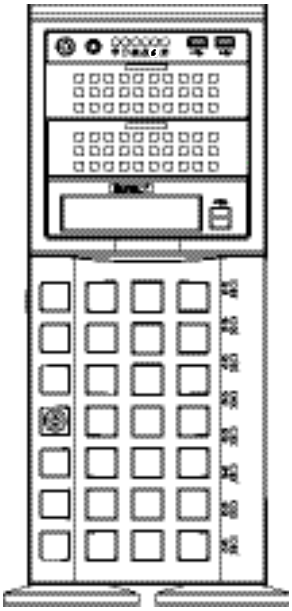
SC745 Chassis



SC745BAC-R1K28B2
SC745BTQ-R1K28B-SQ
SC745TQ-(R)920B
SC745BTQ-R1K28B
SC745TQ-R1200B
SC745TQ-(R)800B

USER'S MANUAL

Revision 1.0d

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Manual Revision 1.0d

Release Date: March 27, 2018

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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 chassis. Installation and maintenance should be performed by experienced technicians only.

This document lists compatible parts available when this document was published. Refer to the Supermicro web site for updates on supported parts and configurations.

This manual may be periodically updated without notice. Check the Supermicro website for possible updates.(http://www.supermicro.com).

Notes

Information on this and other chassis is available on the Supermicro website.

- Supermicro product manuals: http://www.supermicro.com/support/manuals/
- Product safety info: http://www.supermicro.com/about/policies/safety_information.cfm

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

Warnings

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



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



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

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Chapter 1

Introduction

Supermicro's SC745 chassis series is optimized for the latest Intel Xeon processor and is also compatible with previous generation Intel and AMD single/dual processor-based motherboards. Utilizing redundant, high-efficiency power supplies (95+%) and eight hot-swap 3.5" drive bays, this chassis offers reliable performance with problem-free maintenance. Designed with 100% cooling redundancy using a combination of high-performance fans, the chassis minimizes the probability of system downtime or performance degradation from thermal-related issues. With seven tool-less PCIe expansion slots, and 6-pin power connectors supporting up to three high-end graphics cards, and it is quick to configure and easy to operate. Optionally, this tower can be converted to a 4U rack-mountable chassis in a standard rack.

1.1 Overview

This chapter provides a brief outline of the functions and features of the SC745 chassis.

Models are listed below.

SC745 Chassis Models			
Model	**Drives**	**Fans**	**Power Supply**
SC745BAC-R1K28B2	8x SAS/SATA	5	1280W Redundant (Platinum Level)
SC745BTQ-R1K28B	8x SAS/SATA	5	1280W Redundant (Platinum Level)
SC745BTQ-R1K28B-SQ	8x SAS/SATA	3	1280W Redundant (Platinum Level)
SC745TQ-R1200B	8x SAS/SATA	5	1200W Redundant (Platinum Level)
SC745TQ-R920B	8x SAS/SATA	5	920W Redundant (Platinum Level)
SC745TQ-920B	8x SAS/SATA	5	920W (Platinum Level)
SC745TQ-R800B	8x SAS/SATA	5	800W Redundant
SC745TQ-800B	8x SAS/SATA	5	800W

1.2 Unpacking the System

Inspect the box in which the chassis was shipped, and note if it was damaged. If any equipment appears damaged, file a damage claim with the carrier who delivered it.

1.3 System Features

The following table provides you with an overview of the main features of the SC745.

System Features
Chassis
SC745
Drives Bays
Up to eight SATA3 3.5" hot-swap drives, or optionally, 2.5" drives with converter
Cooling
Three 8-cm, 4-pin PWM mid-chassis fans; two 8-cm exhaust fans; one airflow shroud (-SQ models have two 8-cm fans and one 9-cm fan for super quiet performance)
Expansion Slots
Seven PCI-Express full-height slots
Form Factor
4U tower; optional rack mounting rails
Dimensions
(WxHxD) 17.8 x 7.0 x 25.5 in. (452 x 178 x 647 mm)

1.4 Chassis Features

Control Panel

Power switches and status LEDs are located on the control panel on the front of the chassis.

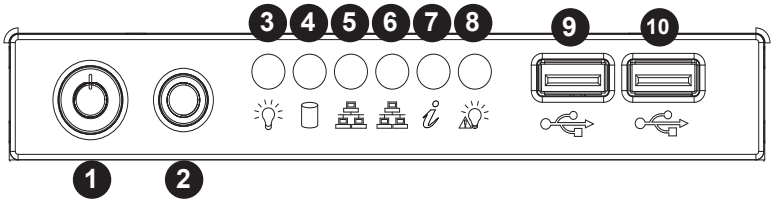


Figure 1-1. Control Panel View

Control Panel Features		
Item	**Feature**	**Description**
1	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 standby power.
2	Reset Button	The reset button is used to reboot the system.
3	Power LED	Indicates power is being supplied to the system power supply. This LED should normally be illuminated when the system is operating.
4	HDD LED	Indicates hard drive activity when flashing.
5	NIC1 LED	Indicates network activity on LAN port 1 when flashing.
6	NIC2 LED	Indicates network activity on LAN port 2 when flashing.
7	Information LED	See table below for details.
8	Power Fail LED	This LED flashes to indicate one of the redundant power supply modules has failed. The flashing light should be accompanied by an audible warning.
9	USB0 Port	USB 3.0 port
10	USB1 Port	USB 3.0 port

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

Front Features

The SC745 is a tower chassis. See the illustration below for the features included on the front of the chassis.

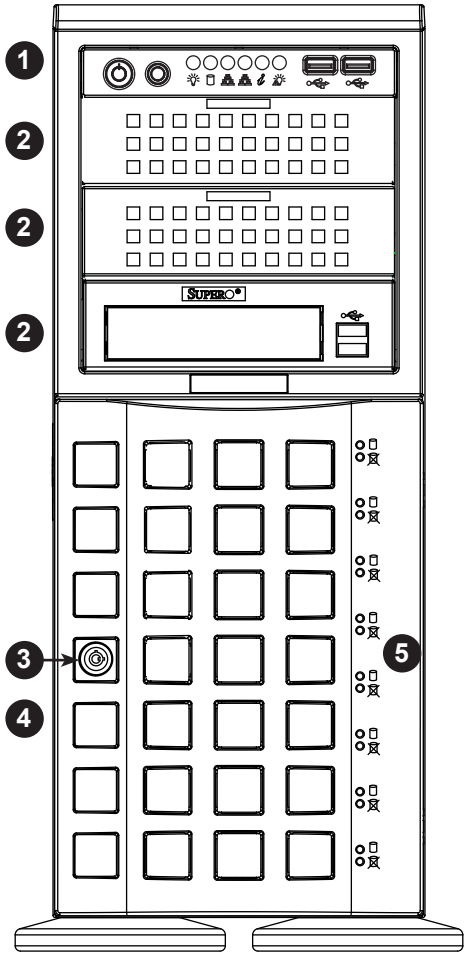


Figure 1-2. Chassis Front View

Front Chassis Features		
Item	**Feature**	**Description**
1	Control Panel	Front control panel with LEDs and buttons (see preceding page)
2	Peripheral Drive Bays	Three 5.25" bays for optional peripherals such as a DVD drive
3	Lock	Front bezel lock
4	Drive Bays	Eight 3.5" bays for hot-swap hard drives behind front bezel
5	Drive Indicators	Eight pairs of LED status indicators for drives

Rear Features

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

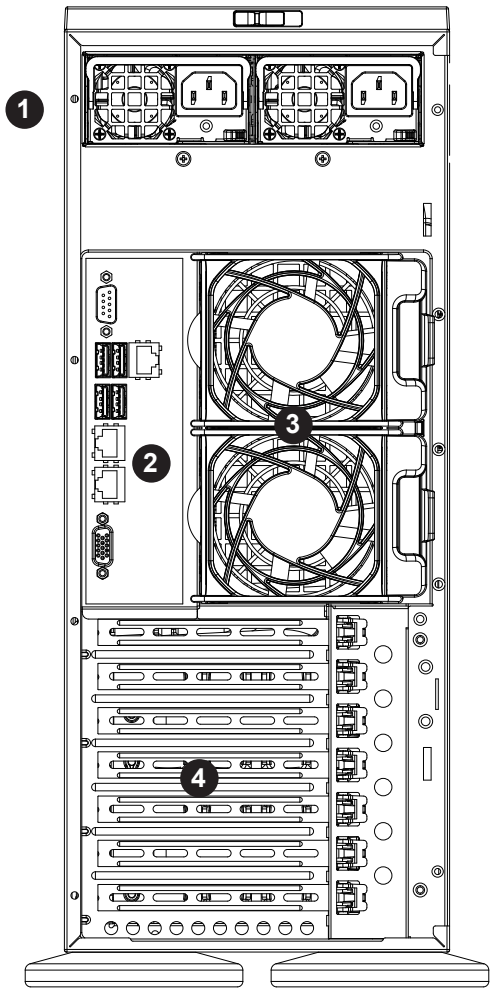


Figure 1-3. Chassis Rear View

Rear Chassis Features		
Item	**Feature**	**Description**
1	Power Supply	Redundant, hot-swap power supplies
2	I/O Back Panel	Rear I/O ports (see Section 4.3)
3	Fans	Two 8-cm exhaust fans
4	Expansion Slots	Six PCI-Express expansion card slots

1.5 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" link.

1.6 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.

Chapter 2

Rack Mount Installation

2.1 Overview

This chapter provides instructions for preparing and mounting your chassis in a rack. By default, the chassis is shipped configured as a tower. The tower top cover and bottom feet must be removed to mount in a rack. Also, the control panel/drive module should be rotated 90 degrees.

Mounting rails are optional for this system. Be sure you have received the correct rail kit for your server.

2.2 Preparing for Rack Mounting

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 at least 25 inches clearance in front of the rack to open the front door completely.
- Leave approximately 30 inches of clearance in the back of the rack to allow for sufficient airflow and access for servicing.
- It should be a restricted access location, such as a dedicated equipment room or a service closet.
- This product is not suitable for use with visual display workplace devices acccording 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.
- When initially installing the server to a rack, test that the rail locking tabs engage to prevent the server from being overextended. Have a rack lift in place as a precaution in case the test fails.

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 (TMRA).

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 Chassis Preparation

The chassis is shipped with the tower top cover and feet installed. Both must be removed for before installing the rails.

Removing the Tower Top Cover

1. Locate the chassis cover lock (blue lever) at the rear of the chassis cover.
2. Slide the chassis cover lock to the right and push chassis cover forward.
3. Lift the chassis top cover off the chassis.

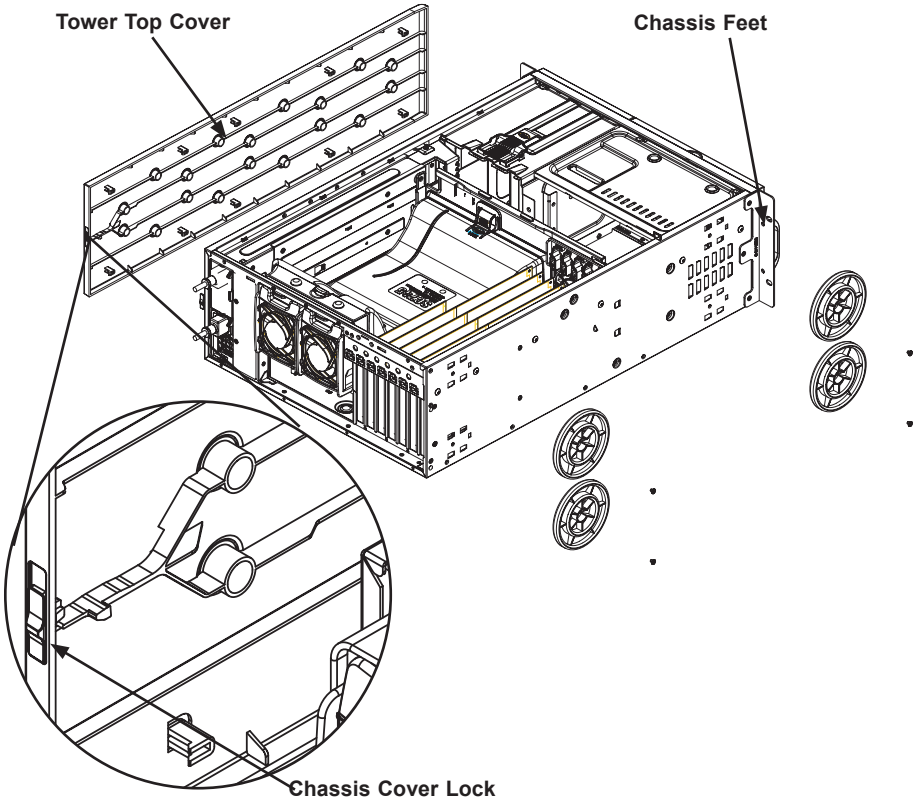


Figure 2-1. Remove Feet and Chassis Top Cover

Removing the Chassis Feet

1. Place the chassis on its side.
2. Remove the screw holding a chassis foot in place.
3. The foot lock is a tab located in the center of the foot. It prevents the foot from sliding. Using a flat head screwdriver, gently lift the foot lock upward and slide the foot toward the rear of the chassis.

2.4 Installing the Rails

There are a variety of rack units on the market, which may require a slightly different assembly procedure. Do not use a two post "telco" type rack. This rail set fits a rack between 26" and 35.9" deep.

The following is a basic guideline for installing the system into a rack with the rack mounting hardware provided. You should also refer to the installation instructions that came with the specific rack you are using.

Identifying the Rails

The optional rackmount kit includes two rack rail assemblies, one for each side. Each of these assemblies consist of several sections: an inner fixed rail that secures to the chassis, an outer rack rail that secures to the rack, a middle rail that slides within the outer rail, and two brackets that attach the outer rail to the rack. The brackets are specific to the left and right side, and front and back, and labeled.

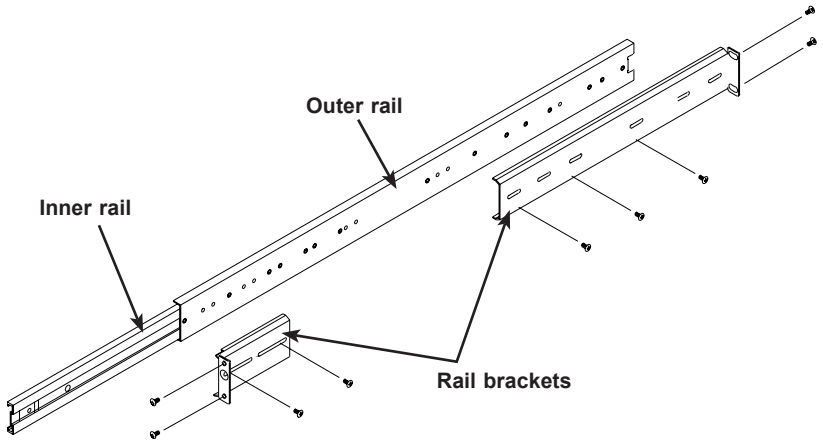


Figure 2-2. Identifying the Sections of the Rack Rails

Releasing the Inner Rails

The inner rails must be removed from the outer rails to install onto the chassis. To remove the inner rail, pull it out as far as possible until it clicks to a stop. Depress the locking lever on the inner rail next to the middle rail to pull the inner rail completely out.

Installing the Inner Rails

Identify the left and right inner rails.

1. Attach the handles to the front sides of the chassis with three screws each.
2. Position the inner rails along the side of the chassis making sure the screw holes line up.
3. Screw the rail securely to the side of the chassis.

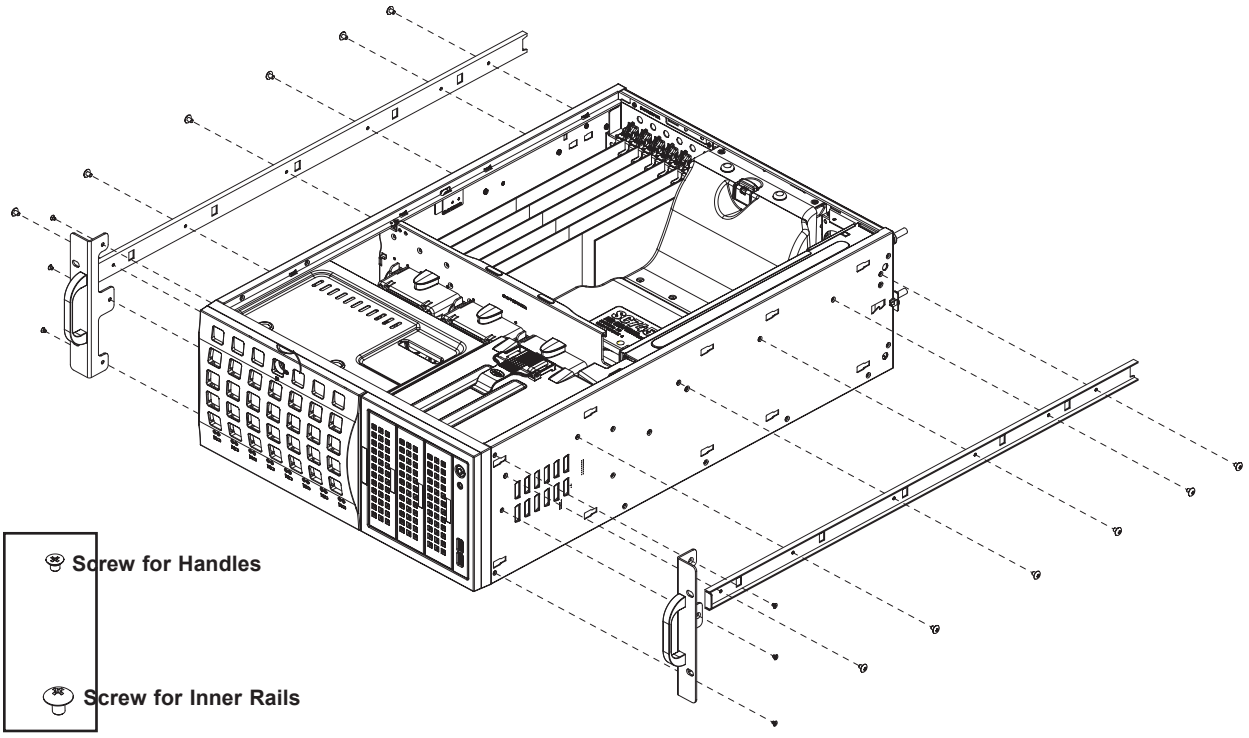


Figure 2-3. Installing the Chassis Rails

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

Assembling and Installing the Outer Rails

Each outer rail comes in three sections that require assembly before mounting onto the rack.

1. Find the outer rail mounting brackets in the chassis accessory box.

   - A pair of long brackets for the rear of each rail
   - A pair of short brackets for the front of each rail

   Note that the brackets are labeled as to front, rear, and up. They are specific for the left and right rails.

2. Secure the front (short) bracket onto the outer rail with M5 screws.

3. Mount the rear (long) bracket onto the outer rail at the approximate position to fit your rack. Use two or three M5 screws into holes that are convenient. Leave the screws just loose enough that the bracket can slide.

4. Install the outer rail assembly onto your rack. Adjust the outer rail to the exact depth of the rack by sliding the rear bracket. Then use screws and fasteners to secure the outer rail to the front and rear rack posts.

5. Further tighten the screws holding the rear bracket to the rail.

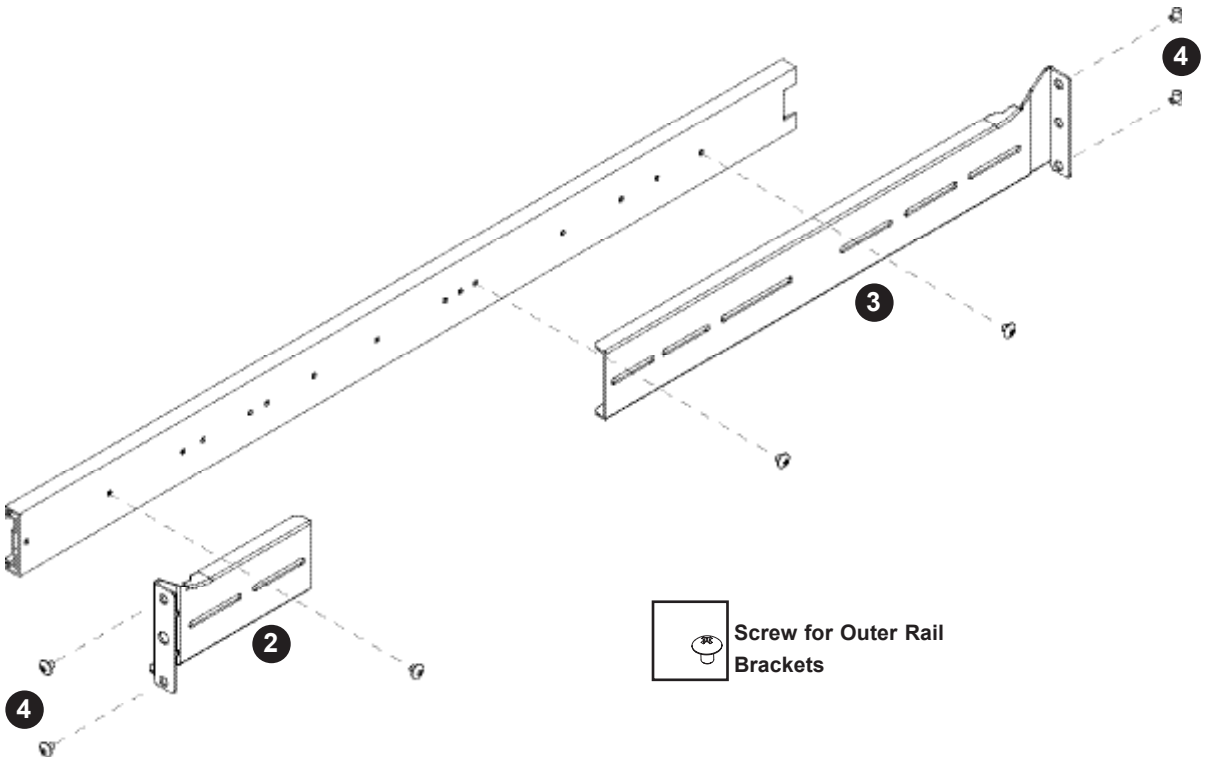


Figure 2-4. Assembling the Outer Rails

2.5 Installing the Server into the Rack

After attaching rails to both the chassis and the rack, slide the server into the rack.

1. Pull the middle rail out of the front of the outer rail and make sure that the ball bearing shuttle is locked at the front of the middle rail.
2. Align the rear of the inner (chassis) rails with the front of the outer (rack) rails and slide the inner rails into the outer rails until the server is completely in the rack.
3. Insert and tighten the thumbscrews that hold the front of the server to the rack.

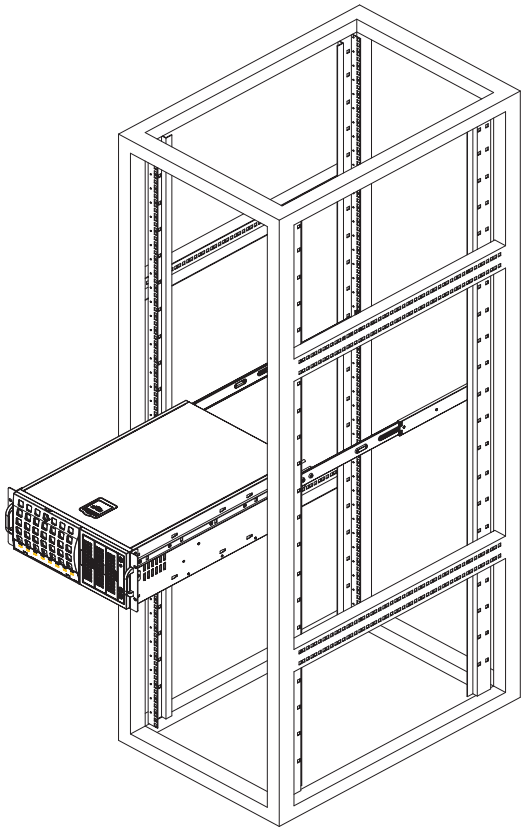


Figure 2-5. Installing the Server into a Rack

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

Warning: 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.

When initially installing the server to a rack, test that the rail locking tabs engage to prevent the server from being overextended. Have a rack lift in place as a precaution in case the test fails.

Removing the Chassis from the Rack

Caution! It is dangerous for a single person to off-load the heavy chassis from the rack without assistance. Be sure to have sufficient assistance supporting the chassis when removing it from the rack. Use a lift.

1. Pull the chassis forward out the front of the rack until it stops.
2. Find the release lever on each side of the chassis on the inner rails. Release the chassis by simultaneously and lifting the left lever and pushing down the right lever. Continue to pull the chassis out of the rack.



Warning: In any instance of pulling the system from the rack, always use a rack lift and follow all associated safety precautions.



Slide rail mounted equipment is not to be used as a shelf or a work space.

2.6 Control Panel Orientation

The server can be configured for either tower or server rack orientation. It is shipped in tower mode and can be immediately used as desktop server. To use it in a rack, rotate the module that contains the control panel and the three drive trays (1 in Figure 2-6) 90 degrees.

Note that two of the 5.25" drives may be replaced by a *mobile rack* containing eight 2.5" storage drives.

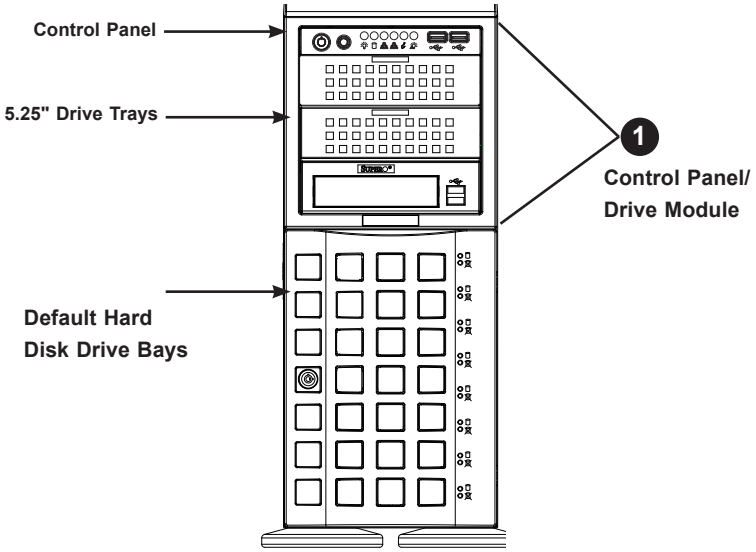


Figure 2-6. Chassis in Tower Mode (Default Configuration)

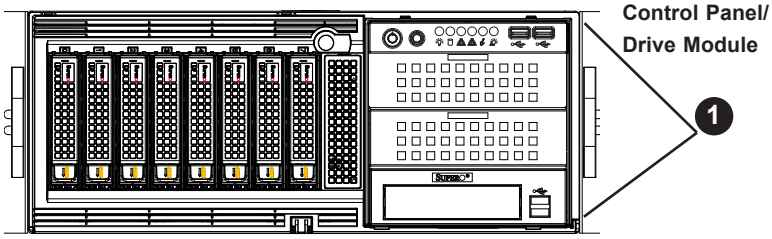


Figure 2-7. Chassis in Rack Mount Mode

Rotating the Control Panel/Drive Module for Rack Mounting

1. Power down the system as described in section 3.1 and open the chassis cover.
2. Disconnect any cables from the back of the Control Panel/Drive Module.
3. Push the module release lever to unlock the module.

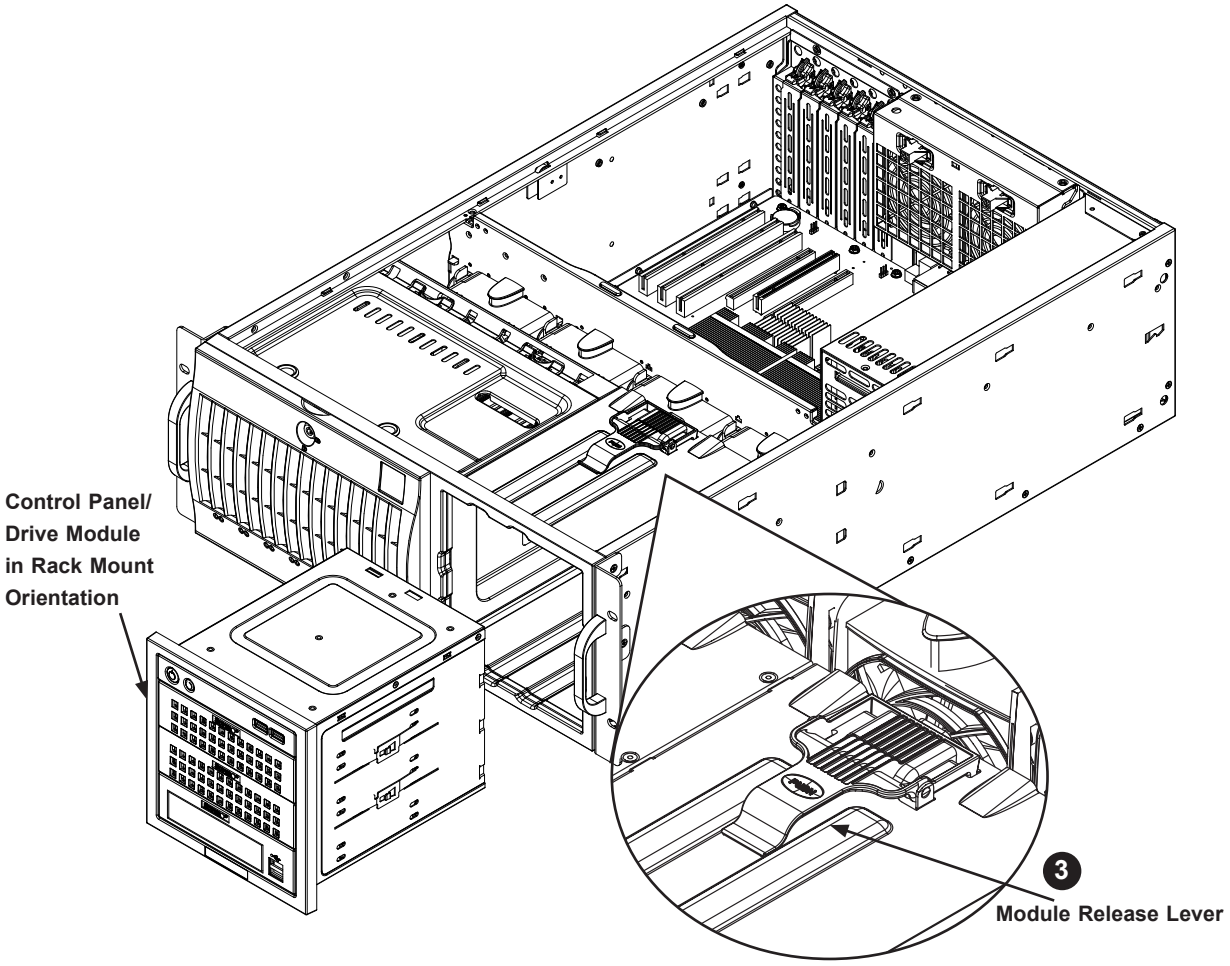


Figure 2-8. Rotating the Control Panel/Drive Module

4. Grasp the edges of the module and pull it from the chassis.
5. Rotate the module 90 degrees so that the control panel is on top.
6. Reinsert the module into the chassis and reconnect the cables.

Caution: Use caution when working around the backplane. Do not touch the module backplane with any metal objects and make sure no ribbon cables touch the backplane or obstruct the holes, which aid in proper airflow.

Chapter 3

Maintenance and Component Installation

This chapter provides instructions on installing and replacing main system components. To assure compatibility, only use components that match the specifications or part numbers given.

Installation or replacement of most components require that power first be removed from the system.

3.1 Removing Power

Use the following procedure to ensure that power has been removed from the system. This step is necessary when removing or installing non-hot-swap components.

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

3.2 Accessing the System

The chassis offers a removable side cover (top, if rack mounted) which allows access to the internal components.

Removing the Side Cover

1. Locate the latch on the cover, depress where it says "push," then lift the latch to release the cover.
2. Slide the cover to the rear and off.

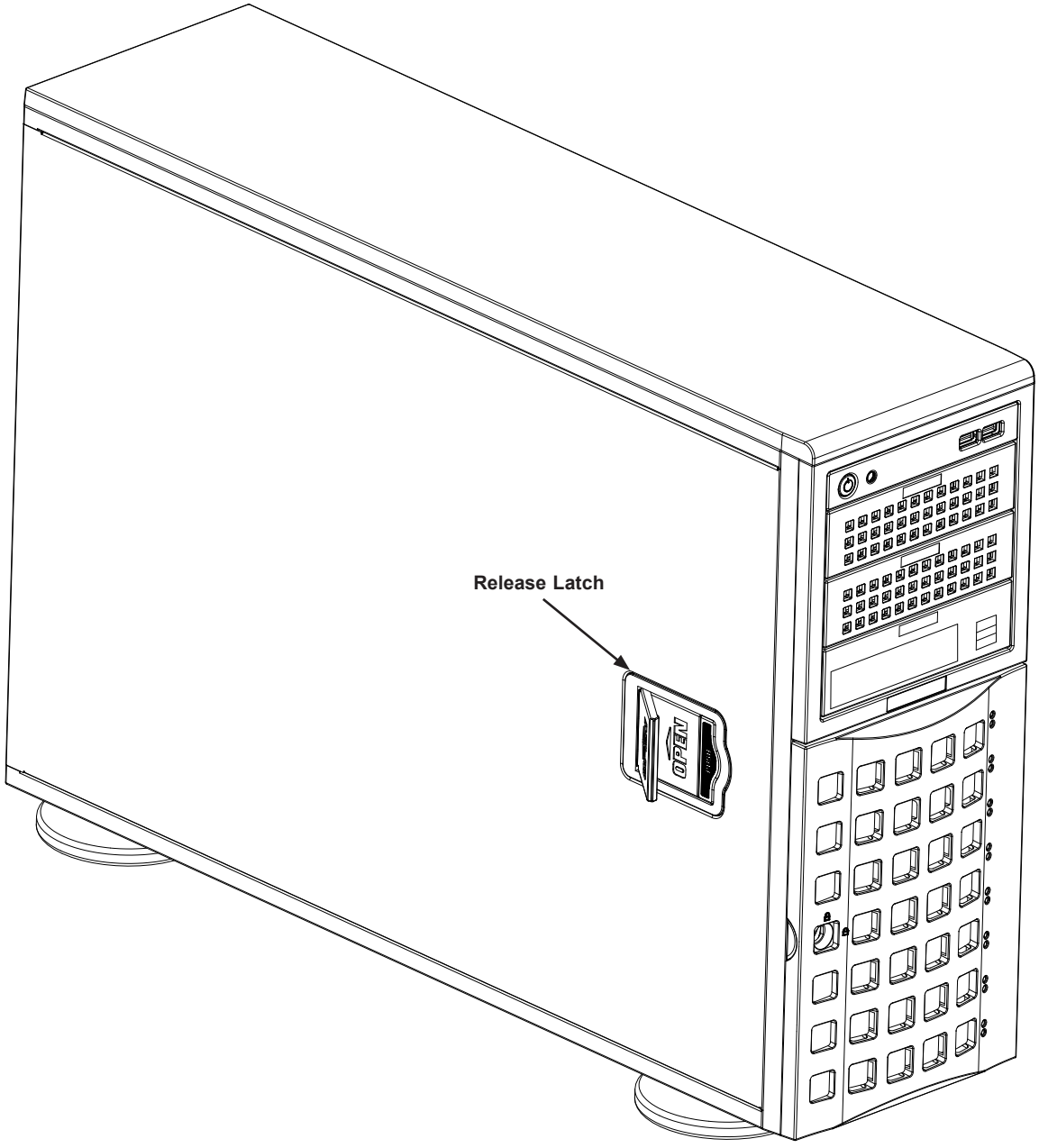


Figure 3-1. Removing the Chassis Cover

3.3 Chassis Components

Storage Drives

The standard system provides hot-swap drive bays for eight 3.5" SATA drives covered by the front bezel. Alternatively, each bay can house a 2.5" SATA drive with an optional converter (pn MCP-220-00080-0B). The drive IDs for these bays are preconfigured as 0 through 7 from bottom to top.

The drives are hot-swappable, meaning they can be removed and replaced without powering down the system, if that capability is supported by your operating system. The drives are mounted in drive carriers to simplify their installation and removal from the chassis. The carriers also promote airflow for the system. For this reason, even carriers without drives must remain in the server.

There are several options that provide additional SAS or SATA storage drives if an optional SAS RAID controller card is purchased. Each 5.25" bay can house one 3.5" drive, or two 2.5" drives with a bracket. Or two 5.25" bays can be replaced by an optional enclosure called a *mobile rack* that houses eight hot-swap 2.5" drives. Additional cables are also required.

Note: Enterprise level hard disk drives are recommended for use in Supermicro chassis and servers. For information on recommended HDDs, visit the Supermicro website at http://www.supermicro.com/products/nfo/files/storage/SBB-HDDCompList.pdf.

Drive Indicators

Each hot-swap drive has two LED indicators: an activity indicator and a status indicator. In RAID configurations, the status indicator lights to indicate the status of the drive. In non-RAID configurations, the status indicator remains off. See the table below for details.

Drive Carrier LED Indicators			
	Color	**Blinking Pattern**	**Behavior for Device**
Activity LED	Off		No drive, or SATA drive installed
	Blue	Solid On	SAS drive installed
	Blue	Blinking	I/O activity
Status LED	Red	Solid On	Failure of drive with RSTe support
	Red	Blinking at 1 Hz	Rebuild drive with RSTe support
	Red	Blinking with two blinks and one stop at 1 Hz	Hot spare for drive with RSTe support
	Red	On for five seconds, then off	Power on for drive with RSTe support
	Red	Blinking at 4 Hz	Identify drive with RSTe support

Installing the Standard 3.5" Drives

Removing Drive Carriers from the Chassis

1. Swing open the front bezel.
2. Press the release button on the drive carrier. This extends the drive carrier handle.



Figure 3-11. Removing a Drive Carrier

3. Use the handle to pull the carrier out of the chassis.
4. Remove the dummy drive from the carrier.

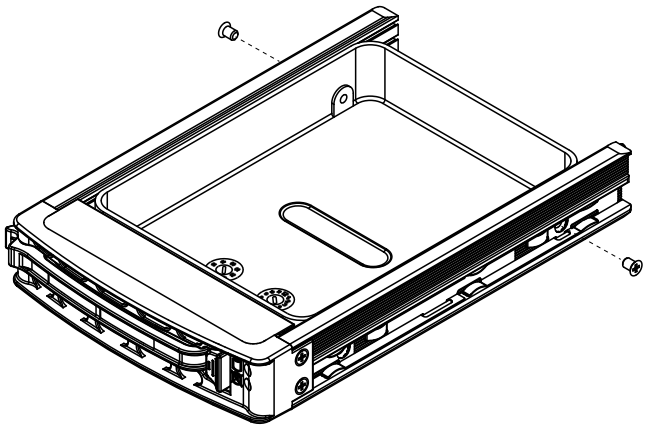


Figure 3-12. Removing the Dummy Drive

Caution: Except for short periods of time (swapping drives), do not operate the server with the drive carriers removed from the bays, regardless of how many drives are installed, for proper airflow.

Installing a Hard Drive

1. Place the hard drive carrier on a flat surface.
2. Insert the hard drive into the carrier with the printed circuit board side facing downward and so that the mounting holes in the drive align with those in the drive carrier.
3. Secure the hard drive to the carrier with the screws included with the hard drive.
4. Use the open handle of the drive carrier to insert the drive carrier into the open drive bay.
5. Secure the drive carrier into the drive bay by closing the drive carrier handle.

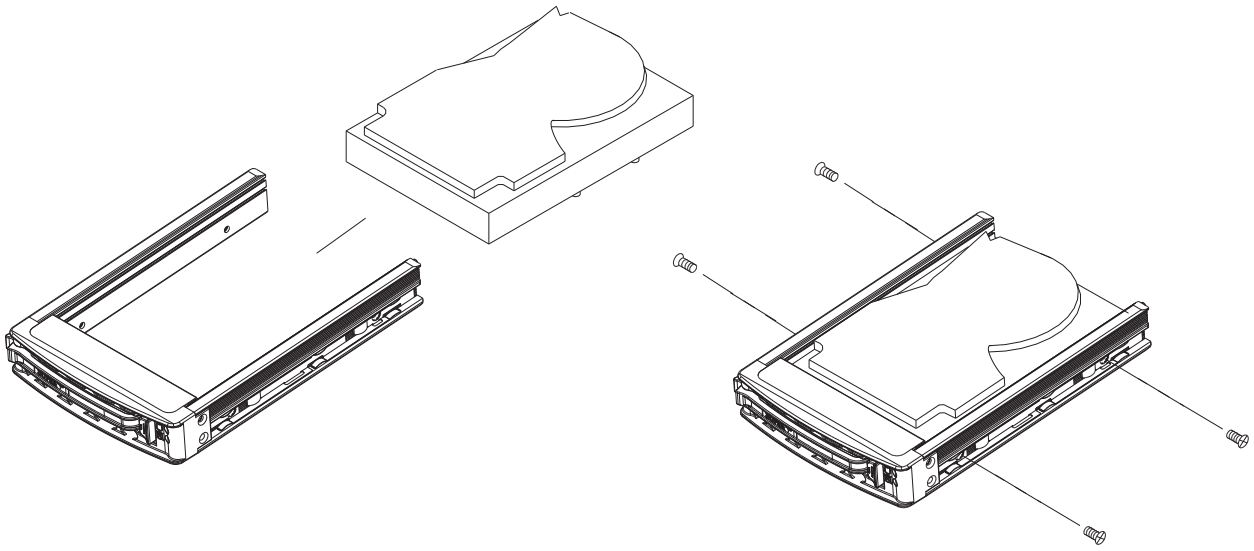


Figure 3-13. Mounting a Drive in a Carrier

Configuring the 5.25" Drive Bays

The control panel/drive module includes three 5.25" drive bays under the front control panel. It can be set up in a variety of configurations to suit the user's needs.

- Up to three 5.25" peripheral drives, such as a DVD drive
- One or two additional fixed SATA, SAS or solid state drives in a single tray
- A mobile rack with eight additional 2.5" hot-swap hard drives (replaces two 5.25" bays; requires an optional expansion card and cables)
- A combination of the above

Accessing the 5.25" Trays

1. Open the chassis cover.
2. Locate the drive tray and pull the appropriate release tab.
3. Push the drive tray out of the front of the chassis.

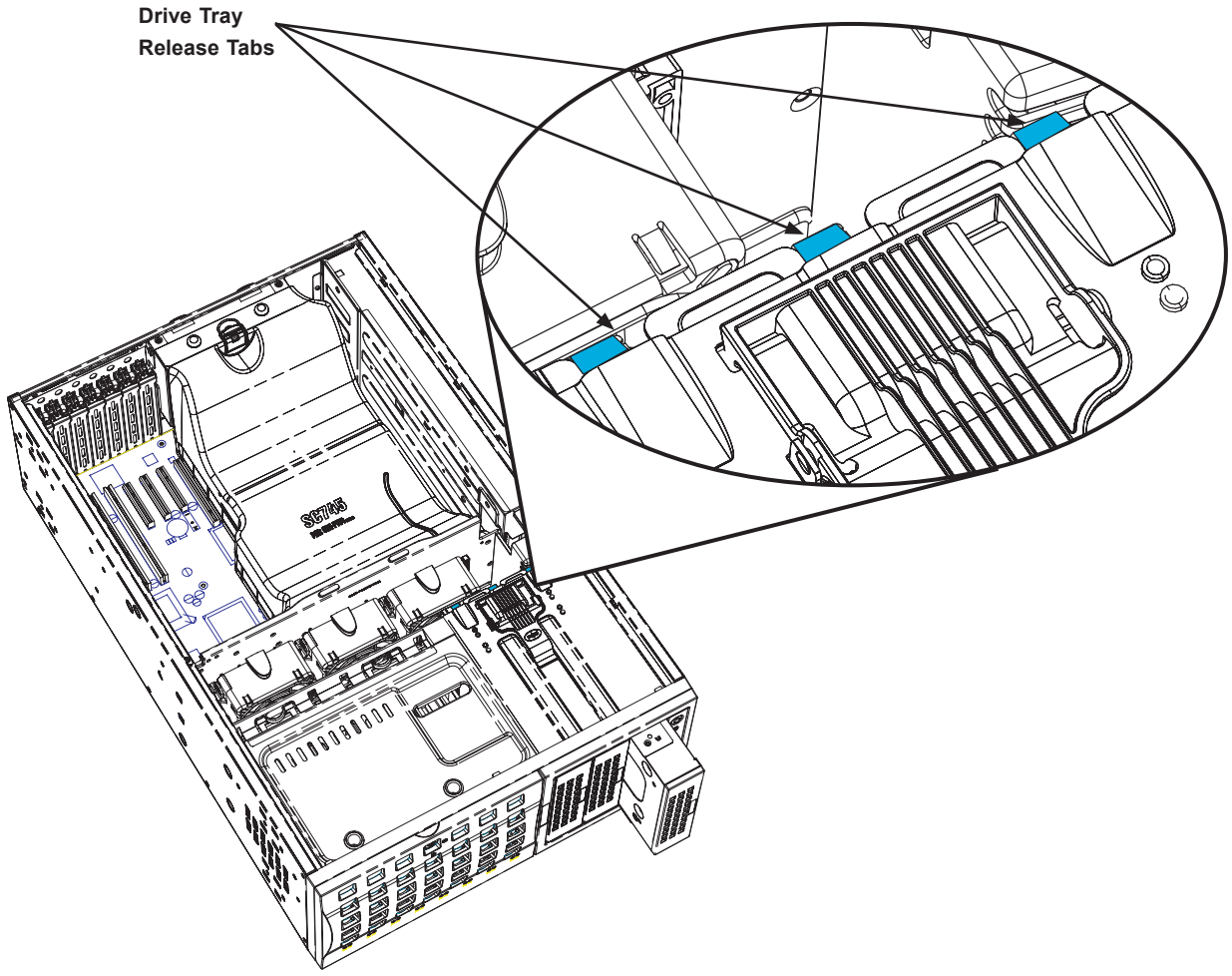


Figure 3-14. Removing a Drive Tray

Installing a Storage Drive into a 5.25" Tray

One 3.5" drive, or two 2.5" drives with an optional bracket (pn MCP-220-00044-0N) can be installed. An optional expansion card and cables are also required.

1. Remove the tray from the drive bay.
2. For a 3.5" drive, place the drive in the drive tray, and secure the drive to the tray with four screws from the bottom.

   For one or two 2.5" drives, install the drives into the special purpose bracket, then secure the bracket to drive tray with screws through the bottom of the tray.

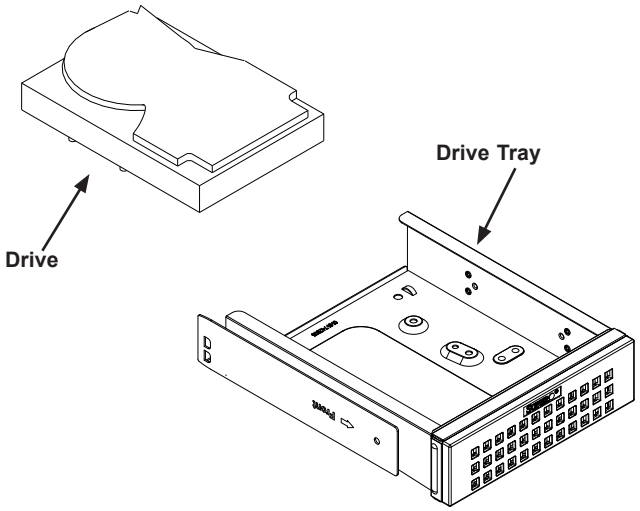


Figure 3-15. Installing a 3.5" Drive to the Drive Tray

3. Slide the drive tray into the chassis until the tray clicks into place.
4. Connect the data and power cables for the new drive.
5. Replace the chassis cover and power up the system.

Installing a 5.25" Peripheral Device

An optional peripheral device such as a DVD drive can be installed in a 5.25" bay.

1. Remove the tray from the drive bay.
2. Re-use the side rails from the tray and install them onto the peripheral device.

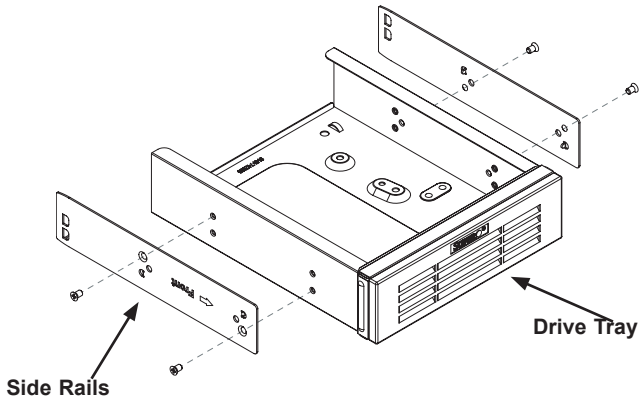


Figure 3-16. Removing Rails from the Drive Tray

3. Insert the new device in the slot until the tab locks in place.
4. Connect the data and power cables.
5. Replace the chassis cover and power up the system.

Additional Storage Drives in a Mobile Rack

The chassis accepts a Supermicro mobile rack (pn CSE-M28SABP) in place of two 5.25" bays. This adds eight hot-swap 2.5" SAS or SATA drives. An optional expansion card and cables are also required.

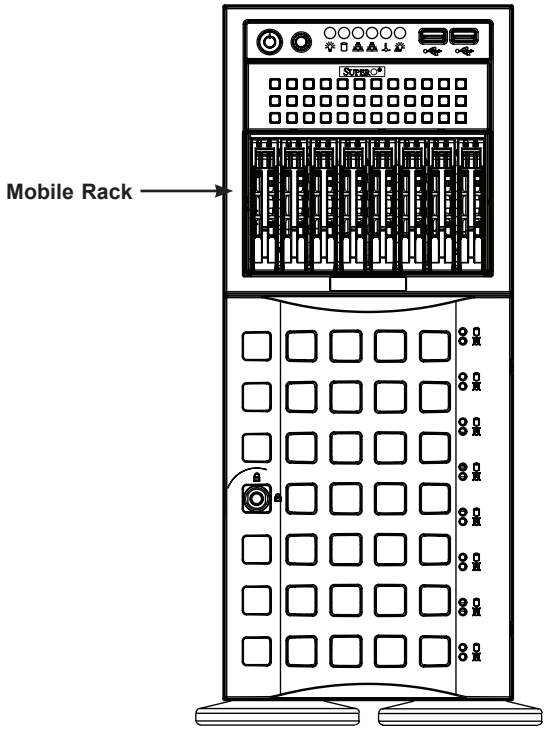


Figure 3-17. Chassis with a Mobile Rack Installed

Installing the Mobile Rack

1. Remove two adjacent trays from the drive bays.
2. Remove the drive tray rails.

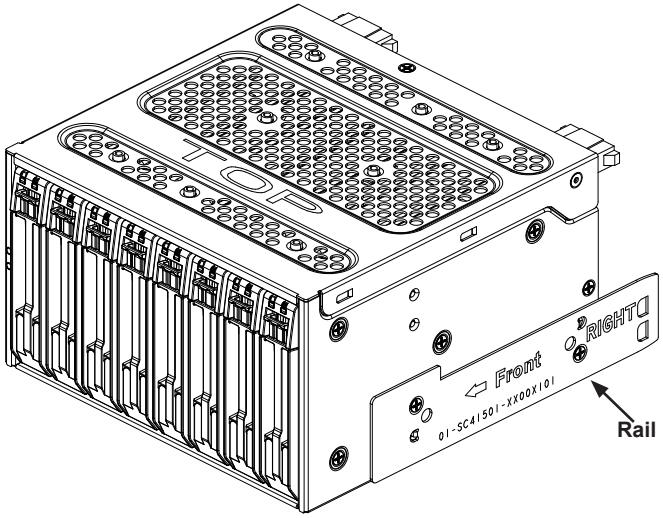


Figure 3-19. Mobile Rack with Drive Tray Rails

3. Install a drive tray rail onto each side of the mobile rack. Make sure the arrow on the rail points toward the front of the chassis.
4. Slide the mobile rack into the chassis.
5. Connect the data and power cables.

Installing Expansion Cards

The system can accommodate six PCIe cards. The chassis has seven slots, but the slot nearest the chassis top is not supported by this motherboard.

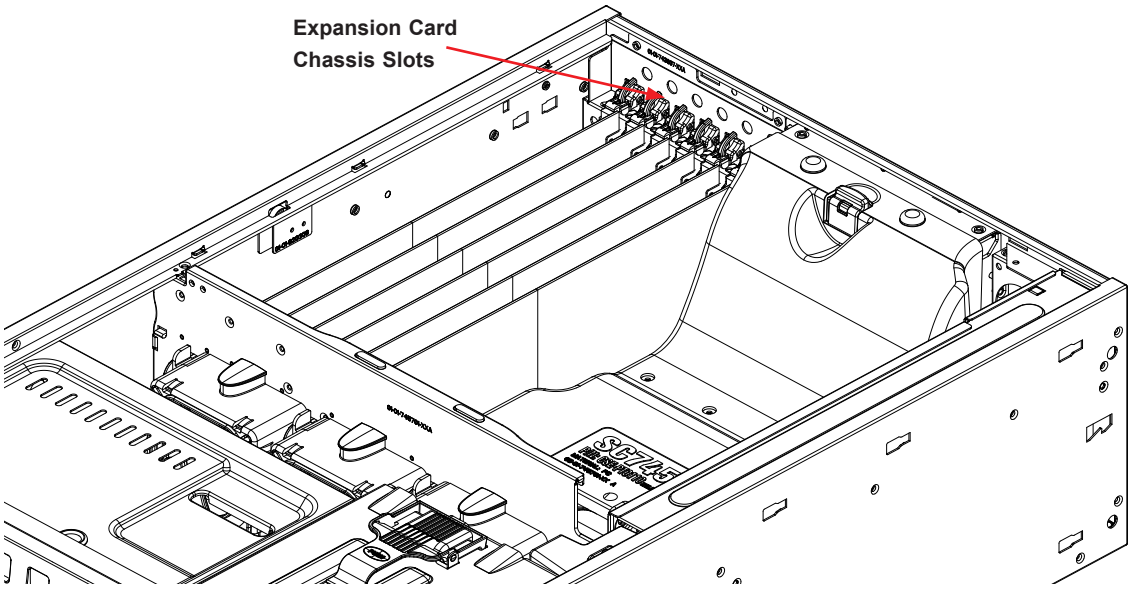


Figure 3-20. PCI Slots

Installing an Expansion Card

1. Power down the system and remove the cover.
2. In the rear of the chassis, push on PCI shield lock, then lift the lock.
3. Remove the screw holding the PCI shield in place and remove the shield.
4. Push the expansion card into the expansion slot on the motherboard while aligning it with the chassis slot in the rear of the chassis.
5. Secure the expansion card shield onto the rear of the chassis with a screw and the lock.

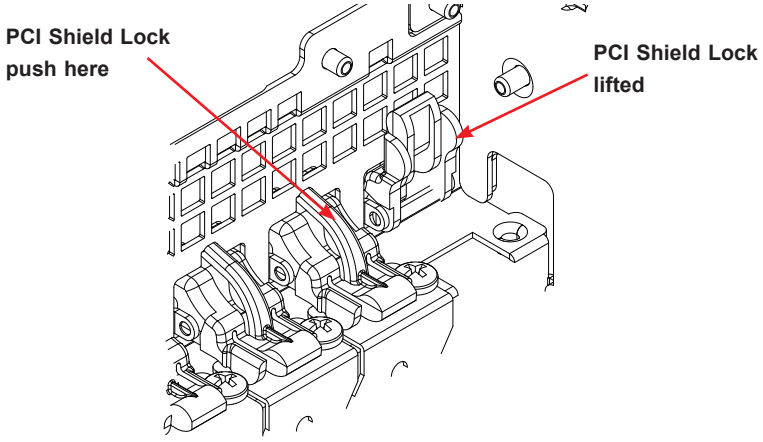


Figure 3-21. Removing a Blank PCI Shield

System Cooling

Three 8-cm fans located in the center of the chassis provide cooling airflow while two 8-cm exhaust fans at the rear of the chassis expel hot air. (The -SQ models have two 8-cm fans and one 9-cm fan.) The chassis is also fitted with an air shroud to concentrate the flow of cooling air over the areas of highest generated heat. The fans should all be connected to headers on the motherboard (see Chapter 4). Each power supply module also has a cooling fan.

Chassis Fans

Under normal operation, all three chassis fans and both exhaust fans run continuously. They can be replaced without powering down the system (hot-swap).

Replacing Chassis Cooling Fans

1. Depress the locking tab on the failed fan.
   - On a mid-chassis fan, push the tab on the side of the housing inward.
   - On an exhaust fan, push down on the colored tab.
2. With the tab depressed, pull the unit straight out.
3. Replace the failed fan, noting the air flow direction. It should click into place. Check that the fan is working before replacing the chassis cover.

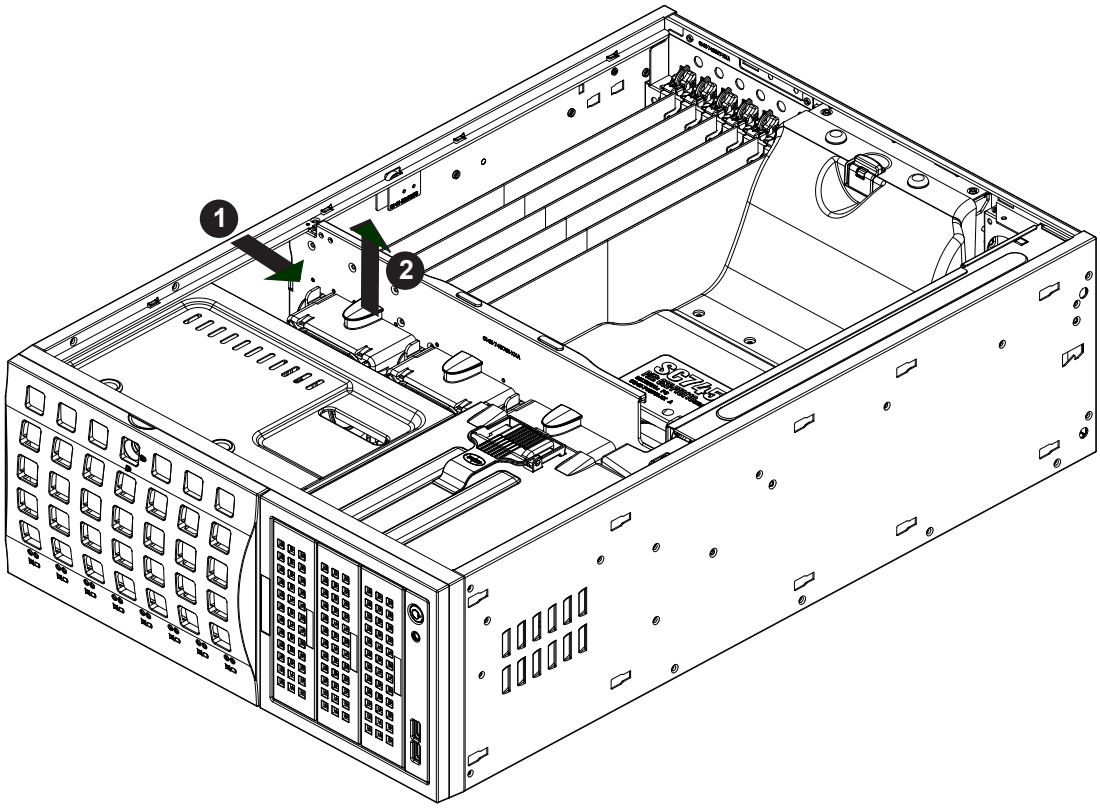


Figure 3-22. Removing a Chassis Fan

Air Shroud

Air shrouds concentrate airflow to maximize fan efficiency. It covers the processors and heatsinks.

Installing the Air Shroud

The air shroud fits behind the two fans closest to the power supply. Align the pins and press the air shroud into the chassis. It should click into place.

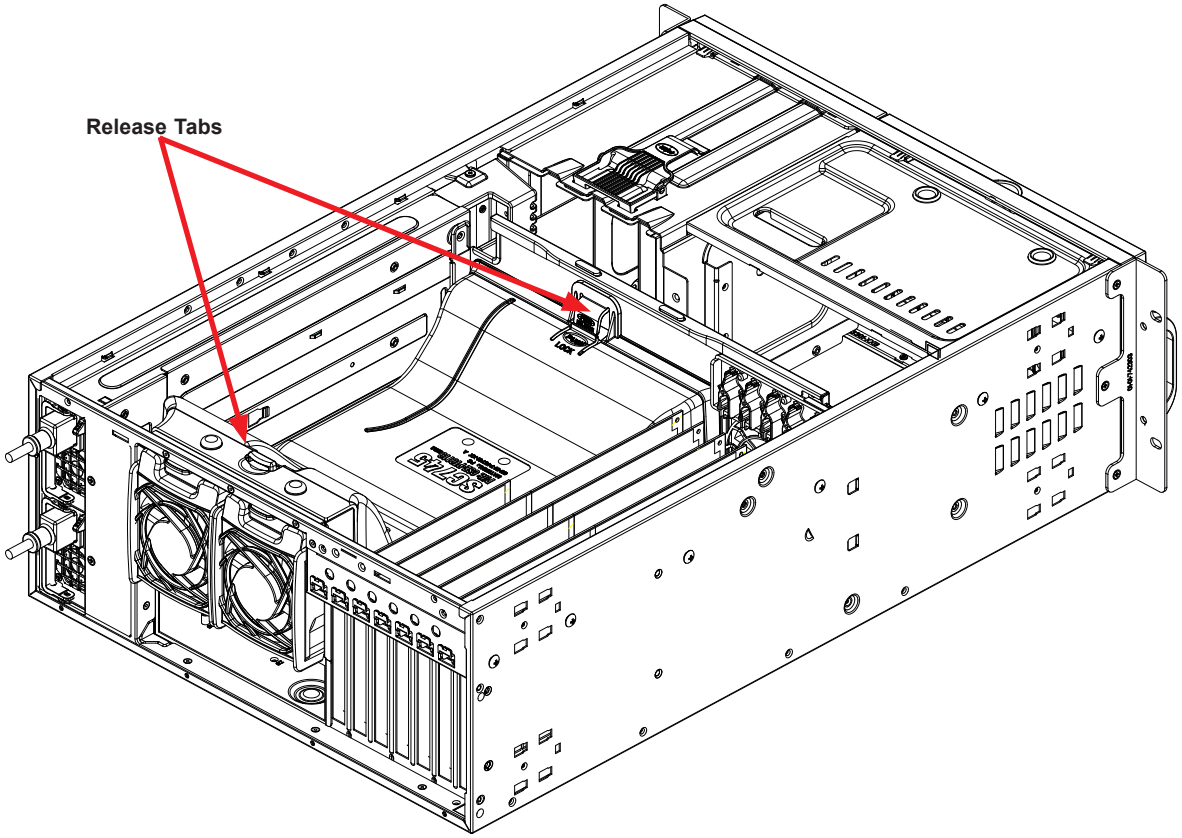


Figure 3-23. Installing the Air Shroud

To remove the air shroud, press the release tabs at the front and rear of the shroud to unlock it, the lift it out.

Power Supply

The system has a redundant power supply consisting of two power modules. Each power supply module has an auto-switching capability, which enables it to automatically sense and operate at a 100 V – 240 V input voltage.

If either of the two power supply modules fail, the other module will take the full load and allow the system to continue operation without interruption. The PWR Fail LED will illuminate and remain on until the failed unit has been replaced. The hot-swap capability of the power supply modules allows you to replace the failed module without powering down the system. Replacement units can be ordered directly from Supermicro (see contact information in the Preface).

Power Supply LEDs

On the rear of the power supply module, an LED displays the status.

- **Solid Green**: When illuminated, indicates that the power supply is on.
- **Solid Amber**: When illuminated, indicates the power supply is plugged in and turned off, or the system is off but in an abnormal state.
- **Blinking Amber**: When blinking, this system power supply temperature has reached 63C. The system will automatically power-down when the power supply temperature reaches 70C and restart when the power supply temperature goes below 60C.

Replacing the Power Supply

You do not need to shut down the system to replace a power supply module.

1. Unplug the AC power cord from the failed power supply module.
2. Push the release tab on the power module to the side to unlock it then grasp the handle to pull it from the chassis.

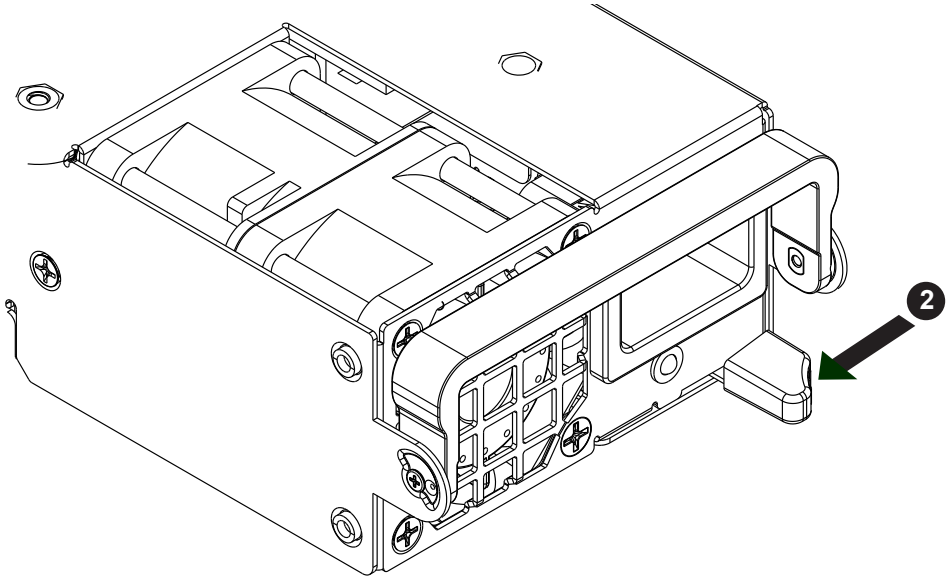


Figure 3-24. Power Supply Release Tab

3. Replace the failed module with another unit of the same model.
4. Push the new module all the way into the open bay until the release tab clicks into a locked position.
5. Plug the AC power cord back into the newly installed power module.

Removing the Front Bezel

If you wish to remove the front bezel, push on the three tabs on the inside of the left lip of the front chassis cover. Then slightly swing out the same (left) side of the cover, about ½ inch only. Remove by pushing on the open side of the cover to remove it from the chassis (do not try to swing or pull it straight out after opening the left side).

Appendix A

Power Supply Specifications

This appendix lists power supply specifications for your chassis system.

1280 W (Redundant)	
MFR Part #	PWS-1K28P-SQ
AC Input	1000W Output @ 100-140V, 12-8A, 50-60Hz 1280W Output @ 180-240V, 8-6A, 50-60Hz
DC Output	1000W: +12V/83A; +5Vsb/4A 1280W: +12V/106.7A, +5Vsb/4A

1200 W (Redundant)	
MFR Part #	PWS-1K21P-1R
AC Input	100 - 140V, 50 - 60Hz, 8 - 11.5 Amp 180 - 240V, 50 - 60Hz, 5.5 - 8 Amp
DC Output +12V	1000W, 83 Amp @ 100-140V 1200W, 100 Amp @ 180-240V 5Vsb: 4A
DC Output with PDB	+5V: 50 Amp +3.3V: 30 Amp -12V: 0.6 Amp

920 W	
MFR Part #	PWS-920P-1R
AC Input	100-240 V 50-60 Hz 11-4.5 Amp
DC Output	4 Amp @ +5V standby 75 Amp @ +12V
With Power Distribu-tor	+5V: 30 Amp +3.3V: 24 Amp -12V: 0.6 Amp

800 W	
MFR Part #	PWS-801-1R
Rated AC Voltage	100 - 240V, 50 - 60Hz, 10 - 4 Amp
DC Output	66 Amp @ +12V 4 Amp @ +5V standby 30 Amp @ +5V 24 Amp @ +3.3V 0.6 Amp @ -12V

Appendix B

Standardized Warning Statements for AC Systems

About Standardized Warning Statements

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

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

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

Warning Definition



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

警告の定義

この警告サインは危険を意味します。

人身事故につながる可能性がありますので、いずれの機器でも動作させる前に、

電気回路に含まれる危険性に注意して、標準的な事故防止策に精通して下さい。

此警告符号代表危险。

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

此警告符號代表危險。

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

Warnung

WICHTIGE SICHERHEITSHINWEISE

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

BEWAHREN SIE DIESE HINWEISE GUT AUF.

INSTRUCCIONES IMPORTANTES DE SEGURIDAD

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

GUARDE ESTAS INSTRUCCIONES.

IMPORTANTES INFORMATIONS DE SÉCURITÉ

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

CONSERVEZ CES INFORMATIONS.

תקנון הצהרות אזהרה

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

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

ا كً ف حالة وٌكي أى تتسبب ف اصابة جسد ةٌ هذا الزهز عٌ خطز !تحذ زٌ .
قبل أى تعول على أي هعذات،كي على علن بالوخاطز ال ٱجوة عي الذوائز
الكهزبائ ةٍ
وكي على درا ةٌ بالووارسات البقائ ةٍ لو عٌ وقع أي حادث
استخذم رقن الب إٍى الو صٌص ف هًا ةٌ كل تحذ زٌ للعشر تزجوتها

안전을 위한 주의사항

경고!

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

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

BELANGRIJKE VEILIGHEIDSINSTRUCTIES

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

BEWAAR DEZE INSTRUCTIES

Installation Instructions



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

設置手順書

システムを電源に接続する前に、設置手順書をお読み下さい。

警告

将此系统连接电源前,请先阅读安装说明。

警告

將系統與電源連接前，請先閱讀安裝說明。

Warnung

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

¡Advertencia!

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

Attention

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

יש לקרוא את הוראות התקנה לפני חיבור המערכת למקור מתח.

اقر إرشادات التركيب قبل توصيل النظام إلى مصدر للطاقة

시스템을 전원에 연결하기 전에 설치 안내를 읽어주십시오.

Waarschuwing

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

Circuit Breaker



Warning! This product relies on the building's installation for short-circuit (overcurrent) protection. Ensure that the protective device is rated not greater than: 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 معداث الحمايت مه الدوائرالقصيرة التي تم تثبيتها في
المبنى
تأكد من أن تقييم الجهاز الوقائي ليس أكثر من : 20A, 250V

경고!

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

Waarschuwing

Dit product is afhankelijk van de kortsluitbeveiliging (overspanning) van uw electrische installatie. Controleer of het beveiligde aparaat 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 chassis pour installer ou enlever des composants de systéme.

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 فصم انتظاو من جميع مصادر انطاقت وإزانت سهك انكهرباء من وحدة امداد
انطاقت قبم
انصل إنى اثماطق انداخهيت نههيكم نتثبيج أو إزانت مكناث الجهاز

경고!

시스템에 부품들을 장착하거나 제거하기 위해서는 섀시 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 الجهاس يجب أن يسمح فقط للمظفيه المؤهليه

경고!

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

Waarschuwing

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

Restricted Area



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

アクセス制限区域

このユニットは、アクセス制限区域に設置されることを想定しています。

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

警告

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

警告

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

Warnung

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

¡Advertencia!

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

Attention

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

אזור עם גישה מוגבלת

אזהרה!

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

تخصيص هذه انحذة نترك بُها ف مناطق محظورة تم .
،مَكن انصبل إن منطقت محظورة فقط من خلال استخذاو أداة خاصت
أو أ وس هُت أخري نلالأمما قفم 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

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

警告

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

Warnung

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

Attention

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

¡Advertencia!

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

!אזהרה

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

هناك خطر من انفجار في حالة اسحبذال البطارية بطريقة غير صحيحة فعليل
اسحبذال البطارية
فقط بنفس النبع أو ما يعادلها مما أوصث به الشرمة المصنعة
جخلص من البطاريات المسحعملة وفقا لحعليمات الشرمة الصانعة

경고!

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

Waarschuwing

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

Redundant Power Supplies



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

冗長電源装置

このユニットは複数の電源装置が接続されている場合があります。

ユニットの電源を切るためには、すべての接続を取り外さなければなりません。

警告
此部件连接的电源可能不止一个，必须将所有电源断开才能停止给该部件供电。

警告
此裝置連接的電源可能不只一個，必須切斷所有電源才能停止對該裝置的供電。

Warnung

Dieses Gerät kann mehr als eine Stromzufuhr haben. Um sicherzustellen, dass der Einheit kein trom 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!

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

قد يكون لهذا الجهاز عدة اتصالات بوحدات امداد الطاقة .

يجب إزالة كافة الاتصالات 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

当系统正在进行时，背板上有很危险的电压或能量，进行维修时务必小心。

警告

當系統正在進行時，背板上有危險的電壓或能量，進行維修時務必小心。

Warnung

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

¡Advertencia!

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

Attention

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

מתח בפנל האחורי

אזהרה!

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

هناك خطر مه التيار الكهزبائي أوالطاقة المجبدة على اللحة
عندما يكن النظام يعمل كه حذرا عند خدمة هذا الجهاس

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 يمتثل للقاويه المحلية والبطية المتعلقة
بالكهرباء

경고!
현 지역 및 국가의 전기 규정에 따라 장비를 설치해야 합니다.

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

Product Disposal



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

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

警告
本产品的废弃处理应根据所有国家的法律和规章进行。

警告
本產品的廢棄處理應根據所有國家的法律和規章進行。

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

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

Attention

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

סילוק המוצר

אזהרה!

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

التخلص النهائي من هذا المنتج ينبغي التعامل معه وفقا لجميع القانين واللائح البطنية عند

경고!

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

Waarschuwing

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

Hot Swap Fan Warning



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

ファン・ホットスワップの警告

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

警告!

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

警告

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

Warnung

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

¡Advertencia!

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

Attention

Pieces mobiles dangereuses. Se tenir a l'ecart 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 בפעולהכאשר מסירים את חלקי
המאוורר מהמארז, יתכן והמאוררים עדיין עובדים. יש להרחיק למרחק בטוח את
האצבעות וכלי עבודה שונים מהפתחים בתוך המאוורר

تحذير! أجزاء متحركة خطرة. ابتعد عن شفرات المروحة المتحركة.من الممكن أن
المراوح لا تزال تدورعند 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. 섀시로부터 팬 조립품을 제거할 때 팬은 여전히 회전하고 있을 수 있습니다. 팬 조림품 외관의 열려있는 부분들로부터 손가락 및 스크류드라이버, 다른 물체들이 가까이 하지 않도록 배치해 주십시오.

Waarschuwing

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

Power Cable and AC Adapter



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

電源コードとACアダプター

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

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

警告

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

警告

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

Warnung

Nutzen Sie beim Installieren des Produkts ausschließlich die von uns zur Verfügung gestellten Verbindungskabeln, Stromkabeln und/oder Adapater, 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 appropries. L'utilisation d'autres cables et adaptateurs peut provoquer un dysfonctionnement ou un incendie. Appareils électroménagers et la Loi sur la Sécurité Matériel interdit l'utilisation de câbles certifies- UL ou CSA (qui ont UL ou CSA indiqué sur le code) pour tous les autres appareils électriques sauf les produits désignés par Supermicro seulement.

AC ימאתמו מיילמשח מילבכ

!הרהזא

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

عند تركيب المنتج، قم باستخدام التوصيلات المتوفرة أو المحددة أو قم بشراء الكابلات الكهربائية ومحولات التيار المتردد مع الالتزام بقوانين ومتطلبات السلامة المحلية بما في ذلك حجم الموصل والقابس السليم. استخدام أي كابلات ومحولات أخرى قد يتسبب في عطل أو حريق. يحظر قانون السلامة للأجهزة الكهربائية والمعدات استخدام الكابلات المعتمدة من قبل UL أو CSA لأي منتجات المعينة والمحددة من قبل Supermicro. والتي تحمل علامة (UL/CSA) مع أي معدات أخرى غير

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 Supermicro 가 지정한 제품 이외의 전기 장치에 사용하는 것을 금지합니다.

Stroomkabel en AC-Adapter

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

Appendix C

BPN-SAS-743TQ Backplane Specifications

This appendix provides details about the BPN-SAS-743TQ backplane.

C-1 Safety Guidelines

ESD Safety Guidelines

Electrostatic Discharge (ESD) can damage electronic components. To prevent damage to your system, 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.
- Touch a grounded metal object before removing a component from the antistatic bag.
- Handle the backplane by its edges only; do not touch its components, peripheral chips, memory modules or gold contacts.
- When handling chips or modules, avoid touching their pins.
- Put the backplane and peripherals back into their antistatic bags when not in use.

General Safety Guidelines

- Always disconnect power cables before installing or removing any components from the computer, including the backplane.
- Disconnect the power cable before installing or removing any cables from the backplane.
- Make sure that the backplane is securely and properly installed on the motherboard to prevent damage to the system due to power shortage.

C-2 Version Information

This manual reflects BPN-SAS-743TQ, Revision 3.00, the most current release available at the time of publication. Refer to the Supermicro Web site at www.supermicro.com for the latest updates, compatible parts and supported configurations.

All images and layouts shown in this guide are based upon the latest PCB revision available at the time of publishing. Your backplane may or may not look exactly the same.

C-3 Rear Connectors, Jumpers, and Indicators

Rear Connector Locations

The following connectors are on the side of the backplane that faces the rear of the chassis. They are identified by silkscreen labels.

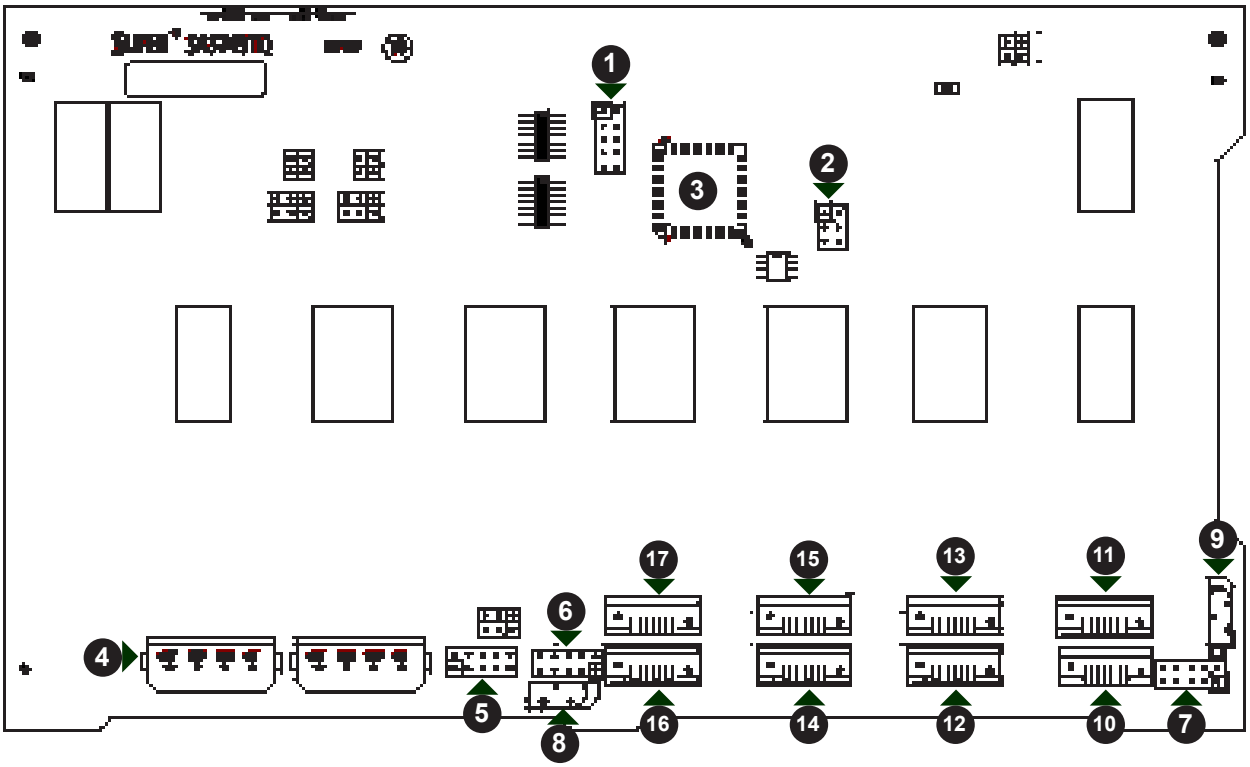


Figure C-1. Top Connectors

1. JTAG Connector: JP47
2. Upgrade Connector: JP46
3. Chip: MG9072
4. Power Connectors (4-pin): JP10, and JP13
5. ACT IN: JP26
6. Sideband Connector #2 JP52
7. Sideband Connector #1 JP51
8. I^2C Connector #2 JP45
9. I^2C Connector #1 JP44
10. SAS Port #0 J5
11. SAS Port #1 J6
12. SAS Port #2 J7
13. SAS Port #3 J8
14. SAS Port #4 J10
15. SAS Port #5 J12
16. SAS Port #6 J14
17. SAS Port #7 J16

Rear Connectors and Pin Definitions

#1. and #2. JTAG Connector and Upgrade Connectors

The JTAG and Upgrade connectors, designated JP47 and JP46, are used for diagnostic purposes. These connectors should be used by a certified and experienced technician.

#3. MG9072 Chip

The MG9072 is an enclosure management chip that supports the SES-2 controller and SES-2 protocols.

#4. Backplane Main Power Connectors

The 4-pin connectors, designated JP10 and JP13, provide power to the backplane. See the table on the right for pin definitions.

Backplane Main Power 4-Pin Connector

Pin#	Definition
1	+12V
2 and 3	Ground
4	+5V

#5. Activity LED Header

The activity LED header, designated JP26, is used to indicate the activity status of each SAS drive. The Activity LED Header is located on the front panel. For the Activity LED Header to work properly, connect using a 10-pin LED cable.

#6. and #7. Sideband Headers

The sideband headers are designated JP51 and JP52. For SES-2 to work properly, you must connect an 10-pin sideband cable. See the table to the right for pin definitions.

Sideband Headers

Pin #	Definition	Pin #	Definition
2	Backplane Addressing (SB5)	1	Controller ID (SB6)
4	Reset (SB4)	3	GND (SB2)
6	GND (SB3)	5	SDA (SB1)
8	Backplane ID (SB7)	7	SCL (SB0)
10	No Connection	9	No Connection

#8. and #9. I²C Connectors

The I²C Connectors, designated JP44 and JP45, are used to monitor HDD activity and status. See the table on the right for pin definitions.

I²C Connector Pin Definitions

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

#10. to #17. SAS Ports

The SAS ports are used to connect the SAS drive cables. The eight ports are designated #0 – #7. Each port is also compatible with SATA drives. However, do not mix SAS and SATA drives in the same enclosure.

SAS Port Connections in I²C and SGPIO Settings

Use the following chart when connecting this backplane. If you connect the SAS ports out of order, you will not able to easily identify drives using the LED function.

SAS Port Connections in I²C and SGPIO Settings		
Port #	**I²C**	**SGPIO**
# 0 - 3	I²C #1	Sideband #1
# 4 - 7	I²C #2	Sideband #2

Rear Jumpers and Pin Definitions

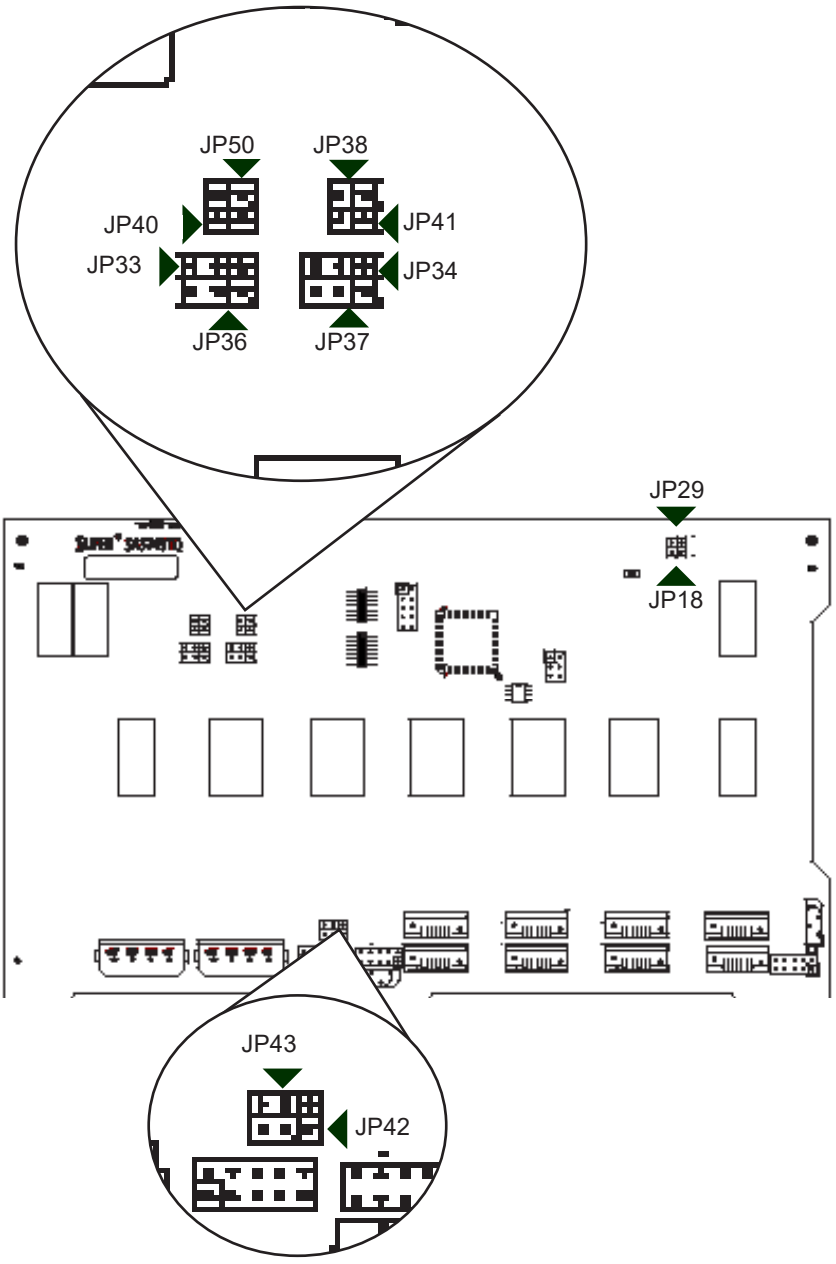


Figure C-2. Rear Jumpers

Jumper Settings		
Jumper	**Jumper Settings**	**Note**
JP18	Open: Enabled Closed: Disabled	Buzzer reset*
JP29	Open: Default Closed: Reset	MG9072 chip reset

*The buzzer sound indicates that a condition requiring immediate attention has occurred. The buzzer alarm is triggered by the following conditions: hard drive failure, fan failure, or system temperature over 45º Celsius.

I²C and SGPIO Mode Jumper Settings

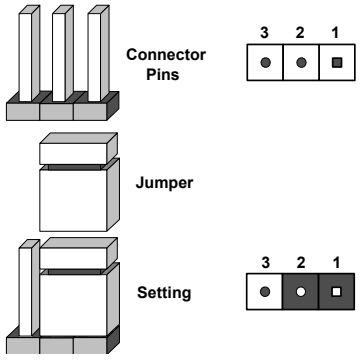
This backplane can utilize I²C or SGPIO. I²C is the default mode and can be used without making changes to your jumpers. The following information details which jumpers must be configured to use SGPIO mode or restore your backplane to I²C mode.

I²C and SGPIO Settings			
Jumper	**I²C Jumper Setting (Default)**	**SGPIO Jumper Setting**	**Note**
JP33	Pins 2-3	Pins 1-2	Controller ID #1
JP34	Pins 1-2:ID#0	Pins 1-2	Backplane ID #1
JP36	Pins 2-3	Pins 1-2	Controller ID #2
JP37	Pins 2-3:ID#1	Pins 1-2	Backplane ID #2
JP38	Closed	Open	I²C Reset #2
JP40	Open	Closed	I²C Reset SDOUT #1
JP41	Open	Closed	I²C Reset SDOUT #2
JP42	Pins 2-3	Pins 1-2	Backplane ID SDIN #1
JP43	Pins 2-3	Pins 1-2	Backplane ID SDIN #2
JP50	Closed	Open	I²C Reset #1

Explanation of Jumpers

To modify the operation of the backplane, jumpers can be used to choose between optional settings. Jumpers create shorts between two pins to change the function of the connector. Pin 1 is identified with a square solder pad on the printed circuit board.

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



Rear LED Indicators

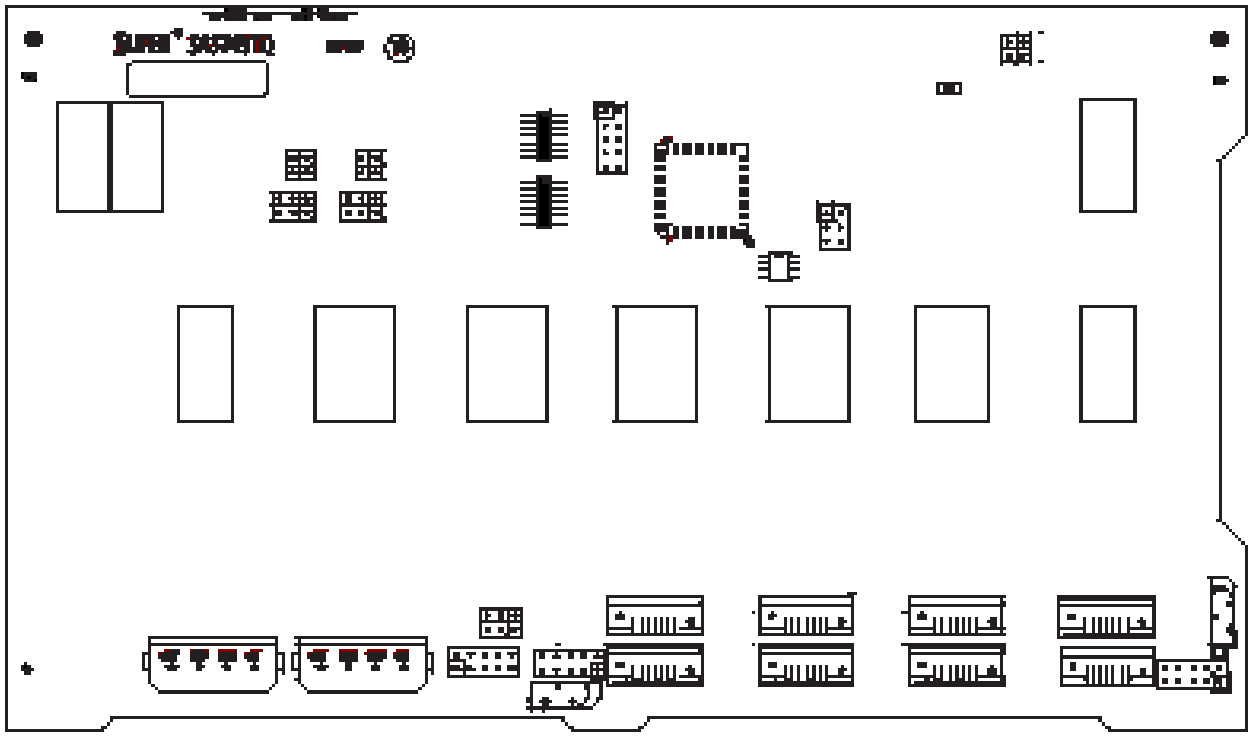


Figure C-3. Rear LEDs

Front Panel LEDs		
LED	**State**	**Specification**
D3	On	Overheat/drive failure LED indicator (Red light: flashing, Buzzer: On, if activated)

C-4 Front Connectors and Indicators

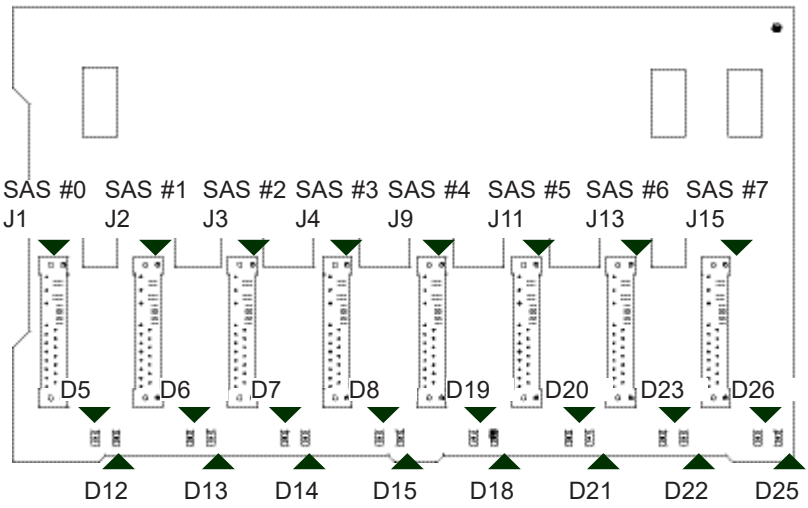


Figure C-4. Front Connectors and LEDs

Drive Connectors and LED Indicators			
Drive Number	**Label**	**HDD Activity LED (blue)**	**HDD Failure LED (red)**
SAS #0	J1	D12	D5
SAS #1	J2	D13	D6
SAS #2	J3	D14	D7
SAS #3	J4	D15	D8
SAS #4	J9	D18	D19
SAS #5	J11	D21	D20
SAS #6	J13	D22	D23
SAS #23	J15	D25	D26

Appendix D

BPN-SAS3-743A Backplane Specifications

This appendix provides details about the BPN-SAS3-743A backplane.

D-1 Safety Guidelines

ESD Safety Guidelines

Electrostatic Discharge (ESD) can damage electronic components. To prevent damage to your system, 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.
- Touch a grounded metal object before removing a component from the antistatic bag.
- Handle the backplane by its edges only; do not touch its components, peripheral chips, memory modules or gold contacts.
- When handling chips or modules, avoid touching their pins.
- Put the backplane and peripherals back into their antistatic bags when not in use.

General Safety Guidelines

- Always disconnect power cables before installing or removing any components from the computer, including the backplane.
- Disconnect the power cable before installing or removing any cables from the backplane.
- Make sure that the backplane is securely and properly installed on the motherboard to prevent damage to the system due to power shortage.

D-2 Version Information

This manual reflects BPN-SAS3-743A, Revision 1.00, the most current release available at the time of publication. Refer to the Supermicro Web site at www.supermicro.com for the latest updates, compatible parts and supported configurations.

All images and layouts shown in this guide are based upon the latest PCB revision available at the time of publishing. Your backplane may or may not look exactly the same.

D-3 Rear Connectors, Jumpers, and Indicators

Rear Connector Locations

The following connectors are on the side of the backplane that faces the rear of the chassis. They are identified by silkscreen labels.

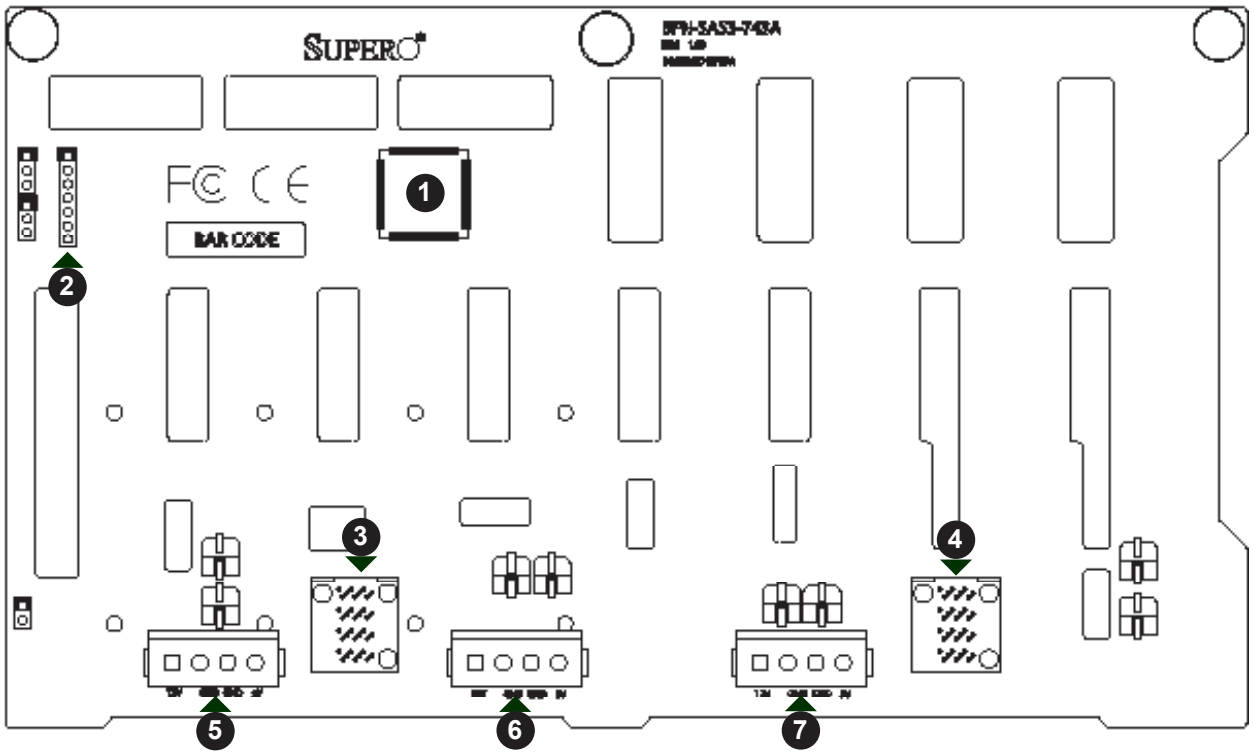


Figure D-1. Rear Connectors

1. Chip: CPLD
2. JTAG Connector: J16
3. SAS3 Port #1: JSM1
4. SAS3 Port #0: JSM0
5. Power Connector (4-pin) #3: JPW3
6. Power Connector (4-pin) #2: JPW2
7. Power Connector (4-pin) #1: JPW1

Rear Connectors and Pin Definitions

#1. CPLD Chip

The CPLD is an enclosure management chip that supports the SGPIO and LED management.

#2. JTAG Connector

The JTAG connector, designated J16, is used for diagnostic purposes. This connector should not be used as it is for internal testing only.

#3. – 4. SAS3 Ports

The SAS3 ports are used to connect the SAS3 drive cables. The 2 ports are designated JSM0, for drives at SAS #0-#3, and JSM1, for drives at SAS #4-#7 (see section 2-4 for SAS drive locations). Each port is also compatible with SATA drives. However, mixing SAS3 and SATA drives in the same enclosure is not recommended.

#5. – #7. Backplane Main Power Connectors

The 4-pin connectors, designated JPW1, JPW2, and JPW3, provide power to the backplane. See the table on the right for pin definitions.

Backplane Main Power 4-Pin Connector	
Pin#	**Definition**
1	+12V
2 and 3	Ground
4	+5V

Rear Jumpers and Pin Definitions

The jumpers are used for internal texting only.

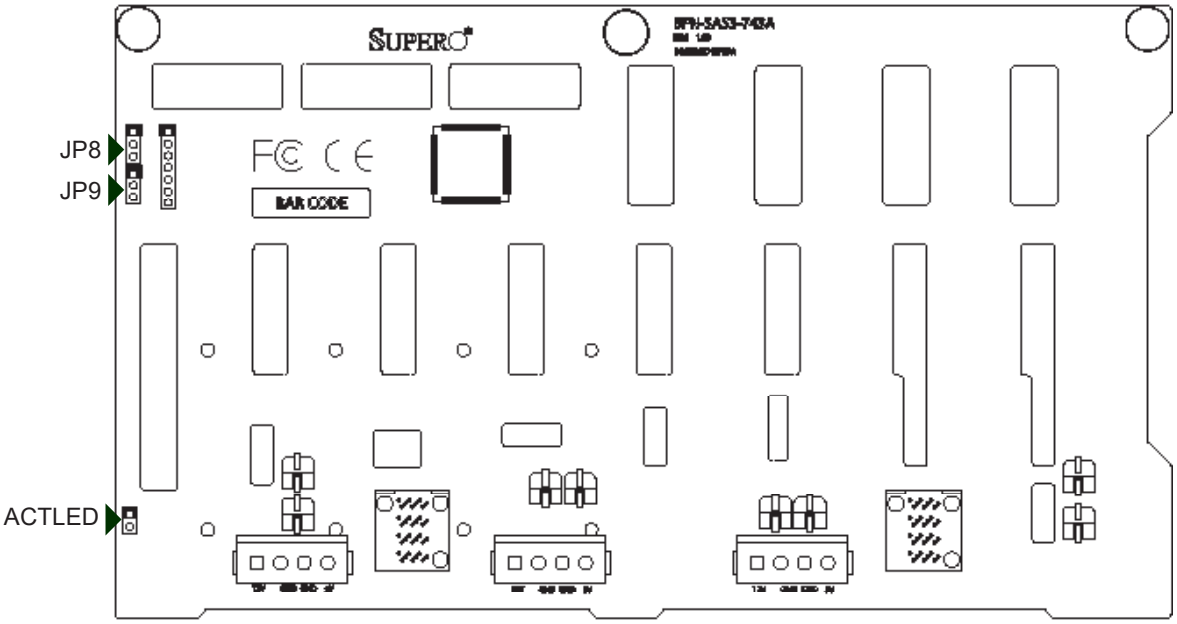


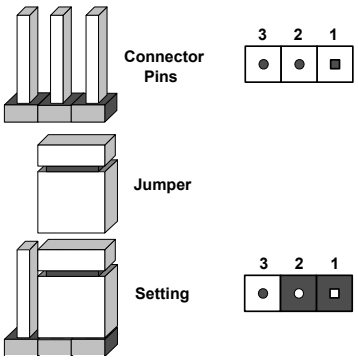
Figure D-2. Rear Jumpers

Jumper Settings		
Jumper	**Jumper Settings**	**Note**
JP8	2-3: Default	This is used for internal testing only.
JP9	1-2: Default	This is used for internal testing only.
ACTLED	Open: Default	This is used for internal testing only.

Explanation of Jumpers

To modify the operation of the backplane, jumpers can be used to choose between optional settings. Jumpers create shorts between two pins to change the function of the connector. Pin 1 is identified with a square solder pad on the printed circuit board.

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



D-4 Front Connectors and Indicators

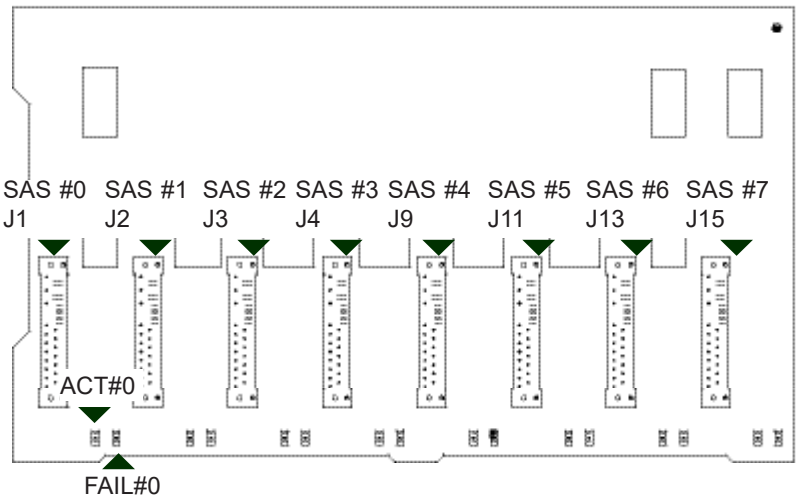


Figure D-3. Front Connectors and LEDs

Drive Connectors and LED Indicators			
Drive Number	**Label**	**HDD Activity LED (blue)**	**HDD Failure LED (red)**
SAS #0	J1	ACT #0	FAIL #0
SAS #1	J2	ACT #1	FAIL #1
SAS #2	J3	ACT #2	FAIL #2
SAS #3	J4	ACT #3	FAIL #3
SAS #4	J9	ACT #4	FAIL #4
SAS #5	J11	ACT #5	FAIL #5
SAS #6	J13	ACT #6	FAIL #6
SAS #23	J15	ACT #7	FAIL #7