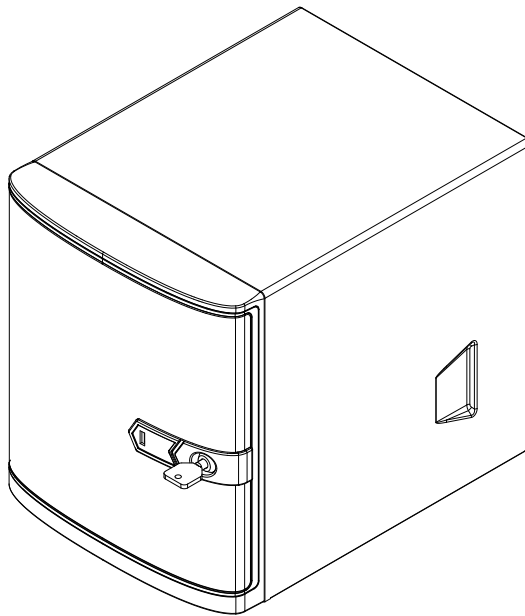




SuperServer[®] 5029C-T



USER'S MANUAL

Revision 1.0a

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Manual Revision 1.0a

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Preface

About this Manual

This manual is written for professional system integrators and PC technicians. It provides information for the installation and use of the SuperServer 5029C-T. Installation and maintenance should be performed by experienced technicians only.

Please refer to the 5029C-T server specifications page on our website for updates on supported memory, processors and operating systems (<http://www.supermicro.com>).

Notes

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

- Supermicro product manuals: <http://www.supermicro.com/support/manuals/>
- Product drivers and utilities: <https://www.supermicro.com/wftp/driver>
- 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.

Secure Data Deletion

A secure data deletion tool designed to fully erase all data from storage devices can be found on our website: https://www.supermicro.com/about/policies/disclaimer.cfm?url=/wftp/utility/Lot9_Secure_Data_Deletion_Utility/

Warnings

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



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



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

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Appendix B Standardized Warning Statements for AC Systems

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Contacting Supermicro

Headquarters

Address: Super Micro Computer, Inc.
980 Rock Ave.
San Jose, CA 95131 U.S.A.

Tel: +1 (408) 503-8000

Fax: +1 (408) 503-8008

Email: marketing@supermicro.com (General Information)
support@supermicro.com (Technical Support)

Website: www.supermicro.com

Europe

Address: Super Micro Computer B.V.
Het Sterrenbeeld 28, 5215 ML
's-Hertogenbosch, The Netherlands

Tel: +31 (0) 73-6400390

Fax: +31 (0) 73-6416525

Email: sales@supermicro.nl (General Information)
support@supermicro.nl (Technical Support)
rma@supermicro.nl (Customer Support)

Website: www.supermicro.nl

Asia-Pacific

Address: Super Micro Computer, Inc.
3F, No. 150, Jian 1st Rd.
Zhonghe Dist., New Taipei City 235
Taiwan (R.O.C)

Tel: +886-(2) 8226-3990

Fax: +886-(2) 8226-3992

Email: support@supermicro.com.tw

Website: www.supermicro.com.tw

Chapter 1

Introduction

1.1 Overview

The SuperServer 5029C-T is a compact, server system comprised of the SC721TQ-250B2 chassis and the X11SCL-IF single processor motherboard.

Refer to our website for information on operating systems that have been certified for use with the system (www.supermicro.com).

This chapter provides a brief outline of the functions and features. In addition to the motherboard and chassis, several important parts that are included with the system are listed below.

Main Parts List		
Description	Part Number	Quantity
SAS/SATA backplane	CSE-SAS-733TQ	1
3.5" hot-swap drive carriers	MCP-220-00075-0B	4
Fan	FAN-0124L4	1
Power Supply	PWS-251-1H	1
(Optional) Active CPU heatsink	SNK-P0074AP4	1
Air Shroud	MCP-310-00095-0B	1
(Optional) DVD-ROM/ DVD-RW	DVM-TEAC-DVD-SBT3	1
(Optional) SATA DVD Kit	MCP-220-81502-0N	1
(Optional) 2.5" to 3.5" SSD/HDD adapter tray	MCP-220-00043-0N	-

1.2 System Features

The following table provides an overview of the main features of the 5029C-T.

System Features
Motherboard
X11SCL-IF
Chassis
SC721TQ-250B2
CPU
Supports single Intel® Xeon E Family/ 8th Intel Core i3/ Pentium/ Celeron Processor, up to 6 cores in Socket H4 (LGA 1511), 80W max. TDP Note: BIOS 1.0b or above is required to support Intel® Xeon® processor E-2200 series.
Fan
One (1) rear 120mm PWM fan (1850 RPM)
Memory
Two (2) DDR4-2666MHz ECC UDIMM slots, max capacity 64GB
Expansion Slots
One (1) PCI-E3.0 x16, for low profile AOC
Hard Drives
Four (4) hot-swap 3.5" SAS2/ SATA3 drive bays with Backplane (SES-II) Two (2) internal fixed 2.5" drive bays One (1) M.2 slot through PCI-E3.0 x4/ SATA3.0 (Supports M-key 2280)
Power
One (1) 250W Flex ATX Multi-output 80PLUS Bronze Certified
Form Factor
Mini-size tower; (WxHxD) 8.2 x 9.45 x 11 in. (210 x 240 x 279 mm)
Input/Output
Network: Two (2) 1Gb LAN ports (Intel I210AT), One (1) IPMI LAN port USB: - Front: Two (2) USB3.1 Gen1 ports - Rear: Two (2) USB3.1 Gen1 ports, Two (2) USB2.0 ports Video: One (1) VGA port through BMC One (1) COM port

1.3 Chassis Features

Front Features

The SC721TQ-250B2 is a compact Mini Tower chassis. The front of the chassis includes a power on/off push-button, a reset button and several LEDs as described below.

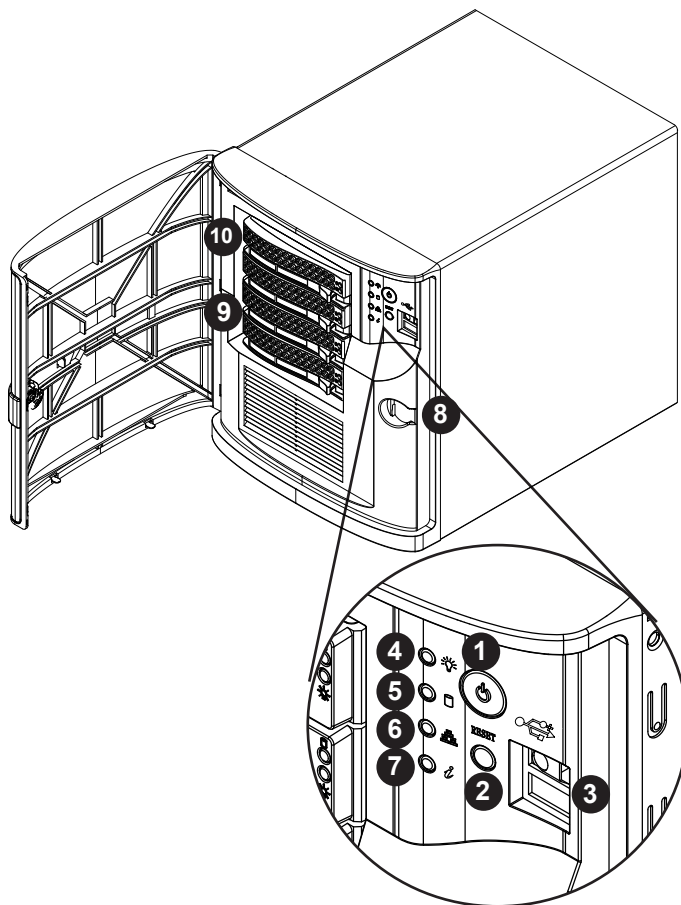


Figure 1-1. Chassis Front View

Front Chassis Features		
Item	Feature	Description
1	Power Button	The power button applies or removes power to the system. Turning off power removes the main power but keeps standby power supplied to the system.
2	Reset Button	Restarts the system
3	USB	USB3.1 Gen1 ports
4	Power LED	Indicates power is being supplied to the system power supply. This LED is illuminated when the system is operating normally.
5	Storage LED	Indicates activity on a hard disk drive when flashing.
6	NIC LED	Indicates network activity when flashing.
7	Information LED	This LED alerts the operator to several states, as noted in the table below.
8	Front Bezel Lock	Data security and protection by a key.
9	Hot-swappable Drives	Support four 3.5" storage drives.
10	DVD ROM/ DVD RW Drive Bay (Optional)	Support one slim DVD ROM/ DVD RW.

Information LED	
Status	Description
Solid red	An overheat condition has occurred. (This may be caused by cable congestion.)
Blinking red (1Hz)	Fan failure, check for an inoperative fan.
Blinking red (0.25Hz)	Power failure, check for a non-operational power supply.
Solid blue	Local UID has been activated. Use this function to locate the server in a rack mount environment.
Blinking blue (300 msec)	Remote UID is on. Use this function to identify the server from a remote location.

Rear Features

The rear of the chassis has various input/output ports.

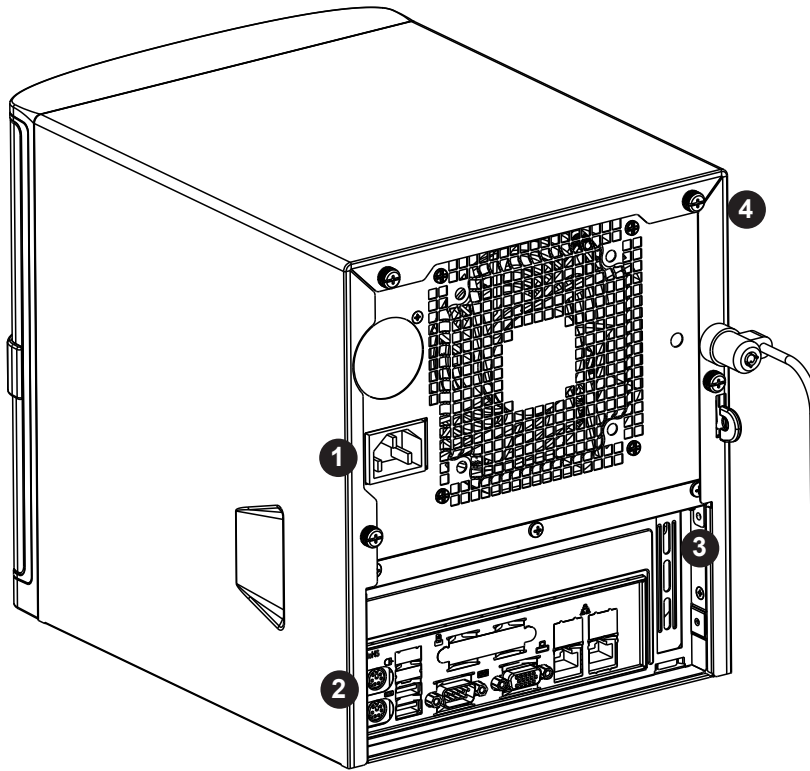


Figure 1-2. Chassis Rear View

Rear Chassis Features		
Item	Feature	Description
1	Power Supply	Fixed module
2	I/O Backpanel	Rear input/output ports
3	PCI-E Slots	Supports four full-height, full-length PCI-E expansion cards
4	Kensington Security Slot	Supports a Kensington lock to prevent from theft.

Rear I/O Ports

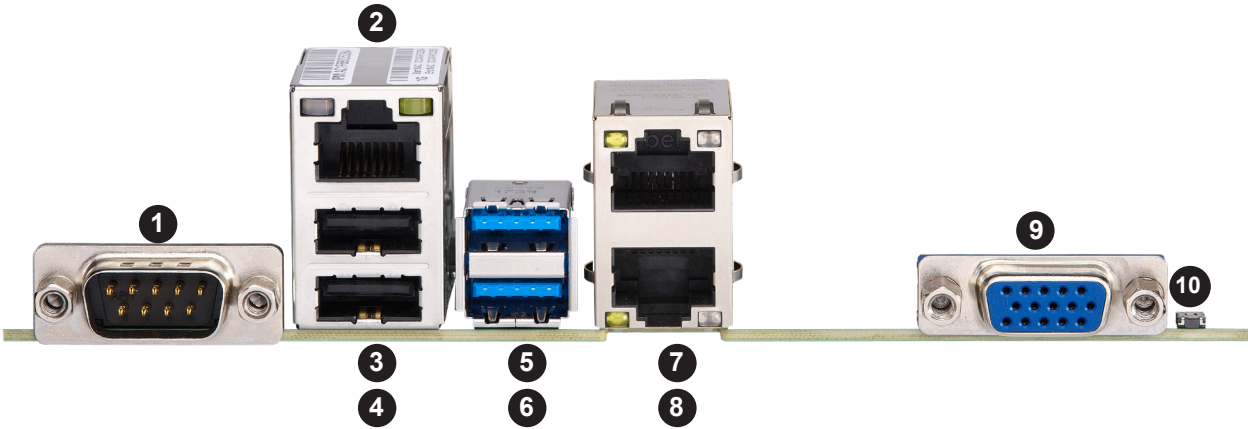


Figure 1-3. Rear input/Output Ports

Rear I/O Ports			
#	Description	#	Description
1.	COM1	6.	USB4 (USB 3.1 Gen 1)
2.	Dedicated IPMI LAN	7.	LAN2
3.	USB1	8.	LAN1
4.	USB0	9.	VGA Port
5.	USB5 (USB 3.1 Gen 1)	10.	UID Switch

1.4 Motherboard Layout

Jumper, connector and LED locations are shown below with brief descriptions on the following page. Detailed descriptions are found in Chapter 3.

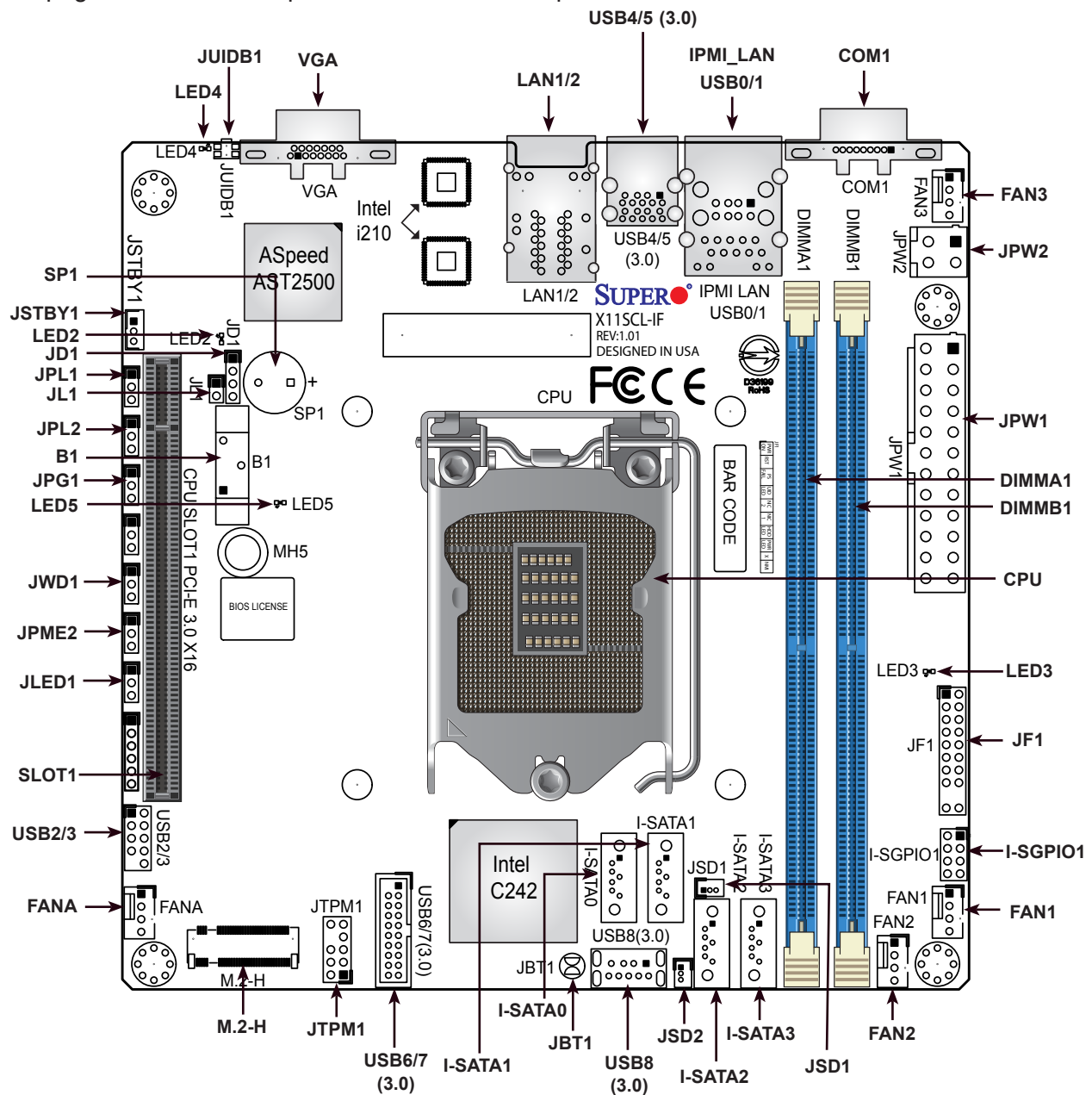


Figure 1-4. Motherboard Layout

Notes:

- See Chapter 3 for detailed information on jumpers, I/O ports, and JF1 front panel connections. Jumpers/LED indicators not indicated are used for testing only.
- "■" indicates the location of Pin 1.
- When JLED1 (Onboard Power LED indicator) is on, system power is on. Unplug the power cable before installing or removing any components.

Quick Reference Table

Jumper	Description	Default Setting
JBT1	CMOS Clear	Open (Normal)
JPG1	VGA Enable	Pins 1-2 (Enabled)
JPL1, JPL2	LAN1, LAN2 Enable	Pins 1-2 (Enabled)
JPME2	ME Manufacturing Mode	Pins 1-2 (Normal)
JWD1	Watchdog Timer	Pins 1-2 (Reset)

LED	Description	Status
LED2	BMC Heartbeat LED	Blinking Green: BMC Normal
LED3	Onboard Power LED	Solid Green: Power On
LED4	Unit Identifier (UID) LED	Solid Blue: Unit Identified
LED5	CATERR LED	Solid Orange: System CATERR

Connector	Description
B1	Onboard Battery
COM1	COM Port
FAN1 ~ FAN3, FANA	CPU/System Fan Headers
IPMI_LAN	Dedicated IPMI LAN Port
I-SATA0 ~ I-SATA3	Intel® PCH SATA 3.0 Ports (with RAID 0, 1, 5, 10) I-SATA2 and I-SATA3 supports SuperDOM
I-SGPIO1	Serial Link General Purpose I/O Header
JD1	Speaker Header (Pins 1-4: Speaker; Pins 3-4: Onboard Buzzer)
JF1	Front Control Panel Header
JL1	Chassis Intrusion Header
JLED1	3-pin Power LED Header
JPW1	24-pin ATX Power Supply Connector
JPW2	4-pin Power Connector
JSD1, JSD2	SATA DOM Power Connectors
JSTBY1	Standby Power Header
JTPM1	Trusted Platform Module (TPM)/Port 80 Header
JUIDB1	Unit Identifier (UID) Switch
LAN1/2	1GbE LAN Ports
M.2-H	M.2 Slot for PCI-E 3.0 x4 or SATA 3.0 (Supports M-Key 2280 and Intel Optane Memory)
MH5	M.2 Mounting Hole
SLOT1	CPU PCI-E 3.0 x16 Slot

Connector	Description
SP1	Onboard Buzzer
USB0/1	Back Panel Universal Serial Bus (USB) 2.0 Ports
USB2/3	Front Accessible USB 2.0 Header
USB4/5	Back Panel USB 3.1 Gen 1 Ports
USB6/7	Front Accessible USB 3.1 Gen 1 Header
USB8	USB 3.1 Gen 1 Type-A Header
VGA	VGA Port

System Block Diagram

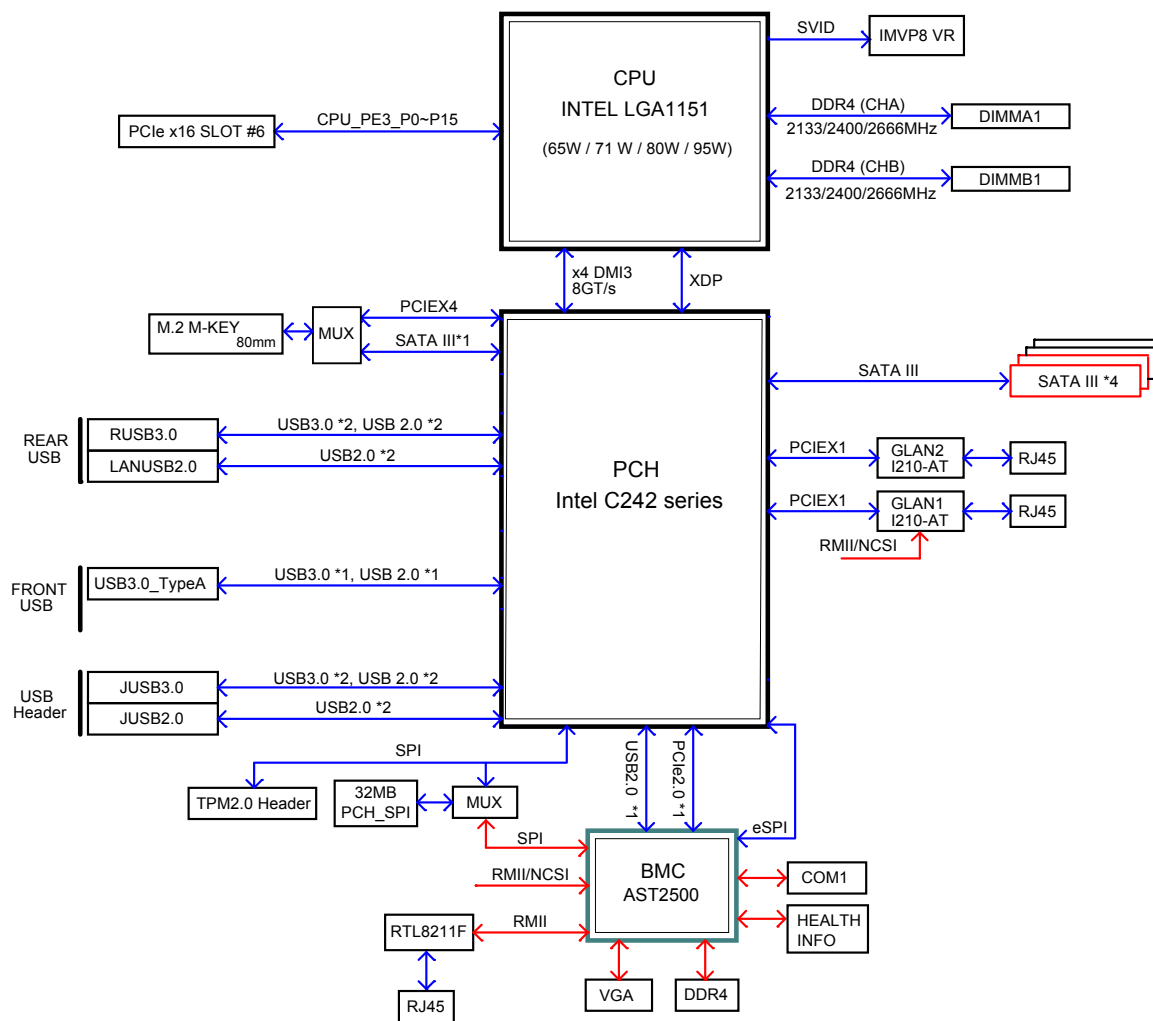


Figure 1-5. System Block Diagram

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

Chapter 2

Maintenance and Component Installation

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

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

2.1 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 source.
3. Disconnect the power cord from the chassis.

2.2 Hardware Security

The chassis features multiple locking devices to help deter hardware theft and protect user data. While no lock is infallible, it is recommended that users keep their systems locked when not in use.

Front Bezel Lock

The locking front bezel protects against unauthorized removal of the hard drives. Use the key to lock or unlock the bezel. Always remove the key from the lock and store it in a secure place.

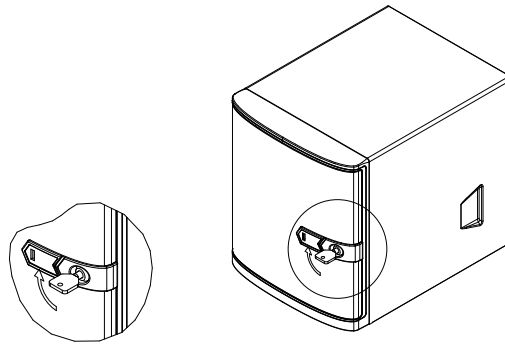


Figure 2-1. Front Bezel Lock

Rear Chassis Hasp

Unauthorized entry through the rear of the chassis may be discouraged by placing a lock on the rear of the chassis. The chassis is equipped with a rear chassis hasp that can accommodate a variety of commonly available locks (not included).

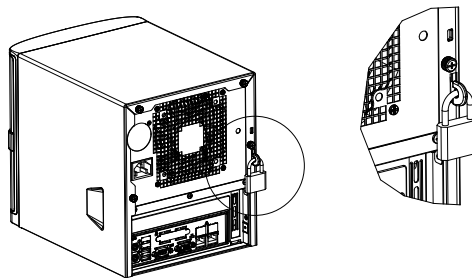


Figure 2-2. Rear Chassis Hasp

Kensington Cable Slot (K-Slot)

The chassis features a Kensington cable slot or K-slot. This slot accepts a standard Kensington cable locking device (not included). Attach the loop end of the cable to a secure object, then insert the device into the K-slot as illustrated below.

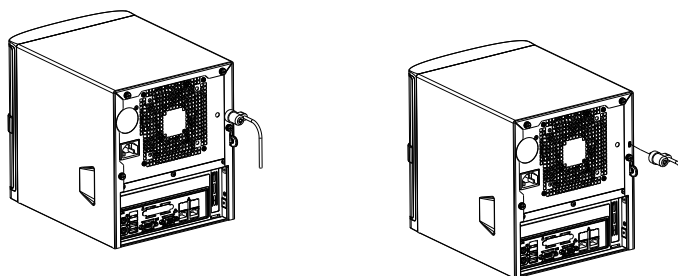


Figure 2-3. Inserting a Kensington Cable Device (not included)

2.3 Accessing the System

The SC721TQ-250B2 features a removable top cover to access to the inside of the chassis.

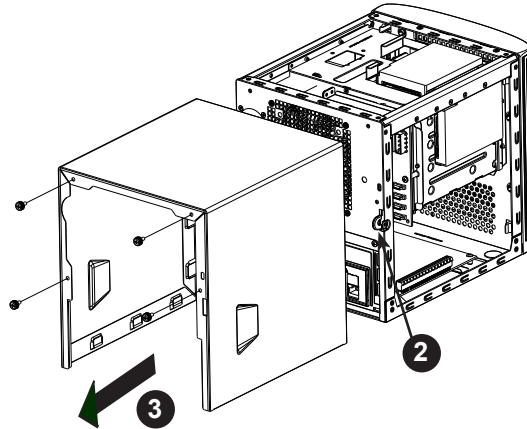


Figure 2-4. Removing the Chassis Cover

Removing the Top Cover

1. Power down the system as described in section 2.1.
2. Lift the release lever located on the right side rear of the chassis.
3. Slide the cover toward the rear of the chassis the lift it off.

Caution: Except for short periods of time, do *not* operate the server without the cover in place. The chassis cover helps maintain proper airflow and prevent system overheating.

2.4 Motherboard Components

Processor

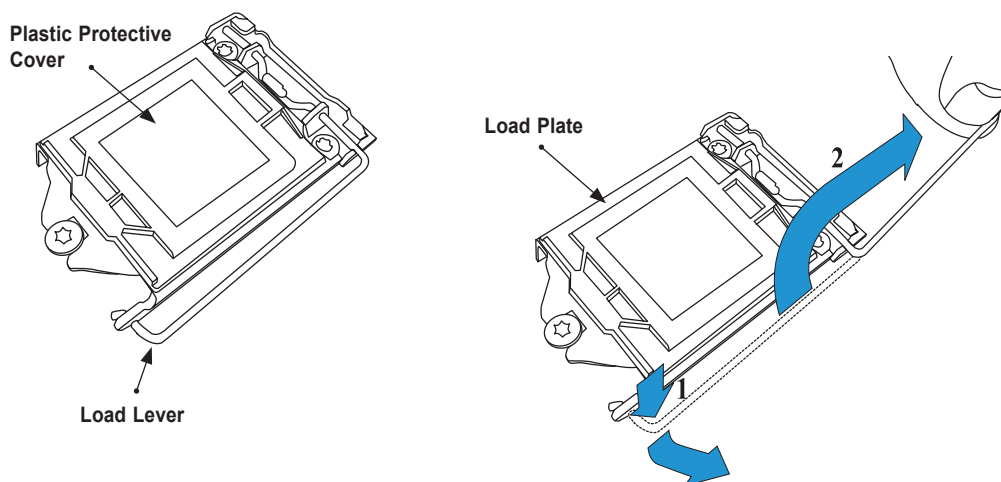
The 5029C-T supports a single Intel® Xeon E-2100, 8th Generation Core i3, Pentium, or Celeron Processor.

Notes:

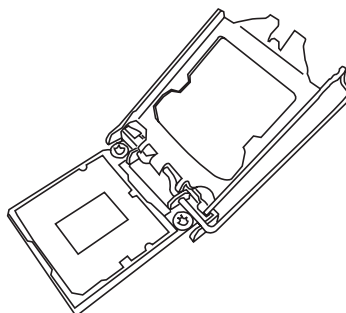
- When handling the processor package, avoid placing direct pressure on the label area of the fan.
- When receiving a motherboard without a processor pre-installed, make sure that the plastic protective socket cover is in place and none of the socket pins are bent; otherwise, contact your retailer immediately.

Installing the LGA 1151 Processor

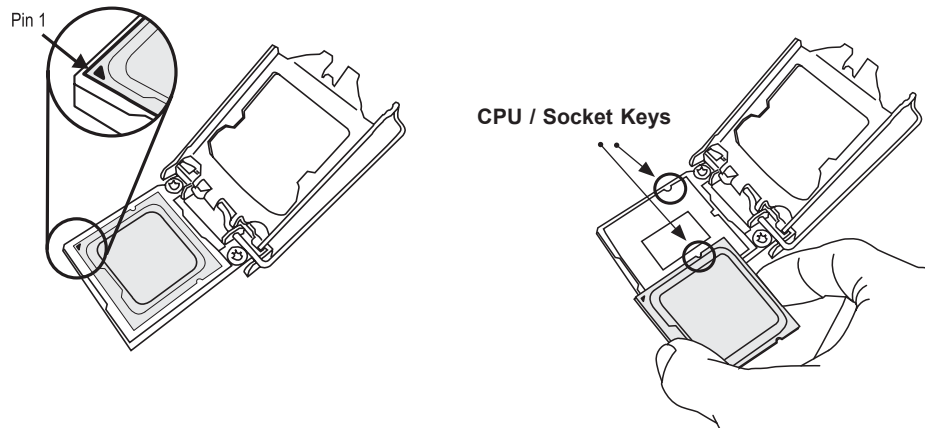
1. Press the load lever down to release the load plate from its locking position.



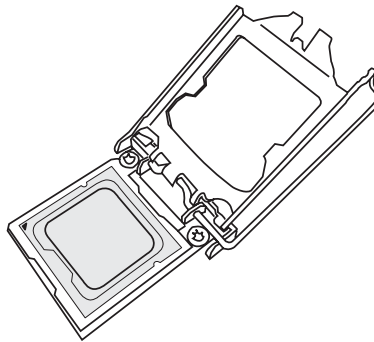
2. Gently lift the load lever to open the load plate. Remove the plastic protective cover. Do not touch the CPU socket contacts.



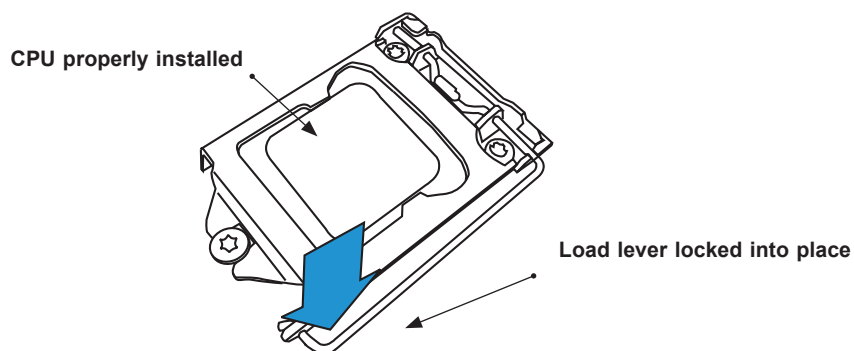
3. Locate the triangle on the CPU and CPU socket, which indicates the location of Pin 1. Holding the CPU by the edges with your thumb and index finger, align the triangle on the CPU with the triangle on the socket. The CPU keys (the semi-circle cutouts) may also be aligned against the socket keys as a guide.



4. Carefully lower the CPU straight down into the socket. Do not drop the CPU on the socket, or move it horizontally or vertically to avoid damaging the CPU or socket. Inspect the four corners of the CPU to make sure that the CPU is properly installed.



5. Close the load plate, then gently push down the load lever into its locking position.



Heatsink

Installing the CPU Heatsink

Do not apply thermal grease to the heatsink or the CPU--the required amount has already been applied. Use an Intel-certified multi-directional heatsink.

1. Power down the system as described in Section 2.1 and remove the chassis cover.
2. Remove the three screws securing the rear tray to the rear of the chassis and set them aside for later use.
3. Pull the rear tray out from the chassis (see Figure 2-7).
4. Place the heatsink facing inward and on top of the CPU so that the four mounting screws on the heatsink are aligned with holes on the socket.

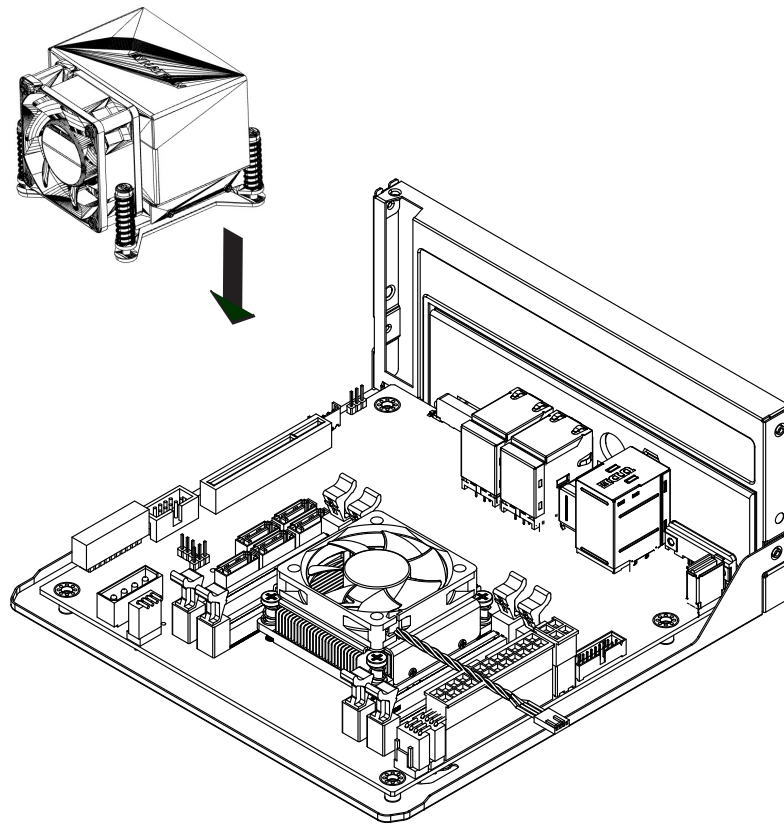


Figure 2-5. CPU Heatsink

5. Tighten the screws evenly and gradually. Do not over-tighten.
6. Connect the heatsink fan wires to the proper motherboard connector (see Section 1.5).

Installing the Air Shroud

1. Position the air shroud onto the heatsink with the wide side facing toward the inside of the chassis.

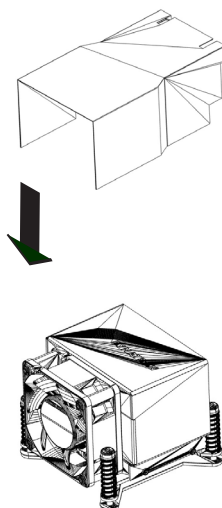


Figure 2-6. Positioning the Air Shroud

2. Clip both hooks on the top of the air shroud onto the top fin of the heatsink properly.
3. Peel off two pieces of double-sided tape from the inside of both sides of the air shroud, and carefully attach the air shroud to the heatsink.

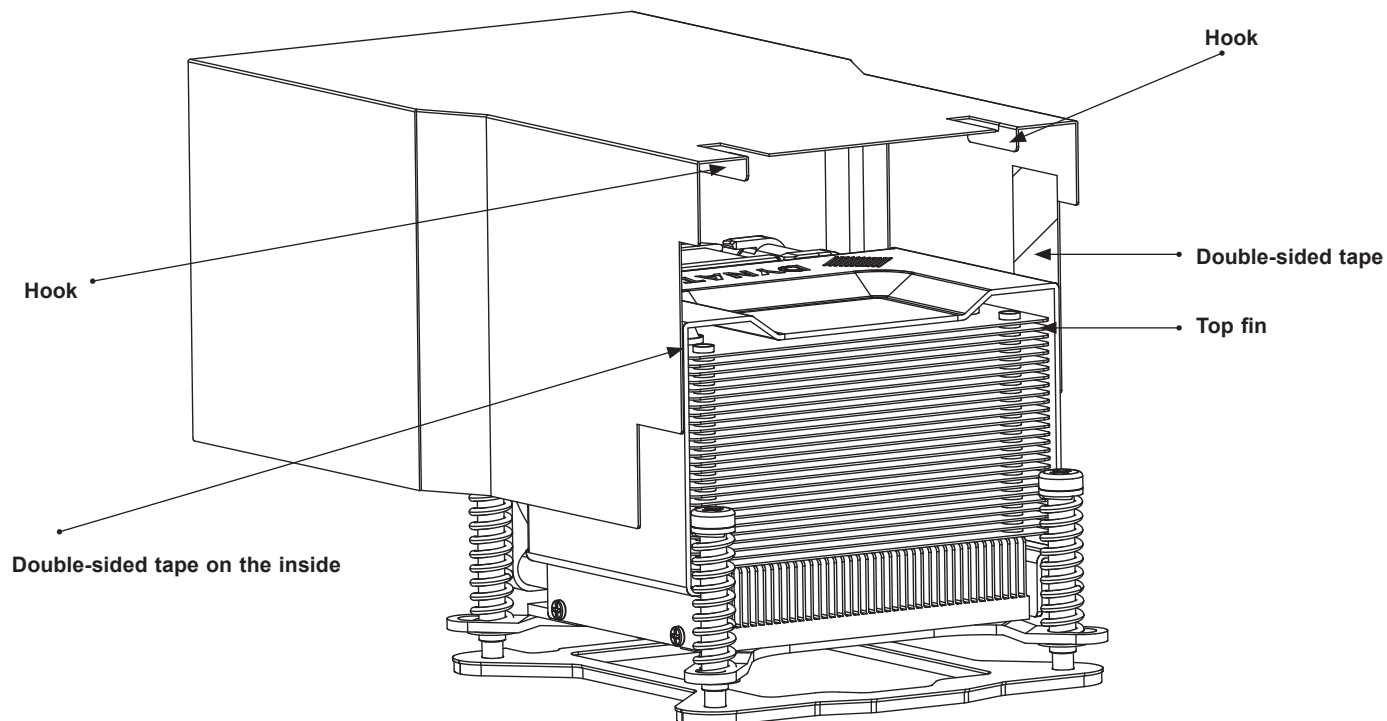


Figure 2-7. Installing the Air Shroud

4. Push the rear tray back into the the chassis.

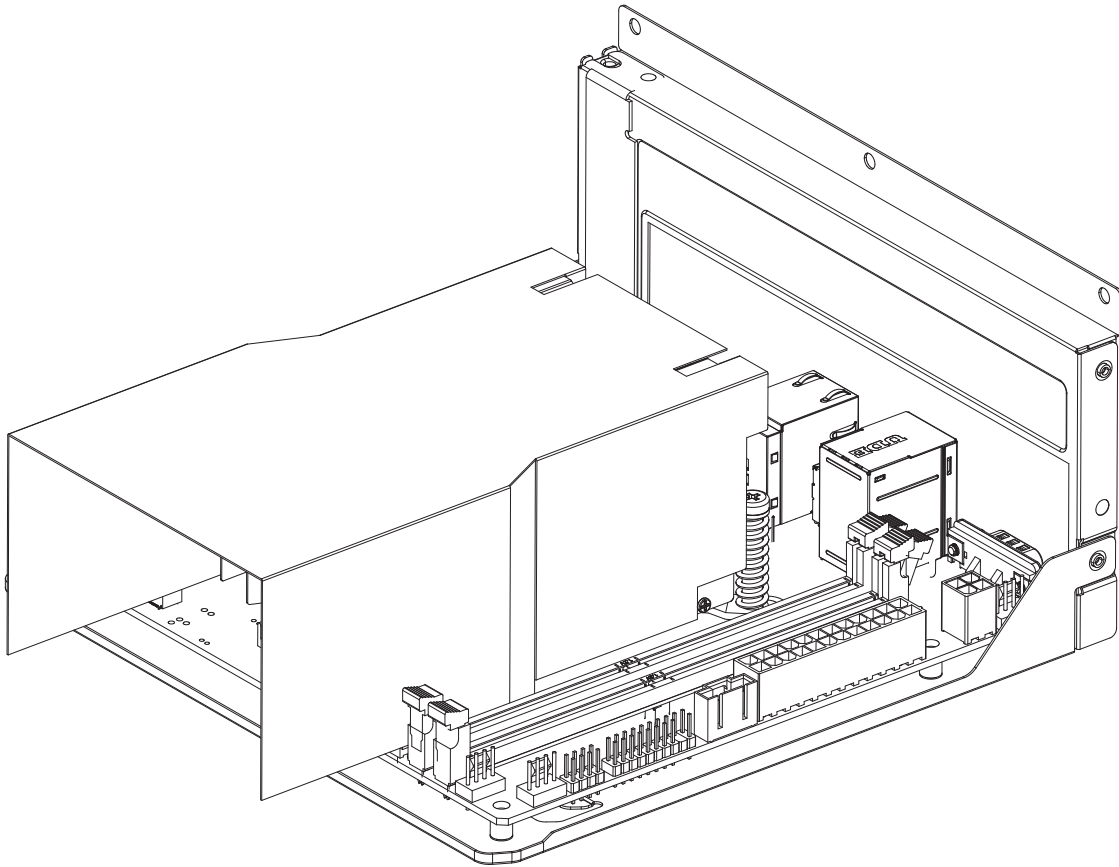


Figure 2-8. Pushing the Rear Tray Back Into the Chassis

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. Remove the air shroud from the heatsink. Note that the taped surface of both sides of the air shroud will retain their adhesive so that you can re-attach it to the heatsink later.
3. Disconnect the heatsink fan wires from the CPU fan header.
4. Loosen the screws evenly and gradually in the order above.
5. Gently wriggle the heatsink to loosen and remove it. Do not use excessive force.

Memory Support

The motherboard supports up to 32GB of unbuffered (UDIMM) DDR4 (288-pin) ECC memory with speeds of up to 2666MHz in two memory slots. Check the Supermicro website for a list of memory modules that have been validated.

Installing Memory

Caution: Exercise extreme care when installing or removing DIMM modules to prevent damage.

Memory Population Guidelines

Refer to the tables below for the recommended DIMM population order and additional memory information.

1 CPU, 2-DIMM Slots	
Number of DIMMs	Memory Population Sequence
1	DIMMB1
2	DIMMB1 / DIMMA1

DIMM Type	Ranks Per DIMM and Data Width	DIMM Capacity (GB)		Speed (MT/s), Voltage (V), Slot Per Channel (SPC), and DIMM Per Channel (DPC)
		DRAM Density		1 Slot Per Channel
		4GB	8GB	1DPC
				1.2V
Unbuffered DDR4 ECC	SR	8GB (2x 4GB DIMMs)	16GB (2x 8GB DIMMs)	2666
	DR	16GB (2x 8GB DIMMs)	32GB (2x 16GB DIMMs)	

DIMM Installation

1. Insert the desired number of DIMMs into the memory slots based on the recommended DIMM population table .
2. Push the release tabs outwards on both ends of the DIMM slot to unlock it.
3. Align the key of the DIMM module with the receptive point on the memory slot.
4. Align the notches on both ends of the module against the receptive points on the ends of the slot.
5. Press both ends of the module of the module straight down into the slot until the module snaps into place.
6. Press the release tabs to the lock positions to secure the DIMM module into the slot.

DIMM Removal

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

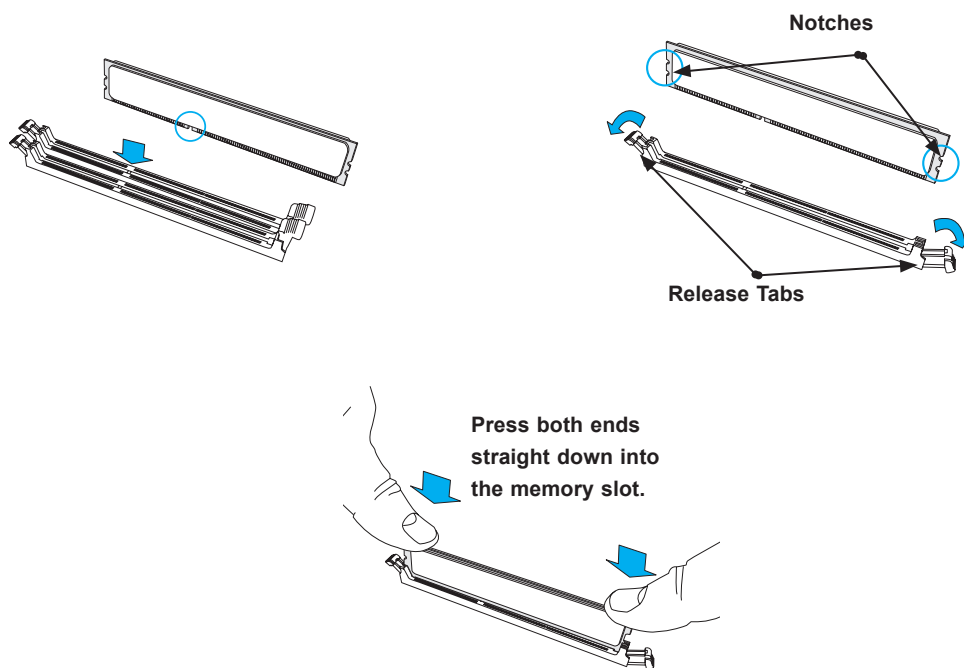


Figure 2-9. Installing a DIMM

Installing Expansion Cards

The 5029C-T includes a PCI-E 3.0 x4 slot for an expansion card. The card is installed by removing the chassis tray that holds the motherboard and rear I/O shield.

Installing an Expansion Card

1. Power down the system as described in Section 2.1 and remove the chassis cover.
2. Remove the three screws securing the rear tray to the rear of the chassis and set them aside for later use.
3. Pull the rear tray out from the chassis.

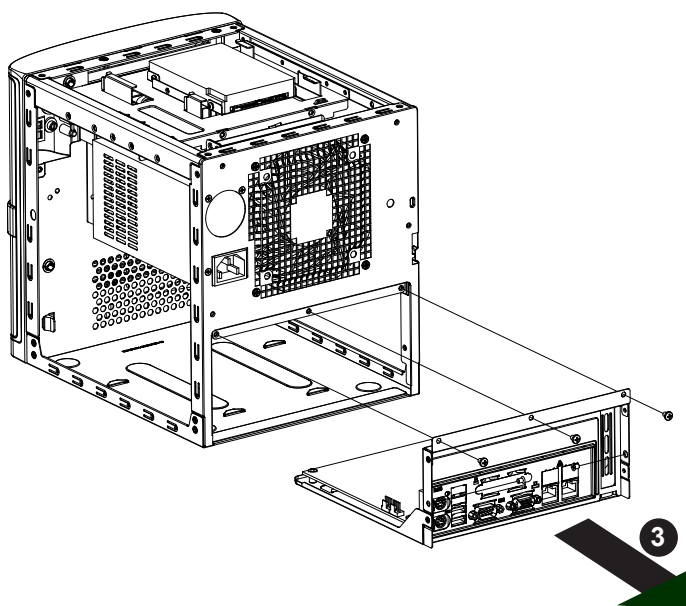


Figure 2-10. Removing the Rear Tray from the Chassis

4. Remove the screw that secures the PCI slot shield in the PCI slot at the rear of the tray and set it aside for later use.
5. Slide the PCI slot shield up and out of the PCI slot.
6. Insert the card into its slot on the motherboard while aligning its bracket into the slot on the chassis drawer.
7. Secure the bracket of the expansion card with the screw previously set aside.
8. Slide the rear tray into the chassis and secure it with the screws.
9. Replace the chassis cover and power up the system.

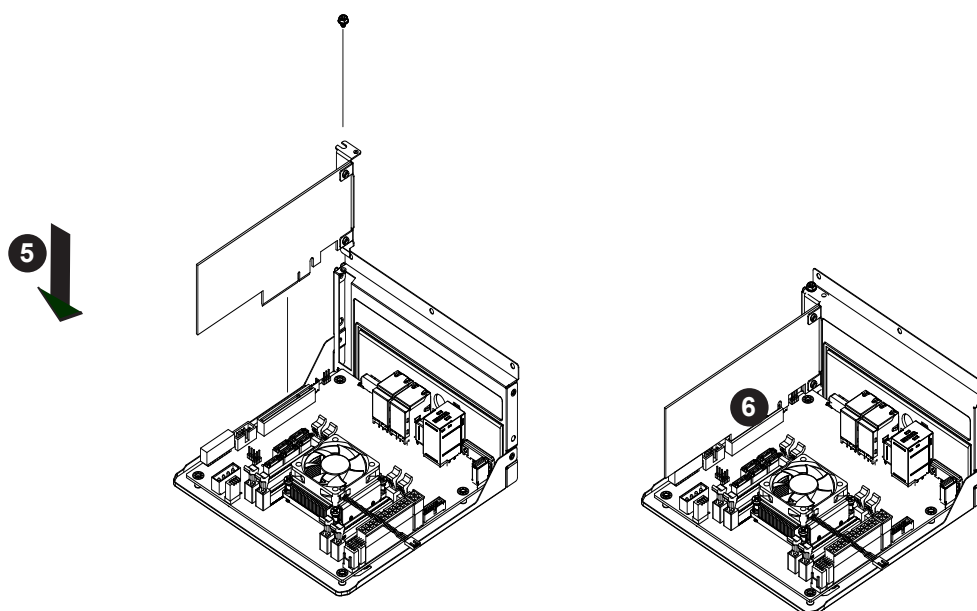


Figure 2-11. Installing the Expansion Card

Motherboard Battery

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

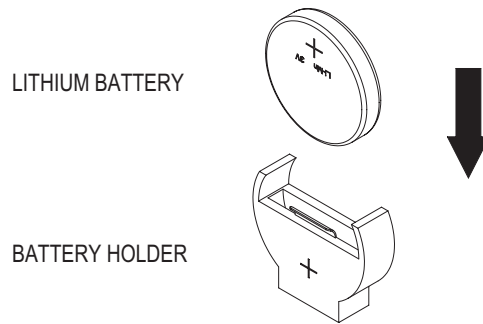


Figure 2-12. Installing the Onboard Battery

Replacing the Battery

1. Remove power from the system as described in section 2.1.
2. Access the motherboard by removing the chassis cover as described in Section 2.3.
3. Push aside the small clamp that covers the edge of the battery. When the battery is released, lift it out of the holder.
4. 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 of your local hazardous waste management agency to dispose of your used battery properly.

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).

2.5 Chassis Components

Front-Mounted Hot-Swap Drives

The SC721TQ-250B2 supports four hot-swappable drives mounted in carriers that are accessible from the front of the chassis. These drives may be removed and installed without powering down the system.

Removing 3.5" Hot-Swap Hard Drives

1. Unlock the front bezel and swing it open.
2. Press the release tab on the hard drive carrier; this will extend the hard drive carrier handle.
3. Use the handle to pull the hard drive out of the chassis.

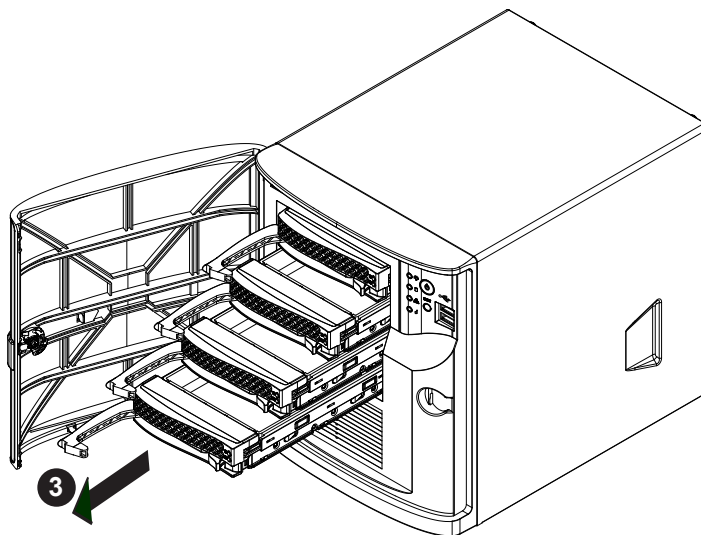


Figure 2-13. Installing the Hard Drive

Installing a Hard Drive into a Drive Carrier

1. After removing a drive carrier, remove the six screws securing the dummy drive tray to the drive carrier. Lift the tray out.
2. Install the new hard drive into the carrier with the printed circuit board side facing down and with the mounting holes in the drive aligned with those in the carrier.
3. Secure the drive to the carrier by tightening all six screws. The logic and power connections to the drive will be supplied through the backplane.

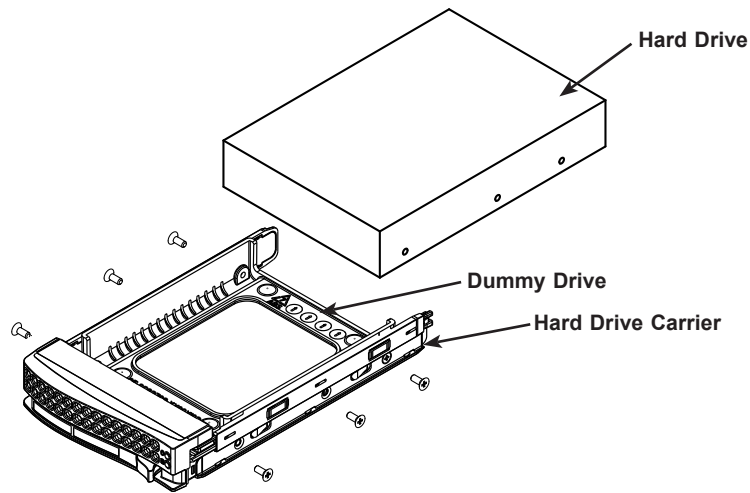


Figure 2-14. Installing a Hard Drive into a Drive Carrier

Installing a Drive Carrier into the Hard Drive Cage

1. Insert the hard drive carrier into the drive bay, using the drive carrier handle to push it all the way into the hard drive cage until it stops.
2. Close the handle until the drive carrier clicks into the locked position.
3. Close and lock the front bezel.

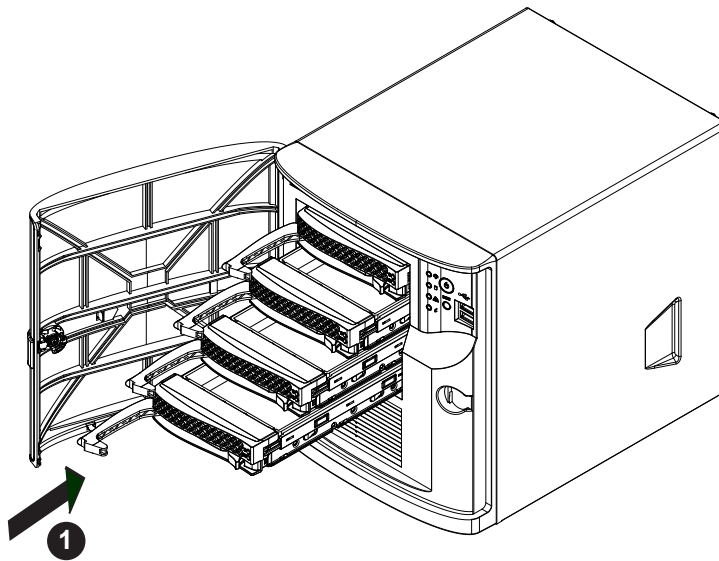


Figure 2-15. Installing a Drive Carrier into the Hard Drive Cage

Installing the Internal Fixed Hard Drives

The SC721TQ-250B2 chassis supports two internal 2.5" SATA fixed hard drives: one top-mounted drive and one side-mounted drive.

Installing a Top-Mounted Fixed Hard Drive

1. Power down the system as described in Section 2.1 and remove the chassis cover.
2. Place a 2.5" hard drive into the hard drive bracket and secure the drive to the bracket with the four screws provided.
3. Place the hard drive and bracket into the top mounting position of the chassis as illustrated below and secure it to the chassis with two screws.
4. Replace the chassis cover, plug the power cord into the rear of the power supply and power up the system.

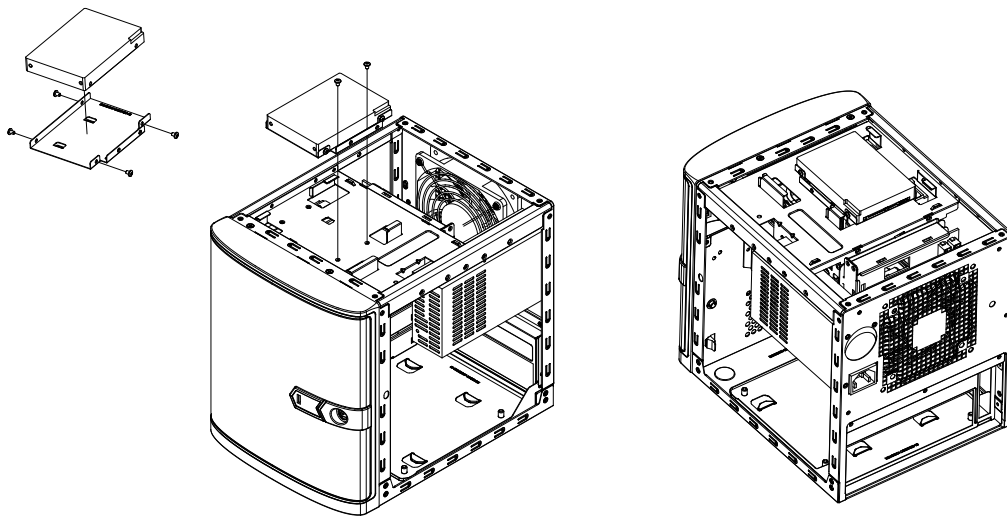


Figure 2-16. Installing a Top-Mounted Fixed Hard Drive

Installing a Side-Mounted Fixed Hard Drive

1. Power down the system as described in Section 2.1 and remove the chassis cover as described in Section 2.3.
2. Place a 2.5" hard drive into the hard drive bracket and secure the hard drive to the bracket with the four screws provided.
3. Place the hard drive and bracket into the side mounting position of the chassis by inserting the pin on the bracket into the mounting hole on the chassis as illustrated below.
4. Replace the chassis cover, plug the power cord into the rear of the power supply and power up the system.

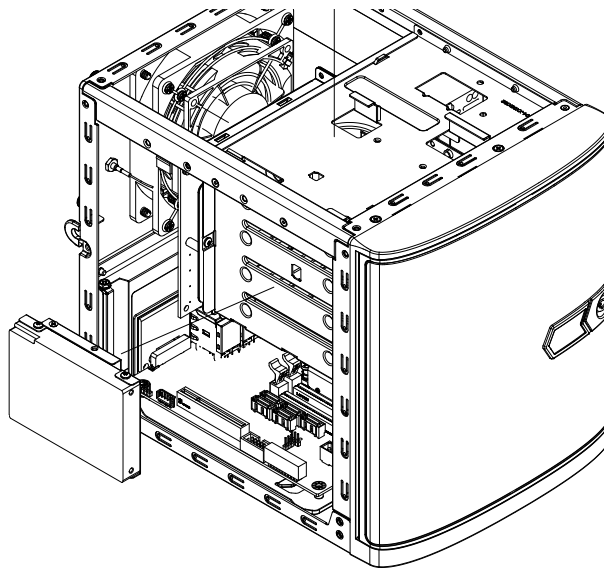


Figure 2-17. Installing a Side-Mounted Fixed Hard Drive

Adding an M.2 Storage Card

One or two M.2 SSD cards may be installed on the motherboard. Supported card form factors are 2280 or 22110. There is a standoff for each length.

1. Remove power from the system as described in section 2.1 and remove the chassis cover.
2. Find and pull out the plastic securing knob in one of the M.2 standoffs.
3. Holding the M.2 card nearly horizontal, insert it into the slot on the motherboard and lower the semi-circular notch onto the standoff.

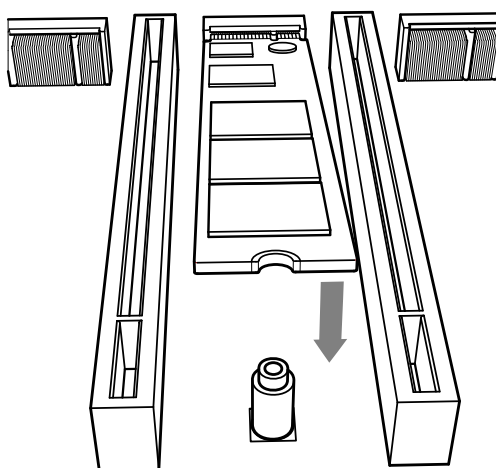


Figure 2-18. Installing an M.2 Storage Module

4. Insert the plastic securing knob into the standoff.

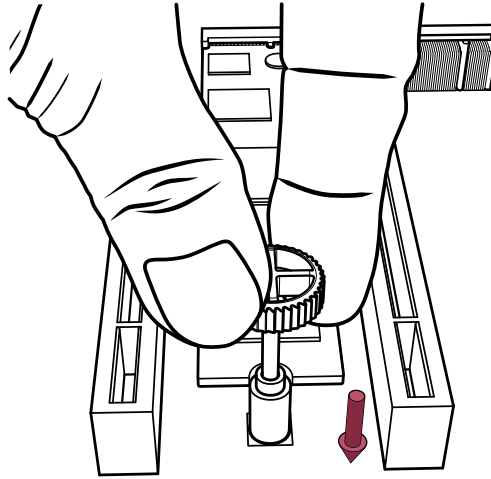


Figure 2-19. Securing the M.2 Storage Module

Note: You might experience temporary M.2 speed throttling when it reaches its thermal threshold, which depends on the specifications of your device. Please note that this is a normal phenomenon and should not crash or damage your system. You may use an optional high RPM fan, FAN-0077L4, to increase airflow inside the chassis.

Installing a DVD Drive

The SC721TQ-250B2 supports one DVD drive. It can be installed only if the top mounted fixed HDD is not used. It requires a mounting bracket rail (p/n MCP-220-81502-0N).

Installing a DVD Drive

1. Power down the system as described in Section 2.1 and remove the chassis cover as described in Section 2.3.
2. Unlock the front bezel and swing it open.
3. Remove the bracket for the top mounted fixed hard drive by removing the two screws.
4. Remove the two screws securing the EMI grid to the front of the chassis.
5. Remove the EMI grid from inside the chassis, just behind the chassis front. If you will later remove the DVD drive, save the EMI grid.
6. Remove the plastic DVD bay cover from the chassis front by carefully breaking it out.

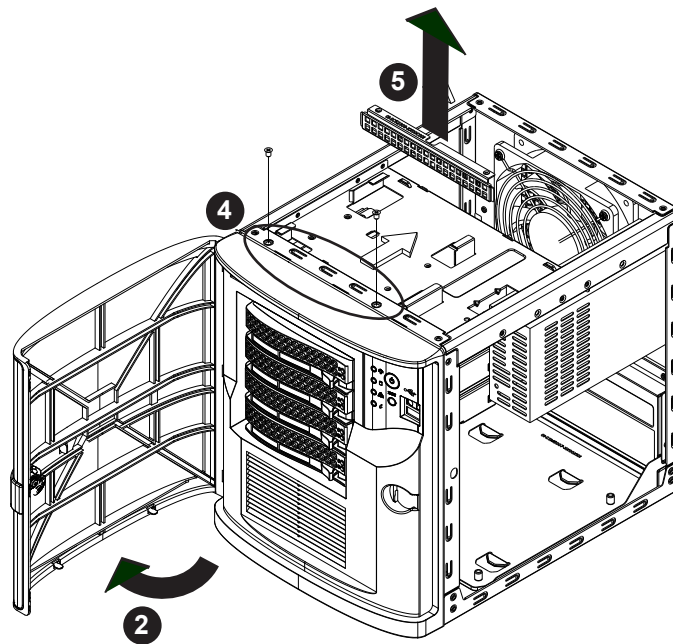


Figure 2-20. Configuring the Chassis for a DVD Drive

7. Install the bracket rail (part number MCP-220-81502-0N) onto the left hand side of the DVD drive, using the two screws provided.

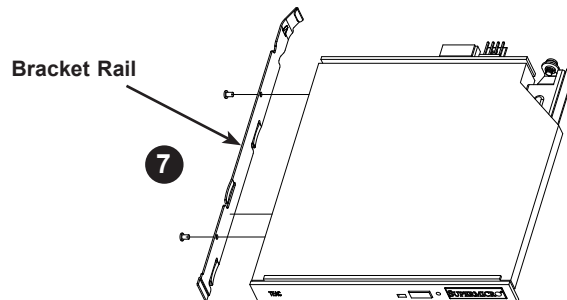


Figure 2-21. Securing the Bracket Rail to a DVD Drive

8. Slide the DVD drive into the chassis until it snaps into place. (Some DVD drives allow you to secure the drive with two screws.)
9. Connect the SATA cable and the power cable to the DVD drive.
10. Close the front bezel, replace the chassis cover and power up the system.

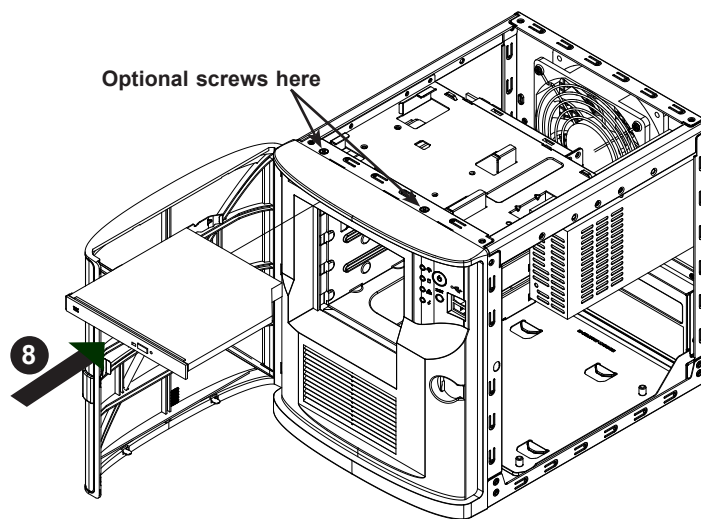


Figure 2-22. Installing a DVD Drive

Installing a Fan

The chassis includes a single 12-cm rear exhaust fan. The chassis also features a set of mounting holes that will support a standard 9-cm exhaust fan (not included).

Installing the Exhaust Fan

1. Power down the system as described in Section 2.1 and remove the chassis cover as described in Section 2.3.
2. Place the fan on top of the fan grill, aligning the mounting holes of the fan grill with the mounting holes of the system fan.
3. Secure the fan to the chassis with four screws.
4. Connect the fan cable to the motherboard.
5. Replace the chassis cover, plug the power cord into the rear of the power supply and power up the system.

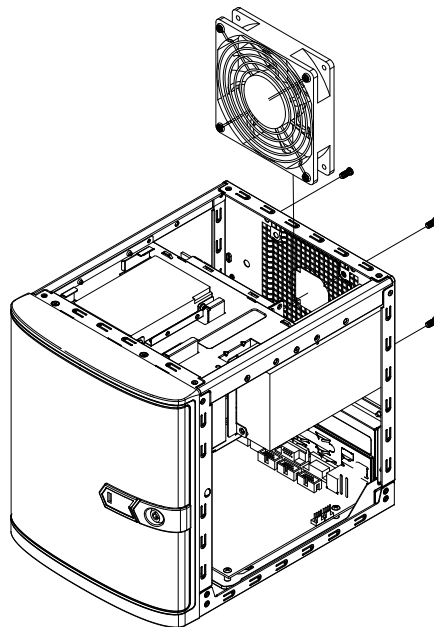


Figure 2-23. Installing the Exhaust Fan

Replacing the Power Supply

The SC721TQ-250B2 includes a fixed (non-hot-swap) 250W power supply. If it is necessary to replace the power supply, follow the instructions below.

Changing the Power Supply

1. Power down the system as described in Section 2.1 and remove the chassis cover as described in Section 2.3.
2. Remove all power cables from the motherboard, hard drives, and backplane.
3. Remove the screws securing the power supply to the chassis, which are located on the rear of the chassis. Set these screws aside for later use.
4. Remove the power supply from the chassis.
5. Replace the failed power supply with the same model power supply (p/n: PWS-251-1H).
6. Secure the new power supply using the screws previously set aside.
7. Reattach the power cables to the motherboard, hard drives, and backplane.
8. Replace the chassis cover, plug the power cord into the rear of the power supply and power up the system.

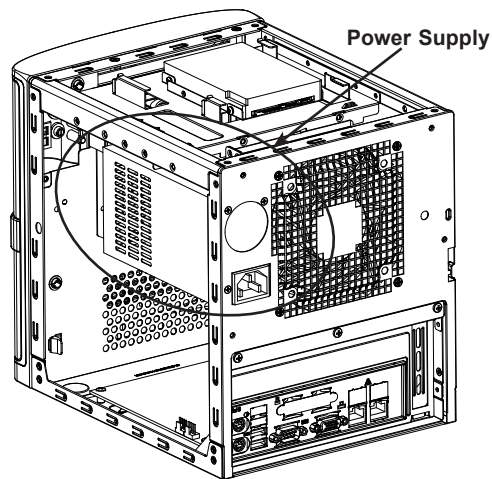


Figure 2-24. Removing the Power Supply

Chapter 3

Motherboard Connections

This section describes the connections on the X11SCL-IF 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 Appendix A before installing or removing components.

3.1 Power Connections

ATX Power Supply Connector

The primary 24-pin power supply connector (JPW1) meets the ATX SSI EPS 12V specification. A 4-pin (JPW2) processor power connector must also be connected to your power supply.

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

4-Pin Power Connector

JPW2 is a 4-pin 12V DC power input for the CPU that must be connected to the power supply. Refer to the table below for pin definitions.

4-pin Power Pin Definitions	
Pin#	Definition
1 - 2	GND
3 - 4	P12V (12V Power)

3.2 Headers and Connectors

Fan Headers

There are four 4-pin fan headers (FAN1 ~ FAN3, FANA) on the motherboard. All these 4-pin fan headers are backwards compatible with the traditional 3-pin fans. However, fan speed control is available for 4-pin fans only by Thermal Management via the IPMI 2.0 interface. Refer to the table below for pin definitions.

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

TPM/Port 80 Header

A Trusted Platform Module (TPM)/Port 80 header is located at JTPM1 to provide TPM support and Port 80 connection. Use this header to enhance system performance and data security. Refer to the table below for pin definitions. Please go to the following link for more information on the TPM: <http://www.supermicro.com/manuals/other/TPM.pdf>.

Trusted Platform Module Header Pin Definitions			
Pin#	Definition	Pin#	Definition
1	+3.3V	2	SPI_CS#
3	RESET#	4	SPI_MISO
5	SPI_CLK	6	GND
7	SPI_MOSI	8	NC
9	+3.3V Stdbby	10	SPI_IRQ#

Standby Power

The 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. Refer to the table below for pin definitions.

Standby Power Pin Definitions	
Pin#	Definition
1	+5V Standby
2	GND
3	NC

Chassis Intrusion

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

Chassis Intrusion Pin Definitions	
Pin#	Definition
1	Intrusion Input
2	GND

SGPIO Headers

There is one Serial Link General Purpose Input/Output (I-SGPIO1) header located on the motherboard. The SGPIO header is used to communicate with the enclosure management chip on the back panel.

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

Disk-On-Module Power Connector

Two power connectors for SATA DOM (Disk-On-Module) devices are located at JSD1 and JSD2. Connect appropriate cables here to provide power support for your Serial Link DOM devices.

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

NC = No Connection

Onboard Power LED Header

An Onboard Power LED header is located at JLED1. Refer to the table below for pin definitions.

Onboard PWR LED Pin Definitions	
Pins	Definition
1	LED+
2	GND
3	GND

Onboard Buzzer

The Onboard Buzzer located at SP1 is used to provide audible indicators for various beep codes. By default, pins 3-4 of JD1 are closed with a cap, which enables the use of this buzzer. Refer to the table below for pin definitions.

Onboard Buzzer Pin Definitions		
Pin#	Definition	
1	Pos (+)	VCC
2	Neg (-)	Beep In

Speaker Header

JD1 is used to connect an extra speaker. By default, pins 3-4 are closed with a cap to enable the onboard buzzer at SP1. To use an extra speaker instead, connect the speaker connector to pins 1-4. Refer to the table below for pin definitions.

Speaker/Onboard Buzzer Header Pin Definitions	
Pin#	Signal
1	P5V
2	Key
3	R_SPKPIN_N
4	R_SPKPIN

3.3 Ports

COM Port

There is one COM port (COM1) on the back I/O panel on the motherboard. The COM port provides serial communication support.

COM Port Pin Definitions			
Pin#	Definition	Pin#	Definition
1	DCD	6	DSR
2	RXD	7	RTS
3	TXD	8	CTS
4	DTR	9	RI
5	GND	10	N/A

VGA Port

The onboard VGA port is located next to LAN2 on the back I/O panel. Use this connection for VGA display.

Universal Serial Bus (USB) Ports

There are two USB 2.0 ports (USB0/1) and two USB 3.1 Gen 1 ports (USB4/5) located on the back I/O panel. The motherboard also has one front access USB 2.0 header (USB2/3) and one front access USB 3.1 Gen 1 header (USB6/7). The USB8 header is USB 3.1 Gen 1 Type-A. The onboard headers can be used to provide front side USB access with a cable (not included).

Back Panel USB 0/1 (2.0) Pin Definitions			
Pin#	Definition	Pin#	Definition
1	+5V	5	+5V
2	USB_N	6	USB_N
3	USB_P	7	USB_P
4	GND	8	GND

Front Panel USB 2/3 (2.0) Pin Definitions			
Pin#	Definition	Pin#	Definition
1	+5V	2	+5V
3	USB_N	4	USB_N
5	USB_P	6	USB_P
7	GND	8	GND
9	Key	10	NC

Back Panel USB 4/5 (USB 3.1 Gen 1) Pin Definitions			
Pin#	Definition	Pin#	Definition
A1	VBUS	B1	Power
A2	D-	B2	USB_N
A3	D+	B3	USB_P
A4	GND	B4	GND
A5	Stda_SSRX-	B5	USB3_RN
A6	Stda_SSRX+	B6	USB3_RP
A7	GND	B7	GND
A8	Stda_SSTX-	B8	USB3_TN
A9	Stda_SSTX+	B9	USB3_TP

Front Panel USB 6/7 (USB 3.1 Gen 1) Pin Definitions			
Pin#	Definition	Pin#	Definition
1	VBUS	19	Power
2	Stda_SSRX-	18	USB3_RN
3	Stda_SSRX+	17	USB3_RP
4	GND	16	GND
5	Stda_SSTX-	15	USB3_TN
6	Stda_SSTX+	14	USB3_TP
7	GND	13	GND
8	D-	12	USB_N
9	D+	11	USB_P
10		x	

Type A USB 8 (USB 3.1 Gen 1) Pin Definitions			
Pin#	Definition	Pin#	Definition
1	VBUS	5	SSRX-
2	USB_N	6	SSRX+
3	USB_P	7	GND
4	GND	8	SSTX-
		9	SSTX+

LAN Ports

Two Gigabit Ethernet ports (LAN1/2) are located on the back I/O panel. In addition, a dedicated IPMI LAN is located above USB0/1. All of these ports accept RJ45 cables. Please refer to the LED Indicator section for LAN LED information.

LAN Ports Pin Definition			
Pin#	Definition	Pin#	Definition
1	TD0-	11	P3V3_Dual
2	TD0+	12	Act LED (Yellow)
3	TD1-	13	Link 1000 LED (Amber)
4	TD1+	14	Link 100 LED (Green)
5	TD2-	15	GND
6	TD2+	16	GND
7	TD3-	17	GND
8	TD3+	18	GND
9	COMMCT		
10	GND		

IPMI LAN Pin Definition			
Pin#	Definition	Pin#	Definition
9		19	GND
10	TD0+	20	Act LED (Yellow)
11	TD0-	21	Link 100 LED (Green)
12	TD1+	22	Link 1000 LED (Amber)
13	TD1-	23	SGND
14	TD2+	24	SGND
15	TD2-	25	SGND
16	TD3+	26	SGND
17	TD3-		
18	GND		

Unit Identifier Switch/UID LED Indicator

A Unit Identifier (UID) switch and an LED indicator are located on the motherboard. The UID switch is located at JUIDB1, which is next to the VGA port on the back panel. The UID LED (LED4) is located next to the UID switch. When you press the switch, the LED will be turned on, which provides easy identification of a system unit that may be in need of service. Press the switch again to turn off the LED indicator.

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

UID Switch Pin Definitions	
Pin#	Definition
1	GND
2	GND
3	Button In
4	Button In

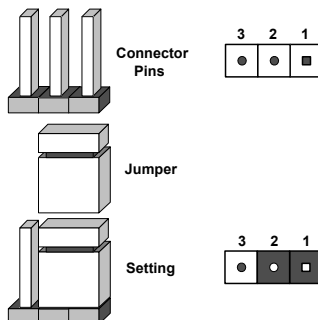
UID LED Pin Definitions	
Color	Status
Blue: On	Unit Identified

3.4 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. 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.

ME Manufacturing Mode

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

Manufacturing Mode Jumper Settings	
Jumper Setting	Definition
Pins 1-2	Normal
Pins 2-3	Manufacturing Mode

Watchdog Timer

Watchdog (JWD1) is a system monitor that can reboot the system when a software application hangs. Close pins 1-2 to reset the system if an application hangs. Close pins 2-3 to generate a non-maskable interrupt (NMI) signal for the application that hangs. Refer to the table below for jumper settings. The Watchdog must also be enabled in the BIOS.

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

LAN Port Enable/Disable

Change the setting of jumpers JPL1 for LAN1 and JPL2 for LAN2 to enable or disable the LAN ports. The default setting is Enabled.

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

VGA Enable

Jumper JPG1 allows the user to enable the onboard VGA connector. The default setting is pins 1-2 to enable the connection. Refer to the table below for jumper settings.

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

3.5 LED Indicators

LAN LEDs

Two LAN ports (LAN 1/2) are located on the back I/O panel of the motherboard. Each Ethernet LAN port has two LEDs. The green LED indicates activity, while the other Link LED may be green, amber, or off to indicate the speed of the connection. Refer to the tables below for more information.

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

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

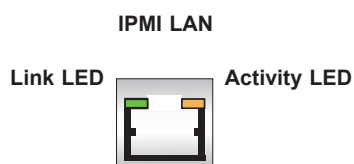
Unit ID LED

A rear UID LED indicator (LED4) is located near the UID switch on the back I/O panel. This UID indicator provides easy identification of a system unit that may need service.

UID LED LED Indicator	
LED Color	Definition
Blue: On	Unit Identified

IPMI LAN LEDs

In addition to LAN1/2, an IPMI LAN is also located on the back I/O panel. The amber LED on the right indicates activity, while the green LED on the left indicates the speed of the connection. Refer to the table below for more information.



IPMI LAN LEDs		
	Color/State	Definition
Link (left)	Green: Solid	100 Mbps
	Amber: Solid	1Gbps
Activity (Right)	Amber: Blinking	Active

BMC Heartbeat LED

A BMC Heartbeat LED is located at LED2 on the motherboard. When LED2 is blinking, the BMC is functioning normally. Refer to the table below for more information.

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

Onboard Power LED

The Onboard Power LED is located at LED3 on the motherboard. When this LED is on, the system is on. Be sure to turn off the system and unplug the power cord before removing or installing components. Refer to the table below for more information.

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

CATERR LED

A CATERR LED is located at LED5. The orange LED indicates the system has experienced a catastrophic error.

Chapter 4

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 <https://www.supermicro.com/wftp/driver>.

4.1 Microsoft Windows OS Installation

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

Installing the OS

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

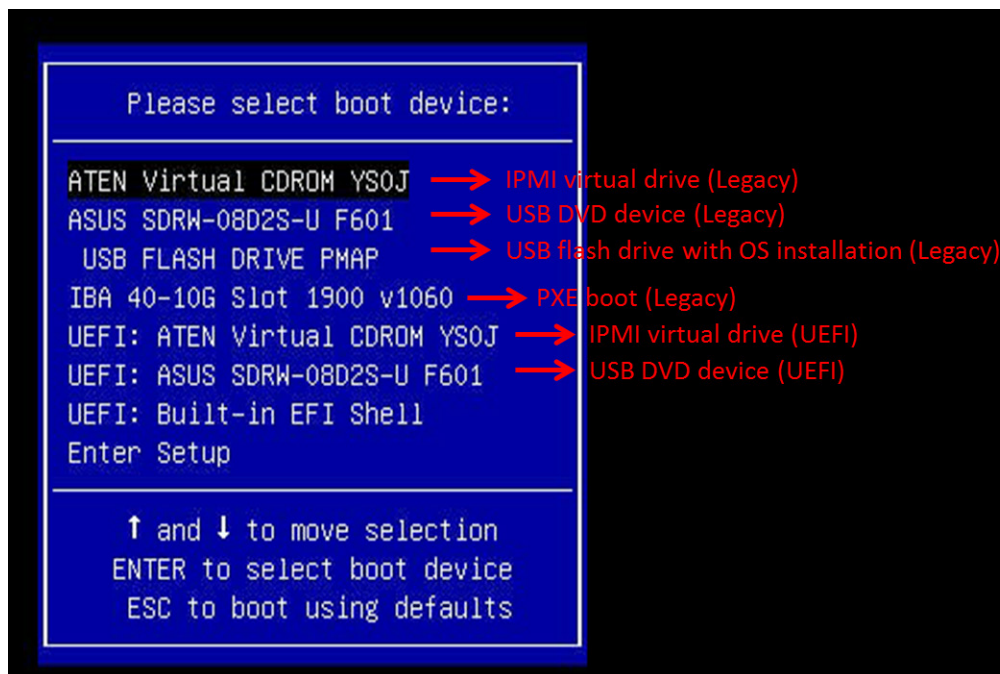


Figure 4-1. Select Boot Device

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

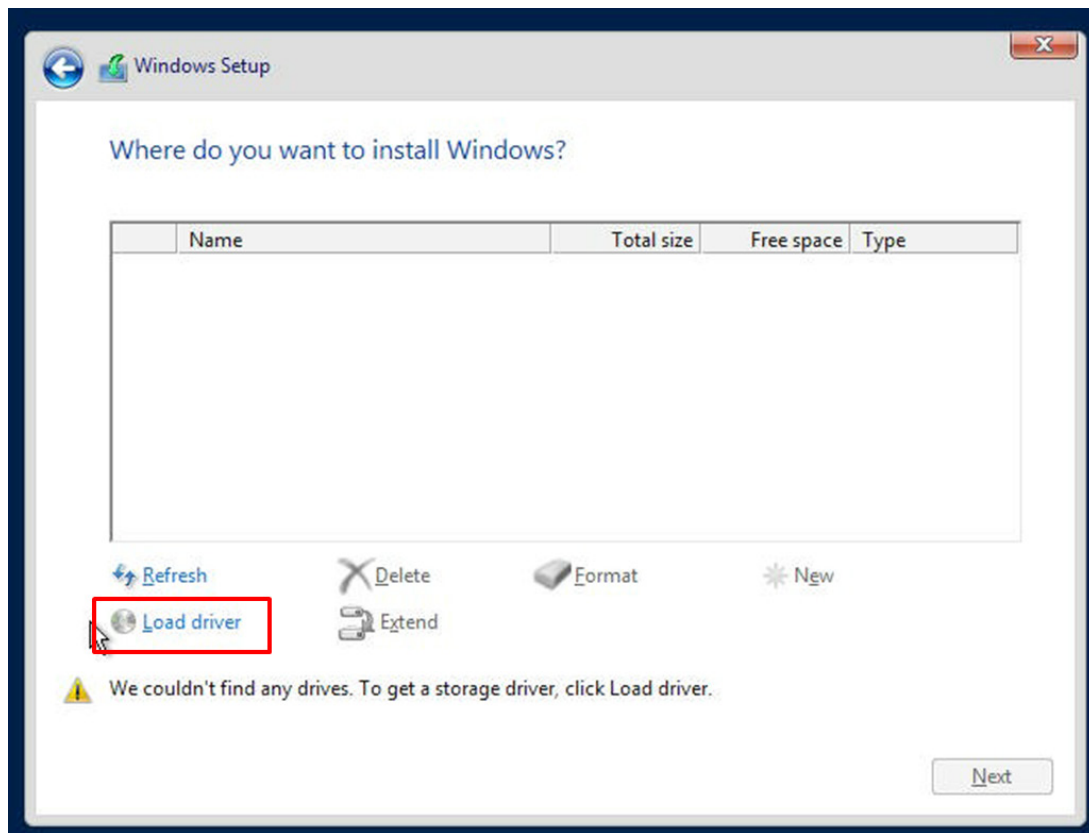


Figure 4-2. Load Driver Link

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

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

4.2 Driver Installation

The Supermicro website contains drivers and utilities for your system at <https://www.supermicro.com/wftp/driver/AMD/SP3>. Some of these must be installed, such as the chipset driver.

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

Another option is to go to the Supermicro website at <http://www.supermicro.com/products/>. Find the product page for your motherboard, and "Download the Latest Drivers and Utilities". Insert the flash drive or disk and the screenshot shown below should appear.

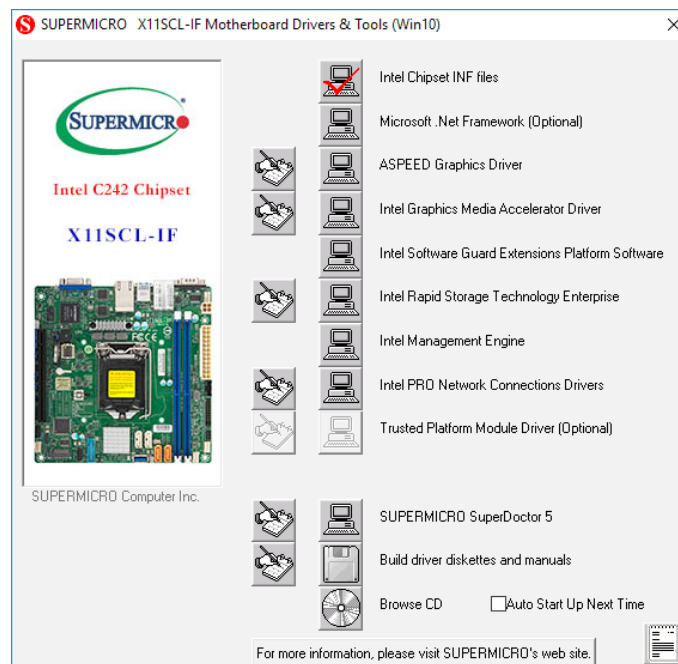


Figure 4-3. Driver & Tool Installation Screen

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

4.3 SuperDoctor® 5

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

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

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

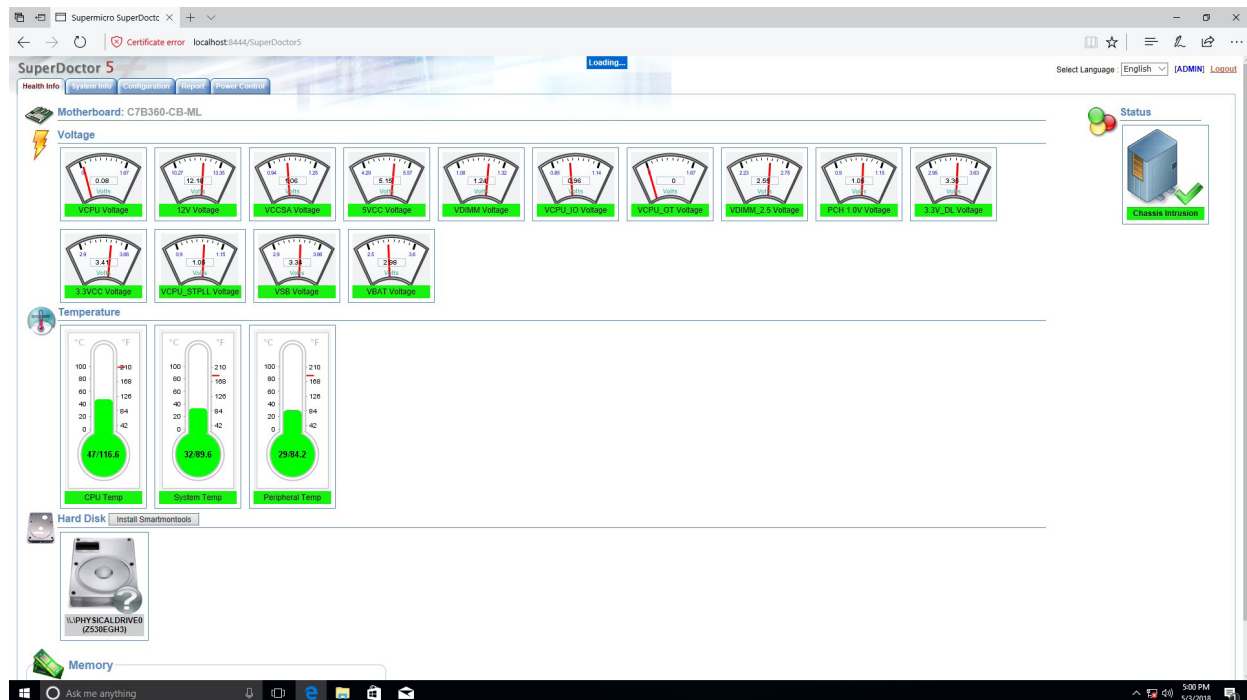


Figure 4-4. SuperDoctor 5 Interface Display Screen (Health Information)

4.4 IPMI

The X11SCL-IF supports the Intelligent Platform Management Interface (IPMI). IPMI is used to provide remote access, monitoring and management. There are several BIOS settings that are related to IPMI.

Supermicro ships standard products with a unique password for the BMC ADMIN user. This password can be found on a label on the motherboard.

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

Chapter 5

BIOS

5.1 Introduction

This chapter describes the AMIBIOS™ Setup utility for the X11SCL-IF series motherboard. The BIOS is stored on a chip and can be easily upgraded using a flash program.

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

Starting the Setup Utility

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

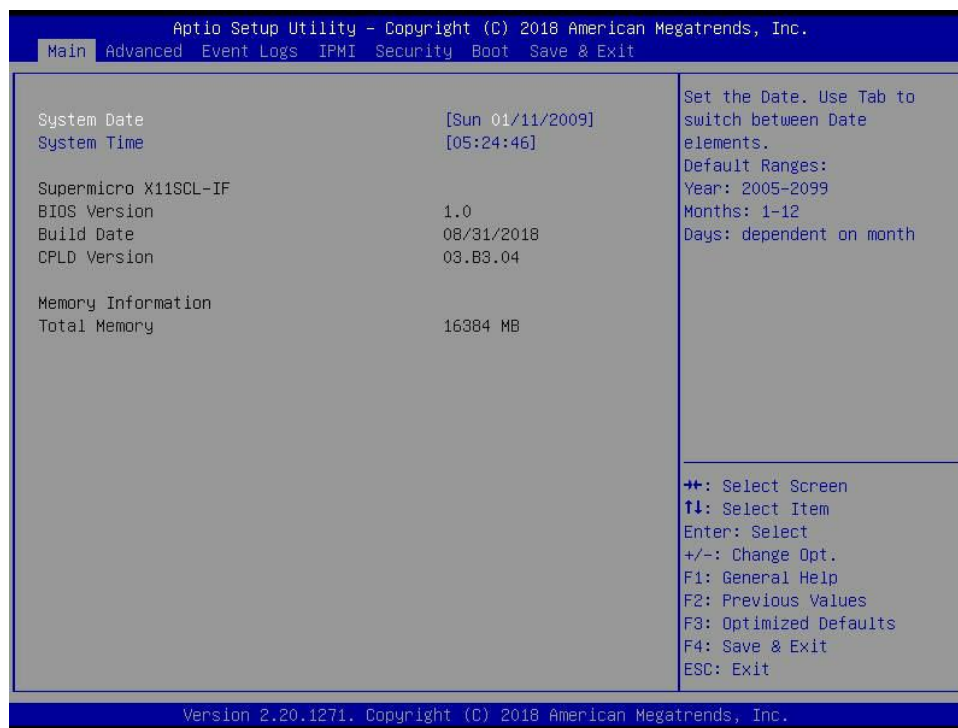
The Main BIOS screen has two main frames. The left frame displays all the options that can be configured. "Grayed-out" options cannot be configured. The right frame displays the key legend. Above the key legend is an area reserved for a text message. When an option is selected in the left frame, it is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

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

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

5.2 Main Setup

When you first enter the AMI BIOS setup utility, you will enter the Main setup screen. You can always return to the Main setup screen by selecting the Main tab. The Main BIOS setup screen is shown below. The following features will be displayed:



System Date/System Time

Use this feature 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 the BIOS build date after RTC reset.

Supermicro X11SCL-IF

BIOS Version

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

Build Date

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

CPLD Version

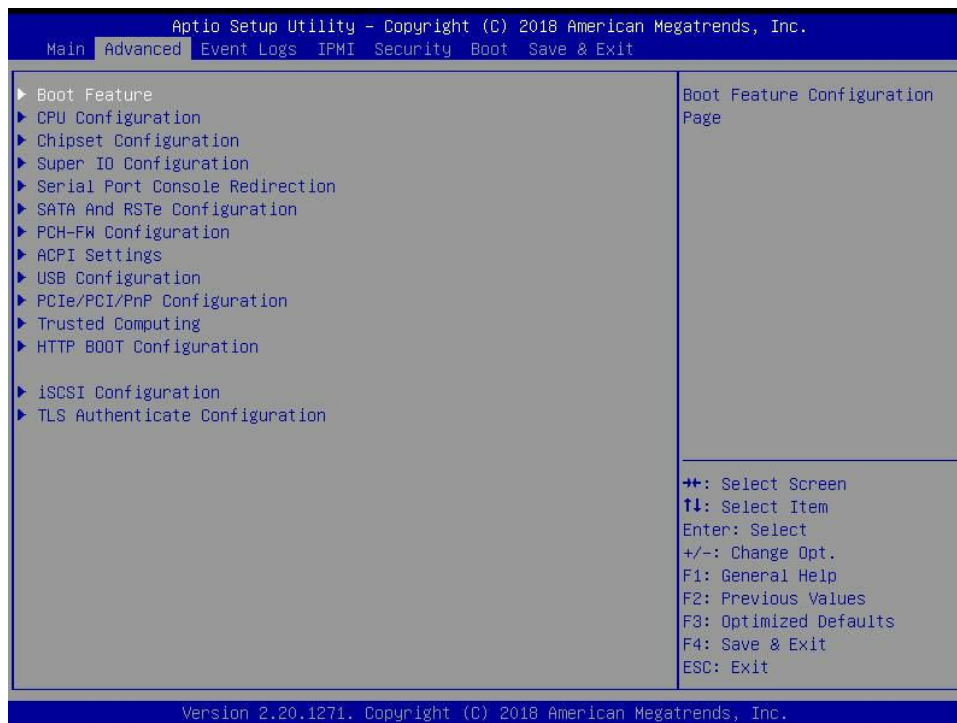
This item displays the Complex Programmable Logic Device version.

Memory Information**Total Memory**

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

5.3 Advanced Setup Configurations

Use the arrow keys to select the Advanced menu and press <Enter> to access the submenu features:



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

► Boot Feature

Fast Boot

Enable this feature to reduce the time the computer takes to boot up. The computer will boot with a minimal set of required devices. This feature does not have an effect on BBS boot options in the Boot tab. The options are **Disabled** and Enabled.

Quiet Boot

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

Bootup NumLock State

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

Option ROM Messages

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

Wait For "F1" If Error

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

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 five minutes. The options are **Disabled** and 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 four seconds or longer. Select Instant Off to instantly power off the system as soon as the user presses the power button. The options are **Instant Off** and 4 Seconds Override.

DeepSx Power Policies

Use this feature to configure the Advanced Configuration and Power Interface (ACPI) settings for the system. Enable S4-S5 to power off the whole system except the power supply unit (PSU) and keep the power button "alive" so that the user can "wake up" the system by using a USB keyboard or mouse. The options are **Disabled** and Enabled in S4-S5.

►CPU Configuration

The following CPU information will display:

- Type
- CPU Signature
- Microcode Revision
- CPU Speed
- L1 Data Cache
- L1 Instruction Cache
- L2 Cache
- L3 Cache
- L4 Cache
- VMX
- SMX/TXT

CPU Flex Ratio Override

Select Enabled to activate CPU Flex Ratio programming. The flex ratio should be under the CPU's max ratio. The options are **Disabled** and Enabled.

****If the feature above is set to Enabled, "CPU Flex Ratio Settings" will become available for configuration:***

CPU Flex Ratio Settings

When CPU Flex Ratio Override is enabled, this feature sets the value for the CPU Flex Ratio. This value must be between the maximum efficiency ratio and maximum non-turbo ratio. The default value is dependent on the CPU.

Hardware Prefetcher (Available when supported by the CPU)

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

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

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

Intel (VMX) Virtualization Technology

Use this feature to enable the Vanderpool Technology. This technology allows the system to run several operating systems simultaneously. The options are Disabled and **Enabled**.

Active Processor Cores

This feature determines how many CPU cores will be activated for each CPU. When All is selected, all cores in the CPU will be activated. (Please refer to Intel's website for more information.) The options are **All**, 1, 2, 3, 4, and 5.

Hyper-Threading (Available when supported by the CPU)

Intel Hyper-Threading Technology efficiently uses processor resources by executing multiple threads on each core. It improves processor execution efficiency and enhances the overall performance of the thread software. The options are Disabled and **Enabled**.

BIST

Use this feature to enable the Built-In Self Test (BIST) at system reset or reboot. The options are **Disabled** and Enabled.

AES

Select Enabled to use the Intel Advanced Encryption Standard (AES) to ensure data security. The options are Disabled and **Enabled**.

Boot Performance Mode

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

Intel(R) SpeedStep (tm)

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

Intel(R) Speed Shift Technology

Use this feature to enable or disable Intel Speed Shift Technology support. When this feature is enabled, the Collaborative Processor Performance Control (CPPC) version 2 interface will be available to control CPU P-States. The options are **Disabled** and Enabled.

Always Turbo Mode

Use this feature to enable the system to always run in turbo mode. The options are **Disabled** and Enabled.

Turbo Mode

This feature will enable dynamic control of the processor, allowing it to run above stock frequency. The options are Disabled and **Enabled**.

Monitor/Mwait

Select Enabled to enable the Monitor/Mwait instructions. The Monitor instructions monitor a region of memory for writes, while MWait instructions instruct the CPU to stop until the monitored region begins to write. The options are Disabled and **Enabled**.

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 and **Enabled**.

Enhanced C-States

Use this feature to enable C1E, which is a power saving feature for the CPU. C1E drops the frequency and voltage of the CPU to reduce power usage when the system is idle. The options are Disabled and **Enabled**.

C-State Auto Demotion

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

C-State Un-Demotion

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

Package C-State Demotion

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

Package C-State Un-Demotion

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

C-State Pre-Wake

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

Package C-State Limit

Use this feature to set the Package C-State limit. The options are C0/C1, C2, C3, C6, C7, C7S, C8, C9, C10, CPU Default, and **Auto**.

► Chipset Configuration

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

► System Agent (SA) Configuration

The following information is displayed:

- SA PCIe Code Version
- VT-d

► Memory Configuration

- Memory RC Version
- Memory Frequency
- Memory Timings (tCL-tRCD-tRP-tRAS)
- DIMMA1 ~ DIMMB1 information

Maximum Memory Frequency

Use this feature to set the maximum memory frequency for onboard memory modules. The options are **Auto**, 1067, 1333, 1400, 1600, 1800, 1867, 2000, 2133, 2200, 2400, 2600, and 2667.

ECC Support

Use this feature to enable Error Checking & Correction (ECC) support for onboard memory modules. The options are Disabled and **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 graphic devices, GTT Stolen Memory, and TSEG, respectively, if these devices are enabled. The options are **Dynamic** and 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 and **Enabled**.

Fast Boot

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

REFRESH_2X_MODE

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

►DMI/OPI Configuration

The following DMI information will display:

- DMI

DMI Link ASPM Control

Use this feature to set the Active State Power Management (ASPM) state on the System Agent (SA) side of the DMI Link. The options are Disabled, L0s, **L1**, and L0sL1

DMI Extended Sync Control

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

DMI De-Emphasis Control

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

►PEG Port Configuration**CPU SLOT1 PCI-E 3.0 x16****Enable Root Port**

Use this feature to enable or disable the PCI Express Graphics (PEG) device in the port specified by the user. The options are Disabled, Enabled, and **Auto**.

Max Link Speed

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

Power Limit Value

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

Power Limit Scale

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

Physical Slot Number

Use this feature to set the physical slot number attached to this port. Press "+" or "-" on your keyboard to change the setting to a value between 0-8191. The default setting is **1**.

Max Payload Size

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

Program PCIe ASPM After OPRM

PCIe ASPM, the Active State Power Management for PCI-Express slots, is a power management protocol used to manage power consumption of serial-link devices installed on PCI-E slots during a prolonged off-peak time. If this feature is set to Enabled, PCI-E ASPM will be programmed after OPRM. If this feature is set to Disabled, the PCI-E ASPM will be programmed before OPRM. The options are **Disabled** and Enabled.

VT-d

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

SW Guard Extensions (SGX)

Select Enabled to activate Software Guard Extensions (SGX) support. 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 EPOCHs, and Manual User Defined Owner EPOCHs.

GNA Device (B0:D8:F0)

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

X2APIC Opt Out

X2APIC, an extension of the XAPIC architecture, is designed to support 32-bit processor addressability. X2APIC enhances the performance of interrupt delivery. The options are Enabled and **Disabled**.

► PCH-IO Configuration

► PCI Express Configuration

DMI Link ASPM Control

Use this feature to set the Active State Power Management (ASPM) state on the System Agent (SA) side of the DMI Link. The options are Disabled, L0s, L1, L0sL1, and **Auto**.

Peer Memory Write Enable

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

► M.2-H

M.2-F ASPM Support

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

M.2-H L1 Substates

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

M.2-H PCIe Speed

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

Port 61h Bit-4 Emulation

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

PCIE PLL SSC

Use this feature to enable PCI-E phase-locked loop (PLL) spread spectrum clocking (SSC). The options are **Enabled** and Disabled.

► Super IO Configuration

The following Super IO information will display:

- Super IO Chip AST2500

► Serial Port 1 Configuration

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

Serial Port

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

Device Settings

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

Change Settings

This feature specifies the base I/O port address and the Interrupt Request address of a serial port specified by the user. Select Auto to allow the BIOS to automatically assign the base I/O and IRQ address.

The options for Serial Port 1 are **Auto**, (IO=3F8h; IRQ=4), (IO=2F8h; IRQ=4), (IO=3E8h; IRQ=4), and (IO=2E8h; IRQ=4).

► SOL Configuration

This submenu allows the user to configure the settings of SOL.

Serial Port

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

Device Settings

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

Change Settings

This feature specifies the base I/O port address and the Interrupt Request address of a serial port specified by the user. Select Auto to allow the BIOS to automatically assign the base I/O and IRQ address.

The options for SOL are **Auto**, (IO=3F8h; IRQ=3), (IO=2F8h; IRQ=3), (IO=3E8h; IRQ=3), and (IO=2E8h; IRQ=3).

►Serial Port Console Redirection

COM1 Console Redirection

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

****If the feature above is set to Enabled, the following settings will become available for configuration:***

►COM1 Console Redirection Settings

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

Terminal Type

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

Bits Per Second

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

Data Bits

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

Parity

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

Stop Bits

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

Flow Control

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

VT-UTF8 Combo Key Support

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

Recorder Mode

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

Resolution 100x31

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

Legacy OS Redirection Resolution

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

Putty KeyPad

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

Redirection After POST

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

SOL Console Redirection

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

****If the feature above is set to Enabled, the following settings will become available for configuration:***

► SOL Console Redirection Settings

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

Terminal Type

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

Bits Per Second

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

Data Bits

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

Parity

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

Stop Bits

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

Flow Control

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

VT-UTF8 Combo Key Support

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

Recorder Mode

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

Resolution 100x31

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

Legacy OS Redirection Resolution

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

Putty KeyPad

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

Redirection After POST

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

Legacy Console Redirection**► Legacy Console Redirection Settings****Legacy Redirection COM Port**

Use this feature to select a COM port to display redirection of Legacy OS and Legacy OPRM messages. The options are **COM1** and 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 and **80x25**.

Legacy Redirection After POST

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

Serial Port for Out-of-Band Management / Windows Emergency Management Services (EMS)**EMS Console Redirection**

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

****If the feature above is set to Enabled, the following settings will become available for configuration:***

► **EMS Console Redirection Settings**

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

EMS Out-of-Band Mgmt Port

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

EMS Terminal Type

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

EMS Bits Per Second

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

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.

EMS Data Bits, Parity, Stop Bits

► **SATA and RSTe Configuration**

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

SATA Controller(s)

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

****If the feature "SATA Controller(s)" above is set to Enabled, the following settings will become available for configuration:***

SATA Mode Selection

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

SATA Frozen

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

Aggressive LPM Support

When Aggressive Link Power Management (LPM) support is set to **Enabled**, the SATA AHCI controller manages the power usage of the SATA link. The controller will put the link in a low power mode during extended periods of I/O inactivity, and will return the link to an active state when I/O activity resumes. The options are **Disabled** and **Enabled**.

Storage Option ROM/UEFI Driver

Select **UEFI** to load the EFI driver for system boot. Select **Legacy** to load a legacy driver for system boot. The options are **Do Not Launch**, **UEFI**, and **Legacy**.

Serial ATA Port 0 ~ Port 3

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

- Model number of drive and capacity
- Software Preserve Support

Port 0 ~ Port 3 Hot Plug

Set this feature to **Enabled** for hot plug support, which will allow the user to replace a SATA drive without shutting down the system. The options are **Disabled** and **Enabled**.

Port 0 ~ Port 3 Spin Up Device

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

Port 0 ~ Port 3 SATA Device Type

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

►PCH-FW Configuration

The following firmware information will display:

- Operational Firmware Version
- Backup Firmware Version
- Recovery Firmware Version
- ME Firmware Features
- ME Firmware Status #1
- ME Firmware Status #2
- Current State
- Error Code

►ACPI Settings

WHEA Support

Select Enabled 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 to reduce system crashes and to enhance system recovery and health monitoring. The options are Disabled and **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

Enable this feature to grant native control of hot plug, Power Management Events, PCI-E Advanced Error Reporting, PCI-E Capability Structure Control, and Latency Tolerance Reporting Control. The options are Disabled and **Enabled**.

Native ASPM

Select Enabled for the operating system to control the Active State Power Management (ASPM). Select Disabled for the BIOS to control the ASPM. The options are **Auto**, Enabled, and Disabled.

►USB Configuration

The following USB items will be displayed:

- USB Module Version
- USB Controllers
- USB Devices

Legacy USB Support (Available when USB Functions are not Disabled)

Select Enabled to support legacy USB devices. Select Auto to disable legacy support if USB devices are not present. Select Disabled to have USB devices available for Extensive Firmware Interface (EFI) applications only. The settings are **Enabled**, Disabled, and Auto.

XHCI Hand-off

This feature is for operating systems that do not support eXtensible Host Controller Interface (XHCI) hand-off. When this feature is enabled, XHCI ownership change will be claimed by the XHCI driver. The settings are **Enabled** and Disabled.

USB Mass Storage Driver Support

Select Enabled for USB mass storage device support. The options are Disabled and **Enabled**.

Port 60/64 Emulation

Select Enabled for I/O port 60h/64h emulation support which will provide complete USB keyboard legacy support for the operating system that does not support Legacy USB devices. The options are Disabled and **Enabled**.

►PCIe/PCI/PnP Configuration

Option ROM Execution

PCI PERR/SERR Support

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

Above 4GB MMIO BIOS Assignment

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

VGA Priority

Use this feature to select VGA priority when multiple VGA devices are detected. Select On-board to give priority to your onboard video device. Select Offboard to give priority to your graphics card. The options are **Onboard** and Offboard.

Onboard Video Option ROM

Use this feature to select the onboard video firmware type to be loaded. The options are **Legacy** and EFI.

NVMe Firmware Source

Use this feature to select the NVMe firmware to support booting. The options are **Vendor Defined Firmware** and AMI Native Support. The default option, Vendor Defined Firmware, is pre-installed on the drive and may resolve errata or enable innovative functions for the drive. The other option, AMI Native Support, is offered by the BIOS with a generic method.

PCIe/PCI/PnP Configuration

CPU SLOT1 PCI-E 3.0 X16 OPRM

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

M.2-H OPRM

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

Onboard LAN Option ROM Type

Use this feature to select which firmware type to be loaded for onboard LAN ports. The options are **Legacy** and EFI.

****If the feature above is set to Legacy, the following LAN ports will be listed and become available for configuration:***

Onboard LAN1 ~ LAN2 Option ROM

Use this feature to select which firmware function to be loaded for the specified onboard LAN port at system boot. The options are **Disabled**, PXE, and iSCSI*.

****iSCSI is only supported on Onboard LAN1. The default setting for Onboard LAN1 is PXE.***

Network Stack

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

****If the feature above is set to Enabled, the following settings will become available for configuration:***

Ipv4 PXE Support

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

Ipv4 HTTP Support

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

Ipv6 PXE Support

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

Ipv6 HTTP Support

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

IPSEC Certificate

Internet Protocol Security (IPSEC) offers a secure connection for remote computers using a secure tunnel. The options are **Disabled** and Enabled.

PXE Boot Wait Time

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

Media Detect Count

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

►Trusted Computing

The X11SCL-IF supports TPM 1.2 and 2.0. The following Trusted Platform Module (TPM) information will display if a TPM 2.0 module is detected:

- Firmware Version
- Vendor Name

Security Device Support

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

- Active PCR Bank
- SHA256 PCR Bank

****If a TPM is installed and the feature above is set to Enable, "SHA-1 PCR Bank", "SHA256 PCR Bank", and additional settings will become available for configuration:***

SHA-1 PCR Bank

Use this feature to disable or enable the SHA-1 Platform Configuration Register (PCR) bank for the installed TPM device. The options are Disabled and **Enabled**.

SHA256 PCR Bank

Use this feature to disable or enable the SHA256 Platform Configuration Register (PCR) bank for the installed TPM device. The options are Disabled and **Enabled**.

Pending Operation

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

Platform Hierarchy

Use this feature to disable or enable platform hierarchy for platform protection. The options are Disabled and **Enabled**.

Storage Hierarchy

Use this feature to disable or enable storage hierarchy for cryptographic protection. The options are Disabled and **Enabled**.

Endorsement Hierarchy

Use this feature to disable or enable endorsement hierarchy for privacy control. The options are Disabled and **Enabled**.

TPM2.0 UEFI Spec Version

Use this feature to specify the TPM UEFI spec version. TCG 1.2 supports Windows® 2012, Windows 8, and Windows 10. TCG 2 supports Windows 10 or later. The options are TCG_1_2 and **TCG_2**.

Physical Presence Spec Version

Use this feature to select the PPI spec version. The options are 1.2 and **1.3**.

PH Randomization

Use this feature to disable or enable Platform Hierarchy (PH) Randomization. The options are Disabled and **Enabled**.

Device Select

Use this feature to select the TPM version. TPM 1.2 will restrict support to TPM 1.2 devices. TPM 2.0 will restrict support for TPM 2.0 devices. Select Auto to enable support for both versions. The options are TPM 1.2, TPM 2.0, and **Auto**.

SMCI BIOS-Based TPM Provision Support

Use feature to enable the Supermicro TPM Provision support. The options are Disabled and **Enabled**.

TXT Support

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

► HTTP Boot Configuration

Http Boot One Time

After creating and saving a HTTP boot option, enable this feature to have the system auto boot into the newly created HTTP boot option the next time the system is powered on. The options are **Disabled** and Enabled.

Input The Description

Use this feature to input the HTTP boot option description.

Boot URI

Use this feature to input the URi address for HTTP Boot feature.

► iSCSI Configuration

This submenu is available for configuration when "Network Stack" is enabled under the submenu, "PCIe/PCI/PnP Configuration".

iSCSI Initiator Name

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

► Add an Attempt

► Delete Attempts

► Change Attempt Order

► TLS Authentication Configuration

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

► Server CA Configuration

► Enroll Certification

Enroll Certification Using File

Use this feature to enroll certification from a file.

Certification GUID

Use this feature to input the certification GUID.

Commit Changes and Exit

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

Discard Changes and Exit

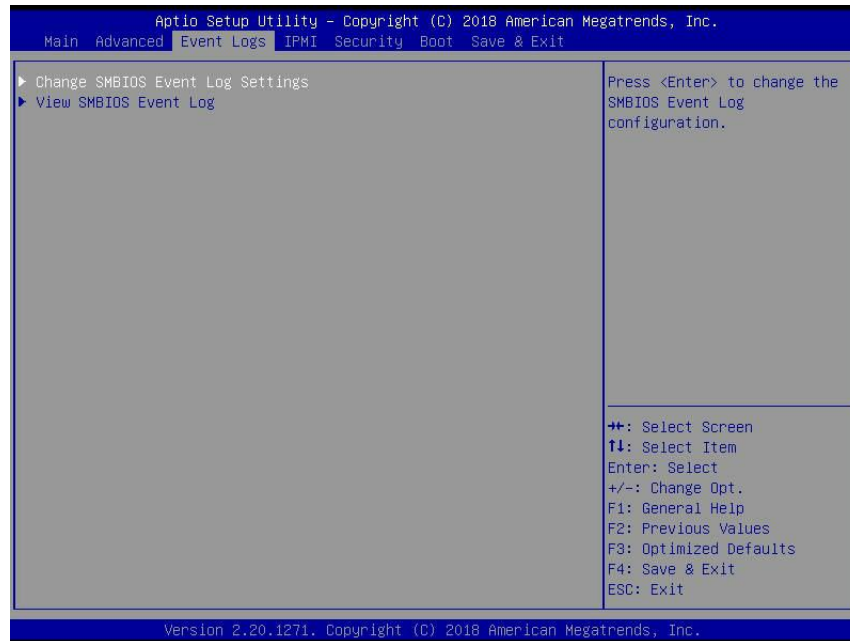
Use this feature to discard all changes and exit TLS settings.

► Delete Certification

Use this feature to delete certification.

5.4 Event Logs

Use this feature to configure Event Log settings.



► Change SMBIOS Event Log Settings

Enabling/Disabling Options

SMBIOS Event Log

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

Erasing Settings

Erase Event Log

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

When Log is Full

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

SMBIOS Event Log Standard Settings

Log System Boot Event

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

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**.

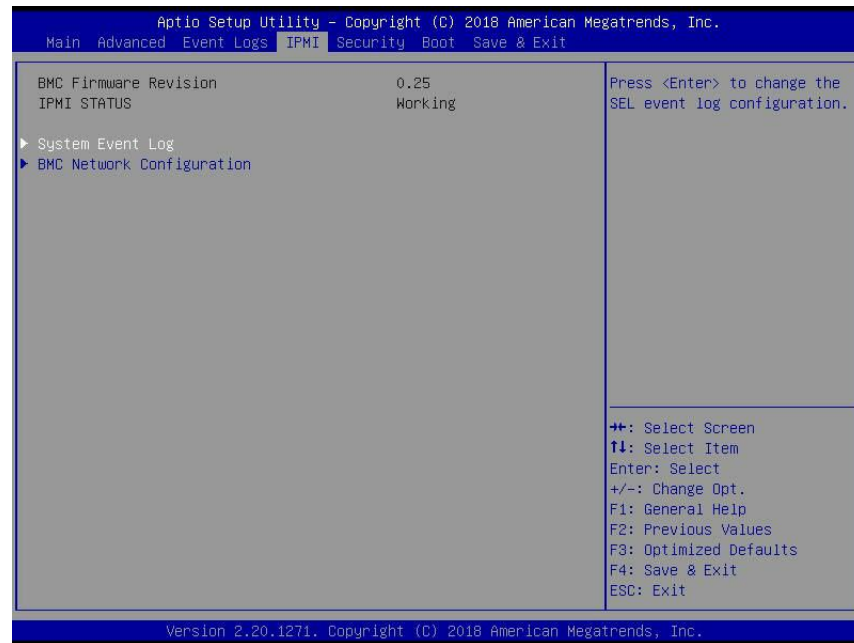
Note: After making changes on a setting, be sure to reboot the system for the changes to take effect.

►View SMBIOS Event Log

Select this submenu and press enter to see the contents of the SMBIOS event log. The following categories will be displayed: Date/Time/Error Codes/Severity.

5.5 IPMI

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



BMC Firmware Revision

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

IPMI Status (Baseboard Management Controller)

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

► System Event Log

Enabling/Disabling Options

SEL Components

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

Erasing Settings

Erase SEL

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

When SEL is Full

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

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

► BMC Network Configuration

BMC Network Configuration

Update IPMI LAN Configuration

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

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

Configure IPV4 Support

This section displays configuration features for IPV4 support.

IPMI LAN Selection

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

IPMI Network Link Status

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

Configuration Address Source

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

****If the feature above is set to Static, the following settings will become available for configuration:***

Station IP Address

This feature displays the Station IP address for this computer. This should be in decimal and in dotted quad form (i.e., 192.168.10.253).

Subnet Mask

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

Station MAC Address

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

Gateway IP Address

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

VLAN

This feature displays the virtual LAN settings. The options are **Disable** and **Enable**.

****If the feature above is set to Enable, "VLAN ID" will become available available for configuration:***

VLAN ID

Use this feature to enter the VLAN ID. The default setting is **0**.

Configure IPV6 Support

This section displays configuration features for IPV6 support.

IPV6 Address Status

This feature displays the IPV6 Address status. The default setting is **Disabled**.

IPV6 Support

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

****If the feature above is set to Enabled, the following settings will become available for configuration:***

Configuration Address Source

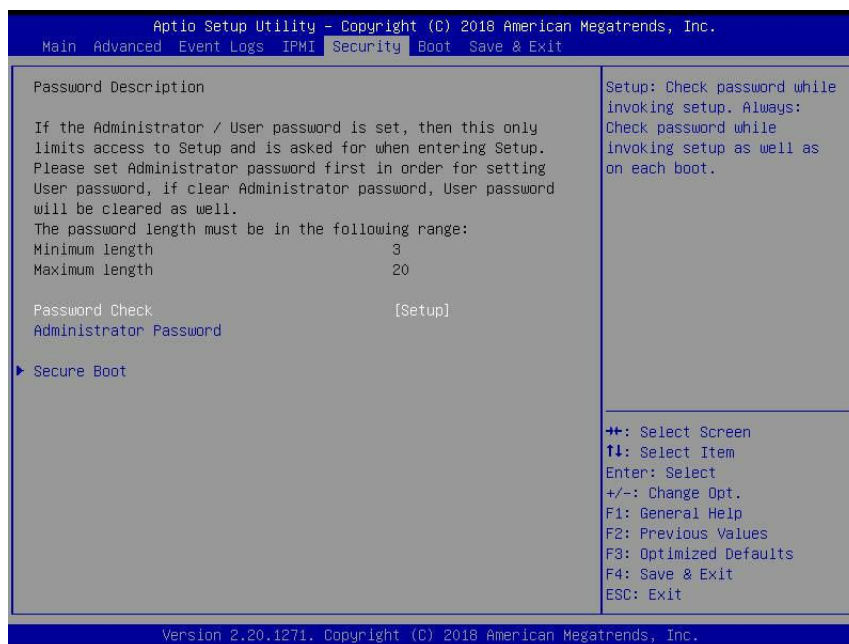
This feature allows the user to select the source of the IP address for this computer. If Static is selected, you will need to know the IP address of this computer and enter it to the system manually in the field. If DHCP is selected, the BIOS will search for a DHCP (Dynamic Host Configuration Protocol)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

****If the feature above is set to Static, the following settings will become available for configuration:***

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

5.6 Security

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



Password Check

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

Administrator Password

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

► Secure Boot

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

- System Mode
- Vendor Keys
- Secure Boot

Secure Boot

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

Secure Boot Mode

Use this feature to configure Secure Boot variables without authentication. The options are **Standard** and **Custom**.

CSM Support

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

► Key Management

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

► Restore Factory Keys

Select Yes to restore all factory keys to the default settings. The options are **Yes** and No.

► Reset to Setup Mode

Select Yes to delete all Secure Boot key databases and force the system to Setup Mode. The options are **Yes** and No.

► Export Secure Boot variables

Use this feature to copy the NVRAM contents of the secure boot variables to a file.

► Enroll EFI Image

This feature allows the image to run in Secure Boot Mode. Enroll SHA256 Hash Certificate of the image into the Authorized Signature Database.

Device Guard Ready

► Remove 'UEFI CA' from DB

Use this feature to remove the Microsoft UEFI CA certificate from the database. The options are **Yes** and No.

► Restore DB Defaults

Select Yes to restore the DB defaults. The options are **Yes** and No.

Secure Boot Variable

► Platform Key (PK)

This feature allows the user to update the settings of the platform keys.

Update

Select Yes to load a factory default PK or No to load from a file on an external media. The options are **Yes** and No.

► Key Exchange Keys

Update

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

Append

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

► Authorized Signatures

Update

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

Append

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

► Forbidden Signatures

Update

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

Append

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

► Authorized TimeStamps

Update

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

Append

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

► OsRecovery Signature

This feature uploads and installs an OSRecovery Signature. You may insert a factory default key or load from a file. The file formats accepted are:

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

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

Update

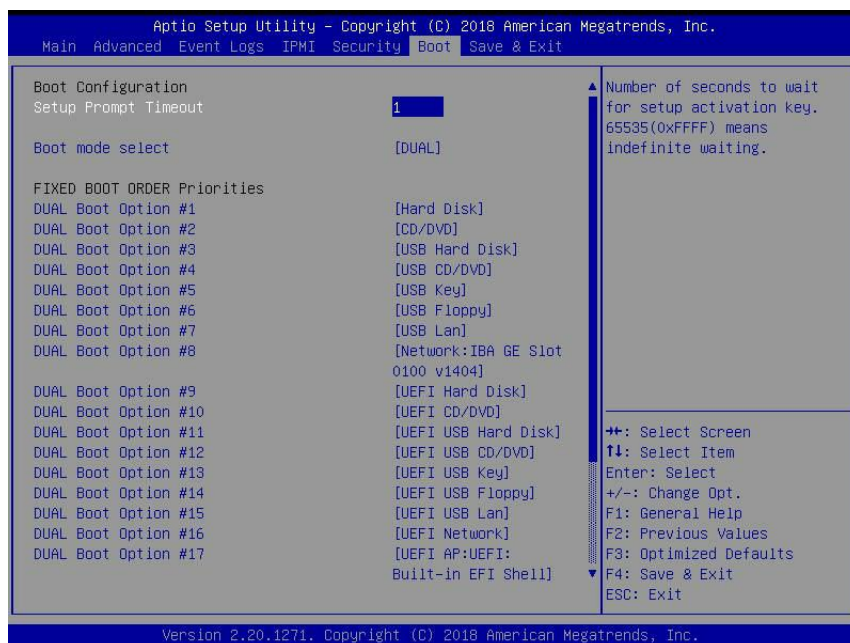
Select Yes to load the DBR from the manufacturer's defaults. Select No to load the DBR from a file. The options are **Yes** and No.

Append

This feature uploads and adds an OSRecovery Signature into the Key Management. You may insert a factory default key or load from a file. When prompted, select "**Yes**" to load Factory Defaults or "No" to load from a file.

5.7 Boot

Use this feature to configure Boot settings.



Setup Prompt Timeout

Use this feature to indicate the length of time (the number of seconds) for the BIOS to wait before rebooting the system when the setup activation key is pressed. Enter the value of 65535 (0xFFFF) for the BIOS to wait indefinitely. The default setting is 1.

Boot Mode Select

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

Fixed Boot Order Priorities

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

****If the feature "Boot Mode Select" above is set to Legacy, UEFI, or Dual, the following settings will be available for configuration:***

- Legacy/UEFI/Dual Boot Option #1
- Legacy/UEFI/Dual Boot Option #2
- Legacy/UEFI/Dual Boot Option #3
- Legacy/UEFI/Dual Boot Option #4

- Legacy/UEFI/Dual Boot Option #5
- Legacy/UEFI/Dual Boot Option #6
- Legacy/UEFI/Dual Boot Option #7
- Legacy/UEFI/Dual Boot Option #8
- UEFI/Dual Boot Option #9
- Dual Boot Option #10
- Dual Boot Option #11
- Dual Boot Option #12
- Dual Boot Option #13
- Dual Boot Option #14
- Dual Boot Option #15
- Dual Boot Option #16
- Dual Boot Option #17

► Delete Boot Option

This feature allows the user to select an EFI boot option to delete from the boot order.

Delete Boot Option

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

► Delete Driver Option

This feature allows the user to select an EFI driver option to delete from the drive order.

****If any storage media is detected, "Add New Boot Option" and "Add New Driver Option" will become available for configuration:***

► Add New Boot Option

This feature allows the user to add a new EFI boot option to the boot order for your system.

Add Boot Option

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

Path for Boot Option

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

Boot Option File Path

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

Create

Use this feature to set the name and the file path of the new boot option.

►Add New Driver Option

This feature allows the user to add a new EFI driver option to the driver order for your system.

Add Driver Option

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

Path for Boot Option

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

Driver Option File Path

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

Create

Use this feature to set the name and the file path of the new driver option.

►UEFI Application Boot Priorities

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

- UEFI Boot Option #1

►NETWORK Drive BBS Priorities

This feature sets the system boot order of detected devices.

- Boot Option #1

****If any storage media is detected, the following features will become available for configuration:***

►UEFI Hard Disk Drive BBS Priorities

This feature sets the system boot order of detected devices.

- Boot Option #1

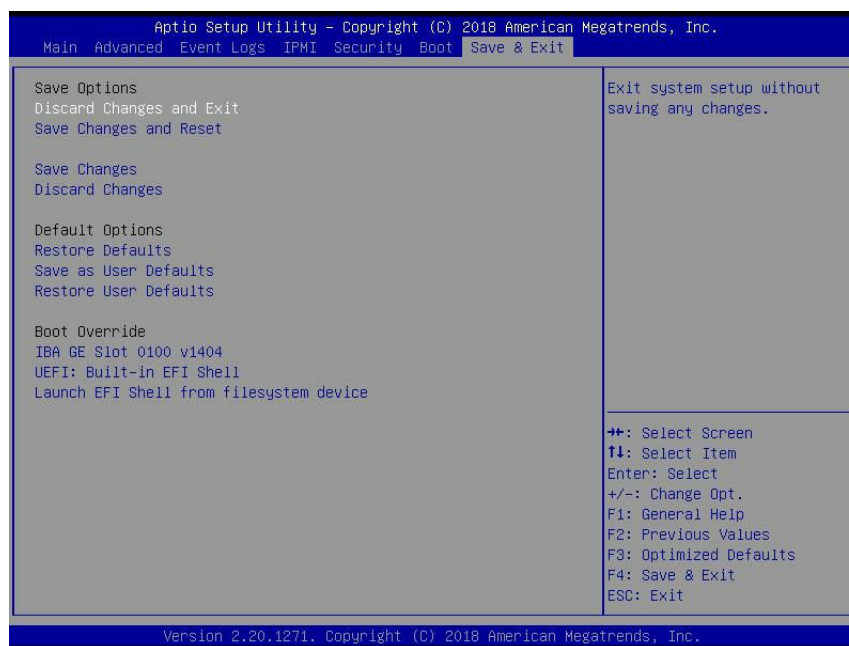
►Hard Disk Drive BBS Priorities

This feature sets the system boot order of detected devices.

- Boot Option #1

5.8 Save & Exit

Select the Save & Exit tab from the BIOS setup screen to configure the settings below:



Save Options

Discard Changes and Exit

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

Save Changes and Reset

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

Save Changes

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

Discard Changes

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

Default Options

Restore Defaults

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

Save As User Defaults

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

Restore User Defaults

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

Boot Override

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

Appendix A

BIOS POST Codes

The AMI BIOS supplies additional checkpoint codes, which are documented online at <http://www.supernmicro.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 (Supernmicro p/n AOC-LPC80-20).

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

Appendix B

Standardized Warning Statements for AC Systems

B.1 About Standardized Warning Statements

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

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

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

Warning Definition



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

警告の定義

この警告サインは危険を意味します。

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

此警告符号代表危險。

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 فِ حَالَةٍ وُكِي اَيُّ تَتَسَبَّبُ فِ اَصَابَةِ جَسَدٍ هَذَا الزَّهْرُ عُ خَطَرٌ! تَحْذَرُ .
 قَبْلَ اَيُّ تَعْوَلُ عَلَى اَيُّ هَعْدَاتٍ، كِي عَلَى عِلْنِ بِالْوَحَاظِ اَلْ اُجُوَّةِ عِي الذَّوَائِرِ
 الْكَهْزِبَائِيَّةِ
 وَكِي عَلَى دَرَاةٍ بِالْوَوَارِسَاتِ الْبَقَائِيَّةِ لَوْ عُ وَقَعَ اَيُّ حَادِثٍ
 اسْتَخْدَمَ رَقْنِ الْبِ اَيُّ الْوَصُصِ فِ هَآءِ كُلِّ تَحْذَرُ لِّلْعَشْرِ تَزْجُوْتَهَا

안전을 위한 주의사항

경고!

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

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

BELANGRIJKE VEILIGHEIDSINSTRUCTIES

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

BEWAAR DEZE INSTRUCTIES

Installation Instructions



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

設置手順書

システムを電源に接続する前に、設置手順書をお読み下さい。

警告

将此系统连接电源前,请先阅读安装说明。

警告

將系統與電源連接前，請先閱讀安裝說明。

Warnung

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

¡Advertencia!

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

Attention

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

יש לקרוא את הוראות התקנה לפני חיבור המערכת למקור מתח.

اقرأ إرشادات التركيب قبل توصيل النظام إلى مصدر للطاقة

시스템을 전원에 연결하기 전에 설치 안내를 읽어주십시오.

Waarschuwing

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

Circuit Breaker

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

サーキット・ブレーカー

この製品は、短絡(過電流)保護装置がある建物での設置を前提としています。

保護装置の定格が250 V、20 Aを超えないことを確認下さい。

警告

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

警告

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

Warnung

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

¡Advertencia!

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

Attention

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

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

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

경고!

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

Waarschuwing

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

Power Disconnection Warning



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

電源切斷の警告

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 chassis 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 قېم
انصل إلى امناطق انداخھيت نهھيكم نتشيج أو إزانت مكنناث 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 للموظفيه 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

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

Warnung

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

¡Advertencia!

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

Attention

Cet appareil doit être installé 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 انحدزة نترك بُها ف مناطق محظورة تم .
ممكن اننصل إن منطقت محظورة فقط من خلال استخذاو أداة خاصت
أو أ وس هُت أخري نلاأمما 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荐的功能相当的電池更換原有電池。請按制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 اسحبذال البطارية بطريقة غير صحيحة فعلى
اسحبذال البطارية
فقط بنفس النوع أو ما يعادلها مما أوصت به الشركة المصنعة
جخلص من البطاريات المسحمة 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

此裝置連接的電源可能不只一個，必須切斷所有電源才能停止對該裝置的供電。

Warnung

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

¡Advertencia!

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

Attention

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

אם קיים יותר מספק אחד

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时，背板上有很危险的电压或能量，进行维修时务必小心。

警告

當系統正在進行時，背板上有危險的電壓或能量，進行維修時務必小心。

Warnung

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

¡Advertencia!

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

Attention

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

מתח בפנל האחורי

אזהרה!

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

هناك خطر من التيار الكهربائي أو الطاقة المبددة على الساحة
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 instalacion del equipo debe cumplir con las normas de electricidad locales y nacionales.

Attention

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

תיאום חוקי החשמל הארצי

אזהרה!

התקנת הציוד חייבת להיות תואמת לחוקי החשמל המקומיים והארציים.

تركيب المعدات الكهربائية يجب أن يمثل للقوايه المحلية والبطية المتعلقة
بالكهرباء

경고!

현 지역 및 국가의 전기 규정에 따라 장비를 설치해야 합니다.

Waarschuwing

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

Product Disposal



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

製品の廃棄

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

警告

本产品的废弃处理应根据所有国家的法律和规章进行。

警告

本產品的廢棄處理應根據所有國家的法律和規章進行。

Warnung

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

¡Advertencia!

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

Attention

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

סילוק המוצר

אזהרה!

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

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

경고!

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

Waarschuwing

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

Hot Swap Fan Warning



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

ファン・ホットスワップの警告

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

警告!

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

警告

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

Warnung

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

¡Advertencia!

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

Attention

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

אזהרה!

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

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

경고!

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

Waarschuwing

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

Power Cable and AC Adapter



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

電源コードとACアダプター

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

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

警告

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

警告

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

Warnung

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

¡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 כבלים חשמליים ומתאמי

אזהרה!

אשר נרכשו או הותאמו לצורך ההתקנה, ואשר הותאמו לדרישות AC כאשר מתקינים את המוצר, יש להשתמש בכבלים, ספקים ומתאמים הבטיחות המקומיות, כולל מידה נכונה של הכבל והתקע. שימוש בכל כבל או מתאם מסוג אחר, עלול לגרום לתקלה או קצר חשמלי. בהתאם כאשר מופיע עליהם קוד) UL-CSA או ב UL - לחוקי השימוש במכשירי החשמל וחוקי הבטיחות, קיים איסור להשתמש בכבלים המוסמכים ב Supermicro עבור כל מוצר חשמלי אחר, אלא רק במוצר אשר הותאם ע"י (UL/CSA) של

عند تركيب المنتج، قم باستخدام التوصيلات المتوفرة أو المحددة أو قم بشراء الكابلات الكهربائية ومحوّلات التيار المتردد مع الالتزام بقوانين ومتطلبات السلامة المحلية بما في ذلك حجم الموصل والقابس السليم. استخدام أي كابلات ومحوّلات أخرى قد يتسبب في عطل أو حريق. يحظر قانون السلامة للأجهزة الكهربائية والمعدات استخدام الكابلات المعتمدة Supermicro مع أي معدات أخرى غير المنتجات المعنية والمحددة من قبل (UL/CSA) والتي تحمل علامة CSA أو UL من قبل

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

Processors

Supports single Intel® Xeon E Family/ 8th Intel Core i3/ Pentium/ Celeron Processor, up to 6 cores in Socket H4 (LGA 1511), 80W max. TDP

Notes:

- BIOS 1.0b or above is required to support Intel® Xeon® processor E-2200 series.
- Please refer to the motherboard specifications pages on our website for updates to supported processors.

Chipset

Intel® C242 Chipset

BIOS

256Mb AMI BIOS SPI Flash BIOS

Memory

Two DDR4-2666MHz ECC UDIMM slots, max capacity 64GB

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

SATA Drives

Four (4) hot-swap 3.5" SAS2/ SATA3 drive bays with Backplane (SES-II)

Two (2) internal fixed 2.5" drive bays

One (1) M.2 slot through PCI-E3.0 x4/ SATA3.0 (Supports M-key 2280)

Expansion Slots

One (1) PCI-E3.0 x16 for low profile AOC

Motherboard

X11SCL-IF; Mini-ITX form factor 6.7" x 6.7" (170.2 mm x 170.2 mm)

Chassis

SC721TQ-250B2; Mini-size tower; (WxHxD) 8.2 x 9.45 x 11 in. (210 x 240 x 279 mm)

System Cooling

One (1) rear 120mm PWM fan (1850 RPM)

Power Supply

One 250W, 80Plus Bronze level

Model: FSP250-50LC

AC Input: 100-240V, 50-60Hz

Rated Input Current: 4-2A

Rated DC Output Power:

+12V, 18Amps

-12V, 0.3Amps

+5V Standby, 2.5Amps

+5V, 14Amps

+3.3V, 12Amps

Note: +3.3V and +5V total output shall not exceed 80 watts.

Operating Environment

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

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

BSMI RoHS

限用物質含有情況標示聲明書

Declaration of the Presence Condition of the Restricted Substances Marking

設備名稱：伺服器/Server Equipment name		型號（型式）：721-2 （系列型號：SYS-5029C-T） 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：100-240V ~, 60-50Hz, 4-2A

*使用者不能任意拆除或替換內部配備

*設備名稱：伺服器

*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