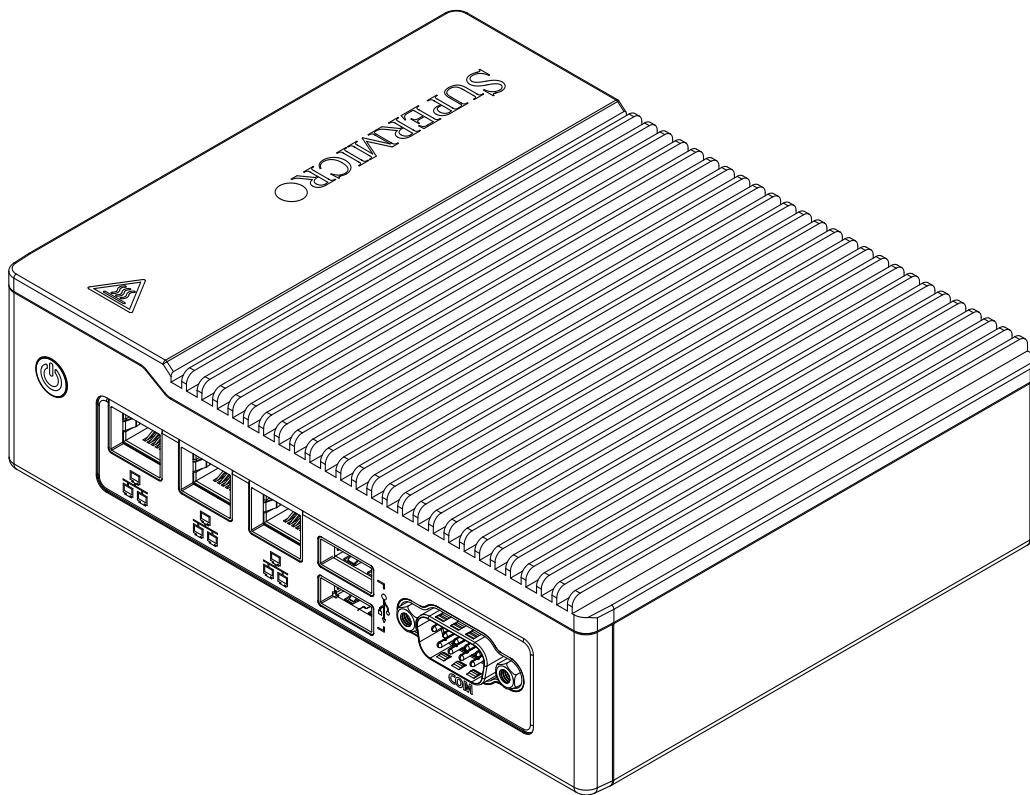




SUPER SERVER[®] E50-9AP-N5



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 E50-9AP-N5. Installation and maintenance should be performed by experienced technicians only.

Please refer to the E50-9AP-N5 server specifications page on our website for updates on supported memory, processors and operating systems (<http://www.supermicro.com>).

Notes

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

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

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

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

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 E50-9AP-N5 is a compact, embedded system comprised of the SCE50 chassis and the A2SAP-H single processor motherboard. Refer to our website for information on operating systems that have been certified for use with the system (www.supermicro.com).

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

Main Parts List		
Description	Part Number	Quantity
Power Adapter	MCP-250-10124-0N	1
Add-on I/O Module	AOM-PICO-3L	1

Important Links

For your system to work properly, follow the links below to download all necessary drivers and utilities for your server.

- Product drivers and utilities: <https://www.supermicro.com/wftp/driver>
- Product safety info: http://www.supermicro.com/about/policies/safety_information.cfm
- If you have any questions, please contact our support team at: support@supermicro.com

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

1.2 System Features

The following table provides an overview of the main features of the E50-9AP-N5. Refer to Appendix C for additional specifications.

System Features
Motherboard
A2SAP-H
Carrier Board
AOM-PICO-3L
Chassis
SCE50
CPU
Intel® Atom x5-E3940 (System on Chip) Socket BGA
Cooling
Fan-less design
Memory
Supports up to 8GB DDR3L Non-ECC SODIMM 1866MHz memory in one DIMM slot
Expansion Slots
One full-size Mini-PCI-E slot One half-size Mini-PCI-E slot One M.2 B-Key 2242 slot for storage One M.2 E-Key 2230 slot for communication module
Power
One lockable 40W DC power adapter
Hard Drives
One 7-mm height 2.5" SATA SSD
Form Factor
2.5" SBC
Dimensions
(WxHxD) 4.9 x 1.7 x 4.6 in. (126 x 44 x 118 mm)

1.3 I/O Placement

Rear I/O

The illustration below shows the features included on the rear of the system.

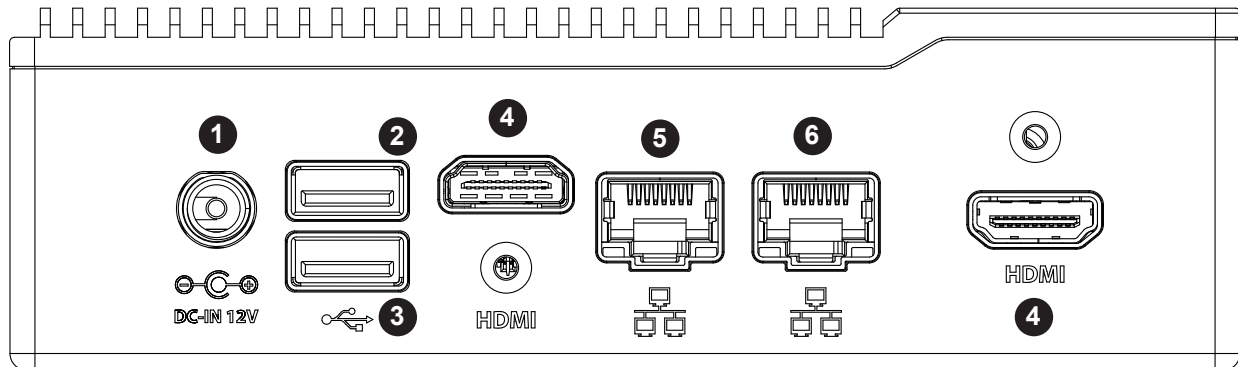


Figure 1-1. Rear I/O

Rear I/O Features		
Item	Features	Description
1	Power Input	12V DC power input.
2	USB1	USB 3.0 Port
3	USB0	USB 3.0 Port
4	HDMI	HDMI (High-Definition Multimedia Interface) Port
5	LAN Port	GbE LAN Port
6	LAN Port	GbE LAN Port

Front I/O

The illustration below shows the features included on the rear of the system.

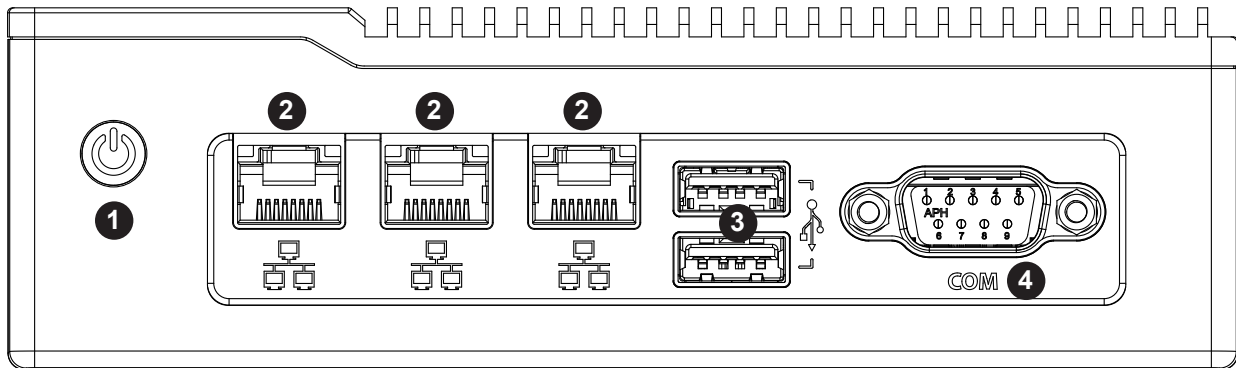


Figure 1-1. Rear I/O

Rear I/O Features		
Item	Features	Description
1	Power Button	Applies or removes power from the system.
2	LAN Port	GbE LAN Port
3	USB	USB 3.0 Ports
4	COM Port	COM (serial) Port

1.4 Motherboard Layout

Below is a layout of the A2SAP-H with jumper, connector, and LED locations shown. See the table on the following page for descriptions. For detailed descriptions, pinout information, and jumper settings, refer to Chapter 3.

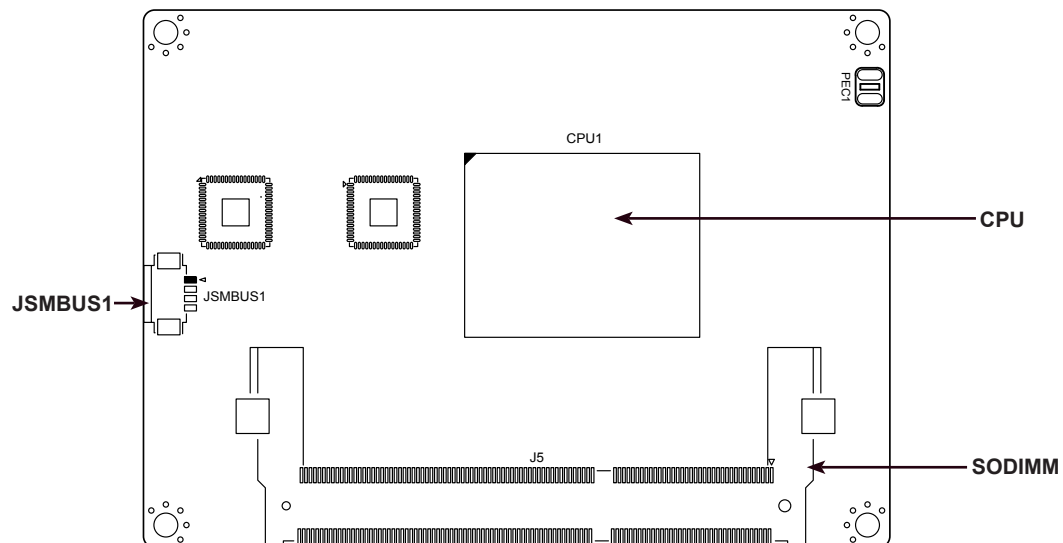
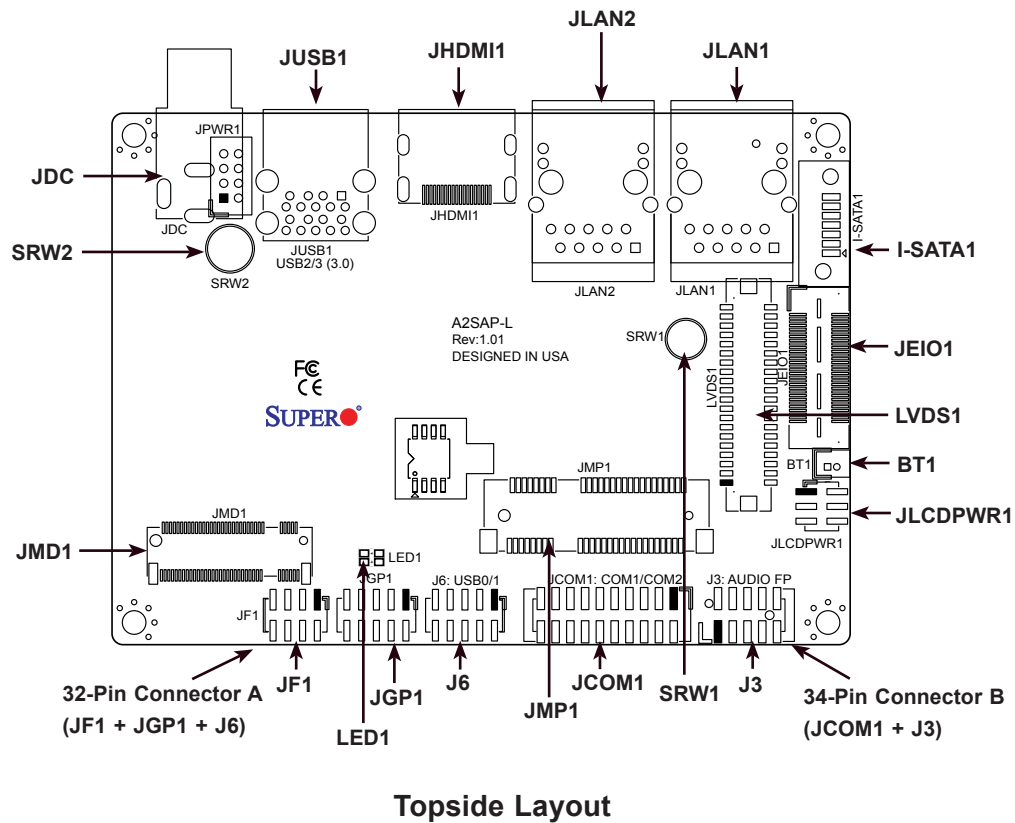


Figure 1-2. Motherboard Layout

Note: Components not documented are for internal testing only. The A2SAP-H shares the same layout as the A2SAP-L (shown) but does not include JPWR1.

Quick Reference Table

Jumper	Description	Jumper Setting
JLCDPWR1	Force Power On	Pins 2-4 (Force Power On) Pins 4-6 (Power Button On)
	LVDS Panel Power Source Selection	Pins 1-3 (3.3V) Pins 3-5 (5V)
LED	Description	Status
LED1	Power LED	Solid Green: S0 mode Solid Red: S3/S4/S5 modes
Connector	Description	
BT1	Battery Connector	
I-SATA1	Intel PCH SATA 3.0 Port	
J3	Front Panel Audio Header (Mic-In/Line-out)	
J6	Two USB 2.0 Headers	
JCOM1	Two COM Headers (two RS232/422/485)	
JDC	12V DC Jack Power Connector	
JEIO1	Supermicro Extension I/O (HDMI/DP, two PCI-E x1, two USB 2.0, LPC, SATA, SMBus, Power)	
JF1	Front Control Panel Header (Power/HDD LED, Reset, Power button)	
JGP1	8-bit General Purpose I/O Header	
JHDMI1	High Definition Multimedia Interface (HDMI) Port	
JLAN1/JLAN2	LAN1/LAN2 (RJ45 LAN) Ports	
JMD1	M.2 Slot (B-KEY 2242/3042) (SATA 3.0 / PCI-E / USB 2.0)	
JMP1	Mini PCI-E Slot (supports two PCI-E Gen2 / one USB 2.0)	
JSMBUS1	SMBus and 5V/1A SATA Power Box Header	
JUSB1	Two Rear Panel USB 3.0 Ports	
LVDS1	Dual Channel 48-bit LVDS Connector	
SRW1 - SRW2	M.2 and Mini PCI-E Mounting Holes	

System Block Diagram

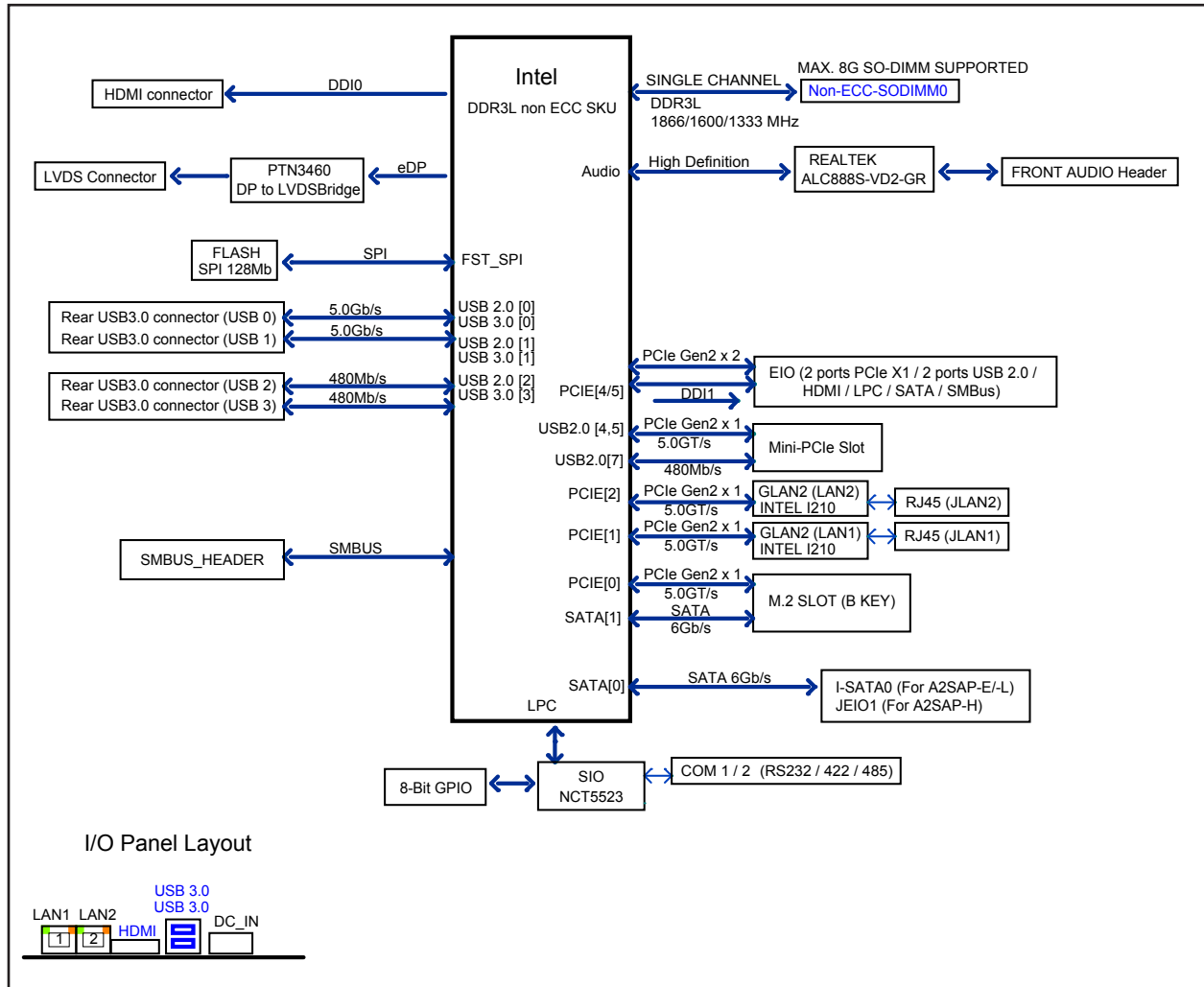


Figure 1-3. System Block Diagram

Note: This is a general block diagram and might not exactly represent the features on your motherboard. See the Appendix C for the actual specifications of your motherboard.

1.5 AOM-PICO Card

One M.2 (M-key) connector is supported by the AOM-PICO-3L add-on module. M.2 devices are used for solid state storage and internal expansion. See Section 2.3 for the procedure to install an M.2 device.

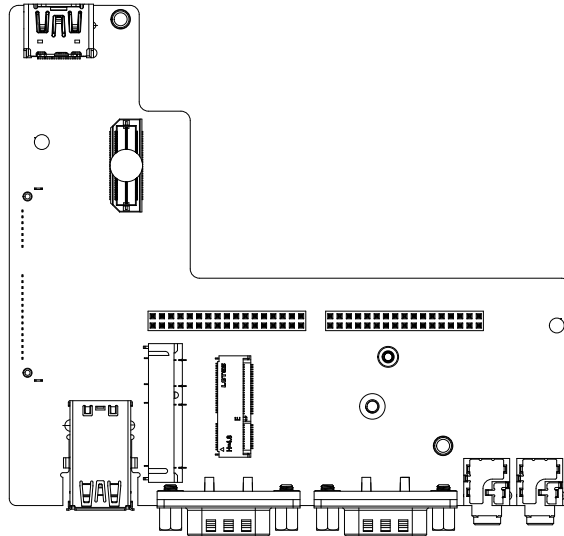


Figure 1-4. AOM-PICO Module

1.6 Installation

This section provides advice and instructions for mounting the E50-9AP-N5.

Unpacking the System

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

Warnings and Precautions

Review the electrical and general safety precautions in Appendix B.

Installing 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:** Refer to Chapter 2 for instructions on installing drives.
- **Input/Output:** Refer to Chapter 3 for information about I/O ports.
- **Software:** Refer to Chapter 4 for software installation information, including drivers and monitoring programs.

Installing Mounting Brackets

The chassis includes mounting brackets that allow it to be mounted in any convenient space.

1. Install the brackets to the chassis with two screws in each bracket.
2. Secure the brackets to the surface where you want the system to be mounted.

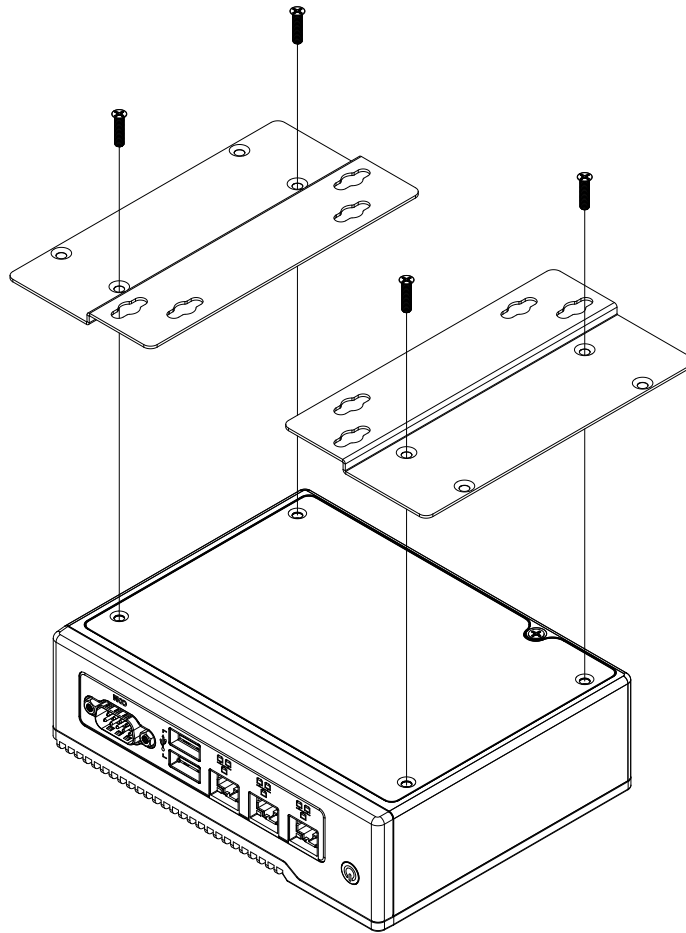


Figure 1-5. Installing Mounting Brackets
(Brackets extending out from the chassis)

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 or when replacing a non-redundant power supply.

1. Use the operating system to power down the system.
2. After the system has completely shut down, disconnect the power cord from the outlet.
3. Disconnect the power cord from the chassis.

2.2 Accessing the System

The E50-9AP-N5 features a removable bottom cover to access the inside of the chassis.

Removing the Chassis Cover

1. Power down the system as described in Section 2.1.
2. Remove the four screws that hold the cover in place.
3. Lift the cover up and off the chassis.

Caution: Except for short periods of time, do *not* operate the server without the cover in place. The chassis cover is required to maintain proper cooling airflow.

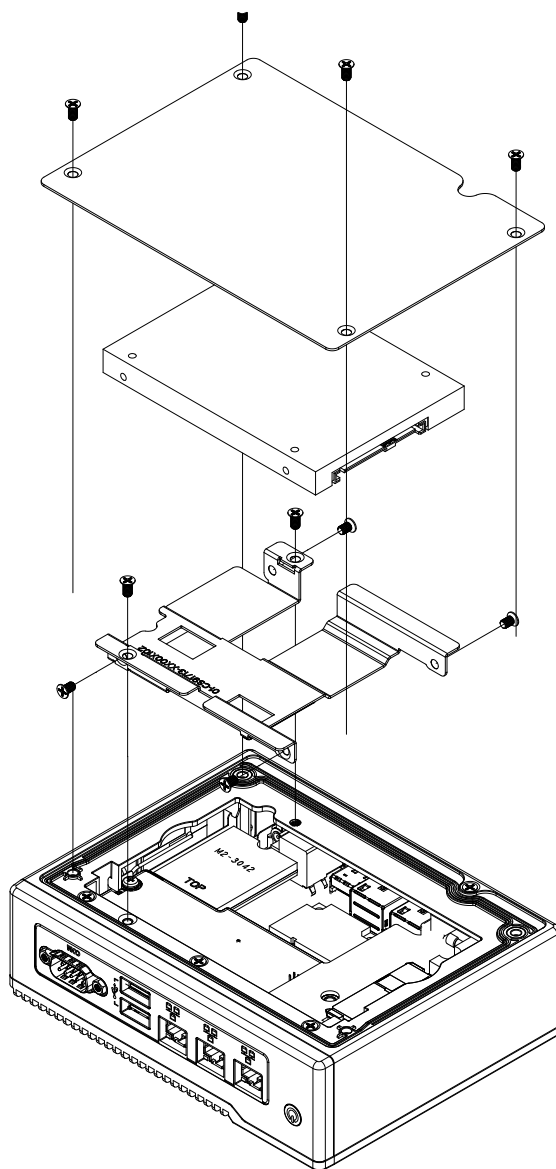


Figure 2-1. Removing the Chassis Cover

2.3 Motherboard Components

Processor

The E50-9AP-N5 features an embedded Intel® Atom x5-E3940 processor.

Memory Support

The A2SAP-H supports up to 8GB of DDR3L Non-ECC SO-DIMM with speeds of up to 1866MHz in one memory slot on the top side of the motherboard.

Note: Check the Supermicro website for recommended memory modules.

Installing Memory

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

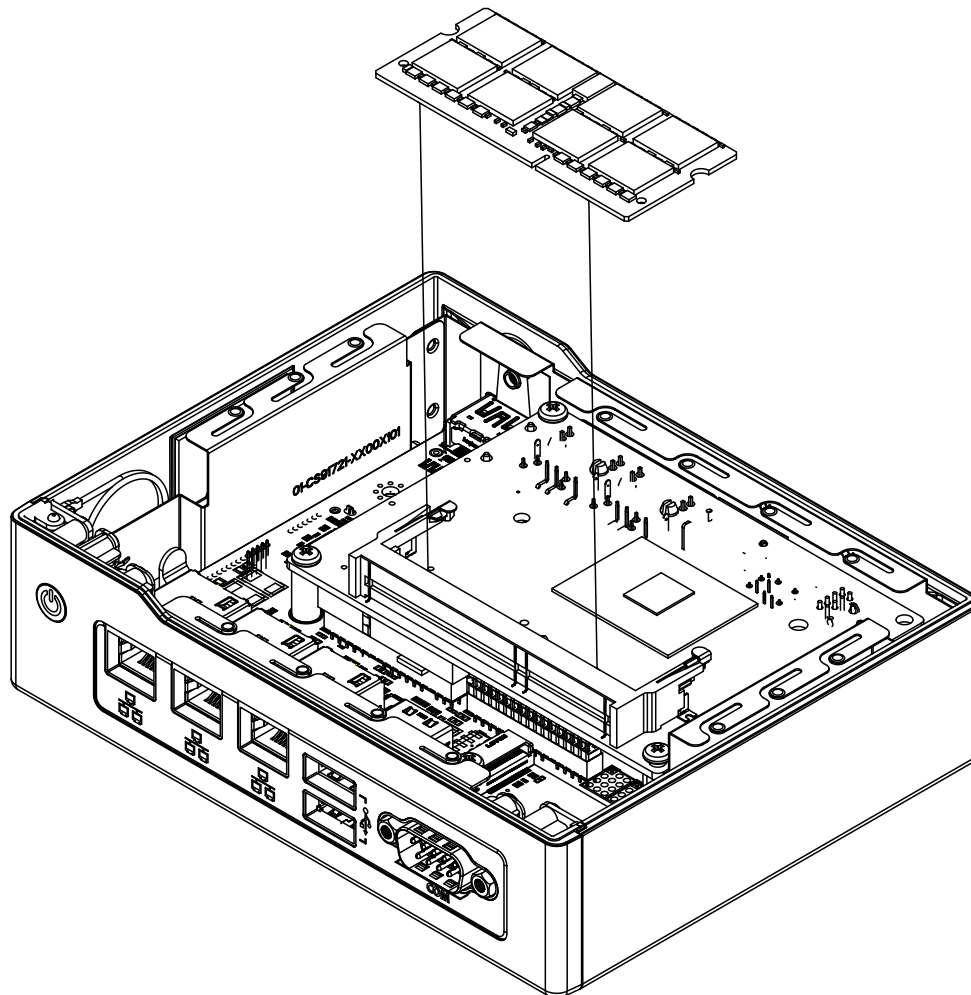
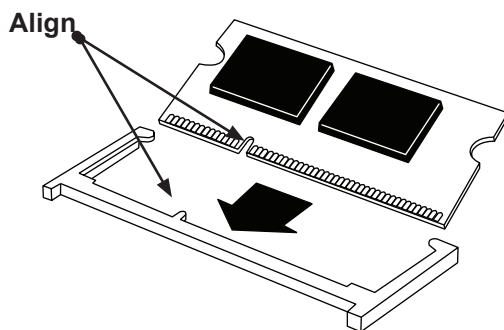


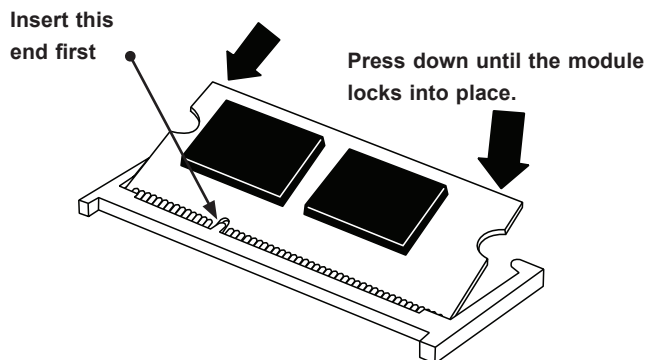
Figure 2-2. Installing a DIMM

SODIMM Installation

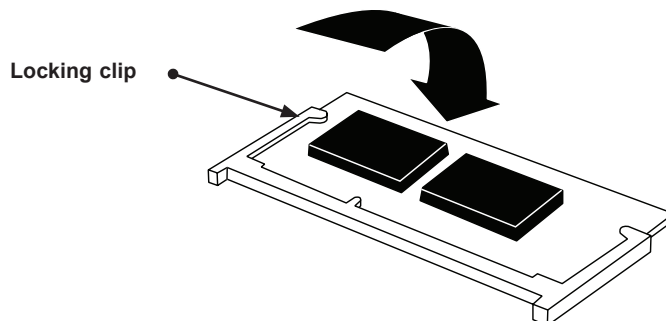
1. Power down the system as described in Section 2.1 and remove the cover as described in Section 2.2
2. Position the SODIMM module's bottom key so it aligns with the receptive point on the slot.



3. Insert the SODIMM module vertically at a 45 degree angle. Press down until the module locks into place.



4. The side clips automatically secure the SODIMM module, locking it into place.



Solid State Drive

The E50-9AP-N5 supports one 2.5" SSD 7-mm in height.

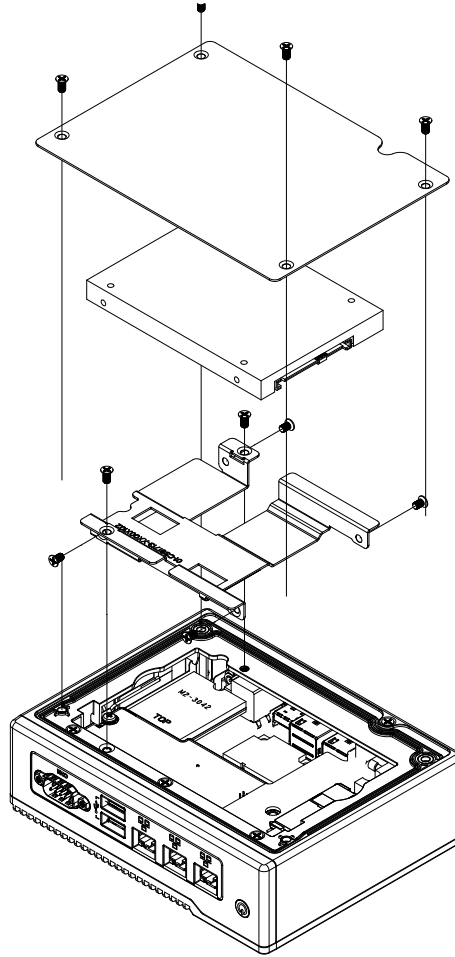


Figure 2-3. Installing an Solid State Drive (SSD)

Installation

1. Power down the system as described in Section 2.1 and remove the cover as described in Section 2.2
2. Use screws to secure the SSD to its mounting bracket.
3. Insert the drive and bracket assembly and secure it to the chassis with two screws.
4. Replace the cover with the four screws.

M.2 E-key 2230 and Mini PCI-E

The E50-9AP-N5 supports one M.2-key 2230 and one full-size Mini PCI-E.

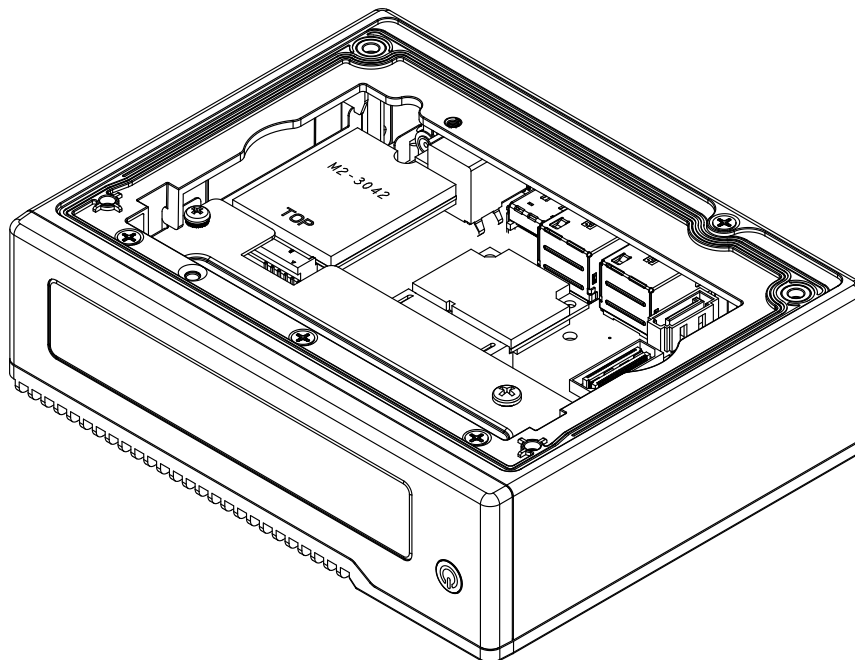


Figure 2-4. M.2 B-Key 2242 and Half-size Mini PCI-E

Installation

1. Power down the system as described in Section 2.1 and remove the cover as described in Section 2.2
2. Gently insert the M.2 E-Key 2230 card to the SRW5 standoff first
3. Fasten the heatspread with the full-size Mini PCI-E card first, then use screws to secure it to the SRW6 standoff.

Chapter 3

Motherboard Connections

This section describes the connections on the motherboard and provides pinout definitions. 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 can be found in Chapter 1.

Review the Safety Precautions in Appendix B before installing or removing components.

3.1 Ports

LAN Ports

Two LAN ports (JLAN1 - JLAN2) are located on the I/O back panel. These ports accept RJ45 type cables. Refer to the LED Indicator section for LAN LED information. Refer to the table below for pin definitions.

LAN Port Pin Definition			
Pin#	Definition	Pin#	Definition
1	GND	9	TRD1+
2	CT_VCC	10	TRD1-
3	TRD4+	11	GRN+/ORG-
4	TRD4-	12	GRN-/ORG+
5	TRD3+	13	YEL+
6	TRD3-	14	YEL-
7	TRD2+	15	SH1
8	TRD2-	16	SH2

HDMI Port

The HDMI (High-Definition Multimedia Interface) ports are used to display both high definition video and digital sound through an HDMI-capable display, using the same cable.

Universal Serial Bus (USB) Ports

There are two USB 3.0 ports (JUSB1) on the I/O back panel. The motherboard has two additional USB 2.0 connections via the JEIO1 header. J6 also provides two front panel USB 2.0 connections. The onboard headers can be used to provide front side USB access with a cable. Two USB 2.0 cables for front panel support are included with the motherboard.

Back Panel USB 3.0 Pin Definition			
Pin#	Definition	Pin#	Definition
A1	VBUS	B1	VBUS
A2	D1-N	B2	D2-N
A3	D1-P	B3	D2-P
A4	GND	B4	GND
A5	Stda_SSRX1-N	B5	Stda_SSRX2-N
A6	Stda_SSRX1-P	B6	Stda_SSRX2-P
A7	GND_DRAIN	B7	GND_DRAIN
A8	Stda_SSTX1-N	B8	Stda_SSTX2-N
A9	Stda_SSTX1-P	B9	Stda_SSTX2-P

Front Panel USB 2.0 Header Pin Definition			
Pin#	Definition	Pin#	Definition
1	P5V_DUAL_F	2	P5V_DUAL_F
3	USBCON_N0	4	USBCON_N1
5	USBCON_P0	6	USBCON_P1
7	GND	8	GND
9	N/A	10	N/A

JDC

This is a DC jack that functions as the 12V power connector.

12V Stby Power Pin Definition	
Pin#	Definition
1	P12VSB
2	GND
3	GND

3.2 LED Indicators

LAN Port LEDs

There are two LAN ports (JLAN1 and JLAN2) on the I/O back panel of the motherboard. Each Ethernet LAN port has two LEDs. The green LED indicates activity, while the other Link LED may be green, amber, or off to indicate the speed of the connection.

LAN1/2 LED (Connection Speed Indicator)	
LED Color	Definition
Off	10 Mb/s
Green	100 Mb/s
Amber	1 Gb/s

Power LED

LED1 is the Power LED. In S0 mode, this LED will be solid green. In 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

3.3 Headers and Connectors

Front Panel Audio Header

A 10-pin front panel 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. Refer to the table below for pin definitions.

Audio Header Pin Definition			
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

COM Headers

The JCOM1 header provides two RS232/422/485 COM connections. Refer to the table below for pin definitions. Refer to pins 1 -10 for COM1 and pins 11 - 20 for COM2.

Serial COM Ports Pin Definition			
Pin#	Definition	Pin#	Definition
1	DCD	2	DSR
3	RXD	4	RTS
5	TXD	6	CTS
7	DTR	8	RI_N
9	GND	10	N/A
11	DCD	12	DSR
13	RXD	14	RTS
15	TXD	16	CTS
17	DTR	18	RI_N
19	GND	20	N/A

Battery Connector

BT1 is a two-pin connector for an external CMOS battery. Refer to Chapter 2 for battery installation instructions. This connector is also used to clear the CMOS. To clear the CMOS, remove the battery, short pins 1-2 and then re-install the battery.

LVDS Connector

LVDS1 is the LVDS connector. LVDS (low-voltage differential signaling) is a high-speed digital interface that operates at low power. It is a type of connection that is used with a LVDS LCD panel.

LVDS Connector Pin Definitions			
Pin#	Definition	Pin#	Definition
39	GND	40	GND
37	LVDSB D3N	38	LVDSB D3P
35	LVDSB CLKN	36	LVDSB CLKP
33	LVDSB D2N	34	LVDSB D2P
31	LVDSB D1N	32	LVDSB D1P
29	LVDSB D0N	30	LVDSB D0P
27	GND	28	GND
25	LVDSA D3N	26	LVDSA D3P
23	LVDSA CLKN	24	LVDSA CLKP
21	LVDSA D2N	22	LVDSA D2P
19	LVDSA D1N	20	LVDSA D1P
17	LVDSA D0N	18	LVDSA D0P
15	BKLTEN	16	GND
13	BKLTCTL	14	PVCCEN
11	DDC CLK	12	DDC DATA
9	LCDVCC	10	LCDVCC
7	3.3V	8	GND
5	12V	6	GND
3	12V	4	12V
1	12V	2	12V

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. Refer to the table below for pin definitions.

GPIO Header Pin Definition			
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

M.2 Slot

M.2 is located at JMD1 on the motherboard. The M.2 slot is designed for internal mounting devices. The A2SAP-H motherboard deploys a B-KEY for SATA/PCI-E SSD devices or USB/PCI-E WWAN or GNSS card. The A2SAP-H deploys a 2280 screw hole location for a 2280 M.2 module. 2242 and 3042 M.2 modules are supported by an extender bracket to fit on the 2280 screw hole location.

JEIO1

This Supermicro I/O header provides support for the following functions: DP/HDMI, two PCIe x1, two USB 2.0, LPC, SATA, SMBus, and Power.

Functions
SATA
PCI Express
USB
LPC
SMBus
DDI
Power
Misc
GND

Supermicro EIO Pin Definition					
Pin#	Definition		Pin#	Definition	
1	PCIE_EIO_RX_DP0	61 GND	2	PCIE_EIO_TX_DP0	
3	PCIE_EIO_RX_DN0		4	PCIE_EIO_TX_DN0	
5	GND		6	GND	
7	PCIE_EIO_RX_DP1		8	PCIE_EIO_TX_DP1	
9	PCIE_EIO_RX_DN1		10	PCIE_EIO_TX_DN0	
11	GND		12	GND	
13	CLK_100M_EIO_DP		14	USB_P5_DP	
15	CLK_100M_EIO_DN		16	USB_P5_DN	
17	GND		62 GND	18	USB_P4_DP
19	DDI1_TXP2			20	USB_P4_DN
21	DDI1_TXN2	22		GND	
23	GND	24		DDI1_TXP3	
25	DDI1_TXP1	26		DDI1_TXN3	
27	DDI1_TXN1	28		GND	
29	GND	30		DDI_HPD	
31	DDI1_TXP0	32		SOC_WAKE_EIO_N	
33	DDI1_TXN0	63 GND		34	DDI1_DDC_P1V8_DAT
35	GND			36	DDI1_DDC_P1V8_CLK
37	DDI1_AUXP		38	SOC_SMB_CLK	
39	DDI1_AUXN		40	SOC_SMB_DAT	
41	P5VSB		42	P3VSB	
43	P5VSB		44	LPC_LFRAME_N	
45	P12VSB		46	LPC_AD3	
47	SOC_LPC_CLKOUT1		64 GND	48	LPC_AD2
49	PLTR_TPM_80PORT_N			50	LPC_AD1
51	LPC_SERIRQ			52	LPC_AD0
53	P3V3	54		P5V	
55	PS_ON_N	56		GND	
57	EIO_SATA_TXP0	58		EIO_SATA_RXN0	
59	EIO_SATA_TXN0	60		EIO_SATA_RXP0	

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 Mini PCI-E slot supports modules which are USB or PCI-E x1 devices, such as wireless, GNSS, and Bluetooth modules. See the table below for pin definitions.

Mini PCI-E Pin Definition			
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#

System Management Bus Header and SATA Power

A System Management Bus header for additional slave devices or sensors is located at JSMBUS1 on the bottom side of the motherboard. This header also serves as a 5V SATA power box header. Refer to the table below for pin definitions.

SMBus Header Pin Definition	
Pin#	Definition
1	SMB_CLK
2	SMB_DATA
3	GND
4	P5V

32-Pin Connector A (JF1 + JGP1 + J6)

The A2SAP-H combines JF1, JGP1 and J6 into a 32-pin, 2.0mm pitch pin header, including the front panel (power/HDD LED, power/reset button), 8-bit GPIO, and two USB 2.0 connections. Refer to the table below for pin definitions and the female mating connector information. The distance between the board-to-board stack is 11mm in height while using the male pin header (PINREX P/N:225-97-16GBEW) to stack onto the female mating connector (PINREX P/N: 620-92-16GB00).

32-Pin Connector A				
Connector	Supermicro P/N	Vendor	Manufacture P/N	Description
Male Pin Header on A2SAP-H	HDR-0208L-0000-PRX	PINREX	225-97-16GBEW	CNT, PIN/HEADER, 2X16 PIN, PITCH 2MM, VERT, 1A/PIN, BLACK, GF, NY6T, SMD, CM (-30 ~ 75C), ROHS
Female Mating Connector	HDR-0210L-0000-PRX	PINREX	620-92-16GB00	CNT, PIN FEMALE HEADER, 2X16 PIN, PITCH 2MM, VERT,1A/PIN, BLACK, GF, TL2.3MM, NY6T, DIP, EX (-40 ~ 105C), ROHS

32-Pin Connector A Pin Definitions						
Function	Pin#	Silkscreen Pin #	Definition	Pin#	Silkscreen Pin #	Definition
Two USB 2.0 (J6: USB0/1)	1	1	P5V_DUAL_F	2	2	P5V_DUAL_F
	3	3	USBCON_N0	4	4	USBCON_N1
	5	5	USBCON_P0	6	6	USBCON_P1
	7	7	GND	8	8	GND
	9	9	N/A	10	10	N/A
N/A	11	N/A	N/A	12	N/A	N/A
8-bit GPIO (JGP1)	13	1	P3V3SB	14	2	GND
	15	3	GPIO_1	16	4	GPIO_5
	17	5	GPIO_2	18	6	GPIO_6
	19	7	GPIO_3	20	8	GPIO_7
	21	9	GPIO_4	22	10	GPIO_8
N/A	23	N/A	N/A	24	N/A	N/A
Front Panel (JF1)	25	1	Power Button	26	2	GND
	27	3	Reset Button	28	4	GND
	29	5	3.3V	30	6	SATA HDD LED
	31	7	3.3Vstby	32	8	PWR LED

34-Pin Connector B (JCOM1 + J3)

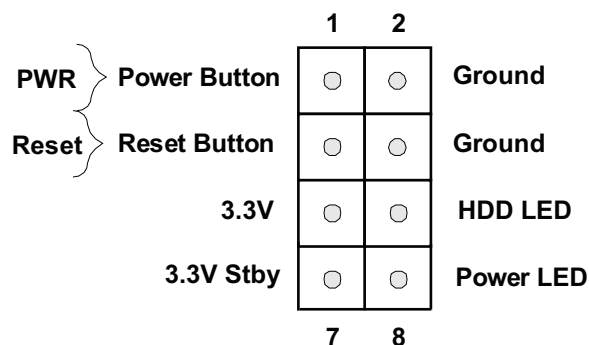
A2SAP-H combines JCOM1 and J3 into a 34-pin, 2.0mm pitch pin header, including two RS-232/422/485 connections and an audio (Mic-in/Headphone-out) connection. Refer to the table below for pin definitions and the female mating connector information. The distance between board-to-board stack is 11mm in height while using male pin header (PINREX P/N:225-97-17GBEW) to stack onto female mating connector (PINREX P/N:620-92-17GB00).

34-Pin Connector B				
Connector	Supermicro P/N	Vendor	Manufacture P/N	Description
Male Pin Header on A2SAP-H	HDR-0209L-0000-PRX	PINREX	225-97-17GBEW	CNT, PIN/HEADER, 2X17 PIN, PITCH 2MM, VERT, 1A/PIN, BLACK, GF, NY6T, SMD, CM (-30 ~ 75C), ROHS
Female Mating Connector on I/O Module	HDR-0211L-0000-PRX	PINREX	620-92-17GB00	CNT, PIN FEMALE HEADER, 2X17 PIN, PITCH 2MM, VERT, 1A/PIN, BLACK, GF, TL2.3MM, NY6T, DIP, EX (-40 ~ 105C), ROHS

34-Pin Connector B Pin Definitions						
Function	Pin#	Silkscreen Pin #	Definition	Pin#	Silkscreen Pin #	Definition
AUDIO (J3: Audio FP)	1	10	LINE2_JD	2	9	LINE2_Left
	3	8	NC	4	7	Front AUDIO_JD
	5	6	MIC2_JD	6	5	LINE2_Right
	7	4	AUDIO_Detect	8	3	MIC_Right
	9	2	AUDIO_GND	10	1	MIC_Left
N/A	11	N/A	N/A	12	N/A	N/A
N/A	13	N/A	N/A	14	N/A	N/A
Two RS-232/422/485 (JCOM1: COM1/ COM2)	15	1	DCD	16	2	DSR
	17	3	RXD	18	4	RTS
	19	5	TXD	20	6	CTS
	21	7	DTR	22	8	RI_N
	23	9	GND	24	10	N/A
	25	11	DCD	26	12	DSR
	27	13	RXD	28	14	RTS
	29	15	TXD	30	16	CTS
	31	17	DTR	32	18	RI_N
33	19	GND	34	20	N/A	

Control Panel

JF1 contains header pins for various buttons and indicators that are normally located on a control panel at the front of the chassis. These connectors are designed specifically for use with Supermicro chassis. Refer to the figure below for the descriptions of the front control panel buttons and LED indicators.



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 4). To turn off the power in the suspend mode, press the button for at least 4 seconds. Refer to the table below for pin definitions.

Power Button Pin Definition (JF1)	
Pin#	Definition
1	Power Button
2	GND

Reset Button

The Reset Button connection is located on pins 3 and 4 of JF1. Attach it to a hardware reset switch on the computer case to reset the system. Refer to the table below for pin definitions.

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

HDD LED

The HDD LED connection is located on pins 5 and 6 of JF1. Attach a cable here to indicate the status of HDD-related activities, including SATA activities. Refer to the table below for pin definitions.

HDD LED Pin Definition (JF1)	
Pin#	Definition
5	+3.3V
6	HDD Active LOW

Power LED

The Power LED connection is located on pins 7 and 8 of JF1. Refer to the table below for pin definitions.

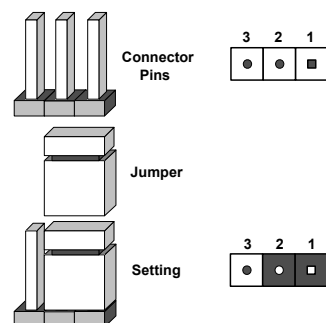
Power LED Pin Definition (JF1)	
Pin#	Definition
7	+3.3VSB
8	Power LED LOW

3.4 Jumper Settings

How Jumpers Work

To modify the operation of the motherboard, jumpers can be used to choose between optional settings. Jumpers create shorts between two pins to change the function of the connector. Pin 1 is identified with a square solder pad on the printed circuit board. See the diagram below for an example of jumping pins 1 and 2. Refer to the motherboard layout page for jumper locations.

Note: On two-pin jumpers, Closed means the jumper is on and Open means the jumper is off the pins.



JLCDPWR1

Use this jumper to select the power voltage for the LVDS panel. Make sure that the specifications of the cable is compatible with the panel to prevent damage.

Force Power On

Use jumper JLCDPWR1 (Pins 2-4/4-6) to select the Force Power 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. See the tables below for jumper setting information.

LVDS Power Source Selection Jumper Settings	
Jumper Setting	Definition
Pins 1-3	3.3V (Default)
Pins 3-5	5V

Force Power On Jumper Settings	
Jumper Setting	Definition
Pins 2-4	Force Power On (Default)
Pins 4-6	Power Button On

Chapter 4

Software Installation

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

4.1 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/>.

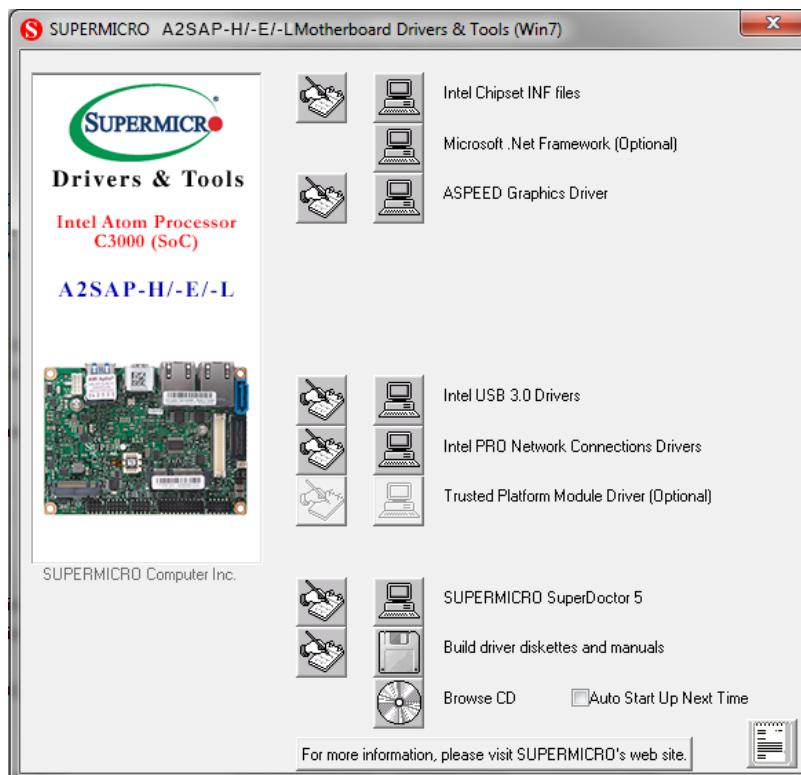


Figure 4-1. Driver & Tool Installation Screen

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.

4.2 SuperDoctor® 5

The Supermicro SuperDoctor 5 is a hardware monitoring program that functions in a command-line or web-based interface in Windows and Linux operating systems. The program monitors system health information such 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. SD5 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.

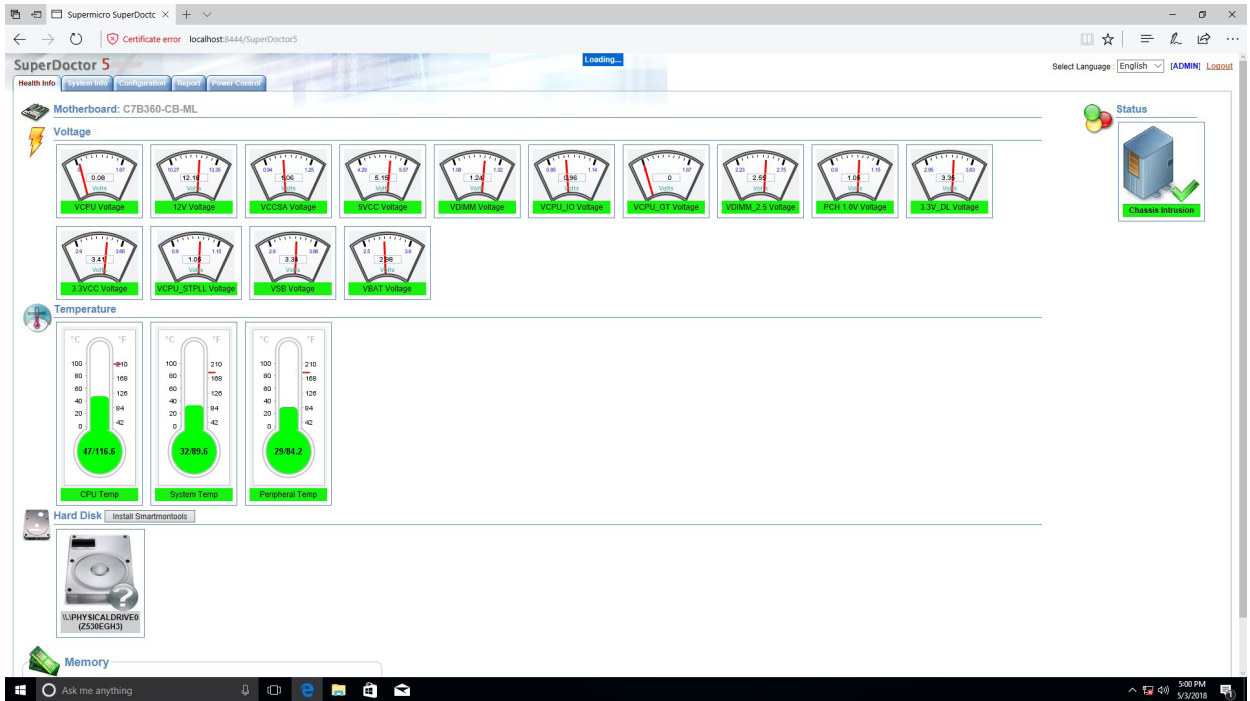


Figure 4-2. SuperDoctor 5 Interface Display Screen (Health Information)

Chapter 5

BIOS

5.1 Introduction

This chapter describes the AMI BIOS setup utility for the A2SAP-H motherboard. It also provides the instructions on how to navigate the AMI BIOS setup utility screens. The AMI ROM BIOS is stored in a Flash EEPROM and can be easily updated.

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

Starting the Setup Utility

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

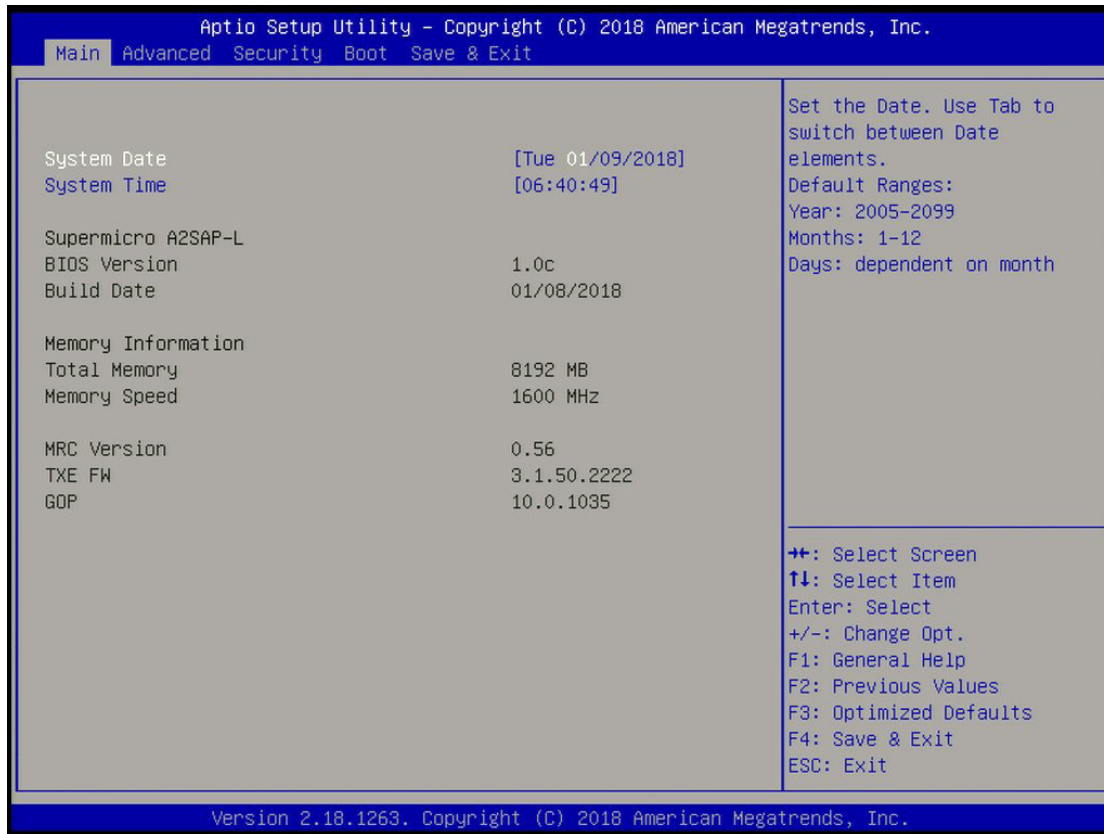
The Main BIOS screen has two main frames. The left frame displays all the options that can be configured. "Grayed-out" options cannot be configured. The right frame displays the key legend. Above the key legend is an area reserved for a text message. When an option is selected in the left frame, it is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

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

The BIOS setup utility uses a key-based navigation system called hotkeys. Most of these hotkeys (<F1>, <F10>, <Enter>, <ESC>, <Arrow> keys, etc.) can be used at any time during the setup navigation process.

5.2 Main Page

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



System Date/System Time

Use this 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 Day 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.

Supermicro A2SAP-H

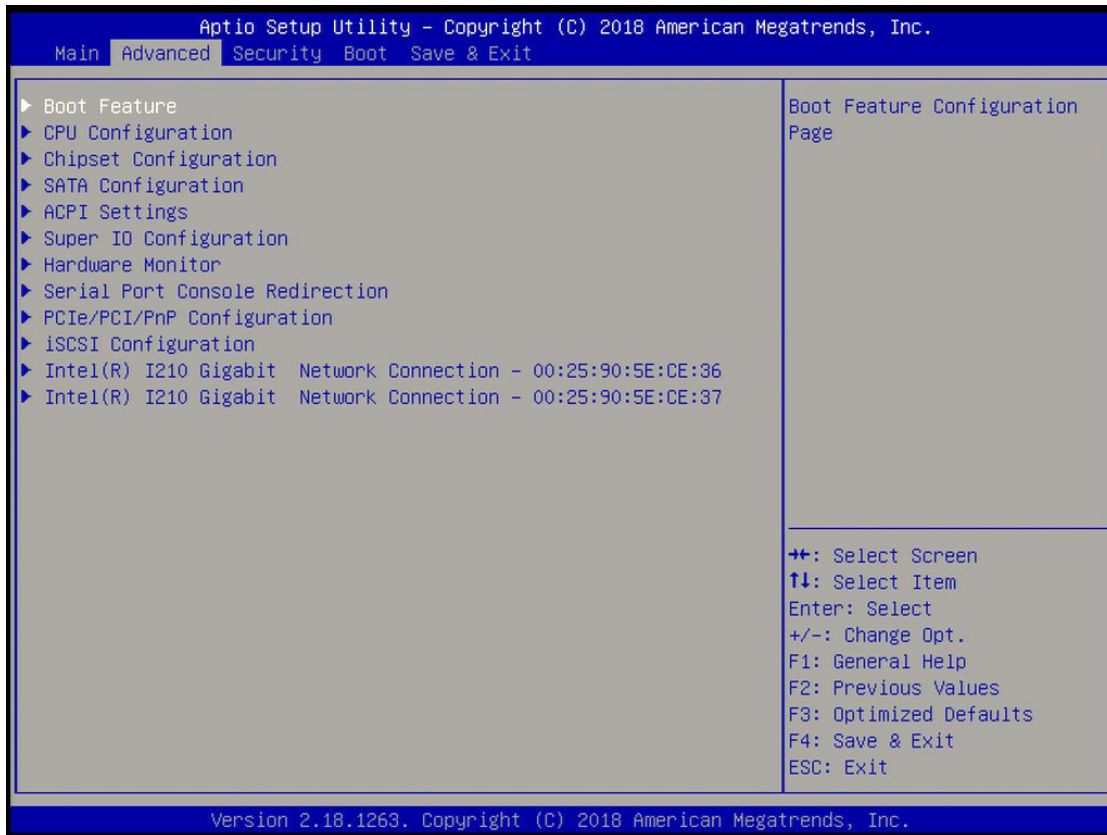
BIOS Version; Build Date

Memory Information: Total Memory; Memory Speed

MRC Version; TXE FW; GOP

5.3 Advanced Page

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



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

► Boot Feature

Quiet Boot

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

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 Trap Response

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

Re-try Boot

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

Power Configuration

Watch Dog Function

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

Power Button Function

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

►CPU Configuration

The following CPU information will display:

- Displays the 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**.

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**.

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. Enter **Auto** to use the manufacture default setting.

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.

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

Memory Information

Memory Slot0 - 8192 MB (LPDDR3)

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.

► Graphics 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 Enabled.

Panel Support

Use this feature to select the panel voltage type. The options are **Disable**, G104SN03 V.5, G150XTN3.2, AU0_G170EG01_V1, G220SVN01.0, and AU0_G173HW01_v0.

IGD Configuration

Integrate 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.

► 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

► JEIO1

ASPM

Use this item to set the Active State Power Management (ASPM) level for a PCI-E device. Select Auto for the system BIOS to automatically set the ASPM level based on the

system configuration. Select Disabled to disable ASPM support. The options are Disable, L0s, L1, L0sL1, and **Auto**.

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 item to set the Active State Power Management (ASPM) level for a PCI-E device. Select Auto for the system BIOS to automatically set the ASPM level based on the system configuration. Select Disabled to disable ASPM support. 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 item to set the Active State Power Management (ASPM) level for a PCI-E device. Select Auto for the system BIOS to automatically set the ASPM level based on the system configuration. Select Disabled to disable ASPM support. 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

ASPM

Use this item to set the Active State Power Management (ASPM) level for a PCI-E device. Select Auto for the system BIOS to automatically set the ASPM level based on the system configuration. Select Disabled to disable ASPM support. 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 item to set the Active State Power Management (ASPM) level for a PCI-E device. Select Auto for the system BIOS to automatically set the ASPM level based on the system configuration. Select Disabled to disable ASPM support. 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 Mass Storage Driver Support

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

▶ **SATA Configuration**

Chipset SATA

This item enables or disables the onboard SATA controller supported by the SoC. The options are **Enable** and Disable.

SATA Mode Selection

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

Aggressive LPM (Link Power Management) Support

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

SATA Frozen

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

I-SATA1

I-SATA1 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 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 item to specify if the SATA port specified by the user is connected to a Solid State drive or a Hard Disk Drive. The options are **Hard Disk Drive** and Solid State Drive.

I-SATA1 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.

M.2 SATA

M.2 SATA 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 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 item to specify if the SATA port specified by the user is connected to a Solid State drive or a Hard Disk Drive. The options are **Hard Disk Drive** and Solid State Drive.

M.2 SATA 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 jumper on the motherboard are both set to Enabled, onboard security devices will be enabled for TPM (Trusted Platform Module) support to enhance data integrity and network security. Please reboot the system for a change on this setting to take effect. The options are Disable and **Enable**.

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

► Super IO Configuration

Super IO Chip NCT5523D

► 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 Port 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.

► Hardware Monitor

PC Health Status

- Peripheral temperature
- System temperature

- VCORE
- VDIMM
- 3VCC
- 3VSB
- VBAT
- AVSB

► 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 the item above 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 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.

COM2 Console Redirection

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

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

►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.

Mini PCIe OPROM

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

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 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 and **EFI**.

Onboard Video Option ROM

Use this feature to select which onboard video firmware type to be loaded. The options are Disabled 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 (Available when Network Stack is set to Enabled)

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 (Available when Network Stack is set to Enabled)

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:CE:36

- **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. **0** is the default.

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.

► Intel® I210 Gigabit Network Connection - 00:25:90:5E:CE:37

► 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. **0** is the default.

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

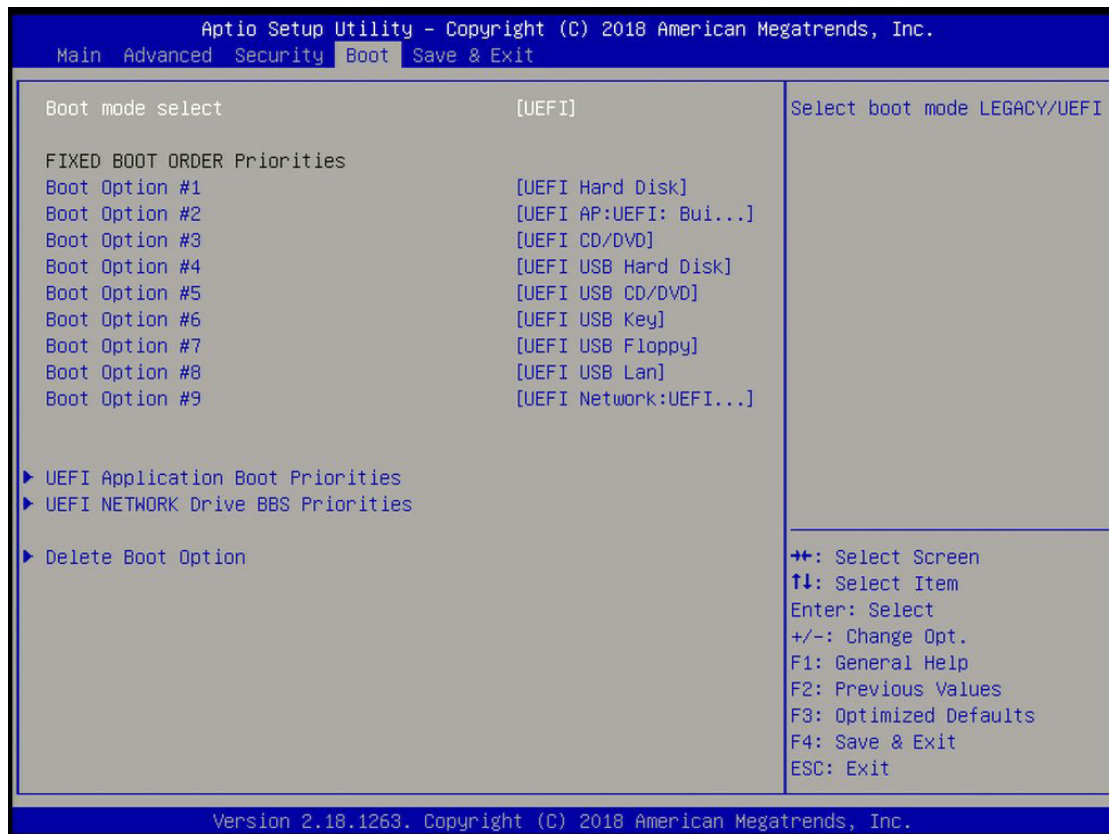
This item displays the MAC address for this computer. Mac addresses are six two-digit hexadecimal numbers.

Virtual MAC Address

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

5.4 Security

This menu allows the user 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.

User Password

Use this feature to set a user password which is required to log into the system and 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 **Enabled** for secure boot support to ensure system security at bootup. The options are **Enabled** and **Disabled**.

Secure Boot Mode

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

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

CSM Support

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

► 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**.

Install Factory Default keys

Select **Yes** to install the default settings for all keys. The options are **Yes** and **No**.

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

Append Key

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

► Forbidden Signatures**Set New 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 to the existing DBX. 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. Select No to load the DBT from a file. The options are Yes and No.

► **OsRecovery Signature**

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

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

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

Set New Var

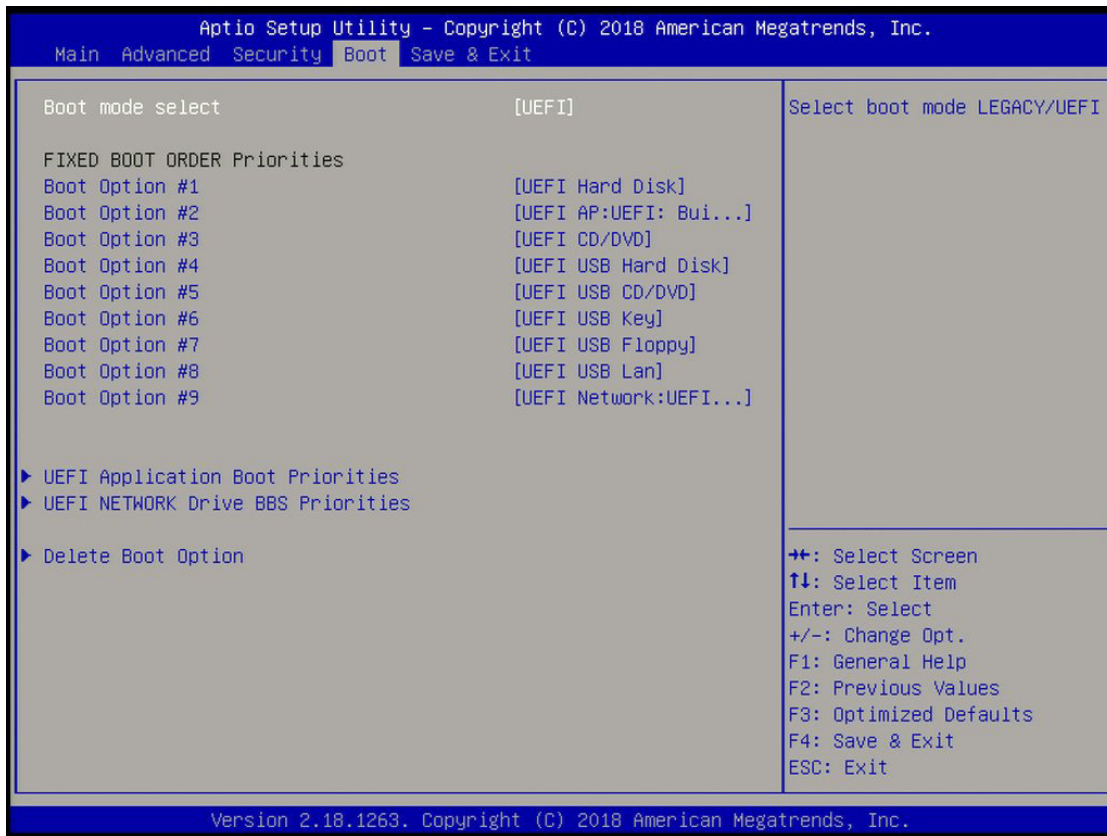
Select Yes to load the DBR from the manufacturer's defaults. Select No to load the DBR from a file. The options are Yes and No.

Append Key

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

5.5 Boot

Use this tab page to manage security 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.

- UEFI Boot Option #1

▶ **UEFI NETWORK Drive BBS Priorities**

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

- Legacy Boot Option #1
- Legacy Boot Option #2

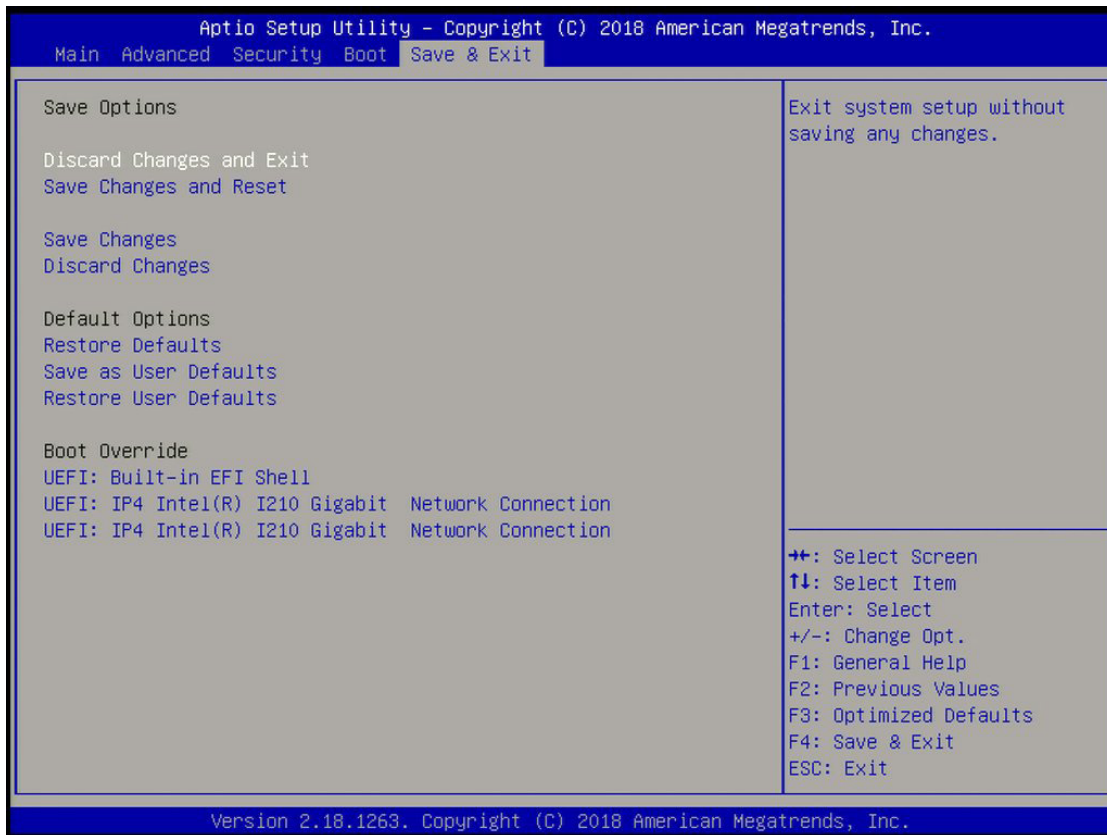
▶ **Delete Boot Option**

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

Select the Exit tab from the BIOS setup utility screen to enter the Exit BIOS Setup screen.



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

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

A.2 Additional BIOS POST Codes

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

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

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

Appendix B

Standardized Warning Statements for DC Systems

B.1 About Standardized Warning Statements

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

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

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

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 النقااِة لو عُ وقع اَي حادث
استخدم رقن الب اِ الو صُص ف هاةُ كل تحذُر للعشر تزجوتها

안전을 위한 주의사항

경고!

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

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

BELANGRIJKE VEILIGHEIDSINSTRUCTIES

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

BEWAAR DEZE INSTRUCTIES

Installation Instructions



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

設置手順書

システムを電源に接続する前に、設置手順書をお読み下さい。

警告

将此系统连接电源前,请先阅读安装说明。

警告

將系統與電源連接前，請先閱讀安裝說明。

Warnung

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

¡Advertencia!

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

Attention

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

יש לקרוא את הוראות התקנה לפני חיבור המערכת למקור מתח.

اقرأ إرشادات التركيب قبل توصيل النظام إلى مصدر للطاقة

시스템을 전원에 연결하기 전에 설치 안내를 읽어주십시오.

Waarschuwing

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

Circuit Breaker



Warning! This product relies on the building's installation for short-circuit (overcurrent) protection. Ensure that the protective device is rated not greater than: 12VDC, 3A.

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12VDC、3A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12VDC, 3A。

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12VDC, 3A。

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: 12VDC, 3A 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: 12VDC, 3A.

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 :12VDC, 3A.

מוצר זה מסתמך על הגנה המותקנת במבנים למניעת קצר חשמלי. יש לוודא כי המכשיר המגן מפני הקצר החשמלי הוא לא יותר מ-12VDC, 3A

هذا المنتج يعتمد على معدات الحماية مه الدوائر القصيرة التي تم تثبيتها في المبنى
تأكد من أن تقييم الجهاز الوقائي ليس أكثر من : 3A, 12VDC

경고!

이 제품은 전원의 단락(과전류)방지에 대해서 전적으로 건물의 관련 설비에 의존합니다. 보호장치의 정격이 반드시 12VDC(볼트), 3A(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 12VDC, 3A.

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 اسحبذال البطارية بطريقة غير صحيحة فعليل
اسحبذال البطارية
فقط بنفس النوع أو ما يعادلها مما أوصت به الشركة المصنعة
جخلص من البطاريات المسحمة وفقا لعمليات الشركة الصانعة

경고!

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

Waarschuwing

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

Comply with Local and National Electrical Codes



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

地方および国の電気規格に準拠

機器の取り付けはその地方および国の電気規格に準拠する必要があります。

警告

设备安装必须符合本地与本国电气法规。

警告

設備安裝必須符合本地與本國電氣法規。

Warnung

Die Installation der Geräte muss den Sicherheitsstandards entsprechen.

¡Advertencia!

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

Attention

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

תיאום חוקי החשמל הארצי

אזהרה!

התקנת הציוד חייבת להיות תואמת לחוקי החשמל המקומיים והארציים.

تركيب المعدات الكهربائية يجب أن يمتثل للقوايه المحلية والبطية المتعلقة

بالكهرباء

경고!

현 지역 및 국가의 전기 규정에 따라 장비를 설치해야 합니다.

Waarschuwing

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

Product Disposal



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

製品の廃棄

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

警告

本产品的废弃处理应根据所有国家的法律和规章进行。

警告

本產品的廢棄處理應根據所有國家的法律和規章進行。

Warnung

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

¡Advertencia!

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

Attention

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

סילוק המוצר

אזהרה!

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

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

경고!

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

Waarschuwing

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

DC Power Supply



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

警告

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

警告

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

警告

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

Warnung

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

¡Advertencia!

Quando 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، اهل ل ع قق ف او مل اء ان! كال سأل ا ما د خ ت س او، ل بس ل ا م ه ب ت ع ط ق ت ن ي ذل ا كال سأل ا ب و ل ط م ن و ك ي ا م د ن ع ب ج ي و كال سأل 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 أ ب ا ي ش أ ل 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 aansluitpunten, 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 قتل ح لشم، ادهي لع قق فاومل اءاهن! كالسأل مادختساو، لبسلا مهب تعطقت نيذلا كالسأل ابولطم نوكي امدن ع
 بجي وكالسلل بسانملا مچحل نوكي تاءاهن إل اذهل يغبنني و. ةبولقم تاورعل عم عونلا ةيقي قحلا ادهي امس 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 x5-E3940 (System on Chip)

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

BIOS

AMI® UEFI BIOS

Memory

Supports up to 8 GB non-ECC SODIMM; Memory Type DDR3L 1866 MHz;

Hard Drives

One 2.5" SATA SSD, 7-mm height

Expansion Slots

One full-size Mini-PCI-E slot

One half-size Mini-PCI-E slot

One M.2 B-Key slot for storage

One M.2 E-Key slot for communication module

Motherboard

A2SAP-H

Chassis

SCE50 (2.5" SBC), (WxHxD) 4.9 x 1.7 x 4.6 in. (126 x 44 x 118 mm)

Power Supply

Lockable 40W Power Adapter for 12V DC

Operating Environment

Operating Temperature: -20°C to 50°C (-4°F to 122°F)

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

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

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

Regulatory Compliance

Electromagnetic Emissions: FCC Class B, EN 55032/55022 Class B, EN 61000-3-2/3-3, CISPR 32/22 Class B

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

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

The Bureau of Standards, Metrology and Inspection (BSMI)

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

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

Perchlorate Warning

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

Appendix D

Traditional Chinese Safety Warnings

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

安全警告 (注意這些警告標誌)

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

錯誤使用本機器或忽視這本手冊，所引起的傷害或損失等級分類如下：



Warning! (警告) 此注意標誌提醒未能依照正確指示使用機器，可能導致生命危險 或造成嚴重傷害。



Caution (注意) 此注意標誌提醒未能依照正確指示使用機器，可能導致受傷 或財產損失。



此標誌提示絕對不可做的動作。



此標誌提示一般性務必要採取的行為。



Warnings: (警告)



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



1. 電源必須在 12V 10%之間
2. 使用額定合格開關來提供電源迴路。
3. 機器安裝愈接近電源插座愈好。
4. 移動機器必須由維護工程師來處理。



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



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



拔取電源線時，確實抓住插頭部位，否則導致插頭破裂可能引起火災或受到電擊。



不可企圖拆解或擅自修改機器，否則可能引起火災或受到電擊。



不可將機器安裝在下列場所：

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



關閉上機蓋時，千萬不可將手放在上機蓋與主機體之間。



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

限用物質含有情況標示聲明書

Declaration of the Presence Condition of the Restricted Substances Marking

設備名稱：嵌入式系統/ Embedded System Equipment name						
型號（型式）： E50-40 Type designation (Type) (系列型號： E50-60, E50-84, SYS-E50-9AP, SYS-E50-9AP-L, SYS-E50-9AP-N5, E50-EBD)						
單元 Unit	限用物質及其化學符號 Restricted substances and its chemical symbols					
	鉛Lead (Pb)	汞Mercury (Hg)	鎘Cadmium (Cd)	六價鉻 Hexavalent chromium (Cr ⁺⁶)	多溴聯苯 Polybrominated biphenyls (PBB)	多溴二苯醚 Polybrominated diphenyl ethers (PBDE)
機殼 (Chassis)	○	○	○	○	○	○
線材 (Cable)	○	○	○	○	○	○
主機板 (Motherboard)	—	○	○	○	○	○
電源供應器 (Power Adapter)	—	○	○	○	○	○
硬碟 (M.2 / SSD)	—	○	○	○	○	○
備考1. “超出0.1 wt %” 及 “超出0.01 wt %” 係指限用物質之百分比含量超出百分比含量基準值。 Note 1 : “Exceeding 0.1 wt %” and “exceeding 0.01 wt %” indicate that the percentage content of the restricted substance exceeds the reference percentage value of presence condition.						
備考2. “○” 係指該項限用物質之百分比含量未超出百分比含量基準值。 Note 2 : “○” indicates that the percentage content of the restricted substance does not exceed the percentage of reference value of presence.						
備考3. “—” 係指該項限用物質為排除項目。 Note 3 : The “—” indicates that the restricted substance corresponds to the exemption.						

輸入額定：12Vdc, 3.3A

使用者不能任意拆除或替換內部配備

設備名稱：嵌入式系統

申請人：美超微電腦股份有限公司

地址：新北市中和區建一路 150 號 3 樓

Appendix E

UEFI BIOS Recovery

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

E.1 Overview

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

E.2 Recovering the UEFI BIOS Image

A UEFI BIOS flash chip consists of a recovery BIOS block and a main BIOS block (a main BIOS image). The boot block contains critical BIOS codes, including memory detection and recovery codes for the user to flash a new BIOS image if the original main BIOS image is corrupted. When the system power is first turned on, the boot block codes execute first. Once this process is completed, the main BIOS code will continue with system initialization and the remaining POST (Power-On Self-Test) routines.

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

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

E.3 Recovering the BIOS Block with a USB Device

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

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

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

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

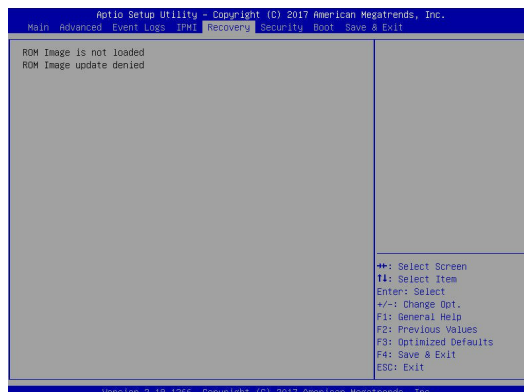
Note: If you cannot locate the "Super.ROM" file in your driver disk, visit our website at www.supermicro.com to download the BIOS image into a USB flash device and rename it "Super.ROM" for BIOS recovery use.

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

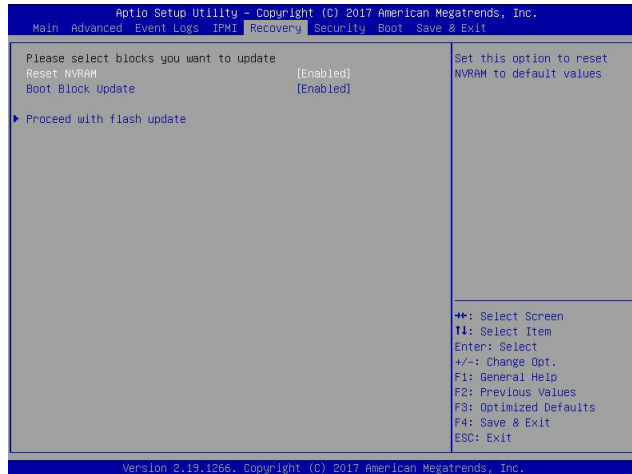
Warning: Please **stop** pressing the <Ctrl> and <Home> keys immediately when you see the screen (or a similar screen) below; otherwise, it will trigger a system reboot.



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

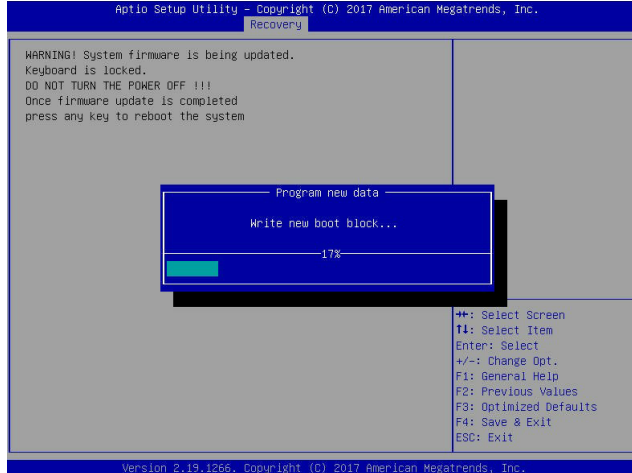


4. After locating the new BIOS binary image, the system will enter the BIOS Recovery menu as shown below.

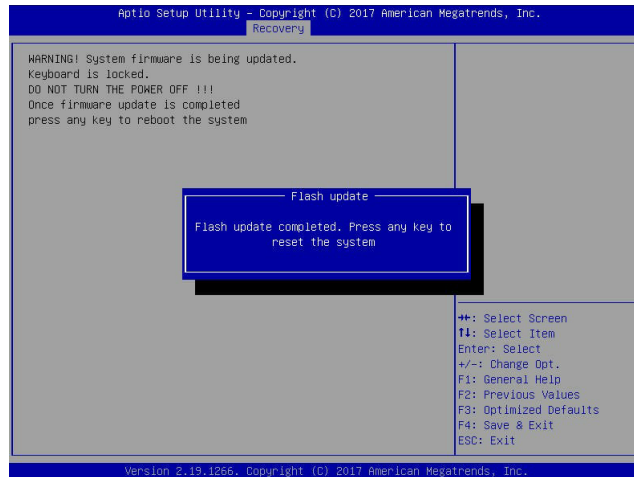


Note: At this point, you may decide if you want to start the BIOS recovery. If you decide to proceed with BIOS recovery, follow the procedures below.

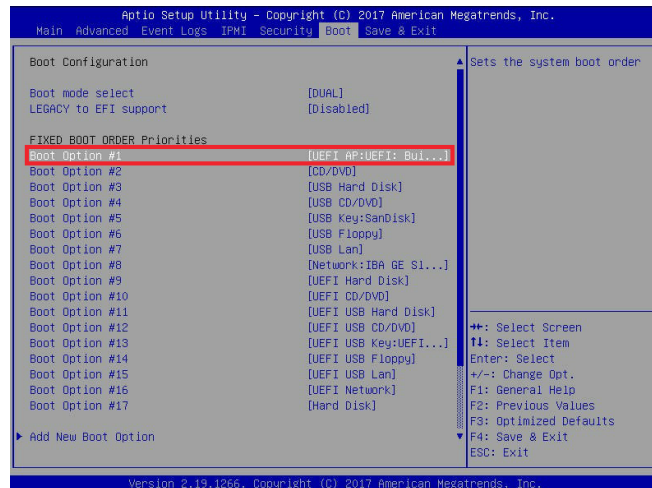
5. When the screen as shown above displays, use the arrow keys to select the item "Proceed with flash update" and press the <Enter> key. You will see the BIOS recovery progress as shown in the screen below.



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



6. After the BIOS recovery process is completed, press any key to reboot the system.
7. Using a different system, extract the BIOS package into a USB flash drive.



8. Press continuously during system boot to enter the BIOS setup utility. From the top of the tool bar, click on Boot and press <Enter> to enter the submenu. From the submenu list, select Boot Option #1 as shown below. Then, boot Option #1 to [UEFI AP:UEFI: Built-in EFI Shell]. Press <F4> to save the settings and exit the BIOS setup utility.

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

```

UEFI Interactive Shell v2.1
EDK II
UEFI v2.50 (American Megatrends, 0x0005000C)
Mapping table
  FS0: Alias(s):HD(0):MBR:BLK1:
        PciRoot(0x0)/Pci(0x14,0x0)/USB(0x11,0x0)/HD(1,MBR,0x3791072,0x800,0x1
DR9592)
  BIOS: Alias(s):
        PciRoot(0x0)/Pci(0x14,0x0)/USB(0x11,0x0)
Press ESC in 1 seconds to skip startup.nsh or any other key to continue.
Shell> fs0#
FS0:\> cd AFUD05
FS0:\AFUD05> cd SMJPM2_03162017
FS0:\AFUD05\SMJPM2_03162017> flash.nsh X110PU7_314_
    
```

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

```

Done.
[ Access CMOS Port Ex ]
<read>
Index 0x51: 0x10
Done.
*****
*
* Program BIOS and ME (including FDT) regions...
*
*****
| AMI Firmware Update Utility v5.09.01.1317
| Copyright (C)2017 American Megatrends Inc. All Rights Reserved.
|-----|
CPUID = 50652
Reading flash ..... done
- ME Data Size checking - ok
- FFS Checksums ..... ok
- Check RomLayout ..... Ok
Erasing Boot Block ..... done
Updating Boot Block ..... done
Verifying Boot Block ..... done
Erasing Main Block ..... 0x00132000 (0x)
    
```

- The screen above indicates that the BIOS update process is completed. When you see the screen above, unplug the AC power cable from the power supply, clear CMOS, and plug the AC power cable in the power supply again to power on the system.

```

Verifying NCB Block ..... done
- Update success for FDE
- Update success for IE
- Successful Update Recovery Loader to DPR!!!
- Successful Update MFSB!!!
- Successful Update FTFR!!!
- Successful Update MFS, IVB1 and IVB2!!!
- Successful Update FLOG and UTOK!!!
- ME Entering Image update success !!
WARNING - System must power-off to have the changes take effect!
Moving FS0:\AFUD05\SMJPM2_03162017\Fdtx64.efi -> FS0:\AFUD05\SMJPM2_03162017\
dt.smc
= [ok]
Moving FS0:\AFUD05\SMJPM2_03162017\afuefiv64.efi -> FS0:\AFUD05\SMJPM2_0316201
7\afuefi.smc
= [ok]
*****
*
* Please ignore this 'Shell: Cannot read from file - Device Error'
* warning message due to it does not impact flashing process.
*****
Deleting 'FS0:\afuefi.smc'
Delete successful.
FS0:\>
    
```

- Press `` continuously to enter the BIOS setup utility.
- Press `<F3>` to load the default settings.
- After loading the default settings, press `<F4>` to save the settings and exit the BIOS setup utility.