-E M.2-M1 OPROM

PCI-E M.2-M2 OPROM

Select Disabled to deactivate the selected slot, Legacy to activate the slot in legacy mode and EFI to activate the slot in EFI mode. The options are Disabled, **Legacy**, and EFI.

Onboard LAN1 SUPPORT

Use this feature to enable the onboard LAN1 device. The options are Disabled or **Enabled**.

Onboard LAN Option ROM Type

Use this feature to select the type of option ROM installed. The options are EFI or **Legacy**.

Onboard LAN1 Option ROM

Select PXE (Preboot Execution Environment) to boot the computer using a PXE device installed in a specified LAN port. Select Disabled to prevent system boot using a device installed in a LAN port. The options are Disabled or **PXE**.

Onboard LAN2 Option ROM

Select PXE (Preboot Execution Environment) to boot the computer using a PXE device installed in a specified LAN port. Select Disabled to prevent system boot using a device installed in a LAN port. For X11SCA-F motherboards, the options are **iSCSI** or PXE. For all others the only option is **PXE**.

Network Stack

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

****If this feature is enabled, the two features below are available.***

Ipv4 PXE Support

Select Enabled to enable Ipv4 PXE (Preboot Execution Environment) for boot support. If this feature is set to Disabled, Ipv4 PXE boot option will not be supported. The options are Disabled or **Enabled**.

Ipv4 HTTP Support

Select Enabled to enable IPv4 HTTP boot support. The options are **Disabled** or Enabled.

Ipv6 PXE Support

Select Enabled to enable Ipv6 PXE (Preboot Execution Environment) for boot support. If this feature is set to Disabled, Ipv6 PXE boot option will not be supported. The options are Disabled or **Enabled**.

Ipv6 HTTP Support

Select Enabled to enable IPv6 HTTP boot support. The options are **Disabled** or Enabled.

IPSEC Certificate

This feature enables IPSEC certificate support for Ikev. The options are Disabled or **Enabled**.

PXE boot wait time

Enter a value for the wait time (in seconds) to press the ESC key to abort the PXE boot. The default is **0**.

Media detect count

Enter a value for the number of times the presence of media will be checked. The default is **1**.

► Trusted Computing

Security Device Support

This feature enables BIOS support for a security device. The options are Disabled or **Enabled**.

TPM State

This feature enables an installed security device. Changing the setting will reboot the computer. The options are Disabled or **Enabled**.

Pending operation

This feature schedules an operation for an installed security device. Changing the setting will reboot the computer. The options are **None** or TPM Clear.

Device Select

This feature restricts support to a specific type of security device. The options are TPM 1.2, TPM 2.0, and **Auto** (both).

TPM Enabled Status

TPM Active Status

TPM Owner Status

6.4 Event Logs

Use this tab page to configure Event Log settings.



► Change Smbios Event Log Settings

Smbios Event Log

Use this feature to enable all features of the SMBIOS Event Logging during system boot. The options are Disabled or **Enabled**.

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** or Erase Immediately.

Log System Boot Event

This feature toggles the System Boot Event logging to enabled or disabled. The options are **Disabled** or Enables.

MECI

The Multiple Event Count Increment (MECI) counter counts the number of occurrences 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 the number of minutes that 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 feature displays a list of logged Smbios events.

6.5 Security

Use this tab page to configure Security settings.



Create Administrator and User passwords. Using ONLY an Administrator password limits access to BIOS setup. Using ONLY a User password will lock unauthorized users from booting the system and/or entering BIOS setup.

6.6 Boot

Use this tab page to configure Boot Settings.



Setup Prompt Timeout

This feature controls how long (in seconds) the boot process will wait for the Setup Activation key (normally <Delete>) to be pressed before moving on. The default is 1.

Boot mode select

Use this feature to select the boot mode. The options are LEGACY, UEFI, and **DUAL**.

FIXED BOOT ORDER Priorities

Use this feature to set the boot order priority. The number of boot options shown is dependent on the boot mode selected (above).

Delete Boot Option

This feature removes an EFI boot option from the boot order.

Delete Driver Option

This feature removes an EFI driver option from the driver order.

UEFI Application Boot Priorities NETWORK Drive BBS Priorities

This feature allows the user to specify the boot device priority sequence from a specified drive device.

6.7 Save & Exit

Use this tab page to configure Save & Exit settings.



Discard Changes and Reset

This option will save the changes that have been made and will reboot the system.

Save Changes and Reset

This option will save the changes that have been made and will reboot the system.

Save Changes

This option will save the changes but will remain in setup mode.

Discard Changes

This option will discard the changes but will remain in setup mode.

Restore Defaults

This option will load the factory-stored optimized defaults and remain in setup mode.

Save as User Defaults

This option will save the changes as user-specified defaults and remain in setup mode.

Restore User Defaults

This option will load previously saved user-specified defaults and remain in setup mode.

Boot Override
IBA CL Slot 00FE v0113

This feature force boots IBA CL Slot 00FE v0113. This will restart the system.

UEFI: Built-in EFI Shell

This feature force boots the Built-in EFI Shell.

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 table below lists some common errors and their corresponding beep codes encountered by users.

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

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

About Standardized Warning Statements

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

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

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

Warning Definition



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

警告の定義

この警告サインは危険を意味します。

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

此警告符号代表危險。

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

此警告符號代表危險。

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

Warnung

WICHTIGE SICHERHEITSHINWEISE

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

BEWAHREN SIE DIESE HINWEISE GUT AUF.

INSTRUCCIONES IMPORTANTES DE SEGURIDAD

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

GUARDE ESTAS INSTRUCCIONES.

IMPORTANTES INFORMATIONS DE SÉCURITÉ

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

CONSERVEZ CES INFORMATIONS.

תקנון הזהרות אזהרה

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

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

안전을 위한 주의사항

경고!

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

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

BELANGRIJKE VEILIGHEIDSINSTRUCTIES

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

BEWAAR DEZE INSTRUCTIES

Installation Instructions



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

設置手順書

システムを電源に接続する前に、設置手順書をお読み下さい。

警告

将此系统连接电源前,请先阅读安装说明。

警告

將系統與電源連接前，請先閱讀安裝說明。

Warnung

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

¡Advertencia!

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

Attention

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

יש לקרוא את הוראות התקנה לפני חיבור המערכת למקור מתח.

اقر إرشادات التركيب قبل توصيل النظام إلى مصدر للطاقة

시스템을 전원에 연결하기 전에 설치 안내를 읽어주십시오.

Waarschuwing

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

Circuit Breaker



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

サーキット・ブレーカー

この製品は、短絡(過電流)保護装置がある建物での設置を前提としています。

保護装置の定格が250 V、20 Aを超えないことを確認下さい。

警告

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

警告

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

Warnung

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

¡Advertencia!

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

Attention

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

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

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

경고!

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

Waarschuwing

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

Power Disconnection Warning



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

電源切斷の警告

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

警告

在你打开机箱并安装或移除内部器件前,必须将系统完全断电,并移除电源线。

警告

在您打開機殼安裝或移除內部元件前，必須將系統完全斷電，並移除電源線。

Warnung

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

¡Advertencia!

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

Attention

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

אזהרה מפני ניתוק חשמלי

אזהרה!

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

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

경고!

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

Waarschuwing

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

Equipment Installation



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

機器の設置

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

警告

只有经过培训且具有资格的人员才能进行此设备的安装、更换和维修。

警告

只有經過受訓且具資格人員才可安裝、更換與維修此設備。

Warnung

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

¡Advertencia!

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

Attention

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

אזהרה!

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

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

경고!

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

Waarschuwing

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

Restricted Area

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

アクセス制限区域

このユニットは、アクセス制限区域に設置されることを想定しています。

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

警告

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

警告

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

Warnung

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

¡Advertencia!

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

Attention

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

אזור עם גישה מוגבלת

אזהרה!

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

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

경고!

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

Waarschuwing

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

Battery Handling



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

電池の取り扱い

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

警告

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

警告

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

Warnung

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

Attention

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

¡Advertencia!

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

אזהרה!

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

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

경고!

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

Waarschuwing

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

Redundant Power Supplies



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

冗長電源装置

このユニットは複数の電源装置が接続されている場合があります。

ユニットの電源を切るためには、すべての接続を取り外さなければなりません。

警告

此部件连接的电源可能不止一个，必须将所有电源断开才能停止给该部件供电。

警告

此装置连接的电源可能不只一个，必须切断所有电源才能停止对该装置的供电。

Warnung

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

¡Advertencia!

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

Attention

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

אם קיים יותר מספק אחד

אזהרה!

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

قد يكون لهذا الجهاز عدة اتصالات بوحدات امداد الطاقة .

يجب إزالة كافة الاتصالات لعسل الوحدة عن الكهرباء

경고!

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

Waarschuwing

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

Backplane Voltage



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

バックプレーンの電圧

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

修理する際には注意ください。

警告

当システム正在进行時、背板上有很危险的电压或能量、进行维修时务必小心。

警告

當系統正在進行時、背板上危險的電壓或能量、進行維修時務必小心。

Warnung

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

¡Advertencia!

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

Attention

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

מתח בפנל האחורי

אזהרה!

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

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

경고!

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

Waarschuwing

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

Comply with Local and National Electrical Codes



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

地方および国の電気規格に準拠

機器の取り付けはその地方および国の電気規格に準拠する必要があります。

警告

设备安装必须符合本地与本国电气法规。

警告

設備安裝必須符合本地與本國電氣法規。

Warnung

Die Installation der Geräte muss den Sicherheitsstandards entsprechen.

¡Advertencia!

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

Attention

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

תיאום חוקי החשמל הארצי
אזהרה!

התקנת הציוד חייבת להיות תואמת לחוקי החשמל המקומיים והארציים.

تركيب المعدات الكهربائية يجب أن يمتثل للقوايه المحلية والبطية المتعلقة
بالكهرباء

경고!

현 지역 및 국가의 전기 규정에 따라 장비를 설치해야 합니다.

Waarschuwing

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

Product Disposal



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

製品の廃棄

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

警告

本产品的废弃处理应根据所有国家的法律和规章进行。

警告

本產品的廢棄處理應根據所有國家的法律和規章進行。

Warnung

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

¡Advertencia!

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

Attention

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

סילוק המוצר

אזהרה!

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

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

경고!

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

Waarschuwing

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

Hot Swap Fan Warning



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

ファン・ホットスワップの警告

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

警告!

警告! 危險的可移動性零件。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

警告

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

Warnung

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

¡Advertencia!

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

Attention

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

אזהרה!

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

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

경고!

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

Waarschuwing

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

Power Cable and AC Adapter



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

電源コードとACアダプター

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

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

警告

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

警告

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

Warnung

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

¡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 certifiés- 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 מיילמשח מילבכ

!הרהזא

ךרוצל ומאתוה וא ושכרנ רשא AC מימאתמו מיקפס, מילבכב שמתשהל שי, רצומה תא מיניקתמ רשאכ לכב שומיש . עקתהו לבכה לש הנוכח הדימ ללוכ, תוימוקמה תוחיטבה תושירדל ומאתוה רשאו, הנקתהה למשחה ירישכמב שומישה יקוחל מאתהב. ילמשח רצק וא הלקתל מורגל לולע, רחא גוסמ מאתמ וא לבכ לש דוק מהילע עיפומ רשאכ) UL ב- או CSA ב- מיכמומה מילבכב שמתשהל רוסיא מייק, תוחיטבה יקוחו דבלב Supermicro י"ע מאתוה רשא רצומב קר אלא, רחא ילמשח רצומ לכ רובע (UL/CSA)

תאלבאלא אארשב מץ וא אדדחמלא וא ארפוטמלא תאלויסוטלא מאדחטסאב מץ, אגתנמלא בייקרת דנע לכלז יפ אב אילחמלא אלאסלא תאבלטתמו נינאוץב מאזתלאל אע מדדרטמלא ראיטלא תאלוחמו אילברמלא איליח וא לטע יפ בבסטטי דץ אירחא תאלוחמו תאלבאלא יא מאדחטסא. מילסלא סבאלאו לטווא מץ א. CSA וא UL לבק נמ אדמאמלא תאלבאלא מאדחטסא תאדעמלא אילברמלא אזהאלל אלאסלא נונאץ רזחי Supermicro לבק נמ אדדחמלא איליחמלא תאגתנמלא ריג אירחא תאדעמ יא אע (UL/CSA) אלאע למחתי אילאו

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 Supermicro가 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

Processor

Single Intel Xeon-E Core i3, Pentium, and Celeron processors in Socket H4 (LGA 1151), up to 6 cores, 95W max TDP.

Chipset

Intel C246

BIOS

256 Mb AMI BIOS SPI Flash BIOS

Memory

Four DDR4 ECC/ non-ECC UDIMM slots, up to 2666MHz, max. capacity 64GB

Storage Drives

Supports four 3.5" internal drive bays

(Optional) Four 2.5" internal drive bays

One U.2 connector (shared with M.2 M-key#2 via PCH)

Two M.2 (M-key, 2260/2280/22110)

PCI Expansion Slots

Two PCI-E 3.0 x16 ******(16/NA or 8/8)******

One PCI-E 3.0 x4 (shared with M.2 M-key #1) via PCH

One PCI-E 3.0 x1 via PCH

One PCI 32bit 5V

One M.2 E-key vertical socket for WIFI/ Bluetooth

Motherboard

X11SCA; ATX form factor, 12" x 9.6", (30.5cm x 24.4cm)

Chassis

SC732D4-500B; Mid-size tower (4U), (WxHxD) 7.6 x 16.7 x 20.7 in. (193 x 424 x 525 mm)

System Cooling

One 12-cm PWM rear fan; one optional 12-cm front cooling fan

Power Supply

500 W, 80Plus Bronze level

Model: PWS-502-PQ

AC Input: 100-240 V, 50-60 Hz, Rated Input Current: 7-3.5 Amps

Rated DC Output Power:

+12 V, 18 Amps

-12 V, 0.5 Amps

+5 V standby, 3 Amps

+5 V, 20 Amps

+3.3 V, 15 Amps

500 W maximum

Operating Environment

Operating Temperature: 10° to 35° C (50° to 95° F)

Non-operating Temperature: -40° to 60° C (-40° to 140° F)

Operating Relative Humidity: 20% to 95% (non-condensing)

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

Regulatory Compliance

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

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

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

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"

Appendix D

UEFI BIOS Recovery

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

D.1 Overview

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

D.2 Recovering the UEFI BIOS Image

A UEFI BIOS flash chip consists of a recovery BIOS block and a main BIOS block (a main BIOS image). The boot block contains critical BIOS codes, including memory detection and recovery codes for the user to flash a new BIOS image if the original main BIOS image is corrupted. When the system power is on, the boot block codes execute first. Once it is completed, the main BIOS code will continue with system initialization and bootup.

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

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

D.3 Recovering the BIOS Block with a USB Device

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

The file system supported by UEFI is FAT (including FAT12, FAT16, and FAT32) installed on a bootable or non-bootable USB-attached device. However, the BIOS might need several minutes to locate the SUPER.ROM file if the media size becomes too large because it contains too many folders and files.

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

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

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

2. Insert the USB device that contains the new BIOS image ("Super.ROM") into your USB drive and power on the system
3. After locating the new BIOS binary image, the system will enter the BIOS Recovery menu automatically as shown below.



PEI--IPMI Initialization...

BMC IP:10.132.160.170
P0

Note: If the following screen displays, please load the "Super.ROM" file to the root folder and connect this folder to the system. You can do so by inserting a USB device that contains the new "Super.ROM" image to your machine for BIOS recovery.



PEI--OS Phase Start...

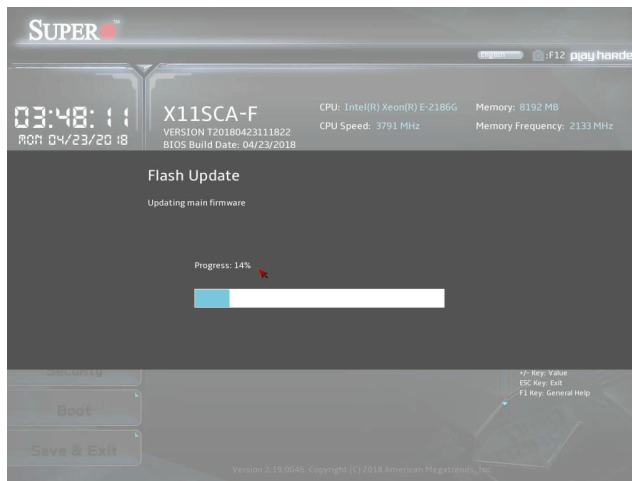
BMC IP:10.132.160.170
P7

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



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

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



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



Appendix E

限用物質含有情況標示聲明書

Declaration of the Presence Condition of the Restricted Substances Marking

設備名稱：工作站/ Workstation		型號（型式）：SYS-5039C-T（系列型號：732-5）				
Equipment name		Type designation (Type)				
單元 Unit	限用物質及其化學符號 Restricted substances and its chemical symbols					
	鉛Lead (Pb)	汞Mercury (Hg)	鎘Cadmium (Cd)	六價鉻 Hexavalent chromium (Cr ⁺⁶)	多溴聯苯 Polybrominated biphenyls (PBB)	多溴二苯醚 Polybrominated diphenyl ethers (PBDE)
機殼 (Chassis)	○	○	○	○	○	○
機殼風扇 (Chassis Fan)	—	○	○	○	○	○
線材 (Cable)	○	○	○	○	○	○
主機板 (Motherboard)	—	○	○	○	○	○
電源供應器 (Power Supply)	—	○	○	○	○	○
硬碟 (Hard Disk)	—	○	○	○	○	○
附加卡 (Add-on Card)	—	○	○	○	○	○
<p>備考1. “超出0.1 wt %” 及 “超出0.01 wt %” 係指限用物質之百分比含量超出百分比含量基準值。 Note 1 : “Exceeding 0.1 wt %” and “exceeding 0.01 wt %” indicate that the percentage content of the restricted substance exceeds the reference percentage value of presence condition.</p> <p>備考2. “○” 係指該項限用物質之百分比含量未超出百分比含量基準值。 Note 2 : “○” indicates that the percentage content of the restricted substance does not exceed the percentage of reference value of presence.</p> <p>備考3. “—” 係指該項限用物質為排除項目。 Note 3 : The “—” indicates that the restricted substance corresponds to the exemption.</p>						

*輸入額定：100-240VAC, 60-50Hz, 7-3.5A

*使用者不能任意拆除或替換內部配備

*設備名稱：工作站

*報驗義務人之姓名或名稱：美超微電腦股份有限公司

*報驗義務人之地址：新北市中和區建一路150號3樓