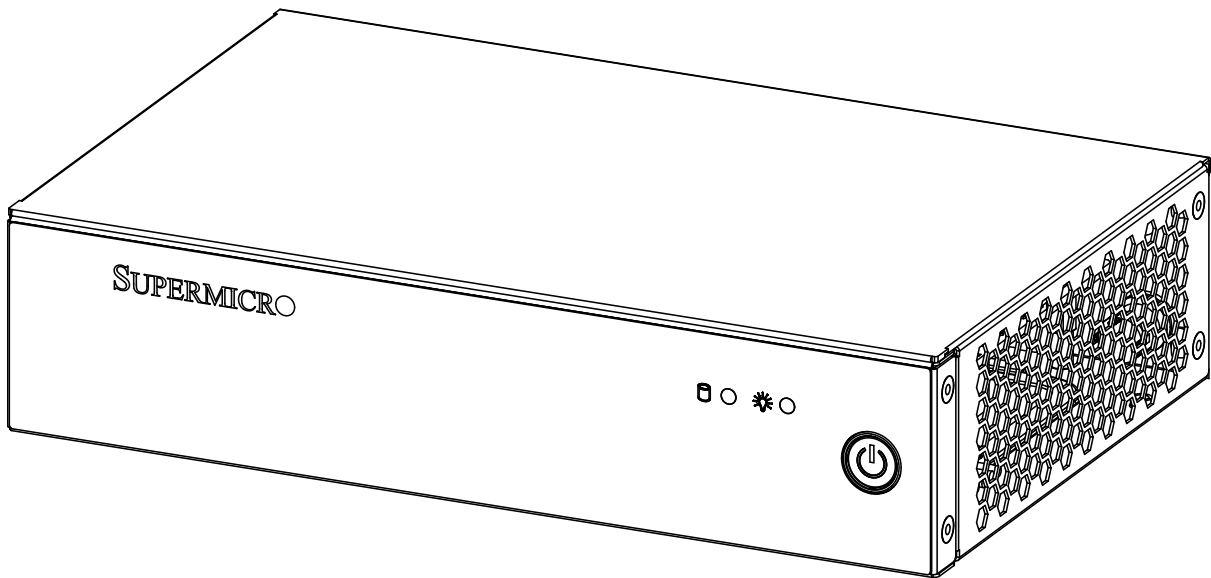




SUPERSERVER[®] E102-9AP-L



USER'S MANUAL

Revision 1.0

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Manual Revision 1.0

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Preface

About this Manual

This manual is written for professional system integrators and PC technicians. It provides information for the installation and use of the SuperServer E102-9AP-L. Installation and maintenance should be performed by experienced technicians only.

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

Notes

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

- Supermicro product manuals: <http://www.supermicro.com/support/manuals/>
- Product drivers and utilities: <https://www.supermicro.com/wftp>
- Product safety info: http://www.supermicro.com/about/policies/safety_information.cfm

If you have any questions, please contact our support team at:
support@supermicro.com

This manual may be periodically updated without notice. Please check the Supermicro website for possible updates to the manual revision level.

Warnings

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



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



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

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Chapter 1

Introduction

1.1 Overview

The SuperServer E102-9AP-L is a compact, embedded system comprised of the E102 chassis and the A2SAN-L single processor motherboard. Uses include a security appliance, video surveillance, digital signage, or an indoor kiosk.

Refer to our website for information on operating systems that have been certified for use with the system (www.supernmicro.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
40W DC power adapter	MCP-250-10124-0N	1
Fan	FAN-0170L4	1

1.2 System Features

The following table provides an overview of the main features of the E102-9AP-L.

System Features
Motherboard
A2SAN-L
Chassis
Compact Embedded 3.5" SBC Box, E102
CPU
Intel Atom E3930 Dual Core SoC (System on a Chip), Single Socket FCBGA 1296
Fan
One 4-cm PWM system fan,
Memory
Supports up to 8 GB of DDR3L Non-ECC SO-DIMM memory at 1866 MHz in one horizontal socket
Expansion Slots
One full-size Mini-PCI-E
Storage Drives
Single fixed 2.5" hard drive up to 7 mm thickness M.2 B-key 2280
Power
One external 40 watt DC power adapter
Input/Output Ports
LAN: Dual Gigabit ports USB: Two USB3.0 ports (front) Display: One HDMI, one VGA (two independent displays) Four COM ports (<i>optional</i>) Audio Port (<i>optional</i>)
Dimensions
Width 7.48" (190mm), Height 1.72" (43.7mm), Depth 4.72" (102mm)

1.3 Chassis Features

The E102 is a compact embedded 3.5" SBC chassis.

Front Features

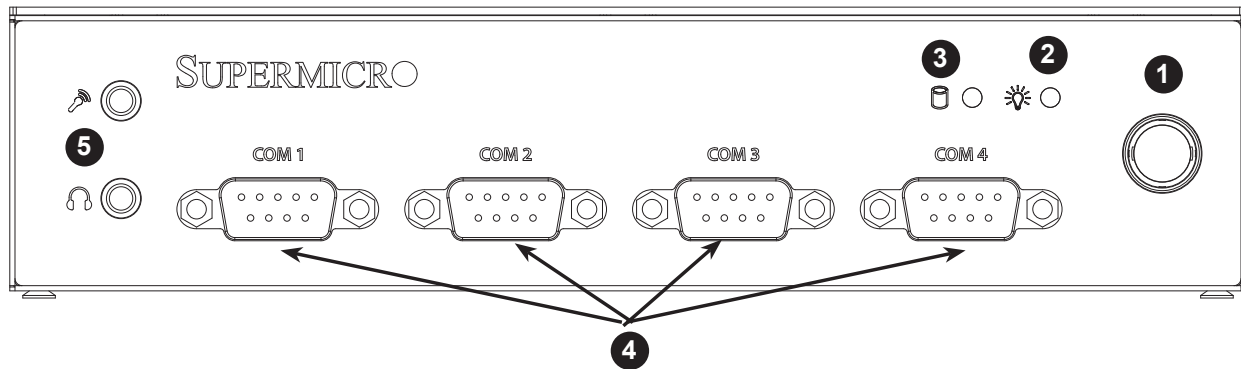


Figure 1-1. Chassis Front View

Front Chassis Features		
Item	Feature	Description
1	Power Button	The power switch applies or removes power to the system. Turning off power removes the main power but maintains standby power.
2	Power LED	When the blue Power LED is on, this indicates that the system is on.
3	HDD LED	The HDD LED flashes when activity is detected on the internal storage drives.
4	COM Ports	<i>(Optional)</i> Four serial ports
5	Mic, headphone	<i>(Optional)</i> Microphone and headphone jacks

Rear Features

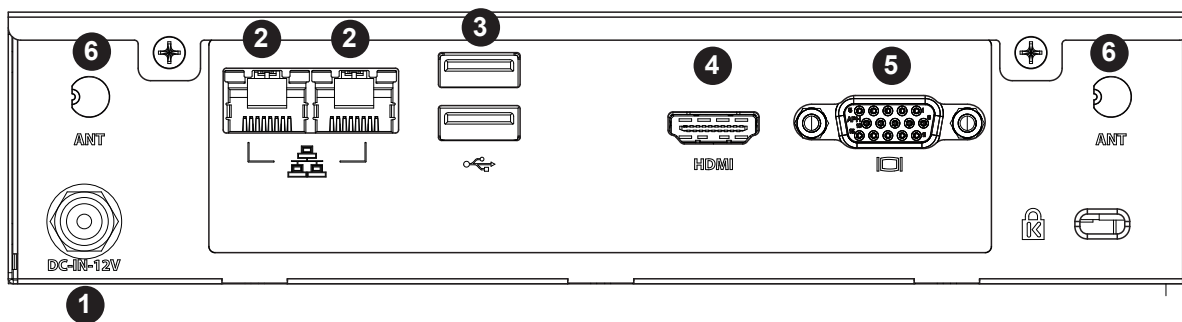


Figure 1-2. Rear Chassis View

Rear Chassis Features		
Item	Features	Description
1	Power Input	Use this port for the 40W DC power input.
2	LAN	Two 1GbE network ports
3	USB	Two USB 3.0 ports
4	HDMI	One HDMI port
5	VGA	Video port
6	Antenna cut-outs	Two cut-outs for mounting for antennas

1.4 Motherboard Layout

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

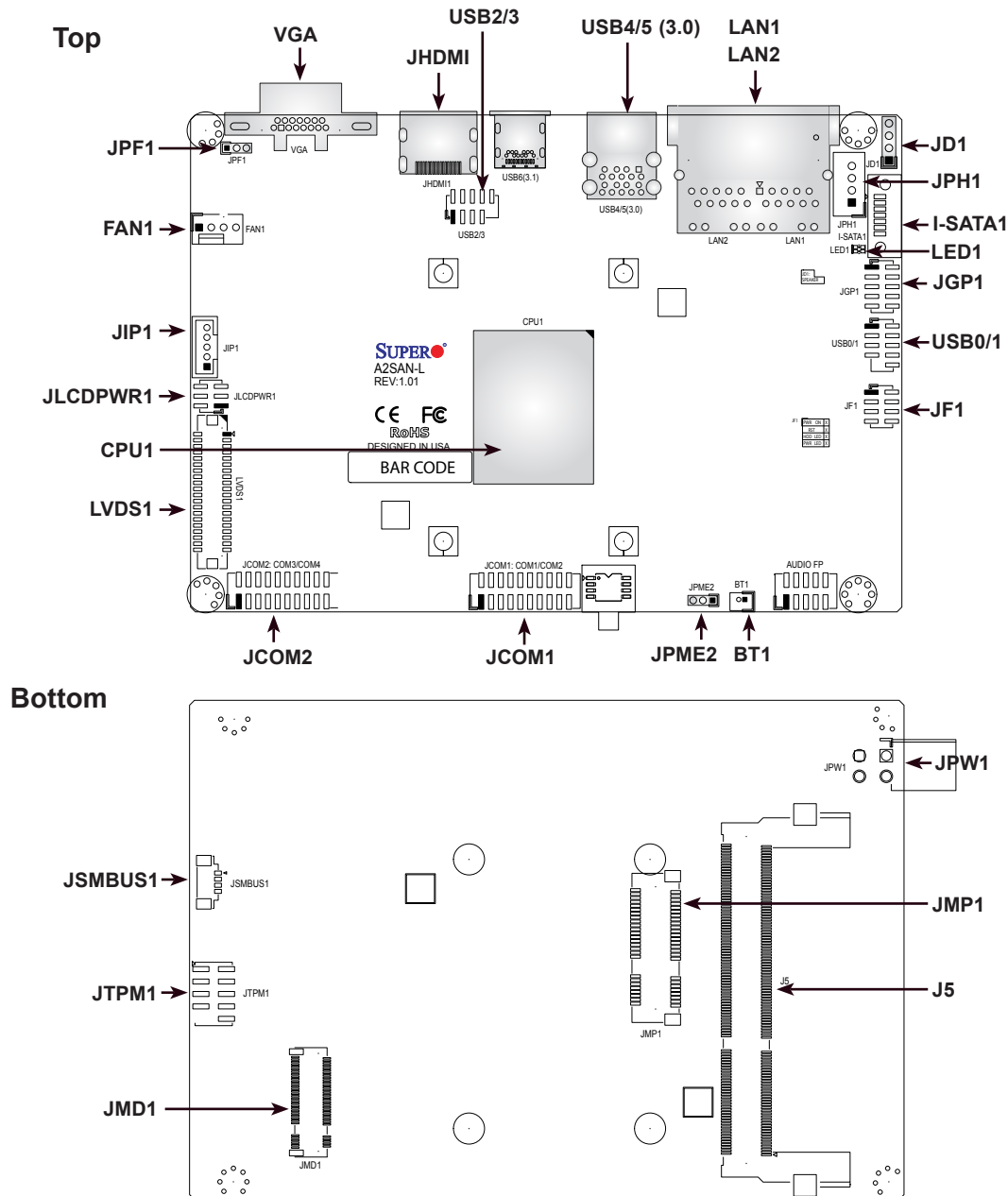


Figure 1-3. Motherboard Layout (Top side and bottom side)

- Jumpers and LED indicators not identified are used for testing only.
- "1" indicates the location of Pin 1.

Quick Reference

Jumper	Description	Default Setting
JLCDPWR1	LVDS Panel VCC Power 3.3V / 5V / 12V	Pins 1-2 (3.3V), Pins 3-5 (5V), Pins 3-4 (12V)
JPF1	Power Force On	Pins 1-2 (Power Force On)
JPME2	Manufacturing Mode	Pins 1-2 (Normal)

LED	Description	Status
LED1	Power LED (for debugging only)	Solid Green: S0 mode Solid Red: S3/S4/S5 modes

Connector	Description
BT1	Battery Connector
FAN1*	System Fan Header
I-SATA1*	Intel PCH SATA 3.0 Port
JCOM1: COM1/COM2 JCOM2: COM3/COM4	Serial COM Ports (JCOM1 supports RS232/RS422/RS485, JCOM2 supports RS232)
JD1	Speaker Header
JF1	Front Control Panel Header
JGP1	DIO Connector
JHDMI	Back Panel HDMI Port
JIP1*	Inverter Power Header
JMD1	M.2 Slot (B-KEY) (supports PCI-E Gen2 X1/SATA / USB 2.0)
JMP1	Mini PCI-E Slot (supports PCI-E Gen2 X1/USB 2.0)
JPH1*	SATA Power Connector (for one HDD system)
JPW1	4-pin 12V-Standby R/A Type Power Connector
JSMBUS1	System Management Bus Header
JTPM1	Trusted Platform Module/Port 80 Connector (for debugging only)
LAN1 – LAN2	LAN (RJ45) Ports
LVDS1*	Dual Channel 48-bit LVDS Connector*
USB4/5	Back Panel Universal Serial Bus (USB) 3.0 Ports
USB0/1, USB2/3	USB 2.0 Headers
VGA	Back Panel VGA Port

Note: Connectors marked with an asterisk (*) are unused or inaccessible by the system.

System Block Diagram

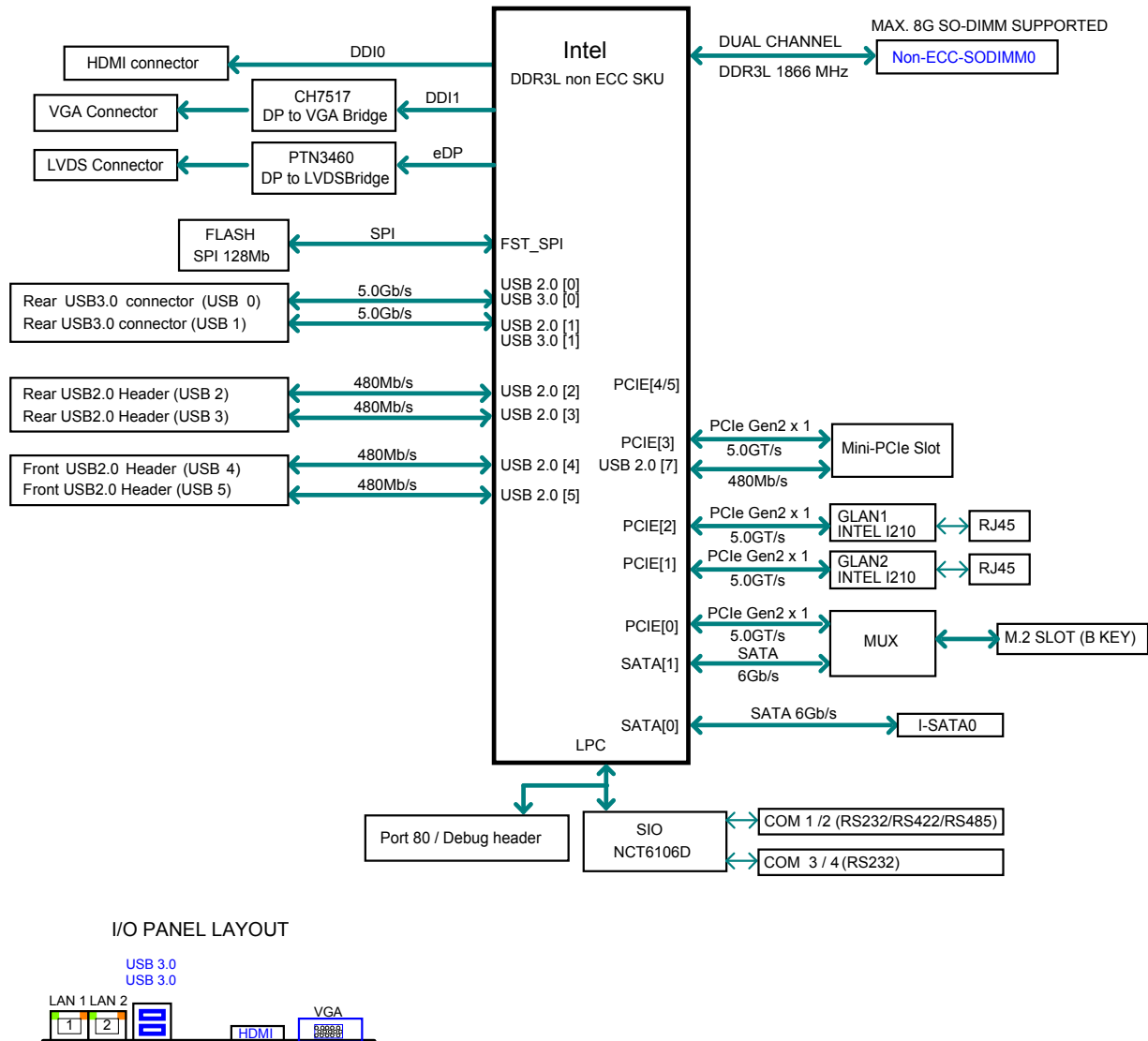


Figure 1-4. System Block Diagram

Note: This is a general block diagram and may not exactly represent the features on your motherboard.

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

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.

Installing Mounting Brackets (Optional)

The chassis includes mounting brackets that fit the VESA standard or can be wall-mounted. For wall mounting, the brackets extend out from the chassis as shown below.

1. Install the brackets using the four provided screws as shown below.

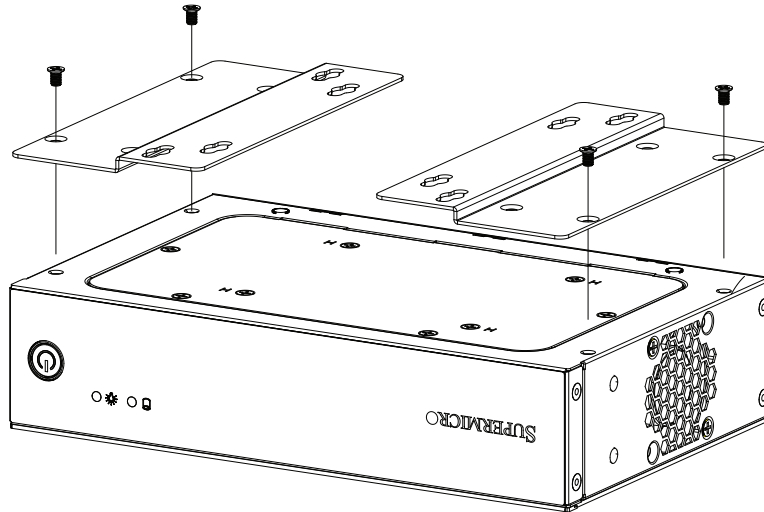


Figure 1-5. Installing VESA Mount Brackets

2. Secure the brackets to the surface where you want the server to be mounted.
 - For VESA mount, slide onto existing posts.
 - For wall mount, affix screws through the bracket holes.

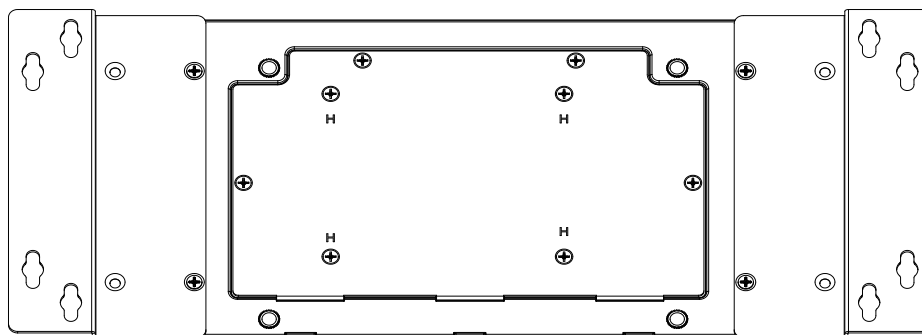


Figure 1-6. Installed Wall Mount Brackets
(Viewed from under the chassis)

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.

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 chassis features a removable top cover.

Removing the Top Cover

1. On the chassis rear, remove the two screws.

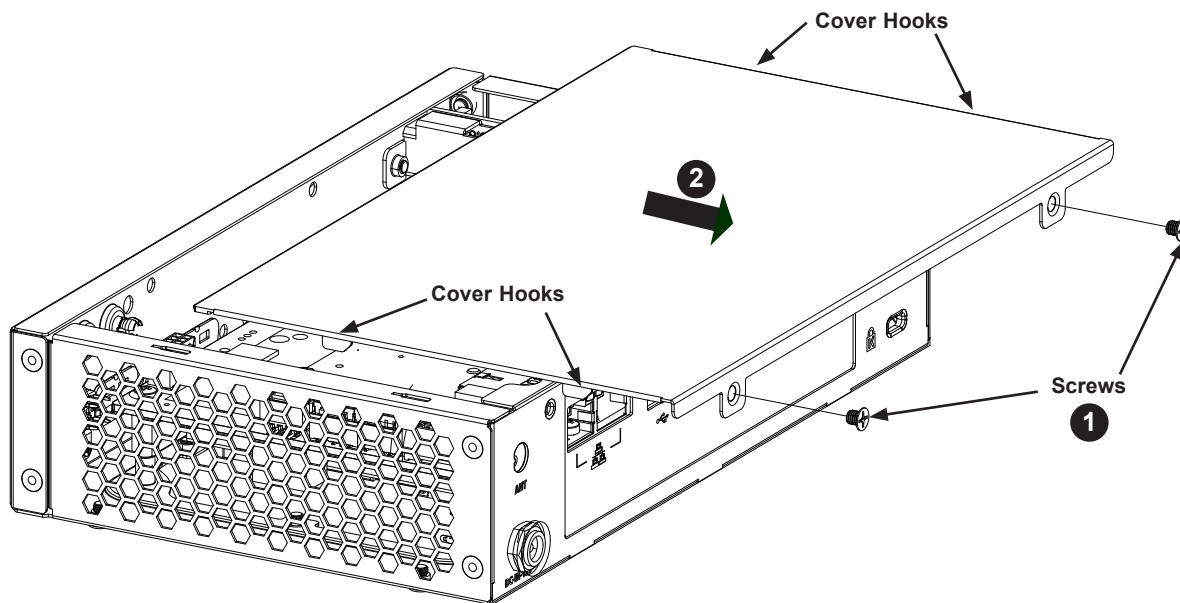


Figure 2-1. Removing the Chassis Cover

2. Slide the cover to the rear as illustrated above to release the cover hooks from the chassis, and lift the cover off.

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

2.3 Motherboard Components

Processor

The E102-9AP-L features an embedded Intel Atom E3930 Quad Core SoC processor.

Memory Support

An integrated memory controller supports up to 8 GB of DDR3L Dual Non-ECC SO-DIMM of speeds up to 1866 MHz in one low-profile slot.

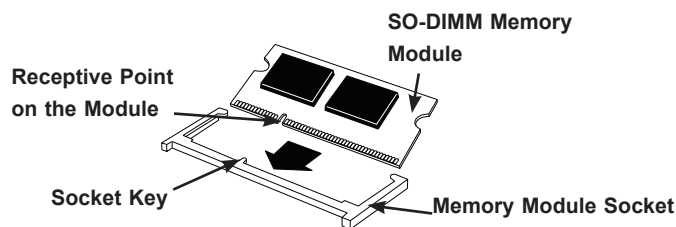
Check the Supermicro website for a list of memory modules that have been validated.

Installing Memory

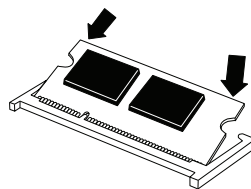
A SO-DIMM can be installed in the memory slot on the bottom (under side) of the motherboard. The motherboard must be removed from the chassis. Exercise extreme care when installing or removing DIMM modules to prevent damage.

Installing a SO-DIMM Module into a Horizontal Socket

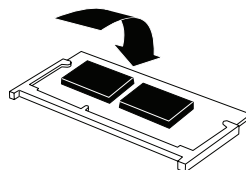
1. Align the receptive point on the bottom of the SO-DIMM module against the key on the memory socket. Note the notches on the side of the SO-DIMM module and those on the socket to avoid causing damage.



2. Line up the bottom of the SO-DIMM memory module with the edge of the horizontal socket.



3. Once they are lined up, push the memory module into the memory socket until the module is securely seated in the socket.



M.2 SSD Storage

The A2SAN-L motherboard supports one M.2 SSD of 120mm in length. Visit the Supermicro website for a current list of supported M.2 SSDs.

Note: Installing an M.2 SSD card will disable I-SATA0.

Installing an M.2 SSD

1. Power down the system as described in Section 2.1. and remove the chassis cover.
2. Remove the motherboard from the chassis.
3. On the under side of the motherboard, locate the M.2 slot (JMD1) and the screw mount (M2_SRW3) that secures it, as shown in the drawing below.
4. Insert the M.2 SSD into the slot at a slight upward angle. Note the two keys on the M.2 card and the slot to ensure that the SSD is installed with the correct side up.
5. Secure the M.2 card by placing a screw in the screw mount.
6. Replace the motherboard and chassis cover, and power up.

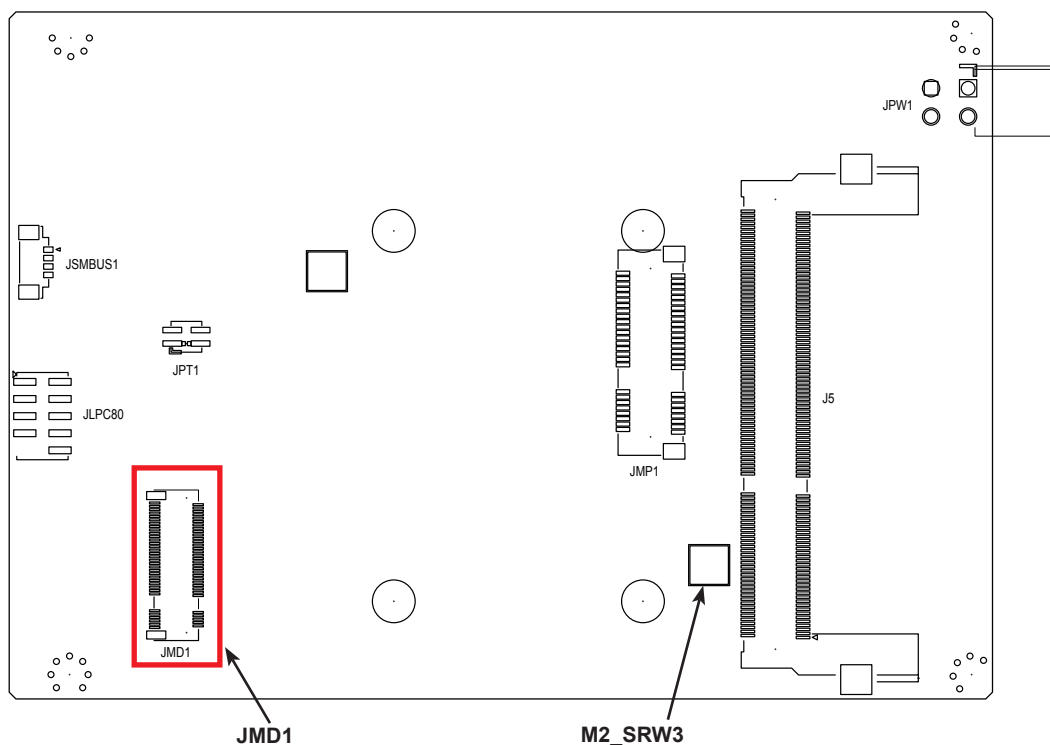


Figure 2-2. Installing an M.2 Solid State Device

Motherboard Battery (Pendant Battery)

The motherboard uses non-volatile memory to retain system information when system power is removed. This memory is powered by a pendant lithium battery that can be connected to the motherboard.

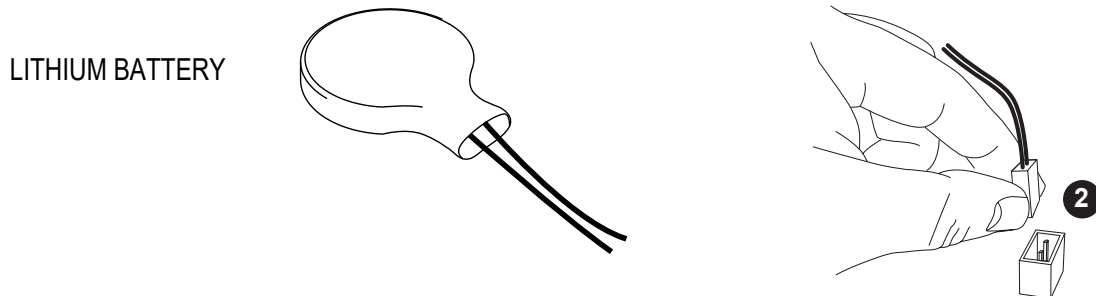


Figure 2-3. Installing the Pendant Lithium Battery

Replacing the Battery

1. Remove power from the system as described in section 2.1.
2. Insert the male connector from the battery into the female connector on the motherboard until it is secure. It will only go in one way so correct polarity is insured.

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.

2.4 Chassis Components

Storage Drive

The E102 chassis can accommodate a single fixed 2.5" storage drive of 7 mm thickness. It is installed to the inside of the bottom cover of the chassis. Use an enterprise quality drive.

The system also supports an M.2 SSD storage card. See the description in the Section 2.3.

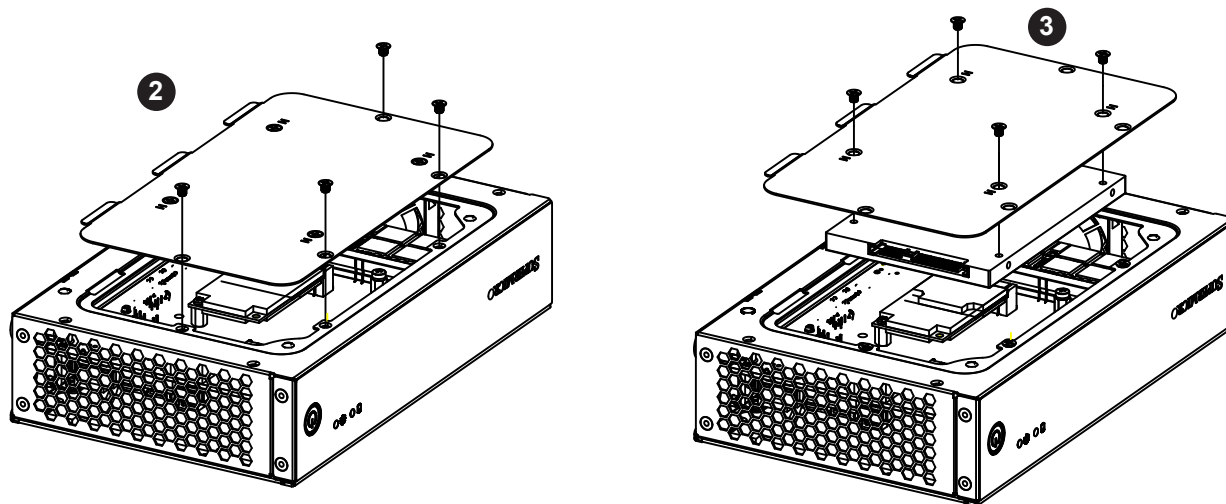


Figure 2-4. Installing the Hard Drive

Installing the Hard Drive

The motherboard should be installed before installing the hard drive.

1. Make sure there is no power to the system as described in section 2.1.
2. Remove the four screws securing the bottom cover tray to the chassis and set them aside for later use. Lift the cover out. On the inside of this bottom cover is where the hard drive is mounted.
3. Place the hard drive on to the inside of the bottom cover and secure it to the tray with the four screws provided with the hard drive, as shown.
4. Attach the cable SATA connector and to the motherboard connector. This cable carries both the SATA signal and the SATA power.
5. Return the hard drive bottom cover assembly into the chassis, aligning the screw holes of the bottom tray with the holes in the chassis. Secure the tray to the chassis support bracket with the screws previously set aside.
6. Power up the system.

System Cooling

The chassis includes one 4-cm fan.

Replacing the System Fan

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

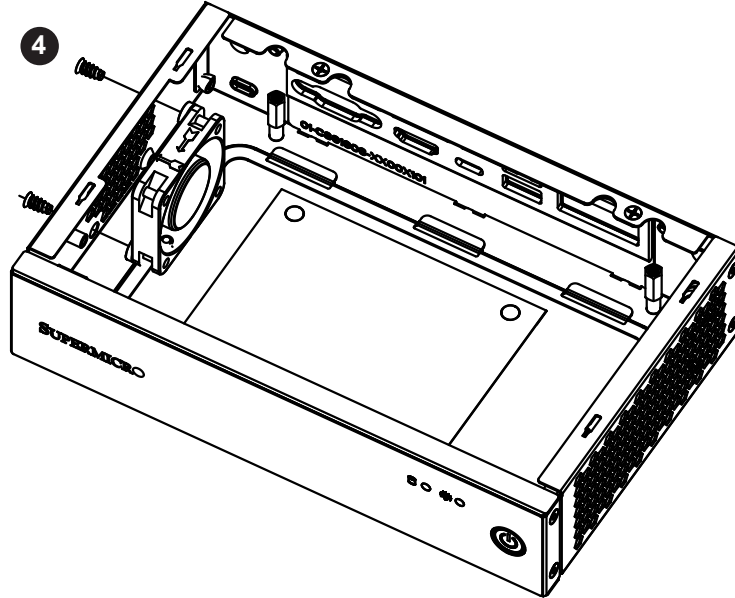


Figure 2-5. System Fan

Chapter 3

Motherboard Connections

This section describes the connections on the A2SAN-L 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.

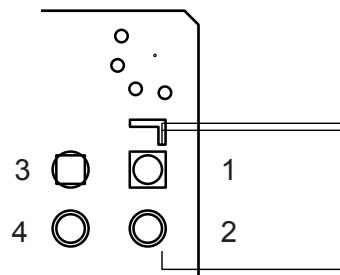
3.1 Power Connections

4-pin 12V-Standby R/A Type Power Connector

The R/A type power connector is located at JPW1 on the bottom side of the motherboard.

+12V 4-pin Power Pin Definitions	
Pin#	Definition
1	+12VSB
2	+12VSB
3	GND
4	GND

Required Connection



3.2 Headers and Connectors

COM Headers

Two COM headers (JCOM1: COM1/COM2 supports two RS232/RS422/RS485 and JCOM2: COM3/COM4 supports two RS232) are located on the motherboard.

Serial COM Header (JCOM1) Pin Definitions			
Pin#	Definition	Pin#	Definition
1	DCD1 or RS-485/422_COM1_TX- (Full Duplex) or RS-485_COM1_Data- (Half Duplex)	2	DSR1
3	RXD1 or RS-485/422_COM1_TX+ (Full Duplex) or RS-485_COM1_Data+ (Half Duplex)	4	RTS1
5	TXD1 or RS-485/422_COM1_RX+ (Full Duplex)	6	CTS1
7	DTR1 or RS-485/422_COM1_RX- (Full Duplex)	8	RI1_N
9	GND	10	N/A
11	DCD2 or RS-485/422_COM2_TX- (Full Duplex) or RS-485_COM2_Data- (Half Duplex)	12	DSR2
13	RXD2 or RS-485/422_COM2_TX+ (Full Duplex) or RS-485_COM2_Data+ (Half Duplex)	14	RTS2
15	TXD2 or RS-485/422_COM2_RX+ (Full Duplex)	16	CTS2
17	DTR2 or RS-485/422_COM2_RX- (Full Duplex)	18	RI_N2
19	GND	20	N/A

Serial COM Header (JCOM2) Pin Definitions			
Pin#	Definition	Pin#	Definition
1	DCD3	2	DSR3
3	RXD3	4	RTS3
5	TXD3	6	CTS3
7	DTR3	8	RI3_N
9	GND	10	N/A
11	DCD4	12	DSR4
13	RXD4	14	RTS4
15	TXD4	16	CTS4
17	DTR4	18	RI4_N
19	GND	20	N/A

Front Accessible Audio Header

A 10-pin audio header located on the motherboard allows you to use the onboard sound for audio playback. Connect an audio cable to the this header to use this feature.

Audio Header Pin Definitions			
Pin#	Definition	Pin#	Definition
1	MIC_Left	2	AUDIO_GND
3	MIC_Right	4	AUDIO_Detect
5	LINE2_Right	6	MIC2_JD
7	Front AUDIO_JD	8	NC
9	LINE2_Left	10	LINE2_JD

General Purpose I/O Header

The JGP1 (General Purpose Input/Output) header is an 8-bit general purpose I/O expander on a pin header via the SMBus.

GPIO Header Pin Definitions			
Pin#	Definition	Pin#	Definition
1	P3V3SB	2	GND
3	GP_P3V3_GP0	4	GP_P3V3_GP4
5	GP_P3V3_GP1	6	GP_P3V3_GP5
7	GP_P3V3_GP2	8	GP_P3V3_GP6
9	GP_P3V3_GP3	10	GP_P3V3_GP7

Speaker

If you wish to use an external speaker, connect a cable to pins 1-4 on the JD1 header.

Speaker Connector Pin Definitions	
Pin#	Signal
1	P5V
2	NC
3	NC
4	R_SPKPIN

System Management Bus Header

A System Management Bus header for additional slave devices or sensors is located at JSMBUS1 on the bottom side of the motherboard.

SMBus Header Pin Definitions	
Pin#	Definition
1	SMB_DATA
2	GND
3	SMB_CLK
4	NC

M.2 Storage Slot

An M.2 SSD socket is located at JMD1 on the bottom side of the motherboard. It deploys a B-KEY for SATA/PCI-E SSD devices or USB/PCI-E WWAN or GNSS card. There is a screw hole for securing a 2280 form factor card. Form factors 2242 and 3042 M.2 modules are supported by an extender bracket.

Mini PCI-E Slot

The Mini PCI-E slot, located at JMP1 on the bottom side of the motherboard, is used to install a compatible Mini PCI-E device. The slot supports modules which are USB or PCI-E x1 devices, such as wireless, GNSS, and Bluetooth modules.

Mini PCI-E Pin Definitions			
Pin#	Definition	Pin#	Definition
52	+3.3Vaux	51	NC
50	GND	49	NC
48	+1.5V	47	NC
46	NC	45	NC
44	NC	43	NC
42	NC	41	+3.3Vaux
40	GND	39	NC
38	USB_D+	37	GND
36	USB_D-	35	GND
34	GND	33	PETp0
32	SMB_DATA	31	PETn0
30	SMB_CLK	29	GND
28	+1.5V	27	GND
26	GND	25	PERp0
24	+3.3Vaux	23	PERn0
22	PERST#	21	DET_CARD_ PLUG
20	NC	19	NC
18	GND	17	NC
16	NC	15	GND
14	NC	13	REFCLK+
12	NC	11	REFCLK-
10	NC	9	GND
8	NC	7	CLKREQ#
6	1.5V	5	NC
4	GND	3	NC
2	3.3Vaux	1	WAKE#

Front Panel Controls

JF1 contains header pins for various buttons and indicators that are normally located on a control panel at the front of the chassis, specifically for use with Supermicro chassis.

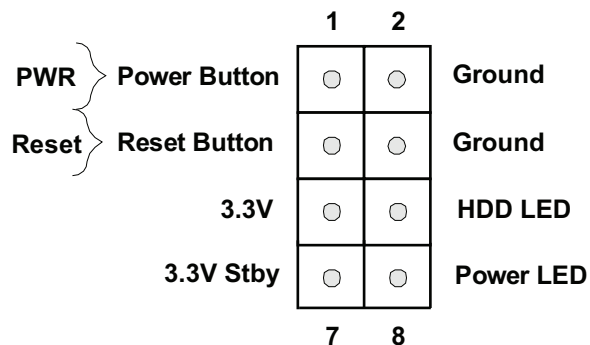


Figure 3-1. JF1 Pins

Power Button

The Power button connection is located on pins 1 and 2 of JF1. Momentarily contacting both pins will power on/off the system. This button can also be configured to function as a suspend button (with a setting in the BIOS—see Chapter 6). To turn off the power when the system is in suspend mode, press the button for 4 seconds or longer.

Reset Button

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

HDD LED

The HDD LED connection is located on pins 5 and 6. Attach a cable here to indicate the status of HDD-related activities, including SATA activities.

Power LED

The Power LED connection is located on pins 7 and 8.

3.3 Ports

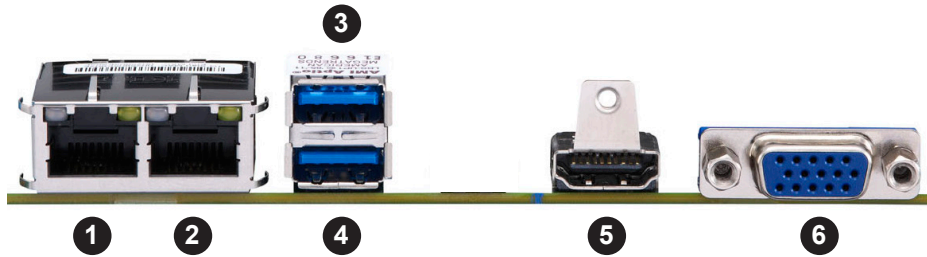


Figure 3-2. Rear input/output Ports

Rear I/O Ports			
#	Description	#	Description
1	LAN1	4	USB4 (3.0)
2	LAN2	5	HDMI Port
3	USB5 (3.0)	6	VGA Port

LAN Ports

Two Gb LAN ports (LAN1, LAN2) are located on the I/O back panel. They accept RJ45 type cables.

Universal Serial Bus (USB) Ports

There are two USB 3.0 ports (USB4/5, type A) located on the I/O panel. The motherboard also has a header for four USB 2.0 ports (USB0/1/2/3) that can be used to provide additional USB access with a cable (not included).

HDMI Port

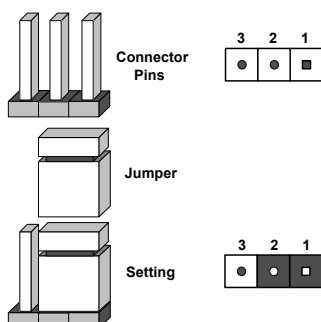
One HDMI is used to display both high definition video and digital sound through an HDMI-capable display, using a single cable (not included). The A2SAN-L motherboard supports HDMI specification version 1.4b.

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.

Power Force On

Use this jumper to select the "POWER FORCE ON" function when the AC power cord is plugged in. When enabling force power on and AC power recovery, the system will boot up automatically without pressing the power button.

Power Force On Jumper Settings	
Jumper Setting	Definition
Pins 1-2	Power Force On (Default) (when AC power cord is plugged)
Pins 2-3	PWR BTN Power On (when AC power cord is plugged)

Manufacturing Mode Select

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

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

3.5 LED Indicators

LAN1, LAN2 LEDs

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

LAN1/2 LEDs (Connection Speed Indicator)	
LED Color	Definition
Off	10 Mb/s or none
Green	100 Mb/s
Amber	1 Gb/s



Power LED

LED1 is the Power LED. In ACPI S0 mode, this LED will be solid green. In ACPI S3/S4/S5 modes, this LED will be solid red.

Onboard Power LED Indicator	
LED Color	Definition
Off	System Off (power cable not connected)
Solid Green	S0 mode
Solid Red	S3/S4/S5 modes

Chapter 4

Software

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

4.1 OS Installation

Installing Windows to a Non-RAID System

1. Insert Microsoft's Windows OS Setup DVD in a USB/SATA DVD device.
2. Insert USB flash drive with RST/RSTe driver.
3. Boot from a bootable device with Windows OS installation.
Note: Press the “F11” key when the system boots up to evoke the bootable devices list.
4. Reach the section of the installation procedure in which you select a drive to install Windows. The disk you are using should be listed. If not,
 - Load the driver by clicking on the “Load driver” icon at bottom left corner.
 - Browse the USB folder for the proper driver files.
 - Choose the SATA/sSATA AHCI driver indicated in the Windows OS Setup screen, then choose the hard drive in which you want to install it.
5. Once all devices are specified, continue with the installation.

After the Windows OS installation is completed, the system will automatically reboot several times.

5.2 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/>.

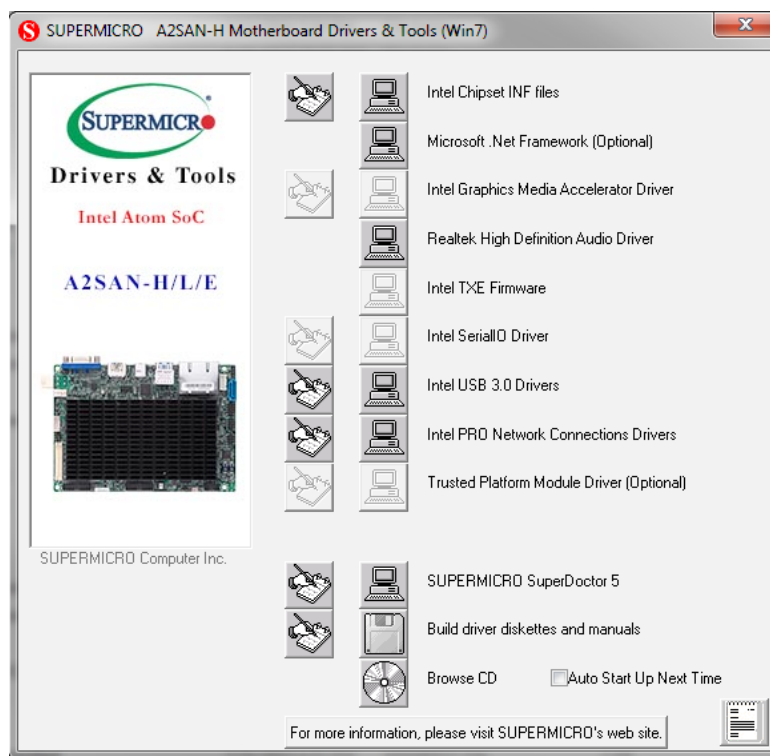


Figure 4-1. Driver & Tool Installation Screen

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

4.3 SuperDoctor® 5

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

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

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

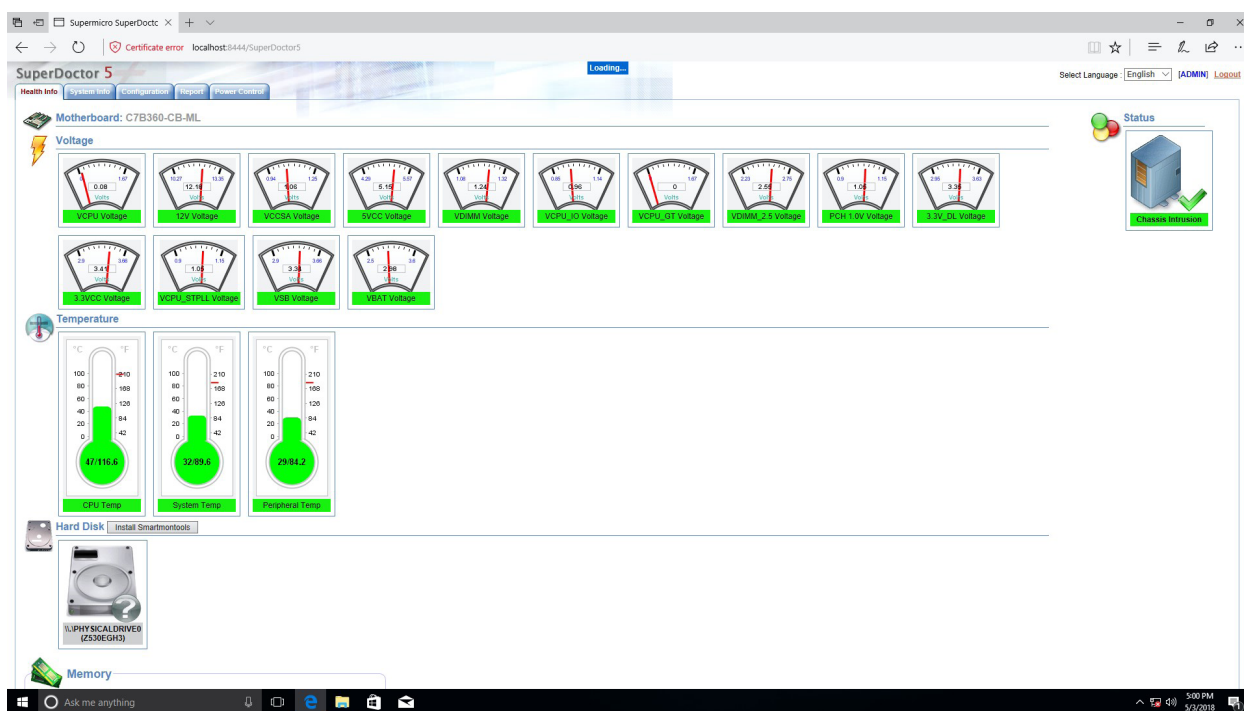


Figure 4-2. SuperDoctor 5 Interface Display Screen (Health Information)

Chapter 5

BIOS

5.1 Introduction

This chapter describes the AMI BIOS setup utility for the A2SAN-L and provides the instructions on navigating the setup screens. The BIOS is stored in a Flash EEPROM and can be updated.

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

Starting BIOS Setup Utility

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

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

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

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

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

Some system parameters may be changed.

5.2 Main Setup

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



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

System Date/System Time

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

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

Supermicro A2SAN-L (Motherboard model)

BIOS Version

Build Date (of the BIOS)

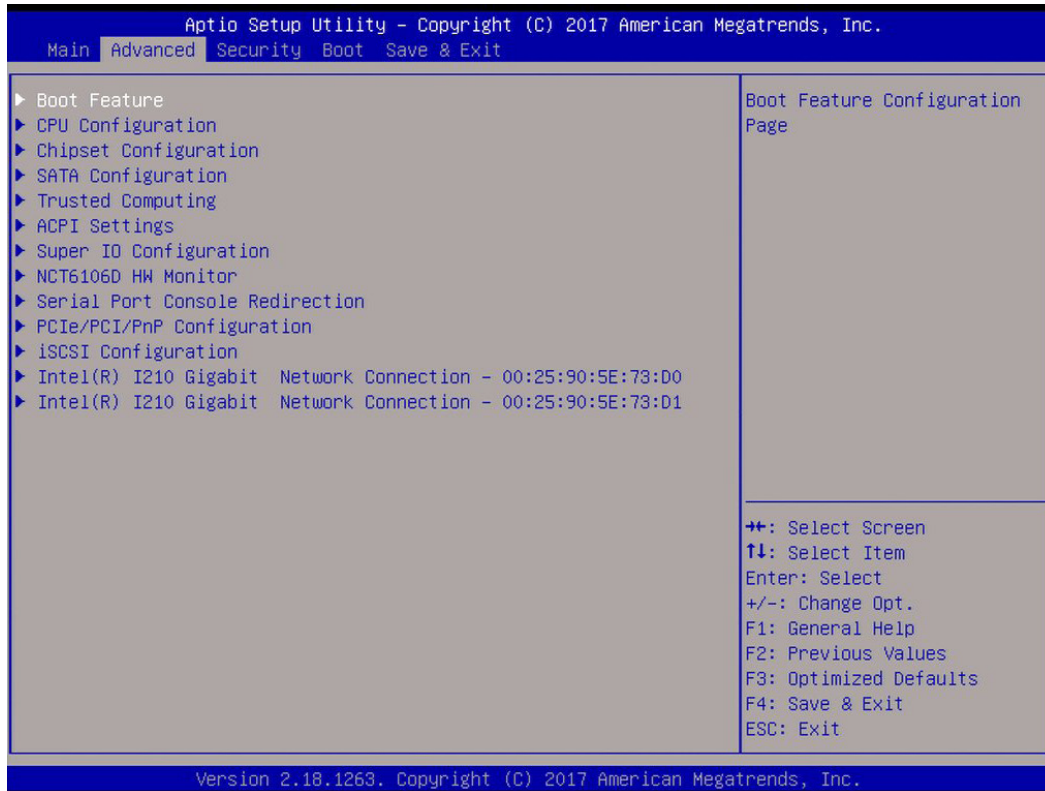
CPLD (Complex Programmable Logic Device) Version: This item displays the CPLD version used in the system.

Memory Information: Total Memory (for the system), Memory Speed

MBC Version; TXE FW; GOP

5.3 Advanced Setup Configurations

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



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

►Boot Feature

Quiet Boot

Use this feature to select the screen to 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**.

AddOn ROM Display Mode

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

Bootup NumLock State

This feature selects 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.

INT19 Capture Trap Response

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

Re-try Boot

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

Power Configuration

DeepSx Power Policies

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

Watch Dog Function

If this feature is enabled, the Watch Dog timer will allow the system to reboot when it is inactive for more than five 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 **Instant Off** and 4 Seconds Override.

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**.

****This feature is not available when DeepSX Power Policies is Enabled.***

► CPU Configuration

The following CPU information will display:

- CPU model
- CPU Signature
- Microcode Patch
- Max CPU Speed
- Min CPU Speed
- Processor Cores
- Intel HT Technology
- Intel VT-x Technology
- L1 Data Cache
- L1 Code Cache
- L2 Cache
- L3 Cache
- Speed
- 64-bit

► CPU Power Management

EIST

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 Disabled and **Enabled**.

Turbo Mode

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

**This feature is available when EIST is Enabled.*

Boot performance mode

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

Power Limit 1 Enable

Use this feature to set the power limit for the CPU. The options are Disabled and **Enabled**.
**This feature is available when EIST is set to Enabled.*

Power Limit 1

Power Limit 1 Clamp Mode

Use this feature to set the PL1 clamp bit. The options are Disabled and **Enabled**.

Power Limit 1 Power

Use this item to configure the value for Power Limit 1. The value is in milli watts and the step size is 125mW. Use the number keys on your keyboard to enter the value. The options are **Auto**, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, and 25.

Power Limit 1 Time Window

Use this feature to indicate the time window over which the TDP value should be maintained. The default value is Auto. The options are **Auto**, 1, 2, 3, 4, 5, 6, 7, 8, 10, 12, 14, 16, 20, 24, 28, 32, 40, 48, 56, 64, 80, 96, 112, and 128.

Active Processor Cores

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

**If Active Processor Cores is set to Enabled, Core 0 - Core 3 will be available for configuration:*

Core 0

This feature is set to Enabled.

Core 1 - Core 3

Use this feature to enable or disable the CPU core. The options are Disabled and **Enabled**.

Intel® 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 Disabled and **Enabled**.

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.

Monitor Mwait

Select Enabled 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 **Disabled** and Enabled.

P-STATE Coordination

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

► Chipset

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

► North Bridge

The following memory information will be displayed:

- Memory Slot 0

► Graphics Configuration

GOP Configuration

GOP Driver

The Graphics Output Protocol (GOP) driver is a replacement for legacy video BIOS that accesses UEFI protocols. The options are **Enable** and Disable.

LVDS Panel Support

Use this feature to select the supported IGFX graphics device output to the LVDS panel. The options are Disabled and **Enable**.

****If LVDS Panel Support is set to Enable, the next five features will be available for configuration:***

Panel select

Use this feature to select the panel resolution. The options are **Disable**, 800x600, 1024x768, 1280x1024, 1366x768, 1680x1050, and 1920x1200.

Panel Channel Type

Use this feature to select the Panel Channel Type. The options are **Disabled**, Odd Channel, Even Channel, and Both Channel.

Dual LVDS mode

Use this feature to select a single or dual mode bus for the LVDS display. The options are **Disabled**, Single LVDS Bus Mode, and Dual LVDS Bus Mode,

Panel Color Depth

Use this feature to select the panel color depth. The options are **Disabled**, VESA and JEIDA18 bpp, VESA 24 bpp, and JEIDA 24 bpp.

Backlight Brightness

Use this feature to select the backlight brightness for the panel display. Select a range from 1 to 16.

IGD Configuration

Integrated Graphics Device

When enabled, the onboard graphics device will be used as the primary video display. The options are Disable and **Enable**.

Primary Display

Use this feature to select the primary video display. The options are **IGD** and PCIe.

RC6 (Render Standby)

Select Enabled to enable render standby support. This is a power saving feature for the onboard display that reduces power consumption. The options are Disable and **Enable**.

GTT Size

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

Aperture Size

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

DVMT Pre-Allocated

Dynamic Video Memory Technology (DVMT) allows dynamic allocation of system memory to be used for video devices to ensure best use of available system memory based on the DVMT 5.0 platform. The options are **64M**, 96M, 128M, 160M, 192M, 224M, 256M, 288M, 320M, 352M, 384M, 416M, 448M, 480M, and 512M.

DVMT Total Gfx Mem

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

GT PM Support

Use this feature to enable the IGFX Power Management function. The options are **Enable** and Disable.

PAVP Enable

Protected Audio Video Path (PAVP) decodes Intel integrated graphics encrypted video. The options are **Enable** and Disable.

Max TOLUD

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

► South Bridge**► HD Audio Configuration****HD-Audio Configuration****HD-Audio Support**

Use this feature to enable high-definition audio support. The options are Disable and **Enable**.

► PCI Express Configuration**► ASMedia USB Controller****ASPM**

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

PCIe Speed

Uses this feature to select the PCI speed for the device installed in the slot. The options are **Auto**, Gen1, and Gen2.

► M.2 SLOT**ASPM**

Use this feature to set the Active State Power Management (ASPM) level for a PCI-E device. Select Auto for the system BIOS to automatically set the ASPM level based on the system configuration. Select Disabled to disable ASPM support. The options are Disable, L0s, L1, L0sL1, and **Auto**.

PCIe Speed

Use this feature to select the PCI speed for the device installed in the M.2 slot. The options are **Auto**, Gen1, and Gen2.

►Intel I210 Gigabit LAN

ASPM

Use this feature to set the Active State Power Management (ASPM) level for a PCI-E device. Select Auto for the system BIOS to automatically set the ASPM level based on the system configuration. Select Disabled to disable ASPM support. The options are Disable, L0s, L1, L0sL1, and **Auto**.

PCIe Speed

Use this feature to select the PCI speed for the device installed in the slot. The options are **Auto**, Gen1, and Gen2.

►Intel I210 Gigabit LAN/Intel I210 Gigabit LAN

ASPM

Use this feature to set the Active State Power Management (ASPM) level for a PCI-E device. Select Auto for the system BIOS to automatically set the ASPM level based on the system configuration. Select Disabled to disable ASPM support. The options are Disable, L0s, L1, L0sL1, and **Auto**.

PCIe Speed

Use this feature to select the PCI speed for the device installed in the slot. The options are **Auto**, Gen1, and Gen2.

►Mini PCIe

ASPM

Use this feature to set the Active State Power Management (ASPM) level for a PCI-E device. Select Auto for the system BIOS to automatically set the ASPM level based on the system configuration. Select Disabled to disable ASPM support. The options are **Disable**, L0s, L1, L0sL1, and Auto.

PCIe Speed

Use this feature to select the PCI speed for the device installed in the slot. The options are **Auto**, Gen1, and Gen2.

► USB Configuration

USB3.0 Support

Select Enable for USB 3.0 support. The options are **Enable** and Disable.

XHCI Pre-Boot Driver

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

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.

USB Rear I/O USB3.0

Select Enabled for rear I/O USB 3.0 support. The options are **Enabled** and Disabled.

USB Mass Storage Driver Support

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

► SATA Configuration

Chipset SATA

Use this feature to enable or disable the onboard SATA controller supported by the SoC. The options are **Enable** and Disable.

SATA Mode Selection

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

Aggressive LPM (Link Power Management) Support

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.

SATA Frozen

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

SATA Port 0 - SATA Port 1

Port

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

SATA Port Hot Plug

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

Spin Up Device

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**.

SATA Device Type

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

SATA Port DevSlp

DEVSLP is a signal that is sent to a SATA disk drive to tell it to enter a very low power state. The options are **Disabled** and Enabled.

► Trusted Computing

Security Device Support

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

****If Security Device Support is set to Enable, the following items will be available for configuration:***

The following Platform Configuration Register information will display:

Active PCR banks

Available PCR banks

SHA-1 PCR Bank

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

SHA256 PCR Bank

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

Pending operation

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

Platform Hierarchy

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

Storage Hierarchy

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

Endorsement Hierarchy

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

TPM2.0 UEFI Spec Version

Use this feature to select the Trusted Computing Group (TCG) specification version. Version TCG_1_2 is compatible with Windows 8 and 10. Version TCG_2 is compatible with Windows 10 or later. The options are TCG_1_2 and **TCG_2**.

Physical Presence Spec Version

Use this feature to select the Physical Presence Interface version. This interface uses the ACPI and allows the operating system and BIOS to work together to provide a platform for users to administer the TPM. 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 options are TPM 1.2, TPM 2.0, and **Auto**.

►ACPI Settings**ACPI Sleep State**

Use this feature to select which sleep state mode the system will enter when the Suspend button is pressed. The options are Suspend Disabled and **S3 (Suspend to RAM)**.

High Precision Timer

Select Enabled to activate the High Precision Event Timer (HPET) that produces periodic interrupts at a much higher frequency than a Real-time Clock (RTC) does in synchronizing

multimedia streams, providing smooth playback, and reducing the dependency on other timestamp calculation devices, such as an x86 RDTSC Instruction embedded in the CPU. The High Precision Event Timer is used to replace the 8254 Programmable Interval Timer. The options are Disable and **Enable**.

► Super IO Configuration

Super IO Chip NCT6106D

► Serial Port 1 Configuration

Serial Port

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

Device Settings

This item displays the base I/O port address and the Interrupt Request address of a serial port specified by the user.

Change Settings

This feature specifies the base I/O port address and the Interrupt Request address of Serial Port 1. Select Auto to allow 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).

COM Port Mode

Use this item to select the COM port mode. The options are **RS232 Mode**, RS422 Mode, and RS485 Mode.

► Serial Port 2 Configuration

Serial Port

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

Device Settings

This item displays the base I/O port address and the Interrupt Request address of a serial port specified by the user.

Change Settings

This feature specifies the base I/O port address and the Interrupt Request address of Serial Port 2. Select Auto to allow the BIOS to automatically assign the base I/O and IRQ address to a serial port specified. The options are **Auto**, (IO=2F8h; IRQ=3), (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).

COM Port Mode

Use this item to select the COM port mode. The options are **RS232 Mode**, RS422 Mode, and RS485 Mode.

► Serial Port 3 Configuration

Serial Port

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

Device Settings

This item displays the base I/O port address and the Interrupt Request address of a serial port specified by the user.

Change Settings

This feature specifies the base I/O port address and the Interrupt Request address of Serial Port 2. Select Auto to allow the BIOS to automatically assign the base I/O and IRQ address to a serial port specified. The options are **Auto**, (IO=3E8h; IRQ=7), (IO=3E8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12), (IO=2E8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12), (IO=2F0h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12), and (IO=2E0h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12).

► Serial Port 4 Configuration

Serial Port

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

Device Settings

This item displays the base I/O port address and the Interrupt Request address of a serial port specified by the user.

Change Settings

This feature specifies the base I/O port address and the Interrupt Request address of Serial Port 2. Select Auto to allow the BIOS to automatically assign the base I/O and IRQ address to a serial port specified. The options are **Auto**, (IO=3E8h; IRQ=7), (IO=3E8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12), (IO=2E8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12), (IO=2F0h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12), and (IO=2E0h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12).

► NCT6106D Hardware Monitor

The following PC Health Status information will be displayed:

- Peripheral temperature
- System temperature

Fan Speed Control Mode

Use this feature to select the fan speed control mode. The options are **Standard**, Heavy I/O, and Full Speed.

- Fan1 Speed
- VCORE
- VDIMM
- 12V
- 5V
- AVSB
- 3VSB
- 3VCC
- VBAT

► Serial Port Console Redirection

COM1 Console Redirection

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

****If COM1 Console Redirection is set to Enabled, the following items will become available for configuration:***

► COM1 Console Redirection Settings

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

COM1 Terminal Type

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

COM1 Bits per second

Use this feature to set the transmission speed for a serial port used in Console Redirection. Make sure that the same speed is used in the host computer and the client computer. A

lower transmission speed may be required for long and busy lines. The options are 9600, 19200, 38400, 57600, and **115200** (bits per second).

COM1 Data Bits

Use this feature to set the data transmission size for Console Redirection. The options are 7 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 feature to set the flow control for Console Redirection to prevent data loss caused by buffer overflow. Send a "Stop" signal to stop sending data when the receiving buffer is full. Send a "Start" signal to start sending data when the receiving buffer is empty. The options are **None** and Hardware RTS/CTS.

COM1 VT-UTF8 Combo Key Support

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

COM1 Recorder Mode

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

COM1 Resolution 100x31

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

COM1 Legacy OS Redirection Resolution

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

COM1 Putty KeyPad

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

COM1 Redirection After BIOS POST

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

COM2 Console Redirection

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

**If COM2 Console Redirection is set to Enabled, the following items will become available for configuration:*

► COM2 Console Redirection Settings

Use this feature to specify how the host computer will exchange data with the client computer, which is the remote computer used by the user. The options are Enabled and **Disabled**.

COM2 Terminal Type

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

COM2 Bits per second

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

COM2 Data Bits

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

COM2 Parity

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

COM2 Stop Bits

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

COM2 Flow Control

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

COM2 VT-UTF8 Combo Key Support

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

COM2 Recorder Mode

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

COM2 Resolution 100x31

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

COM2 Legacy OS Redirection Resolution

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

COM2 Putty KeyPad

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

COM2 Redirection After BIOS POST

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

►COM3 Console Redirection Settings

Use this feature to specify how the host computer will exchange data with the client computer, which is the remote computer used by the user. The options are Enabled and **Disabled**.

COM3 Terminal Type

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

COM3 Bits per second

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

COM3 Data Bits

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

COM3 Parity

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

COM3 Stop Bits

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

COM3 Flow Control

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

COM3 VT-UTF8 Combo Key Support

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

COM3 Recorder Mode

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

COM3 Resolution 100x31

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

COM3 Legacy OS Redirection Resolution

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

COM3 Putty KeyPad

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

COM3 Redirection After BIOS POST

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

►COM4 Console Redirection Settings

Use this feature to specify how the host computer will exchange data with the client computer, which is the remote computer used by the user. The options are Enabled and **Disabled**.

COM4 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.

COM4 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).

COM4 Data Bits

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

COM4 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.

COM4 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**.

COM4 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.

COM4 VT-UTF8 Combo Key Support

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

COM4 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.

COM4 Resolution 100x31

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

COM4 Legacy OS Redirection Resolution

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

COM4 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.

COM4 Redirection After BIOS POST

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

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

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

EMS (Emergency Management Services) Console Redirection

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

****If EMS 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 COM2.

Terminal Type

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

Bits per second

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

Flow Control

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

Data Bits

Parity

Stop Bits

► PCIe/PCI/PnP Configuration

PCI Bus Driver Version A5.01.08

PCI Devices Common Settings:

Above 4G Decoding

Select Enabled for 64-bit devices to be decoded above the 4GB address space, if 64bit PCI decoding is supported by the system. The options are **Disabled** and Enabled.

M.2 OPROM

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

Onboard LAN Option ROM Type

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

****If Onboard LAN Option ROM Type is set to Legacy, Onboard LAN1/LAN2 Option ROM will become available for configuration:***

Onboard LAN1 Option ROM

Use this feature to select which LAN1 firmware type to be loaded. The options are **Disabled**, PXE, and iSCSI.

Onboard LAN2 Option ROM

Use this feature to select which LAN2 firmware type to be loaded. The options are **Disabled**, PXE, and iSCSI.

Onboard Video Option ROM

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

Network Stack

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

****If Network Stack is Enabled, the following four items will become available for configuration:***

Ipv4 PXE Support

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

Ipv6 PXE Support

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

PXE boot wait time

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

Media detect count

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

► 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 Network Connection - 00:25:90:5E:73:D0**
► **Intel® I210 Gigabit Network Connection - 00:25:90:5E:73:D1**

► NIC Configuration

Link Speed

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

Wake On LAN

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

Blink LEDs

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

UEFI Driver

This item displays the UEFI driver version.

Adapter PBA

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

Device Name

This item displays the adapter device name.

Chip Type

This item displays the network adapter chipset name.

PCI Device ID

This item displays the device ID number.

PCI Address

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

Link Status

This item displays the connection status.

MAC Address

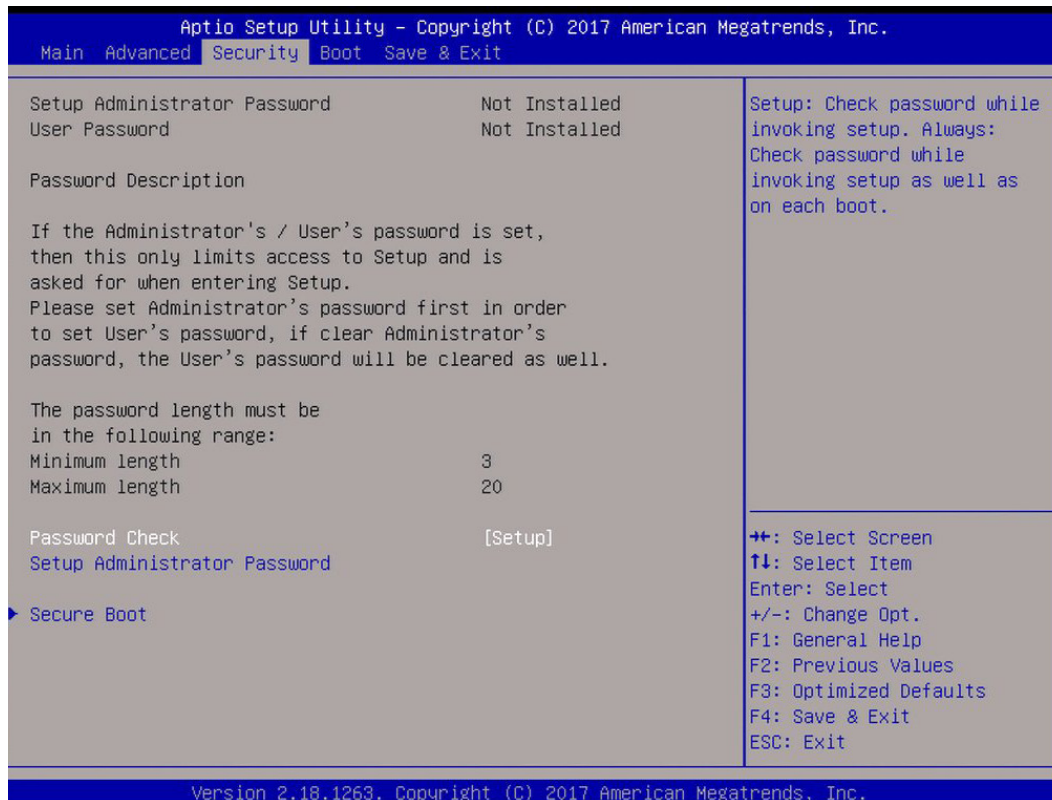
This item displays the MAC address for this computer. Mac addresses are six two-digit hexadecimal numbers.

Virtual MAC Address

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

5.4 Security

Use this tab page to configure Security settings.



Password Check

Use this feature to determine when a password entry is required. Select Setup to require the password only when entering setup. Select Always to require the password when entering setup and at each bootup. The options are **Setup** and Always.

Setup 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.

► Secure Boot

Secure Boot Support

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

Select Enabled for manufacturing or debugging purposes for the EFI Compatibility Support Module (CSM), which provides compatibility support for traditional legacy BIOS for system boot with limited support. The options are Disabled and Enabled. This feature is for manufacture debugging purposes.

► Key Management

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

Provision Factory Default Keys

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

► Reset to Setup Mode

Use this feature to force the system into setup mode and clear all secure boot variables.. The options are Yes and No.

► Enroll Efi Image

Use this feature to allow the image to run in Secure Boot mode. Enroll SHA256 Hash certificate of the Image into Authorized Signature Database.

► Enroll All Factory Default Keys

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

► Save All Secure Boot Variables

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

► Platform Key (PK)

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

Set New Var

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

► Key Exchange Keys (KEK)

Set New Var

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

Append Key

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

▶ Authorized Signatures**Set New Var**

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 Key

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

▶ Forbidden Signatures**Set New Var**

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 Key

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

▶ Authorized TimeStamps**Set New Var**

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

Append Key

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

▶ OsRecovery Signature**Set New Var**

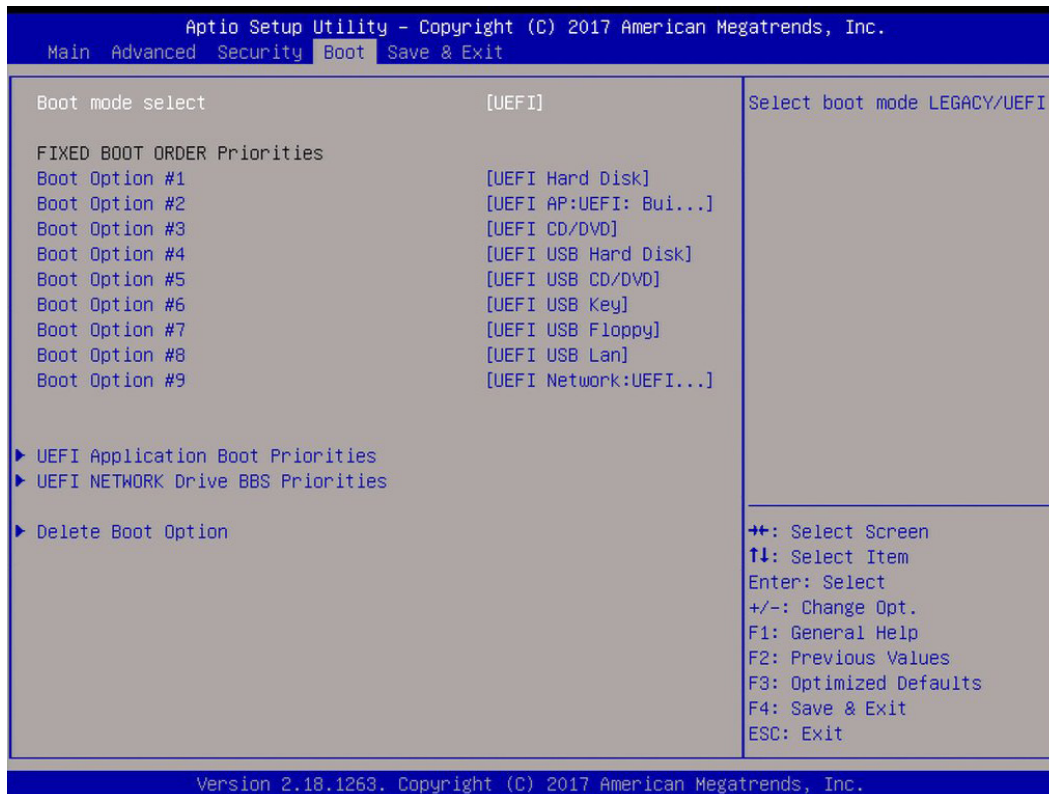
Select Yes to load the dbr from the manufacturer's defaults. Select No to load the dbr from a file. The options are Yes and No.

Append Key

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

5.5 Boot

Use this tab page to configure Boot Settings.



Boot mode select

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

Fixed Boot Order Priorities

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

- Boot Option #1
- Boot Option #2
- Boot Option #3
- Boot Option #4
- Boot Option #5
- Boot Option #6
- Boot Option #7
- Boot Option #8

- Boot Option #9

▶ **UEFI Application Boot Priorities**

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

- Boot Option #1

▶ **UEFI NETWORK Drive BBS Priorities**

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

- Boot Option #1

- Boot Option #2

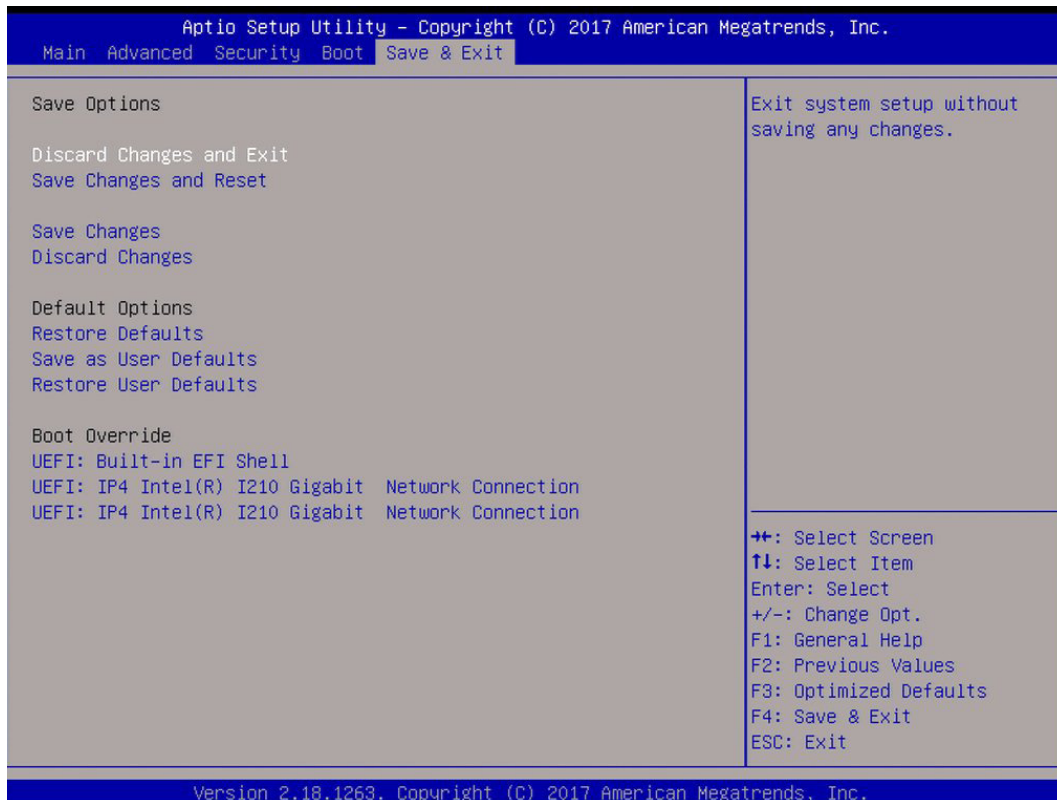
▶ **Delete Boot Option**

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

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

5.6 Save & Exit

Use this tab page to configure Save & Exit settings.



Save Options

Discard Changes and Exit

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

Save Changes and Reset

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

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 Defaults**

To set this feature, select Restore Defaults from the Exit menu 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

This feature allows the user to override the Boot Option Priorities sequence in the Boot menu, and immediately boot the system with another device specified by the user. This is a one-time override.

UEFI: Built-in EFI Shell**UEFI: IP4 Intel® I210 Gigabit Network Connection****UEFI: IP4 Intel® I210 Gigabit Network Connection**

Appendix A

BIOS Error Codes

A-1 BIOS Error Beep (POST) Codes

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

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

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

These fatal errors are usually communicated through a series of audible beeps. The numbers on the fatal error list (on the following page) correspond to the number of beeps for the corresponding error.

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

A-2 Additional BIOS POST Codes

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

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

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

Appendix B

Standardized Warning Statements for DC Systems

About Standardized Warning Statements

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

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

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

Warning Definition



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

警告の定義

この警告サインは危険を意味します。

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

此警告符号代表危險。

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

此警告符號代表危險。

您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 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.

اَكْ ف حالة وُكِي اَي تتسبب ف اصابة جسدهُ هذا الزهز 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 هاةُ كل تحذُرُ للعشر تزجوتها

안전을 위한 주의사항

경고!

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

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

BELANGRIJKE VEILIGHEIDSINSTRUCTIES

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

BEWAAR DEZE INSTRUCTIES

Installation Instructions



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

設置手順書

システムを電源に接続する前に、設置手順書をお読み下さい。

警告

将此系统连接电源前,请先阅读安装说明。

警告

將系統與電源連接前，請先閱讀安裝說明。

Warnung

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

¡Advertencia!

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

Attention

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

יש לקרוא את הוראות התקנה לפני חיבור המערכת למקור מתח.

اقر إرشادات التركيب قبل توصيل النظام إلى مصدر للطاقة

시스템을 전원에 연결하기 전에 설치 안내를 읽어주십시오.

Waarschuwing

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

Circuit Breaker



Warning! This product relies on the building's installation for short-circuit (overcurrent) protection. Ensure that the protective device is rated not greater than: 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 chasis pour installer ou enlever des composants de système.

אזהרה מפני ניתוק חשמלי

אזהרה!

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

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

경고!

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

Waarschuwing

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

Equipment Installation



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

機器の設置

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

警告

只有经过培训且具有资格的人员才能进行此设备的安装、更换和维修。

警告

只有經過受訓且具資格人員才可安裝、更換與維修此設備。

Warnung

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

¡Advertencia!

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

Attention

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

אזהרה!

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

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

경고!

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

Waarschuwing

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

Restricted Area

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

アクセス制限区域

このユニットは、アクセス制限区域に設置されることを想定しています。

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

警告

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

警告

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

Warnung

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

¡Advertencia!

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

Attention

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

אזור עם גישה מוגבלת

אזהרה!

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

تخصيص هذه انحدزة نترك بُها ف مناطق محظورة تم .
ممكن اننصل إن منطقت محظورة فقط من خلال استخذاو أداة خاصت
أو أ وس هُت أخري نلالأما ققم ومفتاح

경고!

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

Waarschuwing

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

Battery Handling



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

電池の取り扱い

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

警告

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

警告

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

Warnung

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

Attention

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

¡Advertencia!

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

אזהרה!

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

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

경고!

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

Waarschuwing

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

Redundant Power Supplies



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

冗長電源装置

このユニットは複数の電源装置が接続されている場合があります。

ユニットの電源を切るためには、すべての接続を取り外さなければなりません。

警告

此部件连接的电源可能不止一个，必须将所有电源断开才能停止给该部件供电。

警告

此装置连接的电源可能不只一个，必须切断所有电源才能停止对该装置的供电。

Warnung

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

¡Advertencia!

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

Attention

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

אם קיים יותר מספק אחד

אזהרה!

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

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

경고!

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

Waarschuwing

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

Backplane Voltage



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

バックプレーンの電圧

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

修理する際には注意ください。

警告

当システム正在进行时，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，背板上危險的電壓或能量，進行維修時務必小心。

Warnung

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

¡Advertencia!

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

Attention

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

מתח בפנל האחורי

אזהרה!

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

העבודה.

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

경고!

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

Waarschuwing

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

Comply with Local and National Electrical Codes



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

地方および国の電気規格に準拠

機器の取り付けはその地方および国の電気規格に準拠する必要があります。

警告

设备安装必须符合本地与本国电气法规。

警告

設備安裝必須符合本地與本國電氣法規。

Warnung

Die Installation der Geräte muss den Sicherheitsstandards entsprechen.

¡Advertencia!

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

Attention

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

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

تركيب المعدات الكهربائية يجب أن يمتثل للقوايه المحلية والبطية المتعلقة
بالكهرباء

경고!

현 지역 및 국가의 전기 규정에 따라 장비를 설치해야 합니다.

Waarschuwing

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

Product Disposal



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

製品の廃棄

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

警告

本产品的废弃处理应根据所有国家的法律和规章进行。

警告

本產品的廢棄處理應根據所有國家的法律和規章進行。

Warnung

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

¡Advertencia!

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

Attention

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

סילוק המוצר

אזהרה!

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

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

경고!

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

Waarschuwing

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

Hot Swap Fan Warning



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

ファン・ホットスワップの警告

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

警告!

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

警告

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

Warnung

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

¡Advertencia!

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

Attention

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

אזהרה!

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

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

경고!

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

Waarschuwing

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

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，例如閉環或鑷型接線片。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 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.

تحذير

وأقلغم قق ل ح لشم، اه ل ع قق ف او مل اء ان! ك ال س ال ا م اد خ ت س او، ل ب س ل ا م ه ب ت ع ط ق ت ن ي ذ ل ا ك ال س ال ا ب و ل ط م ن و ك ي ا م د ن ع ب ج ي و ك ال س ال ل ب س ان م ل ا م ج ح ل ا ن و ك ي ت اء اء ان ال ا ه ذ ل ي غ ب ن ي و. ة ب و ل ق م ت ا و ر ع ل ا ع م ع و ن ل ا ة ي ق ي ق ح ل ا ا ه ي ا م س ا ب ا ي ش ال ا ل ص و م و ل ز ع ل ا ن م ل ك ح ب ك.

주의!

꼬인 배선이 요구 될 때에는 폐회로나 돌출부가 위로 튀어 나온 Spade 형태의 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

وأقول غم ققلح لشم، ادهل ع ققفاومل اءاهن! كالسأل مادختساو، لبسلا مهب تعطقت نيذلا كالسأل ابولطم نوكي امدن ع بجي و كالسأل بسانملا مچحل نوكي تاءاهن إل اذهل يغبنني و. ةبولقم تاورعل عم عونلا ةيقي قحلا اءئامس أب اءيشأل لصوصم و لزعل نم لك حبك.

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 . ءمصاعل ءق اظلا تاظحم ىلع ءدوجوم نوكت ءق اظلا واً ءرطخل دهجل دق
ءاطغلا امدنع اهـلل لوصولاً نكمـي ال لوزعم ريغ تالصومل هـيـف كـش ال امم . ءمدخل اـيـف تـسـيـل تاظحمـل
هنكم 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 E3930 Dual Core SoC, 2M Cache, 1.3GHz-1.8GHz, 6.5W in a Single Socket FCBGA 1296

BIOS

128Mb SPI AMI BIOS

Memory

Integrated memory controller supports DDR3L 1333/1600/1866MHz Non-ECC 204-pin SO-DIMM up to 8GB

Note: See the Supermicro website for updates to supported memory.

SATA Controller

One SATA 3.0 (6Gbps) from Intel SoC (I-SATA1)

Storage

One fixed 2.5" x 7 mm internal drive

One M.2 B-key 2280

Expansion Slots

One full Mini-PCI Express slot (USB2.0 x1, PCI-E Gen2 x 1)

Motherboard

A2SAN-L; Dimensions: 4" (L) x 5.75" (W) (102mm x 146mm) SBCs; Height: 33mm

Input / Output

LAN: two GbE LAN ports with Intel Ethernet Controller I210

USB: two USB 3.0 (rear)

Video: One VGA, one HDMI

COM Ports: (*optional*) four front serial ports, (JCOM1 supports two RS232/RS422/RS485, JCOM2 supports two RS232)

Audio: (*optional*) one mic jack, one headphone jack

Chassis

E102, compact embedded 3.5" SBC box, Width 7.48" (190mm), Height 1.72" (43.7mm), Depth 4.72" (102mm)

System Cooling

One 4cm high performance PWM fan

Power

One external 40W DC Power Adapter; 12 Vdc, 3.33A, AC to DC lockable power adapter

Weight

Gross Weight: 6.6 lbs (3. kg)

Net Weight: 2.65 lbs (1.2 kg)

Operating Environment

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

Non-operating Temperature: -40°C to 85°C (-40°F to 185°F)

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

Non-operating Relative Humidity: 10% to 95% (non-condensing)

Regulatory Compliance

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

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

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

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

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

Perchlorate Warning

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