Chapter 6

Rack Installation

6-1 Overview

This chapter provides instructions for mounting the SC523 chassis onto a rack.

6-2 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.

6-3 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

- 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-swappable 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.).

- 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.

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:

6-4 Rack Mounting Instructions

This section provides information on installing the SC523 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.

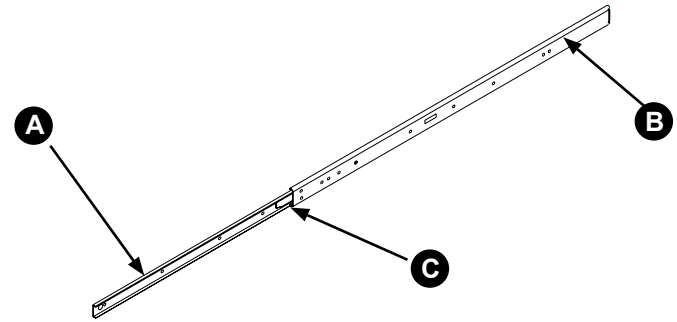

Figure 6-1. Inner and Outer Rails

Separating 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 and separate it from the outer rail.
3. Repeat steps 1 and 2 for the other rail.

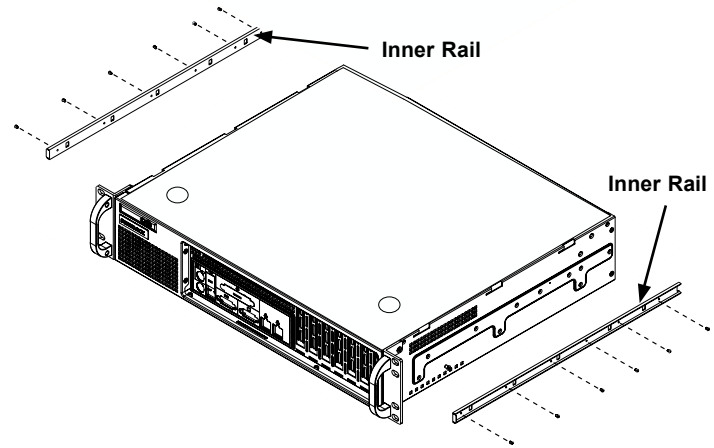

Figure 6-2. Rail Installation

Installing the Inner Rail

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

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

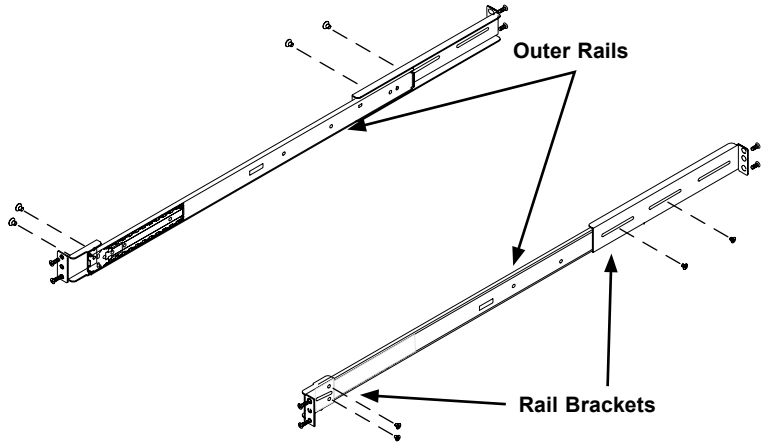

Figure 6-3. Rack Brackets

Installing 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.

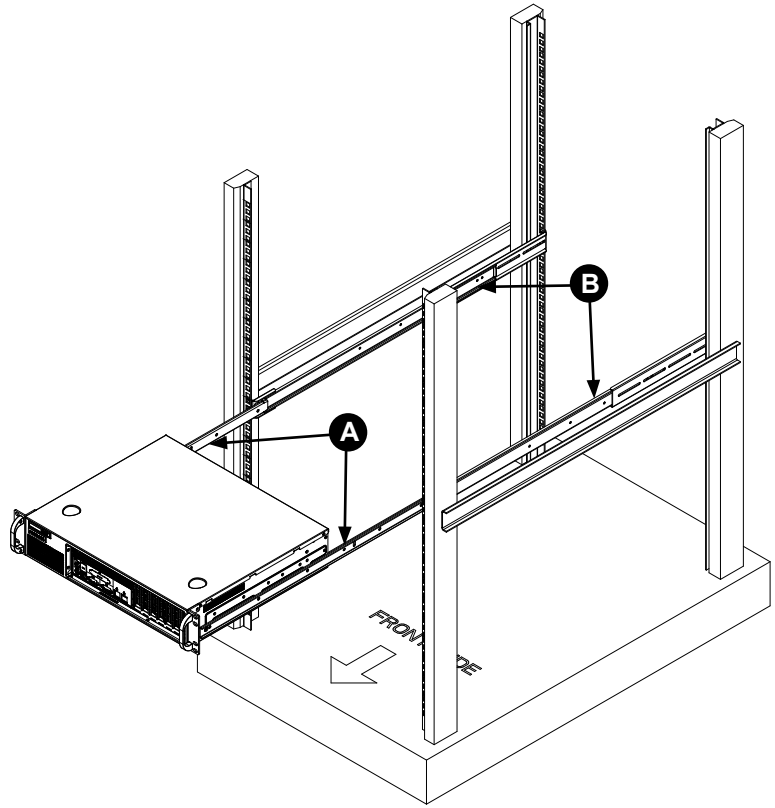

Figure 6-4. Inserting the Inner Rails into the Outer Rails

Installing the Chassis into a Rack

Chassis Installation

1. Confirm that the the inner rails (A) are attached to the chassis and that the outer rails (B) are installed on the rack
2. Align the inner rails with the front of the outer rails. Slide the inner rails into the outer rails, keeping the pressure even on both sides (you may have to depress the locking tabs when inserting).

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.

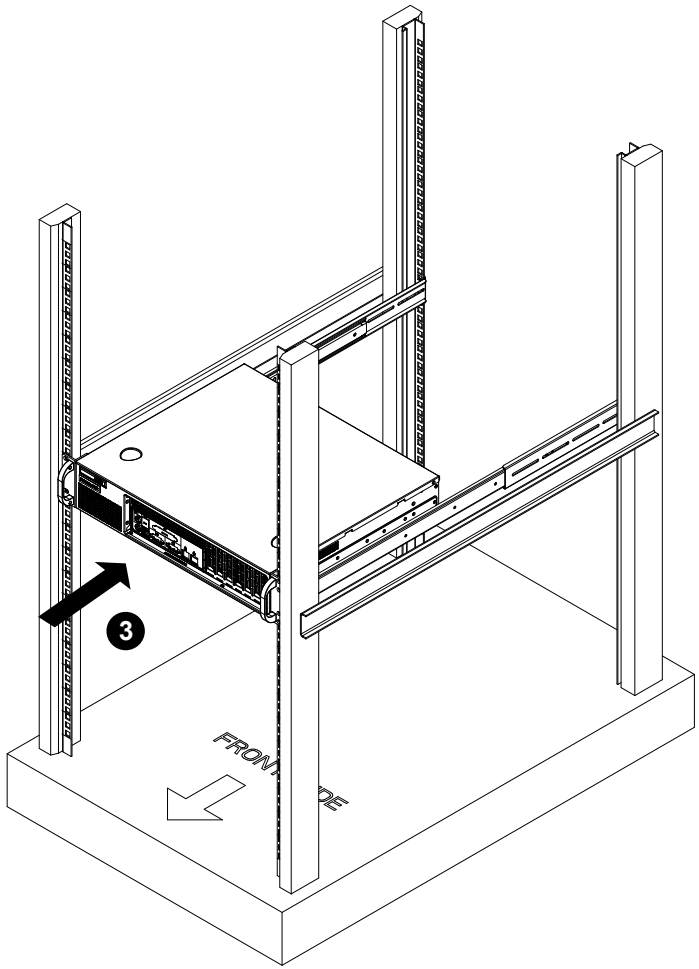

Figure 6-5. Mounting the Chassis onto the Rack

3. When the server has been pushed completely into the rack, you should hear the locking tabs "click" into the locked position.

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

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.

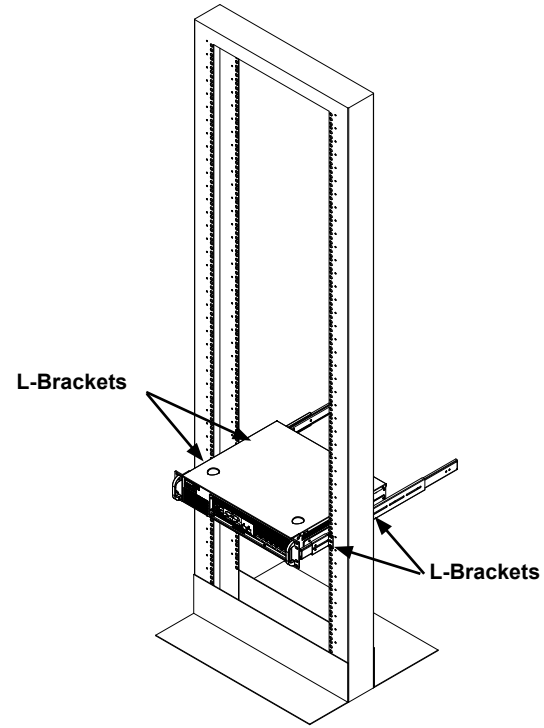

Figure 6-6. Mounting the Chassis onto an Open (Telco) Rack

Installing the Server into a Telco Rack

Installing the chassis into a Telco type rack

1. Use two L-brackets on either side of the chassis (four total). Determine how far the server will extend out the front of the rack. Larger chassis should be positioned to balance the weight between the front and back of the rack. If a bezel is included on your chassis, remove it.

2. Attach the two front brackets to each side of the chassis, and then add the two rear brackets, positioning them with just enough space to accommodate the width of the rack.

3. Complete the installation by sliding the chassis into the rack and tightening the brackets.

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.

Notes

Appendix A

SC523 Power Supply Specifications

This appendix lists power supply specifications for your chassis system.

SC523L-410B	
	410W
MFR Part #	PWS-0061
Rated DC Voltage	Voltage Range: -36 to -72V Nominal Voltage: -.48V Max Input Current: 18A @ -48V 9.5 - 4.5 Amp
DC Output	5V + 3.3V ≤ 160W
+5	35.0 Amp
+5V standby	3.0 Amp
+12V	32.0 Amp
-12V	0.5 Amp
+3.3V	20.0 Amp

SC523L-505B	
	500W
MFR Part #	PWS-505P-1H
AC Input	100-240V, 50-60Hz, 6.6A max
+5	15 Amp
+5V standby	3 Amp
+12V	41 Amp
-12V	0.2 Amp
+3.3V	12 Amp

SC523L-520B	
	520W
MFR Part #	PWS-521-1H
AC Voltage	100 to 240V 50-60 Hz 7-3 Amp
+5	20 Amp
+5V standby	3 Amp
+12V	39 Amp
-12V	0.5 Amp
+3.3V	16 Amp