



SuperServer[®]
SYS-510D-4C-FN6P
SYS-510D-8C-FN6P
SYS-510D-10C-FN6P



USER'S MANUAL

Revision 1.0a

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Preface

About this Manual

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

Please refer to the SYS-510D-4C/8C/10C-FN6P 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/wdl>
- Product safety info: http://www.supermicro.com/about/policies/safety_information.cfm

If you have any questions, please contact our support team at:

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

Secure Data Deletion

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

Warnings

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



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



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

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Appendix B System Specifications

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Chapter 1

Introduction

1.1 Overview

This chapter provides a brief outline of the functions and features of the SuperServer SYS-510D-4C/8C/10C-FN6P. It is based on the X12SDV-4C/8C/10C-SP6F motherboards and the CSE-505-203B chassis.

The following provides an overview of the specifications and capabilities.

System Overview	
Processor Support	Supports an Intel Xeon D-1700 series processor with a thermal design power (TDP) of up to 80W
Memory	Up to 256GB of ECC and Non-ECC RDIMM/UDIMM DDR4 memory with speeds of up to 2933MT/s in four memory slots
Drive Support	Up to four SATA3 2.5" internal solid-state disk drives Internal M.2 slots: One M.2 PCIe 3.0 x4 or SATA 3.0 slot (M-Key 2280) One M.2 PCIe 3.0 x2 or SATA 3.0 or USB 3.0 Slot (B-Key 2280/3042/3052) One M.2 PCIe 3.0 x1 or USB 2.0 slot (E-Key 2230)
Expansion Slots	One FHHL PCIe 4.0 x16 slot Two PCIe 3.0 x4 SlimSAS connectors
Networking	One dedicated BMC LAN port Four Gigabit Ethernet ports Two 25G SFP28 ports
I/O Ports	Two USB 3.0 ports One VGA port Two onboard SATA 3.0 connectors (I-SATA1, I-SATA3)
System Cooling	Three internal fixed 40 x 28 mm fans
Power	200W AC 80Plus Gold power supply
Form Factor	(WxHxD) 17.2 x 1.7 x 9.8 in (437 x 43 x 249 mm) 1U Short-Depth Chassis

Notes: A Quick Reference Guide can be found on the product page of the Supermicro website. The following safety models associated with the SYS-510D-4C/8C/10C-FN6P have been certified as compliant with CSA or UL models: 505-2, 505-S2X12.

1.2 System Features

The following views of the system display the main features. Refer to [Appendix B](#) for additional specifications.

Front View

The CSE-505-203B is a 1U short-depth chassis. See the figure below for the features included on the front of the chassis.

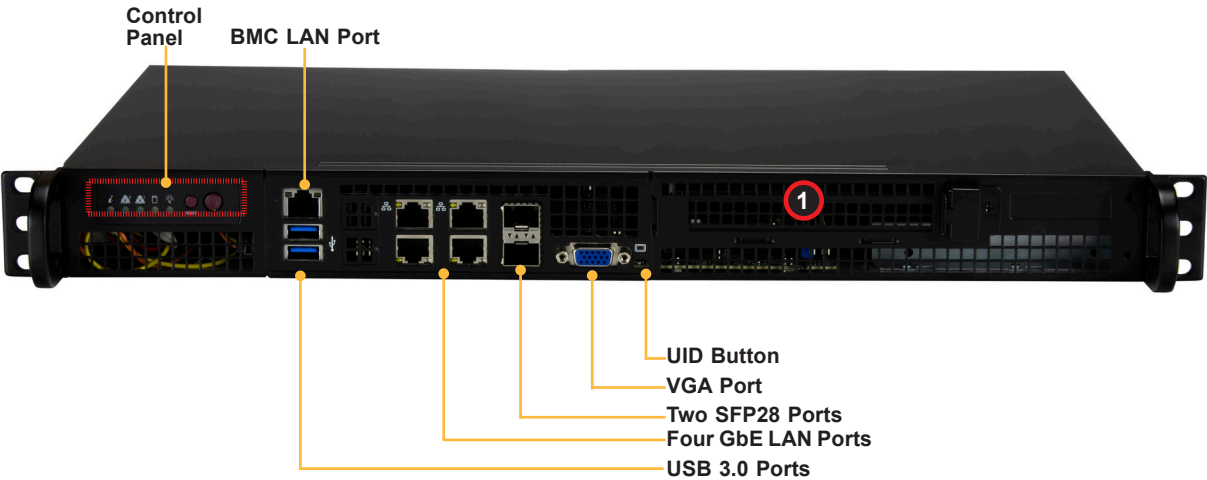


Figure 1-1. Front View

System Features: Front	
Feature	Description
Control Panel	See the next page
LAN Ports	One dedicated BMC LAN port, four GbE LAN ports, two 25G SFP28 ports
USB Ports	Two USB 3.0 ports
VGA Port	Video port
UID Button	Press the UID button to light up the UID LED indicator.

Expansion Slot Locations	
Item	Description (all PCIe 4.0)
1	x16 FHHL slot

Control Panel

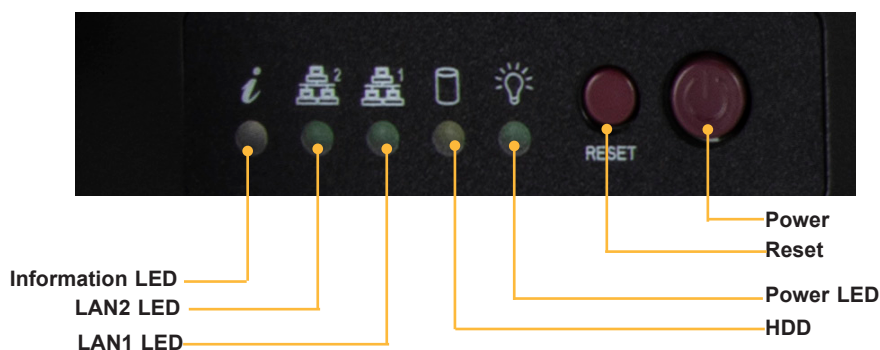


Figure 1-2. Control Panel

Control Panel Features	
Feature	Description
Information LED	Alerts operator to several states, as noted in the table below.
LAN2 LED	Indicates network activity on GLAN2 when flashing.
LAN1 LED	Indicates network activity on GLAN1 when flashing.
HDD LED	Indicates activity on the storage drives when flashing.
Power LED	Steady on – Power on Blinking at 4Hz – Checking BIOS/BMC integrity Blinking at 4Hz and "i" LED is blue – BIOS firmware updating Two blinks at 4Hz, one pause 2hz and "i" LED blue – BMC firmware updating Blinking at 1Hz and "i" LED red – Fault detected
Reset Button	The reset button is used to reboot the system. Press the button with a slender device such the tip of a pen.
Power Button	The main power button is used to apply or remove power from the power supply to the server. Turning off system power with this button removes the main power but maintains system power. To perform maintenance tasks, you must also unplug the system before servicing.

Information LED	
Color, Status	Description
Red, solid	An overheat condition has occurred.
Red, blinking at 1Hz	Fan failure, check for an inoperative fan.
Red, blinking at 0.25Hz	Power failure, check for a non-operational power supply.
Red, solid, with Power LED blinking green	Fault detected
Blue and red, blinking at 10 Hz	Recovery mode
Blue, solid	UID has been activated locally to locate the server in a rack environment.
Blue, blinking at 1Hz	UID has been activated using the BMC to locate the server in a rack environment.
Blue, blinking at 2Hz	BMC is resetting
Blue, blinking at 4Hz	BMC is setting factory defaults
Blue, blinking at 10Hz with Power LED blinking green	BMC/BIOS firmware is updating

Rear View

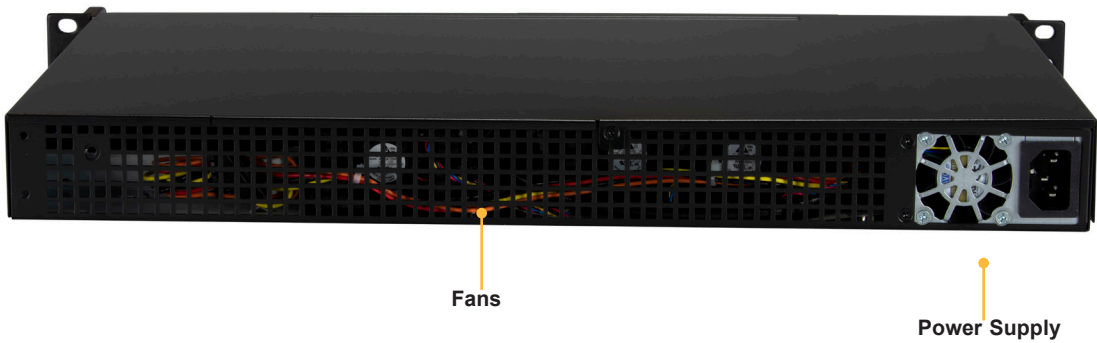


Figure 1-3. System: Rear View

System Features: Rear	
Feature	Description
Power Supply	200W AC Gold power supply
Fan	Internal fans

1.3 System Architecture

This section covers the printed circuit board (PCB) locations.

Board Locations

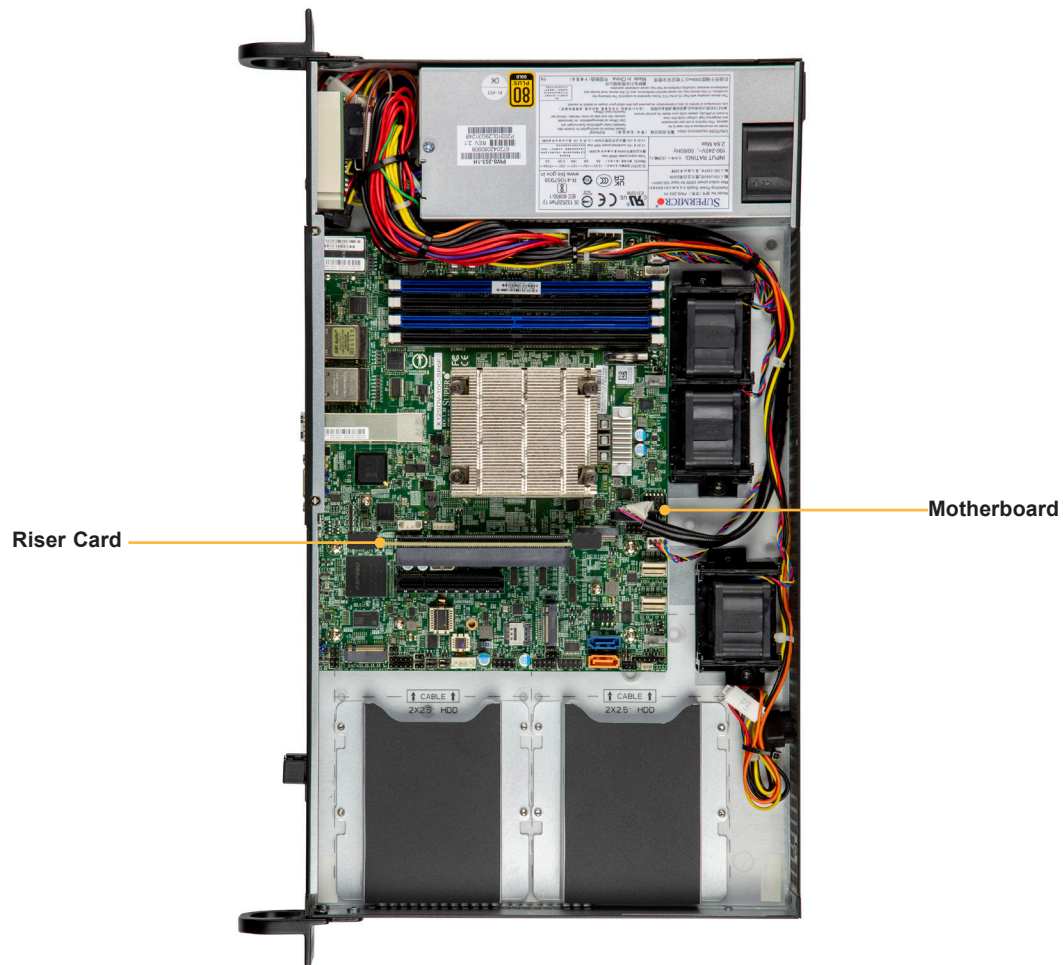


Figure 1-4. Board Locations

1.4 Motherboard Layout

Below is a layout of the X12SDV-4C-SP6F motherboard 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 4](#) or the [Motherboard Manual](#).

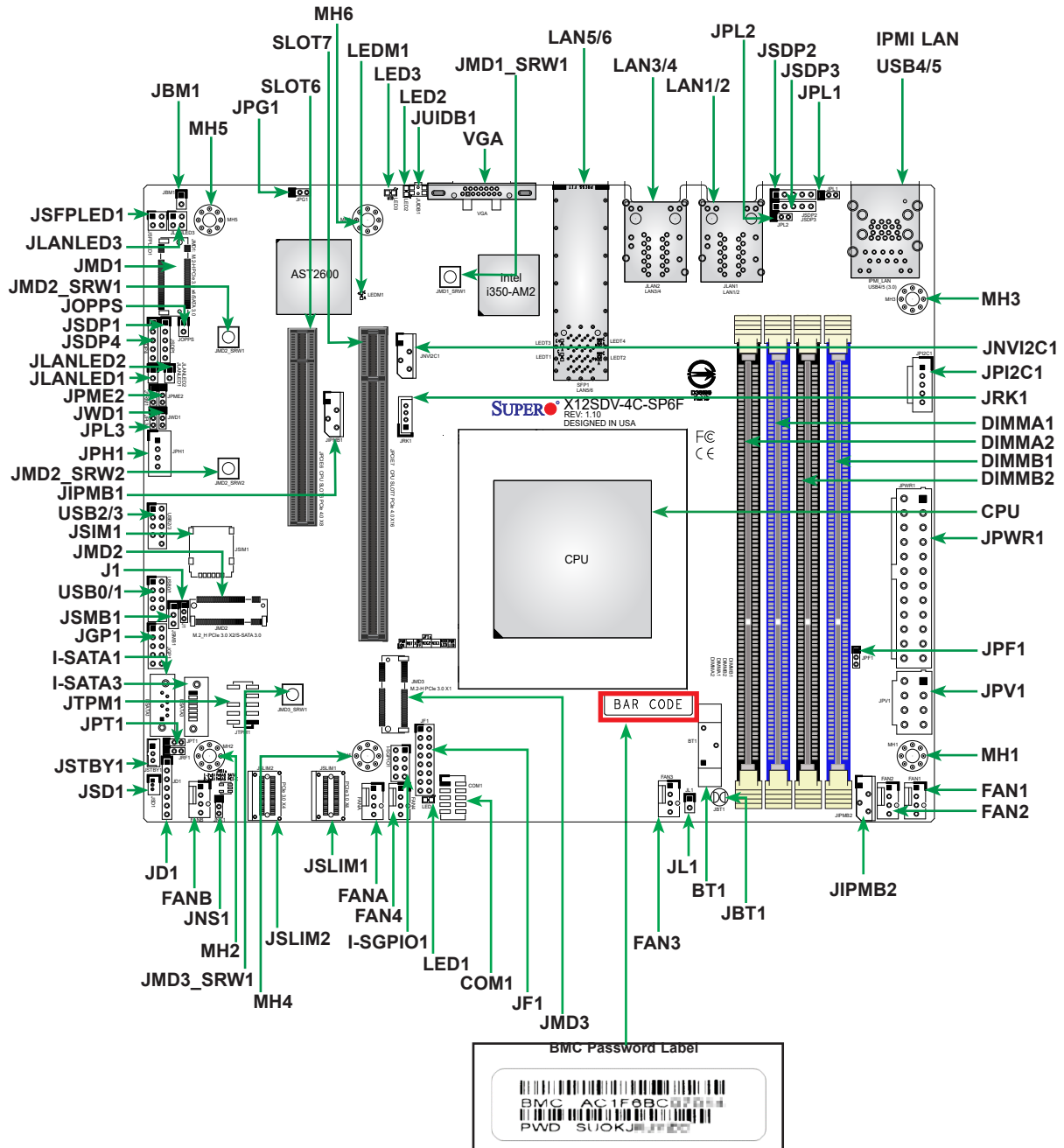


Figure 1-5. Motherboard Layout

Quick Reference Table

Jumper	Description	Default Setting
J1	SIM Card Detection	Pins 1-2 (High Active)
JBM1	IPMI Shared LAN Enable/Disable	Open (Enabled)
JBT1	CMOS Clear	Open (Normal)
JNS1	SlimSAS Interface Selection	Pins 2-3 (PCIe x4)
JPF1	Power Force On	Pins 1-2 (ATX)
JPG1	VGA Enable/Disable	Pins 1-2 (Enabled)
JPL1, JPL2, JPL3	LAN1, LAN2, LAN3/4 Enable	Pins 1-2 (Enabled)
JPME2	ME Manufacturing Mode	Pins 1-2 (Normal)
JPT1	Onboard TPM 2.0 Enable/Disable	Pins 1-2 (Enabled)
JWD1	Watchdog Timer	Pins 1-2 (Reset)
LED	Description	Status
LED1	Power LED	Solid Green: Power On
LED2	UID LED	Solid Blue: Unit Identified
LED3	Overheat (OH)/Power Fail/Fan Fail LED	Solid Red: Overheat Blinking Red: Power Fail or Fan Fail
LEDM1	BMC Heartbeat LED	Blinking Green: BMC Normal
Connector	Description	
BT1	Onboard Battery	
COM1	COM Header	
FAN1 – FAN4, FANA, FANB	CPU/System Fan Headers (FAN1: CPU Fan)	
IPMI LAN	Dedicated IPMI LAN Port	
I-SATA1 and I-SATA3	SATA 3.0 Ports (I-SATA1: SATA DOM Power)	
I-SGPIO1	Serial Link General Purpose I/O Header	
JD1	Power LED/Speaker (Pins 1-3: Power LED, Pins 4-7: Speaker)	
JF1	Front Control Panel Header	
JGP1	General Purpose I/O Header	
JIPMB1, JIPMB2	4-pin BMC External I ² C Headers	
JL1	Chassis Intrusion Header	
JLANLED1	LAN1 Activity LED Header	
JLANLED2	LAN2 Activity LED Header	
JLANLED3	LAN3/4 Activity LED Header	
JMD1	M.2 M-Key 2280 PCIe 3.0 x4 or SATA 3.0 Slot	
JMD2	M.2 B-Key 2280/3042/3052 PCIe 3.0 x2 or SATA 3.0 or USB 3.0 Slot	
JMD3	M.2 E-Key 2230 PCIe 3.0 x1 or USB 2.0 Slot	

Connector	Description
JMD1_SRW1, JMD2_SRW1, JM2_SRW2, JMD3_SRW1	M.2 Mounting Holes
JNVI2C1	Non-Volatile Memory (NVMe) I ² C Header
JOPPS	Reserved for One Pulse Per Second
JPH1	4-pin HDD Power Connector
JPI2C1	Power System Management (SMB) I ² C Header
JPWR1	24-pin ATX Power Connector
JPV1	8-pin 12V DC Power Connector for CPU (Required) or alternate single power input for when the 24-pin ATX power is not in use
JRK1	Intel RAID Key Header
JSD1	SATA DOM Power Connector
JSDP1 – JSDP4	Reserved for time synchronization
JSFPLED1	LAN5/6 Activity LED header
JSIM1	NANO SIM Slot for M.2 B-key
JSLIM1, JSLIM2	SlimSAS PCIe 3.0 x4 Slots
JSMB1	System Management Bus Header
JSTBY1	Standby Power Header
JTPM1	Trusted Platform Module (TPM)/Port 80 Connector
JUIDB1	Unit Identifier Switch
LAN1/2, LAN3/4	Gigabit Ethernet RJ45 Ports
LAN5/6	25GbE SFP28 LAN Ports
MH1 – MH6	Motherboard Mounting Holes
SLOT6	CPU SLOT6 PCIe 4.0 x8
SLOT7	CPU SLOT7 PCIe 4.0 x16
USB0/1, USB2/3	USB 2.0 Headers
USB4/5	Back Panel USB 3.0 Ports
VGA	VGA Port

Motherboard Block Diagram

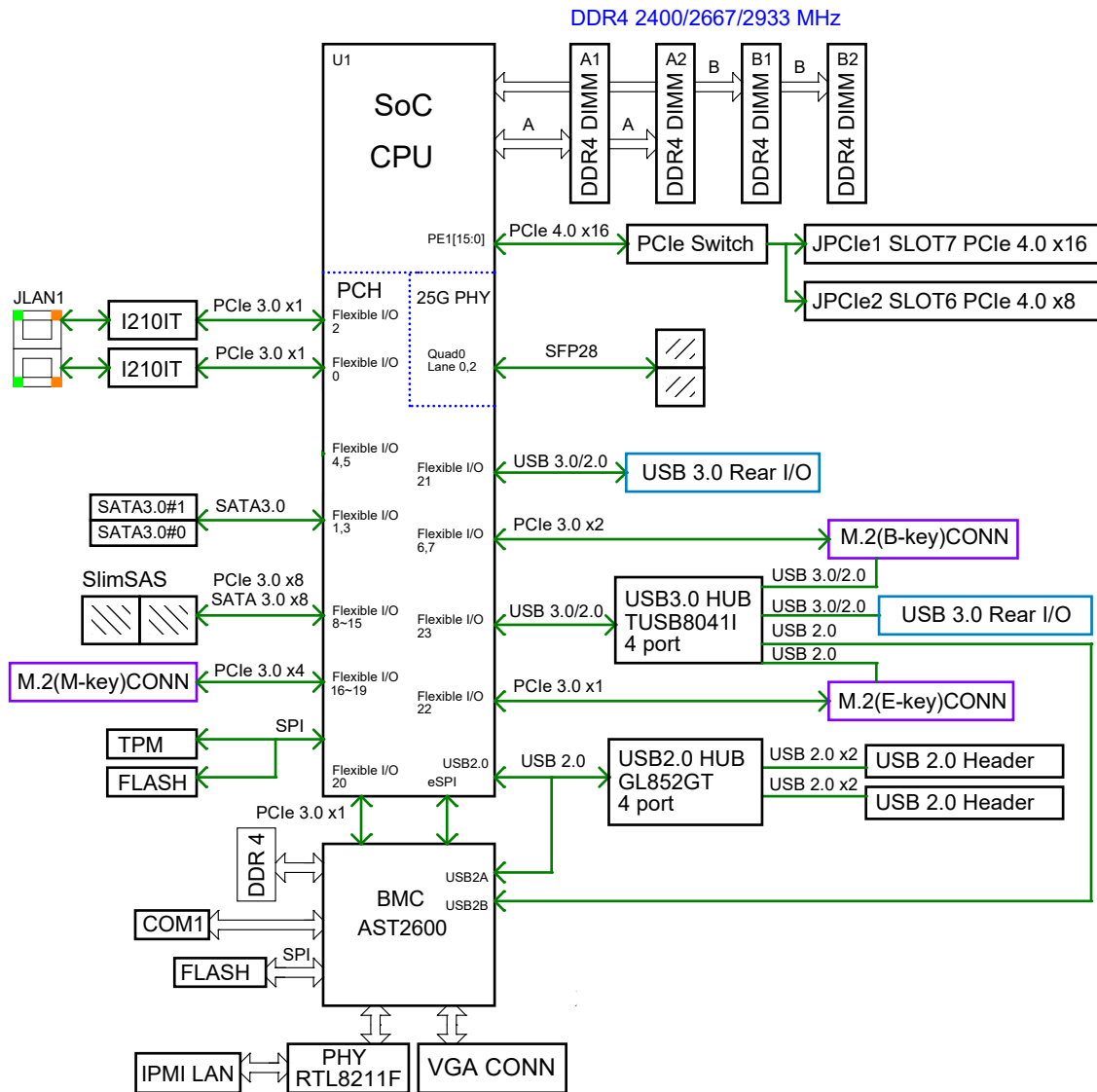


Figure 1-6. Motherboard Block Diagram

Motherboards

The table below lists the systems and their corresponding motherboards and processors.

Systems			
Feature	SYS-510D-4C-FN6P	SYS-510D-8C-FN6P	SYS-510D-10C-FN6P
Motherboard	X12SDV-4C-SP6F	X12SDV-8C-SP6F	X12SDV-10C-SP6F
Processor	D-1718T	D-1736NT	D-1747NTE
Cache	10MB	15MB	15MB
Processor TDP	46W	67W	80W
Processor Base Frequency	2.6 GHz	2.7 GHz	2.5 GHz
Intel Turbo Boost Technology	Yes	Yes	Yes
Number of Memory Channels	2	2	2
Intel QuickAssist Technology	No	Yes	Yes
Intel Virtualization Technology (VT-x)	Yes	Yes	Yes
Intel Virtualization Technology (VT-x) for Directed I/O (VT-d)	Yes	Yes	Yes
CPU Heatsink with FAN	No	No	No
Motherboard Operating Temperatures	0°C - 60°C (32°F - 40°F)	0°C - 60°C (32°F - 40°F)	0°C - 60°C (32°F - 40°F)

Chapter 2

Server Installation

2.1 Overview

This chapter provides advice and instructions for mounting your system in a server rack. If your system is not already fully integrated with system memory etc., refer to Chapter 3 for details on installing those specific components.

Caution: Electrostatic Discharge (ESD) can damage electronic components. To prevent such damage to PCBs (printed circuit boards), it is important to use a grounded wrist strap, handle all PCBs by their edges, and keep them in anti-static bags when not in use.

2.2 Preparing for Setup

The box in which the system was shipped should include the rackmount hardware needed to install it into the rack. Please read this section in its entirety before you begin the installation.

Choosing a Setup Location

- The system should be situated in a clean, dust-free area that is well ventilated. Avoid areas where heat, electrical noise, and electromagnetic fields are generated.
- Leave enough clearance in front of the rack so that you can open the front door completely (~25 inches) and approximately 30 inches of clearance in the back of the rack to allow sufficient space for airflow and access when servicing.
- This product should be installed only in a Restricted Access Location (dedicated equipment rooms, service closets, etc.).
- This product is not suitable for use with visual display workplace devices according to §2 of the German Ordinance for Work with Visual Display Units.

Rack Precautions

- Ensure that the leveling jacks on the bottom of the rack are extended to the floor so that the full weight of the rack rests on them.
- In single rack installations, stabilizers should be attached to the rack. In multiple rack installations, the racks should be coupled together.

- Always make sure the rack is stable before extending a server or other component from the rack.
- You should extend only one server or component at a time - extending two or more simultaneously may cause the rack to become unstable.

Server Precautions

- Review the electrical and general safety precautions in Appendix B.
- Determine the placement of each component in the rack *before* you install the rails.
- Install the heaviest server components at the bottom of the rack first and then work your way up.
- Use a regulating uninterruptible power supply (UPS) to protect the server from power surges and voltage spikes and to keep your system operating in case of a power failure.
- Allow any drives and power supply modules to cool before touching them.
- When not servicing, always keep the front door of the rack and all covers/panels on the servers closed to maintain proper cooling.

Rack Mounting Considerations

Ambient Operating Temperature

If installed in a closed or multi-unit rack assembly, the ambient operating temperature of the rack environment may be greater than the room's ambient temperature. Therefore, consideration should be given to installing the equipment in an environment compatible with the manufacturer's maximum rated ambient temperature (T_{mra}).

Airflow

Equipment should be mounted into a rack so that the amount of airflow required for safe operation is not compromised.

Mechanical Loading

Equipment should be mounted into a rack so that a hazardous condition does not arise due to uneven mechanical loading.

Circuit Overloading

Consideration should be given to the connection of the equipment to the power supply circuitry and the effect that any possible overloading of circuits might have on overcurrent protection and power supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.

Reliable Ground

A reliable ground must be maintained at all times. To ensure this, the rack itself should be grounded. Particular attention should be given to power supply connections other than the direct connections to the branch circuit (i.e. the use of power strips, etc.).



To prevent bodily injury when mounting or servicing this unit in a rack, you must take special precautions to ensure that the system remains stable. The following guidelines are provided to ensure your safety:

- This unit should be mounted at the bottom of the rack if it is the only unit in the rack.
- When mounting this unit in a partially filled rack, load the rack from the bottom to the top with the heaviest component at the bottom of the rack.
- If the rack is provided with stabilizing devices, install the stabilizers before mounting or servicing the unit in the rack.
- Slide rail mounted equipment is not to be used as a shelf or a work space.

2.3 Installing the Chassis into the Rack

This section provides information on installing the CSE-505-203B chassis into a rack unit. Due to the variety of rack units on the market, the assembly procedure might differ slightly. Also refer to the installation instructions that came with the rack unit you are using.

1. Gather the four mounting screws shipped with the system.
2. Align the mounting holes of the chassis with the thru-holes of the rack.
3. Insert the mounting screws into the thru-holes in the front of the chassis and tighten the screws until the chassis is secured to the rack.

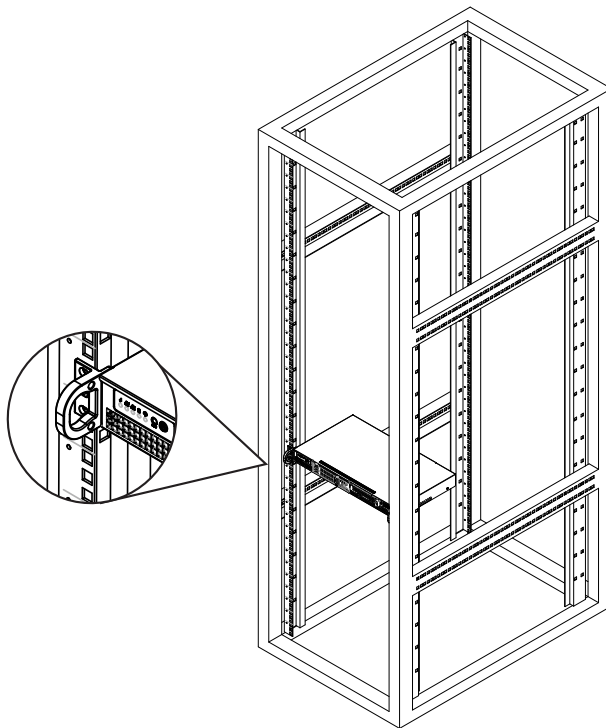


Figure 2-1. Installing the Server into a Rack

Note: Figures are for illustrative purposes only. Always install servers to the bottom of a rack first.



Warning: Do not pick up the server by the front handles. They are designed to pull the system from a rack only.



Stability hazard. The rack stabilizing mechanism must be in place, or the rack must be bolted to the floor before you slide the unit out for servicing. Failure to stabilize the rack can cause the rack to tip over.

Mid-Mount Telco Rack

The CSE-505-203B supports Telco Rack installation. The compact design allows it to be installed into a Telco rack without the use of rails.

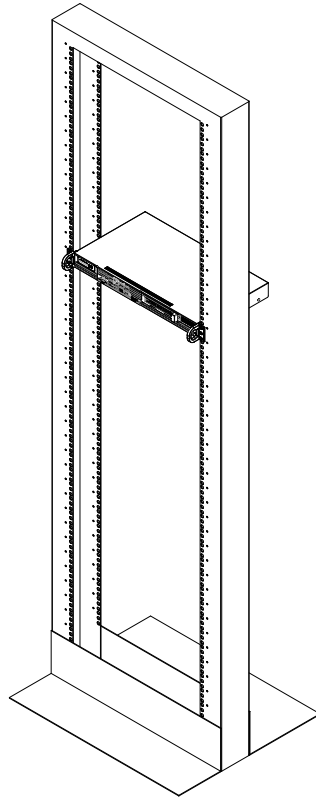


Figure 2-2. Installing the Server into a Rack

Note: Figures are for illustrative purposes only. Servers should always be installed in racks from the bottom up.

Installing the Chassis into a Telco (Two-Post Style) Rack

To install the chassis into a Telco style two-post rack, use two L-shaped brackets on either side of the chassis (four total).

1. Determine how far the server will extend out the front of the rack. Larger chassis should be positioned to balance the weight between front and back.
2. If a bezel is included on your chassis, remove it.
3. Attach the two front brackets to each side of the chassis.
4. Attach the two rear brackets positioned with just enough space to accommodate the width of the Telco rack.
5. Slide the chassis into the rack and tighten the brackets to the rack.

Chapter 3

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.

3.1 Removing Power

Use the following procedure to ensure that power has been removed from the system.

1. Use the operating system to power down the system.
2. After the system has completely shut down, disconnect the AC power cords from the power strip or outlet.
3. Disconnect the AC power cords from the power supply module.

3.2 Accessing the System

Removing the Chassis Cover

1. Power down the system as described in Section 3.1.
2. Remove one screw from the chassis rear and two screws from each chassis side.
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 must be in place to allow proper airflow and prevent overheating.

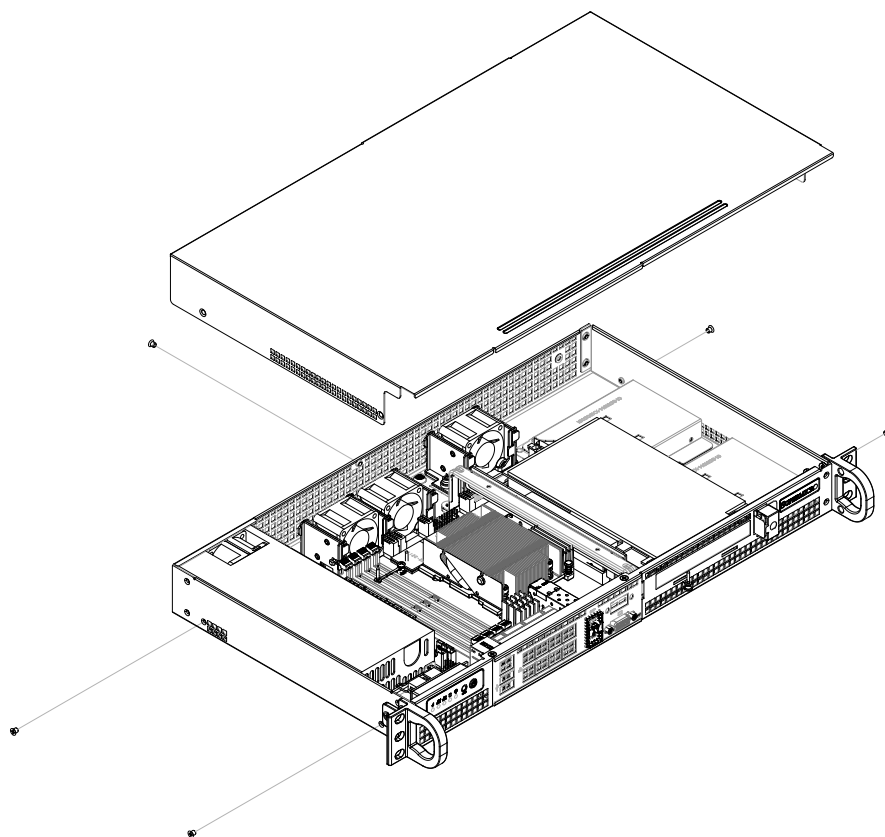


Figure 3-1. Removing the Chassis Cover

3.3 Memory

Memory Support

The X12SDV-4C/8C/10C-SP6F motherboard supports up to 256GB of ECC and Non-ECC RDIMM/UDIMM DDR4 memory with speeds of up to 2933MT/s in four memory slots. Populating these DIMM slots with memory modules of the same type and size will result in interleaved memory, which will improve memory performance.

Refer to the table on the next page for the recommended DIMM population order.

ESD Precautions

Electrostatic Discharge (ESD) can damage electronic components including memory modules. To avoid damaging your DIMM modules, it is important to handle it very carefully. The following measures are generally sufficient to protect your equipment from ESD.

- Use a grounded wrist strap designed to prevent static discharge.
- Handle the memory module by its edges only.
- Put the memory modules into the antistatic bags when not in use.
- Check the Supermicro website for recommended memory modules.

The motherboard supports up to 256GB of ECC and Non-ECC RDIMM/UDIMM DDR4 memory with speeds of up to 2933MT/s in four memory slots

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

General Guidelines for Optimizing Memory Performance

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

- Always use DDR4 DIMM modules of the same type and speed.
- Mixed DIMM speeds can be installed. However, all DIMMs will run at the speed of the slowest DIMM.
- The motherboard will support odd-numbered modules (one or three modules installed). However, for best memory performance, install DIMM modules in pairs to activate memory interleaving.

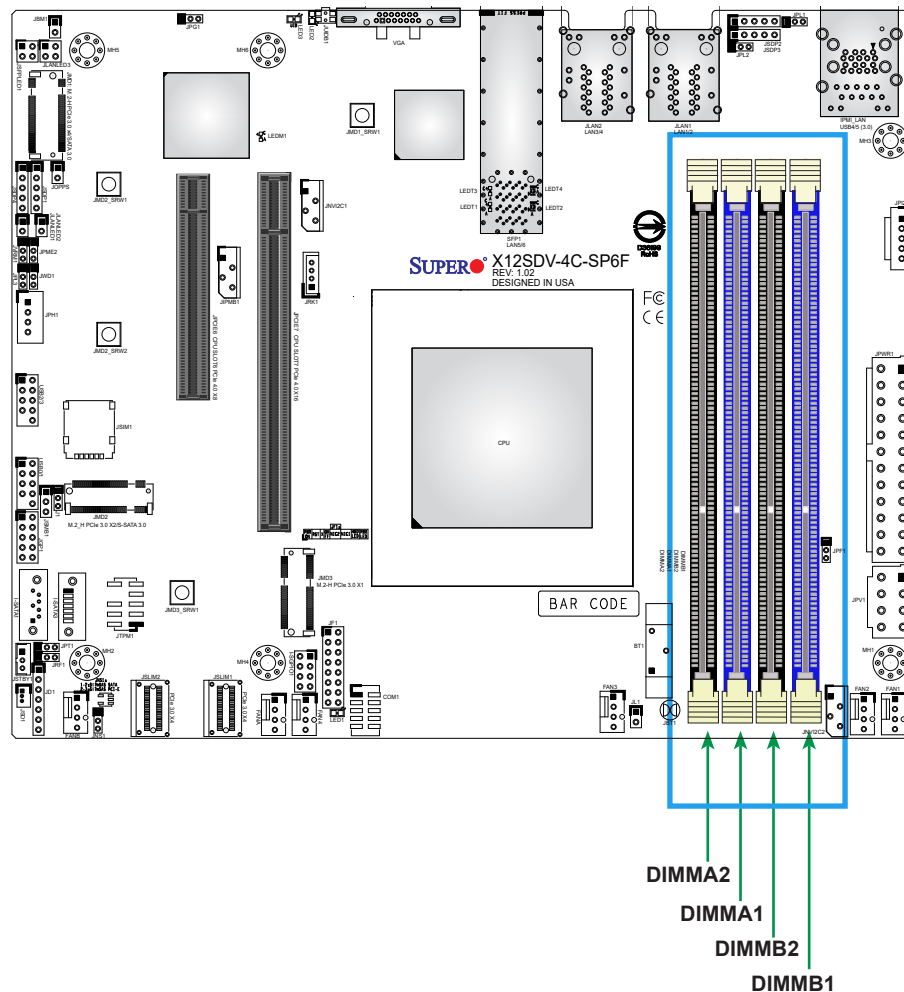


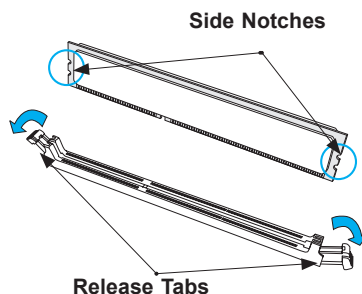
Figure 3-2. DIMM Slots

DIMM Installation

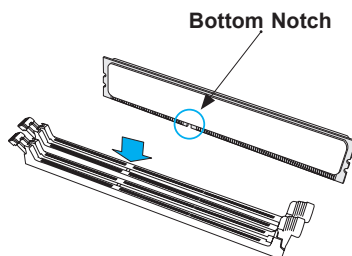
Caution: Exercise extreme caution when installing or removing memory modules to prevent any possible damage to the DIMMs or slots.

Begin by removing power from the system as described in Section 3.1.

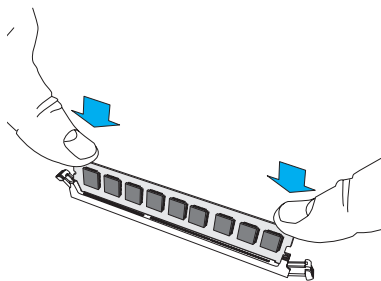
1. Decide on the number of DIMMs to install and follow the DIMM population sequence table in Section 3.3.
2. Push the release tabs outwards on both ends of the DIMM slot to unlock it.



3. Identify the notches on the side and bottom of the DIMM module.



4. Align the bottom notch on DIMM module with the receptive point in the memory slot. Align the side notches with the receptive points on the release tabs.



5. With your thumbs on both ends of the DIMM module, press it straight down into the slot until the module snaps into place.
6. Press the release tabs to the locked position to secure the DIMM module into the slot.

DIMM Removal

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

3.4 Motherboard Battery



Caution: There is a danger of explosion if the onboard battery is installed in the wrong orientation with reversed polarities. This battery must be replaced only with the same or an equivalent type recommended by the manufacturer (CR2032). Dispose of used batteries according to the manufacturer's instructions.

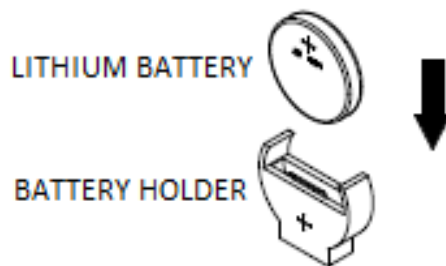


Figure 3-3. Installing the Onboard Battery

Please handle used batteries carefully. Do not damage the battery in any way; a damaged battery may release hazardous materials into the environment. Do not discard a used battery in the garbage or a public landfill. Please comply with the regulations set up by your local hazardous waste management agency to dispose of your used battery properly.

3.5 Storage Drives

The system supports four internal 2.5" solid-state disk drives.

Note: Enterprise level drives are recommended for use in Supermicro servers. For information on recommended HDDs, visit the Supermicro website product pages at <https://www.supermicro.com/products/nfo>.

Installing 2.5" Drives to the Chassis Floor

1. Remove power as described in Section 3.1 and remove the chassis cover.
2. If necessary, remove the PCI expansion card from the chassis.
3. Remove the drive bays from the chassis.
4. Insert the solid-state drives into the drive bays and secure the drives with screws.
5. Secure each drive bay to the chassis floor using four screws.
6. Connect the drive cables to the motherboard and the power supply.
7. If necessary, reinstall the PCI expansion card.
8. Reinstall the chassis cover, reconnect the power cord, and power up the system.

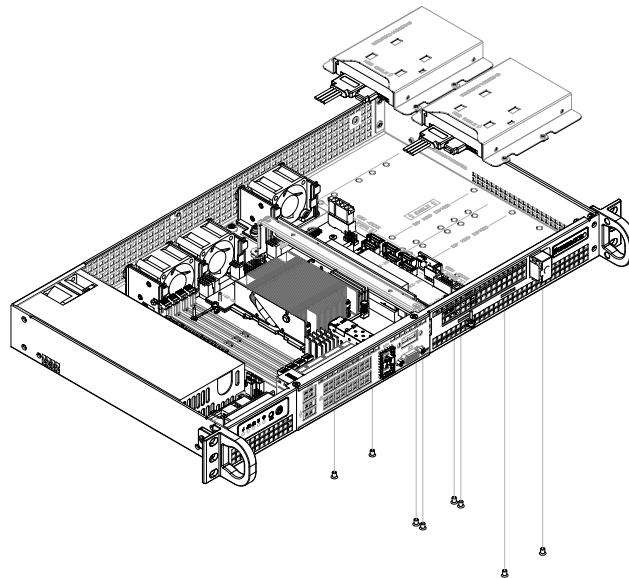


Figure 3-4. Securing the Mounting Brackets to the Chassis Floor

3.6 PCIe Expansion Cards

The system supports an optional riser card to allow a full-height, half-length expansion card to fit inside the chassis. Use the RSC-S-6G4 to install a PCIe x16 card.

Note: Install the expansion card after installing the 2.5" solid-state disk drives.

Assemble the PCIe Expansion Card, Riser Card, and Brackets

1. Remove power as described in Section 3.1 and remove the chassis cover.
2. Remove the expansion card clip and the PCI slot shield.
3. Outside of the chassis, create a riser card assembly by installing the riser card to the riser card bracket.
4. Create a PCI card assembly by installing a PCI slot bracket to the expansion card.
5. Insert the PCI card assembly into the riser card assembly.

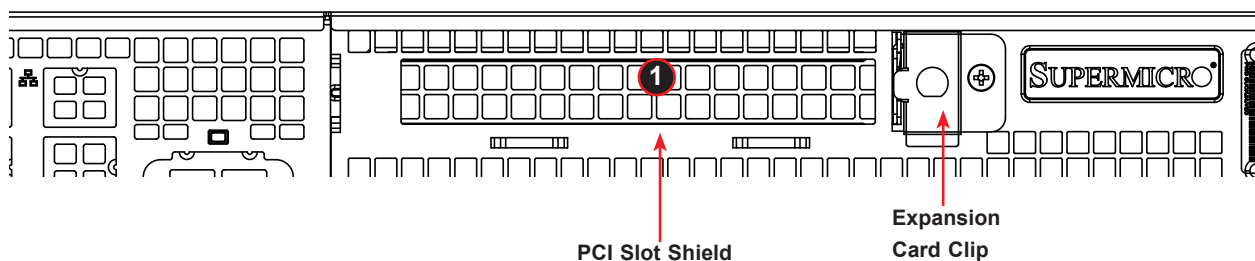


Figure 3-5. Expansion Card Clip Location

Expansion Card Configurations		
Slot	Mechanical	Electrical
1	Full height, half length	x16

Full height = 4.2", Low profile = 2.5",
Full length = 9.5", Half length = 6.6"

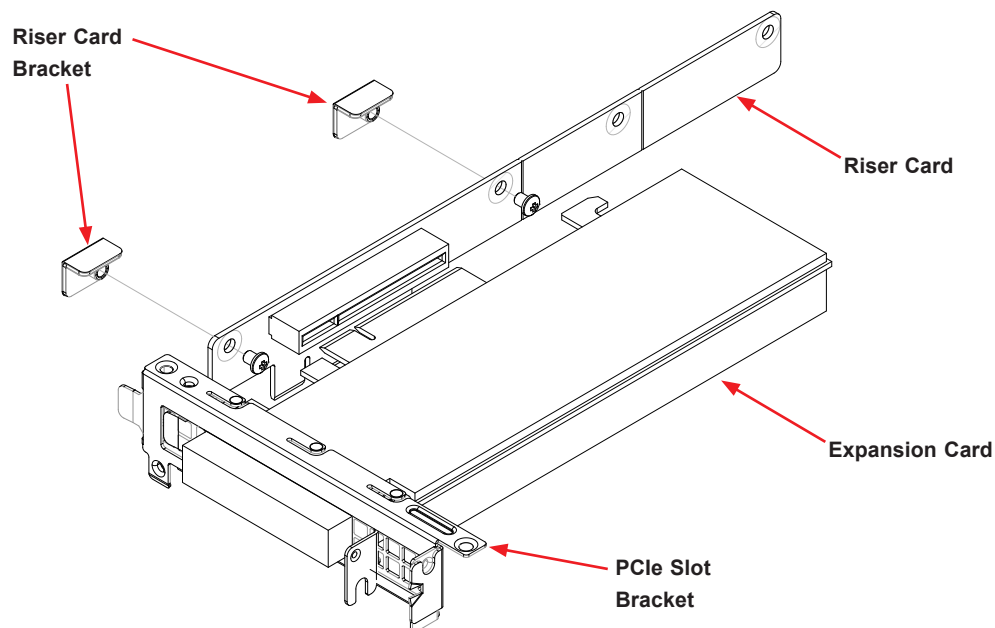


Figure 3-6. Assemble the PCIe Expansion Card, Riser Card, and Brackets

Installing the Expansion Card Assembly

1. Insert the riser card and PCI card assembly into the motherboard.
2. Align the PCI slot bracket with the chassis and reinstall the expansion card clip.
3. Connect cables.

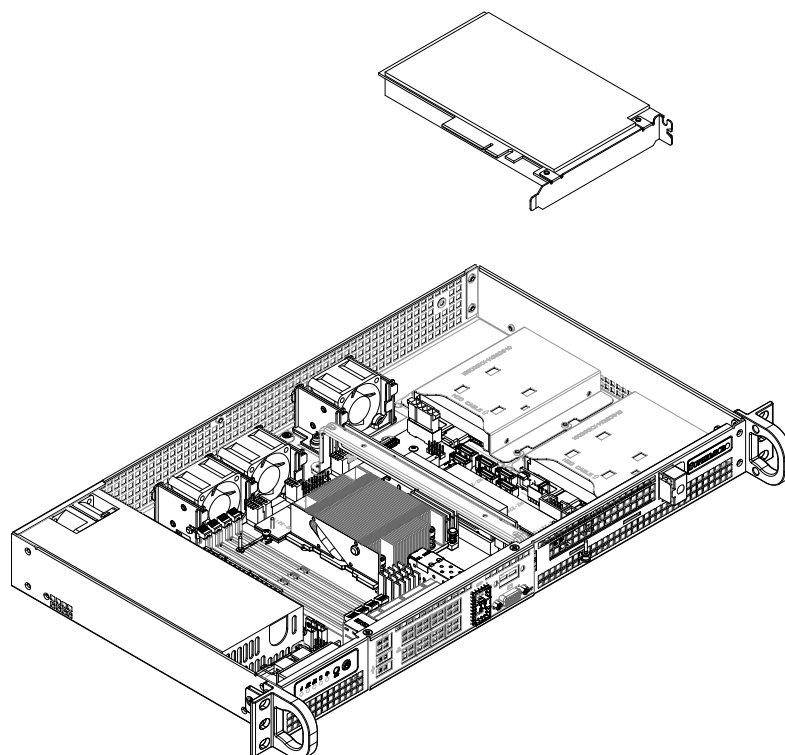


Figure 3-7. Installing the Expansion Card Assembly into the System

M.2 Solid State Drives

The motherboard supports three M.2 slots, one M.2 PCIe 3.0 x4 or SATA 3.0 Slot (M-Key 2280), one M.2 PCIe 3.0 x2 or SATA 3.0 or USB 3.0 Slot (B-Key 2280/3042/3052), and one M.2 PCIe 3.0 x1 or USB 2.0 Slot (E-Key 2230).

Installing an M.2 SSD

Caution: Use industry-standard anti-static equipment, such as gloves or wrist strap, and follow precautions to avoid damage caused by ESD.

Locate the M.2 socket on the motherboard (JMD1, JMD2, or JMD3). Next locate the M.2 mounting holes (JMD1_SRW1, JMD2_SRW1/2, or JMD3_SRW1). Insert the M.2 SSD into the socket and secure the SSD to the mounting hole with a screw.

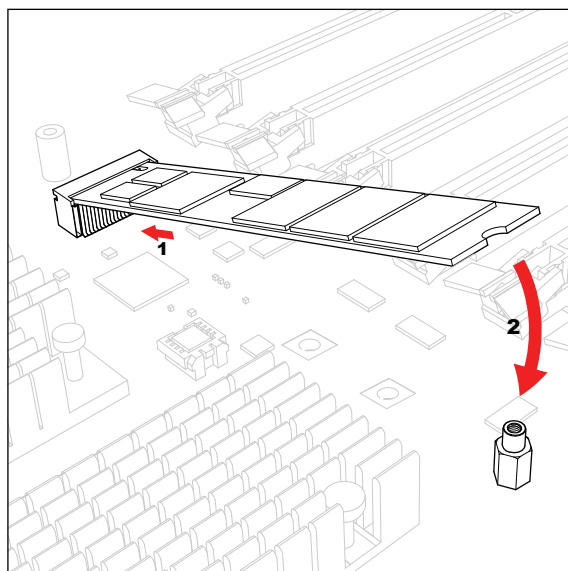


Figure 3-8. Inserting the Standoff Plug

Note: Your card may look different, but the standoff functions in the same way.

3.8 System Cooling

The SuperServer SYS-510D-4C/8C/10C-FN6P comes with three fans.

The fans can adjust their speed according to the heat level sensed in the system, which results in more efficient and quieter fan operation. Fan speed is controlled by BMC. Each fan has its own separate tachometer.

If a fan fails, the remaining fans will ramp up to full speed, the overheat/fan fail LED on the control panel will blink on and off, and an alarm will sound. Replace any failed fan at your earliest convenience with the same type and model.

Replacing a System Fan

1. Determine which fan has failed using remote management.
2. Once the failed fan has been identified, remove power from the system as described in Section 3.1.
3. Remove the chassis cover as described in Section 3.2.
4. Disconnect the failed fan from the motherboard.
5. Remove the failed fan from the fan tray.

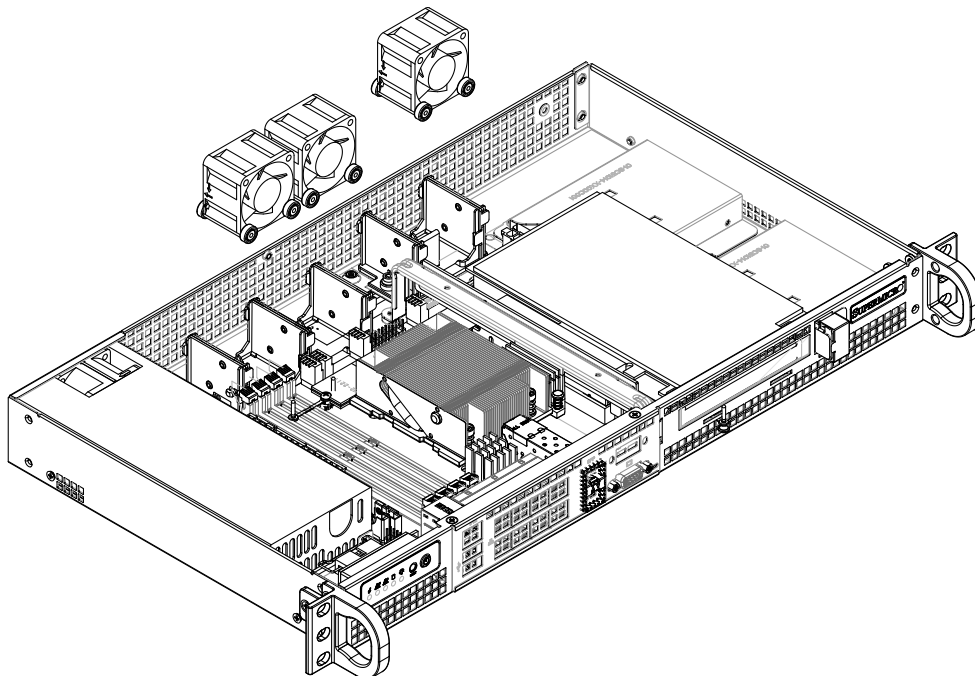


Figure 3-9. Removing Fan from the Fan Tray

6. In the fan tray, insert a new fan with the fan guard facing the chassis rear.
7. Connect the fan to the motherboard.
8. Reinstall the chassis cover.
9. Reconnect the power cord and power up the system.
10. Check that the overheat/fan fail LED on the control panel is off.
11. Check that the sounding alarm is off.

3.9 Power

The CSE-505-203B chassis supports one 200W AC Gold power supply. The power supply is auto-switching capable. The 200W AC power supply can operate at a 100V to 240V input range. New units can be ordered directly from Supermicro or authorized distributors.

Replacing Power Supply

1. Remove power as described in Section 3.1 and remove the chassis cover as described in Section 3.2
2. Disconnect all wiring from the power supply.
3. Remove two screws holding the power supply to the chassis rear. From the underside of the chassis, remove two screws holding the power supply mounting bracket to the chassis floor. Set these four screws aside.
4. Remove the power supply from the chassis.
5. Align a new power supply with the thru holes at the chassis rear and on the chassis floor.
6. Reinstall the four screws.
7. Reconnect all wiring to the power supply, reinstall the chassis cover, reconnect the power cord, and power up the system.

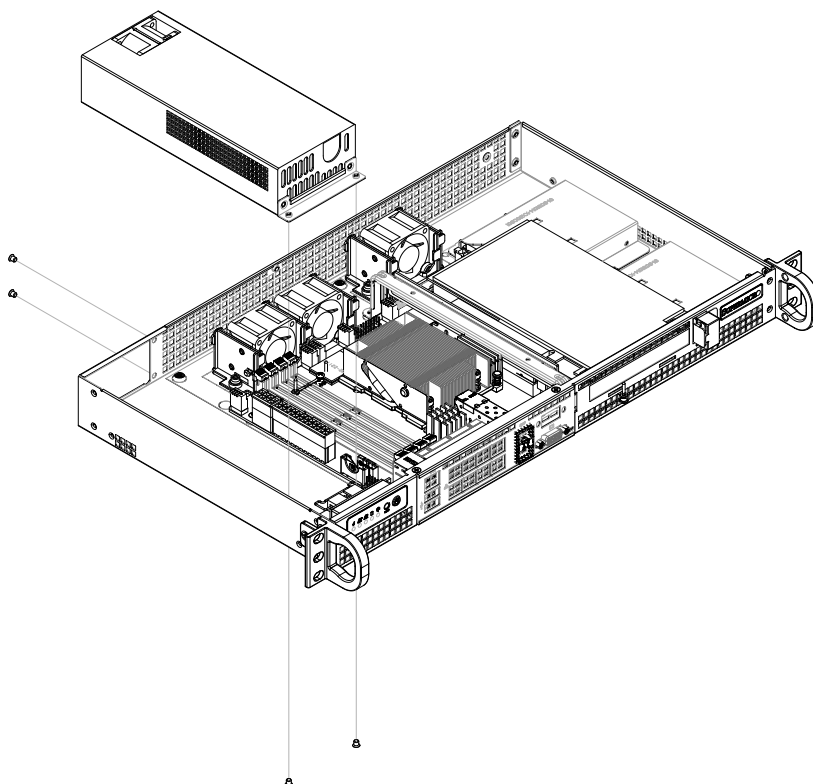


Figure 3-10. Replacing the Power Supply

3.10 Cable Routing Diagram

Refer to the storage cable diagrams in the next few pages. When disconnecting cables to add or replace components, refer to the diagrams so you can reroute them in the same manner.

SATA Cable

[Online Cable Matrix](#)

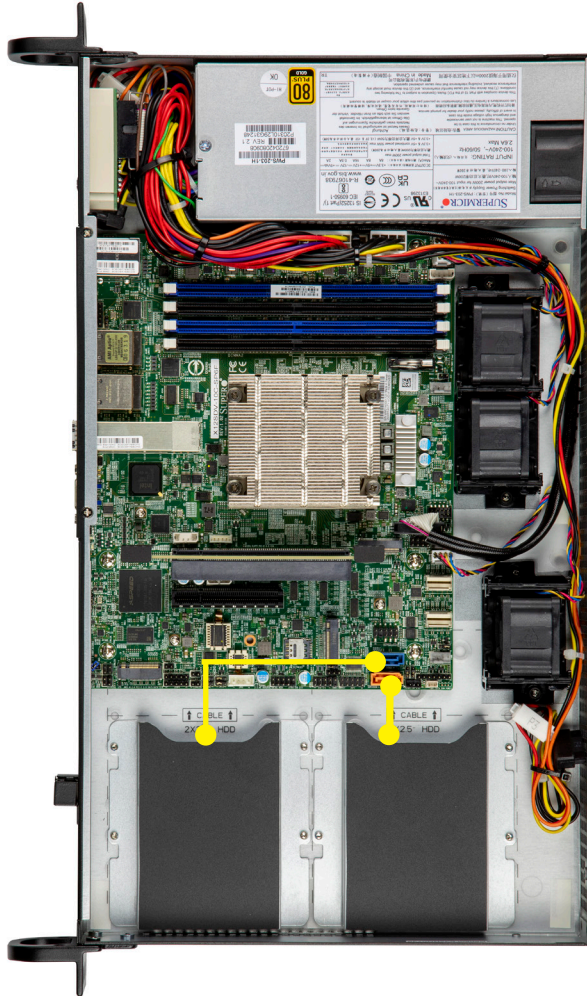


Figure 3-11. Cable Routing Diagram

Chapter 4

Motherboard Connections

This section describes the connections on the motherboard and provides pinout definitions. Note that depending on how the system is configured, not all connections are required. The LEDs on the motherboard are also described here. A motherboard layout indicating component locations may be found in [Chapter 1](#). More detail can be found in the [Motherboard Manual](#).

Please review the Safety Precautions in [Appendix A](#) before installing or removing components.

4.1 Power Connections

ATX Power Supply Connector

The 24-pin power supply connector (JPWR1) meets the ATX SSI EPS 24-pin specification. The 8-pin (JPV1) connector is used to provide alternative power for a special enclosure when the 24-pin ATX power is not in use.

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

8-Pin Power Connector

The 8-pin (JPV1) connector is used to provide alternative power for a special enclosure when the 24-pin ATX power is not in use. Refer to the table below for pin definitions.

8-pin Power Pin Definitions	
Pin#	Definition
1 - 4	Ground
5 - 8	P12V (12V Power)

Required Connection

4-Pin HDD Power Connector

JPH1 is a 4-pin HDD power connector that provides power to onboard HDD devices.

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

4.2 Headers and Connectors

Chassis Intrusion

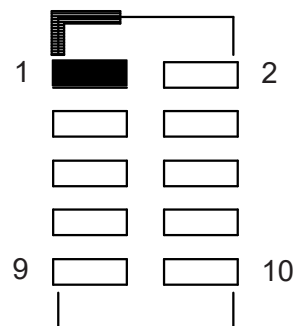
A Chassis Intrusion header is located at JL1 on the motherboard. Attach the appropriate cable from the chassis to inform you of a chassis intrusion when the chassis is opened. Refer to the table below for pin definitions.

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

COM Header

The motherboard has one COM header (COM1) that provides a serial connection .

COM Header (COM1) Pin Definitions			
Pin#	Definition	Pin#	Definition
1	DCD	2	DSR
3	RXD	4	RTS
5	TXD	6	CTS
7	DTR	8	RI
9	Ground	10	N/A



General Purpose I/O Header

The General Purpose Input/Output (GPIO) header at JPG1 is a general purpose I/O expander on a pin header via the SMBus. Each pin can be configured to be an input pin or output pin in 2.54mm pitch. The GPIO is controlled via the PCA9554APW 8-bit GPIO expansion from PCH SMBus. The base address is 0xEFA0. The expander slave address is 0x70 for WRITE and 0x71 for READ. See the table below for pin definitions.

General Purpose I/O Header Pin Definitions			
Pin#	Definition	Pin#	Definition
1	+3.3V Standby	2	GND
3	GP0	4	GP4
5	GP1	6	GP5
7	GP2	8	GP6
9	GP3	10	GP7

Disk-On-Module Power Connector

One power connector for SATA Disk-On-Module (DOM) devices is located at JSD1. Connect appropriate cables here to provide power support for your Serial Link DOM devices.

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

Fan Headers

There are six 4-pin fan headers (FAN1 - FAN4, FANA, FANB) on the motherboard. All these 4-pin fan headers are backwards compatible with traditional 3-pin fans. However, fan speed control is available for 4-pin fans only by Thermal Management via the Hardware Monitoring in the BIOS. Refer to the table below for pin definitions.

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

4-pin External BMC I²C Headers

System Management Bus headers for IPMI 2.0 are located at JIPMB1 and JIPMB2. Connect a cable to the header to use the IPMB I²C connection on your system. Refer to the table below for pin definitions.

External I ² C Header Pin Definitions	
Pin#	Definition
1	Data
2	Ground
3	Clock
4	No Connection

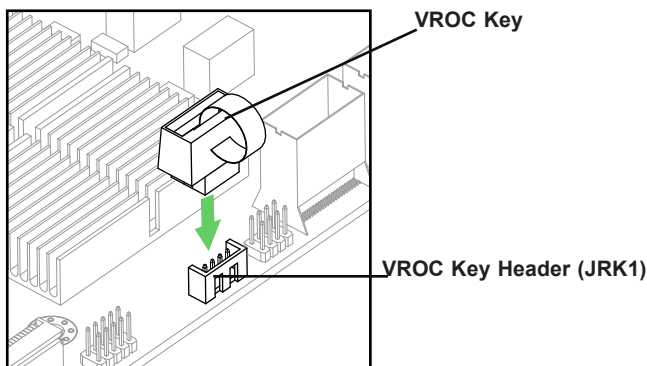
I-SATA 3.0 Ports

This motherboard has two I-SATA 3.0 ports (I-SATA1, I-SATA3). I-SATA1 can be used with Supermicro SuperDOMs that are yellow SATA DOM connectors with power pins built in, and do not require external power cables. Supermicro SuperDOMs are backwards compatible with regular SATA HDDs or SATA DOMs that need external power cables.

Intel RAID Key Header

The JRK1 header allows you to enable RAID functions for NVMe connections. Refer to the table below for pin definitions.

Intel RAID Key Header Pin Definitions	
Pin#	Defintion
1	GND
2	PU 3.3V Stdbby
3	GND
4	PCH RAID KEY



JOPPS

JOPPS is reserved for One Pulse Per Second.

JSDP1 - JSDP4

JSDP1, JSDP2, JSDP3, and JSDP4 are reserved for time synchronization.

LAN5/6 Activity LED

JSFPLED1 is the activity LED for LAN5/6.

LAN Activity LED

JLANLED1 is the activity LED for LAN1, JLANLED2 is the activity LED for LAN2, and JLANLED3 is the activity LED for LAN3/4.

Nano SIM Slot

The JSIM1 slot supports a Nano SIM card.

SlimSAS Connectors

The SlimSAS connectors at JSLIM1 and JSLIM2 support PCIe 3.0 x4 devices.

NVMe I²C Header

Connectors JNVI2C1 and JNVI2C2 are management headers for the Supermicro AOC NVMe PCIe peripheral cards. Connect the I²C cable to these connectors.

Power SMB (I²C) Header

Power System Management Bus (I²C) header at JPI²C1 monitors the power supply, fan and system temperatures. Refer to the table below for pin definitions.

Power SMB Header Pin Definitions	
Pin#	Definition
1	Clock
2	Data
3	Power Fail
4	Ground
5	NC

SGPIO Header

There is one Serial Link General Purpose Input/Output (I-SGPIO1) header located on the motherboard. Refer to the table below for pin definitions.

SGPIO Header Pin Definitions			
Pin#	Definition	Pin#	Definition
1	NC	2	NC
3	Ground	4	SSATA Data
5	SSATA Load	6	Ground
7	SSATA Clock	8	NC

Speaker/Power LED

Pins 1-3 of JD1 are used for power LED indication, and pins 4-7 are for the speaker. Note that the speaker connector pins are used with an external speaker. Refer to the tables below for pin definitions.

PWR LED Connector Pin Definitions	
Pin#	Signal
1	FP_PWR_LED_P
2	FP_PWR_LED_N
3	FP_PWR_LED_N

Speaker Connector Pin Definitions	
Pin#	Signal
4	P5V
5	NC
6	NC
7	R_SPKRIN

M.2 Slot

This motherboard has three M.2 slots (JMD1, JMD2, JMD3). M.2 was formerly known as Next Generation Form Factor (NGFF) and serves to replace mini PCIe. M.2 allows for a variety of card sizes, increased functionality, and spatial efficiency. JMD1 supports an M-Key PCIe 3.0 x4 or SATA 3.0 device in the 2280 form factor. JMD2 supports a B-Key PCIe 3.0 x2, SATA 3.0, or USB 3.0 device in the 2280/3042/3052 form factors. JMD3 supports an E-Key PCIe 3.0 x1 or USB 2.0 device in the 2230 form factor.

Note: For B-Key 3052 support, use an MCP-410-00021-0N bracket.

Standby Power

The Standby Power header is located at JSTBY1 on the motherboard. You must have a card with a Standby Power connector and a cable to use this feature. Refer to the table below for pin definitions.

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

TPM/Port 80 Header

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

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

System Management Bus Header

A System Management Bus (SMBus) header for additional slave devices or sensors is located at JSMB1. Refer to the table below for pin definitions.

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

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. See the figure below for the descriptions of the front control panel buttons and LED indicators.

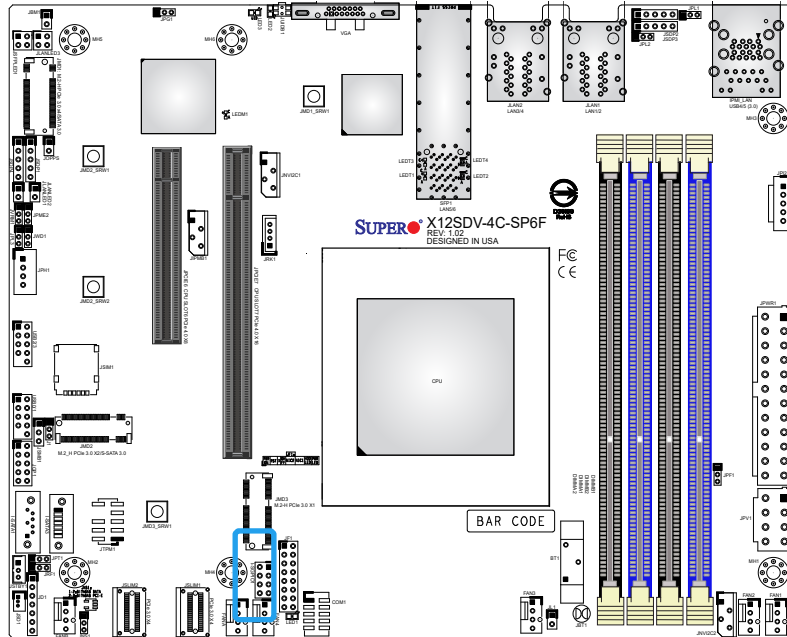


Figure 4-1. JF1 Header Pins

	1	2	
PWR } Power Button	○	○	Ground
Reset } Reset Button	○	○	Ground
3.3V	○	○	Power Fail LED
UID	○	○	OH/Fan Fail/PWR Fail LED
3.3V Stby	○	○	NIC2 Activity LED
3.3V Stby	○	○	NIC1 Activity LED
3.3V Stby	○	○	HDD LED
3.3V	○	○	PWR LED
	15	16	

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. To turn off the power when the system is in suspend mode, press the button for four seconds or longer. Refer to the table below for pin definitions.

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

Reset Button

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

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

Overheat (OH)/Fan Fail/PWR Fail LED

Connect an LED cable to pins 7 and 8 to use the Overheat (OH)/Fan Fail/PWR Fail LED connections. The LED on pin 8 provides warnings of overheat, fan failure, or power failure. Refer to the tables below for pin definitions.

OH/Fan Fail Indicator Status	
State	Definition
Off	Normal
On	Overheat
Flashing	Fan Fail/PWR Fail

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

NIC1/NIC2 (LAN1/LAN2)

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

NIC1/NIC2 LED Pin Definitions (JF1)	
Pin#	Definition
9	3.3 Stby
10	NIC2 Activity LED
11	3.3 Stby
12	NIC1 Activity LED

HDD LED

The HDD LED connection is located on pins 13 and 14 of JF1. Attach a cable to pin 14 to show hard drive activity status. Refer to the table below for pin definitions.

HDD LED Pin Definitions (JF1)	
Pins	Definition
13	3.3V Stby
14	HDD LED

Power LED

The Power LED connection is located on pins 15 and 16 of JF1. Refer to the table below for pin definitions.

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

Power Fail LED

Connect an LED cable to Power Fail connections on pins 5 and 6 of JF1 to provide warnings for a power failure. Refer to the table below for pin definitions.

PWR Fail LED Indicator Status	
Pin #	Definition
5	3.3V
6	PWR Fail LED

4.3 Input/Output Ports

Rear I/O Ports

See the figure below for the locations and descriptions of the I/O ports on the rear of the motherboard.

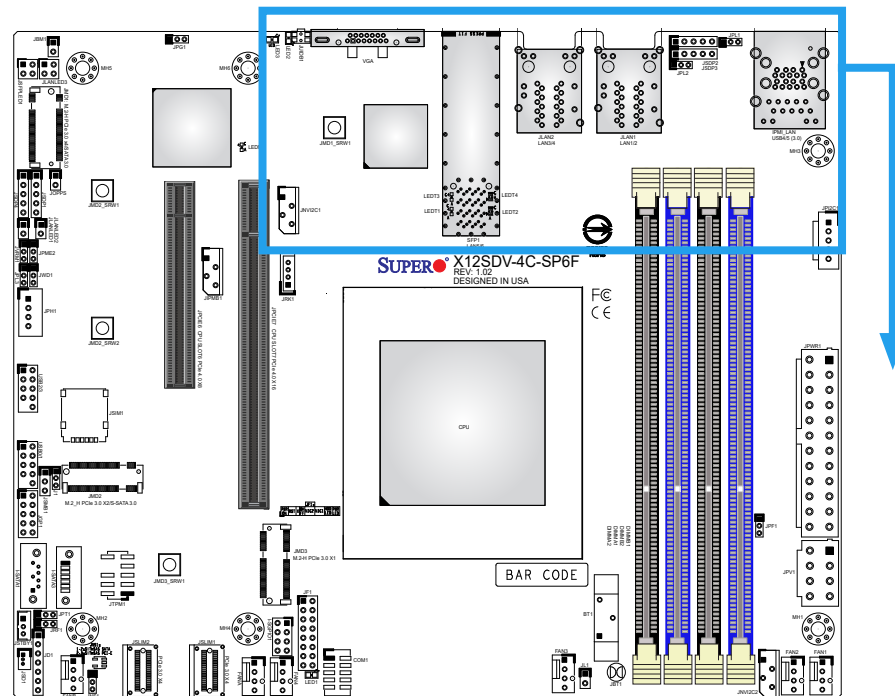
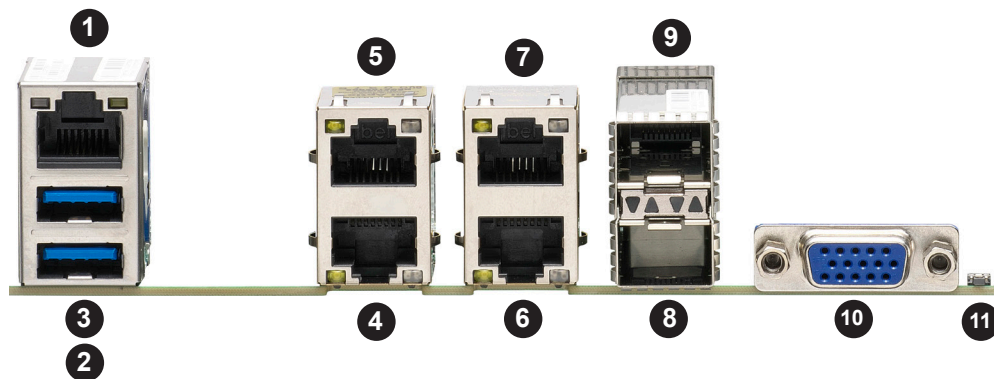


Figure 4-2. I/O Port Locations and Definitions



Rear I/O Ports					
#	Description	#	Description	#	Description
1	IPMI LAN	6	RJ45 LAN3	11	UID Button
2	USB4 (3.0)	7	RJ45 LAN4		
3	USB5 (3.0)	8	SFP28 LAN5		
4	RJ45 LAN1	9	SFP28 LAN6		
5	RJ45 LAN2	10	VGA Port		

VGA Port

A video (VGA) port is located on the I/O back panel.

LAN Ports

Four Gigabit Ethernet RJ45 ports (LAN1/2/3/4) and two SFP28 25G LAN ports (LAN5/6) are located on the I/O back panel. There is also a dedicated IPMI LAN above the USB4/5 ports on the back panel. Please refer to the LED Indicator section for LAN LED information.

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

IPMI LAN Pin Definition			
Pin#	Definition	Pin#	Definition
9	VCC	19	YEL-
10	TX1+	20	YEL+
11	TX1-	21	ORG+/GRN-
12	TX2+	22	ORG-/GRN+
13	TX2-	23	SGND
14	TX3+	24	SGND
15	TX3-	25	SGND
16	TX4+	26	SGND
17	TX4-		
18	GND		

Universal Serial Bus (USB) Ports

There are two USB 3.0 ports (USB4/5) on the I/O back panel and two USB 2.0 headers (USB0/1 and USB2/3) on the motherboard. The onboard headers can be used to provide front side USB access with a cable (not included).

Back Panel USB4/5 Pin Definitions			
Pin#	Definition	Pin#	Definition
A1	VBUS	B1	VBUS
A2	D-	B2	D-
A3	D+	B3	D+
A4	GND	B4	GND
A5	Std_a_SSRX-	B5	Std_a_SSRX-
A6	Std_a_SSRX+	B6	Std_a_SSRX+
A7	GND	B7	GND
A8	Std_a_SSTX-	B8	Std_a_SSTX-
A9	Std_a_SSTX+	B9	Std_a_SSTX+

Front Panel USB0/1, USB2/3 Pin Definitions			
Pin#	Definition	Pin#	Definition
1	+5V	2	+5V
3	USB_PN2	4	USB_PN3
5	USB_PP2	6	USB_PP3
7	Ground	8	Ground
9	Key	10	Ground

Unit Identifier Switch/UID LED Indicator

A Unit Identifier (UID) switch and an LED Indicator are located on the motherboard. The UID switch is located at JUIDB1, which is next to the VGA port on the back panel. The UID LED (LED2) is located next to the UID switch. When you press the UID switch, the UID LED will be turned on. Press the UID switch again to turn off the LED indicator. The UID Indicator provides easy identification of a system unit that may be in need of service.

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

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

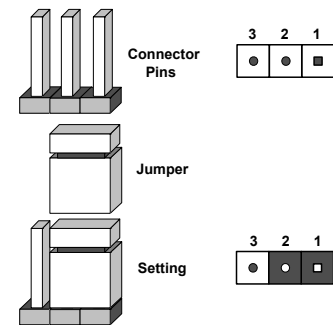
UID LED Pin Definitions	
Color	Status
Blue: On	Unit Identified

4.4 Jumpers

Explanation of Jumpers

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

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



CMOS Clear

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



To Clear CMOS

1. First power down the system and unplug the power cord(s).
2. Remove the cover of the chassis to access the motherboard and remove the battery from the motherboard.
3. Short the CMOS pads, JBT1, with a metal object such as a small screwdriver for at least four seconds.
4. Remove the screwdriver (or shorting device).
5. Re-install the battery.
6. Replace the cover, reconnect the power cord(s), and power on the system.

Notes: Clearing CMOS will also clear all passwords. Do not use the PW_ON connector to clear CMOS.

Watchdog Timer

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

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

Onboard TPM2.0 Enable/Disable

Use JPT1 to enable or disable support for the onboard TPM 2.0 module. The default setting is Enabled.

TPM Enable/Disable Jumper Settings	
Jumper Setting	Definition
Pins 1-2	Enabled (Default)
Pins 2-3	Disabled

SlimSAS Interface Selection

Use the JNS1 jumper to set the SlimSAS port to either function as four SATA ports or a single PCIe x4 NVMe interface.

SlimSAS Interface Selection Jumper Settings	
Jumper Setting	Definition
Pins 1-2	4x SATA
Pins 2-3	PCIe x4 (Default)

VGA Enable/Disable

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

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

LAN1, LAN2, LAN3/4 Enable/Disable

Use JPL1 to enable or disable LAN1, JPL2 to enable or disable LAN2, and JPL3 to enable or disable LAN3/4. The default setting is Enabled.

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

Manufacturing Mode Select

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

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

IPMI Shared LAN Enable/Disable

Set the JBM1 jumper to enable or disable IPMI shared access on LAN1 (Intel I210-AT). The default settings is Enabled.

IPMI Share LAN Enable/Disable Jumper Settings	
Jumper Setting	Definition
Pins 1-2 (Open)	Enabled (Default)
Pins 1-2 (Short)	Disabled

SIM Card Detection

J1 is the SIM card detection jumper. The default setting is high active. Refer to the table below for jumper settings.

SIM Card Detection Jumper Settings	
Jumper Setting	Definition
Pins 1-2	High Active
Pins 2-3	Low Active

Force Power On

JPF1 is the force power on jumper. See the table below for jumper settings.

Force Power On Jumper Settings	
Jumper Setting	Definition
Pins 1-2	ATX Mode (Default)
Pins 2-3	Force PS-ON Mode

4.5 LED Indicators

Power LED

LED1 is the Power LED. When this LED is lit, power is present on the motherboard. In suspend mode, this LED will blink on and off. Turn off the system and unplug the power cord before removing or installing components.

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

Overheat/PWR Fail/Fan Fail LED

LED3 is the Overheat, Power Fail, and Fan Fail LED.

Overheat/Power Fail/Fan Fail LED	
LED Color	Definition
Solid Red	System Overheat
Blinking Red	PWR Fail or Fan Fail

BMC Heartbeat LED

LED M1 is the BMC heartbeat LED. When the LED is blinking green, BMC is functioning normally. Refer to the table below for the LED status.

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

LAN LEDs

Four LAN ports (LAN1 - LAN4) are located 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. Refer to the tables below for more information.

Activity Indicator		
Color	Status	Definition
Off	No Connection	
Yellow	Flashing	Active

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



SFP LAN LEDs

Two 25G/10G LAN ports (LAN5/LAN6) that support SFP28 are located on the rear I/O panel. Refer to the tables below for more information.

25G/10G SFP28 LAN Link LED	
LED Color	Definition
Green	25Gbps
Yellow	10Gbps



Activity Indicator		
Color	Status	Definition
Off	No Connection	
Yellow	Flashing	Active

Chapter 5

Software

After the hardware has been installed, you can install the Operating System (OS), configure RAID settings and install the drivers.

5.1 Microsoft Windows OS Installation

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

Installing the OS

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

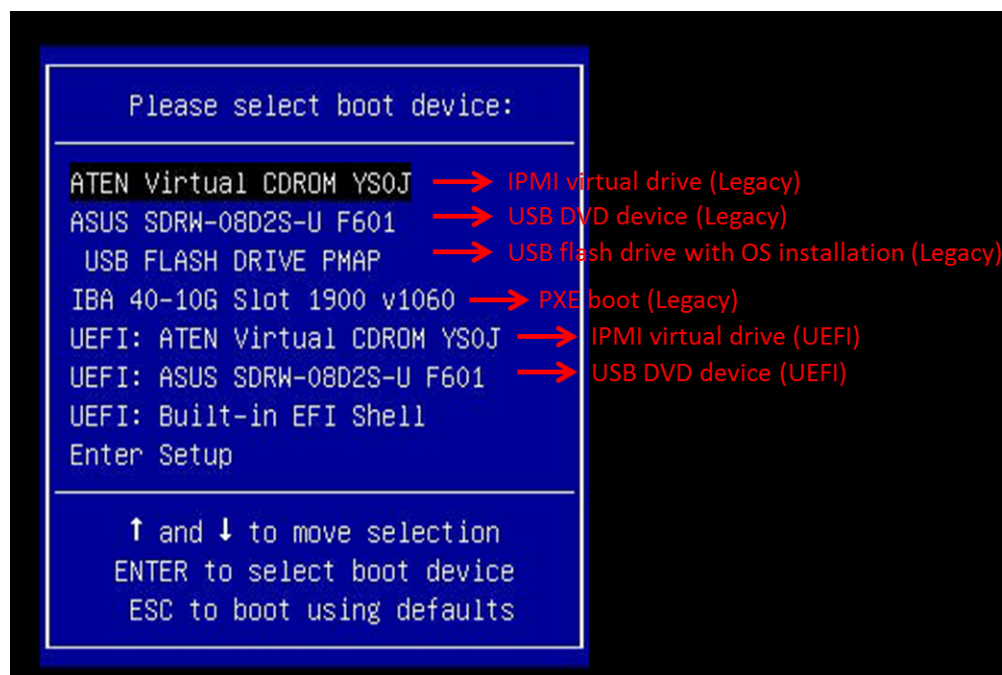


Figure 5-1. Select Boot Device

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

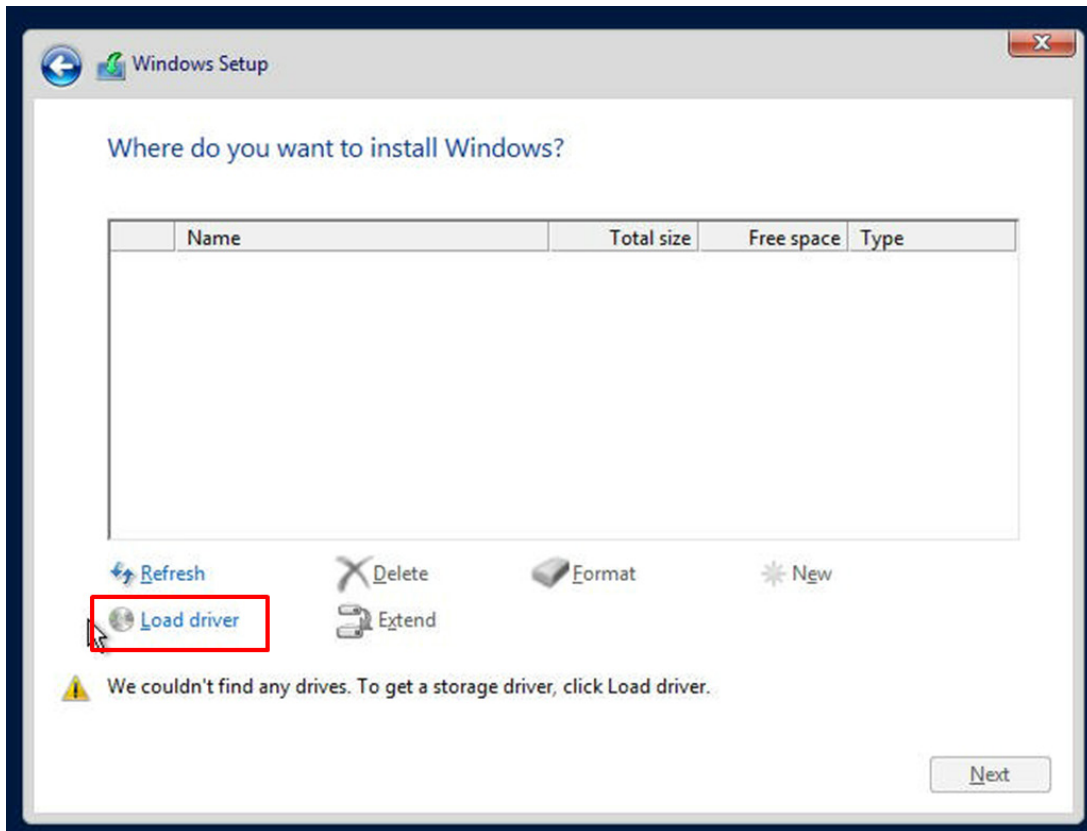


Figure 5-2. Load Driver Link

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

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

5.2 Driver Installation

The Supermicro website contains drivers and utilities for your system at <https://www.supermicro.com/wdl/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 to a USB flash drive or media drive. (You may also use a utility to extract the ISO file if preferred.)

Another option is to go to the Supermicro website at <http://www.supermicro.com/products/>. Find the product page for your motherboard, and "Download the Latest Drivers and Utilities".

Insert the flash drive or disk and the screenshot shown below should appear.

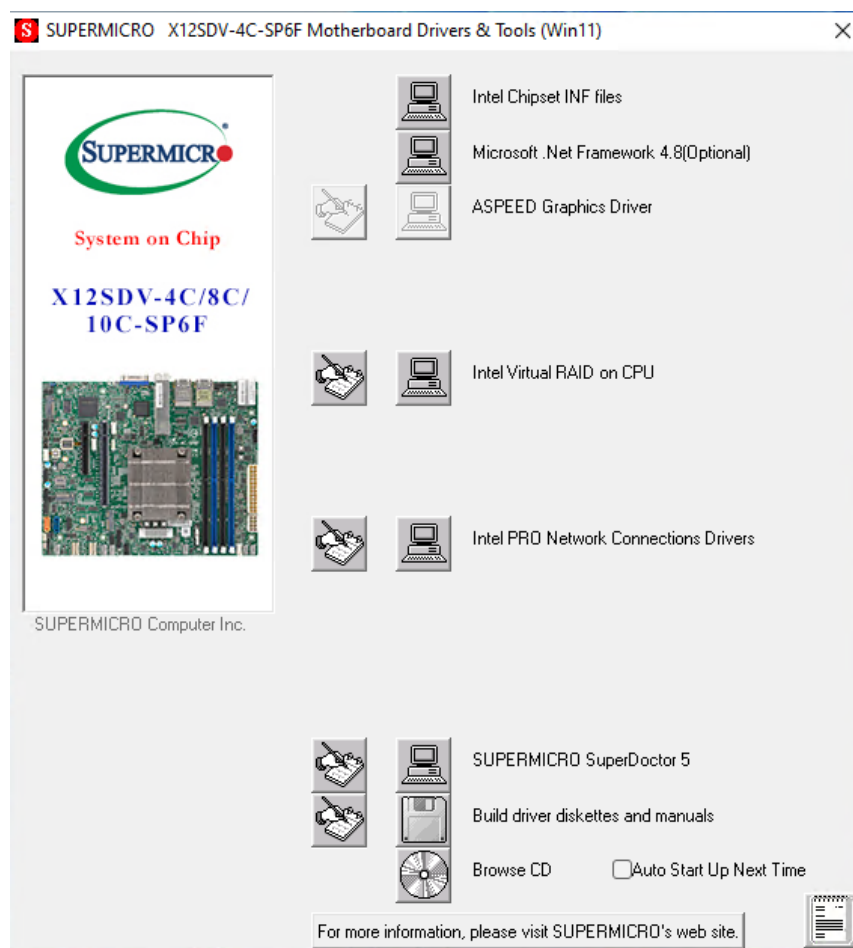


Figure 5-3. Driver & Tool Installation Screen

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

5.3 SuperDoctor® 5

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

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

SuperDoctor® Manual and Resources

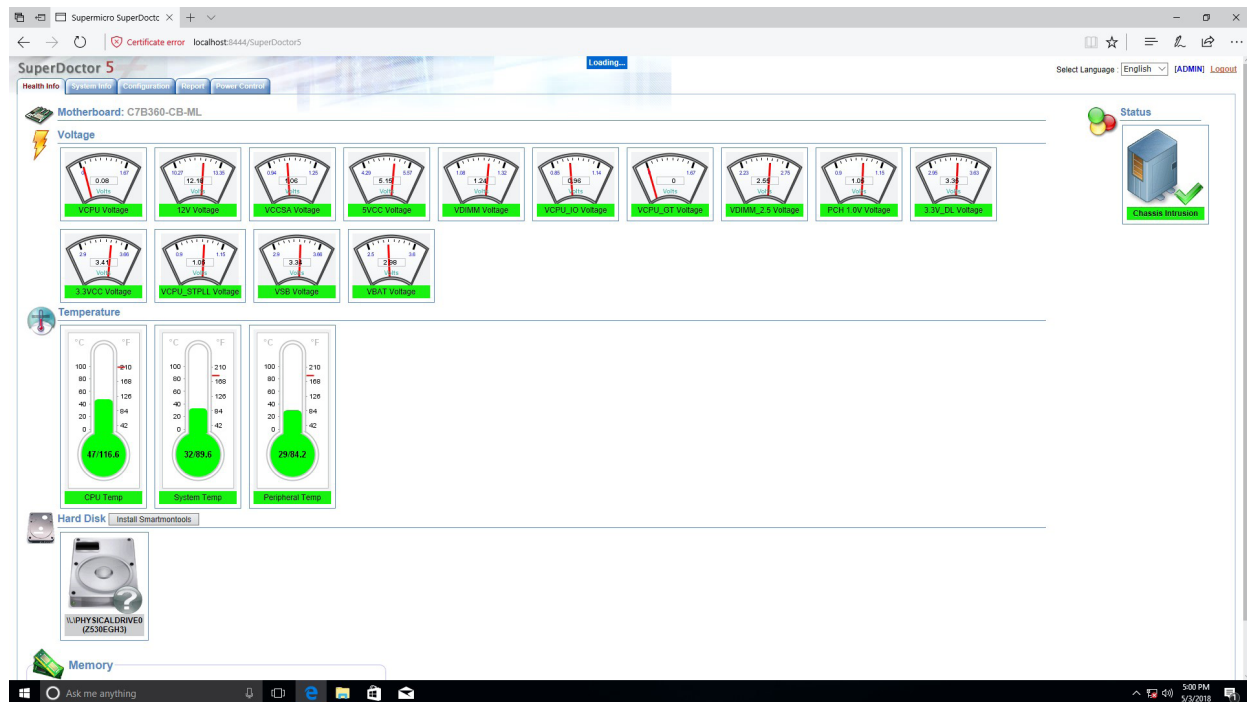


Figure 5-4. SuperDoctor 5 Interface Display Screen (Health Information)

5.4 BMC

The motherboard provides remote access, monitoring and management through the baseboard management controller (BMC) and other management controllers distributed among different system modules. There are several BIOS settings that are related to BMC. For general documentation and information on BMC, visit our website at:

www.supermicro.com/en/solutions/management-software/bmc-resources

BMC ADMIN User Password

For security, each system is assigned a unique default BMC password for the ADMIN user. This can be found on a sticker on the chassis and a sticker on the motherboard. The sticker also displays the BMC MAC address.



Figure 5-5. BMC Password Label

See [Chapter 1](#) for the label location.

Chapter 6

Troubleshooting and Support

6.1 Information Resources

Website

A great deal of information is available on the Supermicro website, supermicro.com.

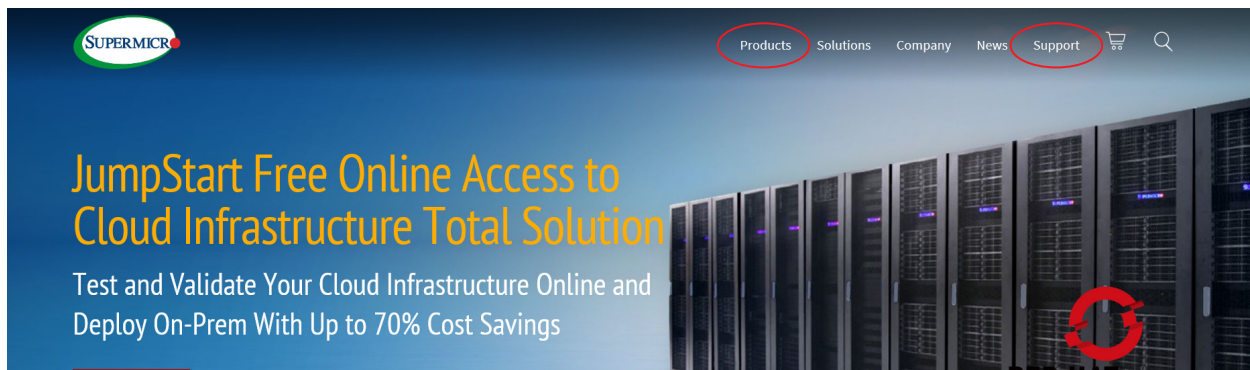


Figure 6-1. Supermicro Website

- Specifications for servers and other hardware are available by the **Products** option.
- The **Support** option offers downloads (manuals, BIOS/BMC, drivers, etc.), FAQs, RMA, warranty, and other service extensions.

Direct Links for the SYS-510D-4C/8C/10C-FN6P System

[SYS-510D-4C-FN6P](#), [SYS-510D-8C-FN6P](#), and [SYS-510D-10C-FN6P](#) specification pages
[X12SDV-4C-SP6F](#), [X12SDV-8C-SP6F](#), and [X12SDV-10C-SP6F](#) motherboard pages for links
 to the Quick Reference Guide, User Manual, validated storage drives, etc.

Direct Links for General Support and Information

[Frequently Asked Questions](#)

[Add-on card descriptions](#)

[TPM User Guide](#)

General Memory Configuration Guide: [X12](#)

[BMC User Guide](#)

[SuperDoctor5 Large Deployment Guide](#)

Direct Links (continued)

For validated memory, use our [Product Resources page](#)

[Product Matrices](#) page for links to tables summarizing specs for systems, motherboards, power supplies, riser cards, add-on cards, etc.

[Security Center](#) for recent security notices

[Supermicro Phone and Addresses](#)

6.2 Baseboard Management Controller (BMC)

The system supports the Baseboard Management Controller (BMC). BMC is used to provide remote access, monitoring and management. There are several BIOS settings that are related to BMC.

For general documentation and information on BMC, please visit our website at: <https://www.supermicro.com/en/solutions/management-software/bmc-resources>.

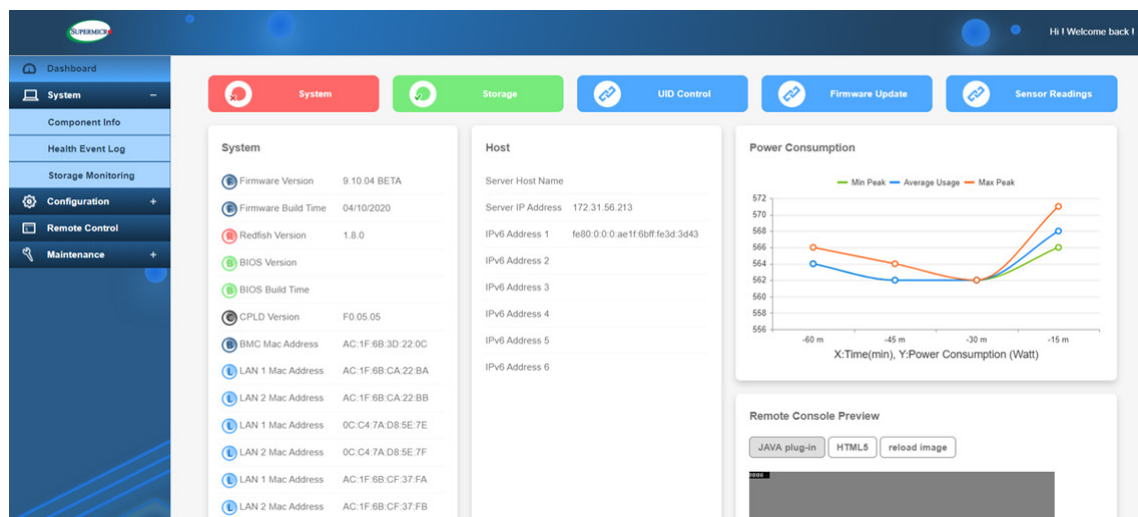


Figure 6-2. BMC Sample

6.3 Troubleshooting Procedures

Use the following procedures to troubleshoot your system. If you have followed all of the procedures below and still need assistance, refer to the [Technical Support Procedures](#) or [Returning Merchandise for Service](#) section(s) in this chapter. [Power down](#) the system before changing any non hot-swap hardware components.

General Technique

If you experience unstable operation or get no boot response, try:

1. With power off, remove all but one DIMM and other added components, such as add-on cards, from the motherboard. Make sure the motherboard is not shorted to the chassis.
2. Set all jumpers to their default positions.
3. Power up. If the system boots, check for memory errors and add-on card problems.

No Power

- Check that the power LED on the motherboard is on.

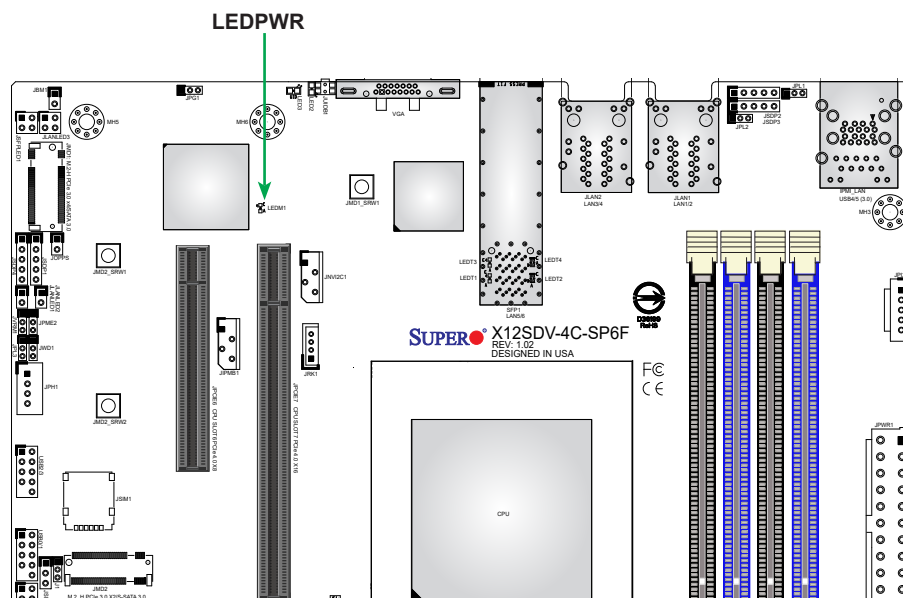


Figure 6-3. Location of the MB Power LED

- Make sure that the power connector is connected to the power supply.
- Check that the motherboard battery still supplies approximately 3VDC. If it does not, replace it.
- Check that the system input voltage is 100-120VAC or 180-240VAC.
- Turn the power switch on and off to test the system

No Video

If the power is on but you have no video, remove all add-on cards and cables.

System Boot Failure

If the system does not display Power-On-Self-Test (POST) or does not respond after the power is turned on, try the following:

- Turn on the system with only one DIMM module installed. If the system boots, check for bad DIMM modules or slots by following the Memory Errors Troubleshooting procedure below.

Memory Errors

- Make sure that the DIMM modules are properly and fully installed.
- Confirm that you are using the correct memory. Also, it is recommended that you use the same memory type and speed for all DIMMs in the system. See [Section 3.3](#) for memory details.
- Check for bad DIMM modules or slots by swapping modules between slots and noting the results.

Losing the System Setup Configuration

- Always replace power supplies with the exact same model that came with the system. A poor quality power supply may cause the system to lose the CMOS setup configuration.
- Check that the motherboard battery still supplies approximately 3VDC. If it does not, replace it.

If the above steps do not fix the setup configuration problem, contact your vendor for repairs.

When the System Becomes Unstable

If the system becomes unstable during or after OS installation, check the following:

- CPU/BIOS support: Make sure that your CPU is supported and that you have the latest BIOS installed in your system.
- Memory: Make sure that the memory modules are supported. Refer to the product page on our website at www.supermicro.com. Test the modules using **memtest86** or a similar utility.
- Storage drives: Make sure that all drives work properly. Replace if necessary.

- System cooling: Check that all heatsink fans and system fans work properly. Check the hardware monitoring settings in the BMC to make sure that the CPU and system temperatures are within the normal range. Also check the Control panel Overheat LED.
- Adequate power supply: Make sure that the power supply provides adequate power to the system. Make sure that all power connectors are connected. Refer to the Supermicro website for the minimum power requirements.
- Proper software support: Make sure that the correct drivers are used.

If the system becomes unstable before or during OS installation, check the following:

- Source of installation: Make sure that the devices used for installation are working properly, including boot devices.
- Cable connection: Check to make sure that all cables are connected and working properly.
- Use the minimum configuration for troubleshooting: Remove all unnecessary components (starting with add-on cards first), and use the minimum configuration (but with a CPU and a memory module installed) to identify the trouble areas.
- Identify a bad component by isolating it. Check and change one component at a time.
 - Remove a component in question from the chassis, and test it in isolation. Replace it if necessary.
 - Or swap in a new component for the suspect one.
 - Or install the possibly defective component into a known good system. If the new system works, the component is likely not the cause or the problem.

6.4 Crash Dump Using BMC

In the event of a processor internal error (IERR) that crashes your system, you may want to provide information to support staff. You can download a crash dump of status information using BMC. The BMC manual is available at <https://www.supermicro.com/en/solutions/management-software/bmc-resources>.

Check BMC Error Log

1. Access the BMC web interface.
2. Click the **Server Health** tab, then **Event Log** to verify an IERR error.

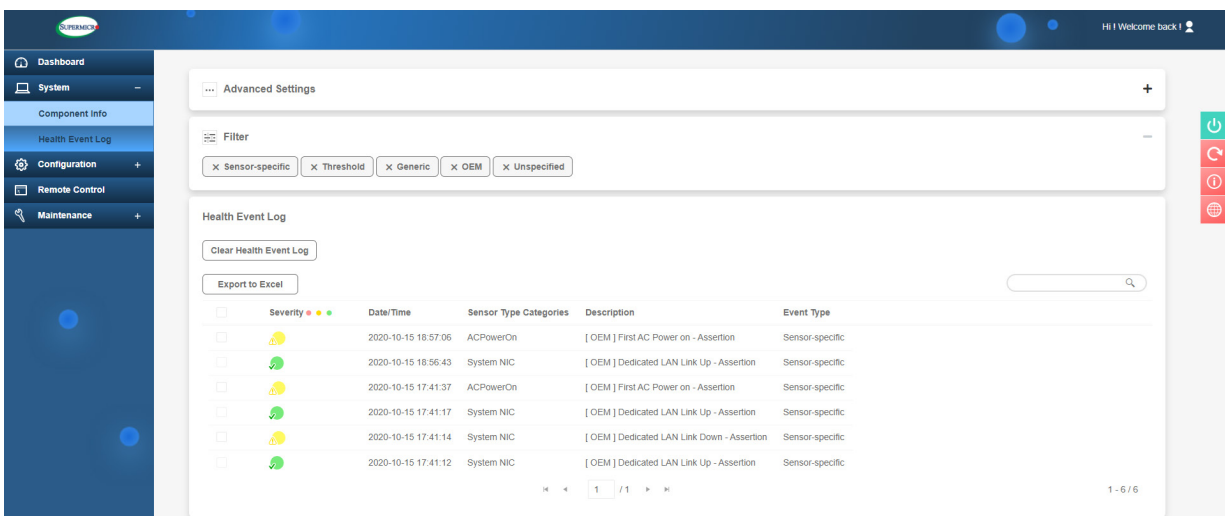


Figure 6-4. BMC Event Log

In the event of an IERR, the BMC executes a crash dump. You must download the crash dump and save it.

6.5 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 do update the BIOS, do not shut down or reset the system while the BIOS is updating to avoid possible boot failure.

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.

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 recovery block contains critical BIOS codes, including memory detection and recovery codes for the user to flash a healthy BIOS image if the original main BIOS image is corrupted. When the system power is turned on, the recovery block codes execute first. Once this process is complete, 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 block crashes.

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

Recovering the Main BIOS Block with a USB Device

This feature allows the user to recover the main BIOS image using a USB-attached device without additional utilities used. A USB flash or media drive 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 the recovery block 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 Root "\\" directory of a USB flash or media drive.

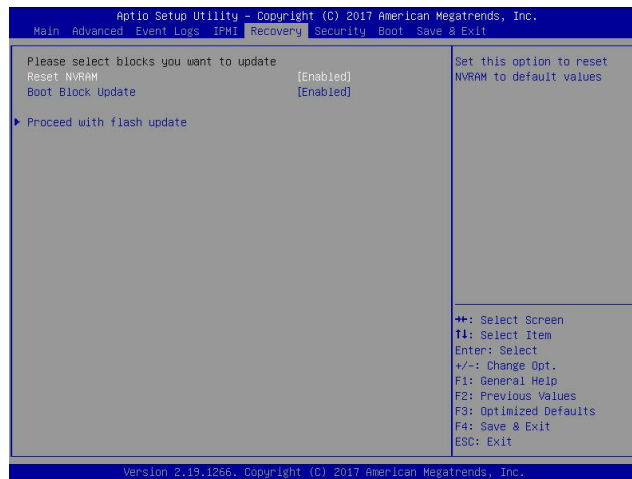
Note 1: If you cannot locate the "Super.ROM" file in your drive disk, visit our website at www.supermicro.com to download the BIOS package. Extract the BIOS binary image into a USB flash device and rename it "Super.ROM" for the BIOS recovery use.

Note 2: Before recovering the main BIOS image, confirm that the "Super.ROM" binary image file you download is the same version or a close version meant for your motherboard.

2. Insert the USB device that contains the new BIOS image ("Super.ROM") into your USB drive and reset the system when the following screen appears.
3. After locating the healthy BIOS binary image, the system will enter the BIOS Recovery menu as shown below.



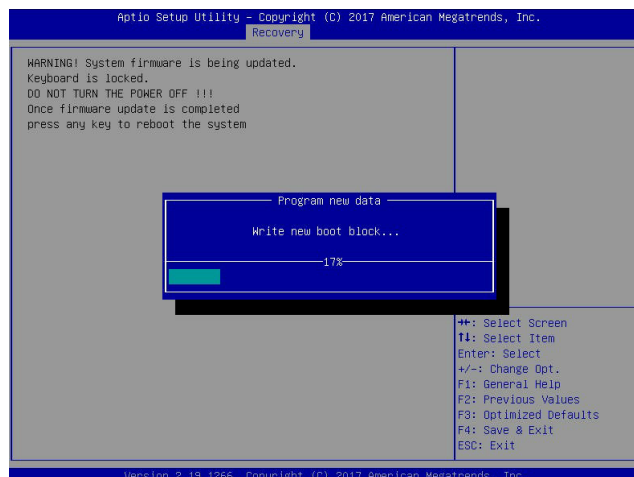
Note: At this point, you may decide if you want to start the BIOS recovery. If you decide to proceed with BIOS recovery, follow the procedures below.



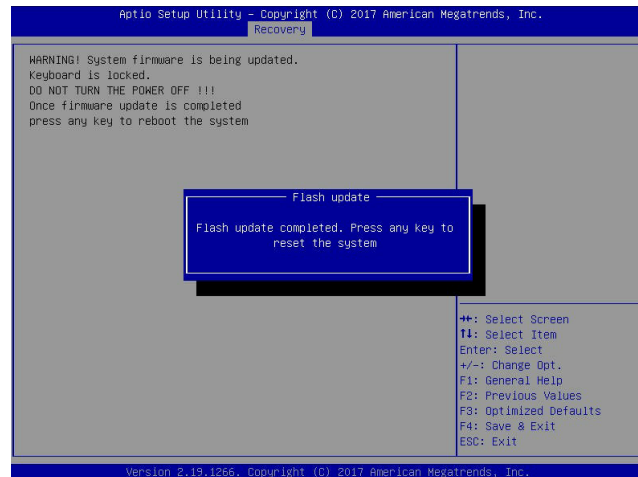
4. When the screen as shown above displays, use the arrow keys to select the item "Proceed with flash update" and press the <Enter> key. You will see the BIOS recovery progress as shown in the screen below.

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

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

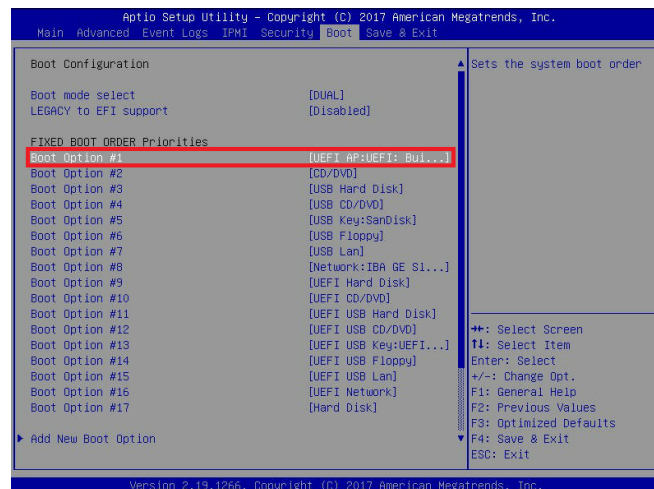


7. Press continuously during system boot to enter the BIOS Setup utility. From the top of the tool bar, select Boot to enter the submenu. From the submenu list, select Boot



Option #1 as shown below. Then, set Boot Option #1 to [UEFI AP:UEFI: Built-in EFI Shell]. Press <F4> to save the settings and exit the BIOS Setup utility.

8. 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 6. Enter flash.nsh BIOSname.### at the prompt to start the BIOS update process.



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

```

UEFI Interactive Shell v2.1
EDK II
UEFI v2.50 (American Megatrends, 0x0005000C)
Mapping table
  FSD: Alias(s):HD(0)B:BLK1:
    PciRoot(0x0)/Pci(0x14,0x0)/USB(0x11,0x0)/HD(1,MBR,0x37901072,0x800,0x1
CR3592)
  BLK0: Alias(s):
    PciRoot(0x0)/Pci(0x14,0x0)/USB(0x11,0x0)
Press F10 in 1 seconds to skip startup.nsh or any other key to continue.
Shell> fs0:
FS0:\> cd AFUDOS
FS0:\AFUDOS> cd SKIPME2_03162017
FS0:\AFUDOS\SKIPME2_03162017> flash.nsh X110PU7.314

```

9. The screen above indicates that the BIOS update process is complete. When you see the screen above, unplug the AC power cable from the power supply, clear CMOS, and plug

```

Done.
[ Access Cmos Port Ex ]
<Read>
Index 0x51: 0x10

Done.
*****
*
* Program BIOS and ME (including FDT) regions...
*
*****
| AMT 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 (0%)

```

the AC power cable in the power supply again to power on the system.

10. Press continuously to enter the BIOS Setup utility.

```

Verifying NDB Block ..... done
- Update success for FDR
- Update success for IEV
- Successful Update Recovery Loader to OPRx!!
- Successful Update MFSB!!
- Successful Update FPR!!
- Successful Update MFS, IVB1 and IVB2!!
- Successful Update FLOG and UTDK!!
- ME Entire Image update success !!
WARNING : System must power-off to have the changes take effect!
Moving FS0:\AFUDOS\SKIPME2_03162017\rdtx64.efi -> FS0:\AFUDOS\SKIPME2_03162017\
dt.smc
- [ok]
Moving FS0:\AFUDOS\SKIPME2_03162017\afuef1x64.efi -> FS0:\AFUDOS\SKIPME2_0316201
7\afuef1.smc
- [ok]
*****
* Please ignore this 'Shell: Cannot read from file - Device Error'
* warning message due to it does not impact flashing process.
*
*****
Deleting "afuef1.smc"
Delete successful.
FS0:\>

```

11. Press <F3> to load the default settings.
12. After loading the default settings, press <F4> to save the settings and exit the BIOS Setup utility.

6.6 CMOS Clear

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

To Clear CMOS

1. First [power down](#) the system completely.
2. [Remove chassis cover](#) to access the motherboard.
3. [Remove the onboard battery](#) from the motherboard.
4. Short the CMOS pads with a metal object such as a small screwdriver for at least four seconds.
5. Remove the screwdriver or shorting device.
6. Re-install the battery.
7. Replace the cover, reconnect the power cords and power on the system.

Notes: Clearing CMOS will also clear all passwords.

Do not use the PW_ON connector to clear CMOS.



JBT1 contact pads

6.7 Where to Get Replacement Components

If you need replacement parts for your system, to ensure the highest level of professional service and technical support, purchase exclusively from our Supermicro Authorized Distributors/System Integrators/Resellers. A list can be found at: <http://www.supermicro.com>. Click the "Where to Buy" tab.

6.8 Reporting an Issue

Technical Support Procedures

Before contacting Technical Support, please take the following steps. If your system was purchased through a distributor or reseller, please contact them for troubleshooting services. They have the best knowledge of your specific system configuration.

1. Please review the [Troubleshooting Procedures](#) in this manual and [Frequently Asked Questions](#) on our website before contacting Technical Support.
2. BIOS upgrades can be downloaded from our website. **Note:** Not all BIOS can be flashed depending on the modifications to the boot block code.
3. If you still cannot resolve the problem, include the following information when contacting us for technical support:
 - System, motherboard, and chassis model numbers and PCB revision number
 - BIOS release date/version (this can be seen on the initial display when your system first boots up)
 - System configuration

An example of a Technical Support form is posted on our [website](#). Distributors: For immediate assistance, please have your account number ready when contacting our technical support department by email.

Returning Merchandise for Service

A receipt or copy of your invoice marked with the date of purchase is required before any warranty service will be rendered. You can obtain service by calling your vendor for a Returned Merchandise Authorization (RMA) number. When returning to the manufacturer, the RMA number should be prominently displayed on the outside of the shipping carton, and mailed prepaid or hand-carried. Shipping and handling charges will be applied for all orders that must be mailed when service is complete.

For faster service, RMA authorizations may be requested online (<http://www.supermicro.com/support/rma/>).

Whenever possible, repack the chassis in the original Supermicro carton, using the original packaging material. If these are no longer available, be sure to pack the chassis securely, using packaging material to surround the chassis so that it does not shift within the carton and become damaged during shipping.

This warranty only covers normal consumer use and does not cover damages incurred in shipping or from failure due to the alteration, misuse, abuse or improper maintenance of products.

During the warranty period, contact your distributor first for any product problems.

Vendor Support Filing System

For issues related to Intel, use the Intel IPS filing system:

<https://www.intel.com/content/www/us/en/design/support/ips/training/welcome.html>

For issues related to Red Hat Enterprise Linux, since it is a subscription based OS, contact your account representative.

6.9 Feedback

Supermicro values your feedback as we strive to improve our customer experience in all facets of our business. Please email us at techwriterteam@supermicro.com to provide feedback on our manuals.

Appendix A

Standardized Warning Statements for AC Systems

About Standardized Warning Statements

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

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

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

Warning Definition



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

警告の定義

この警告サインは危険を意味します。

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

此警告符号代表危險。

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

此警告符號代表危險。

您正處於可能身體可能會受損傷的工作環境中。在您使用任何設備之前，請注意觸電的危險，並且要熟悉預防事故發生的標準工作程序。請依照每一注意事項後的號碼找到相關的翻譯說明內容。

Warnung

WICHTIGE SICHERHEITSHINWEISE

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

BEWAHREN SIE DIESE HINWEISE GUT AUF.

INSTRUCCIONES IMPORTANTES DE SEGURIDAD

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

GUARDE ESTAS INSTRUCCIONES.

IMPORTANTES INFORMATIONS DE SÉCURITÉ

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

CONSERVEZ CES INFORMATIONS.

תקנון הזהרות אזהרה

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

اَكْ ف حالة وُكِي اَي تتسبب ف اصابة جسدهُ هذا الزهرز عُ خطر! تحذُرُ .
 قبل اَي تعول على اَي هعدات، كي على علن بالوخاظر ال اُجوة عي الذوائر
 الكهزبائِة
 وكي على دراهُ بالووارسات النقاىِة لو عُ وقع اَي حادث
 استخدم رقن البِ اى الو صُص ف هَاهُ 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: 250 V, 20 A.

サーキット・ブレーカー

この製品は、短絡(過電流)保護装置がある建物での設置を前提としています。

保護装置の定格が250 V、20 Aを超えないことを確認下さい。

警告

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

警告

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

Warnung

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

¡Advertencia!

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

Attention

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

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

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

경고!

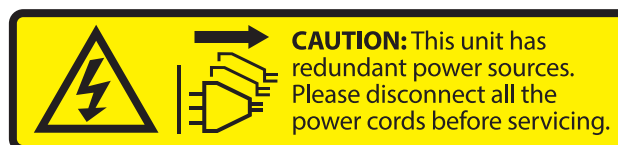
이 제품은 전원의 단락(과전류)방지에 대해서 전적으로 건물의 관련 설비에 의존합니다. 보호장치의 정격이 반드시 250V(볼트), 20A(암페어)를 초과하지 않도록 해야 합니다.

Waarschuwing

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

Power Disconnection Warning

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



電源切断の警告

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

警告

在你打开机箱并安装或移除内部器件前,必须将系统完全断电,并移除电源线。

警告

在您打開機殼安裝或移除內部元件前，必須將系統完全斷電，並移除電源線。

Warnung

Das System muss von allen Quellen der Energie und vom Netzanschlusskabel getrennt sein, das von den Spg.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 قېم
انصل إلى امناطق انداخھيت نهھيكم 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 للموظفيه المؤهليه

경고!

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

Waarschuwing

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

Restricted Area

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

アクセス制限区域

このユニットは、アクセス制限区域に設置されることを想定しています。

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

警告

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

警告

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

Warnung

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

¡Advertencia!

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

Attention

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

אזור עם גישה מוגבלת

אזהרה!

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

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

경고!

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

Waarschuwing

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

Battery Handling



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

電池の取り扱い

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

警告

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

警告

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

Warnung

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

Attention

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

¡Advertencia!

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

אזהרה!

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

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

경고!

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

Waarschuwing

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

Redundant Power Supplies



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

冗長電源装置

このユニットは複数の電源装置が接続されている場合があります。

ユニットの電源を切るためには、すべての接続を取り外さなければなりません。

警告

此部件连接的电源可能不止一个，必须将所有电源断开才能停止给该部件供电。

警告

此裝置連接的電源可能不只一個，必須切斷所有電源才能停止對該裝置的供電。

Warnung

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

¡Advertencia!

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

Attention

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

אם קיים יותר מספק אחד

אזהרה!

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

قد يكون لهذا الجهاز عدة اتصالات بوحدات امداد الطاقة .

يجب إزالة كافة الاتصالات لعسل الوحدة عن الكهرباء

경고!

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

Waarschuwing

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

Backplane Voltage



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

バックプレーンの電圧

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

修理する際には注意ください。

警告

当システム正在进行时，背板上有很危险的电压或能量，进行维修时务必小心。

警告

當系統正在進行時，背板上有危險的電壓或能量，進行維修時務必小心。

Warnung

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

¡Advertencia!

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

Attention

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

מתח בפנל האחורי

אזהרה!

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

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

경고!

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

Waarschuwing

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

Comply with Local and National Electrical Codes



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

地方および国の電気規格に準拠

機器の取り付けはその地方および国の電気規格に準拠する必要があります。

警告

设备安装必须符合本地与本国电气法规。

警告

設備安裝必須符合本地與本國電氣法規。

Warnung

Die Installation der Geräte muss den Sicherheitsstandards entsprechen.

¡Advertencia!

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

Attention

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

תיאום חוקי החשמל הארצי

אזהרה!

התקנת הציוד חייבת להיות תואמת לחוקי החשמל המקומיים והארציים.

تركيب المعدات الكهربائية يجب أن يمثل للقايه المحلية والطية المتعلقة
بالكهرباء

경고!

현 지역 및 국가의 전기 규정에 따라 장비를 설치해야 합니다.

Waarschuwing

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

Product Disposal



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

製品の廃棄

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

警告

本产品的废弃处理应根据所有国家的法律和规章进行。

警告

本產品的廢棄處理應根據所有國家的法律和規章進行。

Warnung

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

¡Advertencia!

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

Attention

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

סילוק המוצר

אזהרה!

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

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

경고!

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

Waarschuwing

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

Hot Swap Fan Warning



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

ファン・ホットスワップの警告

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

警告!

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

警告

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

Warnung

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

¡Advertencia!

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

Attention

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

אזהרה!

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

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

경고!

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

Waarschuwing

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

Power Cable and AC Adapter



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

電源コードとACアダプター

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

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

警告

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

警告

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

Warnung

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

¡Advertencia!

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

Attention

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

AC ימאתמו מילמשח מילבכ

!הרהזא

ךרוצל ומאתוה וא ושכרנ רשא AC מימאתמו מיקפס, מילבכב שמתשהל שי, רצומה תא מיניקתמ רשאכ לכב שומיש. עקתהו לבכה לש הנוכח הדימ ללוכ, תוימוקמה תוחיטבה תושירדל ומאתוה רשאו, הנקתהה למשחה ירישכמב שומישה יקוחל מאתהב. ילמשח רצק וא הלקתל מורגל לולע, רחא גוסמ מאתמ וא לבכ לש דוק מהילע עיפומ רשאכ) UL-ב או CSA-ב -ב מיכמסומה מילבכב שמתשהל רוסיא מייק, תוחיטבה יקוחו דבלב Supermicro י"ע מאתוה רשא רצומב קר אלא, רחא ילמשח רצומ לכ רובע (UL/CSA)

תאלבאלא אארשב מץ וא ענדחמל וא ערפוטמל תאליצוטל מודחטסאב מץ, גתנמל בייקרת דנע כלז יפ אמב עילחמל עמאלסל תאבלטתמו נינאוקב מאזתל אל עמ דדרתמל ראיטל תאלוחמו עיזאברמלל קיירח וא לטע יפ בבסטטי דץ ירזא תאלוחמו תאלבאלא יא מודחטסא. מילסל סבאלאו לסומל מגח CSA וא UL לבק נמ ענדחמל תאלבאלא מודחטסא תאדעמל עיזאברמלל עזגאל עמאלסל נונאק רזחי Supermicro לבק נמ ענדחמל עינעמל תאגתנמל ריג ירזא תאדעמ יא עמ (UL/CSA) עמאלע למחת יטלוא

전원 케이블 및 AC 어댑터

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

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

Stroomkabel en AC-Adapter

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

Appendix B

System Specifications

Processors

Supports an Intel Xeon D-1700 series processor with a thermal design power (TDP) of up to 80W

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

BIOS

AMI BIOS

ACPI 3.0 or later, PCI firmware 4.0 support, BIOS rescue hot-key, SPI dual/quad speed support, RTC (Real Time Clock) wakeup, and SMBIOS 3.0 or later

Memory

Up to 256GB of ECC and Non-ECC RDIMM/UDIMM DDR4 memory with speeds of up to 2933MT/s in four memory slots

Storage Drives

Up to four SATA3 2.5" internal solid-state disk drives

PCI Expansion Slots

One FHHL PCIe 4.0 x16 slot

Two PCIe 3.0 x4 SlimSAS connectors

Networking

One dedicated BMC LAN port

Four Gigabit Ethernet ports

Two 25G SFP28 ports

Input/Output

Two rear USB 3.0 ports

One rear VGA port

Five onboard SATA 3.0 connectors (one with SuperDOM)

Motherboard

X12SDV-4C/8C/10C-SP6F; Flex ATX (WxL) 9 x 7.25 in (228.6mm x 184.15mm)

Chassis

CSE-505-203B; 1U Short-Depth (WxHxD) 17.2 x 1.7 x 9.8 in (437 x 43 x 249 mm)

System Cooling

Three internal fixed 40 x 28 mm fans

Power Supply

200W AC 80Plus Gold power supply

Operating Environment

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

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

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

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

Regulatory Compliance

FCC, ICES, CE, VCCI, RCM, UKCA, NRTL, CB

Applied Directives, Standards

EMC/EMI: 2014/30/EU (EMC Directive)
 Electromagnetic Compatibility Regulations 2016
 FCC Part 15 Subpart B
 ICES-003
 VCCI-CISPR 32
 AS/NZS CISPR 32
 BS/EN55032
 BS/EN55035
 CISPR 32
 CISPR 35
 BS/EN 61000-3-2
 BS/EN 61000-3-3
 BS/EN 61000-4-2
 BS/EN 61000-4-3
 BS/EN 61000-4-4
 BS/EN 61000-4-5
 BS/EN 61000-4-6
 BS/EN 61000-4-8
 BS/EN 61000-4-11

Green Environment:
 2011/65/EU (RoHS Directive)
 EC 1907/2006 (REACH)
 2012/19/EU (WEEE Directive)
 California Proposition 65

Product Safety: 2014/35/EU (LVD Directive)
 Electrical Equipment (Safety) Regulations 2016
 UL/CSA 62368-1 (USA and Canada)
 BS/IEC/EN 62368-1

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"

この装置は、クラスA機器です。この装置を住宅環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。

VCCI — A