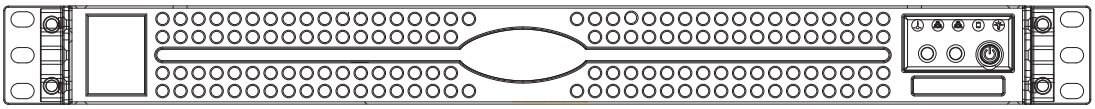
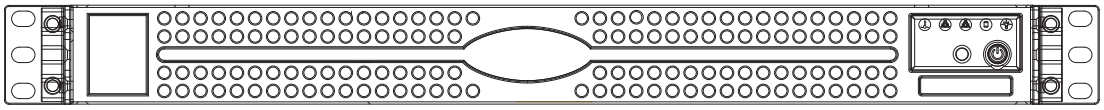
SUPERO

SC812L CHASSIS SERIES



SC812L-U



SC812L

SC812L-520U
SC812L-520
SC812L-520C
SC812L-280U
SC812L-420
SC812L-420C
SC812L-410

USER'S MANUAL

1.0

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Manual Revision 1.0

Release Date: May 7, 2007

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 SC812L chassis. Installation and maintenance should be performed by experienced technicians only.

Supermicro's SC812L 1U chassis features a unique and highly-optimized design for dual-core Xeon platforms. The chassis is equipped with a high efficiency power supply for superb power savings. High performance cooling blowers provide ample optimized cooling.

This document lists compatible parts available when this document was published. Always refer to the our Web site for updates on supported parts and configurations.

Notes

Manual Organization

Chapter 1: Introduction

The first chapter provides a checklist of the main components included with this chassis and describes the main features of the SC812L chassis. This chapter also includes contact information.

Chapter 2: System Safety

This chapter lists warnings, precautions, and system safety. You should thoroughly familiarize yourself with this chapter for a general overview of safety precautions that should be followed before installing and servicing this chassis.

Chapter 3: Chassis Components

Refer here for details on this chassis model including the fans, bays, airflow shields, and other components.

Chapter 4: System Interface

Refer to this chapter for details on the system interface, which includes the functions and information provided by the control panel on the chassis as well as other LEDs located throughout the system.

Chapter 5: Chassis Setup and Installation

Follow the procedures given in this chapter when installing, removing, or reconfiguring your chassis.

Chapter 6: Rack Installation

Refer to this chapter for detailed information on chassis rack installation. You should follow the procedures given in this chapter when installing, removing or reconfiguring your chassis into a rack environment.

Compatible Backplanes

This section lists compatible cables, power supply specifications, and compatible backplanes. Not all compatible backplanes are listed. Refer to our Web site for the latest compatible backplane information.

Appendix A: Chassis Cables

Table of Contents

Notes

Chapter 1:

Introduction

1-1 Overview

Supermicro's SC812L chassis features a unique and highly-optimized design. The chassis is equipped with high efficiency power supply. High performance fans provide ample optimized cooling for FB-DIMM memory modules and four hot-swap drive bays offer maximum storage capacity.

1-2 Shipping List

Part Numbers

Please visit the following link for the latest shipping lists and part numbers for your particular chassis model http://www.supermicro.com/

SC812L Chassis				
Model	**CPU**	**HDD**	**I/O Slots**	**Power Supply**
SC812L-420	DP Dual-core Xeon	3 Fixed Hard Drives	1x FF, 1x LP	420W
SC812L-420C	DP Dual-core Xeon	3 Fixed Hard Drives	1x FF	420W
SC812L-410	DP Dual-core Xeon	3 Fixed Hard Drives	1x FF, 1x LP	410W
SC812L-520	DP Dual-core Xeon	3 Fixed Hard Drives	1x FF, 1x LP	520W
SC812L-520C	DP Dual-core Xeon	3 Fixed Hard Drives	1x FF	520W
SC812L-520U	DP Dual-core Xeon	3 Fixed Hard Drives	2x FF, 1x LP	520W
SC812LS-280U	DP Dual-core Xeon	3 Fixed Hard Drives	2x FF, 1x LP	280W

1-3 Where to get Replacement Components

Though not frequently, you may need replacement parts for your system. To ensure the highest level of professional service and technical support, we strongly recommend purchasing exclusively from our Supermicro Authorized Distributors / System Integrators / Resellers. A list of Supermicro Authorized Distributors / System Integrators /Reseller can be found at: http://www.supermicro.com. Click the Where to Buy link.

1-4 Contacting SuperMicro

Headquarters

Address:	SuperMicro Computer, Inc.
	980 Rock Ave.
	San Jose, CA 95131 U.S.A.
Tel:	+1 (408) 503-8000
Fax:	+1 (408) 503-8008
Email:	marketing@supermicro.com (General Information)
	support@supermicro.com (Technical Support)
Web Site:	www.supermicro.com

Europe

Address:	SuperMicro Computer B.V.
	Het Sterrenbeeld 28, 5215 ML
	's-Hertogenbosch, The Netherlands
Tel:	+31 (0) 73-6400390
Fax:	+31 (0) 73-6416525
Email:	sales@supermicro.nl (General Information)
	support@supermicro.nl (Technical Support)
	rma@supermicro.nl (Customer Support)

Asia-Pacific

Address:	SuperMicro, Taiwan
	4F, No. 232-1, Liancheng Rd.
	Chung-Ho 235, Taipei County
	Taiwan, R.O.C.
Tel:	+886-(2) 8226-3990
Fax:	+886-(2) 8226-3991
Web Site:	www.supermicro.com.tw
Technical Support:	
Email:	support@supermicro.com.tw
Tel:	886-2-8228-1366, ext.132 or 139

Notes

Chapter 2:

System Safety

2-1 Overview

This chapter provides a quick setup checklist to get your chassis up and running. Following the steps in order given should enable you to have your chassis setup and operational within a minimal amount of time. This quick set up assumes that you are an experienced technician, familiar with common concepts and terminology.

2-2 Warnings and Precautions

You should inspect the box the chassis was shipped in and note if it was damaged in any way. If the chassis itself shows damage, file a damage claim with carrier who delivered your system.

Decide on a suitable location for the rack unit that will hold that chassis. It should be situated in a clean, dust-free area that is well ventilated. Avoid areas where heat, electrical noise and electromagnetic fields are generated.

You will also need it placed near at least one grounded power outlet.

2-3 Preparing for Setup

The SC812L Chassis includes a set of rail assemblies, including mounting brackets and mounting screws you will need to install the systems into the rack. Please read this manual in its entirety before you begin the installation procedure.

2-4 Electrical Safety Precautions

Basic electrical safety precautions should be followed to protect yourself from harm and the SC812L from damage:

- Be aware of the locations of the power on/off switch on the chassis as well as the room's emergency power-off switch, disconnection switch or electrical outlet. If an electrical accident occurs, you can then quickly remove power from the system.

- Do not work alone when working with high voltage components.

- Power should always be disconnected from the system when removing or installing main system components, such as the serverboard, memory modules and the DVD-ROM and floppy drives (not necessary for hot swappable drives). When disconnecting power, you should first power down the system with the operating system and then unplug the power cords from all the power supply modules in the system.

- When working around exposed electrical circuits, another person who is familiar with the power-off controls should be nearby to switch off the power, if necessary.

- Use only one hand when working with powered-on electrical equipment. This is to avoid making a complete circuit, which will cause electrical shock. Use extreme caution when using metal tools, which can easily damage any electrical components or circuit boards they come into contact with.

- Do not use mats designed to decrease electrostatic discharge as protection from electrical shock. Instead, use rubber mats that have been specifically designed as electrical insulators.

- The power supply power cord must include a grounding plug and must be plugged into grounded electrical outlets.

- Serverboard Battery: CAUTION - There is a danger of explosion if the onboard battery is installed upside down, which will reverse its polarities This battery must be replaced only with the same or an equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

- DVD-ROM Laser: CAUTION - this server may have come equipped with a DVD-ROM drive. To prevent direct exposure to the laser beam and hazardous radiation exposure, do not open the enclosure or use the unit in any unconventional way.

2-5 General Safety Precautions

- Keep the area around the chassis clean and free of clutter.

- Place the chassis top cover and any system components that have been removed away from the system or on a table so that they won't accidentally be stepped on.

- While working on the system, do not wear loose clothing such as neckties and unbuttoned shirt sleeves, which can come into contact with electrical circuits or be pulled into a cooling fan.

- Remove any jewelry or metal objects from your body, which are excellent metal conductors that can create short circuits and harm you if they come into contact with printed circuit boards or areas where power is present.

- After accessing the inside of the system, close the system back up and secure it to the rack unit with the retention screws after ensuring that all connections have been made.

2-6 System Safety

Electrostatic discharge (ESD) is generated by two objects with different electrical charges coming into contact with each other. An electrical discharge is created to neutralize this difference, which can damage electronic components and printed circuit boards. The following measures are generally sufficient to neutralize this difference before contact is made to protect your equipment from ESD:

- Do not use mats designed to decrease electrostatic discharge as protection from electrical shock. Instead, use rubber mats that have been specifically designed as electrical insulators.

- Use a grounded wrist strap designed to prevent static discharge.

- Keep all components and printed circuit boards (PCBs) in their antistatic bags until ready for use.

- Touch a grounded metal object before removing any board from its anti-static bag.

- Do not let components or PCBs come into contact with your clothing, which may retain a charge even if you are wearing a wrist strap.

- Handle a board by its edges only; do not touch its components, peripheral chips, memory modules or contacts.

- When handling chips or modules, avoid touching their pins.
- Put the serverboard and peripherals back into their antistatic bags when not in use.
- For grounding purposes, make sure your computer chassis provides excellent conductivity between the power supply, the case, the mounting fasteners and the serverboard.

Chapter 3:

System Interface

3-1 Overview

There are several LEDs on the control panel as well as others on the drive carriers to keep you constantly informed of the overall status of the system as well as the activity and health of specific components. This chapter explains the meanings of all LED indicators and the appropriate response you may need to take.

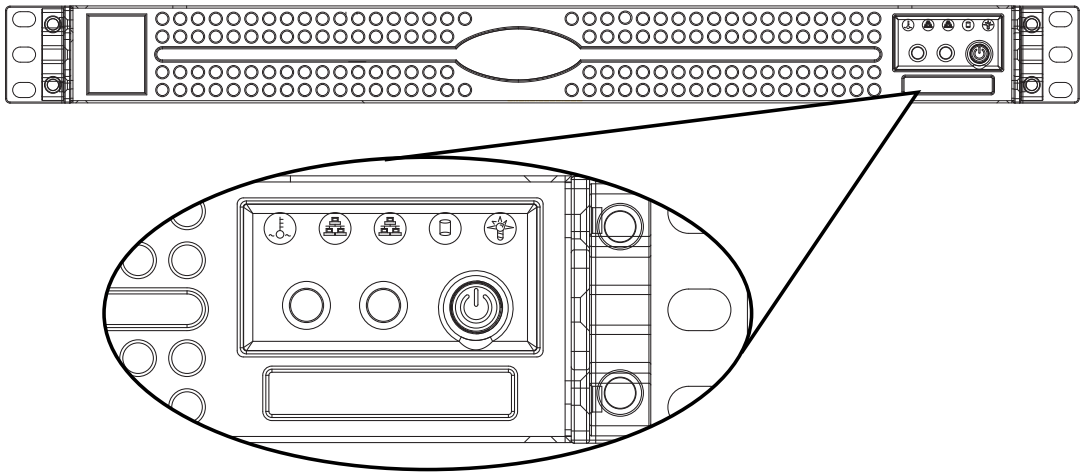


Figure 3-1: SC812L "U" Front Panel

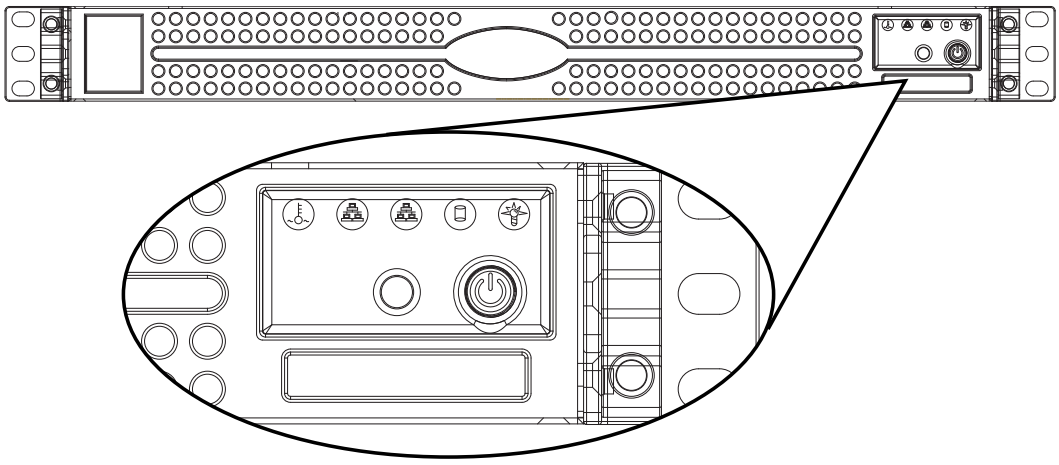
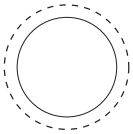


Figure 3-2: SC812L Front Panel

3-2 Control Panel Buttons

There are two push-buttons located on the front of the chassis. These are (in order from left to right) a reset button and a power on/off button.



- **Reset:** The reset button is used to reboot the system.

- **Power:** The main power switch is used to apply or remove power from the power supply to the server system. Turning off system power with this button removes the main power but keeps standby power supplied to the system. Therefore, you must unplug system before servicing.

3-3 Control Panel LEDs

The control panel located on the front of the SC812L chassis has five LEDs. These LEDs provide you with critical information related to different parts of the system. This section explains what each LED indicates when illuminated and any corrective action you may need to take.

- **Overheat/Fan Fail:** When this LED flashes it indicates a fan failure. When continuously on (not flashing) it indicates an overheat condition, which may be caused by cables obstructing the airflow in the system or the ambient room temperature being too warm. Check the routing of the cables and make sure all fans are present and operating normally. You should also check to make sure that the chassis covers are installed. Finally, verify that the heatsinks are installed properly. This LED will remain flashing or on as long as the overheat condition exists.

- **NIC2:** Indicates network activity on GLAN2 when flashing.

- **NIC1:** Indicates network activity on GLAN1 when flashing.

- **HDD:** Indicates IDE channel activity. SAS/SATA drive, SCSI drive, and/or DVD-ROM drive activity when flashing.

- **Power:** Indicates power is being supplied to the system's power supply units. This LED should normally be illuminated when the system is operating.

Notes

Chapter 4:

Chassis Setup and Maintenance

4-1 Overview

This chapter covers the steps required to install components and perform maintenance on the chassis. The only tool you will need to install components and perform maintenance is a Phillips screwdriver. Print this page to use as a reference while setting up your chassis.

4-2 Installation Steps

Review the warnings and precautions listed in the manual before setting up or servicing this chassis. These include information in Chapter 2: System Safety and the warning/precautions listed in the setup instructions.

4-3 Installation Step 1: Remove the Chassis Cover

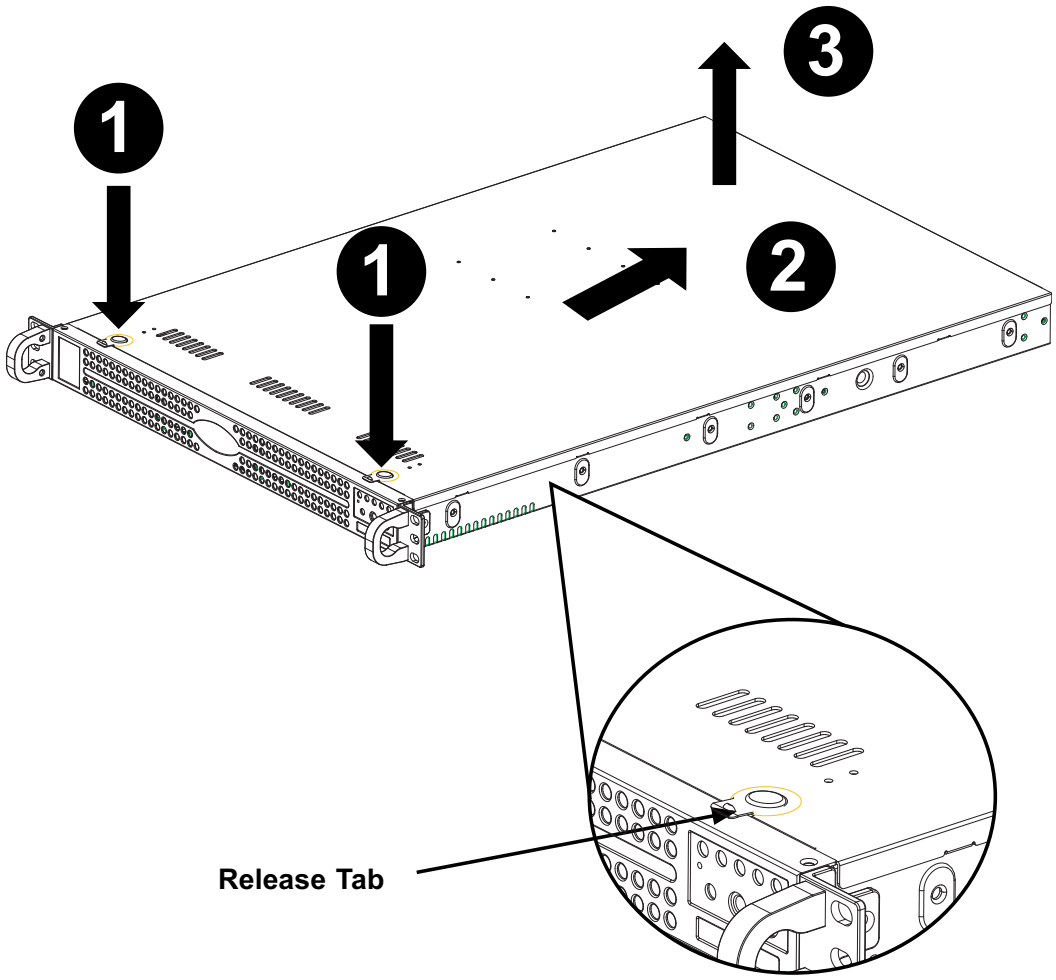


Figure 4-1: Removing the Chassis Cover

To remove the chassis cover:

1. Press the release tabs to remove the cover from the locked position. Press both tabs at the same time.

2. Once the top cover is released from the locked position, slide the cover toward the rear of the chassis.

3. Lift the cover off the chassis.

Warning: 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.

4-4 Installation Step 2: Install Hard Drives

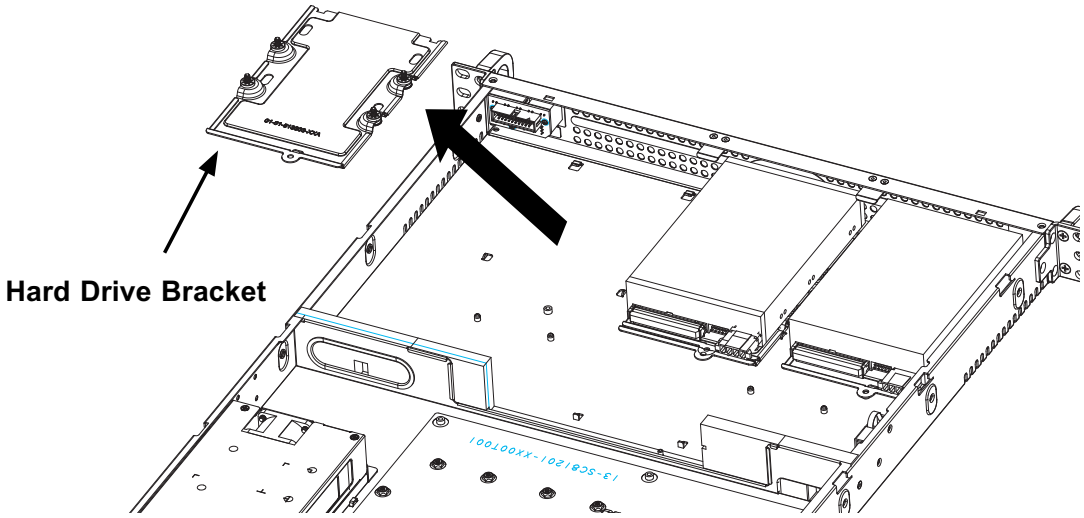


Figure 4-2: Remove the Hard Drive

To install a hard drive to the chassis:

1. Locate the hard drive bracket.
2. Remove the screw securing the bracket to the chassis and slide the bracket toward the rear of the chassis.
3. Connect a standard hard drive to the bracket and secure the connection with the four screws connected to the bracket.

NOTE: The bracket includes four screws and four rubber feet. Always use the rubber feet with installing the hard drive.

4. Carefully slide replace the bracket in the chassis and secure the hard drive with the screw that was previously removed.

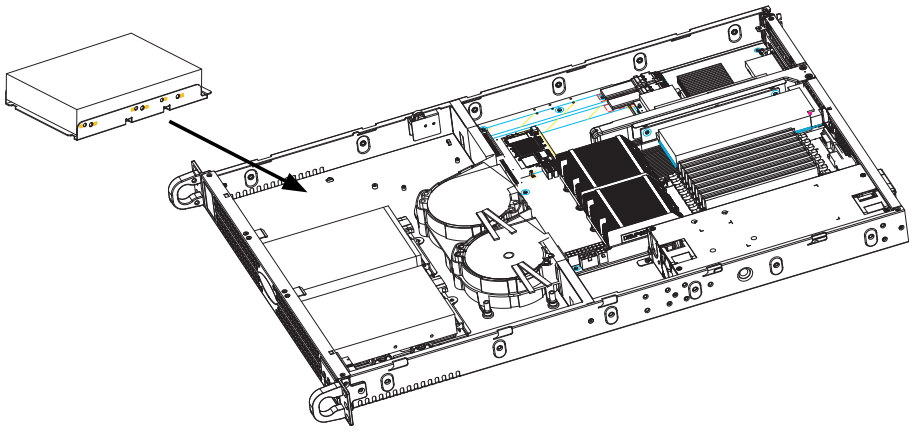


Figure 4-3: Install the Hard Drive and Bracket

4-5 Installation Step 3: Installing the Motherboard

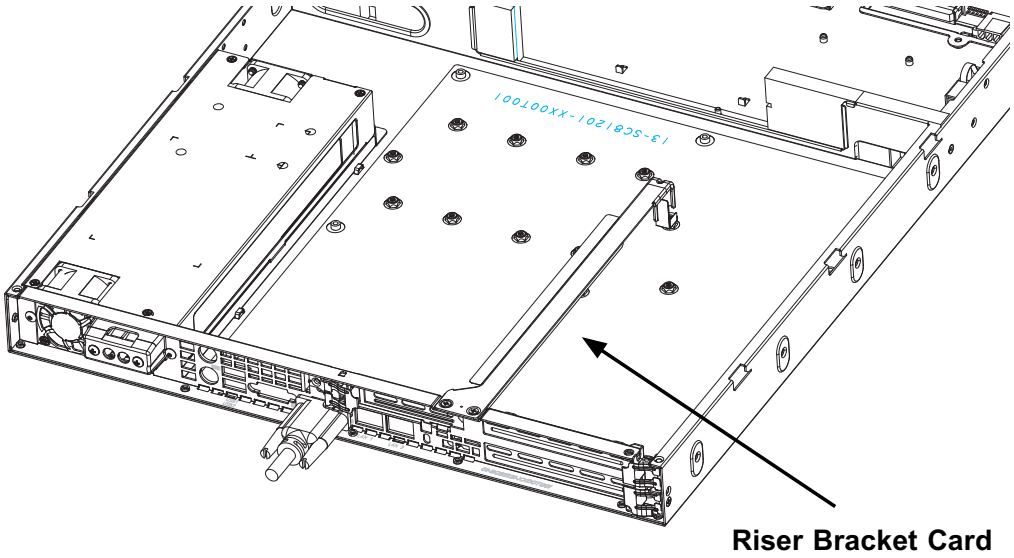


Figure 4-4: Riser Card Bracket

Permanent and Optional Standoffs

Standoffs prevent short circuits by securing space between the motherboard and the chassis surface. The SC812L chassis includes permanent standoffs in locations used by most motherboards. These standoffs accept the rounded Phillips head screws included in the SC812L accessories packaging.

Some motherboard require additional screws for heatsinks, general components and/or non-standard security. Optional standoffs are included to these motherboards. To use an optional standoff, you must place the hexagonal screw through the bottom the chassis and secure the screw with the hexagon nut (rounded side up).

Riser Card

SC812L chassis include permanent riser cards that allow the chassis to utilize a variety of add-on cards. Before installing the motherboard you must remove the riser card. To do so, simply remove the two screws holding the riser card and lift the riser card from the chassis.

To install the motherboard:

1. Review the documentation that came with your motherboard. Become familiar with component placement, requirements, precautions, and cable connections.

2. Open the chassis cover.

3. Remove the riser card bracket.

4. As required by your motherboard, install standoffs in any areas that do not have a permanent standoff. To do this:

   A. Place a hexagonal standoff screw through the bottom the chassis.

   B. Secure the screw with the hexagon nut (rounded side up).

5. Lay the motherboard on the chassis aligning the permanent and optional standoffs

6. Secure the motherboard to the chassis using the rounded, Phillips head screws.

7. Secure the CPU(s), heatsinks, and other components to the motherboard as described in the motherboard documentation.

8. Connect the cables between the motherboard, backplane, chassis, front panel, and power supply, as needed. Also, the blowers may be temporarily removed to allow access to the backplane ports.

9. Replace the riser card bracket. If you are installing an add-on card, skip forward in this manual for add-on card installation instructions.

Add-on Card/Expansion Slot Setup

SC812L chassis includes I/O slots for add-on cards and expansion cards. The number of cards you can use depends on your chassis model.

SC812L chassis includes one full length/full height and one low profile add-on card slot. SC812L models "C" models include one full length/full height slot.

SC812L "U" models include two full height/full length add-on card slots and one low-profile slot.

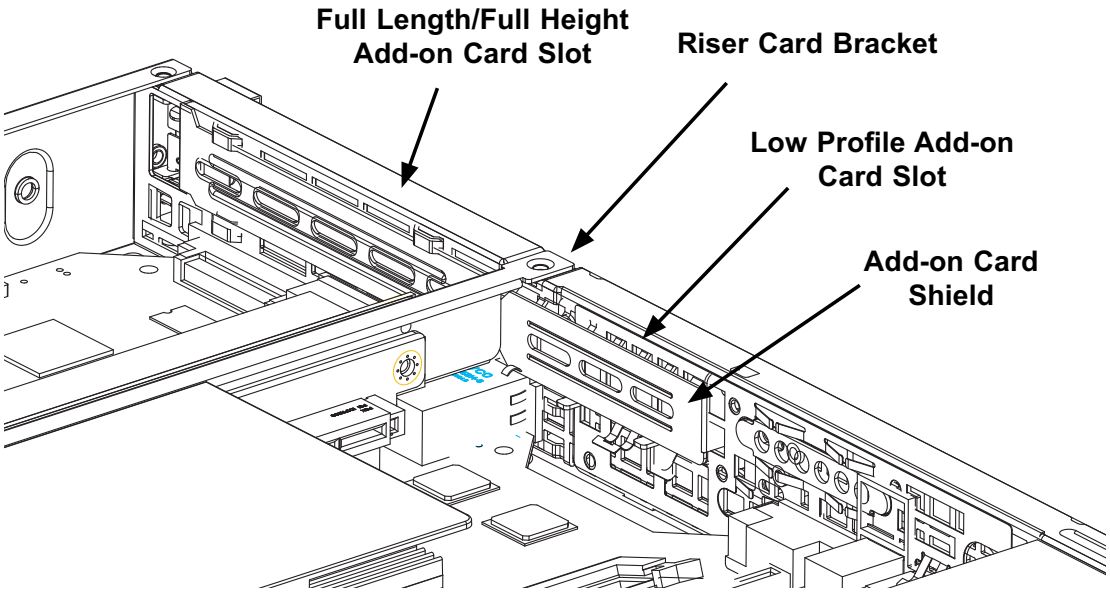


Figure 4-5: SC812L Add-on Card

To install an add-on card:

1. Disconnect the power supply, lay the chassis on a flat surface, and open the chassis cover.

2. In the rear of the chassis, pull open the add-on card clip and remove the add-on card shield.

3. If you have not already done so, remove the Riser Card Bracket. To do so, simple remove the screws and life the Riser Card Bracket straight up. Depending on your chassis model, you must remove two or three screws.

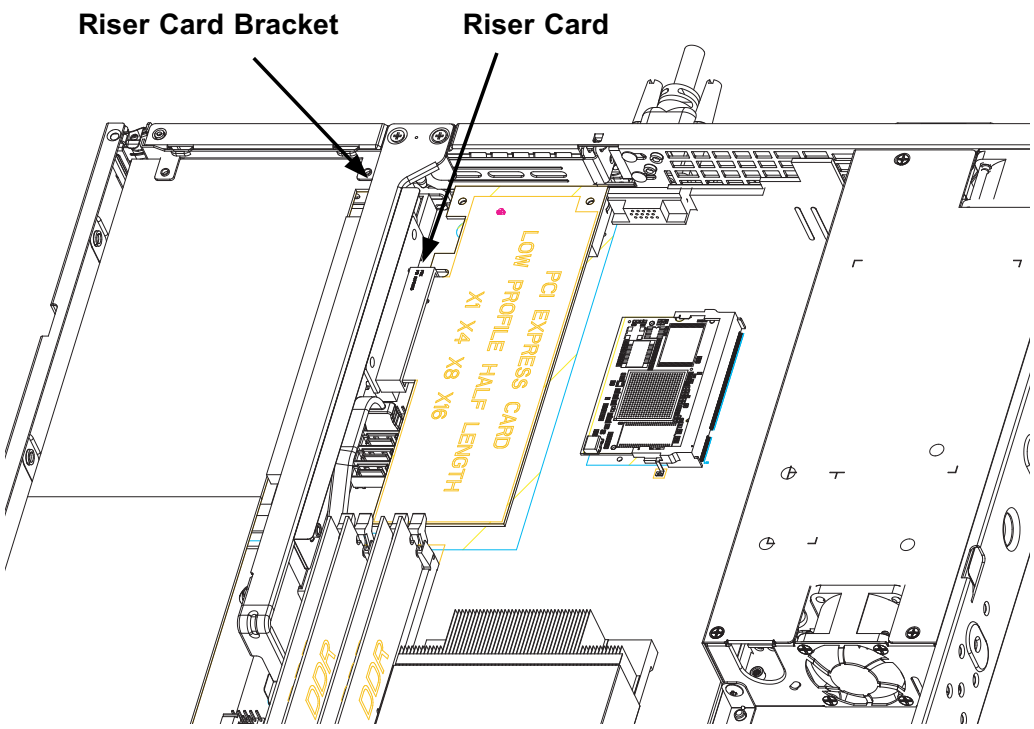


Figure 4-6: SC812L Riser Card and Bracket

4. Confirm that each add-on card you want use has an "L" bracket and connect each add-on card to the riser card embedded in the riser card bracket.

5. Re-connect the riser card (with add-on cards) to the motherboard.

6. Secure each card to the chassis using the card's L bracket and close the add-on card shield clip.

7. Some SC812L "U" models may require the add-on card be secured to the chassis with screw. If so, secure the add-on card at this time.

8. Replace the chassis cover and continue setup according to the add-on card instructions.

4-6 Installation Step 4: System Blowers

Two heavy duty blowers provide cooling for the chassis. These blowers circulate air through the chassis as a means of lowering the chassis internal temperature.

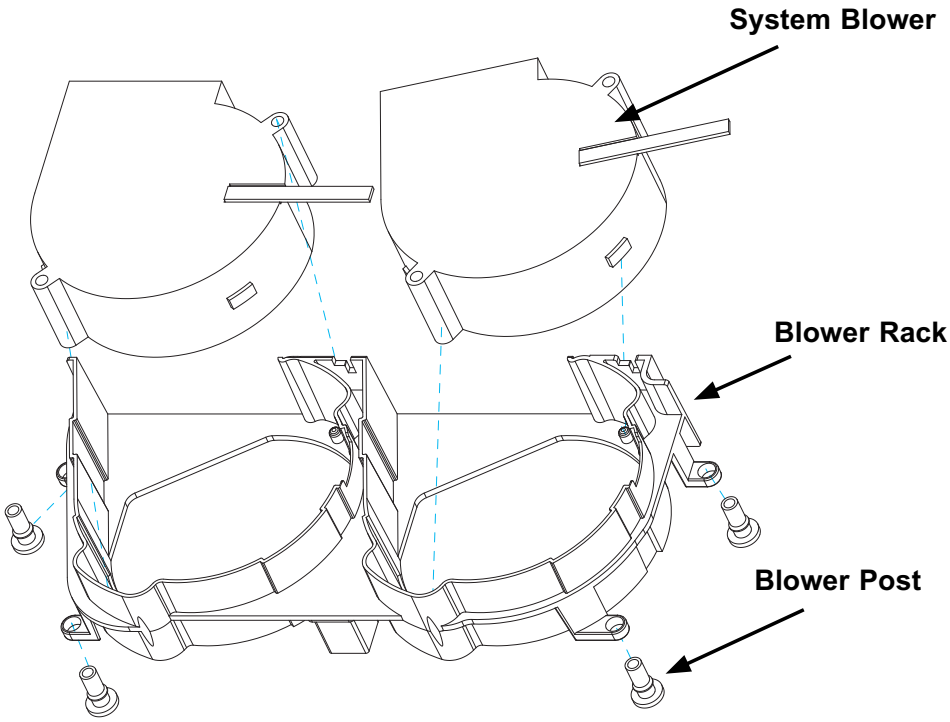


Figure 4-17: Un-assembled System Blowers

System Blower General Information

When using the SC812L chassis be aware of the following:

- The blower rack for the SC812L can be adjusted into two different positions: Left and Right.
- The blower rack for the SC812L "U" series chassis can be configured in up to four positions. The only positions needed are the two positions furthest to the right.
- Blowers can be removed from the blower rack and rotated by 15 degrees.
- The chassis includes foam barriers that regulate the air stream to the rear of the chassis. If you move the system blowers from right to left, use the second set of foam barriers located in the accessory box.
- **IMPORTANT: Do not run the system without the foam barriers installed properly**

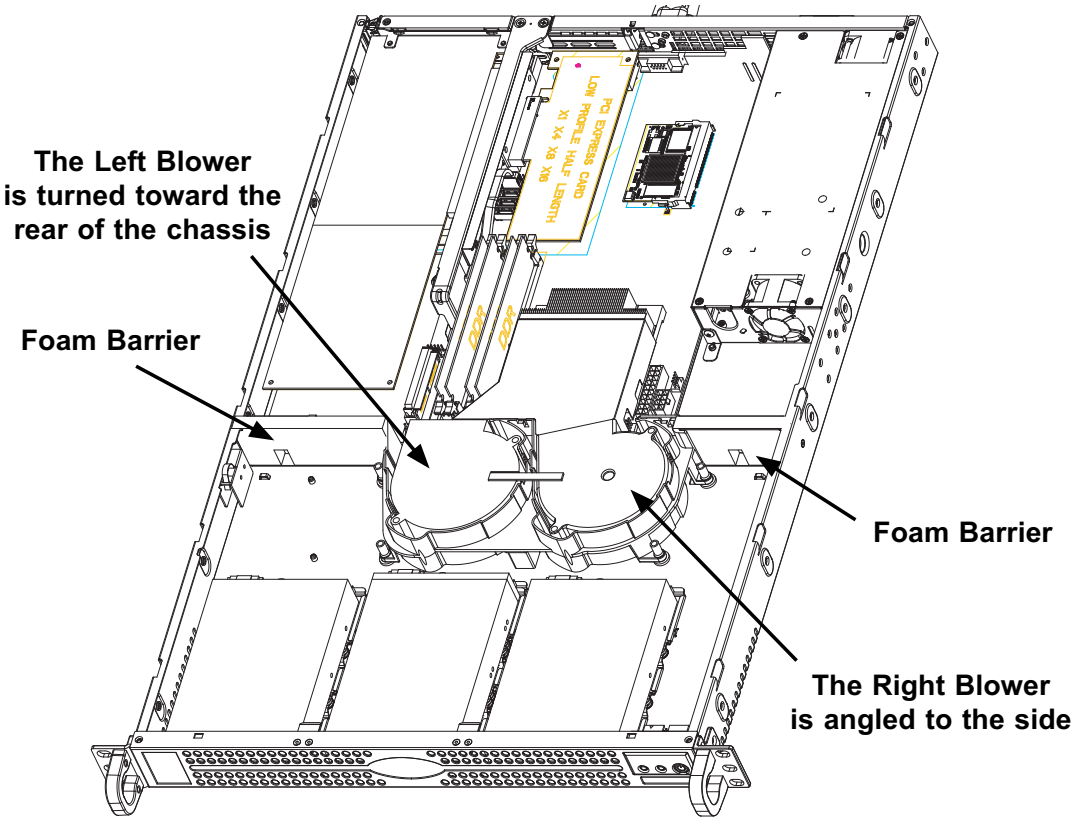


Figure 4-8: System Blowers in default position

Blower Default Position

With most compatible SuperMicro motherboards, the blowers remain in the default position. The default position is the tray in the furthest right position. The left blower is directed toward the rear of the chassis. The right blower is turned to the left.

Blower Secondary Position

The following only applies to non-"U" brand chassis. When using a SuperMicro motherboard with an AMD CPU, do the following:

1. Disconnect the blowers from the motherboard and remove the foam barrier from the chassis.

2. Move the rack one position to the left.

3. Remove the right blower and turn it so that it points directly toward the rear of the chassis.

4. Confirm that the first blower is also turned toward the rear of the chassis.

5. Replace the foam barrier using the foam from the accessory box. This foam is especially measured for the secondary blower position.

4-7 Installation Step 5: Installing the Air Shroud

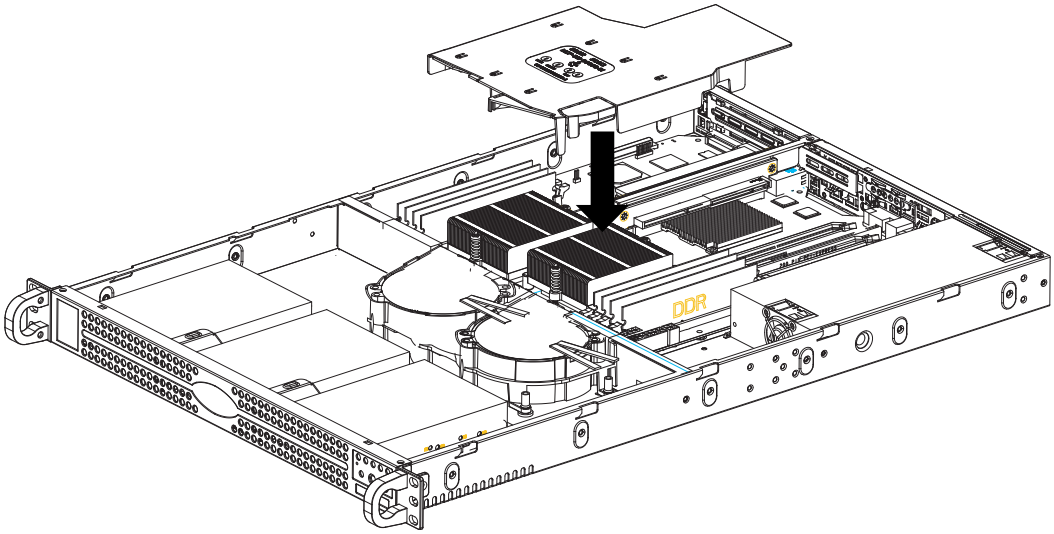


Figure 4-9: Air Shroud for SC812L Chassis

Air shrouds concentrate airflow to maximize blower efficiency. The SC812L accessory package includes the air shroud used by most motherboards. Alternate air shrouds are available for purchase. Check the motherboard documentation for more information

To install the air shroud:

Place the air shroud in the chassis. The air shroud fits behind the two blowers closest to the power supply.

To check the server air flow

1. Make sure there are no objects to obstruct airflow in and out of the server. In addition, if you are using a front bezel, make sure the bezel's filter is replaced periodically.

2. Do not operate the server without drives or drive trays in the drive bays. Use only recommended server parts.

3. Make sure no wires or foreign objects obstruct air flow through the chassis. Pull all excess cabling out of the airflow path or use shorter cables.

The control panel LEDs inform you of system status. See “Chapter 3: System Interface” for details on the LEDs and the control panel buttons.

4-8 Installation Complete

In most cases, the chassis power supply and blowers are pre-installed. If you need to install blowers continue to the Systems Blower section of this chapter. If the chassis will be installed into a rack, continue to the next chapter for rack installation instructions.

4-9 Power Supply

Depending on your chassis model the SC812L Chassis has a 280, 410, 420, or 520 watt power supply. This power supply is auto-switching capable. This enables it to automatically sense and operate at a 100v to 240v input voltage.

New units can be ordered directly from Supermicro (see contact information in the Preface).

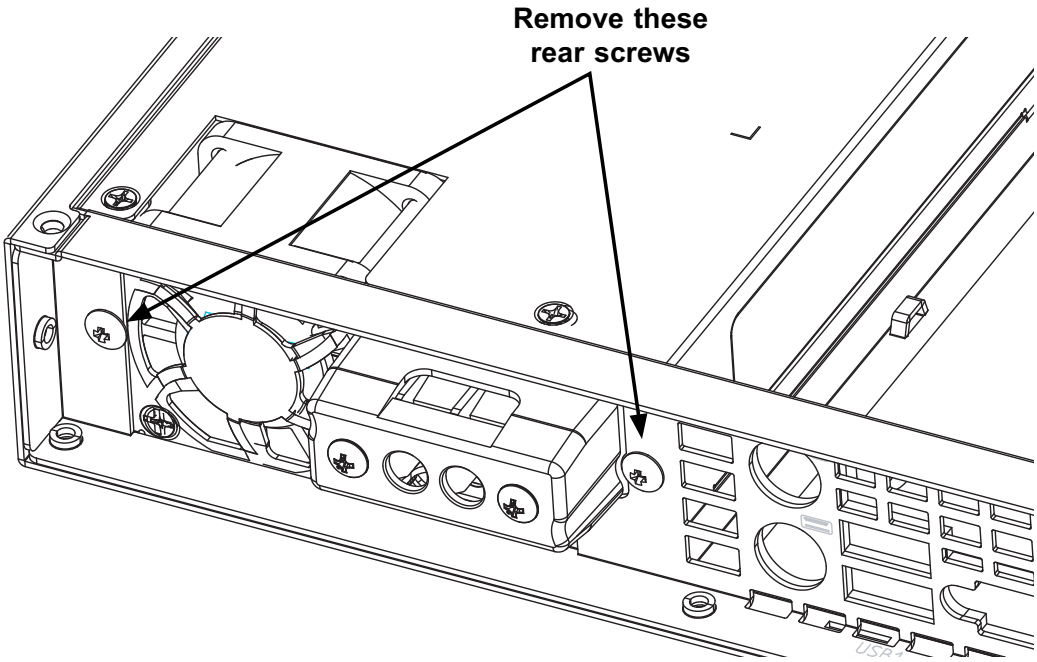


Figure 4-10: Chassis Power Supply

To change the power supply:

1. Power down the server and unplug the power cord.

2. Remove power cord from the rear of the chassis and disconnect the power supply for the motherboard and other chassis components.

3. In the front, the power supply is held to the chassis by two "L" brackets. Remove the two screws that secure the "L" bracket to the chassis.

4. In the rear, the power supply is secured by two screws.

5. Lift the power supply from the chassis.

6. Replace the power supply with a new one. Secure all four screws.

Chapter 5:

Rack Installation

5-1 Overview

This chapter provides simple instructions for installing this chassis into a rack.

5-2 Unpacking the System

You should inspect the box the chassis was shipped in and note if it was damaged in any way. If the chassis itself shows damage you should file a damage claim with the carrier who delivered it.

Decide on a suitable location for the rack unit that will hold your chassis. It should be situated in a clean, dust-free area that is well ventilated. Avoid areas where heat, electrical noise and electromagnetic fields are generated. You will also need it placed near a grounded power outlet. Be sure to read the Rack and Server Precautions in the next section.

5-3 Preparing for Setup

The box your chassis was shipped in should include two sets of rail assemblies, two rail mounting brackets and the mounting screws you will need to install the system into the rack. Please read this section in its entirety before you begin the installation procedure outlined in the sections that follow.

Choosing a Setup Location

- Leave enough clearance in front of the rack to enable you to open the front door completely (~25 inches).
- Leave approximately 30 inches of clearance in the back of the rack to allow for sufficient airflow and ease in servicing.
- This product is for installation only in a Restricted Access Location (dedicated equipment rooms, service closets and the like).

Rack Precautions

Warnings and Precautions

- Ensure that the leveling jacks on the bottom of the rack are fully extended to the floor with the full weight of the rack resting on them.
- In single rack installation, 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 component from the rack.
- You should extend only one component at a time - extending two or more simultaneously may cause the rack to become unstable.

General Server Precautions

- Review the electrical and general safety precautions that came with the components you are adding to your chassis.
- Determine the placement of each component in the rack *before* you install the rails.
- Install the heaviest server components on the bottom of the rack first, and then work up.
- Use a regulating uninterruptible power supply (UPS) to protect the server from power surges, voltage spikes and to keep your system operating in case of a power failure.
- Allow the hot plug hard drives and power supply modules to cool before touching them.
- Always keep the rack's front door and all panels and components on the servers closed when not servicing 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 ambient temperature of the room. Therefore, consideration should be given to installing the equipment in an environment compatible with the manufacturer’s maximum rated ambient temperature (Tmra).

Reduced 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.).

5-4 Rack Mounting Instructions

This section provides information on installing the SC812L chassis into a rack unit with the rails provided. There are a variety of rack units on the market, which may mean the assembly procedure will differ slightly. You should also refer to the installation instructions that came with the rack unit you are using.

NOTE: The rails will fit a rack between 29" and 35.25" deep.

Identifying the Sections of the Rails

The chassis package includes two rail assemblies in the rack mounting kit. Each assembly consists of two sections: an inner fixed chassis rail that secures directly to the server chassis and an outer rack rail that secures directly to the rack itself.

Rail Brackets

The chassis package includes four rail brackets and two chassis mounts. The rail brackets have long ovals used to adjust the length of the rails when mounting. The chassis mounts (both short) have one square hole.

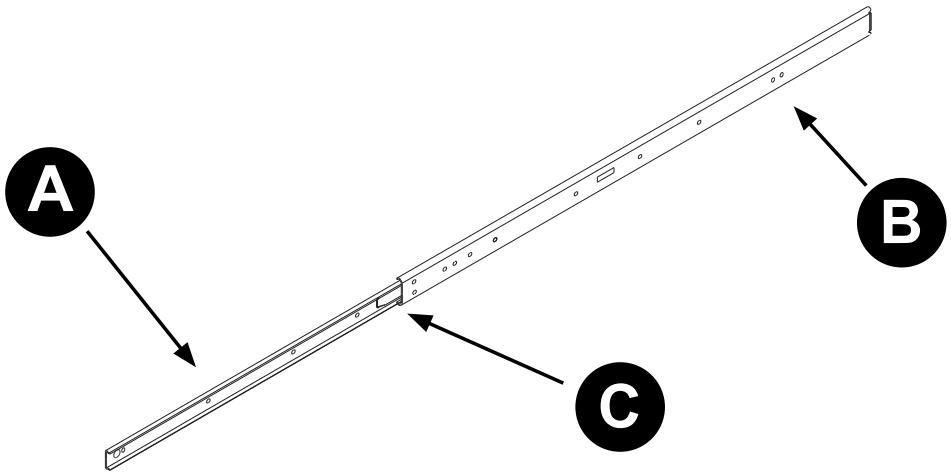


Figure 5-1: Inner and Outer Rails

To separate the inner and outer rails:

1. Pull the inner rail (A) from the outer rail (B) as far as possible.
2. Depress the locking tab (C) to pull the inner rail completely out.
3. Repeat steps 1 and 2 for the other rail.

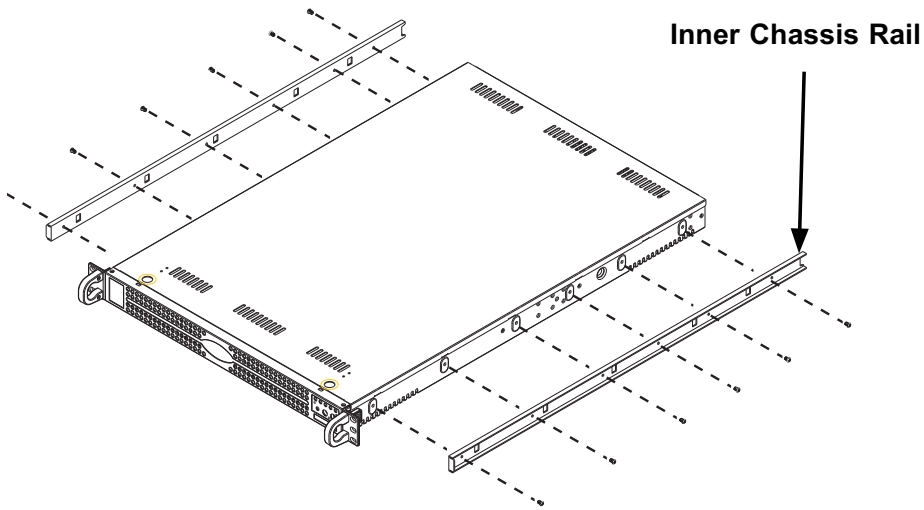


Figure 5-2: Rail Installation

To install the inner rail to the chassis:

1. Align the chassis rail with the side of the chassis.
2. Secure the rail to the chassis using six M5 flat head screws.
3. Repeat steps 1 and 2 for the other chassis.

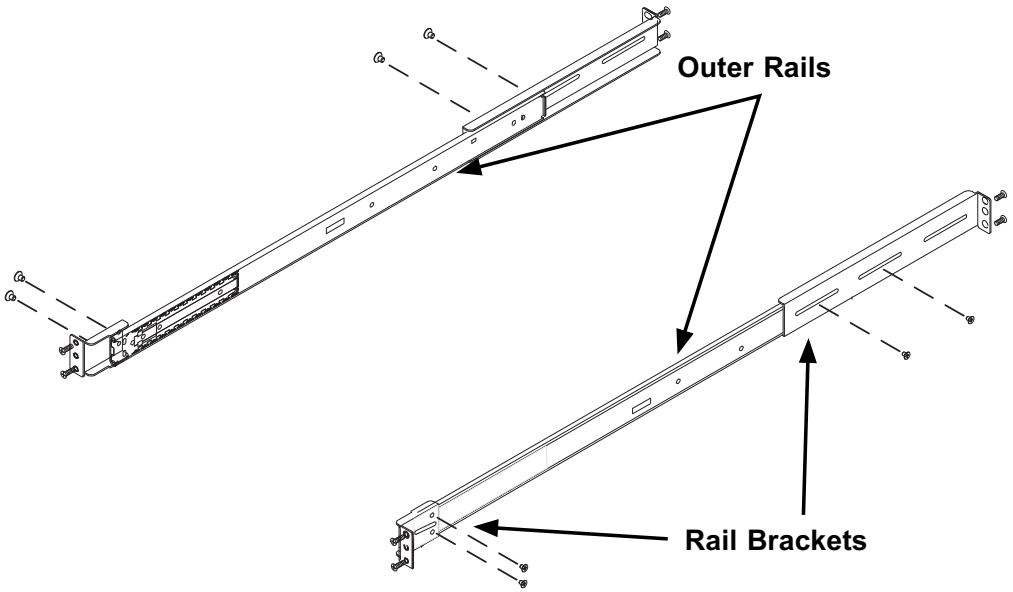


Figure 5-3. Rack Brackets

To install the outer rails to the rack:

1. Confirm that the inner rails have been separated from the outer rails.

2. Locate the rail brackets in the accessories box. The chassis package includes four rail brackets and two chassis mounts. The rail brackets have long ovals used to adjust the position of the rails when mounting. The chassis mounts (both short) have one square hole.

3. Secure the short brackets to the front of the outer rails with two M4 screws.

4. Secure the long brackets to the outer rails using two M4 screws. Tighten the screws loosely so the bracket can slide back and forth.

5. Position the outer rail and brackets in the rack at the desired level.

6. Secure the front of the rail to the rack using two M5 rack screws.

7. Slide the rear bracket so that it snugly fits into the rack. Secure the rear bracket to the rack using two M5 screws.

8. Tighten the screws that secure the rear bracket to the rail.

9. Repeat these steps with the other chassis rail.

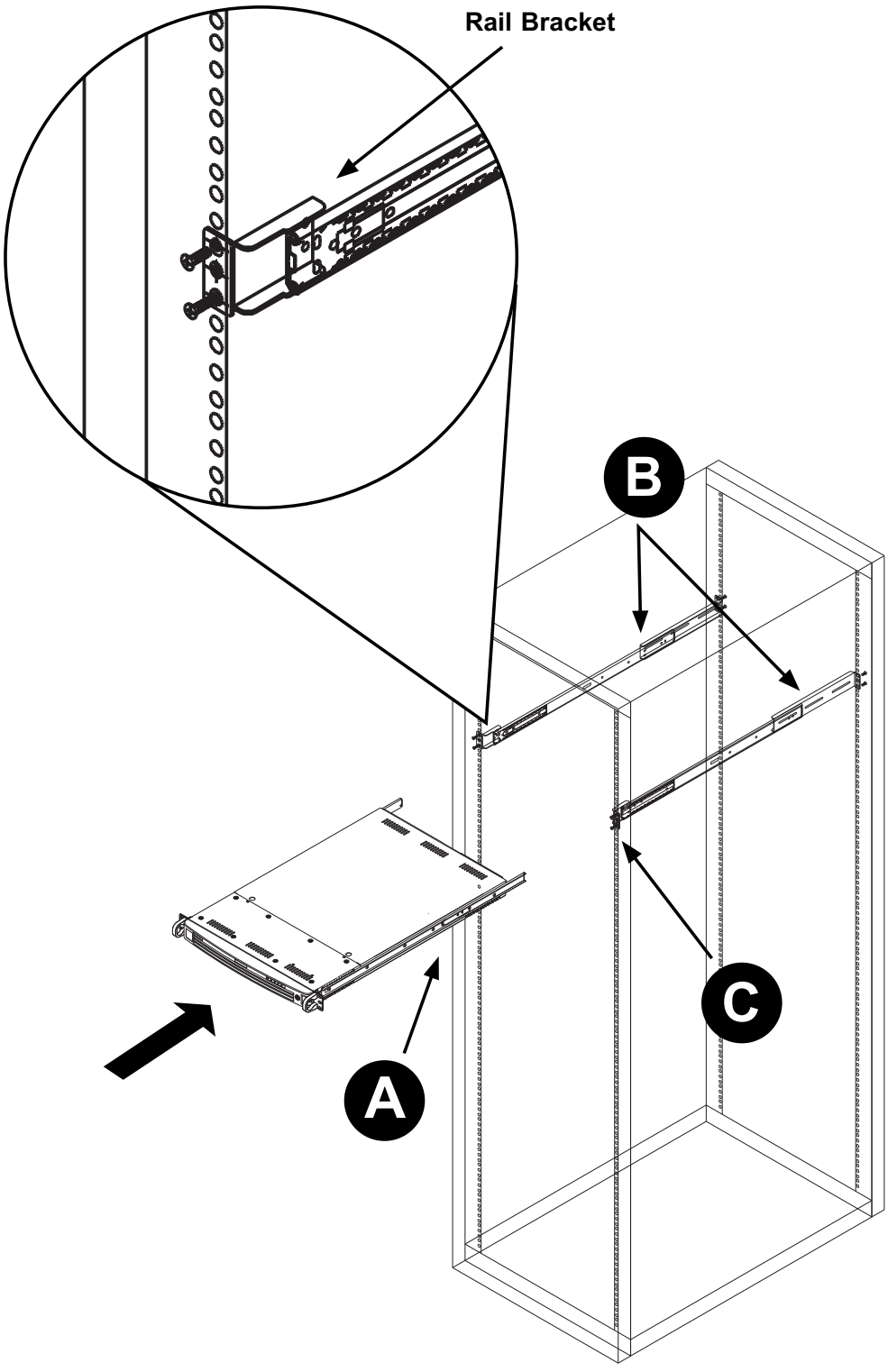


Figure 5-3. Mounting the Chassis

To install the chassis into a rack:

1. Confirm that the chassis includes the inner rails (A) and that the outer rails (B) are installed on the rack (See Figure 5-3)

2. Align the chassis rails (A) with the front of the rack rails (C).

3. Slide the chassis rails into the rack rails, keeping the pressure even on both sides (you may have to depress the locking tabs when inserting). When the server has been pushed completely into the rack, you should hear the locking tabs "click".

4. (Optional) Insert and tightening the thumbscrews that hold the front of the server to the rack.

Telco (Two Post) Racks

Telco racks utilize two posts instead of four. Because of this, telco racks require a different installation process.

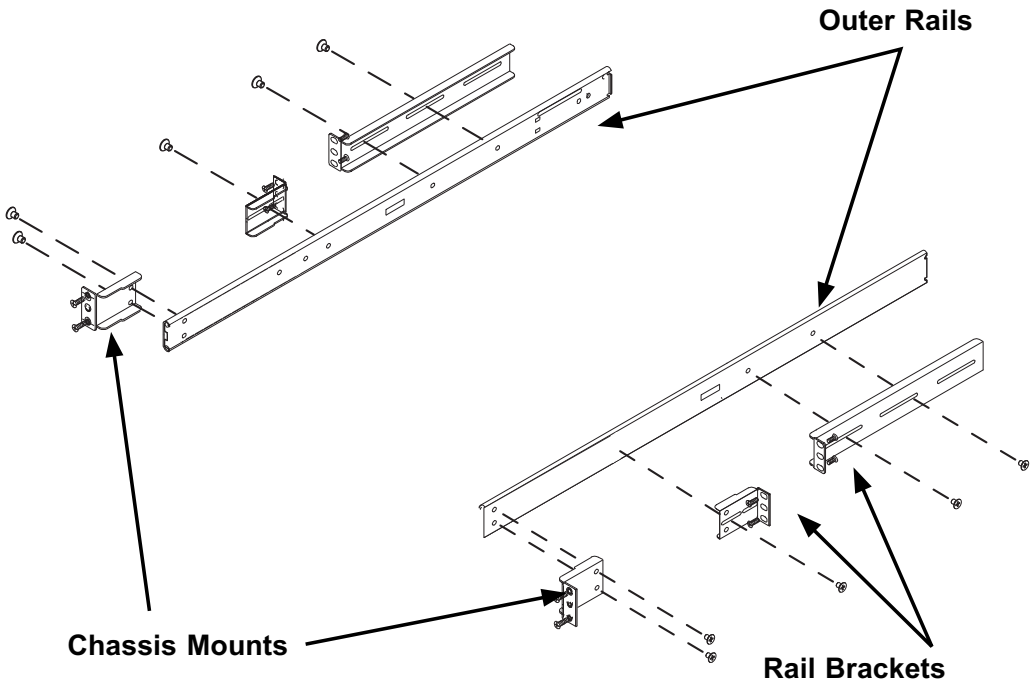


Figure 5-4: Installing the Server into a Telco Rack

To install the chassis into a Telco rack:

This chassis requires both the inner and outer rails for Telco rack installation. You must reverse the brackets to accommodate two posts instead of four:

1. Install the inner rails to the chassis as described in this chapter.
2. Attach the short and long brackets to the outer rails, as illustrated. For the short brackets, use one M4 screw placed in the oval screw mount. For the long brackets, use the two M4 screws placed in the two middle oval screw mounts. Tighten the screws loosely.
3. (Optional) Attach the chassis mounts if you will want to lock the chassis into place once the chassis is installed.
4. Repeat steps 2 and 3 for the second outer rail.

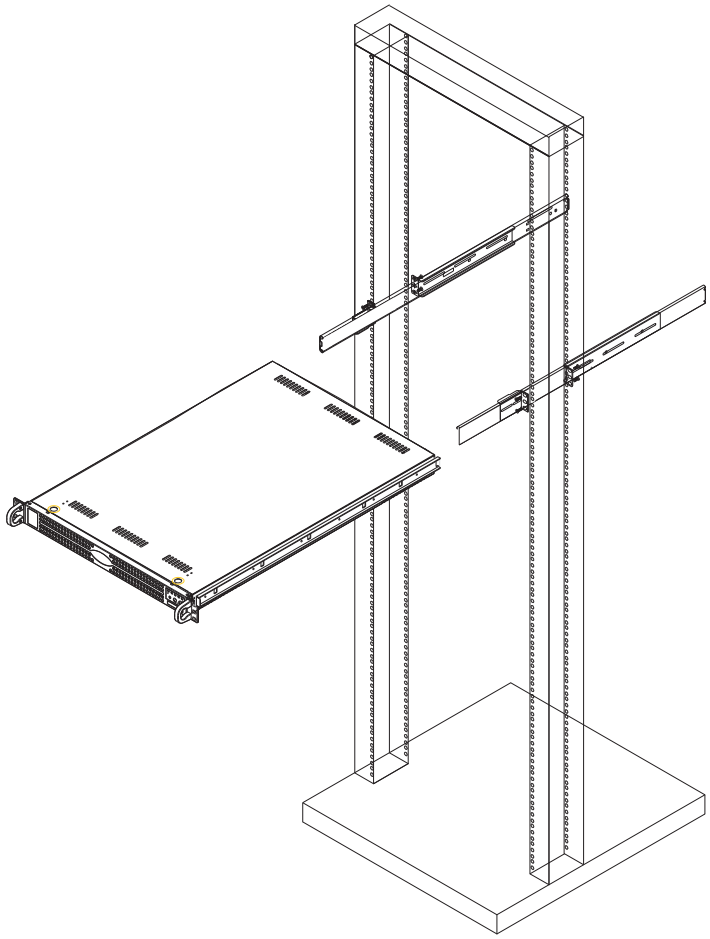


Figure 5-6: Installing the Server into a Telco Rack

5. Place one outer rail in the Telco rack as illustrated.

6. Slide the brackets until each snugly fits against the Telco rack post.

7. Secure the brackets to the Telco rack with two M5 screws for each bracket.

8. Tighten the M4 screws that secure each bracket to the outer rail.

9. Repeat steps 5 - 9 using the second outer rail.

10. Line the inner chassis rails (A) with the front of the outer rails (C) (see Figure 5-3).

11. Slide the chassis rails into the rack rails, keeping the pressure even on both sides (you may have to depress the locking tabs when inserting). When the server has been pushed completely into the rack, you should hear the locking tabs "click".

12. (Optional) If you installed the front chassis mount, you can insert thumbscrews through the chassis ears and chassis mounts. The chassis cannot be pulled from the rack unless the thumbscrews are removed.

Notes

Appendices

Appendix A: Compatible Cables

Notes

Appendix A:

Cables, Screws, and Other Accessories

A-1 Overview

This appendix lists supported cables for your chassis system. It only includes the most commonly used components and configurations. For more compatible cables, refer to the manufacturer of the motherboard you are using and our Web site at: www.supermicro.com.

A-2 Cables Included with SC812L

Part #	Type	Length	Description
CBL-036	Cable	various	IDE ATA100/66 3 DROPS CABLE W/LOW PROFILE CONNECTORS
CBL-0087	Ribbon, Round	20"	16 pin to 16 pin ribbon cable for control panel
-	Cable	6'	Regional power cord

A-3 Compatible Cables

Alternate SAS/SATA Cables

Some compatible motherboards may have different connectors. If your motherboard has only one SAS connector that the SAS/SATA cables must share, use one of the following cables. These cables must be purchased separately.

Cable Name: SAS Cable **Quantity:** 1

Part #: CBL-0175L
Alt. Name: "Big Four"

Description: This cable has one SFF-8484 (32 pin) connector on one end and 4 SAS connectors (7 pins each) at the other. This cable connects from the Host (motherboard or other controller) to the backplane SAS hard drive port.

Cable Name: SAS Cable **Quantity:** 1

Part #: CBL-0116
Alt. Name: iPass or "Small Four"

Description: This cable has one ipass (SFF-8087/mini-sas) connector (36 pins) at one end and 4 SAS connectors on one end. This cable connects from the Host (motherboard or other controller) to the backplane SAS hard drive port.

Extending Power Cables

Although Super Micro chassis are designed with to be efficient and cost-effective, some compatible motherboards have power connectors located in different areas.

To use these motherboards you may have to extend the power cables to the mother boards. To do this, use the following chart as a guide.

Power Cable Extenders		
Number of Pins	**Cable Part #**	**Length**
24 pin	**CBL - 0042**	**7.9”(20 CM)**
20 pin	**CBL - 0059**	**7.9”(20 CM)**
8 pin	**CBL - 0062**	**7.9”(20 CM)**
4 pin	**CBL - 0060**	**7.9”(20 CM)**

Front Panel to the Motherboard

The SC812L chassis includes a cable to connect the chassis front panel to the motherboard. If your motherboard uses a different connector, use the following list to find a compatible cable.

Front Panel to Motherboard Cable (Ribbon Cable)		
Number of Pins (Front Panel)	**Number of Pins (Motherboard**	**Cable Part #**
16 pin	**16 pin**	**CBL - 0049**
16 pin	**20 pin**	**CBL - 0048**
20 pin	**20 pin**	**CBL - 0047**
16 pin	**various***	**CBL - 0068**
20 pin	**various***	**CBL - 0067**

* Split Cables: Use these cable if your motherboard requires several different connections from the front panel.

A-4 Chassis Screws

The Chassis and accessory box include all the screws needed to setup your chassis. This section include descriptions of the most common screws used. Your chassis may not require all the parts listed.

M/B

Pan head
6-32 x 5 mm
[0.197]

HARD DRIVE

Flat head
6-32 x 5 mm
[0.197]

DVD-ROM, CD-ROM, and FLOPPY DRIVE

Pan head
6-32 x 5 mm
[0.197]

Flat head
6-32 x 5 mm
[0.197]

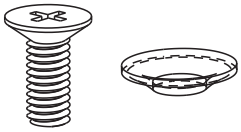
Round head
M3 x 5 mm
[0.197]

Round head
M2.6 x 5 mm
[0.197]

RAIL

Flat head
M4 x 4 mm
[0.157]

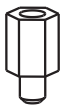
Round head
M4 x 4 mm
[0.157]



Flat head
M5 x 12 mm[0.472]

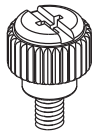
Washer for M5

M/B STANDOFFS

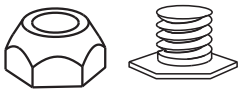


M/B standoff
6-32 to 6-32

M/B (CPU)
standoff
M5 to 6-32



Thumb screw
6-32 x 5 mm
[0.197]



1/U M/B standoff
6-32 x 5 mm
[0.197]