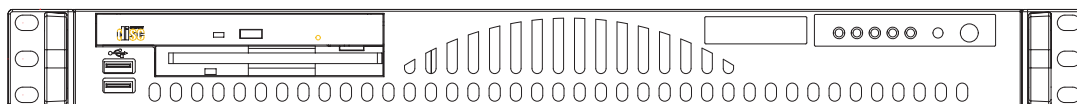
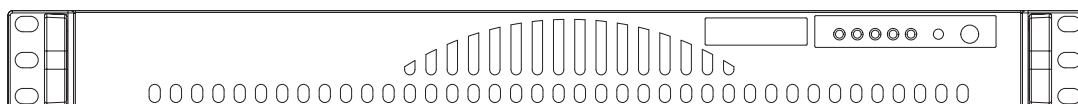


SUPERO®

The SC512C/L Series



The SC512C Series



The SC512L Series

SC512 CHASSIS

USER'S GUIDE

The information in this User's Guide has been carefully reviewed and is believed to be accurate. The vendor assumes no responsibility for any inaccuracies that may be contained in this document, makes no commitment to update or to keep current the information in this manual, or to notify any person or organization of the updates.

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Chapter 1- Introduction

1-1 Electricity Safety



General Electrical Safety Guidelines

- Use the exact type of power cords as required.
- Be sure to use power cord(s) that came with safety certifications.
- The power cord(s) must be compliant with the AC voltage requirements in your region.
- Plug the Power cord(s) into a socket that is properly grounded before turning on the power.
- Take extra precautionary measures when working with high voltage components. It is not recommended to work alone.
- Before removing or installing chassis components, be sure to disconnect the power first. Turn off the system before you disconnect the power supply.

1-2. ESD Safety Guidelines



Electric Static Discharge (ESD) can damage electronic components. To prevent damage to your system board, 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.
- Keep all components and printed circuit boards (PCBs) in their antistatic bags until ready for use.
- Touch a grounded metal object before removing chassis components or the motherboard from the antistatic 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 motherboard by its edges only; do not touch its components, peripheral chips, memory modules or contacts.
- When handling processors, chips or modules, avoid touching their pins.
- Put the motherboard or components back into their antistatic bags when not in use.
- For the grounding purpose, make sure that your chassis provides excellent conductivity between the power supply, the case, the mounting fasteners and the motherboard.

1-3. General Safety Guidelines



Warning!! Follow the guidelines below to avoid possible damage to the system or injury to yourself:

- To avoid injuries to your back, be sure to use your leg muscles, keep your back straight, and bend your knees, when lifting the system.
- After removing the components or chassis covers from the system, place them on a table for safeguard.
- Avoid wearing loose clothing to preventing it from coming into contact with electrical circuits or being pulled into a cooling fan.
- The handles are for sliding the chassis in and out of the racks only. Do not carry the chassis by the handles.

1-4. Operation Safety Guidelines



Warning: For proper cooling, make sure to install all chassis covers before turning on the system. If this rule is not strictly followed, warranty may become void. Do not open the casing of a power supply. Power supplies can only be accessed and serviced by a qualified technician of the manufacturer. Be sure to follow the steps below to install the chassis covers:

1. Make sure that all components and devices are securely fastened on the chassis and there are no loose parts/screws inside the chassis.
2. Make sure that all cables are properly connected to the connectors and ports.
3. Use the original screws or fasteners to install the covers to the chassis.
4. Be sure to lock to the chassis or the system to prevent unauthorized access.
5. Please follow the procedures listed in Chapter 2 to install or remove components to or from the SC512.

1-5. An Important Note to the User:

All images and graphics shown in this manual were based upon the latest chassis Revision available at the time of publishing. The chassis you've received may or may not look exactly the same as the graphics shown in this manual.

1-6 Product Compliance Information

If integrated with a motherboard validated and recommended by Supermicro, and configured based upon the instructions outlined in this manual, the SC512 Chassis is compliant with the following safety standards/requirements:

Product Safety

- *Canada/USA--UL60 950-CSA60 950
- *European Union--EN 60 950
- *International--IEC 60 950 (*Power Supply only)

Electromagnetic Compatibility (EMC)-Emissions

- *European Union--EN55022: 1994
- *International--CISPR 22
- *USA--Title 47 CFR, Part 15

Electromagnetic Compatibility-Immunity

- *European Union--EN55024: 1998
- *International--CISPR 24

Power Line Harmonics/Voltage Flicker

- *European Union--EN61000-3-2/EN61000-3-3

1-7. Packing List and the SC512 Specifications

A. The SC512 chassis contains the following:

The SC512L Series:

Component	Qty	Part Number
Blower	One (3800rpm blower)	FAN-0038
HDD	Two 3.5" Drives	--
USB	N/A	--
Floppy	N/A	--
CD-ROM	N/A	--
Power	200W	PWS-0043

The SC512L-260 Series:

Component	Qty	Part Number
Blower	One (5000rpm blower)	FAN-0059
HDD	Two 3.5" Drives	--
USB	N/A	--
Floppy	N/A	--
CD-ROM	N/A	--
Power	260W	PWS-0055

The SC512C Series:

Component	Qty	Part Number
Blower	One (3800rpm blower)	FAN-0038
HDD	One 3.5" Drive	--
USB	One 2.0 Connection	--
Floppy	One Slim FDD	FPD-MISMI-02
CD-ROM	One Slim CD-ROM	CDM-TEAC-24
Power	200W	PWS-0043

The SC512C-260 Series:

Component	Qty	Part Number
Blower	One (5000rpm blower)	FAN-0059
HDD	One 3.5" Drive	--
USB	One 2.0 Connection	--
Floppy	One Slim FDD	FPD-MISMI-02
CD-ROM	One Slim CD-ROM	CDM-TEAC-24
Power	260W	PWS-0055

B. The Accessory Kit

Component	Quantity
AC Power Cord	1
Screws	1 set
Rackmount Kit	1 (CSE-PT8) –(*optional)
SC512 I/O Label	2
Hard Disk Drive Mounting Kit	1
Air Shroud	1

C. Chassis Specifications

Specifications	
Form Factor	14" mini 1U chassis support for maximum MB size: 12"x9.7" (304.7mmx 246.4mm) ATX
CPU Support	Pentium 4
Expansion Card	One full-height/half-length PCI Slot (w/Riser Card)
Drive Bays	The SC512L Series: two 3.5" fixed, the SC512C Series: one 3.5 fixed
Cooling System	One 10cm blower (200W: 3800rpm, 260W: 5000rpm)
Front Panel LEDs	One PWR LED, one HDD Activity LED, two Network Interface LEDs, one System Overheat LED
Front Panel Buttons	PowerOn/Off button, System Reset button
Dimensions	16.8"x1.7"x14.0" (427mmx43mmx356mm) (WxHxD)
Rails (Optional)	Extendable 28.5" to 33.25"
Operating Temperature	+10 ⁰ C to +35 ⁰ C (+50 ⁰ F to +95 ⁰ F)
Non Operating Temperature	-40 ⁰ C to +70 ⁰ C (-40 ⁰ F to +158 ⁰ F)
Humidity (Operating)	8-90% (non-condensing)
Humidity (Non-Operating)	5-95% (non-condensing)

D. Power Supply Specifications

Power supply spec	260W	200W
Mfr. Model#	SP262-1S	SP200-1S
Mfr. Part#	PWS-0055	PWS-0038
Rated AC input voltage	100-240V AC	100-240V AC
Rated input frequency	50-60 Hz	50-60 Hz
Rated input current	5A MAX	5A MAX
Rated output power	260W	200W
Maximum rated BTU	1370 BTUs/Hr	BTUs/Hr
Nominal DC output		
+3.3V	15A	15A
+5V	25A	25A
+12V	18A	18A
-12V	1A	1A
+5Vsb	2A	2A

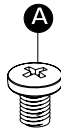
Chapter 2: Chassis Description and Installation Instructions

2-1 Chassis Description

A. Contents of the Accessory Kit:

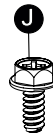
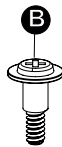
The following items are included in the Accessory Kit:

M/B



- A. Pan head w/ lock 6-32 x 4.5 mm [0.177]

DRIVE



- B. Flat head 6-32 x 5 mm [0.197] (*For 3.5" HDD)
E. Round head M3 x 5 mm [0.197] (*For 2.5" HDD)
J. Hexagon head 6-32 x 5 mm [0.197]

RAIL (*Not included in the shipment)



- G. Round head M4 x 4 mm [0.157]
H. Flat head M5 x 12 mm [0.472]
I. Washer for M5

Handle

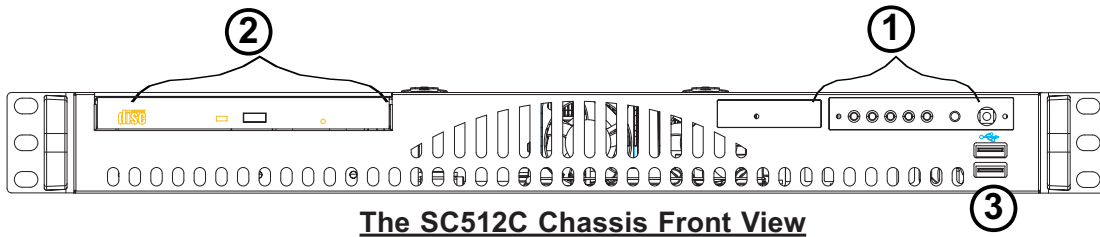


- D. Taper head 6-32 x 5 mm [0.197]

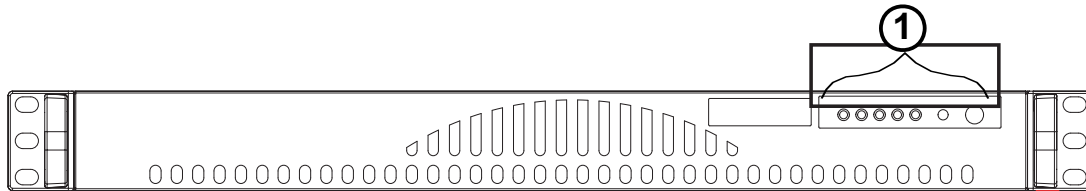
B. Power Cords/SATA Cables:

1. SATA Power Cord: Y Cable L=50CM (19.69")
2. SATA (Serial ATA) Cable L=25CM (9.84")

C. Chassis Front View and the Front Control Panel



The SC512C Chassis Front View

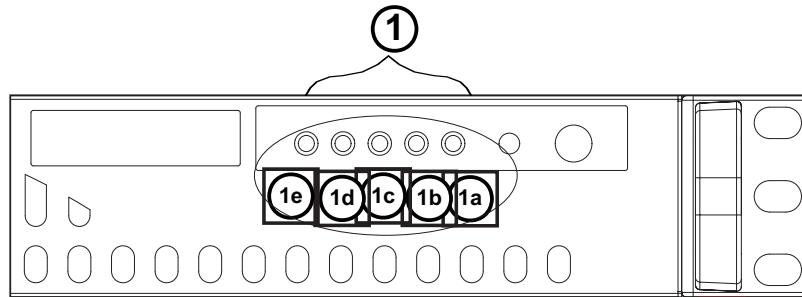


The SC512L Chassis Front View

1. Front Panel and I/O Device Definitions

1. Front Panel LED Indicators
2. I/O Devices (SC512C: 1 CD-ROM and 1 HDD, SC512L: 1 CD-ROM only) 3. USB ports (x2)

2. Front Panel LED Button Definitions



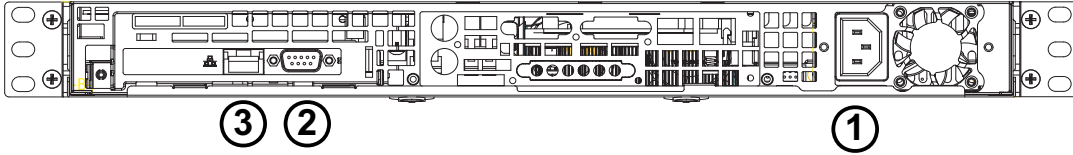
- | | |
|---------------------|----------------------|
| 1a. Power On LED | 1b. HDD Activity LED |
| 1c. NIC1 (LAN1) LED | 1d. NIC2 (LAN2) LED |
| 1e. Overheat LED | |

3. Front Control Panel LED Button Descriptions

LED Button	Color	Condition	Description
Power	Green	On	System On
		Off	System Off
HDD	Amber	Blink	HDD Activity
		Off	No Activity
LAN1 & LAN2	Green	On	Linked
		Blink	LAN Activity
		Off	Disconnected
Overheat	Red	On	System Overheat
		Off	System Normal

D. Chassis Rear View

SC512 Chassis Rear View



1. Back Panel and I/O Device Descriptions

1. Power Connector
2. COM Port
3. LAN Ports

2-2 Chassis Installation

A. Important Safety Guidelines



This product shall only be accessed, assembled and serviced by technically qualified personnel or technicians.

To avoid personal injury and property damage, please read all the information provided in Chapter 1, and carefully follow all the Safety Guidelines listed before accessing or servicing the SC512 or its components. For your convenience, some Safety Steps are also listed below:

Safety Steps

Before accessing the chassis:

1. Turn off all peripheral devices and turn off the power supply connected to the SC512.
2. Unplug all power cords from the system or the wall outlets.
3. Disconnect all the cables and label the cables for easy identification.
4. Use a grounded wrist strap designed to prevent static discharge when handling components.

Removing the chassis covers:

After completing the above steps, you can remove the chassis covers and install components and devices into the chassis as described in this chapter.

1. Unlock and remove the screws and fasteners to remove the cover or components.
2. Save all the screws and fasteners for later use. (If necessary, label these screws or fasteners for easy identification.)
3. Follow the instructions given in this chapter to remove the chassis covers.

(*Note: Removing the top cover when the system is running will degrade thermal performance.)

B. Tools needed

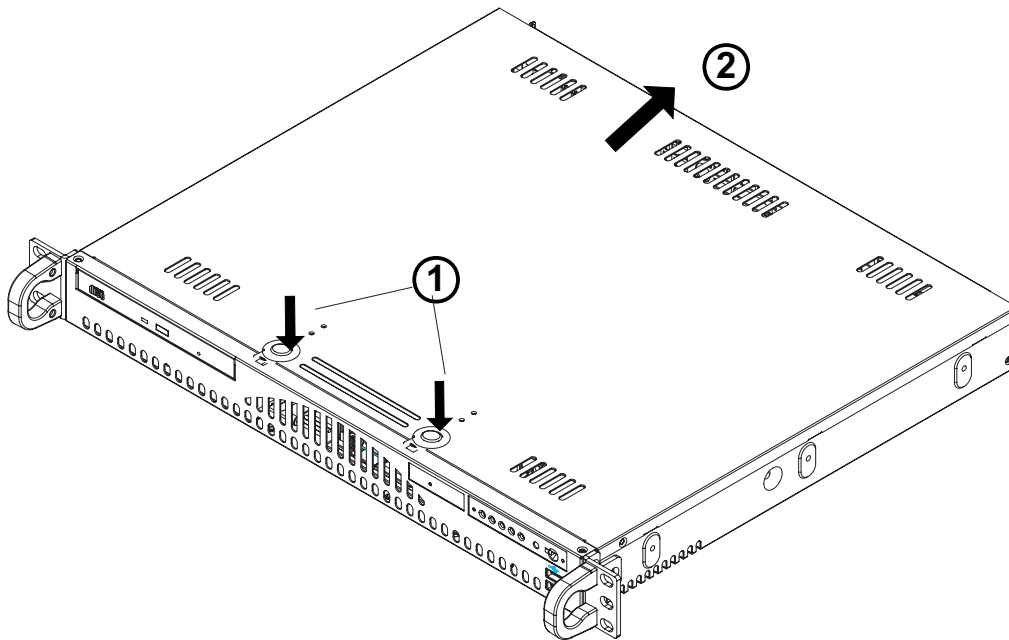
1. Phillips Screw Driver
2. Antistatic Strap

C. Removing the Top Chassis Cover and the HDD Tray Bracket from the chassis

Before installing a hard drive into the chassis, you need to remove the top cover and the HDD tray bracket from the chassis. **(*Note: Removing the top cover when the system is running will degrade thermal performance.)**

Procedures

1. Press the two tabs on the top cover to release the cover from the locking position.
2. Once the top cover is loosened, slide it out of the chassis.

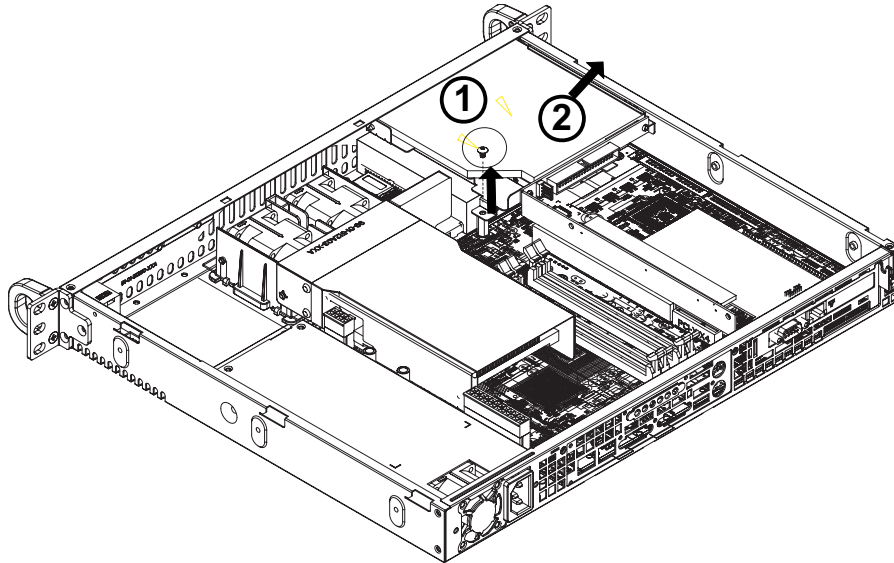


D1. Removing the CD-ROM Module

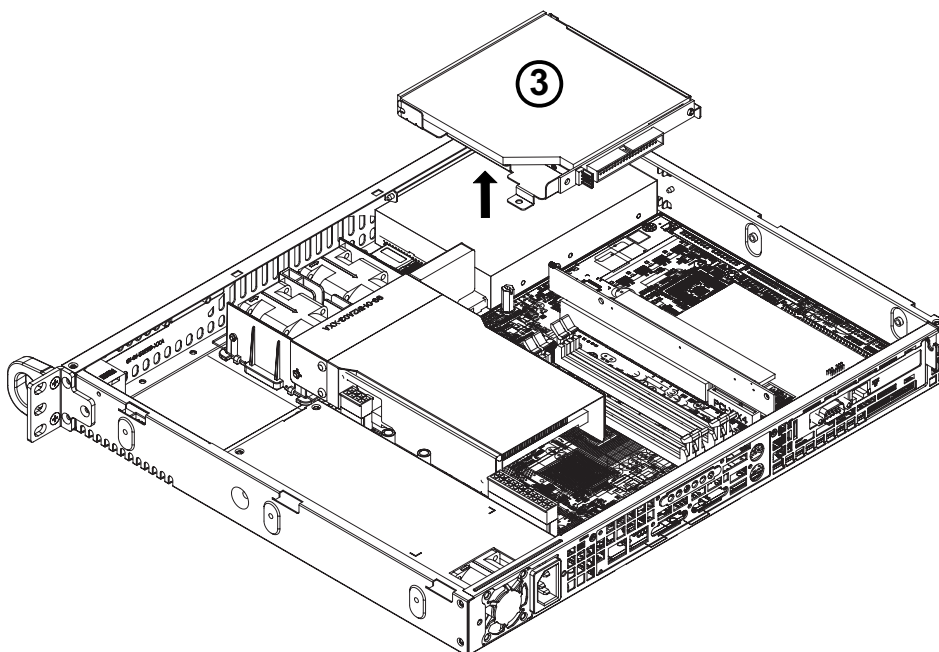
Before installing a CD-ROM into the CD-ROM module, you need to remove the CD-ROM module from the chassis.

Procedures

1. Remove the screw.
2. Once the screw is removed, slide the CD-ROM module toward the backplane to loosen it as shown in the picture below.



3. Once the module is loosened, remove it from the SC512 as shown below.

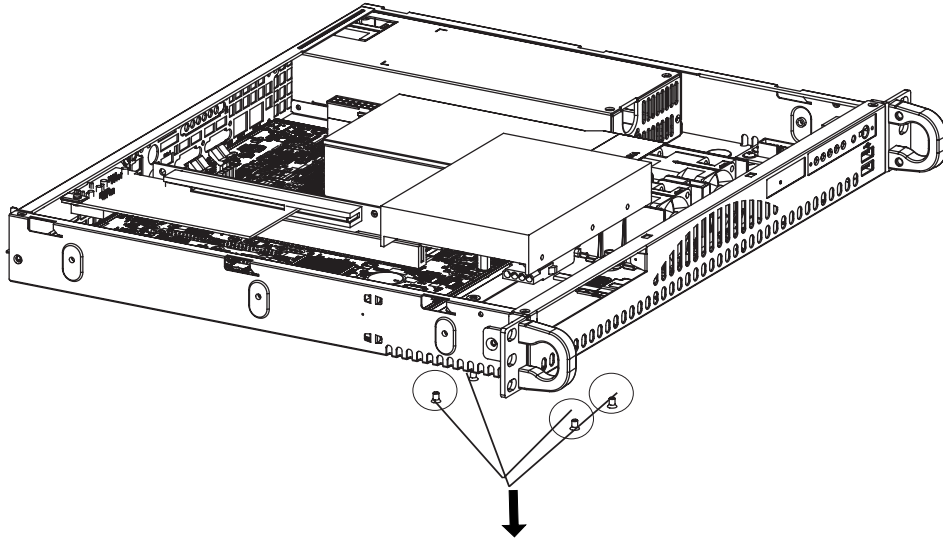


D2. Removing the HDD Drive Tray Housing and Installing the HDDs

After the HDD Drive Tray Bracket is removed from the chassis, you can install HDDs into the HDD Drive Housing.

Procedures

1. Remove the four screws on the back of the chassis as shown in the picture.
2. Once the screws are removed, you can remove the HDD tray from the chassis.

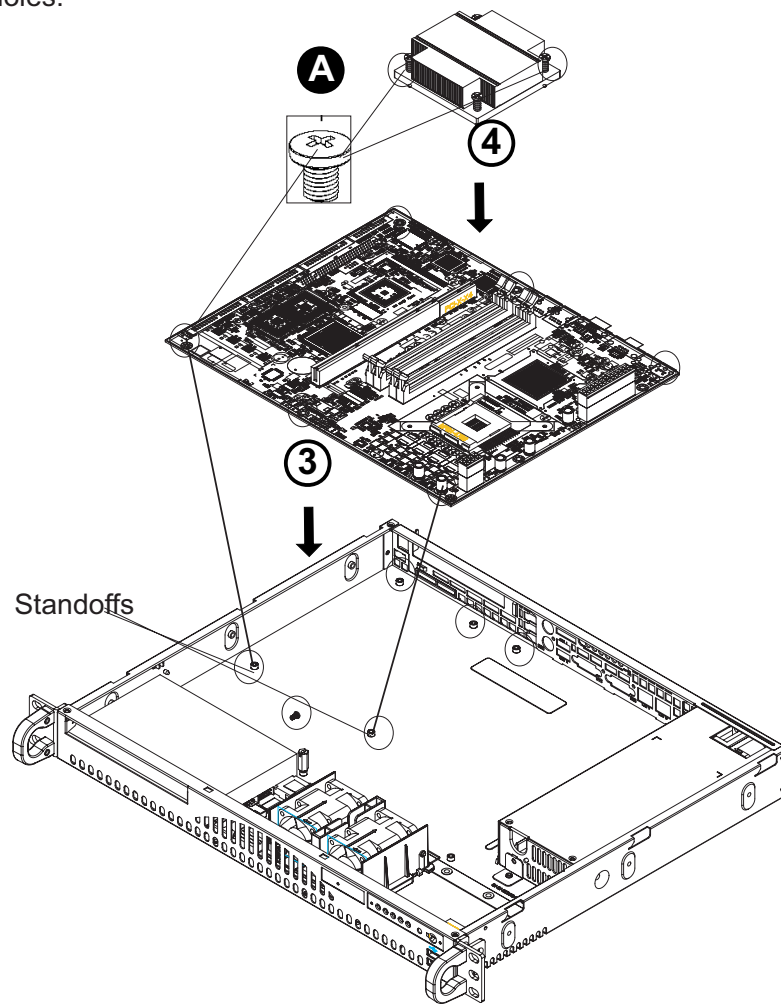


E. Installing the Motherboard

Be sure to disconnect the power supply before accessing or installing the motherboard into the chassis. (Refer to Chapter 1 for Safety Guidelines.)

Procedures

1. Lay the chassis on a flat surface.
2. Locate the CPU location(s). If you have a UP system, be sure to install heatsink brackets on the reverse side of the CPU. (Ignore this step if you have a DP system.)
3. Lay the motherboard on the standoffs and secure it (with Mylar sheets, if any) to the chassis with type A screws.
4. Secure CPU heatsink(s) to the motherboard. (*Refer to the next section for heatsink installation.)
5. Install the air shroud(s) on the motherboard by inserting air shroud clips into the corresponding holes.



(****Note:** the CPU, heatsinks and the motherboard shown above are for reference only!! Both items are not included in the SC512 shipping package.)

F. Installing and Uninstalling the Heatsink Mechanism

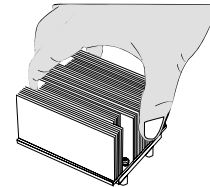


Heatsinks are heavy. Please handle with care!!

***Note: Be sure to use Heatsink # SNK-P0011 for a UP and use Heatsink #SNK-P0007 for a DP System.**

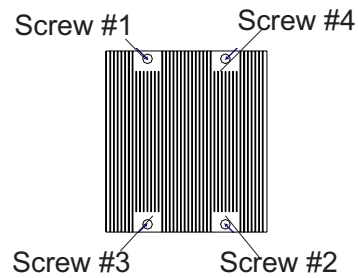
Procedures: Heatsink Installation

1. Do not apply any thermal grease to the heatsink or the CPU die; the required amount of thermal grease has already been applied.



2. Place the heatsink on top of the CPU so that the four mounting holes are aligned with those on the retention mechanism.

3. Screw in two diagonal screws (i.e. the #1 and the #2 screws) until just snug. (Do not fully tighten the screws to avoid possible damage to the CPU.)



4. Finish the installation by fully tightening all four screws.

Procedures: Uninstalling the Heatsink

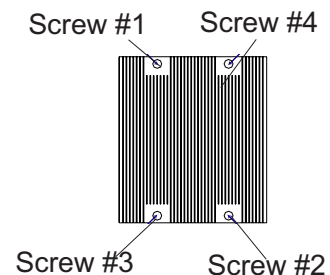
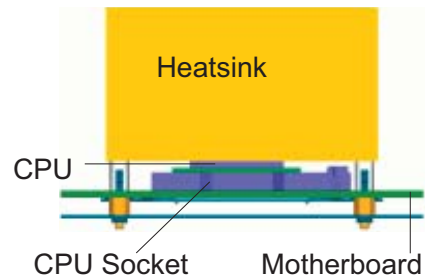
1. Unscrew and remove the heatsink screws from the motherboard in the sequence as show in the fourth picture on the right.

2. Hold the heatsink as show in the first picture on the right and gently wiggle the heatsink to loosen it from the CPU. (Do not use excessive force when wiggling the heatsink!!)

3. Once the CPU is loosened from the heatsink, remove the heatsink from the CPU socket.

4. Clean the surface of the CPU and the heatsink to get rid of the old thermal grease. Reapply the proper amount of thermal grease on the surface before you re-install the CPU and the heatsink.

MB w/Heatsink installed



G. Installing the Cooling Fan Module and the Air Shroud

After the motherboard and the heatsink(s) have been installed in the chassis, you need to install the cooling fans and an air shroud for proper system cooling.

Procedures (*Installing the Cooling Fan Module)

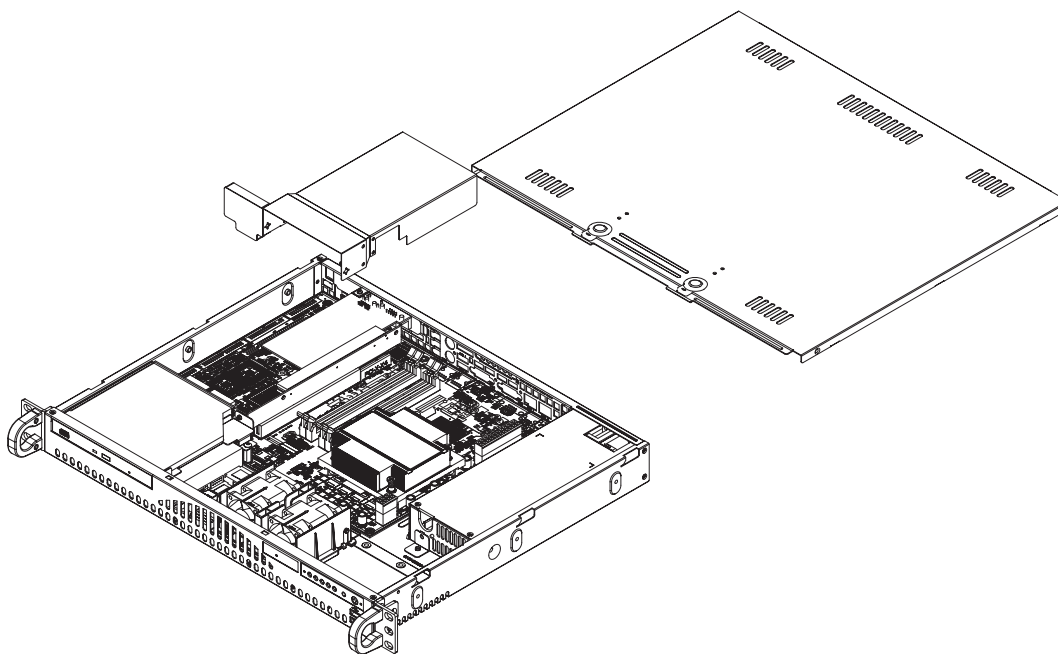
1. Locate two pins on the bottom of the SC512 chassis.
2. Locate two holes on the fan module.
3. Align the two holes on the fan module against the two pins on the bottom of the SC512.
4. Once the holes are aligned with their corresponding pins on the chassis, install the fan module into the chassis by inserting the holes to the corresponding pins.

(*To remove the fan module from the chassis, carefully pull the fan module from the chassis.)

Procedures (*Installing the Air Shroud)

After the fan module has been properly installed in the chassis, you will need to install the air shroud for proper cooling.

4. Locate the two holes on the air shroud and the two pins on the fan module.
5. Align the two holes on the air shroud against their corresponding pins on the fan module. Properly install the air shroud on the fan module by making sure that the pins on fan modules are securely seated on the corresponding holes on the air shroud.



H. Installing Chassis Rails (*Optional)

(*Note: if your chassis does not come with chassis rails, please follow the procedure listed on the last page to install the SC512 directly into the rack.)



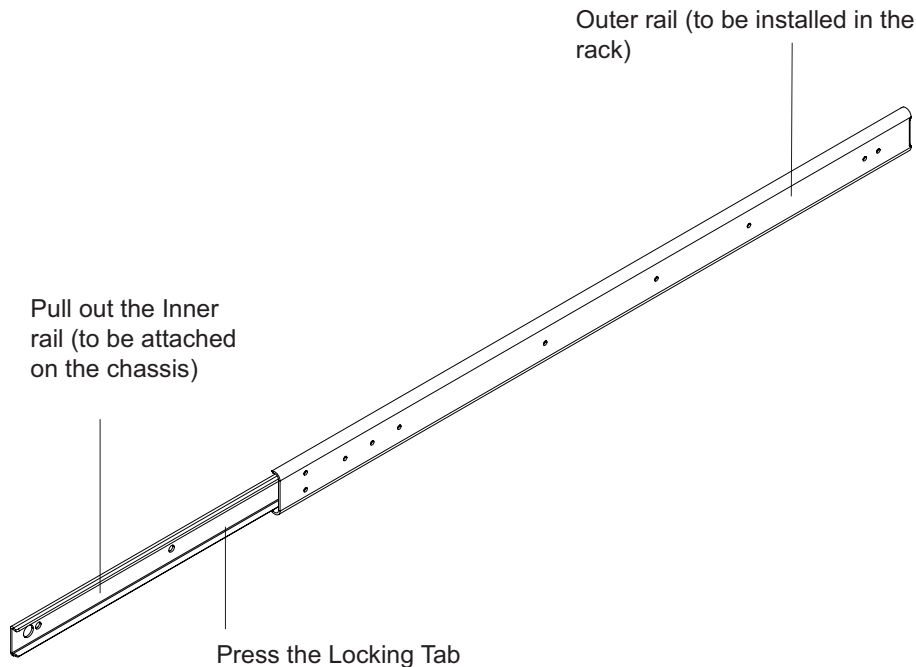
Please make sure that the chassis covers and chassis rails are installed on the chassis before you install the chassis into the rack. To avoid personal injury and property damage, please carefully follow all the safety steps listed below:

Before installing the Chassis rails:

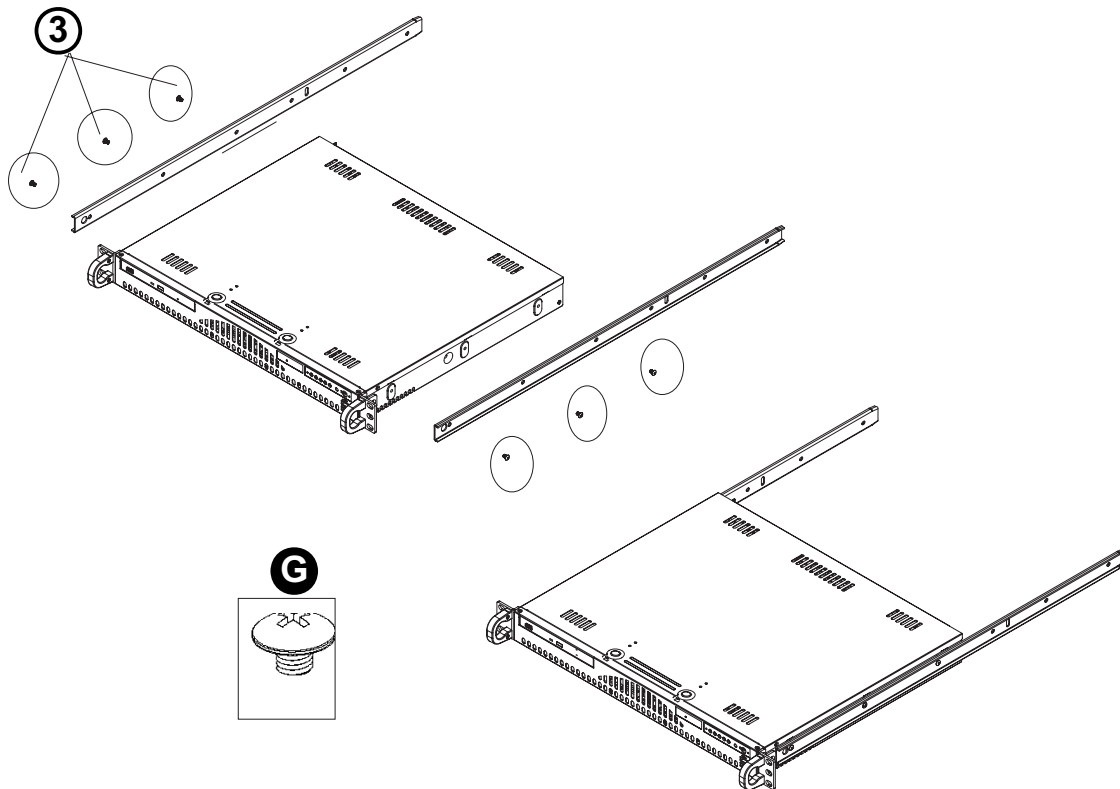
1. Enclose the chassis with chassis covers.
2. Unplug the AC power cord(s).
3. Remove all external devices and connectors.

Procedures to Install Chassis Rails

1. Included in the shipping package are a pair of rail assemblies. In each rail assembly, locate the inner rail and the outer rail.
2. Press the locking tab to release the inner rail from its locking position and pull out the inner rail from the rail assembly. (*The inner rails are to be attached to the chassis and the outer rails are to be installed in the rack.)



3. Locate the three holes on each side of the chassis and locate the three corresponding holes on each of the inner rail.



4. Attach an inner rail to each side of the chassis and secure the inner rail to the chassis by inserting three Type G screws through the holes on each side of the chassis and the inner rail. (Refer to Page 2-1 for the Type G screw.)
5. Repeat the above steps to install the other rail on the chassis.

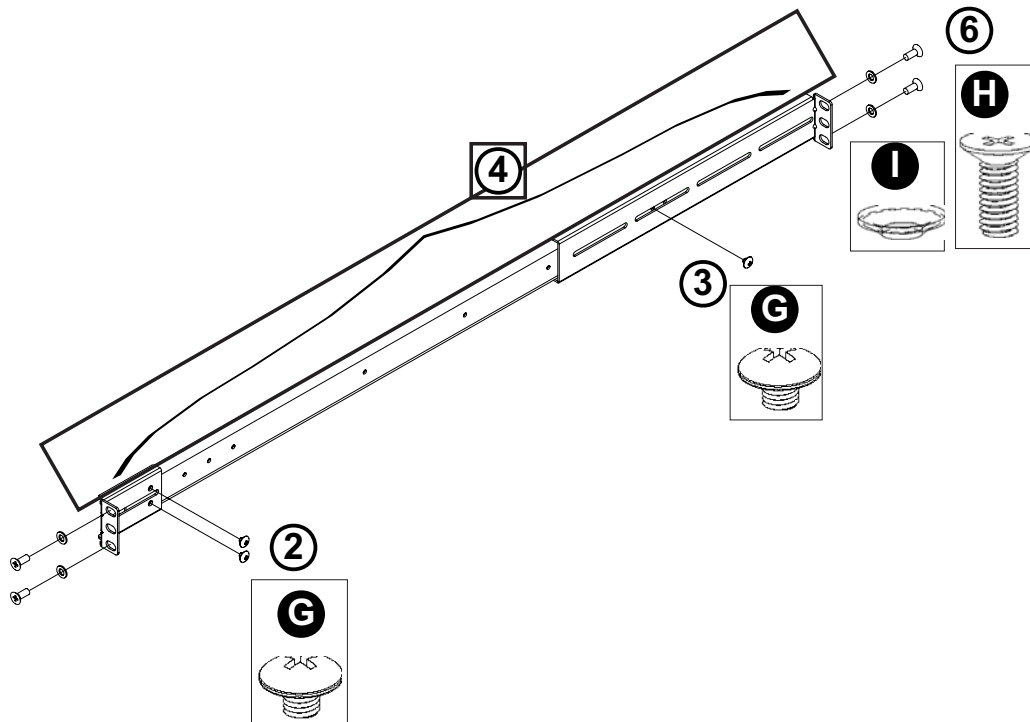
I-1 Installing the Traditional UP Racks (*Optional)

After you have installed the inner rails on the chassis, you are ready to install the outer rails of rail assemblies to the rack.

(* The rails are designed to fit in the racks with the depth of 28" to 33".)

Procedures

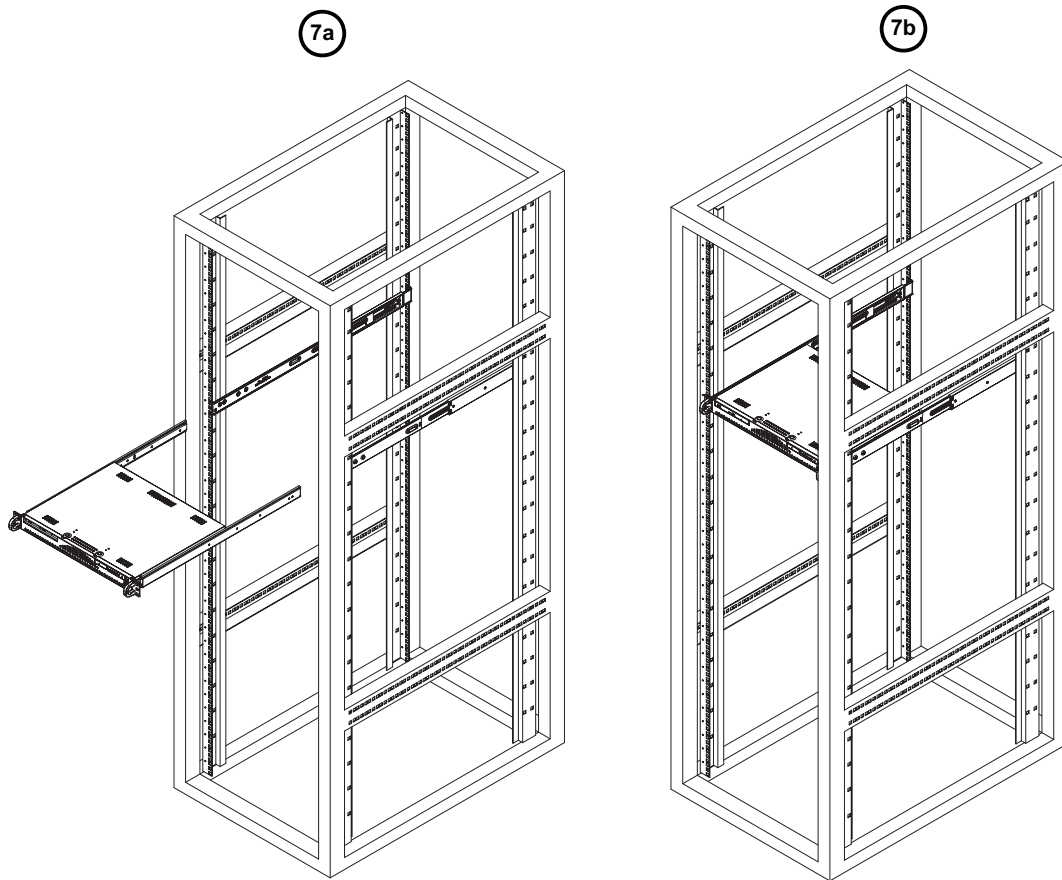
1. In the package, locate a pair of front (-short) and rear (-long) brackets. Please note that the brackets are marked with Up/Front Arrows (-front) and Up/Rear arrows (-rear).
2. Secure the front (-short) bracket (marked with the Up/Front arrows) to the outer rail with two Type G screws.
3. Attach the rear (-long) bracket to the other end of the outer rail and secure the rear (-long) bracket to the outer rail with a Type G screw as shown below.
4. Measure the depth of your rack and adjust the length of the rails accordingly.
5. Repeat the same steps to install the other outer rail on the chassis.
6. Secure both outer rail assemblies to the rack with Type H screws and Type I washers.



7. Slide the SC512 chassis into the rack as shown below.

(The SC512 may not slide into the rack smoothly or easily when installed the first time. Some adjustment to the slide assemblies might be needed for easy installation.)

8. You will need to release the safety taps on both sides of the chassis in order to completely remove the chassis out of the rack.



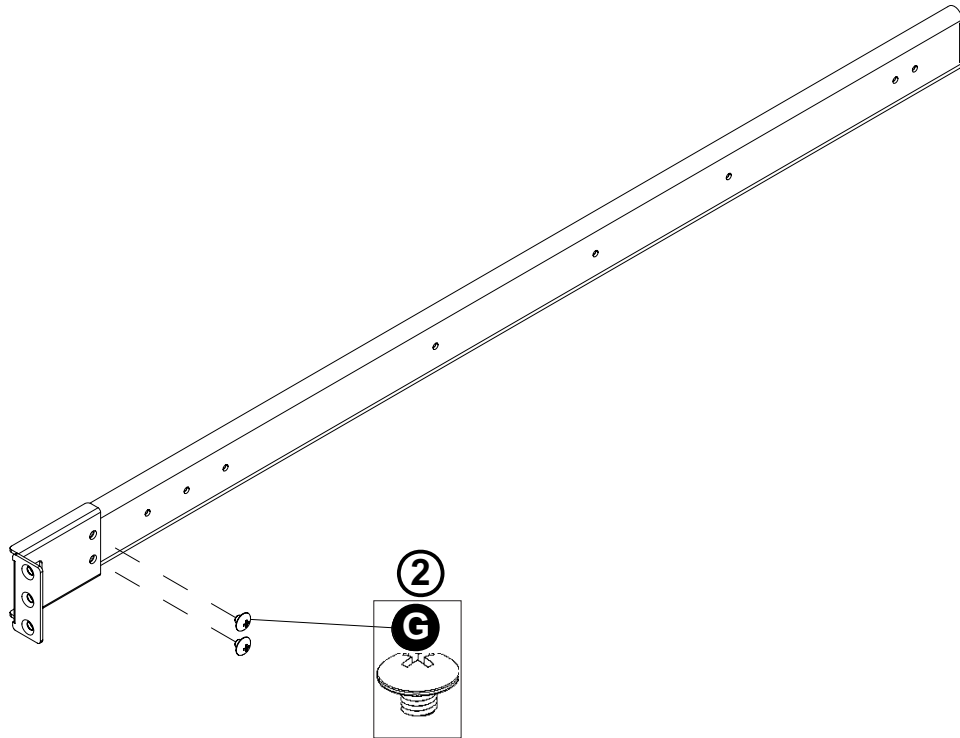
I-2 Installing the Open-Racks (*Optional)

After you have installed the inner rails on the chassis, you are ready to install the outer rails of rail assemblies to the rack.

(* The rails are designed to fit in the racks with the depth of 28" to 33".)

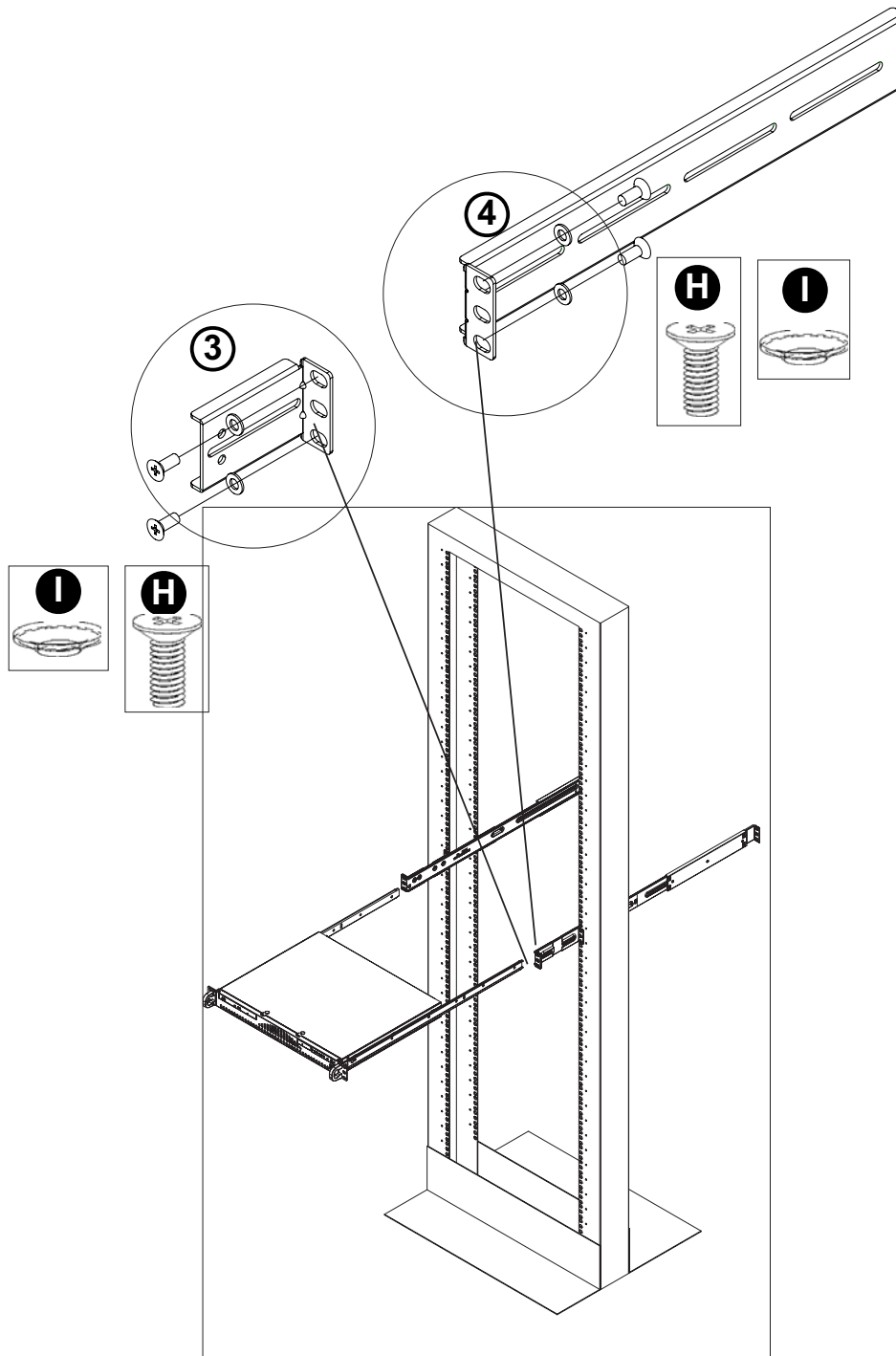
Procedures

1. In the package, locate a pair of front (-short) and rear (-long) brackets. Please note that the brackets are marked with Up/Front Arrows (-front) and Up/Rear arrows (-rear).
2. Secure the front (-short) bracket (marked with the Up/Front arrows) to the outer rail with two Type G screws as shown below.



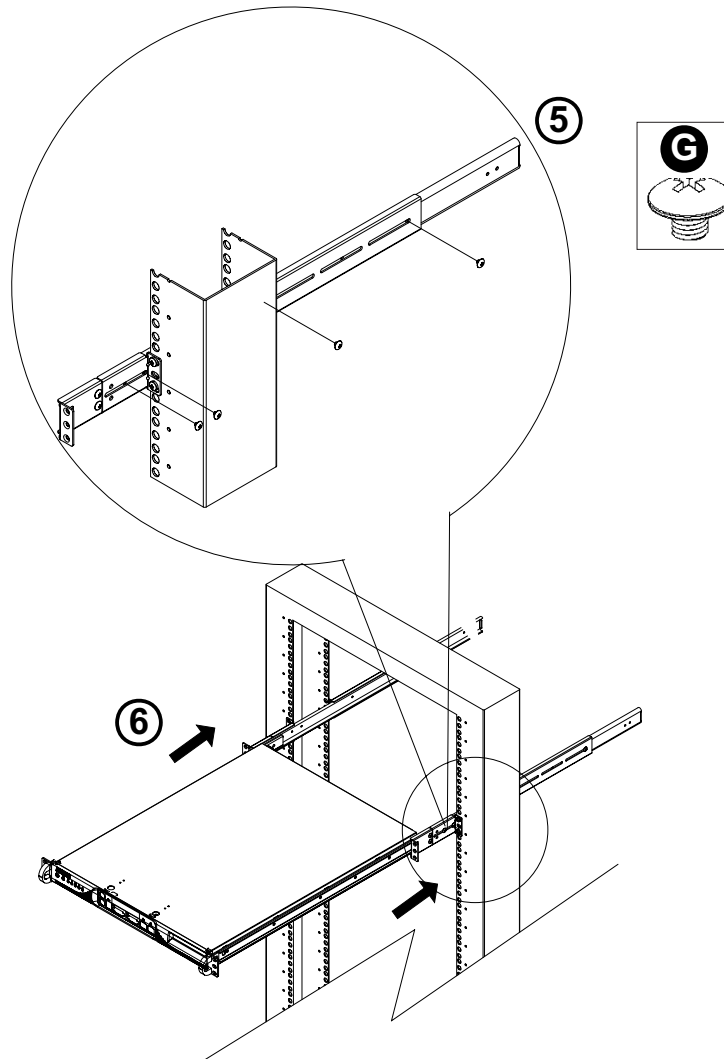
3. Attach the front (-short) bracket to the front end of the rack, and secure it to the rack with two Type H screws and Type I washers as shown below.

4. Attach the rear (-long) bracket to the rear end of the rack, and secure it to the rack with two Type H screws and Type I washers as shown below. Repeat the same steps to install the other outer rail to the other side of rack.



5. Measure the depth of your rack and adjust the length of the rails accordingly. Then, secure the rails to the chassis with Type G screws.

6. Slide the inner rails which are attached to the chassis into the outer rails on the rack.



J. Installing the SC512 into the Racks



Before installing the chassis into the rack:

1. Make sure that the rack is securely anchored onto a unmovable surface or structure before installing the chassis into the rack.
2. Unplug the power cord(s) of the rack before installing the chassis into the rack.
3. Make sure that the system is adequately supported. Make sure that all the components are securely fastened to the chassis to prevent components falling off from the chassis.
4. The rack assembly shall be properly grounded to avoid electric shock.
5. The rack assembly must provide sufficient airflow to the chassis for proper cooling.
6. Please make sure that all components and all chassis covers are properly installed in the chassis before you install the SC512 into the racks; otherwise, out-of warranty damage may occur.

Procedures

1. Slide the SC512 into the racks and secure it with two screws on each side of the rack as shown in the picture.

