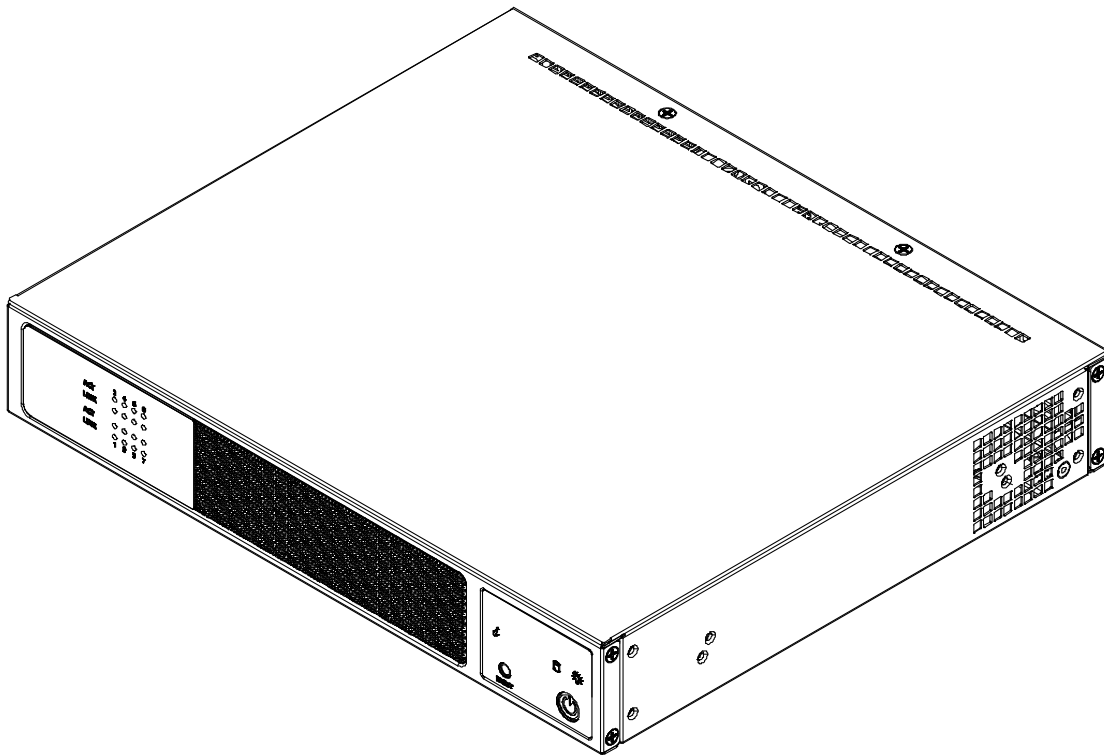




# SUPERSERVER<sup>®</sup> E300-9A-4CN10P



## USER'S MANUAL

Revision 1.0

The information in this User's Manual has been carefully reviewed and is believed to be accurate. The vendor assumes no responsibility for any inaccuracies that may be contained in this document, and makes no commitment to update or to keep current the information in this manual, or to notify any person or organization of the updates. **Please Note: For the most up-to-date version of this manual, please see our website at [www.supermicro.com](http://www.supermicro.com).**

Super Micro Computer, Inc. ("Supermicro") reserves the right to make changes to the product described in this manual at any time and without notice. This product, including software and documentation, is the property of Supermicro and/or its licensors, and is supplied only under a license. Any use or reproduction of this product is not allowed, except as expressly permitted by the terms of said license.

IN NO EVENT WILL Super Micro Computer, Inc. BE LIABLE FOR DIRECT, INDIRECT, SPECIAL, INCIDENTAL, SPECULATIVE OR CONSEQUENTIAL DAMAGES ARISING FROM THE USE OR INABILITY TO USE THIS PRODUCT OR DOCUMENTATION, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. IN PARTICULAR, SUPER MICRO COMPUTER, INC. SHALL NOT HAVE LIABILITY FOR ANY HARDWARE, SOFTWARE, OR DATA STORED OR USED WITH THE PRODUCT, INCLUDING THE COSTS OF REPAIRING, REPLACING, INTEGRATING, INSTALLING OR RECOVERING SUCH HARDWARE, SOFTWARE, OR DATA.

Any disputes arising between manufacturer and customer shall be governed by the laws of Santa Clara County in the State of California, USA. The State of California, County of Santa Clara shall be the exclusive venue for the resolution of any such disputes. Supermicro's total liability for all claims will not exceed the price paid for the hardware product.

FCC Statement: This equipment has been tested and found to comply with the limits for a Class B digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the manufacturer's instruction manual, may cause harmful interference with radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case you will be required to correct the interference at your own expense.

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)".



WARNING: This product can expose you to chemicals including lead, known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

The products sold by Supermicro are not intended for and will not be used in life support systems, medical equipment, nuclear facilities or systems, aircraft, aircraft devices, aircraft/emergency communication devices or other critical systems whose failure to perform be reasonably expected to result in significant injury or loss of life or catastrophic property damage. Accordingly, Supermicro disclaims any and all liability, and should buyer use or sell such products for use in such ultra-hazardous applications, it does so entirely at its own risk. Furthermore, buyer agrees to fully indemnify, defend and hold Supermicro harmless for and against any and all claims, demands, actions, litigation, and proceedings of any kind arising out of or related to such ultra-hazardous use or sale.

Manual Revision 1.0

Release Date: September 03, 2018

Unless you request and receive written permission from Super Micro Computer, Inc., you may not copy any part of this document. Information in this document is subject to change without notice. Other products and companies referred to herein are trademarks or registered trademarks of their respective companies or mark holders.

Copyright © 2018 by Super Micro Computer, Inc.

All rights reserved.

**Printed in the United States of America**

# 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 E300-9A-4CN10P. 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: <https://www.supermicro.com/wftp/driver>
- 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.

# Contents

## ***Chapter 1 Introduction***

|                                         |    |
|-----------------------------------------|----|
| 1.1 Overview .....                      | 7  |
| 1.2 System Features .....               | 8  |
| 1.3 Chassis Features .....              | 9  |
| Front Features .....                    | 9  |
| Rear Features .....                     | 10 |
| 1.4 Motherboard Layout .....            | 11 |
| Quick Reference Table .....             | 12 |
| System Block Diagram .....              | 14 |
| 1.5 Server Installation and Setup ..... | 15 |
| Unpacking the System .....              | 15 |
| Warnings and Precautions .....          | 15 |
| Adding Components to your System .....  | 15 |
| Installing Rack Mounting Brackets ..... | 16 |
| Mounting on a Wall .....                | 17 |

## ***Chapter 2 Maintenance and Component Installation***

|                                    |    |
|------------------------------------|----|
| 2.1 Removing Power .....           | 18 |
| 2.2 Accessing the System .....     | 19 |
| 2.3 Motherboard Components .....   | 20 |
| Processor .....                    | 20 |
| Memory Support .....               | 20 |
| Memory Population Guidelines ..... | 20 |
| Installing Memory .....            | 21 |
| DIMM Installation .....            | 21 |
| DIMM Removal .....                 | 21 |
| Motherboard Battery .....          | 22 |
| 2.4 Chassis Components .....       | 23 |
| Installing the Storage Drive ..... | 23 |
| System Cooling .....               | 25 |

## ***Chapter 3 Motherboard Connections***

|                                  |    |
|----------------------------------|----|
| 3.1 Power Connections .....      | 26 |
| 3.2 Headers and Connectors ..... | 27 |
| 3.3 Ports .....                  | 32 |

|                             |    |
|-----------------------------|----|
| 3.4 Jumpers.....            | 34 |
| Explanation of Jumpers..... | 34 |
| 3.5 LED Indicators.....     | 37 |

## **Chapter 4 Software**

|                                                   |    |
|---------------------------------------------------|----|
| 4.1 OS Installation .....                         | 38 |
| Installing the Windows OS for a RAID System ..... | 38 |
| Installing Windows to a Non-RAID System .....     | 38 |
| 4.2 Driver Installation.....                      | 39 |
| 4.3 SuperDoctor® 5.....                           | 40 |
| 4.4 IPMI .....                                    | 41 |

## **Chapter 5 BIOS**

|                                  |    |
|----------------------------------|----|
| 5.1 Introduction.....            | 42 |
| Starting BIOS Setup Utility..... | 42 |
| 5.2 Main Setup .....             | 43 |
| 5.3 Advanced.....                | 45 |
| 5.4 Event Logs .....             | 67 |
| 5.5 IPMI .....                   | 69 |
| 5.6 Security.....                | 72 |
| 5.7 Boot .....                   | 76 |
| 5.8 Save & Exit.....             | 78 |

## **Appendix A BIOS Error Codes**

## **Appendix B Standardized Warning Statements for DC Systems**

## **Appendix C System Specifications**

## **Appendix D UEFI BIOS Recovery**

## **Appendix E Traditional Chinese Version Safety Warnings**

## Contacting Supermicro

### Headquarters

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

Tel: +1 (408) 503-8000

Fax: +1 (408) 503-8008

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

Website: [www.supermicro.com](http://www.supermicro.com)

### Europe

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

Tel: +31 (0) 73-6400390

Fax: +31 (0) 73-6416525

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

Website: [www.supermicro.nl](http://www.supermicro.nl)

### Asia-Pacific

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

Tel: +886-(2) 8226-3990

Fax: +886-(2) 8226-3992

Email: [support@supermicro.com.tw](mailto:support@supermicro.com.tw)

Website: [www.supermicro.com.tw](http://www.supermicro.com.tw)

# Chapter 1

## Introduction

### 1.1 Overview

The SuperServer E300-9A-4CN10P is a compact, embedded system comprised of the SCE300-LED+ chassis and the A2SDV-4C-LN10PF 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 |
| 84W DC power adapter (default) | MCP-250-10122-0N | 1        |
| Fan                            | FAN-0065L4       | 1        |

## 1.2 System Features

The following table provides an overview of the main features of the E300-9A-4CN10P. Please refer to Appendix C for additional specifications.

| System Features                                                                                                      |
|----------------------------------------------------------------------------------------------------------------------|
| <b>Motherboard</b>                                                                                                   |
| A2SDV-4C-LN10PF                                                                                                      |
| <b>Chassis</b>                                                                                                       |
| Compact Embedded Mini ITX Box, SCE300-LED+                                                                           |
| <b>CPU</b>                                                                                                           |
| Intel® Atom C3558 (System on a Chip), 4 Cores, 4 Threads, 2.2 GHz, 16W                                               |
| <b>Memory</b>                                                                                                        |
| Four DIMM slots<br>DDR4 2400MHz up to 256GB RDIMM, or 64GB for ECC/Non-ECC UDIMM                                     |
| <b>Expansion Slots</b>                                                                                               |
| 1x PCI-E 3.0 x2                                                                                                      |
| <b>Storage Drives</b>                                                                                                |
| 1x 2.5" fixed drive bay with a bracket                                                                               |
| <b>Power</b>                                                                                                         |
| 84W DC power adapter                                                                                                 |
| <b>Input/Output Ports</b>                                                                                            |
| 8x 1GbE, 2x 1G SFP<br>1x Dedicated IPMI<br>1x M.2 B-Key (3042/2280, PCIe3.0 x2/SATA3/USB2/3)<br>2x USB 3.0<br>1x VGA |
| <b>Cooling</b>                                                                                                       |
| 1x 40 mm chassis fan (2 maximum)                                                                                     |
| <b>Dimensions</b>                                                                                                    |
| 10" (W) x 1.7" (H) x 8.9 (D) (254 x 43 x 226 mm)                                                                     |

## 1.3 Chassis Features

The SCE300-LED+ is a compact embedded 1U chassis for Mini ITX and Flex ATX motherboards.

### Front Features

The front of the chassis includes the control panel.

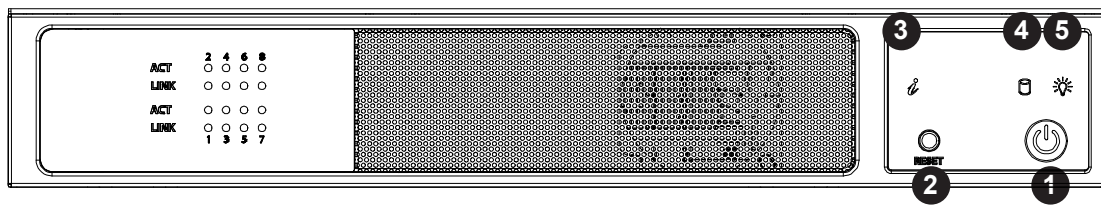


Figure 1-1. Chassis Front and Control Panel

| Control Panel Features |                 |                                                                                                                                                                                                   |
|------------------------|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Item                   | Features        | Description                                                                                                                                                                                       |
| 1                      | Power button    | The main power button 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                      | HDD LED         | Indicates hard disk drive activity when flashing.                                                                                                                                                 |
| 5                      | 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.<br>(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              | UID has been activated locally to locate the server in a rack environment.       |
| Blinking blue           | UID has been activated using IPMI to locate the server in a rack environment.    |

## Rear Features

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

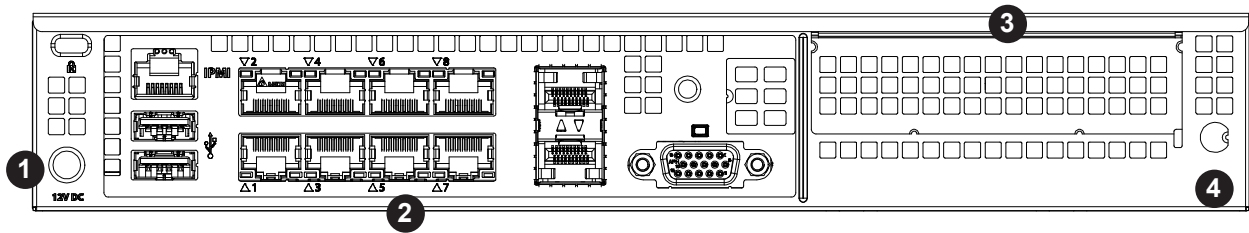


Figure 1-2. Rear Chassis View

| Rear Chassis Features |                 |                                                                                                                                                                                                  |
|-----------------------|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Item                  | Features        | Description                                                                                                                                                                                      |
| 1                     | Power Input     | The main power input 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 3).                                                                                                                                       |
| 3                     | PCI Window      | Standard low-profile PCI-E slot.                                                                                                                                                                 |
| 4                     | K-slot for Lock | Accepts a standard Kensington cable locking device (not included).                                                                                                                               |



## Quick Reference Table

| Jumper                                 | Description                       | Default Setting     |
|----------------------------------------|-----------------------------------|---------------------|
| JBR1                                   | BIOS Recovery                     | Pins 1-2 (Normal)   |
| JBT1                                   | CMOS Clear                        | Open (Normal)       |
| J1 <sup>2</sup> C1, J1 <sup>2</sup> C2 | SMB to PCI-E Slots Enable/Disable | Pins 2-3 (Disabled) |
| JPG1                                   | Onboard VGA Enable/Disable        | Pins 1-2 (Enabled)  |
| JPL1                                   | LAN1 SFP Port Enable/Disable      | Pins 1-2 (Enabled)  |
| JPL2                                   | LAN2 SFP Port Enable/Disable      | Pins 1-2 (Enabled)  |
| JPL3                                   | LAN3-6 Ports Enable/Disable       | Pins 1-2 (Enabled)  |
| JPL4                                   | LAN7-10 Ports Enable/Disable      | Pins 1-2 (Enabled)  |
| JPME2                                  | ME Manufacturing Mode             | Pins 1-2 (Normal)   |
| JSEL1                                  | PCI-E Slot 6/7 Selection          | Pins 1-2: Slot 7    |
| JWD1                                   | Watch Dog Timer                   | Pins 1-2 (Reset)    |

| LED     | Description   | Status                      |
|---------|---------------|-----------------------------|
| LED1    | Power LED     | Solid Green: Power On       |
| LEDM1   | BMC Heartbeat | Blinking Green: BMC Normal  |
| UIDLED1 | UID LED       | Solid Blue: Unit Identified |

| Connector               | Description                                                                                  |
|-------------------------|----------------------------------------------------------------------------------------------|
| BT1                     | Onboard Battery                                                                              |
| COM1                    | COM Header                                                                                   |
| FAN1 - FAN3, FANA, FANB | CPU/System Fan Headers                                                                       |
| IPMI LAN                | IPMI LAN Port                                                                                |
| I-SATA0-4               | SATA 3.0 Ports<br>SATA1/2 are disabled when Slot6/Slot7 selected as PCI-E 3.0 x2 in the BIOS |
| JD1                     | Speaker (Pins 1-4)                                                                           |
| JF1                     | Front Control Panel Header                                                                   |
| JFPCLED1                | LED Board Cable Connector for FPB-FPE300-LED10                                               |
| JGP1                    | General Purpose I/O Header                                                                   |
| JIPMB1                  | System Management Bus Header (for IPMI card)                                                 |
| JL1                     | Chassis Intrusion Header                                                                     |
| JLANLED1                | LAN3-6 Active LED                                                                            |
| JLANLED2                | LAN7-8 Active LED                                                                            |
| JLANLED3                | LAN9-10 Active LED                                                                           |
| JMD1                    | M.2 B-Key PCI-E3.0/SATA3.0/USB3.0 Slot                                                       |

| Connector           | Description                                                                                                                  |
|---------------------|------------------------------------------------------------------------------------------------------------------------------|
| JMD2                | M.2 M-Key PCI-E3.0/SATA3 Slot                                                                                                |
| JPI <sup>2</sup> C1 | Power Supply SMBus I <sup>2</sup> C Header                                                                                   |
| JPH1                | 4-pin Power Connector for HDD use                                                                                            |
| JPW1                | 24-pin ATX Power Connector                                                                                                   |
| JPV1                | 4-pin 12V DC Power Connector (To provide alternative power for a special enclosure when the 24-pin ATX power is not in use.) |
| JRT3                | Thermal Diode 1                                                                                                              |
| JRT4                | Thermal Diode 2                                                                                                              |
| JSD1                | SATA DOM Power Connector                                                                                                     |
| JSFPLED1            | LED Board Cable Connector for FPB-FPE300-LED10                                                                               |
| JSMB1               | System Management Bus Header                                                                                                 |
| JTPM1               | Trusted Platform Module (TPM)                                                                                                |
| JUIDB               | Unit ID Button                                                                                                               |
| LAN1 - LAN10        | LN10PF: LAN1-2 Gigabit Ethernet SFP Port, LAN3-10 Gigabit Ethernet RJ45 Port                                                 |
| SLOT6, SLOT7        | Single PCI-E Expansion Slot (Slot6 or Slot7 selectable with JSEL1)<br>PCI-E 3.0 x2 or Disabled - Selectable in BIOS Setup    |
| SRW1 - SRW4         | M.2 Holding Screws                                                                                                           |
| USB0/1              | Back Panel USB 3.1 Gen 1 Ports                                                                                               |
| USB2/3              | Front Accessible USB 2.0 Header                                                                                              |
| USB4                | USB 3.1 Gen 1 Type A Header                                                                                                  |
| VGA                 | VGA Port                                                                                                                     |

## System Block Diagram

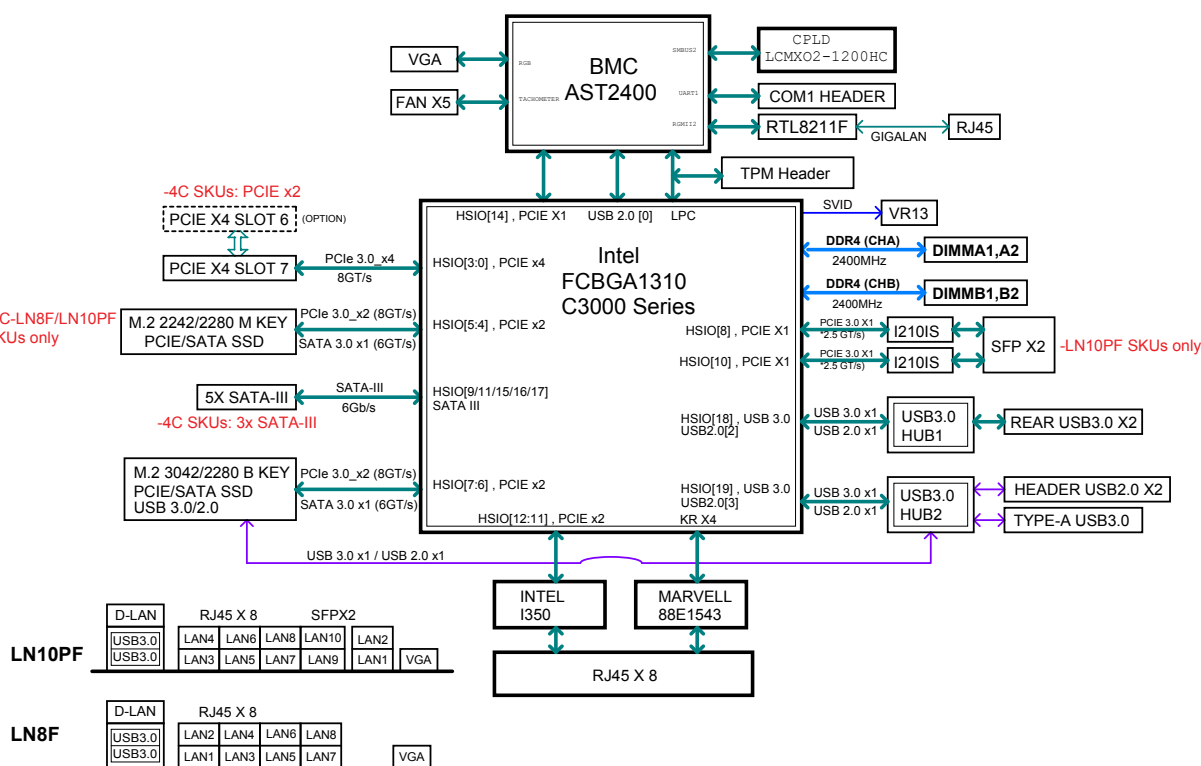


Figure 1-4. System Block Diagram

**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.

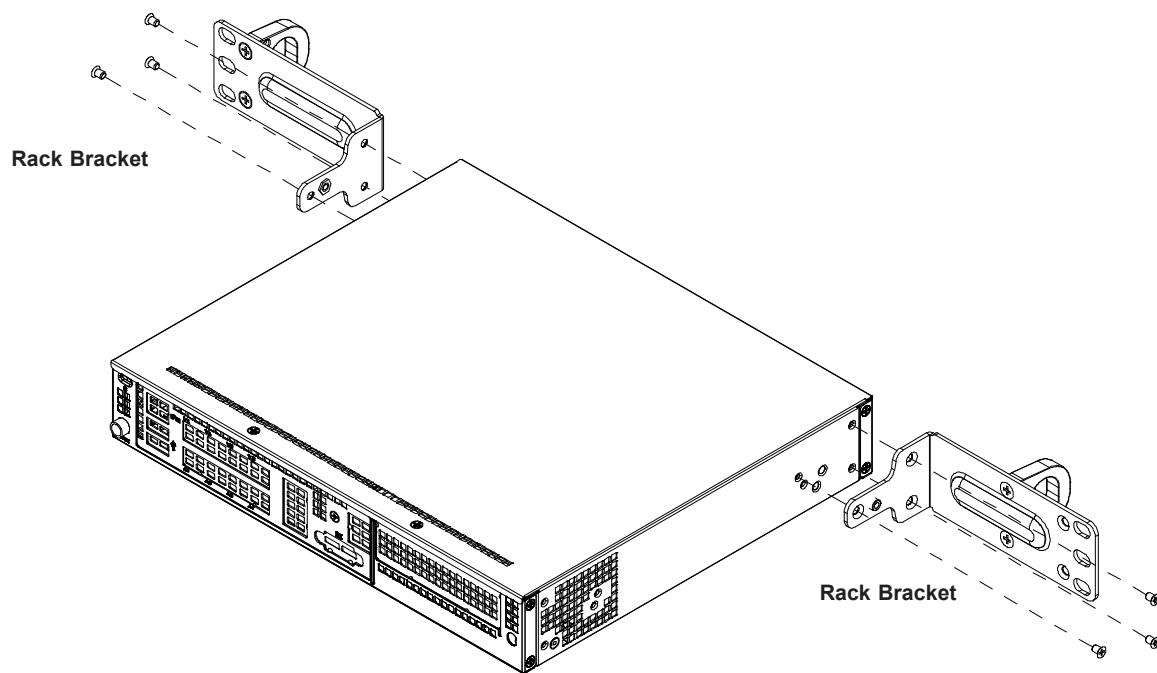
### Adding Components to your System

- **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**

## Mounting on a Wall

Optionally, the chassis can be mounted directly on a wall, using holes in the bottom.

1. Measure and install two screws into the wall where you want to mount the server.
2. Hang the server on the screws with the Input/Output ports on the top.

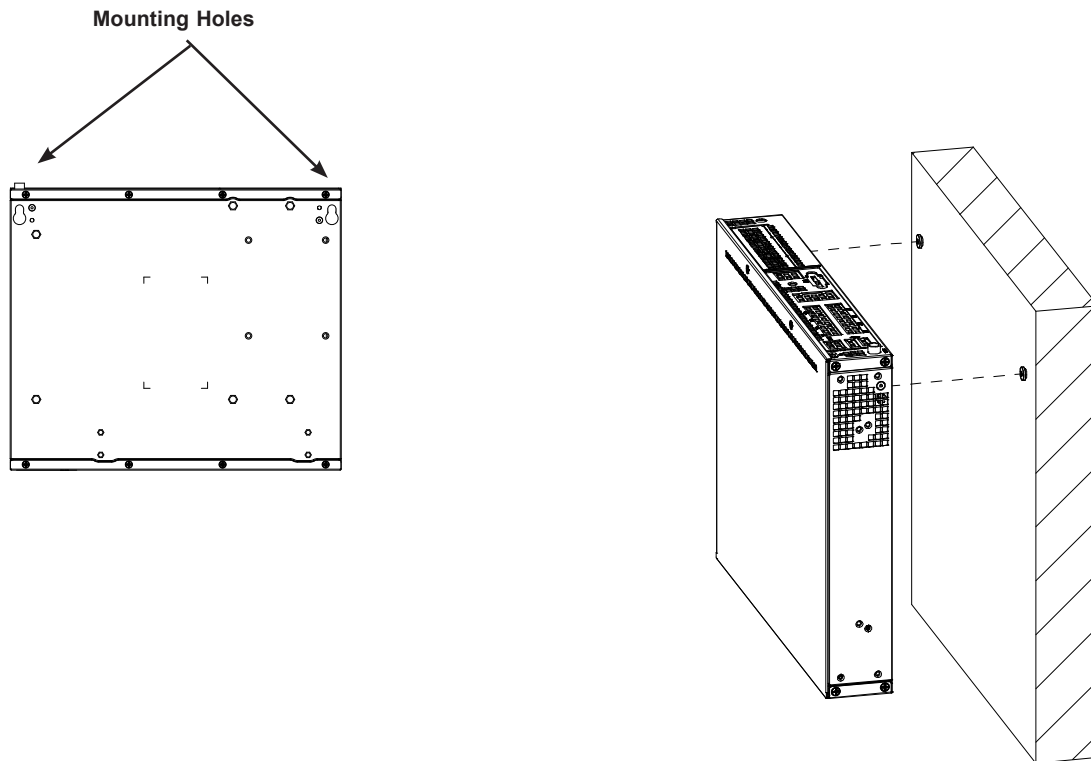


Figure 1-6. Mounting on a Wall

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

## 2.2 Accessing the System

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

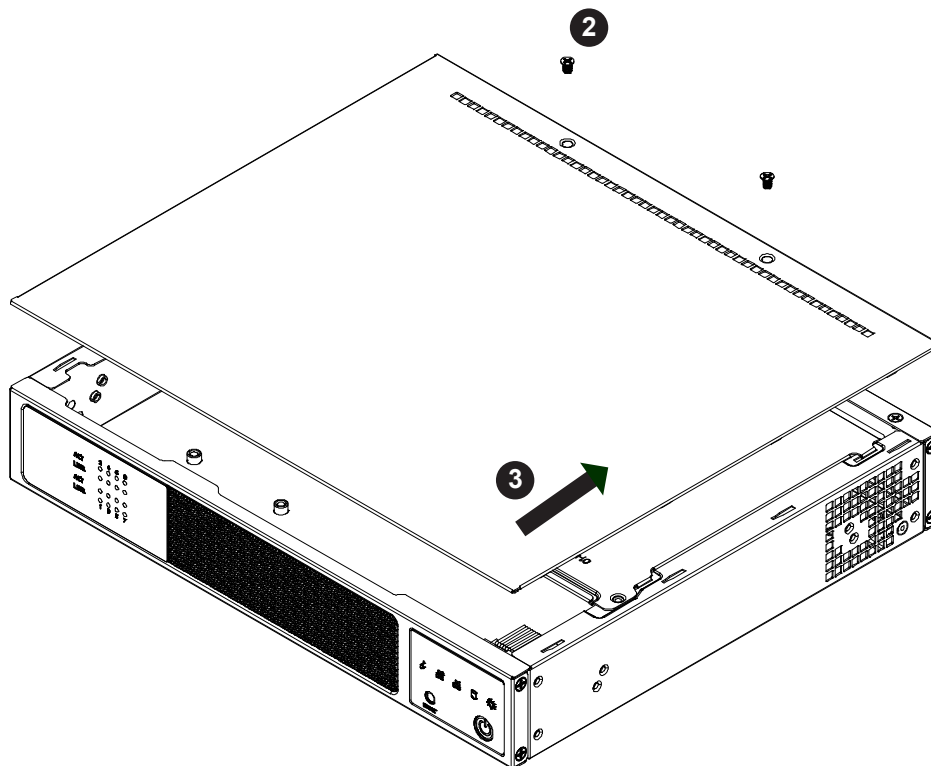


Figure 2-1. Removing the Chassis Cover

### *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 E300-9A-4CN10P features an embedded Intel® Atom C3558 processor.

### Memory Support

The A2SDV-4C-LN10PF supports up to 256GB of ECC RDIMM or 64GB of Non-EC/ECC UDIMM DDR4 memory in four memory slots. Populating these DIMM slots with memory modules of the same type and size will result in interleaved memory, which will improve memory performance.

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

### Memory Population Guidelines

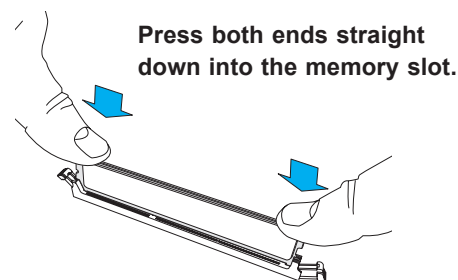
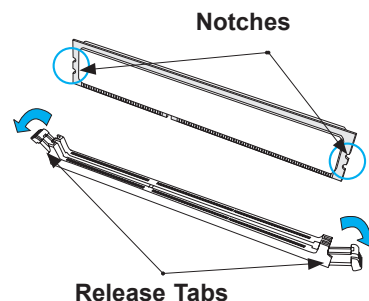
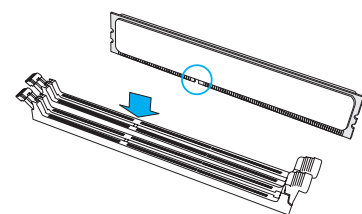
For optimal memory performance, follow the table below when populating memory. Populate DIMM slots in the following order: DIMMA1, DIMMB1, then DIMMA2, DIMMB2

| Memory Population (Balanced) |        |        |        |                     |
|------------------------------|--------|--------|--------|---------------------|
| DIMMA1                       | DIMMB1 | DIMMA2 | DIMMB2 | Total System Memory |
| 4GB                          | 4GB    |        |        | 8GB                 |
| 4GB                          | 4GB    | 4GB    | 4GB    | 16GB                |
| 8GB                          | 8GB    |        |        | 16GB                |
| 8GB                          | 8GB    | 8GB    | 8GB    | 32GB                |
| 16GB                         | 16GB   |        |        | 32GB                |
| 16GB                         | 16GB   | 16GB   | 16GB   | 64GB                |
| 32GB                         | 32GB   |        |        | 64GB                |
| 32GB                         | 32GB   | 32GB   | 32GB   | 128GB               |
| 64GB                         | 64GB   |        |        | 128GB               |
| 64GB                         | 64GB   | 64GB   | 64GB   | 256GB               |

## Installing Memory

### DIMM Installation

1. Insert the desired number of DIMMs into the memory slots, starting with DIMMA1, DIMMB1, DIMMA2, DIMMB2. For best performance, please use the memory modules of the same type and speed.
2. Push the release tabs outwards on both ends of the DIMM slot to unlock it.
3. Align the key of the DIMM module with the receptive point on the memory slot.
4. Align the notches on both ends of the module against the receptive points on the ends of the slot.
5. Press both ends of the module straight down into the slot until the module snaps into place.
6. Press the release tabs to the lock positions to secure the DIMM module into the slot.

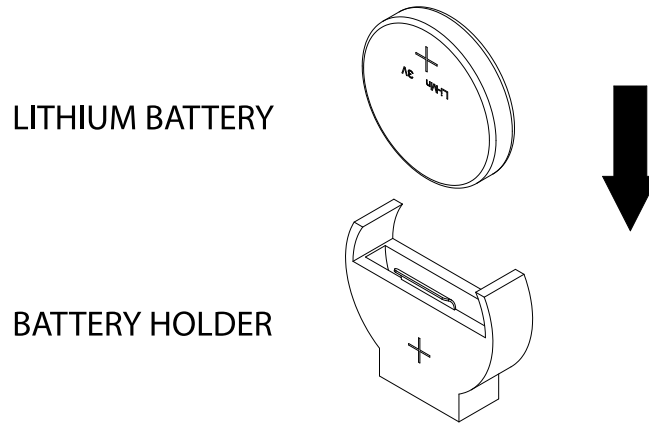


### DIMM Removal

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

## Motherboard Battery

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



**Figure 2-2. Installing the Onboard Battery**

### *Replacing the Battery*

1. Remove power from the system as described in Section 2.1.
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.

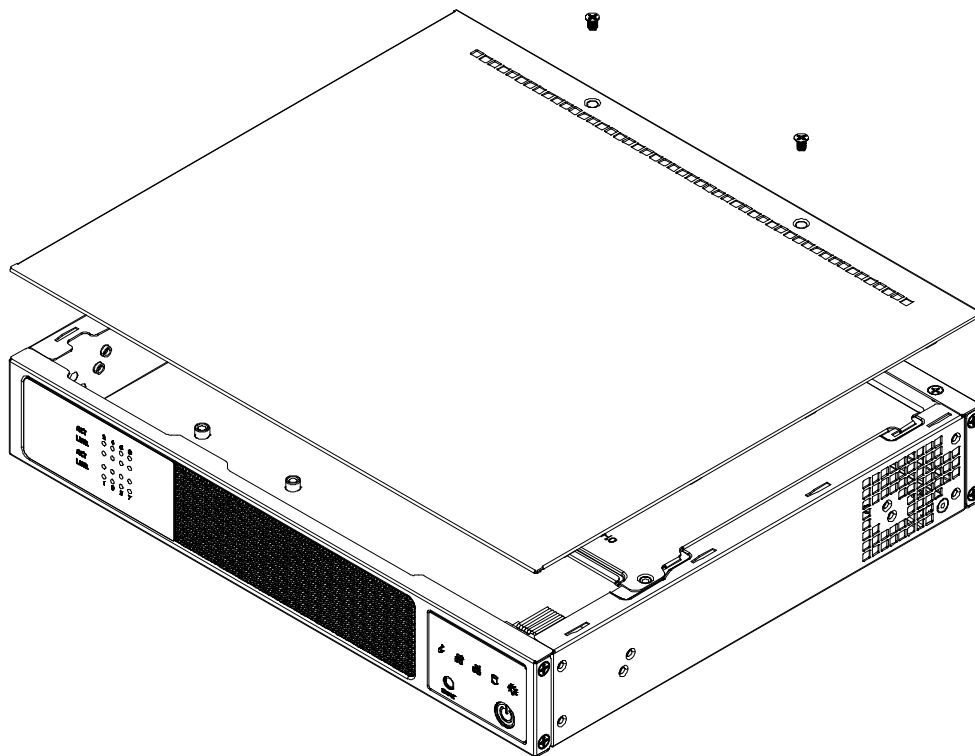
**Note:** Handle used batteries carefully. Do not damage the battery in any way; a damaged battery may release hazardous materials into the environment. Do not discard a used battery in the garbage or a public landfill. Please comply with the regulations of your local hazardous waste management agency 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-LED+ 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 2-3. 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.

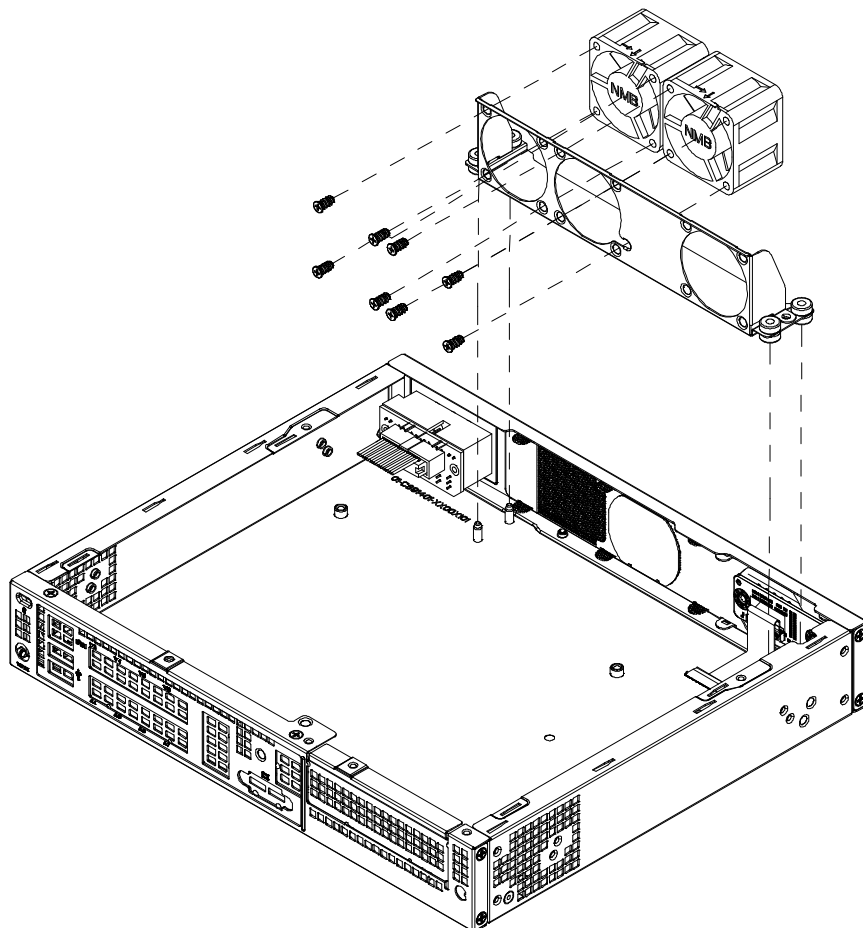
4. Return the drive tray assembly into the chassis, aligning the tabs of the tray with the slots in the chassis. Secure the tray to the chassis support bracket with the screws previously set aside.
5. Attach the cable SATA connector and to the motherboard connector. This cable carries both the SATA signal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

## System Cooling

The SCE300-LED+ includes one replaceable 4-cm fan. An optional second fan can be purchased if needed.

### *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 2-4. System Fans (second fan optional)**

## Chapter 3

### Motherboard Connections

This section describes the connections on the A2SDV-4C-LN10PF 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 B before installing or removing components.

#### 3.1 Power Connections

##### Main ATX Power Supply Connector

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

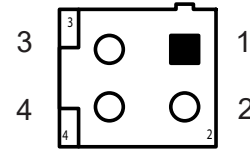
| ATX Power 24-pin Connector<br>Pin Definitions |            |      |            |
|-----------------------------------------------|------------|------|------------|
| Pin#                                          | Definition | Pin# | Definition |
| 13                                            | +3.3V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

## 3.2 Headers and Connectors

### 12V DC Power Connector

The 4-pin (JPV1) connector is used to provide alternative power for a special enclosure when the 24-pin ATX power is not in use.

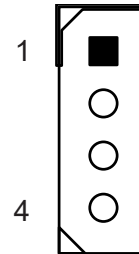
| +12V 4-pin Power Pin Definitions |            |
|----------------------------------|------------|
| Pin#                             | Definition |
| 1 - 2                            | Ground     |
| 3 - 4                            | +12V       |



### HDD Power Connector

JPH1 is a 4-pin power connector for HDD use. It provides power from the motherboard to the onboard HDD.

| 4-pin HDD Power Pin Definitions |            |
|---------------------------------|------------|
| Pin#                            | Definition |
| 1                               | 12V        |
| 2-3                             | GND        |
| 4                               | 5V         |



### Fan Headers

The A2SDV-4C-LN10PF has five 4-pin fan headers (FAN1 ~ FAN3, FANA, FANB). These headers are backwards-compatible with the traditional 3-pin fans. However, fan speed control is available for 4-pin fans only by Thermal Management via the IPMI 2.0 interface. Refer to the table below for pin definitions.

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

### Speaker Header

JD1 is the speaker header. Connect the cable of the external speaker to pins 1-4.

| Speaker Connector Pin Definitions |            |
|-----------------------------------|------------|
| Pin Setting                       | Definition |
| Pins 1-4                          | Speaker    |

### Chassis Intrusion

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

| Chassis Intrusion<br>Pin Definitions |                 |
|--------------------------------------|-----------------|
| Pin#                                 | Definition      |
| 1                                    | Intrusion Input |
| 2                                    | Ground          |

### General Purpose I/O Header

JGP1 is a 10-pin general purpose I/O header. Each pin can be configured to be an input or output pin. The GPIO is controlled via the PCA9554 8-bit GPIO expansion. The base address is 0xF040(D31:F4).

| JGP1 Header<br>Pin Definitions |            |        |
|--------------------------------|------------|--------|
| Pin#                           | Definition |        |
| 1                              | +5V        | +5V    |
| 2                              | Ground     | Ground |
| 3                              | GP0        | GPP_E0 |
| 4                              | GP1        | GPP_F1 |
| 5                              | GP2        | GPP_E1 |
| 6                              | GP3        | GPP_F2 |
| 7                              | GP4        | GPP_E2 |
| 8                              | GP5        | GPP_F3 |
| 9                              | GP6        | GPP_F0 |
| 10                             | GP7        | GPP_F4 |

### Disk On Module Power Connector

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

| DOM Power<br>Pin Definitions |            |
|------------------------------|------------|
| Pin#                         | Definition |
| 1                            | 5V         |
| 2                            | Ground     |
| 3                            | Ground     |

### System Management Bus Header

A System Management Bus header for additional slave devices or sensors is located at JSMB1. See the table below for pin definitions.

| SMBus Header<br>Pin Definitions |            |
|---------------------------------|------------|
| Pin#                            | Definition |
| 1                               | Data       |
| 2                               | Ground     |
| 3                               | Clock      |
| 4                               | NC         |

### BMC External I<sup>2</sup>C Header

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

| BMC External I <sup>2</sup> C<br>Header<br>Pin Definitions |            |
|------------------------------------------------------------|------------|
| Pin#                                                       | Definition |
| 1                                                          | Data       |
| 2                                                          | GND        |
| 3                                                          | Clock      |
| 4                                                          | NC         |

### Power SMB (I<sup>2</sup>C) Header

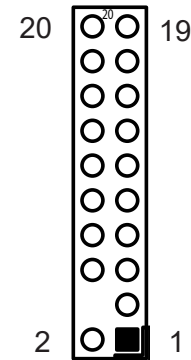
The Power System Management Bus (I<sup>2</sup>C) connector (JPI<sup>2</sup>C1) monitors the power supply, fan, and system temperatures. Refer to the table below for pin definitions.

| Power SMB Header<br>Pin Definitions |             |
|-------------------------------------|-------------|
| Pin#                                | Definition  |
| 1                                   | Clock       |
| 2                                   | Data        |
| 3                                   | PMBUS_Alert |
| 4                                   | Ground      |
| 5                                   | NC          |

### TPM/Port 80 Header

A Trusted Platform Module (TPM)/Port 80 header is located at JTPM1 to provide TPM support and a Port 80 connection. Use this header to enhance system performance and data security. Refer to the table below for pin definitions.

| Trusted Platform Module Header<br>Pin Definitions |             |      |                |
|---------------------------------------------------|-------------|------|----------------|
| Pin#                                              | Definition  | Pin# | Definition     |
| 1                                                 | LCLK        | 2    | GND            |
| 3                                                 | LFRAME#     | 4    | No Pin         |
| 5                                                 | LRESET#     | 6    | +5V (X)        |
| 7                                                 | LAD3        | 8    | LAD2           |
| 9                                                 | 3.3V        | 10   | LAD1           |
| 11                                                | LAD0        | 12   | GND            |
| 13                                                | SMB_CLK (X) | 14   | SMB_DAT (X)    |
| 15                                                | P3V3_STBY   | 16   | SERIRQ         |
| 17                                                | GND         | 18   | LPC_CLKRUN (X) |
| 19                                                | SUS_STAT_N  | 20   | LDRQ# (X)      |



### SATA Ports

Up to three SATA 3.0 ports (I-SATA0/1/2) are available. I-SATA1/2 are disabled when PCI-E x2 expansion slot6 or slot7 is enabled in the BIOS setup.

#### M.2 B-Key

JMD1 is a B-key connector supporting a PCI-E 3.0 x2/SATA/USB device in 3042 or 2280 lengths.

#### M.2 M-Key

JMD2 is a M-key connector supporting a PCI-E 3.0 x2/SATA device in 2042 or 2280 lengths.

### Thermal Diode Headers

JRT3 is the thermal diode 1 header, and JRT4 is the thermal diode 2 header. They are thermal sensor headers that provide additional system temperature monitoring.

| Thermal Diode 1<br>Pin Definitions |            |
|------------------------------------|------------|
| Pin#                               | Definition |
| 1                                  | TD1_P      |
| 2                                  | TD1_N      |

| Thermal Diode 2<br>Pin Definitions |            |
|------------------------------------|------------|
| Pin#                               | Definition |
| 1                                  | TD1_P      |
| 2                                  | TD1_N      |

### LAN Port Activity LED

#### JLANLED1

Activity LED for LAN ports 3/4/5/6.

#### JLANLED2

Activity LED for LAN ports 7/8.

#### JLANLED3 (-LN10PF SKUs only)

Activity LED for LAN ports 9/10

### Front RJ45 Link and Activity LED Header

JFPCLED1 is the 1GbE RJ45 link and activity LED header. Attach a cable from this header to the Supermicro LED board (Part Number: FPB-FPE300-LED10) to display the status of the RJ45 LAN link and activity LED.

### Front SFP Link and Activity LED Header

JSPFLED1 is the 1GbE SFP link and activity LED header. Attach a cable from this header to the Supermicro LED board (Part Number: FPB-FPE300-LED10) to display the status of the SFP link and activity LED.

### 3.3 Ports

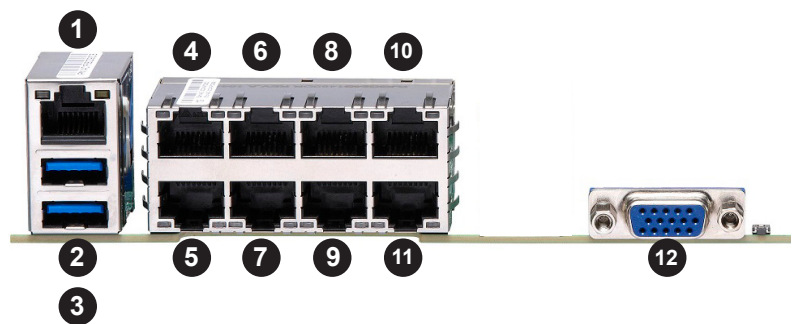


Figure 3-1. Rear Input/Output Ports

| Rear I/O Ports |               |     |             |     |             |
|----------------|---------------|-----|-------------|-----|-------------|
| #              | Description   | #   | Description | #   | Description |
| 1.             | IPMI LAN Port | 6.  | LAN4        | 11. | LAN7        |
| 2.             | USB1          | 7.  | LAN3        | 12. | VGA         |
| 3.             | USB0          | 8.  | LAN6        |     |             |
| 4.             | LAN2          | 9.  | LAN5        |     |             |
| 5.             | LAN1          | 10. | LAN8        |     |             |

#### VGA Port

A VGA port is located on the I/O back panel. Use this port to connect to a compatible VGA display.

#### LAN Ports

There are ten LAN ports on the A2SDV-4C-LN10PF motherboard. The A2SDV-4C-LN10PF supports two SFP connectors on LAN1~2 and eight RJ45 connectors on LAN3~10. The motherboard also offers one IPMI LAN port.

## COM Header

The motherboard has one COM header for front access to provide a serial connection.

| COM Header<br>Pin Definitions |            |      |            |
|-------------------------------|------------|------|------------|
| Pin#                          | Definition | Pin# | Definition |
| 1                             | DCD        | 6    | DSR        |
| 2                             | RXD        | 7    | RTS        |
| 3                             | TXD        | 8    | CTS        |
| 4                             | DTR        | 9    | RI         |
| 5                             | Ground     | 10   | N/A        |

## Universal Serial Bus (USB) Ports

There are three USB 3.1 Gen 1 Type-A (USB0/1 rear and USB4 header) and one USB 2.0 header (USB2/3). The onboard header can be used to provide front side USB access with a cable (not included). USB 3.1 Gen 1 is also referred to as USB 3.0

| Type A USB 3.1 Gen 1<br>Pin Definitions |            |
|-----------------------------------------|------------|
| Pin#                                    | Definition |
| 1                                       | VBUS       |
| 2                                       | D-         |
| 3                                       | D+         |
| 4                                       | Ground     |
| 5                                       | StdA_SSRX- |
| 6                                       | StdA_SSRX+ |
| 7                                       | GND_DRAIN  |
| 8                                       | StdA_SSTX- |
| 9                                       | StdA_SSTX+ |

| USB 2.0 Header (USB2/3)<br>Pin Definitions |            |      |            |
|--------------------------------------------|------------|------|------------|
| Pin#                                       | Definition | Pin# | Definition |
| 1                                          | +5V        | 6    | +5V        |
| 2                                          | USB_N      | 7    | USB_N      |
| 3                                          | USB_P      | 8    | USB_P      |
| 4                                          | Ground     | 9    | Ground     |
| 5                                          | Key        | 10   | NC         |

## Unit Identifier Button/UID LED Indicator

A Unit Identifier button and an LED indicator are located on the motherboard. The UID button (JUIDB) is located next to the VGA port on the back panel. The UID LED is located at UIDLED1, next to the UID button. When you press the UID button, the UID LED will be turned on. Press the UID button again to turn off the LED indicator. The LED indicator provides easy identification of a system unit that may be in need of service.

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

| UID Button<br>Pin Definitions |            |
|-------------------------------|------------|
| Pin#                          | Definition |
| 1                             | Ground     |
| 2                             | Ground     |
| 3                             | Button In  |
| 4                             | Button In  |

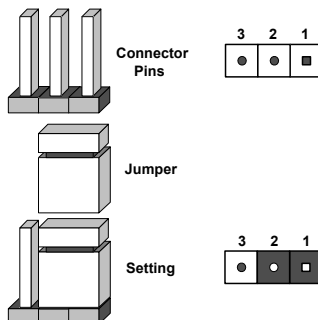
| UID LED<br>Pin Definitions |                 |
|----------------------------|-----------------|
| Color                      | Status          |
| Blue: On                   | Unit Identified |

## 3.4 Jumpers

### Explanation of Jumpers

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

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



### CMOS Clear

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

#### To Clear CMOS

1. First power down the system and unplug the power cord(s).
2. Remove the cover of the chassis to access the motherboard.
3. Remove the onboard battery from the motherboard.
4. Short the CMOS pads with a metal object such as a small screwdriver for at least four seconds.
5. Remove the screwdriver (or shorting device).
6. Replace the cover, reconnect the power cord(s) and power on the system.



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

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

### 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, users need to write their own application software to disable it.

| Watch Dog Jumper Settings |                 |
|---------------------------|-----------------|
| Jumper Setting            | Definition      |
| Pins 1-2                  | Reset (Default) |
| Pins 2-3                  | NMI             |
| Open                      | Disabled        |

### SMBus to PCI Slots

Jumpers JI<sup>2</sup>C1 and JI<sup>2</sup>C2 allow you to connect the System Management Bus (I<sup>2</sup>C) to the PCI-E slots. Both jumpers must be set to the same setting (JI<sup>2</sup>C1 controls the clock and JI<sup>2</sup>C2 controls the data).

| SMBus to PCI Slots Jumper Settings |                              |                    |
|------------------------------------|------------------------------|--------------------|
| JI <sup>2</sup> C1 Setting         | JI <sup>2</sup> C2 Setting   | Definition         |
| JI <sup>2</sup> C1: Pins 1-2       | JI <sup>2</sup> C2: Pins 1-2 | Enabled            |
| JI <sup>2</sup> C1: Pins 2-3       | JI <sup>2</sup> C2: Pins 2-3 | Disabled (Default) |

### Manufacturing Mode Select

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

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

**VGA Enable/Disable**

Use jumper JPG1 to enable or disable the onboard VGA connector. Refer to the table below for jumper settings.

| VGA Enable/Disable<br>Jumper Settings |                   |
|---------------------------------------|-------------------|
| Jumper Setting                        | Definition        |
| Pins 1-2                              | Enabled (Default) |
| Pins 2-3                              | Disabled          |

**BIOS Recovery**

Close pins 2-3 of jumper JBR1 for BIOS recovery. The default setting is on pins 1 and 2 for normal operation. Refer to the table below for jumper settings.

| BIOS Recovery<br>Jumper Settings |               |
|----------------------------------|---------------|
| Jumper Setting                   | Definition    |
| Pins 1-2                         | Normal        |
| Pins 2-3                         | BIOS Recovery |

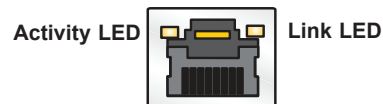
## 3.5 LED Indicators

### LAN LEDs

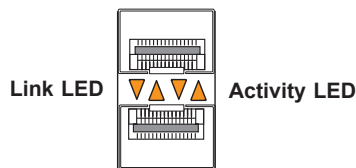
Eight RJ45 LAN ports and two SFP LAN ports are located on the I/O back panel. Each Ethernet LAN port has two LEDs. One LED indicates activity, while the other Link LED may be green, amber, or off to indicate the speed of the connection. Refer to the tables below for more information. When the system is in the S1/S3/S4/S5 states, the LAN Link LED will be in the solid on state.

| Activity Indicator |               |            |
|--------------------|---------------|------------|
| Color              | Status        | Definition |
| Off                | No Connection |            |
| Yellow             | Flashing      | Active     |

| 1GbE RJ45 LAN Link |                          |
|--------------------|--------------------------|
| LED Color          | Definition               |
| Off                | No Connection or 10 Mb/s |
| Green              | 100 Mb/s                 |
| Amber              | 1 Gb/s                   |



| 1G SFP LAN Link LED (LAN9 - LAN10) |               |
|------------------------------------|---------------|
| LED Color                          | Definition    |
| Off                                | No Connection |
| Amber                              | 1G            |



| Activity Indicator |               |            |
|--------------------|---------------|------------|
| Color              | Status        | Definition |
| Off                | No Connection |            |
| Yellow             | Flashing      | Active     |

### Power LED

LED1 is an onboard power LED. When this LED is lit, it means power is present on the motherboard. In suspend mode, this LED will blink on and off. Be sure to turn off the system and unplug the power cord(s) before removing or installing components.

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

### BMC Heartbeat LED

LED1 is the BMC heartbeat LED. When the LED is blinking green, BMC is working. Refer to the table below for the LED status.

| BMC Heartbeat LED Indicator |            |
|-----------------------------|------------|
| LED Color                   | Definition |
| Blinking Green              | BMC Normal |

## Chapter 4

### Software

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

#### 4.1 OS Installation

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

##### Installing the Windows OS for a RAID System

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

##### Installing Windows to a Non-RAID System

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

## 4.2 Driver Installation

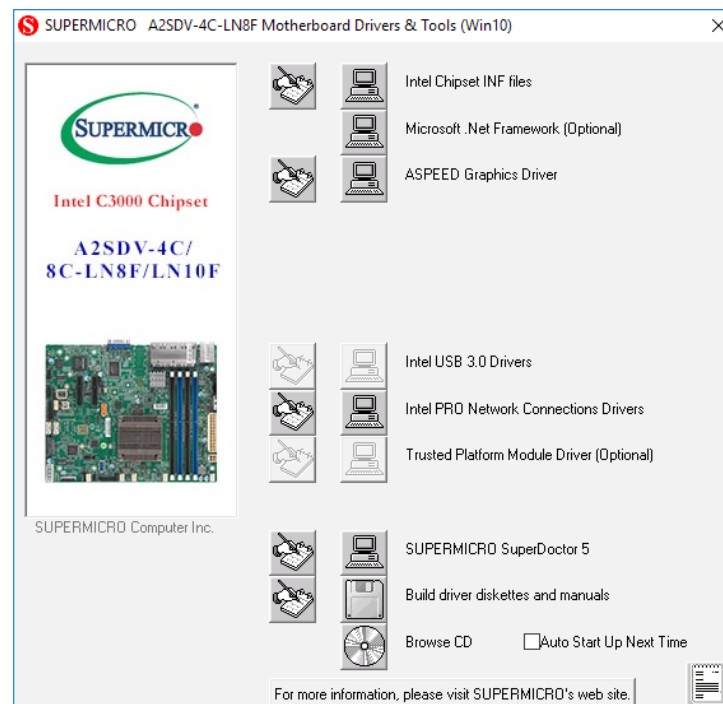
The Supermicro website contains drivers and utilities for your system at <https://www.supermicro.com/wftp/driver>. Some of these must be installed, such as the chipset driver.

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

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

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

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



**Figure 5-1. Driver & Tool Installation Screen**

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

## 4.3 SuperDoctor® 5

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

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

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

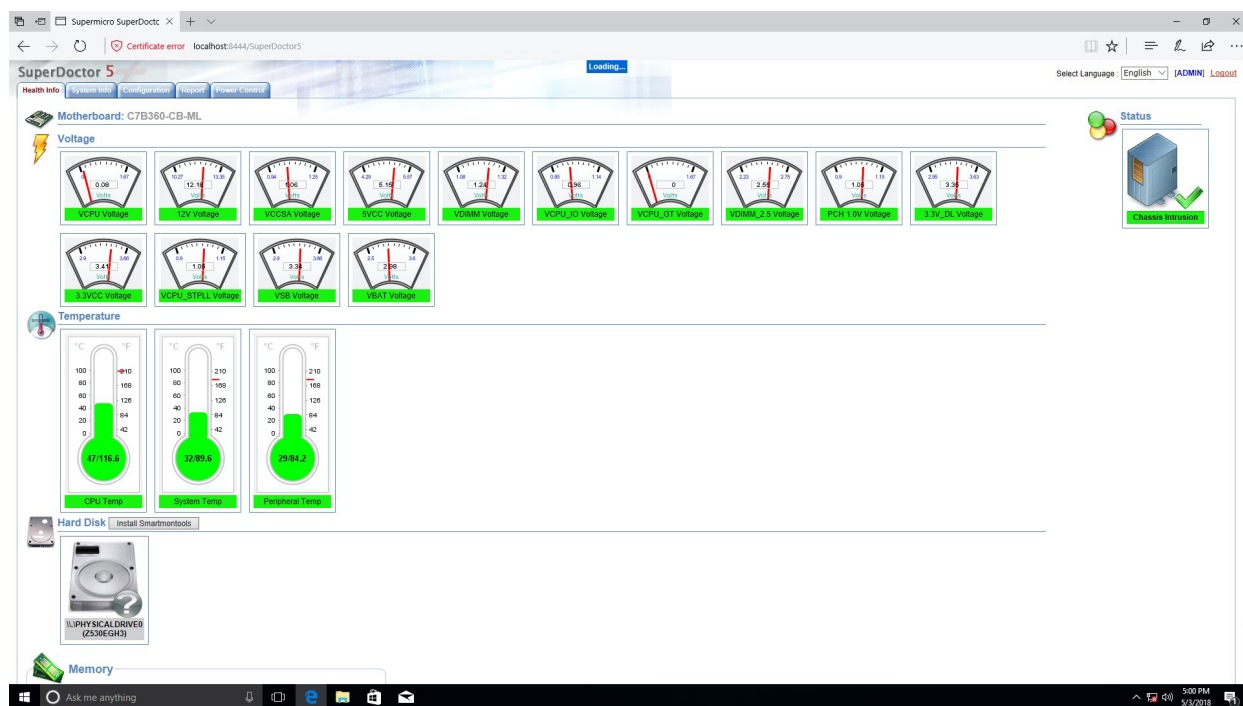


Figure 5-2. SuperDoctor 5 Interface Display Screen (Health Information)

## 4.4 IPMI

The A2SDV-4C-LN10PF supports the Intelligent Platform Management Interface (IPMI). IPMI is used to provide remote access, monitoring and management. There are several BIOS settings that are related to IPMI.

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

## Chapter 5

# BIOS

### 5.1 Introduction

This chapter describes the AMI BIOS setup utility for the A2SDV-4C-LN10PF. 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 D.

#### Starting BIOS Setup Utility

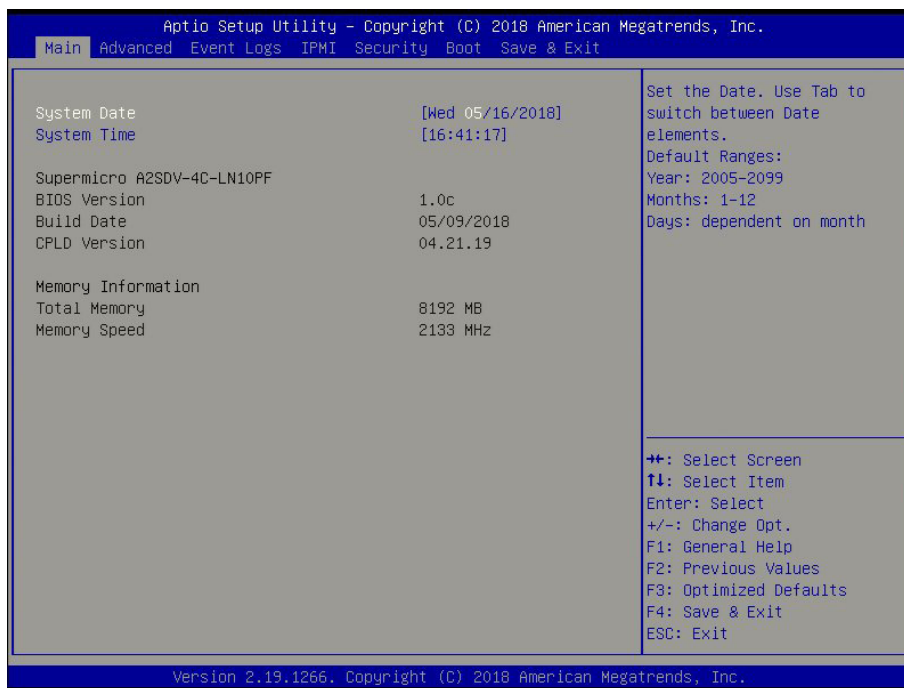
To enter the BIOS Setup Utility, hit the <Delete> key while the system is booting up. (In most cases, the <Delete> key is used to invoke the BIOS setup screen. There are a few cases when other keys are used, such as <F1>, <F2>, etc.) Each main BIOS menu option is described in this manual.

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

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

## 5.2 Main Setup

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



### System Date/System Time

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

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

### Supermicro A2SDV-4C-LN10PF

#### BIOS Version

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

#### Build Date

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

#### CPLD Version

This feature displays the Complex Programmable Logic Device (CPLD) version.

## **Memory Information**

### **Total Memory**

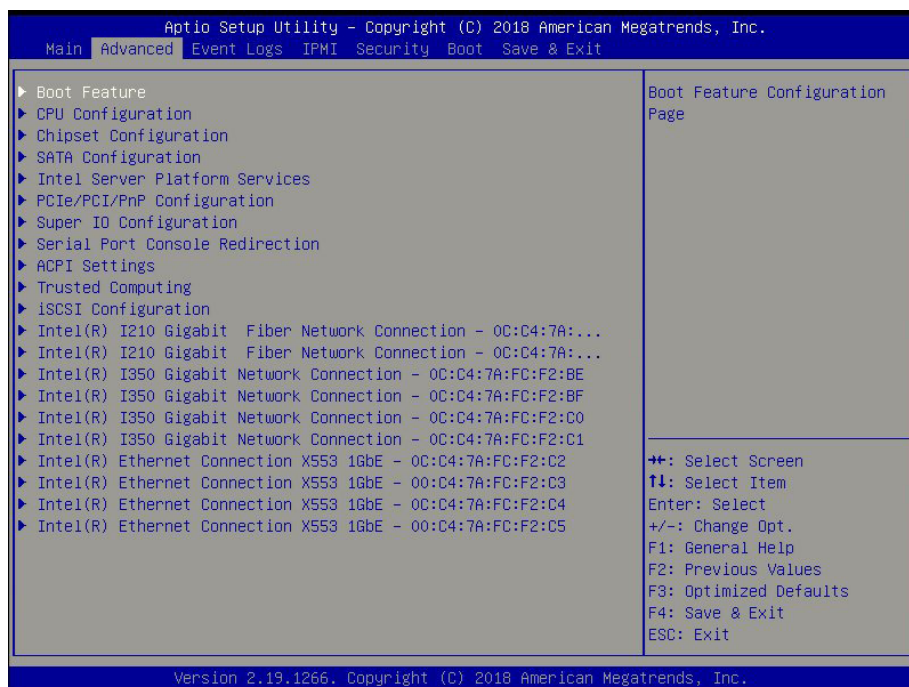
This feature displays the total size of memory available in the system.

### **Memory Speed**

This feature displays the default speed of the memory modules installed in the system.

## 5.3 Advanced

Use this menu to configure Advanced settings.



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

### ► Boot Feature

#### Quiet Boot

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

#### Bootup NumLock State

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

#### Wait For "F1" If Error

This feature forces the system to wait until the F1 key is pressed if an error occurs. The options are Disabled and **Enabled**.

## Power Configuration

### Watch Dog Function

If enabled, the Watch Dog timer will allow the system to reboot when it is inactive for more than 5 minutes. The options are **Disabled** and **Enabled**.

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

## ►CPU Configuration

The following CPU information will display:

- Displays the CPU model
- Processor ID
- Microcode Revision
- Processor Frequency
- CPU BCLK Frequency
- L1 Cache RAM
- L2 Cache RAM

### EIST (GV3)

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**.

### BIOS Request Frequency

Use this feature to instruct how much frequency will be delivered to the processor. The options are Disable and **Enable**.

## TM1

Select Enable to activate TM1 support for system thermal monitoring. TM1 allows the CPU to regulate its power consumption based upon the modulation of the CPU Internal clock when the CPU temperature reaches a pre-defined overheating threshold. The options are Disable and **Enable**.

## TM2 Mode

Use this feature to select the throttling mode for TM2. The options are LFM Throttling and **Adaptive Throttling**.

*\*The feature above is not available when EIST (GV3) or TM1 is disabled.*

## Dynamic Self Refresh

Select Enable to support Dynamic Self-Refreshing for the onboard memory controller. The options are **Disable** and Enable.

## CPU C State

Select Enabled to enhance the Cx state of the CPU. Reboot the system for this feature to take effect. The options are Disable and **Enable**.

## Package C State limit

Use this item to set the limit on the C-State package register. The options are No Pkg C-State, No S0Ix, and **No Limit**. This feature is not available when CPU C State is disabled.

## Max Core C-State

Use this feature to select the CPU C-state. The options are C1 and **C6**. This feature is not available when CPU C State is disabled.

## Enhanced Halt State (C1E)

Select Enable to enable Enhanced Halt State support, which will significantly reduce the CPU's power consumption by minimizing its clock cycles and voltage use during a Halt State. The options are Disable and **Enable**. This feature is not available when CPU C State is disabled.

## Monitor/Mwait

Select Enable to enable the Monitor/Mwait instructions. The Monitor instructions 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**. This feature is not available when CPU C State is disabled.

## L1 Prefetcher

If enabled, the hardware prefetcher will prefetch streams of data and instructions from the main memory to the L1 cache to improve CPU performance. The options are **Enable** and Disable.

## L2 Prefetcher

If 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 **Enable** and Disable.

## ACPI 3.0 T-States

Select Enable to support ACPI (Advanced Configuration and Power Interface) 3.0 T-States to determine how the processor will report to the operating system during CPU-Throttling states. The options are **Disable** and Enable.

***\*If the feature above is enabled, T-State Throttle will be available for configuration:***

## T-State Throttle

Use this feature to select the On-Die thermal throttling. The options are **default**, 12.5%, 25.0%, 37.5%, 50.0%, 62.5%, 75.0%, and 87.5%.

## Max CPUID Value Limit

Use this feature to set the maximum CPU ID value. Enable this feature to boot the legacy operating systems that cannot support processors with extended CPUID functions. The options are **Disable** and Enable.

## Execute Disable Bit

Set to Enable for Execute Disable Bit support, 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 damaging the system during a virus attack. The options are Disable and **Enable**. (Refer to the Intel and Microsoft websites for more information.)

## Virtualization Technology

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

## Extended APIC (Advanced Programmable Interrupt Controller)

Based on the Intel Hyper-Threading technology, each logical processor (thread) is assigned 256 APIC IDs (APIDs) in 8-bit bandwidth. When this item is set to Enable, the APIC ID will be expanded from 8 bits to 16 bits to provide 512 APIDs to each thread to enhance CPU performance. The options are **Disable** and Enable.

## AES-NI

Select Enable to use the Intel Advanced Encryption Standard (AES) New Instructions (NI) to ensure data security. The options are Disable and **Enable**.

**Lock PACKAGE\_RAPL\_LIMIT**

Use this feature to lock the MSR 0x610 bit. The options are **Disable** and **Enable**.

***\*If the feature above is set to Disable, the next three features will be available for configuration:***

**PL1 Time Window**

Use this feature to define the Running Average Power Limit (RAPL) time window 1 in milliseconds. The default setting is **45**. Use the "+" or "-" keys to define the setting.

**PL1 Power Level (This feature is dependent on the CPU)**

Use this feature to define the Running Average Power Limit (RAPL) power limit 1 in Watts. The default setting is **31**. Use the "+" or "-" keys to define the setting.

**PL2 Power Level (This feature is dependent on the CPU)**

Use this feature to define the Running Average Power Limit (RAPL) power limit 2 in Watts. The default setting is **37**. Use the "+" or "-" keys to define the setting.

**Active Processor Cores**

Use this feature to set the number of processor cores that will be activated for each CPU. Select **0** to activate all processor cores.

**►Chipset Configuration**

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

**►North Bridge Configuration****North Bridge Configuration****Memory Information**

- MRC Version
- Total Memory
- Memory Frequency

**VT-d**

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

**VT-d Interrupt remapping**

Use this feature to enable Interrupt Remapping support, which detects and controls external interrupt requests. The options are Disabled and **Enabled**.

**Fast Boot**

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

**Command Address Parity**

Use this feature to address the DDR4 command parity. The options are **Disabled** and Enabled.

**Memory Frequency**

Use this feature to set the maximum memory frequency for onboard memory modules. The options are DDR-1600, DDR-1867, DDR-2133, and **DDR-2400**.

**MMIO Size / BMBOUND Base**

Use this feature to select the memory mapped IO size and BMBOUND base setting. The low for the two settings will always be 4GB. The options are **Auto**, 1024M/3072M, and 3072M/1024M.

**TCL performance**

Use this feature to enable the CAS Latency (tCL) to increase memory performance. The options are Disabled and **Enabled**.

**Memory Preservation**

Enable this feature for the memory content to be preserved through a warm reset. The options are **Disabled** and Enabled.

**Patrol Scrub Enable**

Patrol Scrubbing is a process that allows the CPU to correct correctable memory errors detected in a memory module and send the correction to the requestor (the original source). When this item is set to Enable, 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 64GB of memory behind the IO hub will be scrubbed every day. The options are **Enabled** and Disabled.

**Patrol Scrub Period**

Use this feature to select the Patrol Scrub period. The options are **24 hours**, 10 hours, 4 hours, and 1 hour.

**Demand Scrub Enable**

Demand Scrubbing is a process that allows the CPU to correct correctable memory errors found in 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 corrected as well. Select Enable to use Demand Scrubbing for ECC memory correction. The options are Disabled and **Enabled**.

**Write Data Early Enable**

Use this feature to enable or disable write data early. The options are **Disabled** and Enabled.

**Select Refresh Rate**

Use this feature to select the memory refresh rate. The options are **1x/2x** and 1x/2x/4x.

**CKE Power Down**

Clock enable (CKE) Power Down controls the low power down for the memory. The options are **Disabled**, Active Power Down, and Precharge Power Down.

**Memory Thermal Throttling**

Memory thermal throttling is a power management feature that monitors read and write activities to control power consumption. The options are Auto and **Disabled**.

***\*If the feature above is set to Auto, CLTT Mode and MEMTRIP will be available for configuration:***

**CLTT Mode**

Use this feature to select the Closed Loop Thermal Throttling (CLTT) mode. The default option is Passthru.

**MEMTRIP**

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

**Scrambler**

This feature scrambles data in the memory and makes it inaccessible. The options are Disabled and **Enabled**.

**Slow Power Down Exit**

Use this feature to enable or disable the slow power down exit from pre-charge. The options are Disabled and **Enabled**.

## ►South Bridge Configuration

### South Bridge Configuration

- USB Module Version
- USB Controllers:
- USB Devices:

### Legacy USB Support

Select Enabled to support onboard legacy USB devices. Select Auto to disable legacy support if there are no legacy USB devices present. Select Disable to have all USB devices available for EFI applications only. 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.

### Port 60/64 Emulation

Select Enabled for I/O port 60h/64h emulation support, which in turn, will provide complete legacy USB keyboard support for the operating systems that do not support legacy USB devices. The options are Disabled and **Enabled**.

## ►IQAT Configuration

### IQAT

Select Enabled to hide IQAT devices from the operating system. The options are Disabled and **Enabled**.

### Set 64B MRR/MPL

Use this feature to enable setting for the 64B MRR/MPL in IQAT DevCTL register. The options are Disabled and **Enabled**.

*\*The following feature is displayed if an M.2 device is detected by the system:*

### M.2 (B-Key) I/O Selection

Use this feature to select the type of M.2 interface. The options are **SATA**, PCIe, PCIe/USB, and SATA/USB.

### Flexible I/O Selection

Use this feature to configure the port to be PCI-E or SATA. The options are **PCIe x2** and SATA [2:1].

## ►SATA Configuration

### ►SATA0

#### SATA 0 Enable controller

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

#### SATA 0 ALPM

When this feature 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 Enabled and **Disabled**.

***\*If the feature above is set to Enabled, SATA 0 ALPM will be available for configuration:***

#### SATA 0 LPM

Use this feature to enable or disable Aggressive Link Power Management. The options are **Enabled** and Disabled.

#### SATA 0 SGPIO/LED

Use this feature to select SATA SGPIO or SATA LED. The options are SATA SGPIO and **SATA LED**.

### ►I-SATA (M.2 - B Key)

This following information is displayed for each M.2 drive entry:

- Device Information:
- Device Size:

#### I-SATA (M.2 - B Key) Enable/disable port

Use this feature to disable or enable the SATA port number. The options are **Enabled** and Disabled.

#### I-SATA (M.2 - B Key) Spin up

When the value of an edge detect or the value of an image binary (pixel) of a device is from 0 to 1, select Enabled to allow the PCH to start a COMRESET initialization sequence on this device. The options are Enabled and **Disabled**.

## ► SATA1

### SATA 1 Enable controller

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

### SATA 1 ALPM

When this feature 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 Enabled and **Disabled**.

***\*If the feature above is set to Enabled, SATA 1 ALPM will be available for configuration:***

### SATA 1 ALPM

Use this feature to enable or disable Aggressive Link Power Management. The options are **Enabled** and Disabled.

### SATA 1 SGPIO/LED

Use this feature to select SATA SGPIO or SATA LED. The options are SATA SGPIO and **SATA LED**.

## ► I-SATA0 ~ I-SATA2

This following information is displayed for each SATA drive entry:

- Device Information
- Device Size

### Enable/disable port

Use this feature to disable or enable the SATA port number. The options are **Enabled** and Disabled.

### Spin up

When the value of an edge detect or the value of an image binary (pixel) of a device is from 0 to 1, select Enabled to allow the PCH to start a COMRESET initialization sequence on this device. The options are Enabled and **Disabled**.

## ►Intel Server Platform Services

### General ME Configuration

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

## ►PCIe/PCI/PnP Configuration

**Platform Mode** - A5.01.12

### PCI Devices Common Settings:

#### Above 4G 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 Support

Select Enabled for Single-Root IO Virtualization (SR-IOV) support. SR-IOV is an extension of the PCI Express interface and consists of two functions: physical functions (PF) and virtual functions (VF). PF is the primary function and is used to control and configure PCI Express devices, whereas VF is the lightweight function that offers limited configuration. The options are **Disabled** and Enabled.

**Maximum Payload**

Select Auto for the system BIOS to automatically set the maximum payload value for a PCI-E device to enhance system performance. The options are **Auto**, 128 Bytes, 256 Bytes, 512 Bytes, 1024 Bytes, 2048 Bytes, and 4096 Bytes.

**Maximum Read Request**

Select Auto for the system BIOS to automatically set the maximum size for a read request for a PCI-E device to enhance system performance. The options are **Auto**, 128 Bytes, 256 Bytes, 512 Bytes, 1024 Bytes, 2048 Bytes, and 4096 Bytes.

**ASPM Support**

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

**Warning:** Enabling ASPM support may cause some PCI-E devices to fail!

**ARI Forwarding**

Select Enabled to lift a traditional Device Number restriction when turning a Type1 Configuration request into a Type0 Configuration request to permit access to extended functions in an ARI Device immediately below the port. The options are **Disabled** and Enabled.

**CPU SLOT7 PCI-E 3.0 X4 OPROM**

Use this item to select the firmware type for the add-on card for this slot. The options are Disabled, Legacy, and **EFI**.

**KEY-B SATA3/USB3 OPROM**

Use this item to select the firmware type for the add-on card for this slot. The options are Disabled, Legacy, and **EFI**.

**Onboard LAN OPROM Type**

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

**Onboard Video OPROM**

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

**VGA Priority**

Use this feature to select the active video type. The options are **Onboard** and Offboard.

## Network Stack

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

***\*If "Network Stack" is set to Enabled, the next four features will be available for configuration:***

### Ipv4 PXE Support

Use this feature to enable Ipv4 PXE Boot Support. If this feature is disabled, it will not create the Ipv4 PXE Boot option. The options are Disabled and **Enabled**.

### Ipv6 PXE Support

Use this feature to enable Ipv6 PXE Boot Support. If this feature is disabled, it will not create the Ipv6 PXE Boot option. The options are **Disabled** and Enabled.

### PXE boot wait time

Use this feature to select the wait time to press the ESC key to abort the PXE boot. The default is **0**.

### Media Detect Count

Use this feature to select the wait time in seconds to detect LAN media. The default is **1**.

## ►Super IO Configuration

### Super IO Configuration

#### Super IO Chip AST2400

### ►Serial Port 1 Configuration

#### Serial Port 1 Configuration

##### Serial Port 1

Select Enabled to enable the onboard serial port specified by the user. The options are Disabled and **Enabled**.

##### Device Settings

This feature displays the base I/O port address and the Interrupt Request address of a serial port specified by the user. This feature is hidden when Serial Port 1 is disabled.

### Serial Port 1 Change Settings

This feature specifies the base I/O port address and the Interrupt Request address of Serial Port 1. Select **Auto** for the BIOS to automatically assign the base I/O and IRQ address to a serial port specified. The options are **Auto**, (IO=3F8h; IRQ=4), (IO=3F8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12), (IO=2F8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12); (IO=3E8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12), and (IO=2E8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12).

## ►Serial Port Console Redirection

### COM 1 Console Redirection

Select Enabled to enable COM Port 1 for Console Redirection, which will allow a client machine to be connected to a host machine at a remote site for networking. The options are Enabled and **Disabled**.

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

### ►COM1 Console Redirection Settings

#### COM1 Terminal Type

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

#### COM1 Bits per second

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

#### COM1 Data Bits

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

#### COM1 Parity

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

**COM1 Stop Bits**

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

**COM1 Flow Control**

Use this 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** and Hardware RTS/CTS.

**COM1 VT-UTF8 Combo Key Support**

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

**COM1 Recorder Mode**

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

**COM1 Resolution 100x31**

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

**COM1 Putty KeyPad**

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

**SOL****SOL Console Redirection**

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

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

**►SOL Console Redirection Settings**

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

### **SOL Terminal Type**

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

### **SOL Bits per second**

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

### **SOL Data Bits**

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

### **SOL Parity**

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

### **SOL Stop Bits**

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

### **SOL Flow Control**

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

### **SOL VT-UTF8 Combo Key Support**

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

### **SOL Recorder Mode**

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

**SOL Resolution 100x31**

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

**SOL Putty KeyPad**

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

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

Use the features in this submenu 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 **Disabled** and Enabled.

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

**►EMS Console Redirection Settings**

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

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

**Bits per second**

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

**Flow Control**

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

**Data Bits****Parity****Stop Bits****►ACPI Settings****ACPI Settings****WHEA Support**

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

**Headless Support**

Select Enabled for the system to function without a keyboard, mouse, or monitor. The options are **Disabled** and Enabled.

**►Trusted Computing (Available when a TPM device is installed and detected by the BIOS)**

*\*The features from here to Current Status Information are displayed if a TPM 1.2 module is detected:*

**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 support to enhance data integrity and network security. Reboot the system for a change on this setting to take effect. The options are Disable and **Enable**.

**TPM State**

Select Enabled to use TPM (Trusted Platform Module) settings to enhance system data security. Reboot your system for any change on the TPM state to take effect. The options are **Disable** and Enable.

### 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.

**Note:** Reboot the computer to change the state of the security device.

### 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**.

### Current Status Information

This item displays the status of the TPM support on this motherboard.

- TPM Enabled Status
- TPM Active Status
- TPM Owner Status

***\*The features from here to Device Select on the next page are displayed if a TPM 2.0 module is detected:***

### TPM20 Device Found

**Vendor: IFX**

**Firmware Version: 5.51**

### 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 support to enhance data integrity and network security. Reboot the system for a change on this setting to take effect. The options are Disable and **Enable**.

The following TPM information will be displayed:

- Active PCR banks
- Available PCR banks

***\*If the feature "Security Device Support" is set to Enable, the following features will become available for configuration:***

#### SHA-1 PCR Bank

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

### **SHA256 PCR Bank**

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

### **Pending operation**

Use this 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.

### **Platform Hierarchy**

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

### **Storage Hierarchy**

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

### **Endorsement Hierarchy**

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

### **TPM2.0 UEFI Spec Version**

Use this feature to specify the TPM UEFI spec version. TCG 1.2 has support for Windows® 2012, Windows 8, and Windows 10. TCG 2 has support for Windows 10 or later. The options are TCG\_1\_2 and **TCG\_2**.

### **Physical Presence Spec Version**

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

### **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**.

## ► iSCSI Configuration

### iSCSI Initiator Name

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

► Add an Attempt

► Delete Attempts

► Change Attempt Order

- Intel® I210 Gigabit Fiber Network Connection - 0C:C4:7A:...
- Intel® I210 Gigabit Fiber Network Connection - 0C:C4:7A:...
- Intel® I350 Gigabit Network Connection - 0C:C4:7A:FC:F2:BF
- Intel® I350 Gigabit Network Connection - 0C:C4:7A:FC:F2:BF
- Intel® I350 Gigabit Network Connection - 0C:C4:7A:FC:F2:C0
- Intel® I350 Gigabit Network Connection - 0C:C4:7A:FC:F2:C1
- Intel® Ethernet Connection X553 1GbE - 0C:C4:7A:FC:F2:C2
- Intel® Ethernet Connection X553 1GbE - 0C:C4:7A:FC:F2:C3
- Intel® Ethernet Connection X553 1GbE - 0C:C4:7A:FC:F2:C4
- Intel® Ethernet Connection X553 1GbE - 0C:C4:7A:FC:F2:C5

These features display the following information:

## ► NIC Configuration (Dependent on the LAN chipset)

### Link Speed

Use this feature to change the link speed and duplex for the current port. The options are **Auto Negotiated**, 10Mbps Half, 10Mbps Full, 100Mbps Half, and 100Mbps full.

### SFP LAN

This feature is grayed out and cannot be selected.

### Wake On LAN

Select enabled to wake the system with a magic packet. The options are **Enabled** and Disabled.

### Blink LEDs

This feature allows the user to specify the duration for LEDs to blink. The range is from 0 ~ 15 seconds. The default setting is **0**.

### **UEFI Driver**

This feature displays the UEFI driver version.

### **Adapter PBA**

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

### **Device Name**

This feature displays the adapter device name.

### **Chip Type**

This feature displays the network adapter chipset name.

### **PCI Device ID**

This feature displays the device ID number.

### **PCI Address**

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

### **Link Status**

This feature displays the connection status.

### **MAC Address**

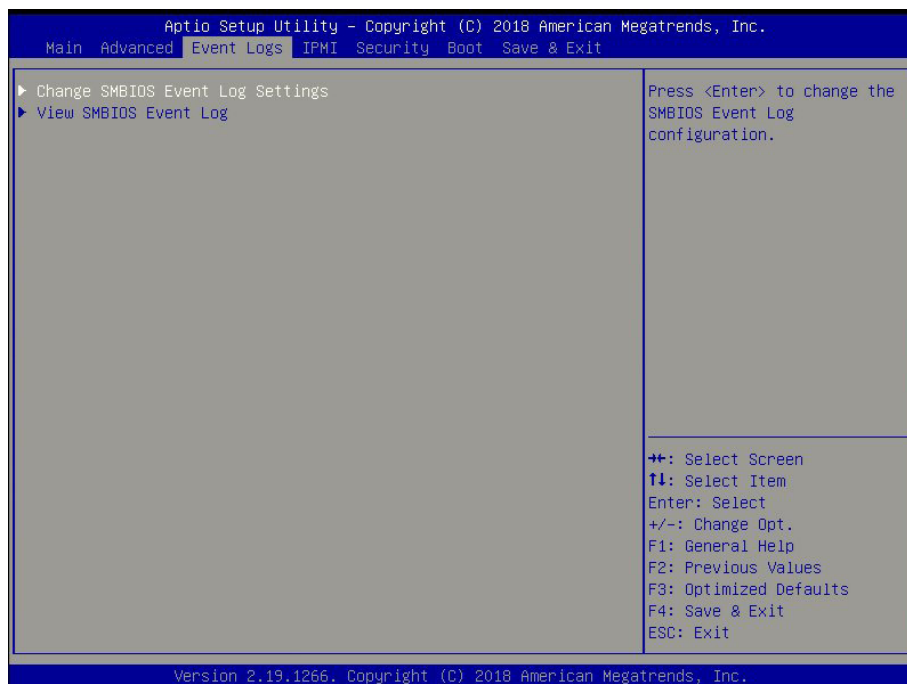
This feature displays the MAC address for this computer. Mac addresses are six two-digit hexadecimal numbers.

### **Virtual MAC Address**

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

## 5.4 Event Logs

Use this menu to configure Event Log settings.



### ► Change SMBIOS Event Log Settings

#### Enabling/Disabling Options

##### PCIe ELog Support

Use this feature to enable or disable PCI-e error logging suport. The options are Disabled and **Enabled**.

##### Memory ELog Support

Use this feature to enable or disable memory error logging suport. The options are Disabled and **Enabled**.

##### Error Threshold

Use this feature to modify the MCI error threshold from one to 32768. The default is **100**.

##### SMBIOS Event Log

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

## Erasing Settings

### Erase Event Log

Select Enabled to erase all error events in the SMBIOS (System Management BIOS) log before an event logging is initialized at bootup. The options are **No**, Yes, Next reset, and Yes, Every reset.

### When Log is Full

Select Erase Immediately to immediately erase all errors in the SMBIOS event log when the event log is full. Select Do Nothing for the system to do nothing when the SMBIOS event log is full. The options are **Do Nothing** and Erase Immediately.

## SMBIOS Event Log Standard Settings

### Log System Boot Event

Select Enabled to log system boot events. The options are Enabled and **Disabled**.

### MECI (Multiple Event Count Increment)

Enter the increment value for the multiple event counter. Enter a number between 1 to 255. The default setting is **1**.

### METW (Multiple Event Count Time Window)

This feature is used to determine how long (in minutes) should the multiple event counter wait before generating a new event log. Enter a number between 0 to 99. The default setting is **60**.

**Note:** All values here that have been changed do not take effect until the computer is restarted.

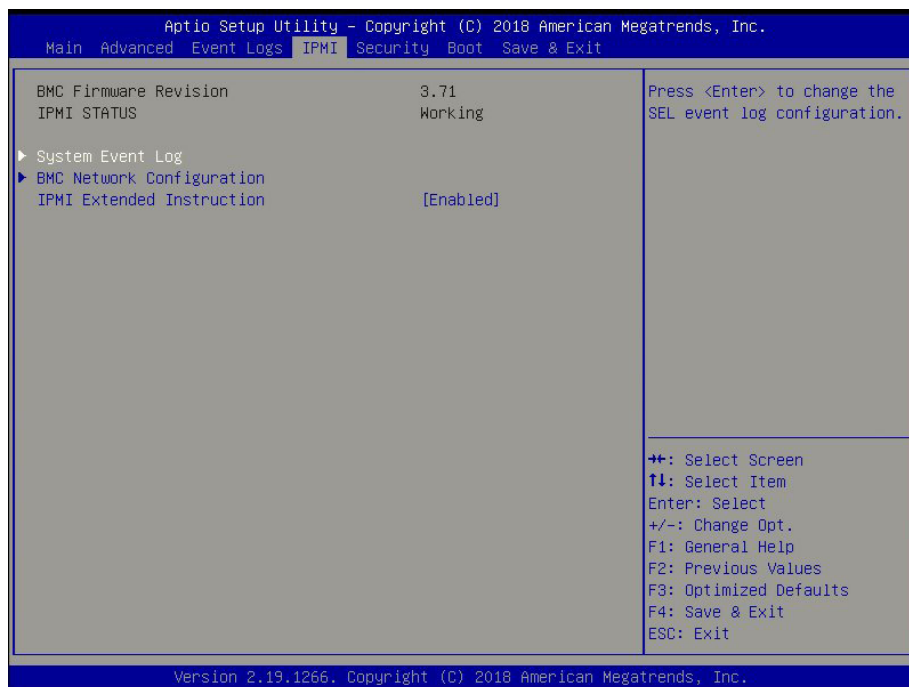
## ►View SMBIOS Event Log

This item allows the user to view the event in the SMBIOS event log. The following categories are displayed:

**DATE/TIME/ERROR CODE/SEVERITY**

## 5.5 IPMI

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



### BMC Firmware Revision

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

### IPMI Status

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

### ► System Event Log

#### Enabling/Disabling Options

#### SEL Components

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

#### Erasing Settings

#### Erase SEL

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

### When SEL is Full

This feature allows the user to determine 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:** All values here that have been changed do not take effect until the computer is restarted in the BIOS setup menu.

## ► BMC Network Configuration

The following features will be displayed:

### IPMI LAN Selection

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

### IPMI Network Link Status:

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

### Update IPMI LAN Configuration

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

***\*If the feature above is set to Yes, Configuration Address Source and VLAN will become available for configuration:***

### Configuration Address Source

Use this feature 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 features are assigned IP addresses automatically if DHCP is selected, or they can be configured manually if Static is selected.

### Station IP Address

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

### Subnet Mask

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

**Station MAC Address**

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

**Gateway IP Address**

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

**VLAN**

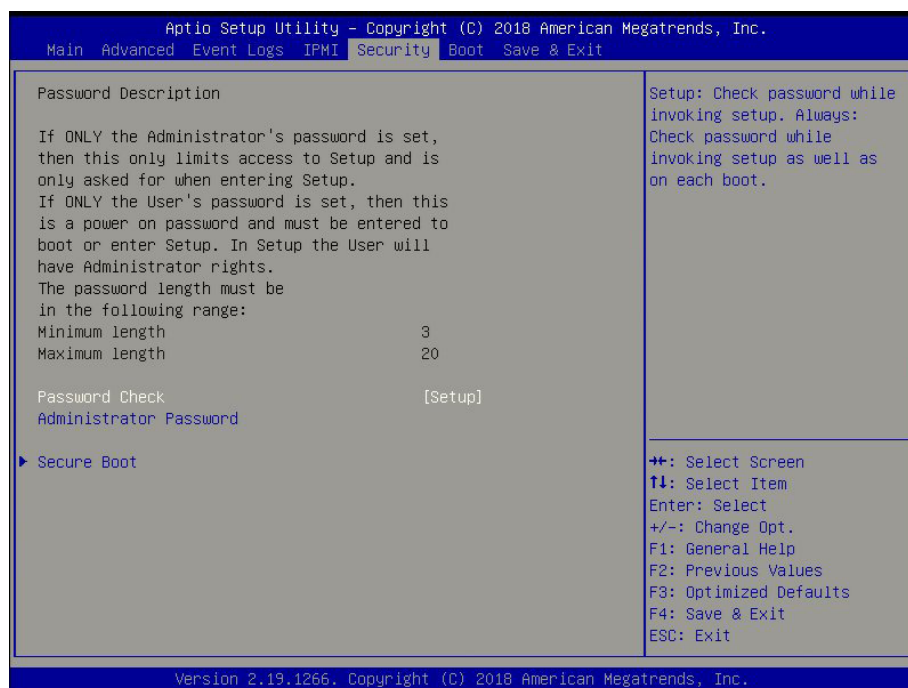
This feature is configurable if the Update IPMI LAN Configuration feature is set to Yes. Use this feature to enable or disable the IPMI VLAN function. The options are **Disable** and **Enable**.

**IPMI Extended Instruction**

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

## 5.6 Security

Use this menu to configure 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

Use this feature to set the administrator password, which is required to enter the BIOS setup utility. The length of the password should be from 3 characters to 20 characters long.

***\*The feature below is displayed if an Administrator Password is set:***

### User Password

Use this feature to set a user password.

### ► Secure Boot

**Platform Mode** - Setup

**Secure Boot** - Not Active

**Vendor Keys** - Not Active

**Enable Secure Boot**

Select Enable for secure boot support to ensure system security at bootup. The options are **Disabled** and Enabled.

**Secure Boot Mode**

This feature allows the user to select the desired secure boot mode for the system. The options are Standard and **Custom**.

***\*If Secure Boot Mode is set to Custom, Key Management features will be available for configuration:***

**CSM Support**

This feature is for manufacturing debug purposes.

**►Reset to Setup Mode**

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

**►Restore Factory Keys**

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

**►Key Management**

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

**Provision Factory Defaults**

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

**►Enroll Efi Image**

This feature allows the image to run in Secure Boot mode.

**►Save All Secure Boot Variables**

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

**►Platform Key (PK)****Save to File**

Select Yes to save the PK to a storage device.

**Set New**

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

### **Erase**

Select Yes to delete the PK from NVRAM. The options are Yes and No.

### **► Key Exchange Keys**

#### **Save to File**

Select Yes to save the KEK to a storage device.

#### **Set New**

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

#### **Append**

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

### **Erase**

Select Yes to delete the KEK from NVRAM. The options are Yes and No.

### **► Authorized Signatures**

#### **Save to File**

Select Yes to save the db to a storage device.

#### **Set New**

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

#### **Append**

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

### **Erase**

Select Yes to delete the db from NVRAM. The options are Yes and No.

### **► Forbidden Signatures**

#### **Save to File**

Select Yes to save the dbx to a storage device.

#### **Set New**

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

**Append**

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

**Erase**

Select Yes to delete the dbx from NVRAM. The options are Yes and No.

**► Authorized TimeStamps****Set New**

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

**Append**

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

**► OsRecovery Signatures****Set New**

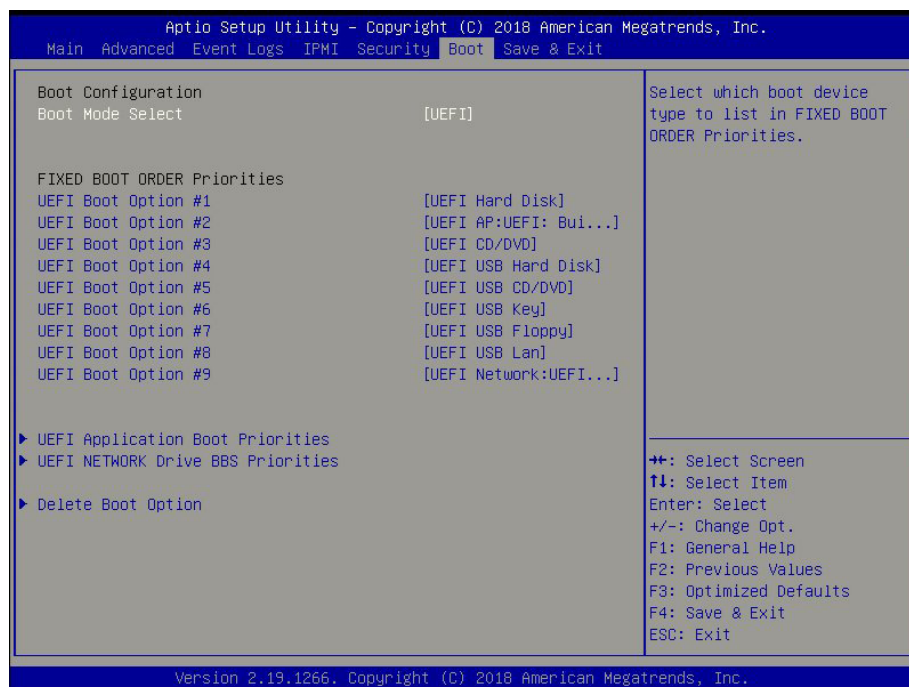
Select Yes to load the dbr from the manufacturer's defaults. Select No to load the dbr from a file. The options are Yes and No.

**Append**

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

## 5.7 Boot

Use this menu to configure Boot settings:



### Boot mode select

Use this feature to select the boot mode for bootable devices in the system. The options are LEGACY, **UEFI**, and DUAL.

### Fixed Boot Order Priorities

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

- LEGACY/UEFI/DUAL Boot Option #1
- LEGACY/UEFI/DUAL Boot Option #2
- LEGACY/UEFI/DUAL Boot Option #3
- LEGACY/UEFI/DUAL Boot Option #4
- LEGACY/UEFI/DUAL Boot Option #5
- LEGACY/UEFI/DUAL Boot Option #6
- LEGACY/UEFI/DUAL Boot Option #7

- LEGACY/UEFI/DUAL Boot Option #8
- LEGACY/UEFI/DUAL Boot Option #9

► **UEFI Application Boot Priorities**

- Boot Option # - This feature sets the system boot order of detected devices. The options are **[the list of detected boot device(s)]** and Disable.

► **UEFI Network Drive BBS Priorities**

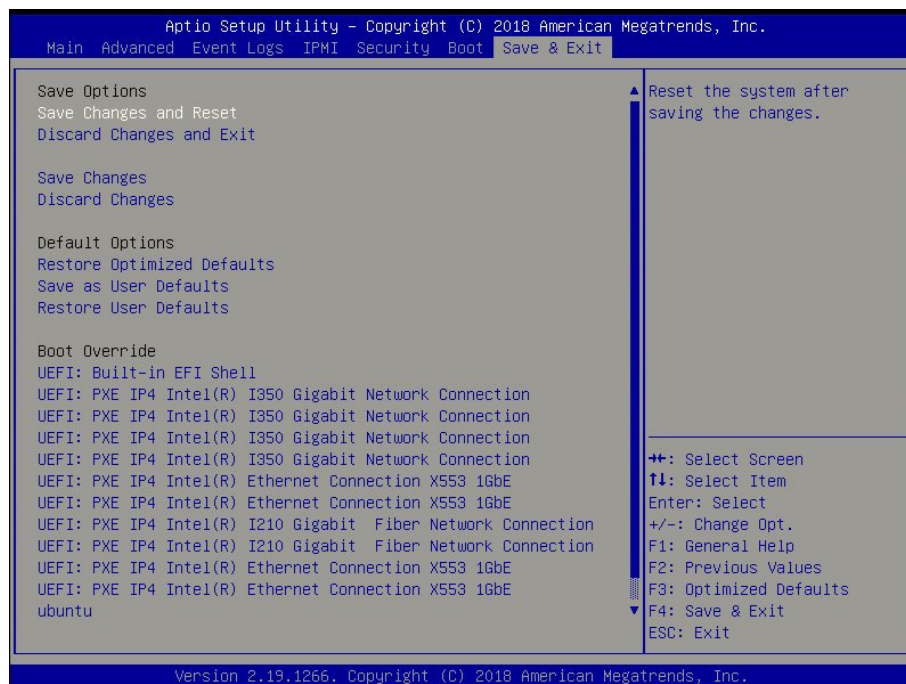
- Boot Option # - This feature sets the system boot order of detected devices. The options are **[the list of detected boot device(s)]** and Disable.

► **Delete Boot Option**

Use this feature to select a boot device to delete from the boot priority list.

## 5.8 Save & Exit

Use this menu to save settings and exit the BIOS.



### Save Options

#### Save Changes and Reset

When you have completed the system configuration changes, select this option to save all changes made and reset the system.

#### 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

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

#### Discard Changes

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

## **Default Options**

### **Restore Optimized Defaults**

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

### **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**

Other boot options are listed in this section. The system will boot to the selected boot option.

### **UEFI: Built-in EFI Shell**

**UEFI: PXE IP4 Intel® I210 Gigabit Fiber Network Connection**

**UEFI: PXE IP4 Intel® I210 Gigabit Fiber Network Connection**

**UEFI: PXE IP4 Intel® I350 Gigabit Network Connection**

**UEFI: PXE IP4 Intel® I350 Gigabit Network Connection**

**UEFI: PXE IP4 Intel® I350 Gigabit Network Connection**

**UEFI: PXE IP4 Intel® I350 Gigabit Network Connection**

**UEFI: PXE IP4 Intel® Ethernet Connection X553 1GbE**

**UEFI: PXE IP4 Intel® Ethernet Connection X553 1GbE**

**UEFI: PXE IP4 Intel® Ethernet Connection X553 1GbE**

**UEFI: PXE IP4 Intel® Ethernet Connection X553 1GbE**

**ubuntu**

**Windows Boot Manager**

## 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** will not allow the system to continue with bootup. If a fatal error occurs, you should consult with your system manufacturer for possible repairs.

These fatal errors are usually communicated through a series of audible beeps. The table below lists some common errors and their corresponding beep codes encountered by users.

| BIOS Error Beep (POST) Codes |                                 |                                              |
|------------------------------|---------------------------------|----------------------------------------------|
| Beep Code                    | Error Message                   | Description                                  |
| 1 beep                       | 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 DC Systems

### B.1 About Standardized Warning Statements

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

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

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

#### Warning Definition



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

#### 警告の定義

この警告サインは危険を意味します。

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

此警告符号代表危險。

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

此警告符號代表危險。

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

## Warnung

### WICHTIGE SICHERHEITSHINWEISE

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

BEWAHREN SIE DIESE HINWEISE GUT AUF.

### INSTRUCCIONES IMPORTANTES DE SEGURIDAD

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

GUARDE ESTAS INSTRUCCIONES.

### IMPORTANTES INFORMATIONS DE SÉCURITÉ

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

CONSERVEZ CES INFORMATIONS.

תקנון הזהרות אזהרה

הזהרות הבאות הן אזהרות על פי תקני התעשייה, על מנת להזהיר את המשתמש מפני חבלה

פיזית אפשרית. במידה ויש שאלות או היתקלות בבעיה כלשהי, יש ליצור קשר עם מחלקת תמיכה

טכנית של סופרמיקרו. טכנאים מוסמכים בלבד רשאים להתקין או להגדיר את הרכיבים. יש לקרוא את הנספח במלואו לפני התקנת או הגדרת הרכיבים במארזי סופרמיקרו.

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

안전을 위한 주의사항

경고!

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

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

## BELANGRIJKE VEILIGHEIDSINSTRUCTIES

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

## BEWAAR DEZE INSTRUCTIES

### Installation Instructions



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

### 設置手順書

システムを電源に接続する前に、設置手順書をお読み下さい。

### 警告

将此系统连接电源前,请先阅读安装说明。

### 警告

將系統與電源連接前，請先閱讀安裝說明。

**Warnung**

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

**¡Advertencia!**

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

**Attention**

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

יש לקרוא את הוראות התקנה לפני חיבור המערכת למקור מתח.

اقرأ إرشادات التركيب قبل توصيل النظام إلى مصدر للطاقة

시스템을 전원에 연결하기 전에 설치 안내를 읽어주십시오.

**Waarschuwing**

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

**Circuit Breaker**

**Warning!** This product relies on the building's installation for short-circuit (overcurrent) protection. Ensure that the protective device is rated not greater than: 60VDC, 20A.

**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60VDC、20A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60VDC,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60VDC,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: 60VDC, 20A 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: 60VDC, 20A.

#### 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 :60VDC, 20A.

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

هذا المنتج يعتمد على معدات الحماية مه الدوائر القصيرة التي تم تثبيتها في  
المبنى  
تأكد من أن تقييم الجهاز الوقائي ليس أكثر من : 20A, 60VDC

#### 경고!

이 제품은 전원의 단락(과전류)방지에 대해서 전적으로 건물의 관련 설비에 의존합니다.  
보호장치의 정격이 반드시 60VDC(볼트), 20A(암페어)를 초과하지 않도록 해야 합니다.

#### Waarschuwing

Dit product is afhankelijk van de kortsluitbeveiliging (overspanning) van uw elektrische installatie. Controleer of het beveiligde apparaat niet groter gedimensioneerd is dan 60VDC, 20A.

## Power Disconnection Warning



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

### 電源切斷の警告

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

### 警告

在你打开机箱并安装或移除内部器件前,必须将系统完全断电,并移除电源线。

### 警告

在您打開機殼安裝或移除內部元件前，必須將系統完全斷電，並移除電源線。

### Warnung

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

### ¡Advertencia!

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

### Attention

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

אזהרה מפני ניתוק חשמלי

אזהרה!

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

يجب فصل انظاؤ من جميع مصادر انطاقت وإزانت سهك انكهرباء من وحدة امداد  
انطاقت قېم  
انصل إلى امناطق انداخھيت نهھيكم نتشيج أو إزانت مكنناث الجهاز

경고!

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

Waarschuwing

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

## Equipment Installation



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

機器の設置

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

警告

只有经过培训且具有资格的人员才能进行此设备的安装、更换和维修。

警告

只有經過受訓且具資格人員才可安裝、更換與維修此設備。

Warnung

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

¡Advertencia!

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

**Attention**

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

אזהרה!

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

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

경고!

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

**Waarschuwing**

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

**Restricted Area**

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

**アクセス制限区域**

このユニットは、アクセス制限区域に設置されることを想定しています。

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

**警告**

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

**警告**

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

### Warnung

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

### ¡Advertencia!

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

### Attention

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

אזור עם גישה מוגבלת

אזהרה!

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

تخصيص هذه التحذرة نترك بُها ف مناطق محظورة تم .  
ممكن انصل إن منطقت محظورة فقط من خلال استخدام أداة خاصت  
أو أ وس هُت أخري نلأأما ققم ومفتاح

### 경고!

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

### Waarschuwing

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

## Battery Handling



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

### 電池の取り扱い

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

### 警告

電池更換不當會有爆炸危險。請只使用同類電池或制造商推荐的功能相当的電池更換原有電池。請按制造商的說明處理廢舊電池。

### 警告

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

### Warnung

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

### Attention

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

### ¡Advertencia!

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

### אזהרה!

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

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

경고!

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

Waarschuwing

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

## Redundant Power Supplies



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

冗長電源装置

このユニットは複数の電源装置が接続されている場合があります。

ユニットの電源を切るためには、すべての接続を取り外さなければなりません。

警告

此部件连接的电源可能不止一个，必须将所有电源断开才能停止给该部件供电。

警告

此裝置連接的電源可能不只一個，必須切斷所有電源才能停止對該裝置的供電。

Warnung

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

**¡Advertencia!**

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

**Attention**

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

אם קיים יותר מספק אחד

אזהרה!

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

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

**경고!**

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

**Waarschuwing**

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

## Backplane Voltage



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

### バックプレーンの電圧

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

修理する際には注意ください。

### 警告

当システム正在进行时，背板上有很危险的电压或能量，进行维修时务必小心。

### 警告

當系統正在進行時，背板上有危險的電壓或能量，進行維修時務必小心。

### Warnung

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

### ¡Advertencia!

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

### Attention

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

מתח בפנל האחורי

אזהרה!

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

هناك خطر من التيار الكهربائي أو الطاقة المبددة على الساحة  
عندما يمكن النظام يعمل كه حذرا عند خدمة هذا الجهاز

경고!

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

Waarschuwing

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

## Comply with Local and National Electrical Codes



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

地方および国の電気規格に準拠

機器の取り付けはその地方および国の電気規格に準拠する必要があります。

警告

设备安装必须符合本地与本国电气法规。

警告

設備安裝必須符合本地與本國電氣法規。

Warnung

Die Installation der Geräte muss den Sicherheitsstandards entsprechen.

¡Advertencia!

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

Attention

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

תיאום חוקי החשמל הארצי  
אזהרה!

התקנת הציוד חייבת להיות תואמת לחוקי החשמל המקומיים והארציים.

تركيب المعدات الكهربائية يجب أن يمثل للقوايه المحلية والطية المتعلقة  
بالكهرباء

경고!

현 지역 및 국가의 전기 규정에 따라 장비를 설치해야 합니다.

Waarschuwing

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

## Product Disposal



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

### 製品の廃棄

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

警告

本产品的废弃处理应根据所有国家的法律和规章进行。

警告

本產品的廢棄處理應根據所有國家的法律和規章進行。

Warnung

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

¡Advertencia!

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

## Attention

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

סילוק המוצר

אזהרה!

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

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

경고!

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

## Waarschuwing

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

## Hot Swap Fan Warning



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

## ファン・ホットスワップの警告

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

警告!

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

警告

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

**Warnung**

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

**¡Advertencia!**

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

**Attention**

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

**אזהרה!**

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

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

**경고!**

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

**Waarschuwing**

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

## DC Power Supply



**Warning!** When stranded wiring is required, use approved wiring terminations, such as closedloop or spade-type with upturned lugs. These terminations should be the appropriate size for the wires and should clamp both the insulation and conductor.

### 警告

より線が必要な場合、承認済みのケーブル終端（上向きの端子を備えたクローズループ型またはU字型の終端など）を使用してください。使用するワイヤーに適したサイズで、絶縁体および導体が両方ともクランプされている終端でなければなりません。

### 警告

需要多股佈線時，請使用經核准的佈線終端，例如閉環或鏟型接線片。這些終端的大小應適合線路，並且可以同時夾住絕緣體和導體。

### 警告

需要使用绞线连接时，请使用经认可的连接端子，如闭环端子或具有接线柱的铲形端子。这些端子的大小应与线缆相吻合，并且可以将绝缘部分和导体夹紧固定。

### Warnung

Wenn Litzenverdrahtung erforderlich ist, sind zugelassene Verdrahtungsabschlüsse, z.B. für einen geschlossenen Regelkreis oder gabelförmig, mit nach oben gerichteten Kabelschuhen zu verwenden. Diese Abschlüsse sollten die angemessene Größe für die Drähte haben und sowohl die Isolierung als auch den Leiter festklemmen.

### ¡Advertencia!

Cuando se necesite hilo trenzado, utilizar terminales para cables homologados, tales como las de tipo "bucle cerrado" o "espada", con las lengüetas de conexión vueltas hacia arriba. Estos terminales deberán ser del tamaño apropiado para los cables que se utilicen, y tendrán que sujetar tanto el aislante como el conductor.

### Attention

Quand des fils torsadés sont nécessaires, utiliser des douilles terminales homologuées telles que celles à circuit fermé ou du type à plage ouverte avec cosses rebroussées. Ces douilles terminales doivent être de la taille qui convient aux fils et doivent être refermées sur la gaine isolante et sur le conducteur.

## תקנון הצהרות אזהרה

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

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

### تحذير

وأقل غم قتل ح لشم، أهيلع ققفاوملأءاهن! كالسألأ مادختساو، لبسلأ مهب تعطقت نيذلأ كالسألأ ابولطم نوكي امدنع بجي وكالسألأ لبسانملأ مجحلا نوكي تاءاهنإلأ هذلأ يغبننيو. ةبولقم تاورعلأ عم عونلأ ةيقي قحلا أهئامسأب ءايشألأ لصوصو لزعلأ نم لك حبك.

주의!

꼬인 배선이 요구 될 때에는 폐회로나 돌출부가 위로 튀어 나온 Spade형태의 승인된 배선 터미네이션들을 사용하세요.

이 터미네이션들은 배선들을 위해 적절한 크기여야 하고, 절연체와 도체 모두를 고정시킬 수 있어야 합니다.

### Waarschuwing

Wanneer geslagen bedrading vereist is, dient u bedrading te gebruiken die voorzien is van goedgekeurde aansluitingspunten, zoals het gesloten-lus type of het grijperschop type waarbij de aansluitpunten omhoog wijzen. Deze aansluitpunten dienen de juiste maat voor de draden te hebben en dienen zowel de isolatie als de geleider vast te klemmen.

## DC Power Disconnection



**Warning!** Before performing any of the following procedures, ensure that power is removed from the DC circuit.

警告

次の手順を開始する前に、DC回路から電源が切断されていることを確認してください。

警告

進行以下任一操作程序前，請確保直流電路已斷電。

警告

请在进行以下任一操作程序前，确保直流电路的电源已经断开。

**Warnung**

Vor Ausführung der folgenden Vorgänge ist sicherzustellen, daß die Gleichstromschaltung keinen Strom erhält.

¡Advertencia!

Antes de proceder con los siguientes pasos, comprobar que la alimentación del circuito de corriente continua (CC) esté cortada (OFF).

Attention

Avant de pratiquer l'une quelconque des procédures ci-dessous, vérifier que le circuit en courant continu n'est plus sous tension.

**אזהרה !**  
**לפני ביצוע אחת הפעולות הבאות, ודא כי אספקת החשמל למעגל הזרם הישר**  
**DC הינה מנותקת.**

**تحذير**  
 وأقل غم قتل ح لثم ، أهيل ع قفاوالم اءاهن! كالسأل اءاخستساو ، لبسلا مءب تعطق ت نيذل كالسأل اءولطم نوئي اءدن ع  
 بءي و كالسأل لبسانملا مءءال نوئي تاءاهن إل هذل يغبنني و . ءبولقم تاووعلا عم عونلا ءيقي قءال اءئامسأب اءيشأل  
 لصومو لزعال نم لك ءبء

주의!

다음 절차들을 수행하기 전에, 전원이 DC 회로로부터 제거되었는지를 확인해 주십시오.

**Waarschuwing**

Wanneer geslagen bedrading vereist is, dient u bedrading te gebruiken die voorzien is van goedgekeurde aansluitingspunten, zoals het gesloten-lus type of het grijperschop type waarbij de aansluitpunten omhoog wijzen. Deze aansluitpunten dienen de juiste maat voor de draden te hebben en dienen zowel de isolatie als de geleider vast te klemmen.

## Hazardous Voltage or Energy Present on DC Power Terminals



**Warning!** Hazardous voltage or energy may be present on DC power terminals. Always replace cover when terminals are not in service. Be sure uninsulated conductors are not accessible when cover is in place.

### 警告

直接電力端子に危険な電圧やエネルギーが発生している可能性があります。使用していない端子には常にカバーをつけてください。カバーがついているときは非絶縁形コンダクターに接触していないことを確認してください。

### 警告

直流電源終端可能產生危險的電壓或能量。終端不使用時，請務必蓋上機蓋。當蓋上機蓋，確認不絕緣導體無法使用。

### 警告

直流电源终端可能会产生危险的电压或能量。终端不使用时，请务必盖上机盖。机盖盖上后，请确保导体未绝缘部分无法使用。

### Warnung

In mit Gleichstrom betriebenen Terminals kann es zu gefährlicher Spannung kommen. Die Terminals müssen abgedeckt werden, wenn sie nicht in Betrieb sind. Stellen Sie bei Benutzung der Abdeckung sicher, dass alle nicht isolierten, stromführenden Kabel abgedeckt sind.

### ¡Advertencia!

Puede haber energía o voltaje peligrosos en los terminales eléctricos de CC. Reemplace siempre la cubierta cuando no estén utilizándose los terminales. Asegúrese de que no haya acceso a conductores descubiertos cuando la cubierta esté colocada.

### Attention

Le voltage ou l'énergie électrique des terminaux à courant continu peuvent être dangereux. Veillez à toujours replacer le couvercle lors les terminaux ne sont pas en service. Assurez-vous que les conducteurs non isolés ne sont pas accessibles lorsque le couvercle est en place.

### אזהרה !

מקור מתח מסוכן עלול להיות נוכח על הקטבים של זרם ה-DC. החלף תמיד את המכסה כאשר הקטבים לא בשימוש. ודא כי המוליכים הלא מבודדים אינם נגישים כאשר המכסה נמצא במקומו.

**تحذير**

امدنع امئاد ءاطغ لادبتسا . ءمصاعلا ءق اطلاتاطحم ىلع ءدوجوم نوكت ءق اطلات و ا ءرطخل دهجل دق  
ءاطغل امدنع اهئل لوصول نكمي ال لوزعم ريغ تالصولم ا هي ف كش ال امم . ءمدخل ا يف تسيل تاطحمل  
هنالك يف

주의!

DC전원 단자들에 위험한 전압이나 에너지가 발생할 수 있습니다.

단말기들을 운영하지 않을 때에는 덮개로 다시 덮어 놓아 주십시오. 덮개가 제자리에 있어야만  
절연되지 않은 도체들의 접근을 막을 수 있습니다.

**Waarschuwing**

Op DC-aansluitingspunten kunnen zich gevaarlijke voltages of energieën voordoen. Plaats  
altijd de afsluiting wanneer de aansluitingspunten niet worden gebruikt. Zorg ervoor dat  
blootliggende contactpunten niet toegankelijk zijn wanneer de afsluiting is geplaatst.

# Appendix C

## System Specifications

### Processors

Single Intel® Atom C3558 (System on a Chip) 4 Cores, 4 Threads, 2.2 GHz, 16W

### Memory

Four DIMM slots, DDR4 2400MHz up to 256GB RDIMM, or 64GB for ECC/Non-ECC UDIMM

### SATA Controller

SoC controller for four SATA3 (6Gbps) ports

### Drive Bay

One 2.5" fixed drive bay with bracket (when AOC area is not occupied)

### PCI Expansion Slots

One PCI-E 3.0 x2 (space shared with drive bay)

### Motherboard

A2SDV-4C-LN10PF

Dimensions: 9.0" (L) x 7.25" (W) (228.6 mm x 184.15 mm)

### Chassis

SCE300-LED+

Width 10" (254 mm), Height 1.7" (43 mm), Depth 8.9" (226 mm)

### System Cooling

One 40mm chassis fan (two maximum)

### Power Supply

84W lockable power adapter (default)

### 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 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)

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

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

### Perchlorate Warning

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

## Appendix D

### UEFI BIOS Recovery

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

#### D.1 Overview

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

#### D.2 Recovering the UEFI BIOS Image

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

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

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

#### D.3 Recovering the BIOS Block with a USB Device

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

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

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

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

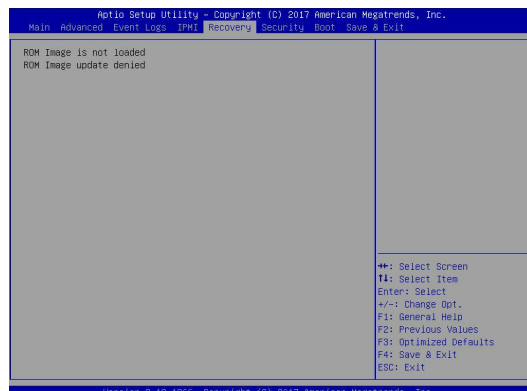
**Note:** If you cannot locate the "Super.ROM" file in your driver disk, visit our website at [www.supermicro.com](http://www.supermicro.com) to download the BIOS image into a USB flash device and rename it "Super.ROM" for BIOS recovery use.

2. Insert the USB device that contains the new BIOS image ("Super.ROM") into your USB drive and power on the system
3. While powering on the system, please keep pressing <Ctrl> and <Home> simultaneously on your keyboard *until the following screen (or a screen similar to the one below) displays.*

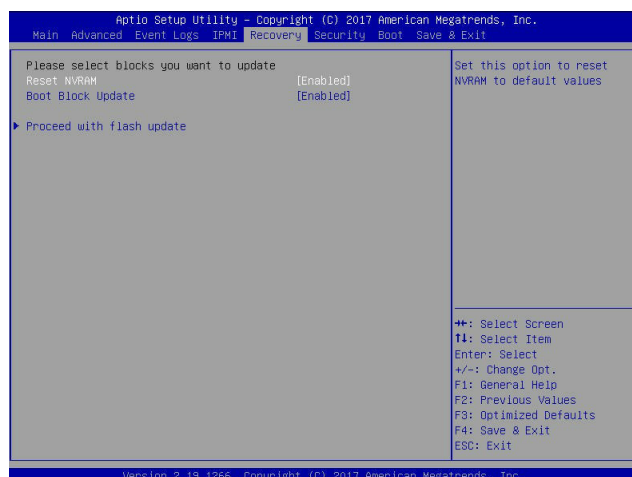
**Warning:** Please **stop** pressing the <Ctrl> and <Home> keys immediately when you see the screen (or a similar screen) below; otherwise, it will trigger a system reboot.



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



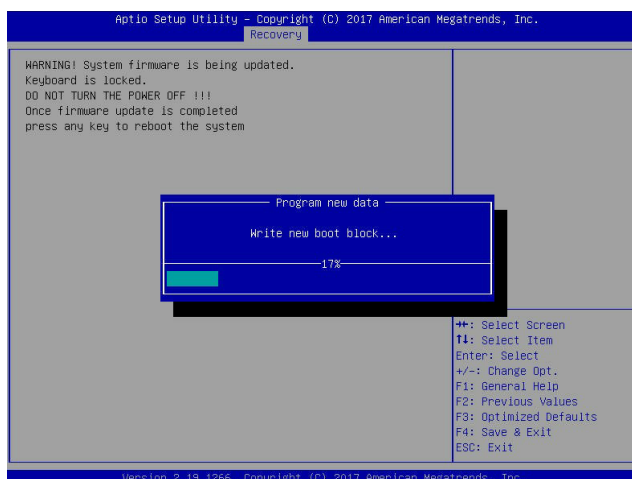
4. After locating the new BIOS binary image, the system will enter the BIOS Recovery menu as shown below.



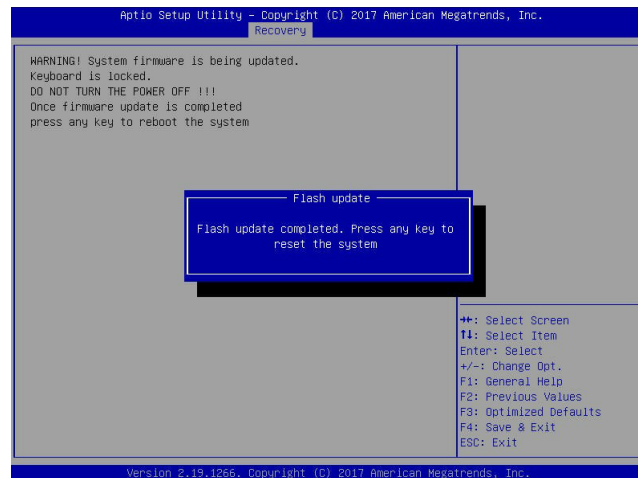
**Note:** At this point, you may decide if you want to start the BIOS recovery. If you decide to proceed with BIOS recovery, follow the procedures below.

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

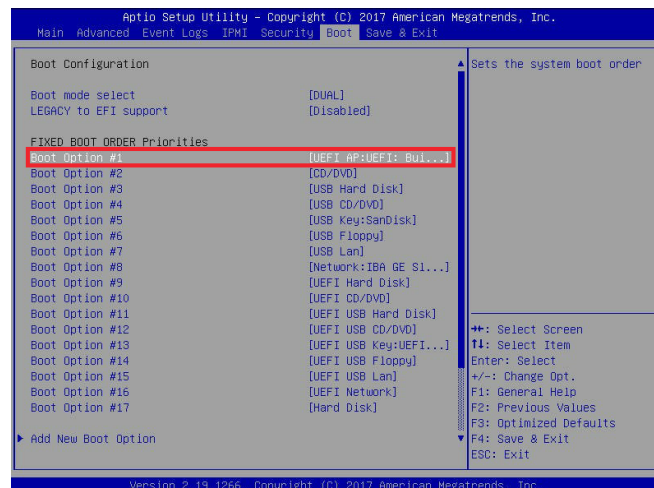
**Note:** Do not interrupt the BIOS flashing process until it has completed.



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



7. Using a different system, extract the BIOS package into a USB flash drive.
8. Press <Del> continuously to enter the BIOS setup utility. Set the item, Boot Option #1, to [UEFI AP:UEFI: Built-in EFI Shell]. Press <F4> to save the settings and exit the BIOS setup utility.



9. When the UEFI Shell prompt appears, type `fs#` to change the device directory path. Go to the directory which contains the BIOS package extracted earlier from Step 7. Enter `flash.nsh BIOSname.###` at the prompt to start the BIOS update process.

```

UEFI Interactive Shell v2.1
EDK II
UEFI v2.50 (American Megatrends, 0x0005000C)
Mapping table
  FS0: Alias(s):HD(0)B:BLK1:
      PciRoot(0x0)/Pci(0x14,0x0)/USB(0x11,0x0)/HD(1,MBR,0x37901072,0x800,0x1
CR3592)
  BLK0: Alias(s):
      PciRoot(0x0)/Pci(0x14,0x0)/USB(0x11,0x0)
Press F8 in 1 seconds to skip startup.nsh or any other key to continue.
Shell> fs0:
FS0:\> cd AFUE08
FS0:\AFUE08> cd SKUPME2_03162017
FS0:\AFUE08\SKUPME2_03162017> flash.nsh X110P07.314

```

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

```

Done.
[ Access Cmos Port Ex ]
<read>
Index 0x51: 0x18

Done.
*****
*
* Program BIOS and ME (including FDT) regions...
*****
| AMI Firmware Update Utility v5.09.01.1317 |
| Copyright (C)2017 American Megatrends Inc. All Rights Reserved. |
+-----+
CPUID = 50652

Reading flash ..... done
- ME Data Size checking . ok
- FFS checksums ..... ok
- Check RomLayout ..... Ok
Erasing Boot Block ..... done
Updating Boot Block ..... done
Verifying Boot Block ..... done
Erasing Main Block ..... 0x0132000 (0x)

```

10. The screen below indicates that the BIOS update process is complete. Unplug the AC power cable from the power supply, clear the CMOS, and plug the AC power cable in the power supply again to power on the system.

```

Verifying Boot Block ..... done
Erasing Main Block ..... done
Updating Main Block ..... done
Verifying Main Block ..... done
Erasing NVRAM Block ..... done
Updating NVRAM Block ..... done
Verifying NVRAM Block ..... done
Erasing NCB Block ..... done
Updating NCB Block ..... done
Verifying NCB Block ..... done
- FDR is locked, skip updating.
- GBEA is locked, skip updating.
- GBEB is locked, skip updating.
- Successful Update Recovery Loader to QPRx!!
- Successful Update MFSB!!-
- Successful Update FTFR!!-
- Successful Update factory data partitions!!
- ME Entire Image update success !!
WARNING : System must power-off to have the changes take effect!
flash.nsh> mv AFUEfix64.efi AFUEfix64.smc
mv: moving fs0:\AFUEfix64.efi -> \AFUEfix64.smc
- [ok]

fs0:\>

```

11. Press <Del> continuously to enter the BIOS setup utility.
12. Press <F3> to load the default settings.
13. After loading the default settings, press <F4> to save the settings and exit the BIOS setup utility.

## Appendix E

### Traditional Chinese Version Safety Warnings

Additional Traditional Chinese Version warning statements are included here in this appendix.

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