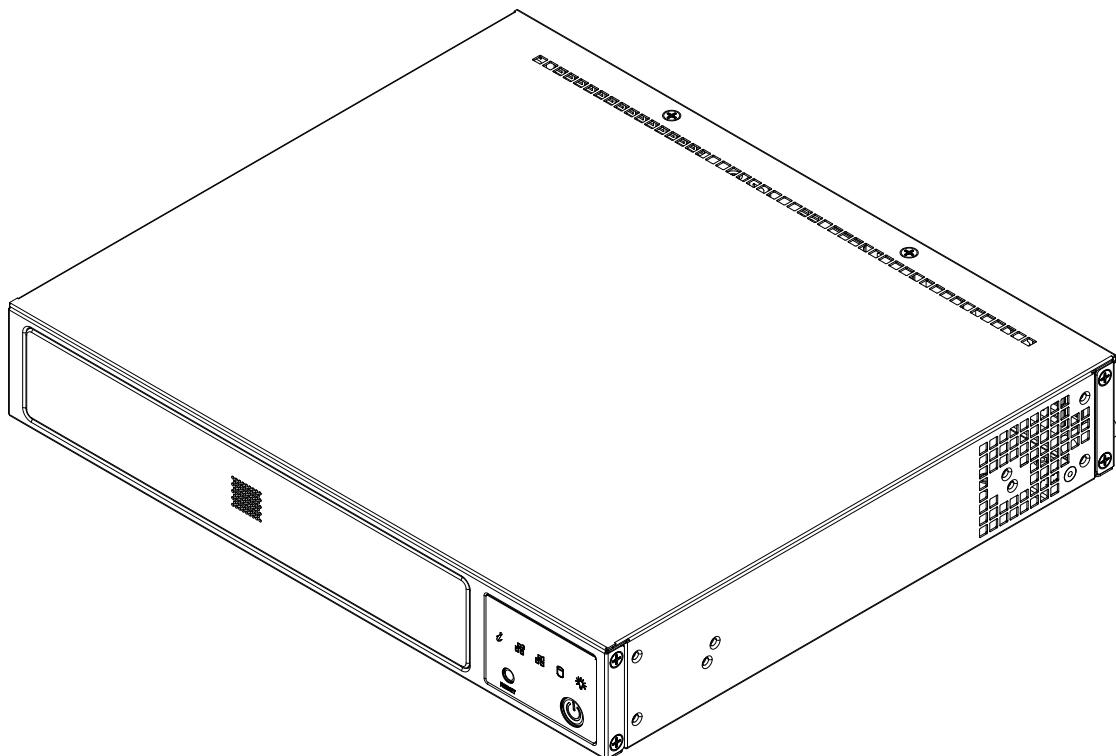




SUPER SERVER<sup>®</sup>  
E300-8D



USER'S MANUAL

Revision 1.0c

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Manual Revision 1.0c

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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 E300-8D. Installation and maintenance should be performed by experienced technicians only.

## Notes

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

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

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

This manual may be periodically updated without notice. Please check the Supermicro website (<http://www.supermicro.com>) for possible updates to the manual revision level.

## Warnings

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



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



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

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# Chapter 1

## Introduction

### 1.1 Overview

The SuperServer E300-8D is a compact, embedded system comprised of the SCE300 chassis and the X10SDV-TP8F single processor motherboard. Refer to our website for information on operating systems that have been certified for use with the system ([www.supermicro.com](http://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
60W DC power adapter	MCP-250-10117-0N	1
84W DC power adapter	MCP-250-10122-0N	1
Fans	FAN-0065L4	2

## 1.2 System Features

The following table provides an overview of the main features of the E300-8D. Please refer to Appendix C for additional specifications.

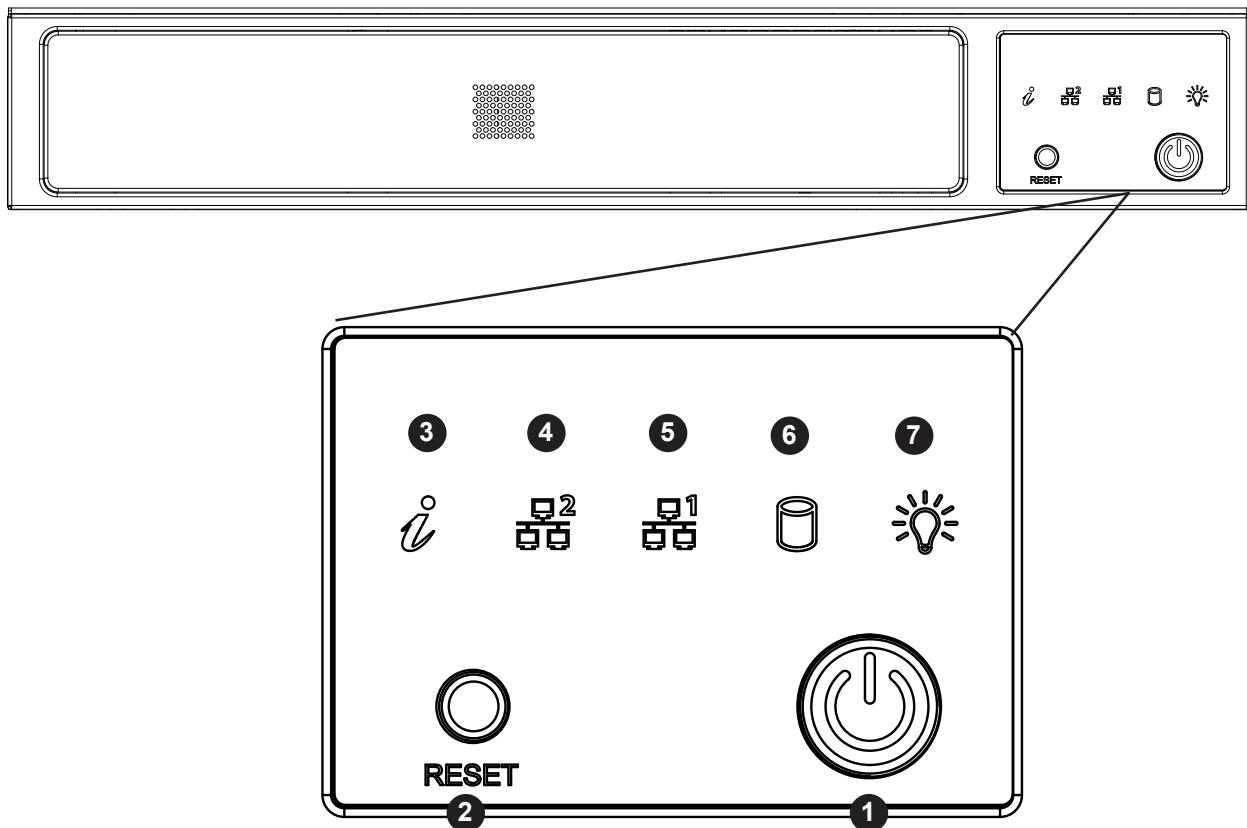
<b>System Features</b>	
<b>Motherboard</b>	X10SDV-TP8F
<b>Chassis</b>	Compact Embedded Mini ITX Box, SCE300
<b>CPU</b>	Intel Xeon D-1518 SoC (System on a Chip) in FCBGA1667 format; 4-Core, 8 Threads, 35W
<b>Memory</b>	Four DDR4 DIMM sockets; supports up to 128GB DDR4 ECC RDIMM or up to 64GB DDR4 ECC/non-ECC UDIMM; Memory Type 2133/1866/1600MHz; DIMM Sizes 32GB, 16GB, 8GB, 4GB
<b>Expansion Slots</b>	One PCIe 3.0 x8 slot (low profile)
<b>Storage Drives</b>	Single fixed 2.5" hard drive bay with bracket for 9.5 mm thickness HDD (when AOC area is not occupied) Mini PCIe msATA M.2 PCIe 3.0 x4 (SATA support)
<b>Power</b>	One external 60 or 84 watt DC power adapter
<b>Input/Output Ports</b>	LAN: Six Gigabit ports and two 10G SFP+ ports IPMI: One dedicated LAN port USB: Two USB3.0 ports Display: VGA Serial ATA: Four SATA 3.0 ports, one via M.2, one via Mini-PCIE mSATA SAS 2.0 DOM: SuperDOM (Disk on Module) power connectors TPM 2.0 header
<b>Cooling</b>	Two 4-cm chassis fans, plus a passive CPU heat sink
<b>Front Panel</b>	Power button; five LED status indicators
<b>Dimensions</b>	Width 10" (254mm), Height 1.7" (43mm), Depth 8.9" (226mm)

## 1.3 Chassis Features

The SCE300 is a compact embedded 1U chassis for Mini ITX and a Flex ATX motherboard.

### Front Features

The front of the chassis includes the control panel.



**Figure 1-1. Chassis Front and Control Panel**

Control Panel Features		
Item	Features	Description
1	Power button	The main power switch applies or removes primary power from the power supply to the server but maintains standby power. To perform most maintenance tasks, unplug the system to remove all power.
2	Reset button	Resets the system
3	Information LED	Alerts operator to several states, as noted in the table below
4 and 5	NIC LED	Indicates network activity on the LAN when flashing.
6	HDD LED	Indicates hard disk drive activity when flashing.
7	Power LED	Indicates power is being supplied to the system power supply units. This LED is illuminated when the system is operating normally.

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

## Rear Features

The chassis rear holds input/output ports, described in chapter 3.

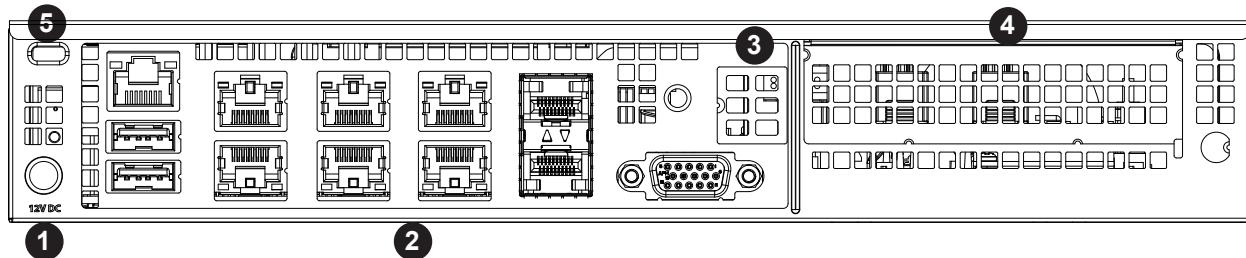
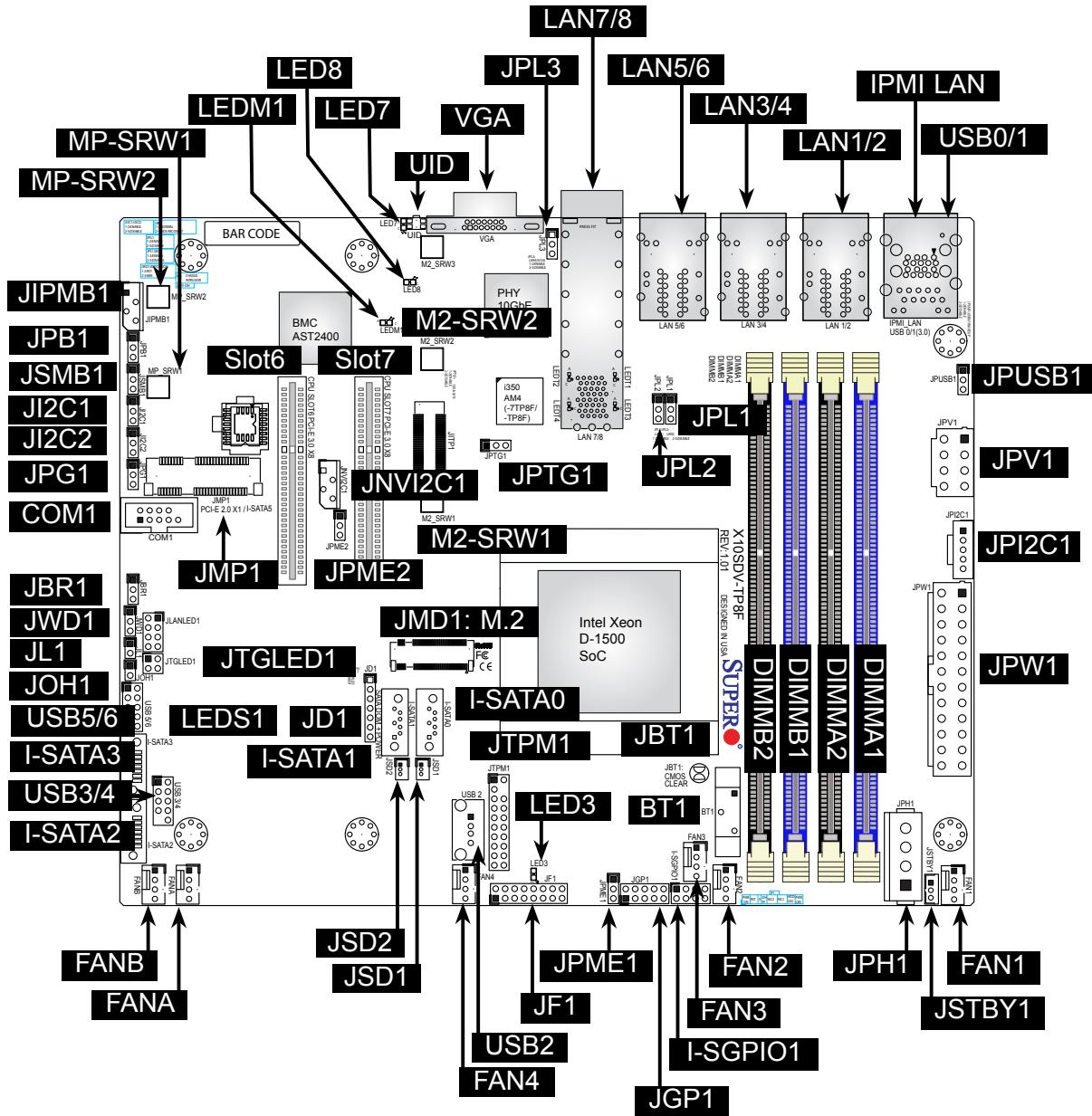


Figure 1-2. Rear Chassis View

Rear Chassis Features		
Item	Features	Description
1	Power Input	The main power switch applies or removes primary power from the power supply to the server but maintains standby power. To perform most maintenance tasks, unplug the system to remove all power.
2	I/O ports	IPMI LAN, USB, LAN, SFP LAN, VGA (described in Chapter 4)
3	AOM window	Reserved for RJ45 console redirection cable.
4	PCI window	Standard low-profile
5	K-slot for lock	Accepts a standard Kensington cable locking device (not included).

## 1.4 Motherboard Layout

Below is a layout of the X10SDV-TP8F with jumper, connector and LED locations shown. See the table on the following page for descriptions. For detailed descriptions, pin-out information and jumper settings, refer to Chapter 4.



**Figure 1-3. Motherboard Layout**

## Notes:

- "■" indicates the location of Pin 1.
  - Jumpers/LED indicators not indicated are used for testing only.

## Quick Reference

Jumper	Description	Default Setting
JBR1	BIOS Recovery	Pins 1-2 (Normal)
GBT1	CMOS Clear	Open: Normal, Short: Clear CMOS
JI2C1/JI2C2	SMB to PCI-Exp. Slots	Pins 2-3 (Disabled)
JPG1	VGA Enable	Pins 1-2 (Enabled)
JPL1	LAN1 Enable	Pins 1-2 (Enabled)
JPL2	LAN2 Enable	Pins 1-2 (Enabled)
JPL3	LAN3/4/5/6 Enable	Pins 1-2 (Enabled)
JPME1	ME Recovery	Pins 1-2 (Normal)
JPME2	Manufacturing Mode	Pins 1-2 (Normal)
JPTG1	10Gb Ethernet Enable	Pins 1-2 (Enabled)
JPUSB1	USB Wakeup	Pins 1-2 (Enabled) (For USB0/1 Only)
JWD1	Watch Dog Enable	Pins 1-2 (Reset)

Connector	Description
BT1	Onboard Battery
COM1	COM1 Header
FAN1 - FAN4, FANA, FANB	CPU/System Cooling Fans
IPMI LAN	Dedicated IPMI LAN Port
I-SATA0 - I-SATA5	Intel SATA Ports (I-SATA0 / I-SATA1 support SuperDOM, I-SATA4 via M.2, I-SATA5 via Mini-PCIE mSATA)
I-SGPIO1	Serial Link General Purpose I/O Headers
JD1	Speaker (Pins 1-3: Power LED, Pins 4-7: Speaker)
JF1	Front Panel Control Header
JGP1	General Purpose I/O Expander Header
JIPMB1	4-pin External SMBus I <sup>2</sup> C Header (for an IPMI Card)
JL1	Chassis Intrusion Header
JMD1	M.2 PCI-E 3.0 X4 / I-SATA4 Slot
JMP1	Mini PCI-E 2.0 X1 / I-SATA5 Slot
JNVI2C1	NVMe I <sup>2</sup> C Header
JOH1	Overheat LED Header
JPH1	4-pin Power Connector for HDD use
JPI2C1	Power Supply SMBus I <sup>2</sup> C Header
JPV1	12V 8-pin DC Power Connector
JPW1	24-pin ATX Power Connector
JSD1, JSD2	SATA DOM (Device_On_Module) Power Connectors
JSMB1	SMBus Header
JSTBY1	5V Standby Power Header
JTGLED1	LAN7 ~ LAN8 Activity LED Header

<b>Connector</b>	<b>Description</b>
JTPM1	Trusted Platform Module (TPM)/Port 80 Connector
LAN1-LAN8	Gigabit Ethernet (RJ45) Ports LAN1-LAN6 10Gigabit Ethernet (SFP+) Ports LAN7-LAN8
M2-SRW1 - M2-SRW3	M.2 Mounting Screws
MP-SRW1 - SRW2	PCI-E 2.0 X1 / I-SATA5 Slot Mounting Screws
SLOT6, SLOT7	CPU PCI-E 3.0 x8 Slot
UID	Unit ID Button
USB 0/1	Back panel USB 3.0 Ports
USB 2	USB Type-A Connector
USB 3/4, 5/6	Front Access USB 2.0 Ports
VGA	Back panel VGA Port

<b>LED</b>	<b>Description</b>	<b>Color/State</b>	<b>Status</b>
LED3	Power LED	Green: On	System Power On
LED7	UID Switch LED	Blue: On	Unit Identified
LED8	Overheat/PWR Fail/ Fan Fail LED	Red: Solid on/Blinking	Solid On: Overheat, Blinking: PWR Fail or Fan Fail
LEDM1	BMC Heartbeat LED	Green: Blinking	BMC: Normal
LEDT1	LAN7 Link Status	Green: On	10G is linked up
LEDT2	LAN7 Activity	Green: Blinking	10G LAN7 is active
LEDT3	LAN8 Link Status	Green: On	10G is linked up
LEDT4	LAN8 Activity	Green: Blinking	10G LAN8 is active

## System Block Diagram

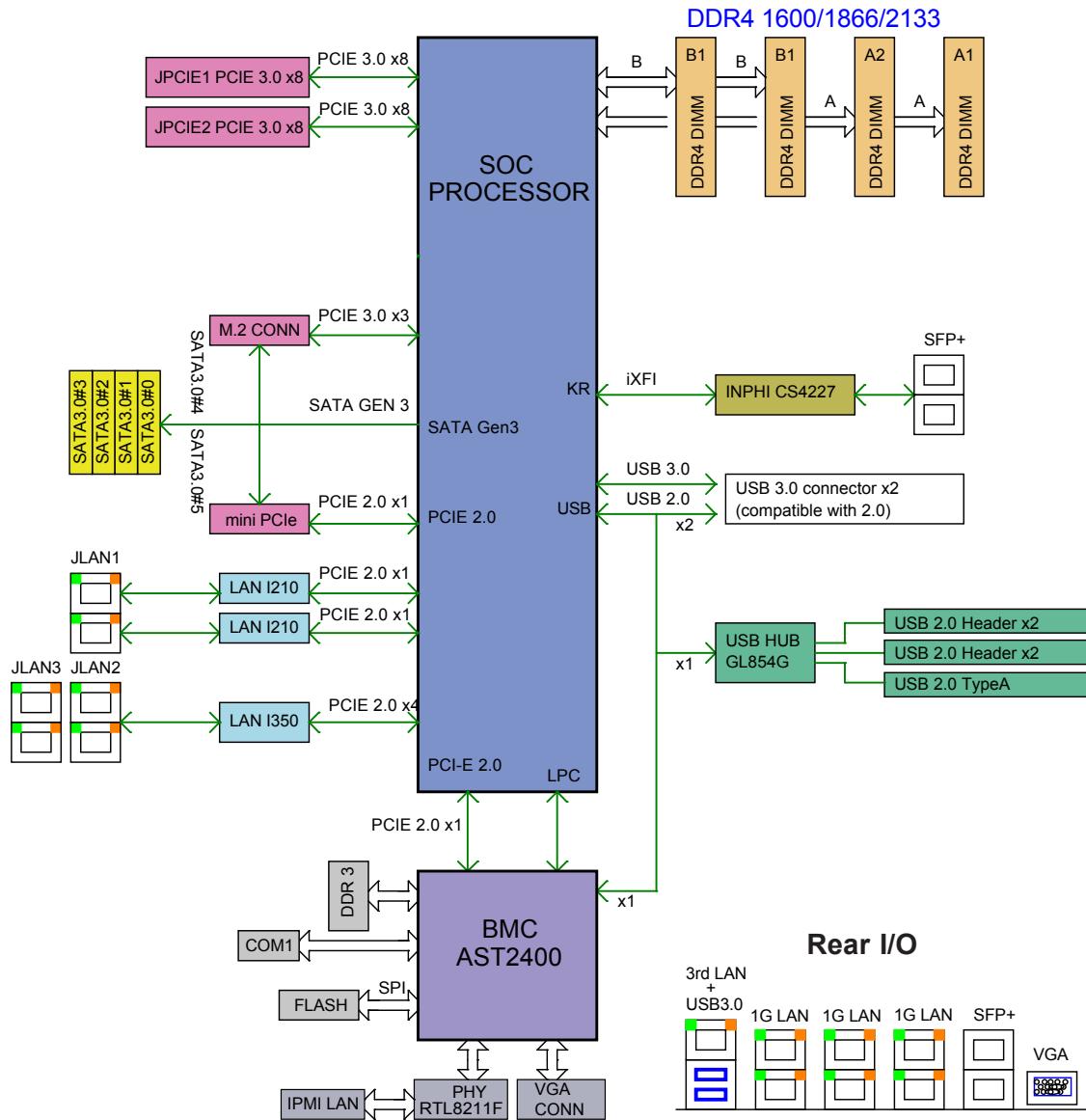


Figure 1-4. System Block Diagram

**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.

## 1-5 Server Installation and Setup

The server is shipped with the onboard processor and the motherboard installed in the chassis. Several steps are necessary to begin using your server. You must add memory, mount the hard disk drive, and mount the system in place.

### Unpacking the System

Inspect the box in which the system was shipped and note if it was damaged. If the server itself shows damage, file a damage claim with the carrier.

### Warnings and Precautions

- Use a regulating uninterruptible power supply (UPS) to protect the server from power surges, voltage spikes and to keep your system operating in case of a power failure.
- Review the electrical and general safety precautions in Appendix B.

### Adding Components to your System

- **Memory:** If your system is not already fully integrated with system memory, refer to Chapter 2 for details on compatible types of memory and the installation procedure.
- **Drives and Storage:** To add storage capabilities to your server, see Chapter 2.
- **Input/Output:** See Chapter 3 for I/O ports and connect them as needed.
- **Software:** See Chapter 4 for description and procedures for installing software, including drivers and monitoring programs.

## Installing Rack Mounting Brackets

The chassis can be mounted in a rack using two rack brackets and a two-part power adapter shelf bracket (optional, MCP-290-30002-0B).

1. Attach the rack brackets using three screws through the holes in each bracket to secure the bracket to the chassis.
2. Install the handles, using two screws through the bracket and into each handle.
3. If you are using the optional power adapter bracket, install the power adapter on its bracket. Place it as shown, then add the retention bracket using two screws.
4. Mount the power adapter bracket assembly on the right side of the chassis using three screws.

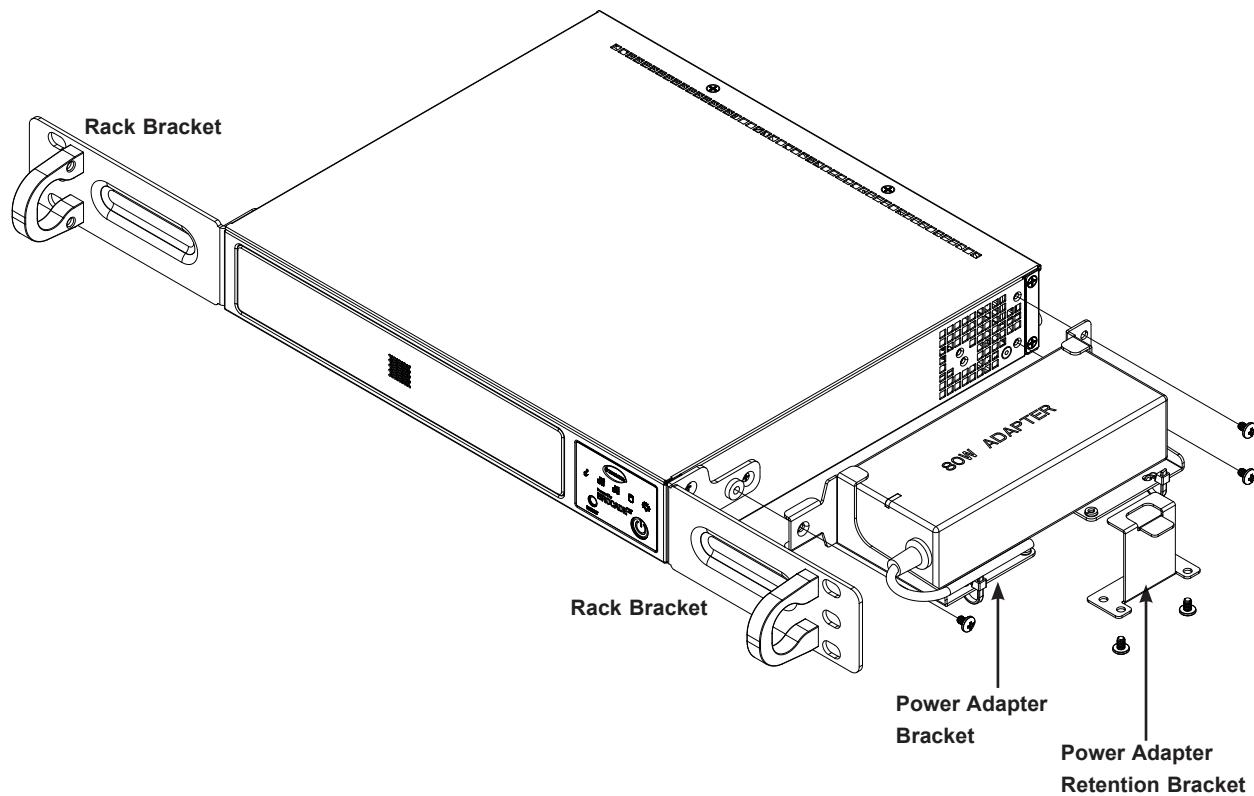


Figure 1-5. Installing Rack Mounting Brackets

# 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 require that power first be removed from the system. Please follow the procedures given in each section.

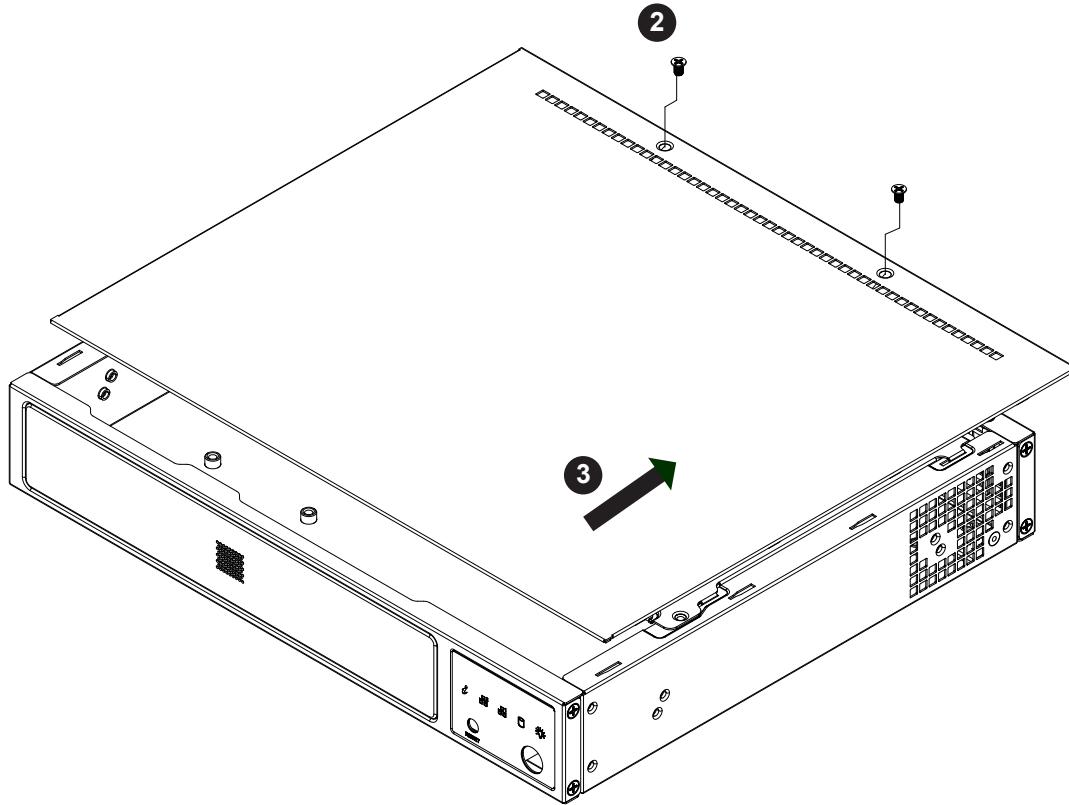
### 2.1 Removing Power

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

## 2.2 Accessing the System

The SCE300 features a removable top cover to access to the inside of the chassis.



**Figure 2-1. Removing the Chassis Cover**

### ***Removing the Top Cover***

1. Power down the system as described in section 2.1.
2. Remove the two screws that hold the cover in place.
3. Slide the cover sideways as illustrated above to release the front and rear cover hooks from the chassis.
4. Lift the cover up and off the chassis.

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

## 2.3 Motherboard Components

### Processor

The E300-8D features an embedded Intel Xeon D-1518 SoC processor.

### Memory Support

The X10SDV-TP8F series motherboard supports up to 128GB of DDR4 ECC RDIMM or 64GB of DDR4 ECC/Non-ECC UDIMM with speeds up to 2133MHz (D-1541 up to 2400MHz) in four memory slots. Populating these DIMM slots with memory modules of the same type and size will result in interleaved memory, which will improve memory performance.

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

#### *Memory Population Guidelines*

Recommended Population (Balanced)				
DIMMA1 Slot	DIMMB1 Slot	DIMMA2 Slot	DIMMB2 Slot	Total System Memory
4GB	4GB			8GB
4GB	4GB	4GB	4GB	16GB
8GB	8GB			16GB
8GB	8GB	8GB	8GB	32GB
16GB	16GB			32GB
16GB	16GB	<b>16GB</b>	16GB	64GB
32GB	32GB			64GB
32GB	32GB	32GB	32GB	128GB

Check the Supermicro website for a list of memory modules that have been validated. Use memory modules of the same type, speed and frequency.

## Installing Memory

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

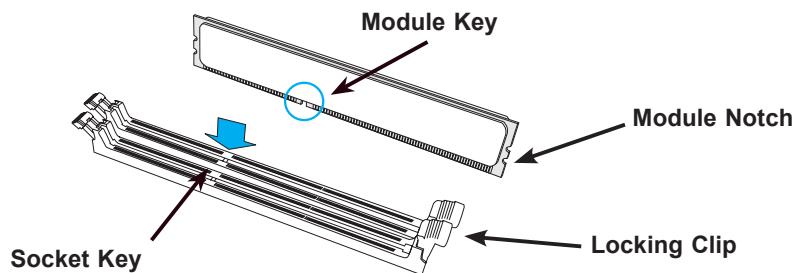
- Always use DDR4 DIMM modules of the same size, type and speed. Mixing memory modules of different types and speeds is not allowed.
- The motherboard will support one DIMM module installed. However, for best memory performance, install DIMM modules in pairs.

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

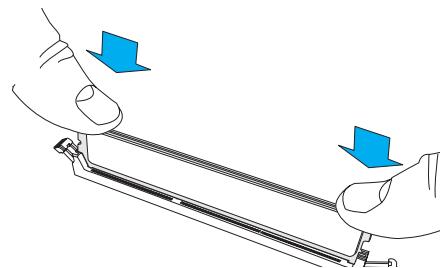
### *Installing Memory*

Begin by removing power from the system as described in Section 2.1.

1. Starting with P1-DIMMA1, push the release tabs outwards on both ends of the DIMM slot to unlock it.



2. Align the key of the DIMM with the receptive point on the memory slot and with your thumbs on both ends of the module, press it straight down into the slot until the module snaps into place.



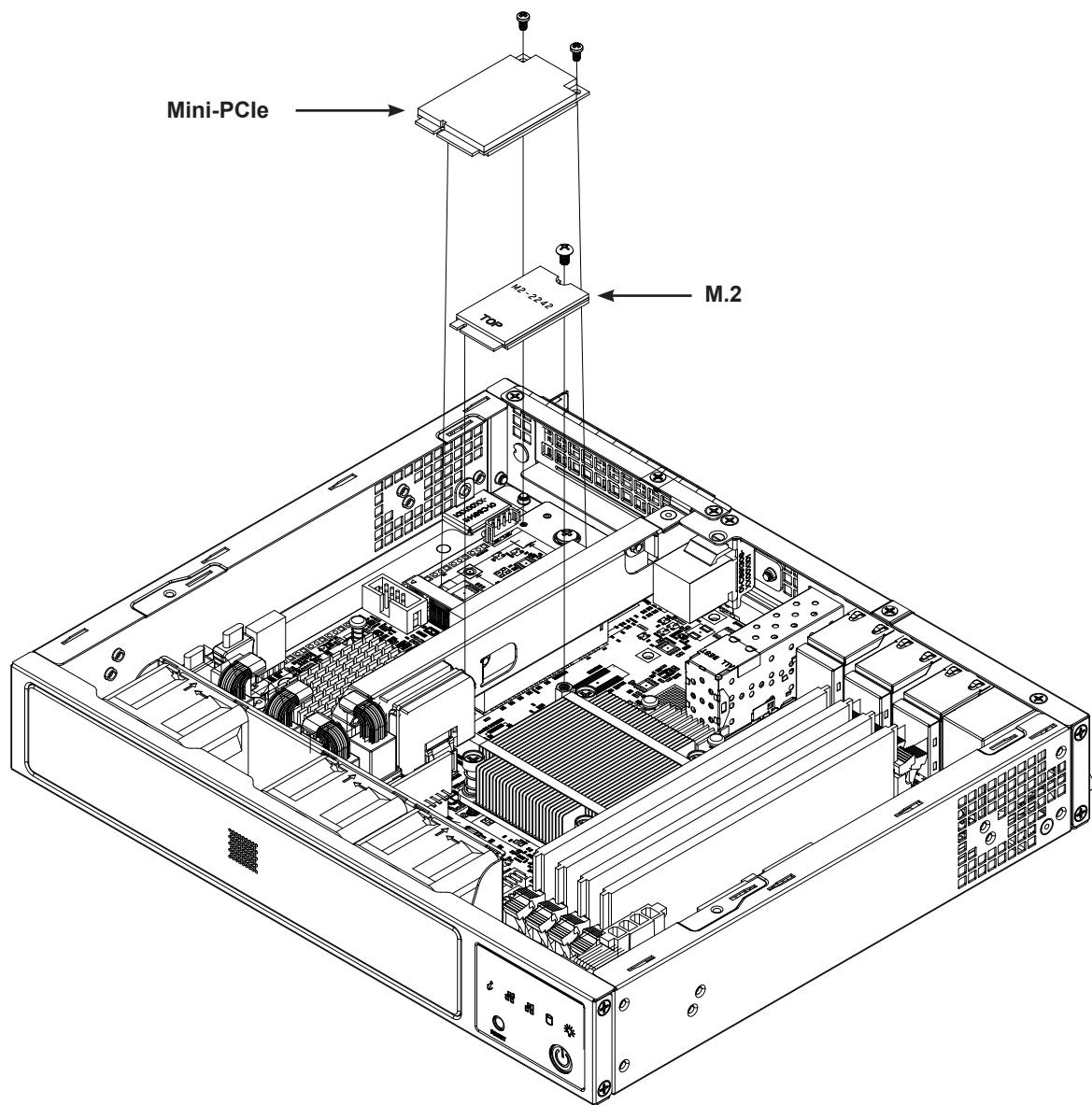
3. Press the release tabs to the locked position to secure the DIMM module into the slot. Repeat for other DIMM slots as needed in the following order:

To remove a DIMM, unlock the release tabs then pull the DIMM from the memory slot.

## Solid State Storage

This motherboard supports two internally mounted solid state storage cards:

- One mini-PCIe mSATA slot
- One M.2 slot supporting SATA



**Figure 2-2. Installing a Mini-PCIe mSATA Card and an M.2 Card**

### ***Mini-PCIe mSATA***

The X10SDV-TP8F supports a mini-PCIe mSATA SSD card. The mSATA is mux with the I-SATA5.

#### ***Installing an mSATA Mini-PCIe Card***

1. Access the motherboard and locate the **mSATA mini PCIe** connector (Figure 1.3, JMP1)
2. Gently insert mini-PCIe card into the connector. For a half size card, obtain the optional bracket, P/N MCP-120-00089-ON, to support your card.
3. Use screws to secure the mini-PCIe card to the MP\_SRW1 or MP\_SRW2 standoff.

### ***M.2***

M.2 is formerly known as Next Generation Form Factor (NGFF). The X10SDV-TP8F deploys an M key (2242/2280/22110) dedicated for SSD devices with the ultimate performance capability in a PCI Express 3.0 x4 interface for native PCIe SSD support. The M.2 is mux with the I-SATA4 port for legacy SATA SSD devices.

#### ***Installing the M.2 Card***

1. Access the motherboard and locate the **M.2** connector (Figure 1.3, JMD1: M2)
2. Gently insert the M.2 card into the connector.
3. Use a screw to secure the M.2 card to the M2\_SRW1 or M2\_SRW2 standoff.

## 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.

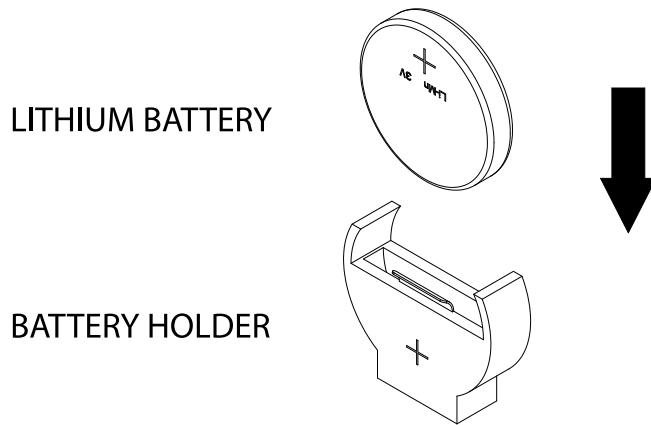


Figure 2-3. Installing the Onboard Battery

### *Replacing the Battery*

1. Remove power from the system as described in section 3.1.
2. Push aside the small clamp that covers the edge of the battery. When the battery is released, lift it out of the holder.
3. To insert a new battery, slide one edge under the lip of the holder with the positive (+) side facing up. Then push the other side down until the clamp snaps over it.

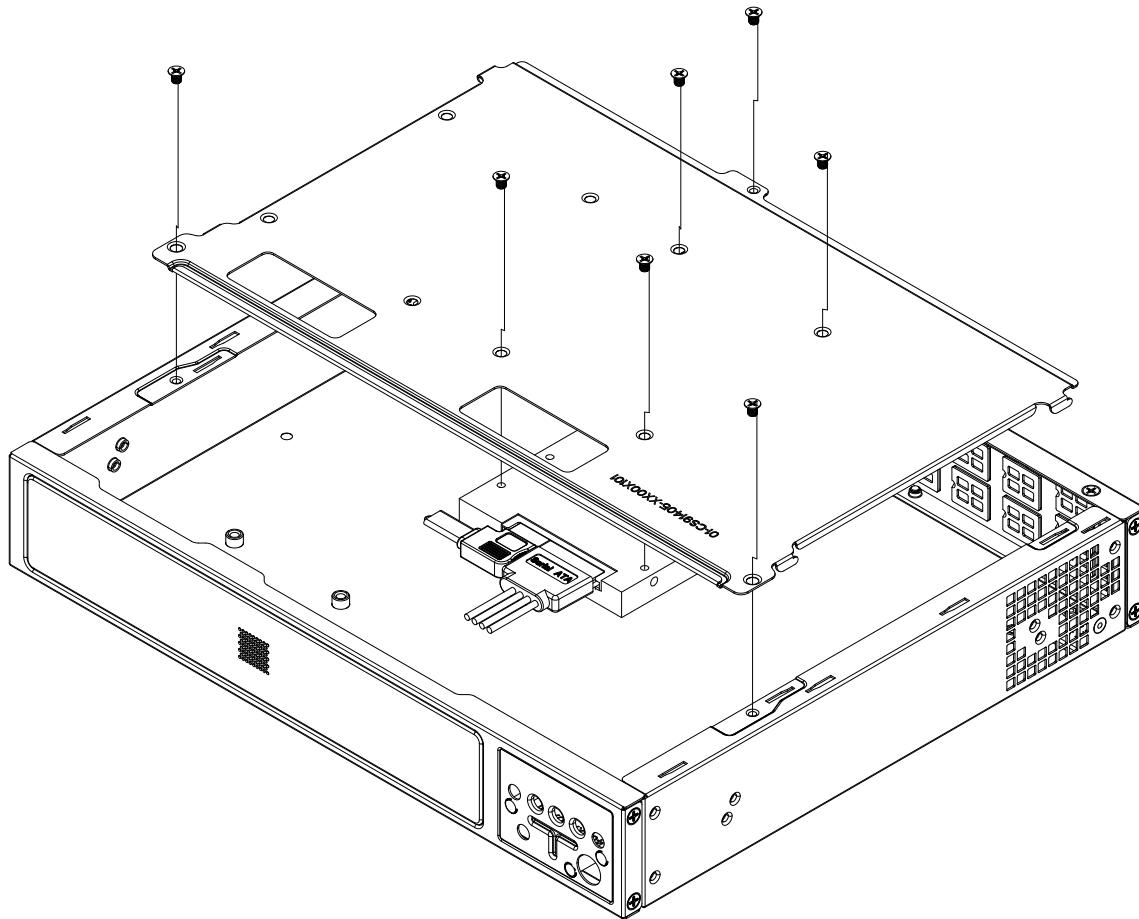
**Note:** Handle used batteries carefully. Do not damage the battery in any way; a damaged battery may release hazardous materials into the environment. Do not discard a used battery in the garbage or a public landfill. Please comply with the regulations of your local hazardous waste management agency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

## 2.4 Chassis Components

### Installing the Storage Drive

The SCE300 can accommodate a single fixed 2.5" storage drive of 9.5 mm thickness. It is installed to a mounting tray inside the chassis. Use an enterprise quality drive.



**Figure 2-4. Installing the Hard Drive**

### *Installing the Hard Drive*

The motherboard should be installed before installing the drive.

1. Make sure there is no power to the system as described in section 2.1 and remove the chassis cover.
2. Remove the screws securing the hard drive tray to the support bracket and set them aside for later use. Lift the tray out.
3. Place the drive into the tray and secure it to the tray with the screws provided with drive.

4. Return the drive tray assembly into the chassis, aligning the tabs of the tray with the slots in the chassis. Secure the tray to the chassis support bracket with the screws previously set aside.
5. Attach the cable SATA connector and to the motherboard connector. This cable carries both the SATA signal and the SATA power.
6. Reinstall the chassis cover and power up the system.

## Installing the Riser Card

The system can support one PCIe x8 expansion card by means of an optional riser card. The riser card is inserted in the expansion slot on the motherboard. Installation of the riser card and riser card bracket is pictured below.

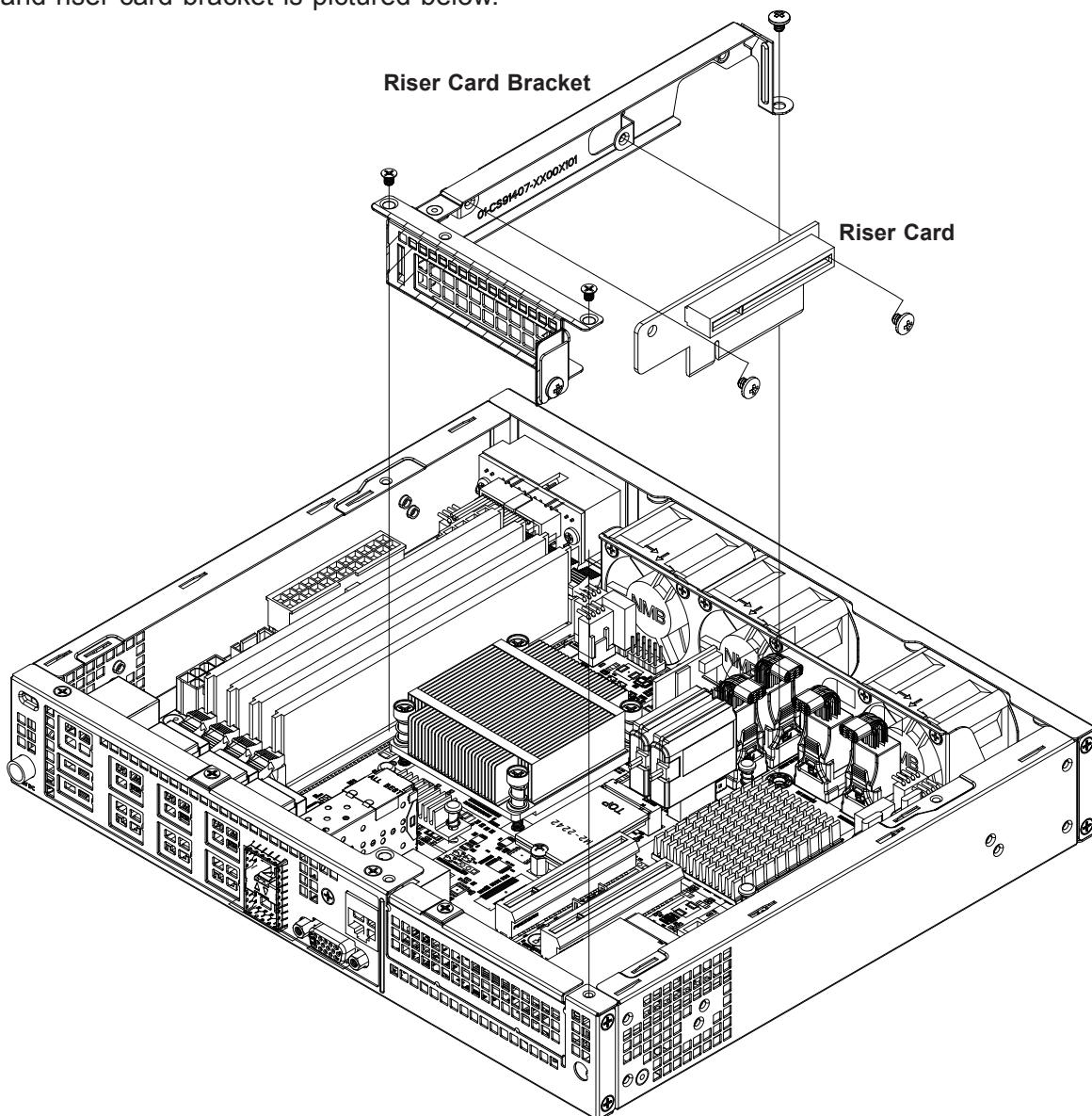


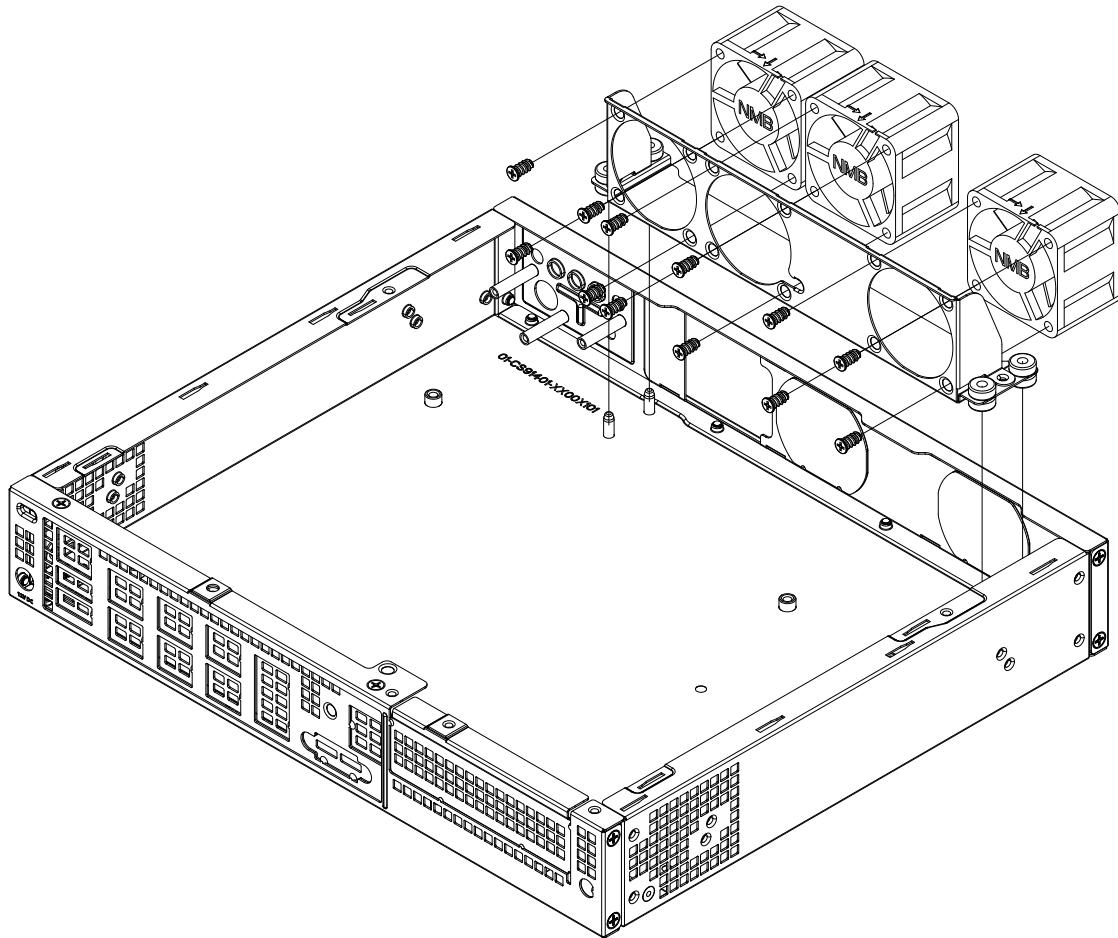
Figure 2-5. Installing the Riser Card

## System Cooling

The SCE300 includes two replaceable 4-cm fans. An optional third fan can be purchased.

### ***Replacing the System Fan***

1. Power down the system as described in section 2.1 and remove the AC power cord and the chassis cover.
2. Remove the failed fan power cable from motherboard.
3. Remove the screws securing the fan to the chassis wall and save them.
4. Lift the fan out of the chassis.
5. Align the replacement fan with the holes in the wall of the chassis.
6. Secure the fan to the chassis wall using the screws previously set aside.
7. Reconnect the fan cable to motherboard.
8. Reinstall the chassis top cover, reconnect the AC power cord and power up the system.



---

**Figure 2-6. System Fans (third fan optional)**

# Chapter 3

## Motherboard Connections

This section describes the connections on the X10SDV-TP8F 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.

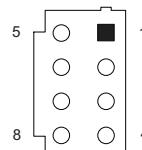
### 3.1 Power Connections

#### ATX PWR, DC PWR and HDD PWR Connectors (JPW1, JPV1, JPH1)

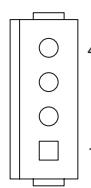
The 24-pin ATX power connector header (JPW1) provides power to the motherboard. The 12V DC power connector (JPV1) provides alternative power for a special enclosure when the 24-pin ATX power is not in use. (Do not use both.) The 4-pin power connector (JPH1) provides power to onboard HDD devices.

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

**Note:** Do not use the 8-pin DC power at JPV1 when the 24-pin ATX Power at JPW1 is connected to the power supply. Do not plug in both JPV1 and JPW1 at the same time.



8-pin DC Power Pin Definitions (JPV1)	
Pin#	Definition
1-4	GND
5-8	12V



4-Pin HDD Power Pin Definitions (JPH1)	
Pin#	Definition
1	12V
2-3	GND
4	5V

## 3.2 Headers and Connectors

### Fan Headers

This motherboard has six 4-pin fan headers. Although pins 1-3 of the fan headers are backward compatible with the traditional 3-pin fans, you can use 4-pin fans to take advantage of the fan speed control via Pulse Width Modulation through the BMC. This allows the fan speeds to be automatically adjusted based on the motherboard temperature.

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

### Chassis Intrusion

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

Chassis Intrusion Pin Definitions	
Pins	Definition
1	Intrusion Input
2	Ground

### System Management Bus Header

A System Management Bus header for IPMI 2.0 is located at JIPMB1. Connect the appropriate cable here to use the IPMI I<sup>2</sup>C connection on your system.

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

### Disk-On-Module Power Connector

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

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

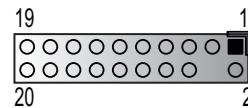


DOM Power Pin Layout

### TPM Header

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

Trusted Platform Module Header Pin Definitions			
Pin#	Definition	Pin#	Definition
1	LCLK	2	GND
3	LFRAFME#	4	No Pin
5	LRESET#	6	+5V (X)
7	LAD3	8	LAD2
9	3.3V	10	LAD1
11	LAD0	12	GND
13	NC	14	NC
15	+3V_DUAL	16	SERIRQ
17	GND	18	GND
19	P3V3_STBY	20	NC



JTPM1 Pin Layout

### Overheat/Fan-Fail LED Header

The JOH1 header is used to connect an LED indicator to provide warnings of chassis overheating

Overheat LED Pin Definitions	
Pin #	Definition
1	3.3V
2	OH Active

OH/Fan Fail LED Status Definitions	
State	Message
Off	Normal
Solid	Overheat

## Standby Power

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

Standby Power Pin Definitions	
Pin#	Definition
1	+5V Standby
2	Ground
3	No Connection

## Speaker

On the JD1 header, pins 1-3 can be used for the power LED while pins 4-7 can be used for an external speaker.

Speaker Connector Pin Definitions	
Pin#	Definition
1-3	Power LED
4-7	Speaker

## SGPIO

The Serial Link General Purpose Input/Output (SGPIO) header is used to communicate with the enclosure management chip in the system.

Serial Link General Purpose Headers Pin Definitions			
Pin#	Definition	Pin	Definition
1	NC	2	NC
3	Ground	4	DATA Out
5	Load	6	Ground
7	Clock	10	NC

## General Purpose I/O Header

The JGP1 header is a general purpose I/O on a pin header.

GPIO Expander Pin Definitions			
Pin#	Definition	Pin	Definition
1	P3V3	2	GND
3	GP0	4	GP1
5	GP2	6	GP3
7	GP5	8	GP5
9	GP6	10	GP7

### Power SMBus (I<sup>2</sup>C) Connector

Power System Management Bus (I<sup>2</sup>C) Connector (JPI2C1) monitors the power supply, fan and system temperatures.

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

### System Management Bus Header

A PCH System Management Bus header for additional slave devices or sensors is located at JSMB1.

SMBus Header Pin Definitions	
Pin#	Definition
1	Data
2	Ground
3	Clock

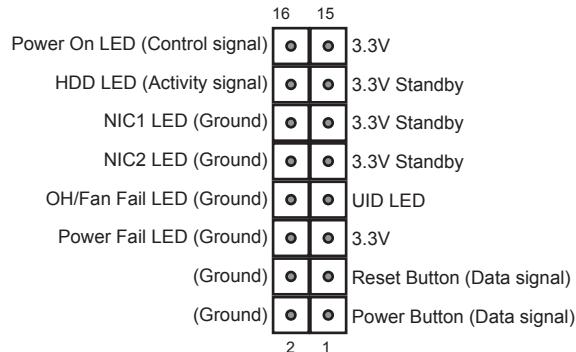
### NVMe I2C Header

Connector JNVI2C is a management header for the Supermicro AOC NVMe PCI-E peripheral cards. Connect the I<sup>2</sup>C cable to this connector.

## Control Panel

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

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



**Figure 4-1. JF1: Control Panel Pins**

### Power Button

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

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

### Reset Button

The Reset Button connection is located on pins 3 and 4 of JF1. Attach it to a hardware reset switch on the computer case.

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

### Power Fail LED

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

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

### Overheat (OH)/Fan Fail

Connect an LED cable to pins 7 and 8 of JF1 (Front Control Panel) to use the Overheat/Fan Fail and UID LED connections. The blue LED on pin 7 works as the front panel UID LED indicator. The red LED on pin 8 provides warnings of overheating, fan failure or power failure. The red LED takes precedence over the blue LED by default.

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

Pin 8 Indicator Status	
Status	Definition
Off	Normal
On	Overheat
Flashing	Fan fail

### NIC1/NIC2 (LAN1/LAN2)

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

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

### HDD LED/UID Switch

The HDD LED connection is located on pins 13 and 14 of JF1. Attach a cable here to indicate the status of HDD-related activities, including SATA activities.

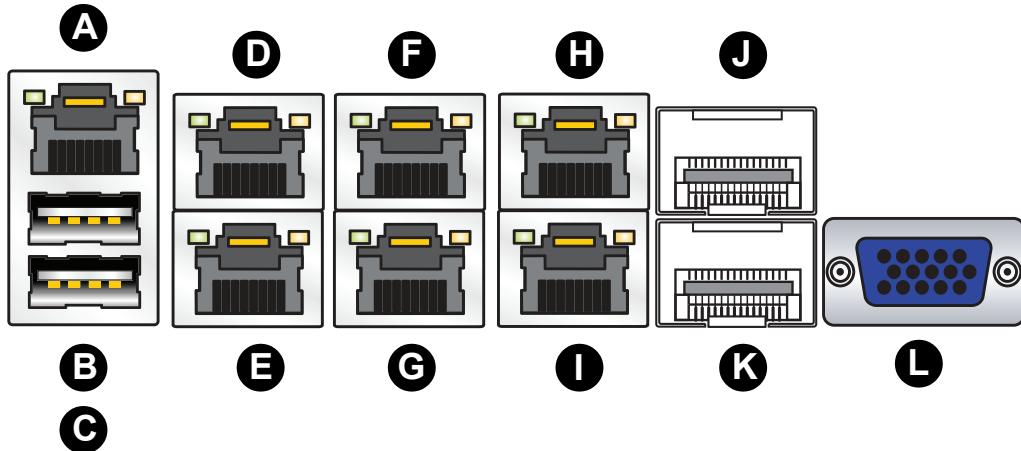
HDD LED Pin Definitions (JF1)	
Pin#	Definition
13	3.3V Standby/UID Switch
14	HDD Active

### Power LED

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

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

### 3.3 Ports



**Figure 3-1. Rear Input/Output Ports**

Rear Panel I/O		
A. IPMI LAN	E. LAN Port 1	I. LAN Port 5
B. USB Port 1	F. LAN Port 4	J. LAN Port 8 (SFP+)
C. USB Port 0	G. LAN Port 3	K. LAN Port 7 (SFP+)
D. LAN Port 2	H. LAN Port 6	L. VGA Port

#### Ethernet Ports

Six gigabit Ethernet ports, two 10G Ethernet ports, and an IPMI LAN port are located on the I/O back panel to provide network connections. These ports accept RJ45 type cables.

#### Universal Serial Bus (USB) Ports

Two USB 3.0 ports (USB0/1) are located on the I/O back panel. Two USB 2.0 headers (USB2/3, 4/5) are on the motherboard to provide front panel access. USB cables are not included.

#### VGA Port

The VGA controller is from AST2400 mainly for BMC KVM (Keyboard, Video and Mouse) remote control purpose.

#### Unit Identifier Switch

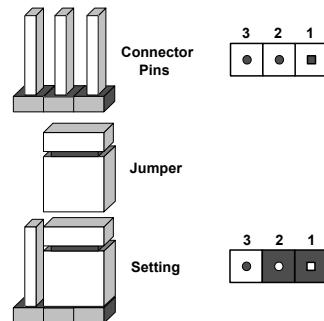
UID Indicators provide easy identification of a system that may be in need of service. The UID switch is located next to the VGA port on the back panel. The rear UID LED (LED7) is located next to the UID Switch; the front UID LED is on the control panel. When you press the UID switch, both rear UID LED and front panel UID LED Indicators are toggled on or off. UID can also be triggered using IPMI.

## 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. Remove the screwdriver (or shorting device).
6. Replace the cover, reconnect the power cord(s) and power on the system.



JBT1 contact pads

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

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

### VGA Enable/Disable

Jumper JPG1 allows you to enable or disable the VGA port using the onboard graphics controller. The default setting is Enabled.

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

### PCI-E Slot SMB Enable

I2C1/I2C2 are used to enable PCI-E SMB (System Management Bus) support to improve system management for the onboard PCI-E slot.

SMB to PCI-E Slots (I <sup>2</sup> C1/I <sup>2</sup> C2) Jumper Settings	
Jumper Setting	Definition
Pins 1-2	Enabled
Pins 2-3	Disabled (Default)

### Watch Dog

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

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

### BMC Enabled

JPB1 allows you to enable the BMC (Baseboard Management Control) chip and the onboard IPMI connection for debugging purpose only. After the BMC is disabled, IPMI health and remote management functions are no longer supported. **Note:** Keep BMC enabled to make sure that the platform operates reliably with the health monitor.

BMC Enabled Jumper Settings	
Pin#	Definition
1-2	Enabled (Default)
2-3	Disabled

### USB Wake-Up

Use the JPUSB1 jumper to enable the function of "System Waking-Up via USB devices" for USB0/1. This jumper allows you to "wake-up" the system by pressing a key on the USB keyboard or by clicking the USB mouse of your system. The JPUSB1 jumper is used together with the USB Wake-Up function in the BIOS. Enable both the jumper and the BIOS setting to enable this function.

USB Wake-up Jumper Settings	
Pin#	Definition
1-2	Enabled (Default)
2-3	Disabled

### Management Engine (ME) Recovery

Use JPME1 to select ME Firmware Recovery mode, which will limit resource allocation for essential system operation only in order to maintain normal power operation and management. In the single operation mode, online upgrade will be available via Recovery mode.

ME Recovery Jumper Settings	
Pin#	Definition
1-2	Normal (Default)
2-3	ME Recovery

### Manufacturing Mode Select

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

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

### BIOS Recovery

Close pins 2 and 3 of jumper JBR1 for BIOS recovery. The default setting is on pins 1 and 2 for normal operation.

BIOS Recovery Jumper Settings	
Pin#	Definition
1-2	Normal
2-3	BIOS Recovery

### Gigabit LAN Ports Enable/Disable

Jumpers JPL1 and JPL2 are used to enable or disable LAN ports 1 and 2, respectively. Use JPL3 to enable or disable LAN ports 3, 4, 5, and 6. The default setting is enabled.

GbE LAN Enable Jumper Settings	
Pin#	Definition
1-2	Enabled (Default)
2-3	Disabled

### 10G LAN Ports Enable/Disable

JPTG1 is used to enable or disable the 10 Gigabit Ethernet ports.

10Gb Enable/Disable Jumper Settings	
Pin#	Definition
1-2	Enabled (Default)
2-3	Disabled

## 3.5 LED Indicators

### LAN LEDs

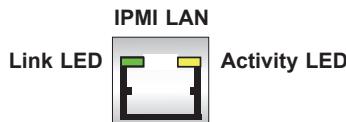
The Ethernet ports (two 1GbE and/or two 10GbE) have two LEDs. On each port, one LED indicates activity when flashing while the other LED may be green, amber or off to indicate the speed of the connection.

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

10GbE LAN LEDs (Connection Speed Indicator)	
LED Color	Definition
Off	No connection or 10 Mb/s
Green	10 Gb/s
Amber	1 Gb/s

### IPMI-Dedicated LAN LEDs

A dedicated IPMI LAN is also included on the motherboard. The amber LED on the right of the IPMI LAN port indicates activity, while the green LED on the left indicates the speed of the connection. See the table below for more information.



IPMI LAN LEDs		
Color	Status	Definition
Off	Off	No Connection
Green: Solid	Link/Speed (Left)	100 Mb/s
Amber	Activity (Right)	Active

### Main Power LED

A Main Power LED is located at LED3 on the motherboard. When this LED is on, the system power is on.

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

### BMC Heartbeat LED

LEDM1 is the BMC heartbeat LED. When the LED is blinking green, BMC is functioning normally.

Onboard Power LED Indicator	
LED Color	Definition
Green: Blinking	BMC Normal

### Overheat/PWR Fail/Fan Fail LED

An onboard Overheat/PWR Fail/Fan Fail LED is located at LED8.

Indicator Status	
Status	Definition
Off	Normal
On	Overheat
Flashing	Fan or power fail

### Unit Identifier LEDs

UID Indicators provide easy identification of a system that may be in need of service. The UID switch is located next to the VGA port on the back panel. The rear UID LED (LED7) is located next to the UID Switch; the front UID LED is on the control panel. When you press the UID switch, both rear UID LED and front panel UID LED Indicators are toggled on or off. UID can also be triggered using IPMI.

## 3.6 SATA Connections

### SATA Ports

There are six SATA 3.0 ports on the motherboard. I-SATA0 and I-SATA1 have built-in power pins to support Supermicro's SATA DOM (Disk On Module) solutions.

### M.2 Socket

M.2 is formerly known as Next Generation Form Factor (NGFF). The JMD1 connector is designed for internal mounting devices. The motherboard deploys an M key only dedicated for SSD devices with the ultimate performance capability in a PCI Express 3.0 x4 interface for native PCIe SSD support. The X10SDV M.2 is mux with the I-SATA4 port for legacy SATA SSD devices.

### Mini PCI-E Slot

The JMP1 connector is a mini PCI-E 2.0 x1 slot that is mux with I-SATA5.

# Chapter 4

## Software

This section describes the installation of drivers and management programs for the system.

### 4.1 Driver Installation

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

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

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

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

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

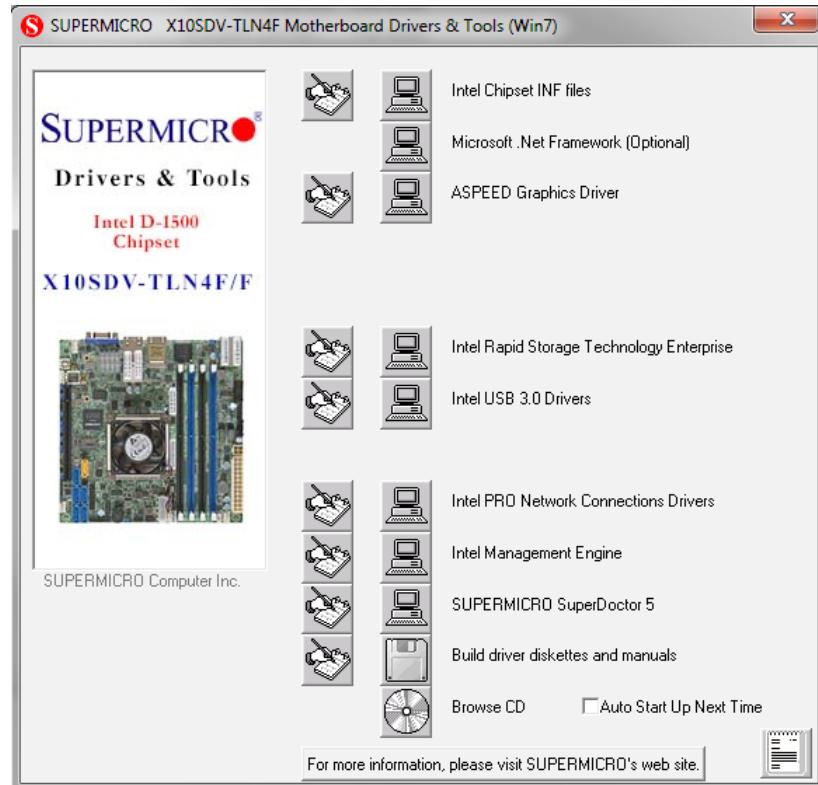


Figure 4-1. Driver & Tool Installation Screen

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

## 4.2 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.

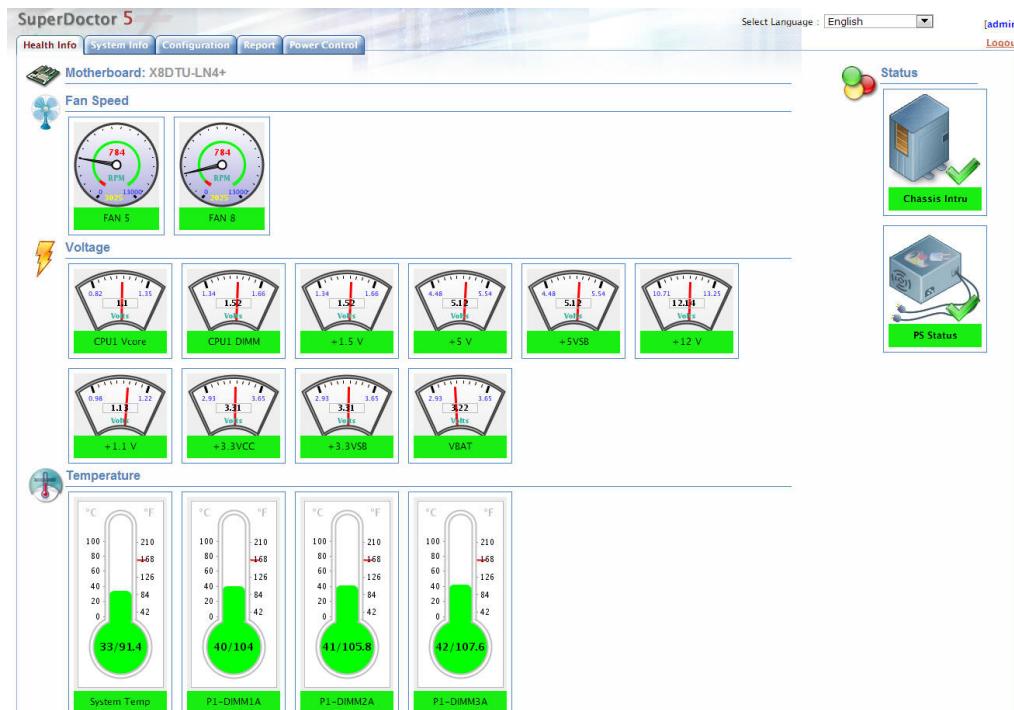


Figure 4-2. SuperDoctor 5 Interface Display Screen (Health Information)

## 4.3 IPMI

The X10SDV-TP8F supports the Intelligent Platform Management Interface (IPMI) v2.0. IPMI is used to provide remote access, monitoring and management. There are several BIOS settings that are related to IPMI.

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

# Chapter 5

## BIOS

### 5-1 Introduction

This chapter describes the AMI BIOS setup utility for the X10SDV-TP8F. The AMI ROM BIOS is stored in a Flash EEPROM and can be easily updated. This chapter describes the basic navigation of the AMI BIOS utility setup screens.

**Note:** For AMI BIOS Recovery, please refer to the UEFI BIOS Recovery Instructions in Appendix B.

#### Starting BIOS Setup Utility

To enter the AMI BIOS setup utility screens, press the <Del> key while the system is booting up.

**Note:** In most cases, the <Del> key is used to invoke the AMI BIOS setup screen. There are a few cases when other keys are used, such as <F3>, <F4>, etc.

Each main BIOS menu option is described in this manual. The Main BIOS setup menu screen has two main frames. The left frame displays all the options. Options that cannot be configured are gray. Options in blue can be configured by the user. The right frame displays the key legend. Above the key legend is an area reserved for informational text. When an option is selected in the left frame, it is highlighted in white. Often informational text will accompany it.

**Note:** The AMI BIOS has default informational messages built in. The manufacturer retains the option to include, omit, or change any of these informational messages.

The AMI BIOS setup utility uses a key-based navigation system called "hot keys." Most of the AMI BIOS setup utility "hot keys" can be used at any time during setup navigation. These keys include <F3>, <F4>, <Enter>, <ESC>, arrow keys, etc.

**Note 1:** Options printed in **Bold** are default settings.

#### How To Change the Configuration Data

The configuration data that determines the system parameters may be changed by entering the AMI BIOS setup utility. This setup utility can be accessed by pressing <Delete> at the appropriate time during system boot.

**Note:** For AMI UEFI BIOS Recovery, please refer to the UEFI BIOS Recovery User Guide posted @ <http://www.supermicro.com/support/manuals/>.

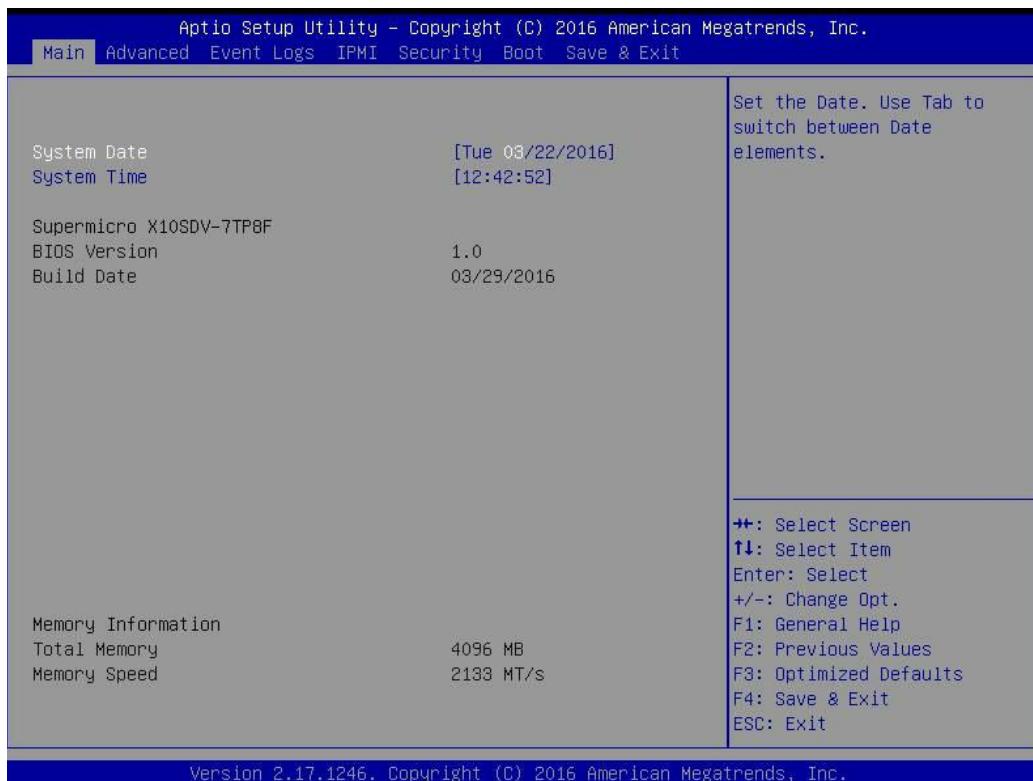
## Starting the Setup Utility

Normally, the only visible Power-On Self-Test (POST) routine is the memory test. As the memory is being tested, press the <Delete> key to enter the main menu of the AMI BIOS setup utility. From the main menu, you can access the other setup screens. An AMI BIOS identification string is displayed at the left bottom corner of the screen below the copyright message.

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

## 5-2 Main Page

When you first enter the AMI BIOS setup utility, you will enter the Main setup screen. You can always return to the Main setup screen by selecting the Main tab on the top of the screen. The Main BIOS Setup screen is shown below.



The following Main menu items are displayed:

**System Date/System Time**

Use this item to change the system date and time. Highlight *System Date* or *System Time* using the arrow keys. Enter new values using the keyboard. Press the <Tab> key or the arrow keys to move between fields. The date must be entered in Day MM/DD/YY 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.

**Supermicro X10SDV-TP8F****BIOS Version**

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

**Build Date**

This item displays the date that the BIOS setup utility was built.

**Memory Information****Total Memory**

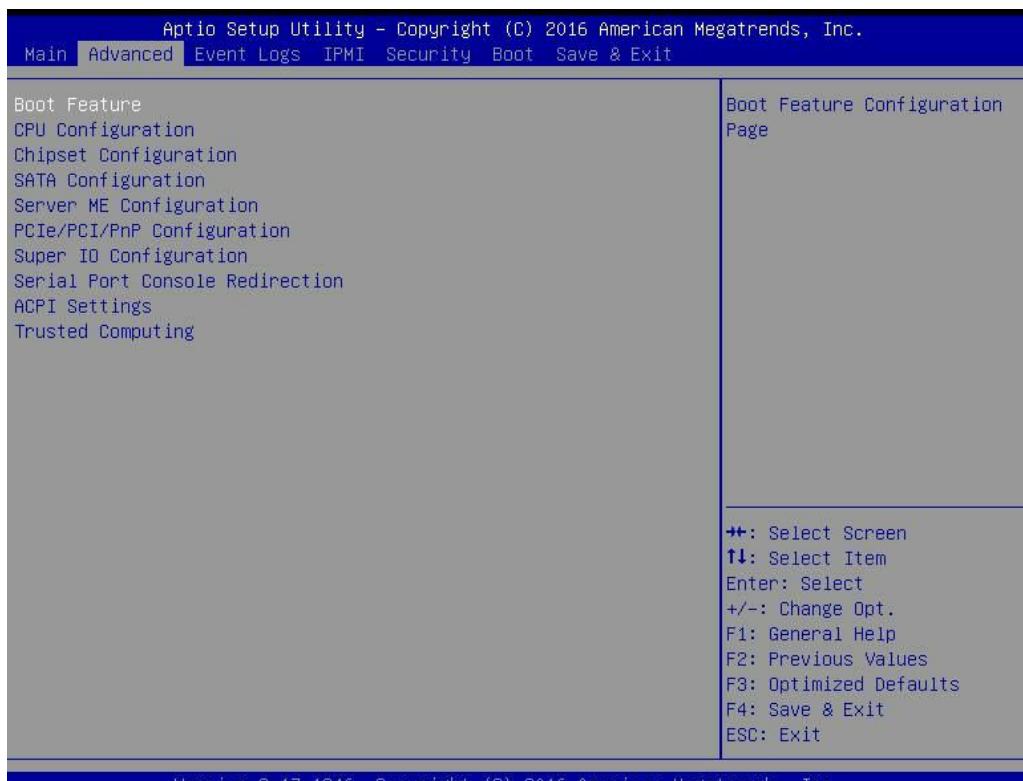
This displays the amount of memory that is available in the system.

**Memory Speed**

This displays the detected system memory speed.

## 5-3 Advanced Setup Configurations

Use this tab page to set some boot, power, CPU, SATA, server ME, and input/output settings.



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

### ►Boot Features

#### Quiet Boot

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

#### AddOn ROM Display Mode

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

#### Bootup NumLock State

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

### **Wait For 'F1' If Error**

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

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

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

### **Re-try Boot**

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

## **►Power Configuration**

### **Watch Dog Function**

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

### **Power Button Function**

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

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

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

## **►CPU Configuration**

The following CPU information will be displayed:

- Processor ID
- Processor Frequency

- Processor Max Ratio
- Processor Min Ratio
- Microcode Revision
- L1 Cache RAM
- L2 Cache RAM
- L3 Cache Ram
- CPU Version

### Clock Spread Spectrum

If this feature is set to Enabled, the BIOS utility will monitor the level of Electromagnetic Interference caused by the components and will attempt to reduce the interference whenever needed. The options are **Disable** and **Enable**.

### Hyper-Threading (ALL)

Select Enable to use Intel Hyper-Threading Technology to enhance CPU performance. The options are **Disable** and **Enable**.

### Cores Enabled

Set a numeric value to enable the number of cores. (Please refer to Intel's website for more information.) Enter **0** to enable all cores.

### Monitor/Mwait

Select Enabled to enable the Monitor/MWait instructions. The Monitor instruction monitors a region of memory for writes, and MWait instructions instruct the CPU to stop until the monitored region begins to write. The options are **Disable** and **Enable**.

### Execute Disable Bit (Available if supported by the OS & the CPU)

Select Enabled to enable the Execute-Disable Bit which will allow the processor to designate areas in the system memory where an application code can execute and where it cannot, thus preventing a worm or a virus from flooding illegal codes to overwhelm the processor or damage the system during an attack. The default is **Enable**. (Refer to the Intel® and Microsoft® websites for more information.)

### PPIN Control

Select Unlock/Enable to use the Protected-Processor Inventory Number (PPIN) in the system. The options are **Unlock/Enable** and **Unlock/Disable**.

**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 Disable and **Enable**.

**Adjacent Cache 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 **Enable**.

**DCU Streamer Prefetcher (Available when supported by the CPU)**

Select Enabled to enable the DCU (Data Cache Unit) Streamer Prefetcher which will stream and prefetch data and send it to the Level 1 data cache to improve data processing and system performance. The options are Disable and **Enable**.

**DCU IP Prefetcher (Available when supported by the CPU)**

Select Enabled for DCU (Data Cache Unit) IP Prefetcher support, which will prefetch IP addresses to improve network connectivity and system performance. The options are Disable and **Enable**.

**Direct Cache Access (DCA)**

Select Enabled to use Intel's DCA (Direct Cache Access) Technology to improve data transfer efficiency. The options are Disable, Enable, and **Auto**.

**Intel Virtualization Technology (Available when supported by the CPU)**

Select Enabled to support Intel Virtualization Technology, which will allow one platform to run multiple operating systems and applications in independent partitions, creating multiple "virtual" systems in one physical computer. The options are Disable and **Enable**.

**Note:** If a change is made to this setting, you will need to reboot the system for the change to take effect. Refer to Intel's website for detailed information.

## ►Advanced Power Management Configuration

This section is used to configure the following CPU Power Management settings.

**EIST (P-States)**

EIST (Enhanced Intel SpeedStep Technology) allows the system to automatically adjust processor voltage and core frequency to reduce power consumption and heat dissipation. The options are Disable and **Enable**.

*If the above is set to Enable, CPU P State will display:*

## ►CPU P State Control

### P State Domain

This feature allows the user to indicate the P-State domain for each logical process in the system. All processes indicate the same domain in the same package. The options are **ALL** and **ONE**.

### P-State Coordination

This feature allows the user to change the P-State (Power-Performance State) coordination type. P-State is also known as "SpeedStep" for Intel processors. Select **HW\_ALL** to change the P-State coordination type for hardware components only. Select **SW\_ALL** to change the P-State coordination type for all software installed in the system. Select **SW\_ANY** to change the P-State coordination type for a software program in the system. The options are **HW\_All**, **SW\_ALL**, and **SW\_ANY**.

### Energy Efficient P-State

Select **Enable** to support power-saving mode for P-State. The options are **Disable** and **Enable**.

### 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 **Max Performance** and **Max Efficient**.

### Turbo Mode

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

## ►CPU HWPM State Control

### Enable CPU HWPM

Select **Enable** for better CPU energy performance. The options are **Disable**, **HWPM NATIVE MODE**, and **HWPM OOB MODE**.

### Enable CPU Autonomous Cstate

Use this feature to enable CPU Autonomous C State, which converts HALT instructions to Mwait. The options are **Disable** and **Enable**.

## ►CPU C State Control

### CPU C State

Use this feature to enable the enhanced C State of the CPU. The options are **Disable** and **Enable**.

### Package C State Limit

This feature allows the user to set the limit on the C State package register. The options are C0/C1 State, C2 State, C6 (Non Retention) State, and **C6 (Retention) state**.

### CPU C3 Report

Select Enabled to allow the BIOS to report the CPU C3 State (ACPI C2) to the operating system. During the CPU C3 State, the CPU clock generator is turned off. The options are **Enable** and **Disable**.

### CPU C6 Report

Select Enabled to allow the BIOS to report the CPU C6 State (ACPI C3) to the operating system. During the CPU C6 State, the power to all cache is turned off. The options are **Disable** and **Enable**.

### Enhanced Halt State (C1E)

Select Enabled to use Enhanced Halt-State technology, which will significantly reduce the CPU's power consumption by reducing the CPU's clock cycle and voltage during a Halt-state. The options are **Disable** and **Enable**.

## ►CPU T State Control

### ACPI (Advanced Configuration Power Interface) T-States

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

### CPU Advanced PM Turning

### Energy Perf BIAS

#### Energy Performance Tuning

When enabled, this item selects whether the BIOS or Operating System can turn on the energy performance bias tuning. The options are **Disable** and **Enable**.

*If the above is set to Disable, Energy Performance BIAS Setting will display:*

#### **Energy Performance BIAS Setting**

This feature allows balancing Power Efficiency vs Performance. This will override whatever setting is in the Operating System. The options are Performance, **Balanced Performance**, Balanced Power, and Power.

#### **Power/Performance Switch**

This feature allows dynamic switching between Power and Performance power efficiency. The options are Disable and **Enable**.

#### **Workload Configuration**

This feature allows for optimization of workload. Balanced is recommended. The options are **Balanced** and I/O Sensitive.

### **□ Program PowerCTL\_MSR**

#### **PKG C-state Lat. Neg.**

Use this feature to indicate whether latency should be negotiated with PCH for packaging C-States. The options are **Enable** and Disable.

#### **SAPM Control**

This feature indicates whether the PCU should control the System Agent PM using its power-performance tuning algorithm. The options are **Enable** and Disable.

#### **Energy Efficient Turbo**

Use this feature to enable energy efficient turbo mode. The options are **Enable** and Disable.

### **□ DRAM RAPL Configuration**

#### **Override BW\_LIMIT\_TF**

This feature allows the user to turn off the "Override BW\_LIMIT\_TF (Time Frame)" setting when the item "Running Average Limit for DRAM modules" (DRAM RAPL) is set to Enabled so that the DRAM RAPL setting can work properly. The default setting is **1**.

#### **DRAM RAPL Extended Range**

Use this feature to set the DRAM Running Average Power Limit (RAPL) Extended Range. The options are Disable and **Enable**.

## ►Chipset Configuration

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

### ►North Bridge

This feature allows the user to configure the following North Bridge settings.

#### ►IIO Configuration

##### EV DFX (Device Function On-Hide) Features

When this feature is set to Enable, the EV\_DFX Lock Bits that are located on a processor will always remain clear during electric tuning. The options are **Disable** and **Enable**.

#### ►IIO1 Configuration

##### M.2 PCI-E 3.0 X4

This item configures the link speed of the PCI-E port specified by the user. The options are Gen 1 (Generation 1) (2.5 GT/s), Gen 2 (Generation 2) (5 GT/s), and **Gen 3 (Generation 3) (8 GT/s)**.

##### CPU SLOT 6 PCI-E 3.0 X8

This item configures the link speed of the PCI-E port specified by the user. The options are Gen 1 (Generation 1) (2.5 GT/s), Gen 2 (Generation 2) (5 GT/s), and **Gen 3 (Generation 3) (8 GT/s)**.

##### CPU SLOT 7 PCI-E 3.0 X8

This item configures the link speed of the PCI-E port specified by the user. The options are Gen 1 (Generation 1) (2.5 GT/s), Gen 2 (Generation 2) (5 GT/s), and **Gen 3 (Generation 3) (8 GT/s)**.

### ►IOAT (Intel IO Acceleration) Configuration

#### Enable IOAT

Select Enable to enable Intel I/OAT (I/O Acceleration Technology) support, which significantly reduces CPU overhead by leveraging CPU architectural improvements and freeing the system resource for other tasks. The options are **Disable** and **Enable**.

#### No Snoop

Select Enable to support no-snoop mode for each CB device. The options are **Disable** and **Enable**.

## ►Intel VT for Directed I/O (VT-d)

### Intel VT for Directed I/O (VT-d)

Select Enable to use Intel Virtualization Technology support 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 **Enable** and **Disable**.

### ACS Control

Use this feature to program Access Control Services (ACS) to the PCI-E Root Port Bridges. The options are **Enable** and **Disable**.

### Interrupt Remapping

Select Enable for Interrupt Remapping support to enhance system performance. The options are **Enable** and **Disable**.

## ►Memory Configuration

### Enforce POR

Select Enable to enforce POR restrictions on DDR4 frequency and voltage programming. The options are **Enabled** and **Disabled**.

### Memory Frequency

Use this feature to set the maximum memory frequency for onboard memory modules. The options are **Auto**, 1333, 1400, 1600, 1800, 1867, 2000, 2133, 2200, 2400, 2600, 2667, 2800, 2993, 3000, 3200, and Reserved (Do not select Reserved).

### Data Scrambling

Select Enabled to enable data scrambling to enhance system performance and data integrity. The options are **Auto**, **Disabled**, and **Enabled**.

### DRAM RAPL Baseline

Use this feature to set the run-time power-limit baseline for DRAM modules. The options are **Disable**, DRAM RAPL Mode 0, and **DRAM RAPL Mode 1**.

### Set Throttling Mode

Throttling improves reliability and reduces power consumption in the processor via automatic voltage control during processor idle states. The options are **Disabled** and **CLTT** (Closed Loop Thermal Throttling).

### A7 Mode

Select Enabled to support the A7 (Addressing) mode to improve memory performance. The options are **Enable** and **Disable**.

## ►DIMM Information

This item displays the status of a DIMM module specified by the user.

- DIMMA1
- DIMMB1
- DIMMA2
- DIMMB2

## ►Memory RAS (Reliability\_Availability\_Serviceability) Configuration

Use this submenu to configure the following Memory RAS settings.

### **Patrol Scrub**

Patrol Scrubbing is a process that allows the CPU to correct correctable memory errors detected on a memory module and send the correction to the requestor (the original source). When this item is set to Enabled, the IO hub will read and write back one cache line every 16K cycles, if there is no delay caused by internal processing. By using this method, roughly 64 GB of memory behind the IO hub will be scrubbed every day. The options are **Enable** and **Disable**.

### **Patrol Scrub Interval**

This feature allows you to decide how many hours the system should wait before the next complete patrol scrub is performed. Use the keyboard to enter a value from 0-24. The default setting is **24**.

### **Demand Scrub**

Demand Scrubbing is a process that allows the CPU to correct correctable memory errors found on a memory module. When the CPU or I/O issues a demand-read command, and the read data from memory turns out to be a correctable error, the error is corrected and sent to the requestor (the original source). Memory is updated as well. Select **Enable** to use Demand Scrubbing for ECC memory correction. The options are **Disable** and **Enable**.

### **Device Tagging**

Select **Enable** to support device tagging. The options are **Disable** and **Enable**.

## ►South Bridge

The following South Bridge information will display:

- USB Configuration
- USB Module Version
- USB Devices

### Legacy USB Support

This feature enables support for legacy USB devices. Select Auto to disable legacy support if USB devices are not present. Select Disable to have USB devices available only for EFI applications. The options are **Enabled**, Disabled, and Auto.

### XHCI Hand-Off

This is a work-around solution for operating systems that do not support XHCI (Extensible Host Controller Interface) hand-off. The XHCI ownership change should be claimed by the XHCI driver. The settings are **Enabled** and Disabled.

### EHCI Hand-Off

This item is for the Operating Systems that do not support Enhanced Host Controller Interface (EHCI) hand-off. When this item is enabled, EHCI ownership change will be claimed by the EHCI driver. The settings are Enabled and **Disabled**.

### USB 3.0 Support

Select Enabled for USB 3.0 support. The options are Smart Auto, **Auto**, Enabled, Disabled.

### EHCI1

Select Enabled to enable EHCI (Enhanced Host Controller Interface) support on USB 2.0 connector #1 (at least one USB 2.0 connector should be enabled for EHCI support). The options are Disabled and **Enabled**.

### EHCI2

Select Enabled to enable EHCI (Enhanced Host Controller Interface) support on USB 2.0 connector #2 (at least one USB 2.0 connector should be enabled for EHCI support). The options are Disabled and **Enabled**.

### XHCI Pre-Boot Driver

Select Enabled to enable XHCI (Extensible Host Controller Interface) support on a pre-boot drive specified by the user. The options are **Enabled** and Disabled.

## ►SATA Configuration

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

### SATA Controller

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

### Configure SATA as

Select IDE to configure a SATA drive specified by the user as an IDE drive. Select AHCI to configure a SATA drive specified by the user as an AHCI drive. Select RAID to configure a SATA drive specified by the user as a RAID drive. The options are IDE, **AHCI**, and RAID.

*\*If the item "Configure SATA as" is set to AHCI, the following items will display:*

#### SATA Frozen

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

#### SATA AHCI LPM

Use this feature to enable the Link Power Management for SATA AHCI. The options are **Disabled** and **Enabled**.

#### Support Aggressive Link Power Mgmt

When this item 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**.

#### SATA RAID Option ROM/UEFI Driver (Available if "Configure SATA As" is set to RAID)

Select Enabled to use the SATA RAID Option ROM/UEFI driver for system boot. The options are **Enabled** and **Disabled**.

#### SATA Port 0~ Port 5

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

- Model number of drive and capacity
- Software Preserve Support

#### Port 0 ~ Port 5 Hot Plug

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

#### Port 0 ~ Port 5 Spin Up Device

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

#### Port 0 ~ Port 5 SATA Device Type

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

**\*If the item "Configure SATA as" is set to IDE, the following items will display:**

#### **SATA Frozen**

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

#### **Port 0 ~ Port 5 SATA Device Type (Available when a SATA port is detected)**

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

## **►Server ME (Management Engine) Configuration**

This feature displays the following system ME configuration settings.

- General ME Configuration
- Operational Firmware Version
- ME Firmware Type
- Recovery Firmware Version
- ME Firmware Features
- ME Firmware Status #1
- ME Firmware Status #2
  - Current State
  - Error Code

## **►PCIe/PCI/PnP Configuration**

The following information will display:

- PCI Bus Driver Version
- PCI Devices Common Settings:

#### **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 **Enabled** and **Disabled**.

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

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

**SR-IOV (Available if the system supports Single-Root Virtualization)**

Select Enabled for Single-Root IO Virtualization support. The options are **Disabled** and Enabled.

**Maximum Payload**

Use this feature to select the setting for the PCI Express maximum payload size. The options are **Auto**, 128 Bytes, 256 Bytes, 512 Bytes, 1024 Bytes, 2048 Bytes, and 4096 Bytes.

**Relaxed Ordering**

Select Enable to enable Relaxed Ordering support which will allow certain transactions to violate the strict-ordering rules of PCI bus for a transaction to be completed prior to other transactions that have already been enqueued. The options are **Disabled** and Enabled.

**Extended Tag**

Use this item to allow a device to use the 8-bit tag field as a requester. The options are **Disabled** and Enabled.

**ARI Forwarding**

When this feature is enabled, the Downstream Port disables its traditional device number to 0 when turning Type1 Configuration Request into a Type0 Configuration Request. The default value is **Disabled**.

**M.2 PCI-E 3.0 X4**

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

**CPU SLOT 6 PCI-E 3.0 X8 OPROM**

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

**CPU SLOT 7 PCI-E 3.0 X8 OPROM**

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

**PCI-E 2.0 X1 OPROM**

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

**Onboard SAS Option ROM**

Use this feature to select which firmware to be loaded for the onboard SAS Option ROM. The options are Disabled, **Legacy**, and EFI.

**Onboard LAN Option ROM Type**

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

**Onboard LAN1 Option ROM**

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

**Onboard LAN2 ~ LAN8 Option ROM**

Use this option to select the type of device installed in the specified LAN Ports used for system boot. The options are **Disabled** and **PXE**.

**Onboard Video Option ROM**

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

**VGA Priority**

This feature allows the user to select the graphics adapter to be used as the primary boot device. The options are **Onboard** and **Offboard**.

**Network Stack**

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

**\*If "Network Stack" is set to Enabled, the four items below will become available for configuration:**

**IPv4 PXE Support**

Select Enabled to enable IPv4 PXE 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**.

**PXE boot wait time**

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

**Media detect count**

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

## ►Super IO Configuration

**Super IO Chip AST2400****►Serial Port 1 Configuration**

This submenu allows the user the configure settings of Serial Port 1 or Serial Port 2.

### Serial Port

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

### Device Settings

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

### Change Port 1 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=3F8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12), (IO=2F8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12), (IO=3E8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12) and (IO=2E8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12).

## ►Serial Port Console Redirection

### COM1 Console Redirection

#### Console Redirection

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

## ►COM1 Console Redirection Settings

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

### Terminal Type

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

### 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 BIOS POST

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

## SOL Console Redirection

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

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

## ► 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

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

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

### Redirection After BIOS POST

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

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

The submenu allows the user to configure Console Redirection settings to support Out-of-Band Serial Port management.

## EMS (Emergency Management Services) Console Redirection

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

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

#### Out-of-Band Mgmt Port

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

#### Terminal Type

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

#### Bits Per Second

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

#### Flow Control

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

#### Data Bits

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**.

## ►ACPI Settings

### WHEA Support

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

### High Precision Event Timer

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

### PCI AER Support

Select Enabled to enable the ACPI OS to manage PCI Advanced Error Reporting. The options are **Disabled** and **Enabled**.

## ►Trusted Computing

### Configuration

#### Security Device Support

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

#### TPM State

This feature changes the TPM State. The options are **Disabled** and **Enabled**.

**Note:** The system will restart to change the TPM State.

### Pending operation

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

### Device Select

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

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

#### TPM Enabled Status

#### TPM Active Status

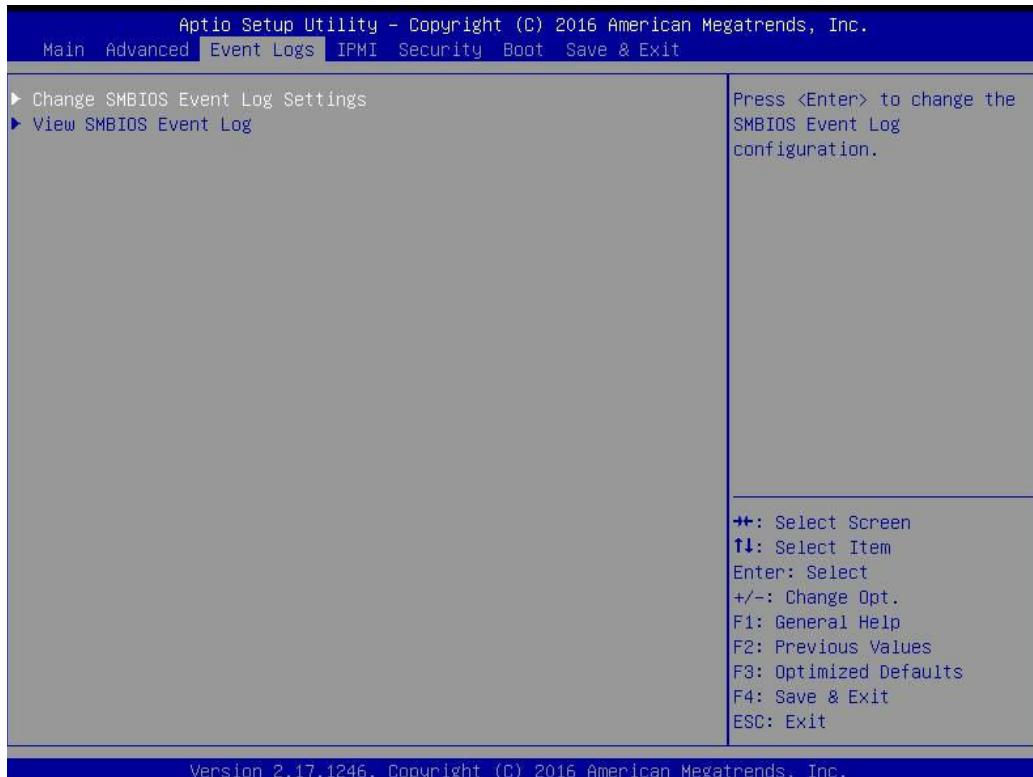
#### TPM Owner Status

### TXT Support

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

## 5-4 Event Logs

Use this tab page to manage settings for system event logs.



### ►Change SMBIOS Event Log Settings

#### Enabling/Disabling Options

##### SMBIOS Event Log

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

##### Runtime Error Logging Support

Select Enabled to support Runtime Error Logging. The options are **Enable** and **Disable**. If this item is set to Enable, the following item will be available for configuration:

##### **Memory Corrected Error Enabling (Available when the item above - Runtime Error Logging Support is set to Enable)**

Select Enable for the BIOS to correct a memory error if it is correctable. The options are **Disable** and **Enable**.

##### Memory Corr. Error Threshold

Use this item to enter the threshold value for correctable memory errors. The default setting is **10**.

### **PCI-Ex (PCI-Express) Error Enable**

Select Yes for the BIOS to correct errors occurred in the PCI-E slots. The options are Yes and **No**.

### **Erasing Settings**

#### **Erase Event Log**

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

#### **When Log is Full**

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

### **SMBIOS Event Long Standard Settings**

#### **Log System Boot Event**

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

#### **MECI**

The Multiple Event Count Increment (MECI) counter counts the number of 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 number of minutes must pass between duplicate log events before MECI is incremented. This is in minutes, from 0 to 99. The default value is **60**.

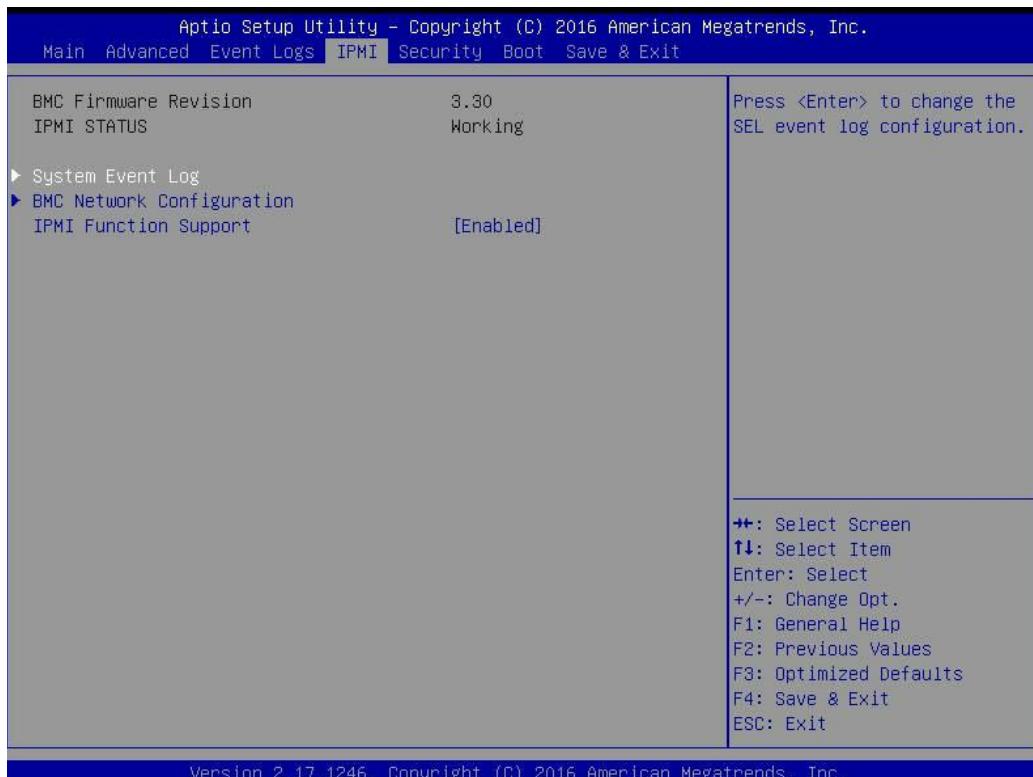
**Note:** After making changes on a setting, be sure to reboot the system for the changes to take effect.

## **►View SMBIOS Event Log**

This section displays the contents of the SMBIOS Event Log.

## 5-5 IPMI

Use this tab page to manage settings for IPMI.



### BMC Firmware Revision

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

### IPMI STATUS (Baseboard Management Controller)

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

## ▶System Event Log

### Enabling/Disabling Options

#### SEL Components

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

#### Erasing Settings

#### Erase SEL

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

### When SEL is Full

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

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

## ►BMC Network Configuration

### BMC Network Configuration

#### IPMI LAN Selection

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

#### IPMI Network Link Status

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

#### Update IPMI LAN Configuration

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

#### Configuration Address Source (Available for configuration if "Update IPMI LAN Configuration" is set to Yes)

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

#### Station IP Address

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

#### Station MAC Address

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

# Gateway IP Address

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

**VLAN (Available for configuration if "Update IPMI LAN Configuration" is set to Yes)**

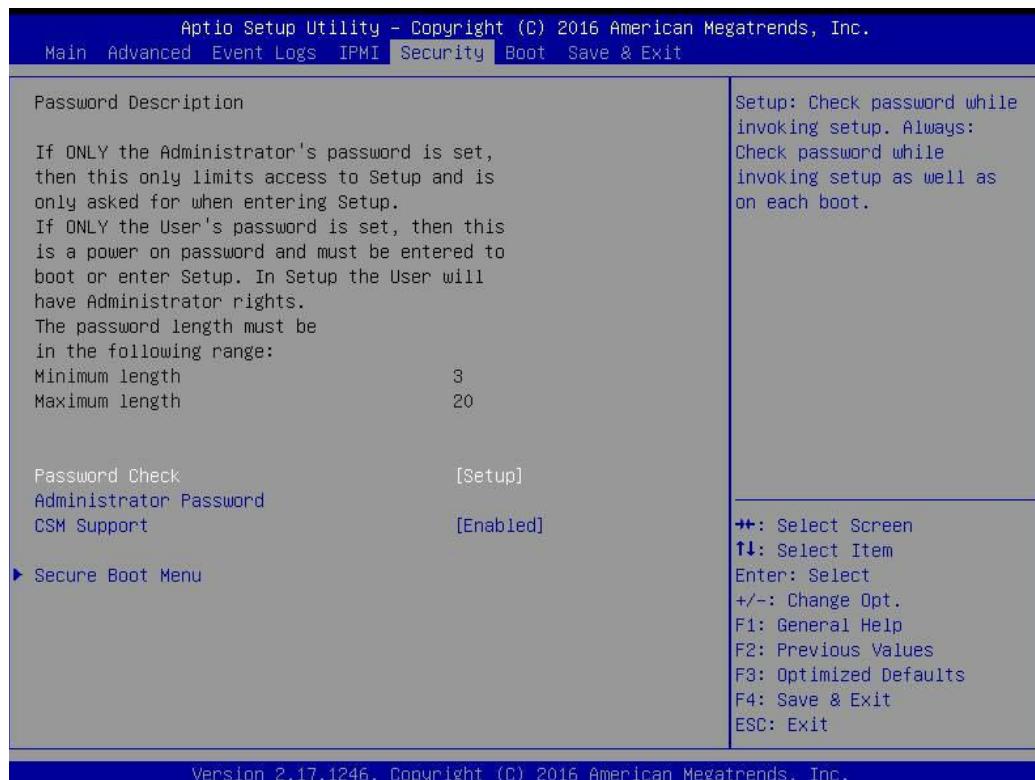
Use this feature to enable or disable the IPMI VLAN function. The options are **Disable** and **Enable**.

## IPMI Function Support

Use this feature to enable IPMI support. The options are **Enabled** and **Disabled**. When **Disabled**, the system powers on quickly by removing BIOS support for extended IPMI features. The **Disable** option is for applications that require faster power on time without using Supermicro Update Manager (SUM) or extended IPMI features. The BMC network configuration in the BIOS setup is also invalid when IPMI Function Support is disabled. The general BMC function and motherboard health monitor such as fan control are still functioning even when this option is disabled.

## 5-6 Security Settings

Use this tab page to manage security settings.



### **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.

### **CSM Support**

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

## **►Secure Boot Menu**

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

- System Mode
- Secure Boot
- Vendor Keys

### **Secure Boot**

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

### **Secure Boot Mode**

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

### **►Key Management**

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

#### **Factory Default Key Provision**

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

#### **►Enroll All Factory Default Keys**

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

#### **Save All Secure Boot Variables**

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

#### **►Platform Key (PK)**

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

### **Set New Key**

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

#### **►Key Exchange Key (KEK)**

##### **Set New Key**

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

##### **Append Key**

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

#### **►Authorized Signatures**

##### **Set New Key**

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

##### **Append Key**

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

#### **►Forbidden Signatures**

##### **Set New Key**

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

##### **Append New Key**

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

#### **►Authorized TimeStamps**

##### **Set New Key**

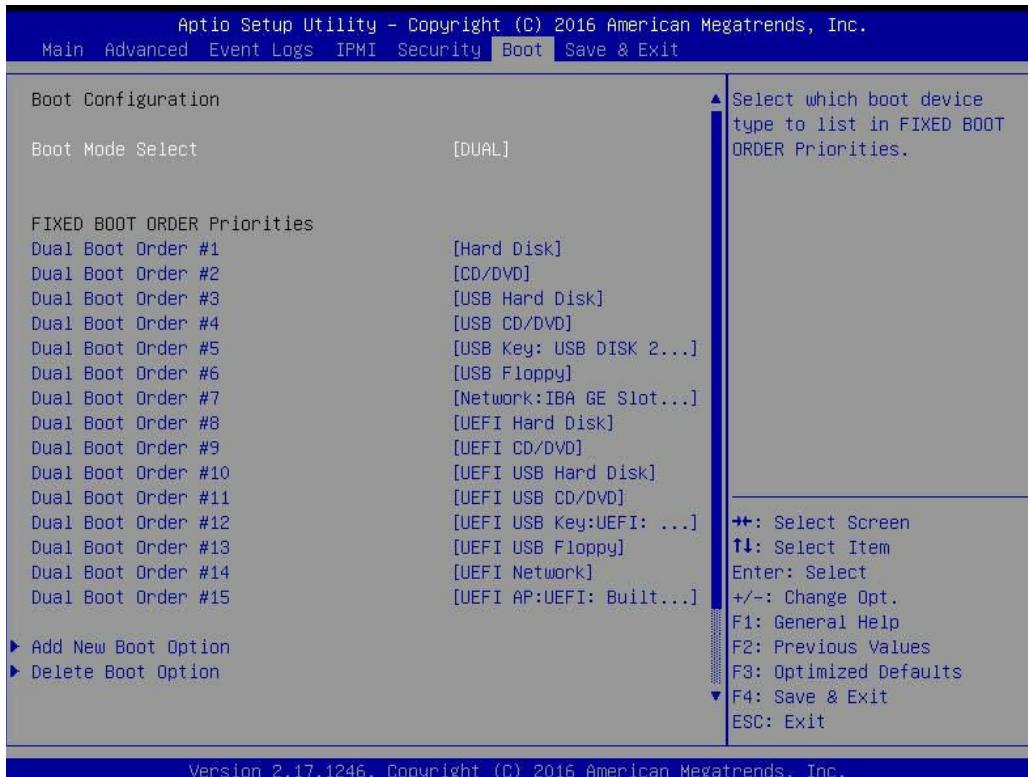
Select Yes to load the DBT from the manufacturer's defaults. Select No to load the DBT from a file. The options are Yes and No.

##### **Append Key**

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

## 5-7 Boot Settings

Use this tab page to manage boot settings.



### Boot Mode Select

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

### Fixed Boot Order Priorities

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

- Dual Boot Order #1
- Dual Boot Order #2
- Dual Boot Order #3
- Dual Boot Order #4
- Dual Boot Order #5
- Dual Boot Order #6
- Dual Boot Order #7
- Dual Boot Order #8

- Dual Boot Order #9
- Dual Boot Order #10
- Dual Boot Order #11
- Dual Boot Order #12
- Dual Boot Order #13
- Dual Boot Order #14
- Dual Boot Order #15

#### ►Delete Boot Option

Use this feature to remove a pre-defined boot device from which the system will boot during startup.

The settings are [any pre-defined boot device].

#### ►NETWORK Drive BBS Priorities

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

- Legacy Boot Order #1
- 2nd Boot Device

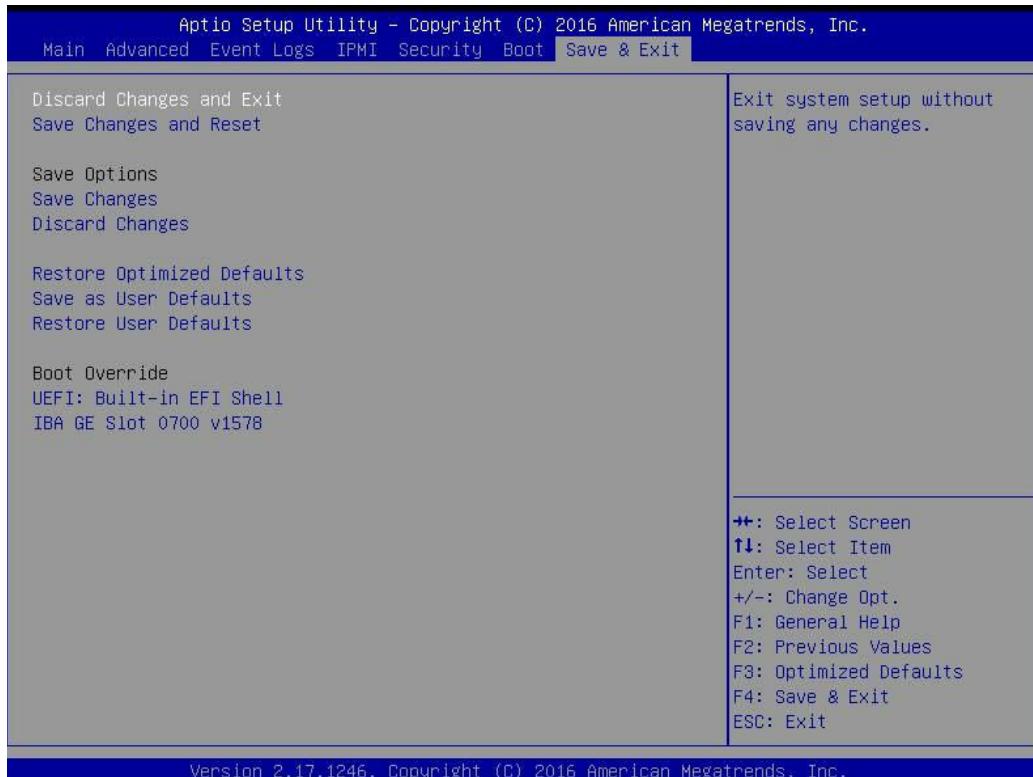
#### ►UEFI Application Boot Priorities

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

- UEFI Boot Order #1

## 5-8 Save & Exit

Use this tab page to manage your exit from the Setup Utility.



### Discard Changes and Exit

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

### Save Changes and Reset

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

### Save Options

### Save Changes

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

### Discard Changes

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

### **Restore Defaults**

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

### **Save As User Defaults**

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

### **Restore User Defaults**

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

### **Boot Override**

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

# Appendix A

## BIOS Error Codes

### A-1 BIOS Error Beep (POST) Codes

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

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

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

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

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

### A-2 Additional BIOS POST Codes

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

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

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

## Appendix B

# Standardized Warning Statements for AC Systems

### About Standardized Warning Statements

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

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

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

### Warning Definition



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

警告の定義

この警告サインは危険を意味します。

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

此警告符号代表危险。

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

此警告符號代表危險。

您正處於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 von Unfällen vertraut. Suchen Sie mit der am Ende jeder Warnung angegebenen Anweisungsnummer nach der jeweiligen Übersetzung in den übersetzten Sicherheitshinweisen, die zusammen mit diesem Gerät ausgeliefert wurden.

**BEWAHREN SIE DIESE HINWEISE GUT AUF.**

**INSTRUCCIONES IMPORTANTES DE SEGURIDAD**

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

**GUARDE ESTAS INSTRUCCIONES.**

**IMPORTANTES INFORMATIONS DE SÉCURITÉ**

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

**CONSERVEZ CES INFORMATIONS.**

תקנון הצהרות אזהרה

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

اًكَفْ حَالَةٌ وُكِيَّ أَيْ تَتَسَبَّبُ فِي اصَابَةِ جَسْدٍ هُنَّ هَذَا الزَّهْرَ عُ خَطْرٌ تَحْذِي زُ .  
قَبْلَ أَيْ تَعَوْلُ عَلَى أَيْ هَعْدَاتٍ، كَيْ عَلَى عَلَنْ بِالوَخَاطِرِ الْأَجْوَهُ عَيْ الدَّوَائِزِ  
الْكَهْرَبَائِيَّةِ

وكي على درا ة باللووارسات القائ ة لو ع وقع أي حادث  
استخدم رقن الب اي الو صُص ف ها ة كل تحد ز للعشر تزجوتها

## 안전을 위한 주의사항

경고!

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

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

## BELANGRIJKE VEILIGHEIDSINSTRUCTIES

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

## **BEWAAR DEZE INSTRUCTIES**



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

設置手順書

システムを電源に接続する前に、設置手順書をお読み下さい。

警告

将此系统连接电源前,请先阅读安装说明。

警告

將系統與電源連接前，請先閱讀安裝說明。

### Warnung

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

### ¡Advertencia!

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

### Attention

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

יש לקרוא את הוראות התקינה לפני חיבור המערכת למקור מתח.

اقر إرشادات التركيب قبل توصيل النظام إلى مصدر للطاقة

시스템을 전원에 연결하기 전에 설치 안내를 읽어주십시오.

### Waarschuwing

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

## Circuit Breaker



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

### サーキット・ブレーカー

この製品は、短絡(過電流)保護装置がある建物での設置を前提としています。

保護装置の定格が250 V、20 Aを超えないことを確認下さい。

### 警告

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

### 警告

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

### Warnung

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

### ¡Advertencia!

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

### Attention

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

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

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

### 경고!

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

### Waarschuwing

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

## Power Disconnection Warning



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

### 電源切断の警告

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

### 警告

在你打开机箱并安装或移除内部器件前,必须将系统完全断电,并移除电源线。

### 警告

在您打開機殼安裝或移除內部元件前，必須將系統完全斷電，並移除電源線。

### Warnung

Das System muss von allen Quellen der Energie und vom Netzanschlusskabel getrennt sein, das von den Spg. Versorgungssteilmodulen 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 châssis 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 انتظار من جميع مصادر انتظار وإزالت سلك انكهرباء من وحدة امداد  
انتظار قbm  
انفصل إني امناطق انداخهيت نههيكم نتشبيج أو إزالت مكناث الجهاز

경고!

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

#### Waarschuwing

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

## Equipment Installation



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

#### 機器の設置

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

#### 警告

只有经过培训且具有资格的人员才能进行此设备的安装、更换和维修。

#### 警告

只有經過受訓且具資格人員才可安裝、更換與維修此設備。

#### Warnung

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

#### ¡Advertencia!

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

**Attention**

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

**אזהרה!**

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

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

**경고!**

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

**Waarschuwing**

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

**Restricted Area**

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

**アクセス制限区域**

このユニットは、アクセス制限区域に設置されることを想定しています。

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

**警告**

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

**警告**

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

### Warnung

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

### ¡Advertencia!

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

### Attention

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

אזור עם גישה מוגבלת  
ゾーハラ!

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

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

### 경고!

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

### Waarschuwing

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

## Battery Handling



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

### 電池の取り扱い

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

### 警告

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

### 警告

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

### Warnung

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

### Attention

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

### ¡Advertencia!

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

### אזהרה!

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

סילוק הסוללות המשמשות יש לבצע לפי הוראות היצרן.

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

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

경고!

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

#### Waarschuwing

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

## Redundant Power Supplies



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

#### 冗長電源装置

このユニットは複数の電源装置が接続されている場合があります。

ユニットの電源を切るためには、すべての接続を取り外さなければなりません。

#### 警告

此部件连接的电源可能不止一个，必须将所有电源断开才能停止给该部件供电。

#### 警告

此裝置連接的電源可能不只一個，必須切斷所有電源才能停止對該裝置的供電。

#### Warnung

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

**¡Advertencia!**

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

**Attention**

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

אם קיים יותר מספק אחד  
אוורה!

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

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

**경고!**

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

**Waarschuwing**

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

## Backplane Voltage



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

バックプレーンの電圧

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

修理する際には注意ください。

警告

当系统正在进行时，背板上有很危险的电压或能量，进行维修时务必小心。

警告

當系統正在進行時，背板上有危險的電壓或能量，進行維修時務必小心。

Warnung

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

¡Advertencia!

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

Attention

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

מתה בפנל האחורי

אוּהָרָה!

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

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

경고!

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

Waarschuwing

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

## Comply with Local and National Electrical Codes



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

地方および国の電気規格に準拠

機器の取り付けはその地方および国の電気規格に準拠する必要があります。

警告

设备安装必须符合本地与本国电气法规。

警告

設備安裝必須符合本地與本國電氣法規。

Warnung

Die Installation der Geräte muss den Sicherheitsstandards entsprechen.

¡Advertencia!

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

Attention

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

תיאום חוקי החשמל הארץ  
אוורה!

התקנת הציוד חייבת להיות توואמת לחוקי החשמל המקומיים והארציים.

تركيب المعدات الكهربائية يجب أن يمتثل للقوانين المحلية والطبية 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

ازהרה!

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

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

경고!

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

**Waarschuwing**

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

**Hot Swap Fan Warning**

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

ファン・ホットスワップの警告

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

警告!

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

警告

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

### Warnung

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

### ¡Advertencia!

Riesgo de piezas móviles. Mantener alejado de las aspas del ventilador. Los ventiladores podran dar vuelta cuando usted quite el montaje del ventilador del chasis. Mandtenga 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.

### ازهراה!

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

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

### 경고!

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

### Waarschuwing

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

## Power Cable and AC Adapter



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

### 電源コードとACアダプター

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

電気用品安全法は、ULまたはCSA認定のケーブル(UL/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 Adaptern können Fehlfunktionen oder Feuer verursachen. Die Richtlinien untersagen das Nutzen von UL oder CAS zertifizierten Kabeln (mit UL/CSA gekennzeichnet), an Geräten oder Produkten die nicht mit Supermicro gekennzeichnet sind.

**¡Advertencia!**

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

**Attention**

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

AC ימאתו ס"ילמשח סילבכ  
הרזה!

רוצל ומאותה וא שכרנו רשא AC סימאתמו מיקפו, סילבכ שמתshall שי, רצומה תא מיניקתם רשאכ לבכ שומיש . עקתו לבכה לש הנוכנ הדימ לLOC, תויומקמה תוכיתבה תושירדל ומאותה רשאו, הנקתהה למשחה ירישכמב שומישה י��וחל מסתhab. ילםשה רצק וא הלקטל טורגל לווע, רחא גוסט מסתאם וא לבכ לש דוק מהילע עיפומ רשאכ) A-B ו-AUL -B סיכמסומה סילבכ שמתshall רוסיא מ"ק, תוכיתבה י��וחה דבלב Supermicro. י"ע מאותה רשא רצומב קר אלא, רחא ילםשה רצום לכ חובע AUL/CSA).

تالب اكلا ءارشب مق وأ قدحـملـا وـأـ قـرفـوتـمـلـاـ تـالـيـصـوـتـلـاـ مـادـخـتـسـابـ مقـ ،ـجـتنـمـلـاـ بـيـكـرـتـ دـنـعـ  
كلـذـ يـفـ اـمـبـ ئـيـلـحـمـلـاـ قـمـالـسـلـاـ تـابـلـطـتـمـوـ نـيـنـاوـقـبـ مـازـتـلـالـاـ عـمـ دـدـرـتـمـلـاـ رـايـتـلـاـ تـالـوـحـمـوـ ئـيـئـاـبـرـهـكـلـاـ  
قـيـرـحـ وـأـ لـطـعـ يـفـ بـبـسـتـيـ دـقـ ئـرـخـأـ تـالـوـحـمـوـ تـالـبـاـكـ يـأـ مـادـخـتـسـاـ.ـمـيـلـسـلـاـ سـبـاقـلـاوـ لـصـومـلـاـ مجـحـ  
وـأـ ULـ لـبـقـ نـمـ ئـدـمـتـعـمـلـاـ تـالـبـاـكـلـاـ مـادـخـتـسـاـ تـادـعـمـلـاوـ ئـيـئـاـبـرـهـكـلـاـ فـزـهـجـأـلـلـ قـمـالـسـلـاـ نـونـاقـ رـظـحـيـ  
Supermicroـ لـبـقـ نـمـ ئـدـحـمـلـاوـ ئـيـنـعـمـلـاـ تـاجـتنـمـلـاـ رـيـغـ ئـرـخـأـ تـادـعـمـ يـأـ عـمـ (UL/CSAـ)ـ قـمـالـعـ لـمـحـتـ يـتـلـاوـ

### 전원 케이블 및 AC 어댑터

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

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

### Stroomkabel en AC-Adapter

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

## Appendix C

# System Specifications

**Processors**

Single Intel Xeon D-1518 SoC (System on a Chip) in FCBGA1667 format; 4-Core, 8 Threads, 35W

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

**Chipset**

System on Chip

**BIOS**

128Mb SPI Flash with AMI BIOS

**Memory**

Four DDR4 DIMM sockets; supports up to 128GB DDR4 ECC RDIMM or up to 64GB DDR4 ECC/non-ECC UDIMM; Memory Type 2133/1866/1600MHz; DIMM Sizes 32GB, 16GB, 8GB, 4GB

**SATA Controller**

SoC controller for four SATA3 (6Gbps) ports; RAID 0,1,5,10 RSTe

**Drive Bays**

Single fixed 2.5" hard drive bay with bracket for 9.5 mm thickness HDD

**PCI Expansion Slots**

One PCI-E 3.0 x8 AOC slot (LP)

Mini PCI-E (mSATA support)

M.2 PCI-E 3.0 x4 (SATA support)

M Key 2242/2280/22110

**Motherboard**

X10SDV-TP8F (Flex ATX form factor)

Dimensions: 9.0" x 7.25", (22.9cm x 18.4cm)

**Chassis**

SCE300; Mini ITX, Width 10" (254mm), Height 1.7" (43mm), Depth 8.9" (226mm)

**System Cooling**

One to three 4-cm high performance PWM fan

**Power Supply**

60 or 84 W DC Power Adapter

12 Vdc, 5A (60W) DC Power Adapter; 12 Vdc, 7A (84W) DC Power Adapter

**Weight**

Gross Weight: 7.5 lbs (3.4 kg)

Net Weight: 3.45 lbs (1.56 kg)

**Operating Environment**

Operating Temperature: 0°C to 40°C (32°F to 104°F)

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

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

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

**Regulatory Compliance**

Electromagnetic Emissions: FCC Class B, EN 55032 Class B, EN 61000-3-2/3-3, CISPR 32/22 Class B

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

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

**Perchlorate Warning**

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

## Appendix D

### Chinese Safety Warnings

(Traditional Chinese)

#### 安全警告 (注意這些警告標誌)

以下的警告標誌對於安全使用本設備非常重要，可以避免操作人員遭遇危險，以及財產受到任何損失。

錯誤使用本機器或忽視這本手冊，所引起的傷害或損失等級分類如下：



#### WARNING (警告)

此注意標誌提醒未能依照正確指示使用機器，可能導致生命危險 或造成嚴重傷害。



#### CAUTION (注意)

此注意標誌提醒未能依照正確指示使用機器，可能導致受傷或財產損失。



此標誌提示絕對不可做的動作。



此標誌提示一般性務必要採取的行為。



## WARNINGS (警告)



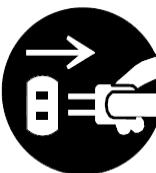
本機器必須用接地線與地面確實連接。否則受到電擊或閃電時，將對您造成危險。如果電源插座沒有接地端子，或是有無法接地情況，請務必洽詢 專業技術人員，妥善安裝這些設施。



1. 電源必須在100V至240V正負10%之間。
2. 使用額定合格開關來提供電源迴路。
3. 機器安裝愈接近電源插座愈好。
4. 移動機器必須由維護工程師來處理。



1. 勿使用多孔插座或延長線，否則可能造成溫度過高而引起火災。
2. 勿在電源線放置重物，否則可能引起火災或受到電擊。
3. 勿踏在電源線上，及勿損傷或任意處理電源線，否則可能引起火災或受到電擊。
4. 勿綁住或紮緊電源線，否則可能引起火災或受到電擊。
5. 勿將花瓶、花盆或盛水容器放在機器上，如果水滴濺出，可能引起火災或受到電擊。



1. 機器如果產生怪味或不正常聲響，必需立即關閉機器電源開關，然後從插座取下插頭。
2. 絕對不可以沾濕的手插拔插頭，否則可能受到電擊。
3. 插頭必須確實插妥在插座上，如果未能妥善插好，可能會引起火災。
4. 僅可使用機器所附電源插頭。



拔取電源線時，確實抓住插頭部位，否則導致插頭破裂可能引起火災或受到電擊。



不可企圖拆解或擅自修改機器，否則可能引起火災或受到電擊。



不可將機器安裝在下列場所：

1. 濕氣高及多灰塵的地方。
2. 地板不穩的地方。如果機器傾倒，可能造成傷害。



關閉上機蓋時，千萬不可將手放在上機蓋與主機體之間。



1. 移動機器前，必須記住拔下插頭，否則插頭可能受損而引起火災或受到電擊。
2. 為安全起見，夜晚無人使用伺服器時，必須確實將它的電源關閉。
3. 連續假日長期無人使用伺服器時，必須確實將它的電源關閉。
4. 插座周圍必須淨空，以便隨時可以很輕易的拔下插頭。



警告使用者：這是乙類的資訊產品，在居住的環境中使用時，可能會造成射頻干擾，在這種情況下，使用者會被要求採取某些適當的對策。

## 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， Equipment name: Server		型號（型式）：適用於 E300-8D 及其所有系列機種 Type designation (Type): E300-8D and all its series models				
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 ( $\text{Cr}^{+6}$ )	多溴聯苯 Polybrominated biphenyls (PBB)	多溴二苯醚 Polybrominated diphenyl ethers (PBDE)
機殼 (Chassis)	O	O	O	O	O	O
主機板 (Motherboard)	—	O	O	O	O	O
背板 (Backplane)	—	O	O	O	O	O
機內電源單元 (Power Supply)	—	O	O	O	O	O
導風罩 (Air Shroud)	O	O	O	O	O	O
線材 (Cable)	O	O	O	O	O	O
風扇 (Fan)	—	O	O	O	O	O
記憶體 (Memory)	—	O	O	O	O	O
硬碟 (HDD)	—	O	O	O	O	O
硬碟槽 (Drive Trays)	O	O	O	O	O	O
導軌 (Mounting Rails)	O	O	O	O	O	O
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.						
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.						
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.						