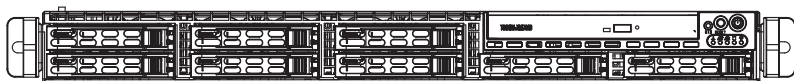


# SUPERO<sup>®</sup>

## SC113 Chassis Series



SC113TQ-R700CB

SC113TQ-R700UB

SC113TQ-R700WB

SC113TQ-700UB

SC113TQ-700CB

SC113TQ-R650UB

SC113TQ-R650CB

SC113TQ-600CB

SC113TQ-600UB

SC113TQ-600WB

SC113TQ-563CB

SC113TQ-563UB

SC113TQ-R500UB

SC113TQ-R500CB

## USER'S MANUAL

1.0d

The information in this User's Manual 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. **Please Note: For the most up-to-date version of this manual, please see our web site at [www.supermicro.com](http://www.supermicro.com).**

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---

**WARNING: Handling of lead solder materials used in this product may expose you to lead, a chemical known to the State of California to cause birth defects and other reproductive harm.**

---

Manual Revision 1.0d  
Release Date: October 2, 2013

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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 SC113 1U chassis. Installation and maintenance should be performed by experienced technicians only.

Supermicro's SC113 1U chassis is optimized for high-end, high-performance applications. It is an efficient 1U rackmount design optimized for best price/performance. It includes eight hot-swappable 2.5" SAS/SATA hard drive bays protected with the SES-II safety feature, with optimized cooling for all configurations.

This manual lists compatible parts available at the time of publication. Always refer to the Supermicro Web site for updates on supported parts and configurations at [www.supermicro.com](http://www.supermicro.com).

## Manual Organization

### **Chapter 1 Introduction**

The first chapter provides a list of the main components included with this chassis. It also includes contact information.

### **Chapter 2 Warning Statements for AC Systems**

This chapter lists warnings, precautions and system safety. Thoroughly familiarize yourself with this chapter for a general overview of the 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, hard drive bays, airflow shields, and other components.

### **Chapter 4 System Interface**

This chapter provides details on the system interface, which includes the functions and information of the control panel LEDs and other LEDs located throughout the system.

### **Chapter 5 Chassis Setup and Maintenance**

Refer to this chapter for detailed information on this chassis. Follow the procedures given in this chapter when installing, removing, or reconfiguring your chassis.

### **Chapter 6 Rack Installation**

This chapter covers detailed information on chassis rack installation. Follow the procedures given in this chapter when installing, removing or reconfiguring your chassis into a rack environment.

### **Appendices**

These appendices list compatible cables and compatible backplanes. Not all compatible backplanes are listed. Refer to our Web site for the latest compatible backplane information at <http://www.supermicro.com>.

#### **Appendix A Chassis Cables**

#### **Appendix B SAS-113TQ Backplane Specifications**

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## Notes



# Chapter 1

## Introduction

### 1-1 Overview

Supermicro's SC113 1U 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 the dual processor modules and eight hot-swappable drive bays offer maximum storage capacity in a 1U form factor. Only SAS or enterprise SATA HDDs are recommended for use in the SC113 chassis.

**Note:** A complete list of safety warnings is provided on the Supermicro web site at [http://www.supermicro.com/about/policies/safety\\_information.cfm](http://www.supermicro.com/about/policies/safety_information.cfm).

### 1-2 Shipping List

Please visit the following link for the latest shipping lists and part numbers for your particular chassis model <http://www.supermicro.com/products/chassis/1U/?chs=113>.

SC113 Chassis			
Model	HDD	I/O Slots	Power Supply
SC113TQ-R700CB	8x 2.5" hot-swap SAS/SATA	1xFF	700W Redundant (Gold Level)
SC113TQ-R700UB	8x 2.5" hot-swap SAS/SATA	FH UIO: 2xFF, 1xLP	700W Redundant (Gold Level)
SC113TQ-R700WB	8x 2.5" hot-swap SAS/SATA	FH UIO: 2xFF, 1xLP	700W Redundant (Gold Level)
SC113TQ-700UB	8x 2.5" hot-swap SAS/SATA	FH UIO: 2xFF, 1xLP	700W
SC113TQ-700CB	8x 2.5" hot-swap SAS/SATA	1x FF	700W

SC113 Chassis			
Model	HDD	I/O Slots	Power Supply
SC113TQ-R650UB	8x 2.5" hot-swap SAS/SATA	FH UIO: 2xFF, 1xLP	Redundant 650W
SC113TQ-R650CB	8x 2.5" hot-swap SAS/SATA	1x FF	Redundant 650W
SC113TQ-600CB	8x 2.5" hot-swap SAS/SATA	1x FF	600W (Digital Switching)
SC113TQ-600UB	8x 2.5" hot-swap SAS/SATA	FH UIO: 2xFF, 1xLP	600W (Digital Switching)
SC113TQ-600WB	8x 2.5" hot-swap SAS/SATA	FH UIO: 2xFF, 1xLP	600W (Digital Switching)
SC113TQ-563CB	8x 2.5" hot-swap SAS/SATA	1x FF	560W (Gold Level)
SC113TQ-563UB	8x 2.5" hot-swap SAS/SATA	FH UIO: 2xFF, 1xLP	560W (Gold Level)
SC113TQ-560UB*	8x 2.5" hot-swap SAS/SATA	FH UIO: 2xFF, 1xLP	560W
SC113TQ-R500CB	8x 2.5" hot-swap SAS/SATA	1x FF	500W (Platinum Level)
SC113TQ-R500CB	8x 2.5" hot-swap SAS/SATA	FH UIO: 2xFF, 1xLP	500W (Platinum Level)

FF: Full-height, full-length card    FH: Full-height card    LP: Low-profile card

\*End of life

## 1-3 Contacting Supermicro

### Headquarters

Address: Super Micro 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](mailto:marketing@supermicro.com) (General Information)  
[support@supermicro.com](mailto:support@supermicro.com) (Technical Support)

Web Site: [www.supermicro.com](http://www.supermicro.com)

### Europe

Address: Super Micro 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](mailto:sales@supermicro.nl) (General Information)  
[support@supermicro.nl](mailto:support@supermicro.nl) (Technical Support)  
[rma@supermicro.nl](mailto:rma@supermicro.nl) (Customer Support)

### Asia-Pacific

Address: Super Micro Computer, Inc.  
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](http://www.supermicro.com.tw)

Technical Support:

Email: [support@supermicro.com.tw](mailto:support@supermicro.com.tw)

Tel: 886-2-8228-1366, ext.132 or 139

## 1-4 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

# Standardized Warning Statements for AC Systems

## 2-1 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 web site at [http://www.supermicro.com/about/policies/safety\\_information.cfm](http://www.supermicro.com/about/policies/safety_information.cfm).

### Warning Definition



#### Warning!

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

#### 警告の定義

この警告サインは危険を意味します。

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

此警告符号代表危險。

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

此警告符號代表危險。

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

## Warnung

### WICHTIGE SICHERHEITSHINWEISE

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

BEWAHREN SIE DIESE HINWEISE GUT AUF.

### INSTRUCCIONES IMPORTANTES DE SEGURIDAD

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

GUARDE ESTAS INSTRUCCIONES.

### IMPORTANTES INFORMATIONS DE SÉCURITÉ

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

CONSERVEZ CES INFORMATIONS.

## **תקנת 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 במארוי סופרמיקרו.

تحذير! هذا الرمز يعني خطر انك في حالة يمكن أن تتسبب في اصابة جسدية .  
قبل أن تعمل على أي معدات، كن على علم بالمخاطر الناجمة عن الدوائر  
الكهربائية  
وكن على دراية بالممارسات الوقائية لمنع وقوع أي حوادث  
استخدم رقم البيان المنصوص في نهاية كل تحذير للعثور ترجمتها

안전을 위한 주의사항

경고!

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

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

#### BELANGRIJKE VEILIGHEIDSINSTRUCTIES

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

BEWAAR DEZE INSTRUCTIES

## Installation Instructions



### Warning!

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

設置手順書

システムを電源に接続する前に、設置手順書をお読み下さい。

警告

将此系统连接电源前，请先阅读安装说明。

警告

將系統與電源連接前，請先閱讀安裝說明。

Warnung

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

¡Advertencia!

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

Attention

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

יש לקרוא את הוראות התקנה לפני חיבור המערכת למקור מתח.

اقرأ إرشادات التركيب قبل توصيل النظام إلى مصدر للطاقة

시스템을 전원에 연결하기 전에 설치 안내를 읽어주십시오.

Waarschuwing

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



## Circuit Breaker



### Warning!

This product relies on the building's installation for short-circuit (overcurrent) protection. Ensure that the protective device is rated not greater than: 250 V, 20 A.

サーキット・ブレーカー

この製品は、短絡(過電流)保護装置がある建物での設置を前提としています。

保護装置の定格が250 V、20 Aを超えないことを確認下さい。

### 警告

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

### 警告

此产品的短路(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。

### 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-250 V, 20 A

هذا المنتج يعتمد على معدات الحماية من الدوائر القصيرة 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 elektrische installatie. Controleer of het beveiligde apparaat niet groter gedimensioneerd is dan 220V, 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.

#### 電源切斷の警告

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 châssis pour installer ou enlever des composants de système.

**אזהרה!**

יש לנתק את המערכת מכל מקורות החשמל ויש להסיר את כבל החשמלי מהספק לפני גישה לחלק הפנימי של המארז לצורך התקנת או הסרת רכיבים.

يجب فصل النظام من جميع مصادر الطاقة وإزالة سلك الكهرباء من وحدة امداد الطاقة قبل الوصول إلى المناطق الداخلية للهيكल لتثبيت أو إزالة مكونات الجهاز

경고!

시스템에 부품들을 장착하거나 제거하기 위해서는 새시 내부에 접근하기 전에 반드시 전원 공급장치로부터 연결되어있는 모든 전원과 전기코드를 분리해주어야 합니다.

Waarschuwing

Voordat u toegang neemt tot het binnenwerk van de behuizing voor het installeren of verwijderen van systeem onderdelen, dient u alle spanningsbronnen en alle stroomkabels aangesloten op de voeding(en) van de behuizing te verwijderen

## Equipment Installation



### Warning!

Only trained and qualified personnel should be allowed to install, replace, or service this equipment.

### 機器の設置

トレーニングを受け認定された人だけがこの装置の設置、交換、またはサービスを許可されています。

### 警告

只有经过培训且具有资格的人员才能进行此设备的安装、更换和维修。

### 警告

只有經過受訓且具資格人員才可安裝、更換與維修此設備。

### Warnung

Das Installieren, Ersetzen oder Bedienen dieser Ausrüstung sollte nur geschultem, qualifiziertem Personal gestattet werden.

### ¡Advertencia!

Solamente el personal calificado debe instalar, reemplazar o utilizar este equipo.

### Attention

Il est vivement recommandé de confier l'installation, le remplacement et la maintenance de ces équipements à des personnels qualifiés et expérimentés.

### אזהרה!

צוות מוסמך בלבד רשאי להתקין, להחליף את הציוד או לתת שירות עבור הציוד.

يجب أن يسمح فقط للموظفين المؤهلين والمدربين لتثبيت واستبدال أو خدمة هذا الجهاز

### 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').

تم تخصيص هذه الوحدة لت تركيبها في مناطق محظورة .  
يمكن الوصول إلى منطقة محظورة فقط من خلال استخدام أداة خاصة،  
قفل ومفتاح أو أي وسيلة أخرى للالأمان

경고!

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

Waarschuwing

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

## Battery Handling



### Warning!

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

電池の取り扱い

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

警告

電池更換不當會有爆炸危險。請只使用同類電池或製造商推薦的功能相當的電池更換原有電池。請按製造商的說明處理廢舊電池。

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 استبدال البطارية بطريقة غير صحيحة فعليك استبدال البطارية فقط بنفس النوع أو ما يعادلها كما أوصت به الشركة المصنعة تخلص من البطاريات المستعملة وفقا لتعليمات الشركة الصانعة

경고!

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

Waarschuwing

Er is 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

此装置连接的电源可能不只一个，必须切断所有电源才能停止对该装置的供电。

#### Warnung

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

#### ¡Advertencia!

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

#### Attention

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

**אם קיים יותר מספק אחד**

**אזהרה!**

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



قد يكون لهذا الجهاز عدة اتصالات بوحدات امداد الطاقة.  
يجب إزالة كافة الاتصالات لعزل 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。

修理する際にはご注意ください。

警告

当系統正在进行时，背板上有很危险的电压或能量，进行维修时务必小心。

警告

當系統正在進行時，背板上有危險的電壓或能量，進行維修時務必小心。

Warnung

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

¡Advertencia!

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

Attention

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

## מתח בפנל האחורי

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

هناك خطر من التيار الكهربائي أو الطاقة الموجودة على اللوحة  
عندما يكون النظام يعمل كن حذرا عند خدمة هذا الجهاز

경고!

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

Waarschuwing

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

## Comply with Local and National Electrical Codes



### Warning!

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

地方および国の電気規格に準拠

機器の取り付けはその地方および国の電気規格に準拠する必要があります。

警告

设备安装必须符合本地与本国电气法规。

警告

設備安裝必須符合本地與本國電氣法規。

Warnung

Die Installation der Geräte muss den Sicherheitsstandards entsprechen.

¡Advertencia!

La instalación 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 للقوانين المحلية والوطنية 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.

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

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!

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

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

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**

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**

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!**

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

**Attention**

Il est possible que les ventilateurs soient toujours en rotation lorsque vous retirez le bloc ventilateur du châssis. Prenez garde à ce que doigts, tournevis et autres objets soient éloignés du logement du bloc ventilateur.

**אזהרה!**

כאשר מסירים את חלקי המאוורר מהמארז, יתכן והמאווררים עדיין עובדים. יש להרחיק למרחק בטוח את האצבעות וכלי עבודה שונים מהפתחים בתוך המאוורר

من الممكن أن المراوح لا تزال تدور عند إزالة كتلة المروحة من الهيكل يجب إبقاء الأصابع ومفكات البراغي وغيرها من الأشياء بعيدا عن الفتحات في كتلة المروحة.

**경고!**

새시로부터 팬 조립품을 제거할 때 팬은 여전히 회전하고 있을 수 있습니다. 팬 조립품 외관의 열려있는 부분들로부터 손가락 및 스크류드라이버, 다른 물체들이 가까이 하지 않도록 배치해 주십시오.

**Waarschuwing**

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 code) 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、提供または指定された接続ケーブル、電源コードとACアダプターを使用下さい。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连接线,电源线和电源适配器.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

安装此產品時,請使用本身提供的或指定的連接線,電源線和電源適配器.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

Bei der Installation des Produkts, die zur Verfügung gestellten oder benannt Anschlusskabel, Stromkabel und Netzteile. Verwendung anderer Kabel und Adapter kann zu einer Fehlfunktion oder ein Brand entstehen. Elektrische Geräte und Material Safety Law verbietet die Verwendung von UL-oder CSA-zertifizierte Kabel, UL oder CSA auf der Code für alle anderen elektrischen Geräte als Produkte von Supermicro nur bezeichnet gezeigt haben.

### ¡Advertencia!

Al instalar el producto, utilice los cables de conexión previstos o designados, los cables y adaptadores de CA. La utilización de otros cables y adaptadores podría ocasionar un mal funcionamiento o un incendio. Aparatos Eléctricos y la Ley de Seguridad del Material prohíbe el uso de UL o CSA cables certificados que tienen UL o CSA se muestra en el código de otros dispositivos eléctricos que los productos designados por Supermicro solamente.

**Attention**

Lors de l'installation du produit, utilisez les bables de connection fournis ou désigné. L'utilisation d'autres cables et adaptateurs peut provoquer un dysfonctionnement ou un incendie. Appareils électroménagers et de loi sur la sécurité Matériel interdit l'utilisation de UL ou CSA cables certifiés qui ont UL ou CSA indiqué sur le code pour tous les autres appareils électriques que les produits désignés par Supermicro seulement.

**חשמליים ומתאמי AC****אזהרה!**

כאשר מתקינים את המוצר, יש להשתמש בכבלים, ספקים ומתאמים AC אשר נועדו וסופקו לשם כך. שימוש בכל כבל או מתאם אחר יכול לגרום לתקלה או קצר חשמלי. על פי חוקי שימוש במכשירי חשמל וחוקי בטיחות, קיים איסור להשתמש בכבלים המוסמכים ב- UL או ב- CSA (כשאר מופיע עליהם קוד של UL/CSA) עבור כל מוצר חשמלי אחר שלא צויין על ידי סופרמיקרו בלבד.

عند تركيب الجهاز يجب استخدام كابلات التوصيل، والكابلات الكهربائية ومحولات التيار المتردد التي . أن استخدام أي كابلات ومحولات أخرى يتسبب في حدوث عطل أو حريق. تم توفيرها لك مع المنتج الأجهزة الكهربائية ومواد قانون السلامة يحظر استخدام الكابلات CSA أو UL معتمدة من قبل لأي أجهزة كهربائية أخرى غير المنتجات المعينة من قبل Supermicro (التي تحمل علامة UL/CSA)

**경고!**

제품을 설치할 때에는 제공되거나 지정된 연결케이블과 전원케이블, AC 어댑터를 사용해야 합니다. 그 밖의 다른 케이블들이나 어댑터들은 고장 또는 화재의 원인이 될 수 있습니다. 전기용품안전법 (Electrical Appliance and Material Safety Law)은 슈퍼마이크로에서 지정한 제품들 외에는 그 밖의 다른 전기 장치들을 위한 UL 또는 CSA에서 인증한 케이블(전선 위에 UL/CSA가 표시)들의 사용을 금지합니다.

**Waarschuwing**

Bij het installeren van het product, gebruik de meegeleverde of aangewezen kabels, stroomkabels en adapters. Het gebruik van andere kabels en adapters kan leiden tot een storing of een brand. Elektrisch apparaat en veiligheidsinformatiebladen wet verbiedt het gebruik van UL of CSA gecertificeerde kabels die UL of CSA die op de code voor andere elektrische apparaten dan de producten die door Supermicro alleen.

**Notes**



## Chapter 3

# Chassis Components

### 3-1 Overview

This chapter describes the most common components included with your chassis. Some components listed may not be included or compatible with your particular chassis model.

### 3-2 Components

For the latest shipping lists, visit our Web site at: <http://www.supermicro.com>. All SC113 models come in black.

#### Power Supply

The chassis includes high-efficiency power supplies. Different chassis models offer choices rated at 500, 560, 600, 650 or 700 Watts. Some models include a second redundant, hot-swappable power supply. For specifications on your particular power supply, consult [www.supermicro.com](http://www.supermicro.com).

#### Drives

The chassis includes eight hard drive bays for 2.5" hot-swappable SAS/SATA drives, and one optional slim DVD-ROM drive.

#### Backplane

The SC113 chassis comes with a 1U SAS/SATA backplane. For more information regarding compatible backplanes, view the appendices found at the end of this manual. In addition, visit our Web site for the latest information: <http://www.supermicro.com>.

#### Motherboards

The chassis supports motherboard sizes 12" x 13" E-ATX & 13.68" x 13" with single or dual CPUs.

## **I/O Expansion Slots**

The SC113 chassis includes either one full I/O expansion slot or two full I/O expansion slots and one low profile I/O slot. See the chart in Chapter 1 for your specific chassis model.

## **Fans**

The chassis accepts four system fans and provides space for two additional fans if required. System fans are powered from the serverboard using 4-pin connectors.

## **Air Shroud**

Air shrouds are shields, usually plastic, that channel air directly to where cooling is needed. Always use the air shroud included with your chassis.

## **Control Panel**

The front control panel includes a power switch, reset button, UID button, and five LED status indicators.

## **Mounting Rails**

The chassis can be mounted in a rack for convenient and secure use.

### **3-3 Where to Get Replacement Components**

Although 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.

# Chapter 4

## System Interface

### 4-1 Overview

There are several LEDs on the control panel and on the drive carriers that provide system and component status. This chapter explains the meanings of all LED indicators and the appropriate responses that need to be taken.

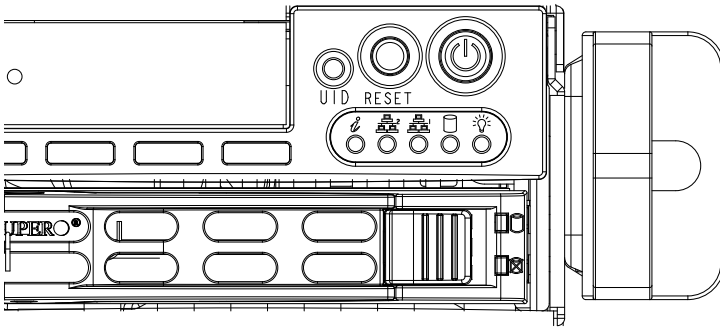
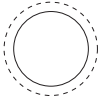


Figure 4-1: Control Panel Buttons and LEDs

## 4-2 Control Panel Buttons

The control panel on the front of the chassis includes push-buttons for reset, power on/off, and a UID.



- **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. Except for hot-swappable components which do not require for the system to be powered-down, disconnect the chassis from any power source prior to performing maintenance on the chassis.

# UID

- **UID:** When used with a UID-compatible motherboard, the UID button is used to turn on or off the blue light function of the the U-LED. Once the blue light is activated, the unit can be easily located in very large racks and server banks.

### 4-3 Control Panel LEDs

The control panel located on the front of the SC113 chassis has five LEDs. They provide critical information related to different parts of the system. This section explains what each LED indicates when illuminated and any action that may be required.



- **Information LED:** Alerts operator of several states, as noted in the table below.

Informational 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.
Blinking red (0.25Hz)	Power failure, check for a non-operational power supply.
Solid blue	Local UID has been activated. Use this function to locate the server in a rack mount environment.
Blinking blue	Remote UID is on. Use this function to identify the server from a remote location.



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



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



- HDD: Indicates IDE channel activity. SAS/SATA 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.

## 4-4 Drive Carrier LEDs

The SC113 chassis uses SAS/SATA drives.

### SAS/SATA Drives

Each SAS/SATA drive carrier has two LEDs.

- Green: When illuminated, this green LED on the front of the drive carrier indicates drive activity. A connection to the backplane enables this LED to blink on and off when that particular drive is being accessed.
- Red: The red LED indicates a drive failure. If one of the drives fail, you should be notified by your system management software.

## 4-5 Power Supply LEDs

Power Supply LEDs	
State	Indication
Solid Green	System is on.
Solid Amber	System is off and plugged in or 5V stand by on.
Blinking Amber (Only for 650W)	Power supply internal temperature has reached 63° Celsius and will be shut down if the temperature reaches 70° Celsius.

## Chapter 5

# Chassis Setup and Maintenance

### 5-1 Overview

This chapter covers the steps required to install components and perform maintenance on the chassis. The only tool required is a Phillips screwdriver.

Review the warnings and precautions listed in the manual before setting up or servicing this chassis. These include information in Chapter 2: *Warning Statements for AC Systems*, and the warning and precautions listed in the setup instructions

### 5-2 Removing the Power Cord

Before performing most maintenance tasks, use the following procedure to ensure that power has been removed from the system.

1. Use the operating system to power down the system, following the on-screen prompts.
2. After the system has completely shut-down, carefully grasp the head of the power cord and gently pull it out of the back of the power supply. If your system has dual power supplies, remove the cords from both power supplies.
3. Disconnect the cord from the power strip or wall outlet.

## 5-3 Removing the Chassis Cover

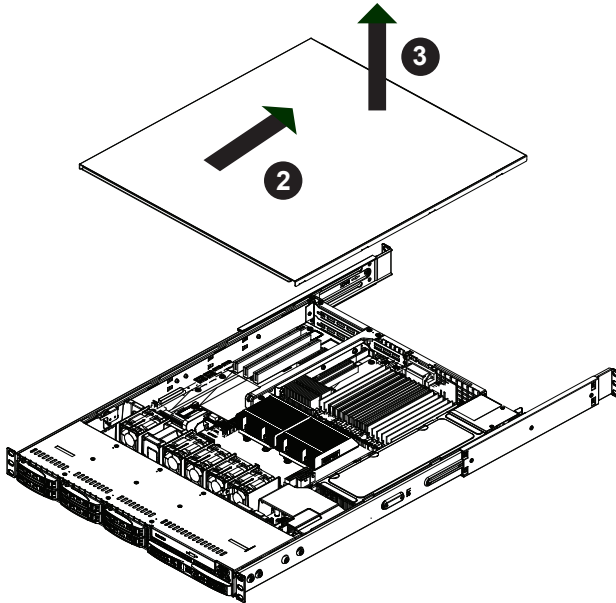


Figure 5-1. Removing the Chassis Cover

### ***Removing the Chassis Cover:***

1. Remove the screws securing the top cover to the chassis.
2. Slide the cover toward the rear of the chassis.
3. Lift the cover up and off of the chassis.

**Caution:** Except for short periods of time, do *not* operate the server without the cover in place. The chassis cover must be in place to allow proper airflow and prevent overheating.



## 5-4 Installing and Removing Hard Drives

The SC113 chassis accepts eight hot-swappable hard drives. Note that only SAS or enterprise SATA HDDs are recommended.

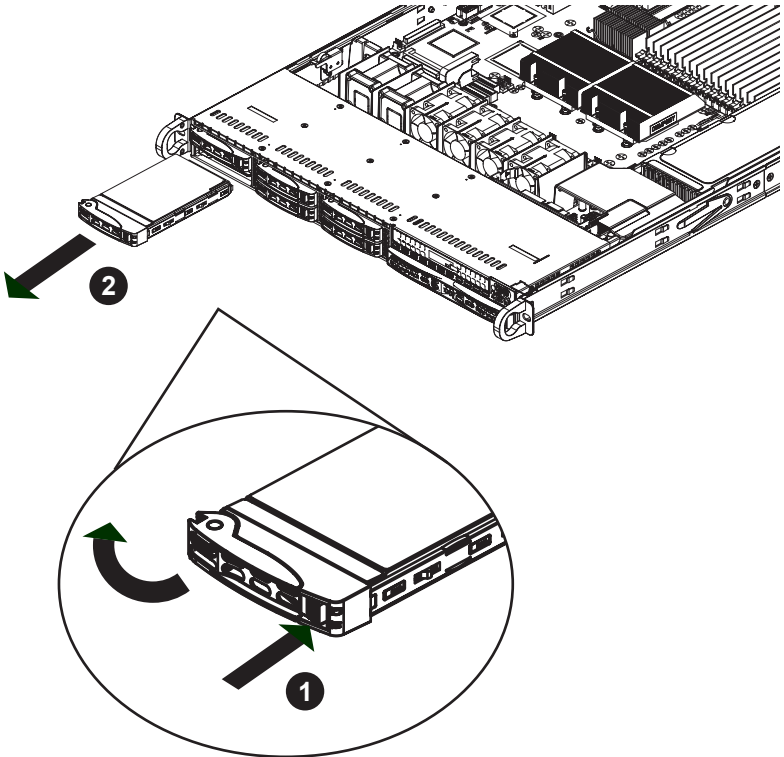
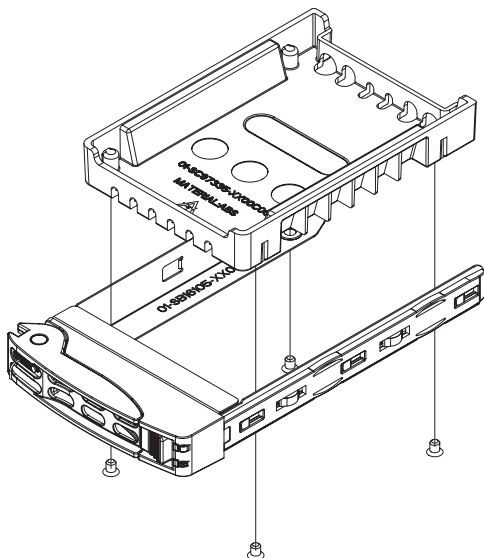


Figure 5-2. Removing Hard Drive

### *Removing Hard Drive Carriers from the Chassis*

1. Press the release button on the drive carrier. This extends the drive carrier handle.
2. Use the handle to pull the drive out of the chassis.



**Figure 5-3. Removing the Dummy Drive from the Hard Drive Carrier**

### ***Installing a Hard Drive***

1. Remove the dummy drive, which comes pre-installed in the drive carrier, by removing the screws securing the dummy drive to the carrier. Note that these screws cannot be reused on the actual 2.5" hard drive.
2. Insert a drive into the carrier with the PCB side facing down and the connector end toward the rear of the carrier.
3. Align the drive in the carrier so that the screw holes of both line up. Note that there are holes in the carrier marked "SATA" to aid in the correct positioning.
4. Secure the drive to the carrier with four M3 screws. These screws are included in the chassis accessory box.
5. Insert the drive carrier into its bay, keeping the carrier oriented so that the hard drive is on the top of the carrier and the release button is on the right side. When the carrier reaches the rear of the bay, the release handle will retract.
6. Push the handle in until it clicks into its locked position.

**Caution:** Except for short periods of time (swapping hard drives), do not operate the server with the hard drives empty.

## 5-5 DVD-ROM Drive Installation

Some SC113 chassis models include a DVD-ROM, which is usually pre-installed.

### *Installing or Replacing a DVD-ROM Drive*

1. Power down the system as described in Section 5-2 and if necessary, remove the server from the rack and pull the mini-bezel (grate) from the DVD-ROM drive bay.
2. Remove the chassis cover.
3. Unplug the drives power and data cables from the motherboard and/or back-plane.
4. Unlock the mini-bezel lock scREW and remove the mini-bezel from the drive bay. The bezel can be removed by pulling out the hard drive beneath the DVD-ROM, then pulling the mini-bezel forward.
5. When installing or removing a DVD-ROM drive, the mini-bezel lock screw must be removed and the drive tray must be completely separated from the chassis.
6. Remove the DVD-ROM from the drive tray by removing the drive screws, then secure the replacement DVD-ROM into the drive tray, using the drive screws.
7. Reattach the drive tray to the chassis by replacing the mini-bezel lock screw, and tightening it from inside the chassis.
8. Reconnect the data and power cables.
9. Replace the chassis cover and power up the system.

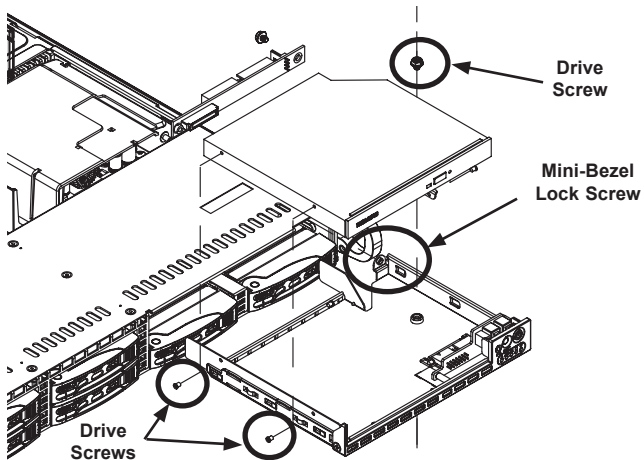


Figure 5-4. Installing the DVD-ROM Drive

## 5-6 Removing the Backplane

The SC113 chassis backplane is located behind the hard drives and in front of the front system fans. In order to change the jumper settings on the backplane, it may be necessary to remove the backplane from the chassis.

### *Removing the Backplane from the Chassis*

1. Power down the system as described in Section 5-2 and remove the cover..
2. Disconnect the cabling to the backplane.
3. Remove the five upper screws at the top of the backplane, indicated by the arrows below.
4. Lift the backplane up and out of the chassis.

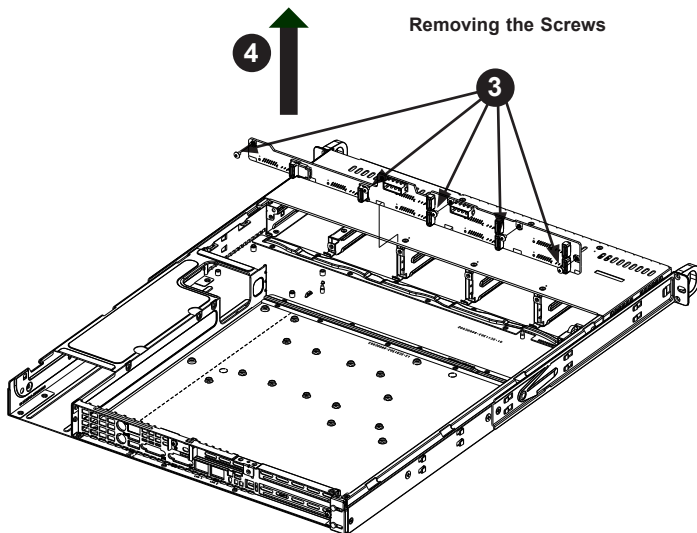


Figure 5-5. Removing the Backplane

## 5-7 Backplane Installation

### *Installing the Backplane*

1. Slide the backplane into the chassis, inserting the lower edge of the backplane into the clips on the floor of the chassis.
2. Align the mounting holes in the backplane with the mounting holes in the chassis.
3. Secure the backplane to the chassis using the five screws provided with the backplane.
4. Connect the wiring to the backplane.

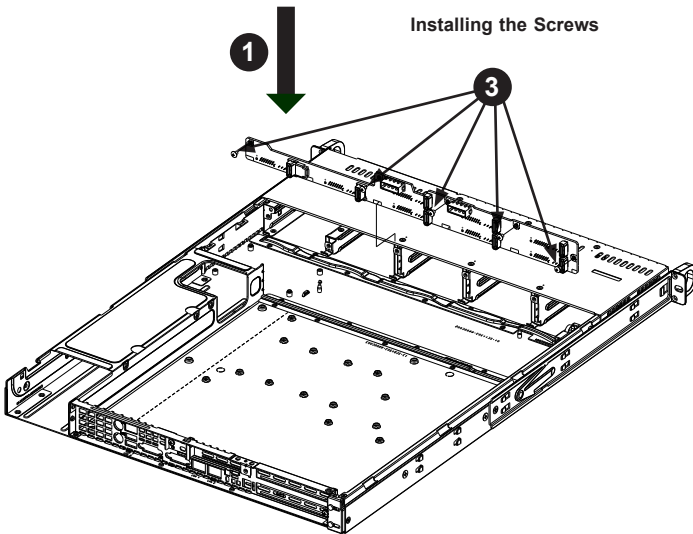


Figure 5-6. Installing the Backplane

## 5-8 Installing the Motherboard

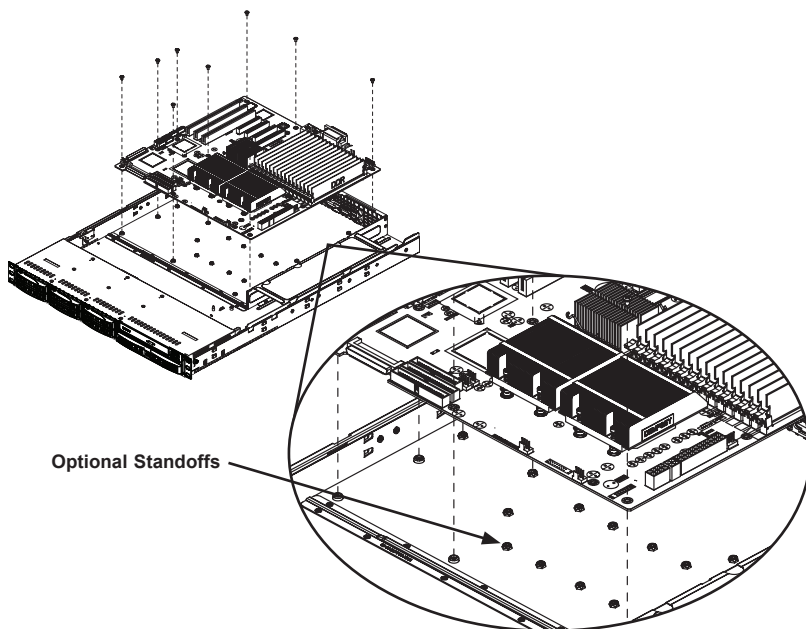


Figure 5-7. Chassis Standoffs

### Permanent and Optional Standoffs

Standoffs prevent short circuits by creating space between the motherboard and the chassis surface. The SC113 chassis includes permanent standoffs in locations used by most motherboards. These standoffs accept the rounded Phillips head screws included in the SC113 accessories packaging.

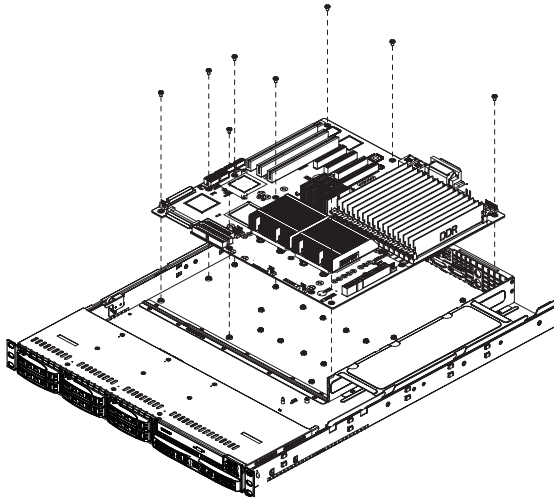
Some motherboards require additional screws for heatsinks, general components and/or non-standard security. Optional standoffs are included for these motherboards.

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). Compare the holes in the motherboard to those in the chassis and add or remove standoffs as needed.

## Motherboard Installation

### *Installing the Motherboard*

1. Review the documentation that came with your motherboard. Become familiar with component placement, requirements, and precautions.
2. Power down the system as described in Section 5-2 and lay the chassis on a flat surface.
3. Open the chassis cover.
4. If necessary, remove the riser card. To do this, remove the two screws holding the card in place and lift the card from the chassis.
5. 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).
6. Lay the motherboard on the chassis aligning the permanent and optional standoffs with the holes in the motherboard, adding or removing standoffs as needed.
7. Secure the motherboard to the chassis using the rounded, Phillips head screws. Do not exceed eight inch-pounds of torque when tightening the motherboard.
8. Secure the CPU(s), heatsinks, and other components to the motherboard, chassis, and/or backplane as needed.



**Figure 5-8. Securing the Motherboard to the Chassis**

## 5-9 Expansion Card Setup

The SC113 chassis includes I/O slots for add-on cards and expansion cards. "C" models (like SC113TQ-700CB) include one full height slot. "U" model chassis include two full-height expansion slots and one low-profile expansion slot.

**Note:** You must use a riser card to install expansion cards into any SC113 chassis. Riser cards are sold separately.

For the latest compatibility and performance information, visit our website at: <http://www.supermicro.com>.

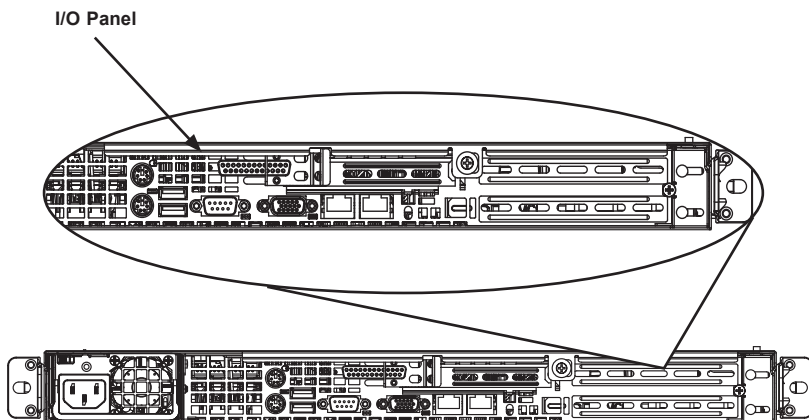


Figure 5-9. SC113 Chassis Rear  
with Two Full Height/Full Length PCI Slots  
and One Low Profile PCI Slot



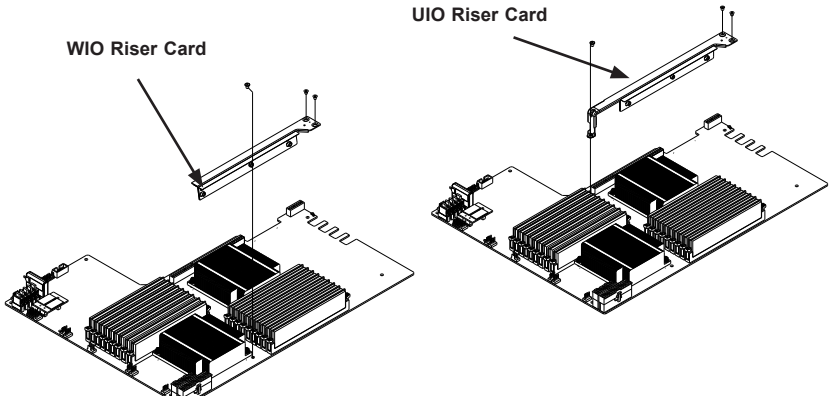


Figure 5-10. Chassis with a Riser Card

### *Installing an Expansion Card*

1. Confirm that you have the correct riser card for your chassis model and the add-on card includes a standard bracket.
2. Remove the chassis cover.
3. Install the riser card onto the bracket. Insert the card and bracket into the appropriate slot on the motherboard. Secure the riser bracket to the chassis using screws as illustrated.
4. Choose the PCI slot in which to place the add-on card.
5. In that slot, open the PCI slot panel lever and slide the PCI slot panel sideways.
6. From inside the chassis, remove the PCI slot panel panel.
7. Slide the add-on card into the riser card and attach the add-on card bracket in place of the PCI slot panel.
8. Secure the add-on card by closing the I/O panel lever.
9. Connect cables to the add-on card if necessary.

## 5-10 Installing the Air Shroud

Air shrouds concentrate airflow to maximize fan efficiency. The SC113 chassis air shroud does not require screws for installation.

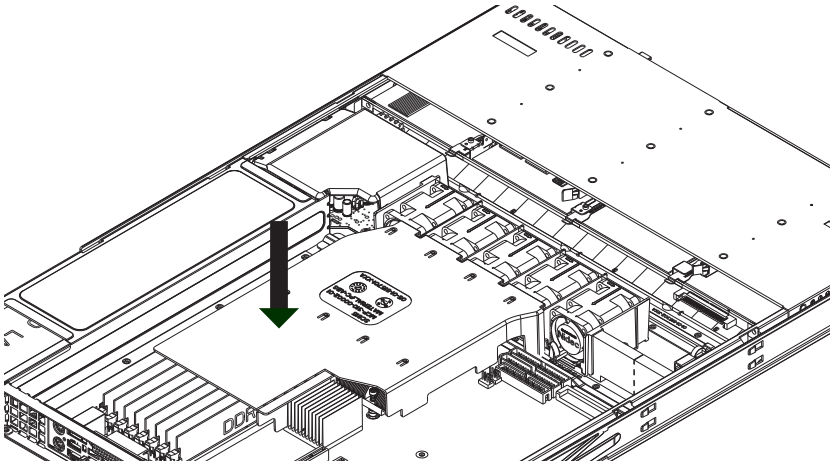


Figure 5-11. Air Shroud Installation

### *Air Shroud Installation*

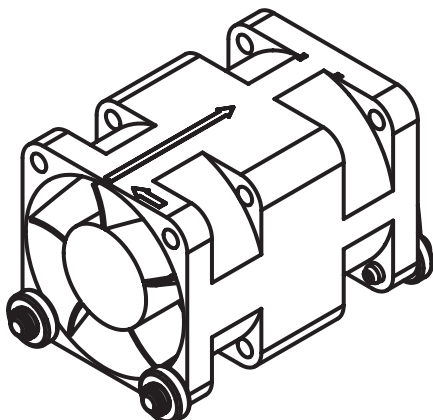
1. Align the air shroud with the CPU, memory card and fan locations.
2. Check the air shroud and serverboard components, removing the break-away piece from the side of the air shroud if required.
3. Place the air shroud into the chassis.

## Checking the Airflow

### *Check the Airflow*

- 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.
- Do not operate the server without drives or drive trays in the drive bays. Use only recommended server parts.
- Make sure no wires or foreign objects obstruct the airflow 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.

## 5-11 System Fans



**Figure 5-12. System Fan**

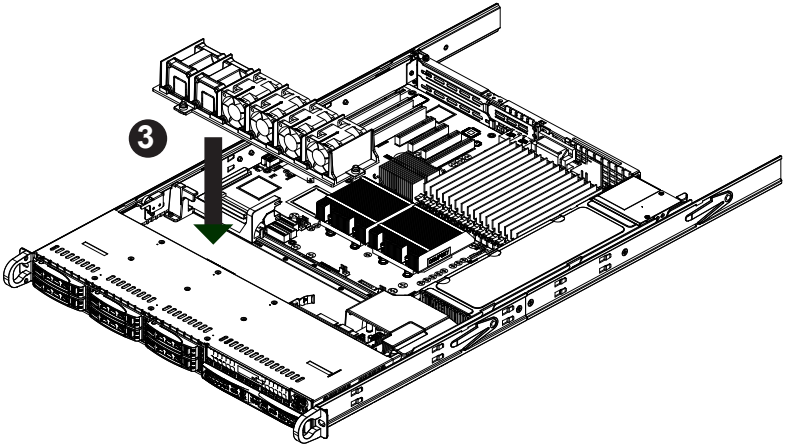
Four heavy-duty fans provide cooling for the chassis. These fans circulate air through the chassis as a means of lowering the chassis' internal temperature.

The SC113 chassis contains counter-rotating fans. Each fan unit is actually made up of two fans joined back-to-back, which rotate in opposite directions. This counter-rotating action generates exceptional airflow and works to dampen vibration levels.

The SC113 chassis provides two additional open fan housings, where additional system fans may be added for optimal cooling.

### ***Adding a System Fan***

1. Power down the system as described in Section 5-2.
2. Remove the screws securing the fan tray to the chassis.
3. Remove the dummy fan from the fan tray by pushing it up from the bottom.
4. Place the new fan into the vacant space in the housing while making sure the arrows on the top of the fan (indicating air direction) point in the same direction as the arrows on the other fans.
5. Secure the fan tray to the chassis using the screws removed previously.
6. Connect the fan wires to the fan headers on the serverboard.
7. Power-up the system and check that the fan is working properly before replacing the chassis cover.



**Figure 5-13. Chassis Fans**

The SC113 chassis includes four pre-installed fans. Two additional open slots are available so that up to two more fans may be added.

#### ***Replacing a System Fan***

1. If necessary, open the chassis while the power is running to determine which fan has failed. Never run the server for an extended period of time with the chassis open.
2. Power down the system as described in Section 5-2.
3. Remove the failed fan's power cord from the serverboard.
4. Unscrew the fan tray from the chassis and push the failed fan from the up from the bottom of the tray.
5. Place the new fan into the vacant space in the housing while making sure the arrows on the top of the fan (indicating air direction) point in the same direction as the arrows on the other fans.
6. Reconnect the fan wires to the exact same chassis fan headers as the previous fan.
7. Power up the system and check that the fan is working properly before replacing the chassis cover.

## 5-12 Power Supply

The power supplies are auto-switching, so they automatically sense the input voltage and operate at 100v to 240v. An amber light is illuminated on the power supply when the power is off. A green light indicates that the power supply is operating.

### Redundant Power Models

Redundant power modules are hot-swappable. You can replace one power module while the server continues to operate.

#### *Replacing One Redundant Power Supply*

1. Push the release tab on the back of the power supply module, as illustrated. Pull the module out using the handle provided.

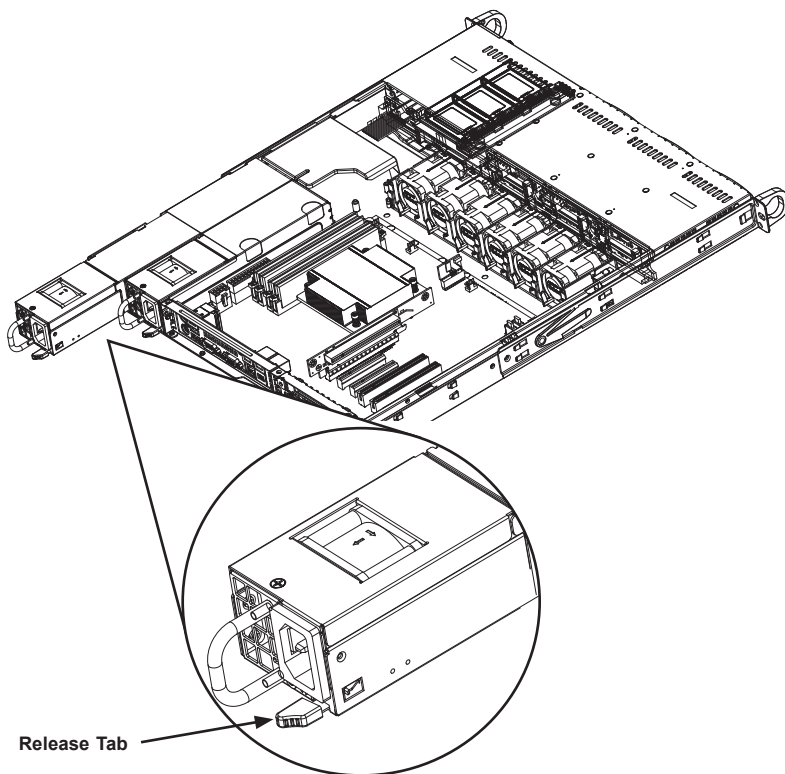


Figure 5-14. Removing the Power Supply

2. Push the new power supply module into the power bay until you hear a click.
3. Plug in the AC power cord.

### **Single Power Module Models**

If the power supply requires replacement, use one of these procedures.

#### ***Replacing a Single Power Supply (except SC113TQ-563CB or UB)***

1. If the system is still operating, power down using the operating system.
2. Unplug the AC power cord.
3. Remove the chassis cover.
4. Unplug the power supply cable plug from the motherboard.
5. Unscrew the power module from the chassis. The attachment screws are removed from under the chassis.
6. Install the new power supply module, securing it to the chassis with the screws.
7. Plug the power supply cable into the motherboard, replace the chassis cover, and plug in the AC cord.

#### ***Replacing the SC113TQ-563CB or UB Power Supply***

1. If the system is still operating, power down using the operating system.
2. Unplug the AC power cord.
3. Push the release tab on the back of the power supply, similar to the redundant power supplies. Pull the power supply module out using the handle provided.
4. Push the new power supply module into the power bay until you hear a click.
5. Plug in the AC power cord.

## Notes



## Chapter 6

# Rack Installation

### 6-1 Overview

This chapter provides a quick setup checklist to get your chassis up and running. Following these steps in the order given should enable you to have the system operational within a minimum amount of time.

### 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 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 (T<sub>mra</sub>).

### 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.).



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.

## 6-4 Rack Mounting Instructions

This section provides information on installing the SC113 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:** This rail will fit a rack between 26" and 33.5" deep.

### Identifying the Sections of the Rack Rails

The chassis package includes two rack 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 fixed rack rail that secures directly to the rack itself.

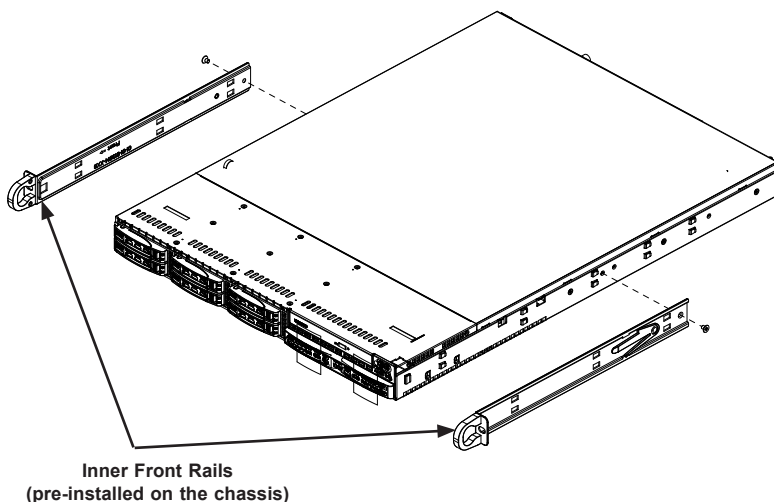
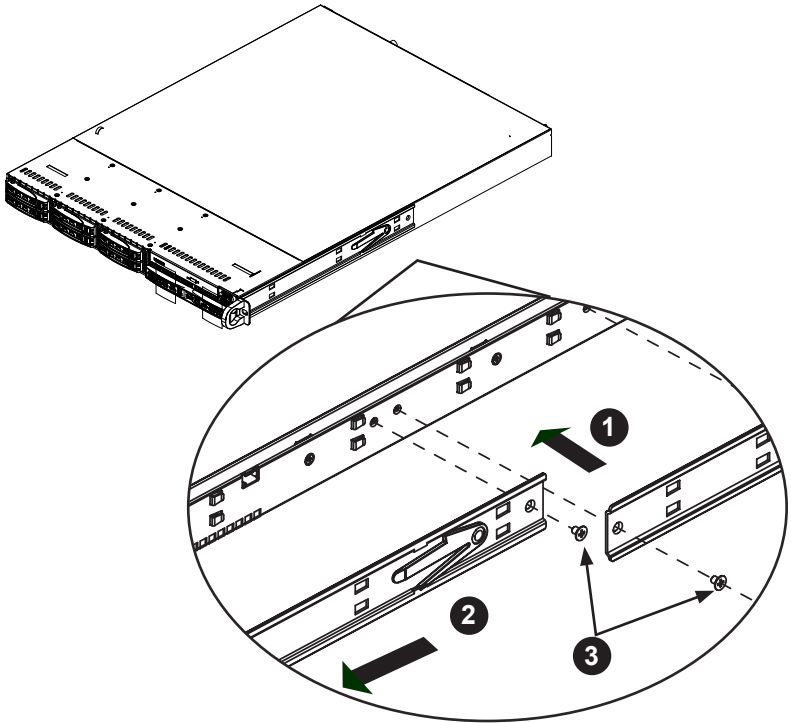


Figure 6-1. Identifying the Inner Front Rails



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



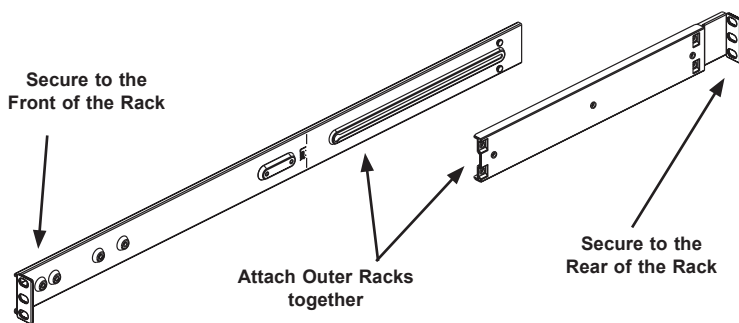
**Figure 6-2. Identifying the Sections of the Rack Rails  
(right side rail shown)**

### **Optional Inner Rail Extension**

The SC113 chassis includes a set of inner rails in two sections: inner rails and optional inner rail extensions. The inner rails are pre-attached and do not interfere with normal use of the chassis if you decide not to use a server rack. Attach the inner rail extension to stabilize the chassis within the rack.

#### ***Installing the Inner Rail Extensions***

1. Place the inner rail extensions on the side of the chassis aligning the hooks of the chassis with the rail extension holes. Make sure the extension faces "outward" just like the pre-attached inner rail.
2. Slide the extension toward the front of the chassis.
3. Secure the chassis with two screws as illustrated.
4. Repeat steps 1-3 for the other inner rail extension.

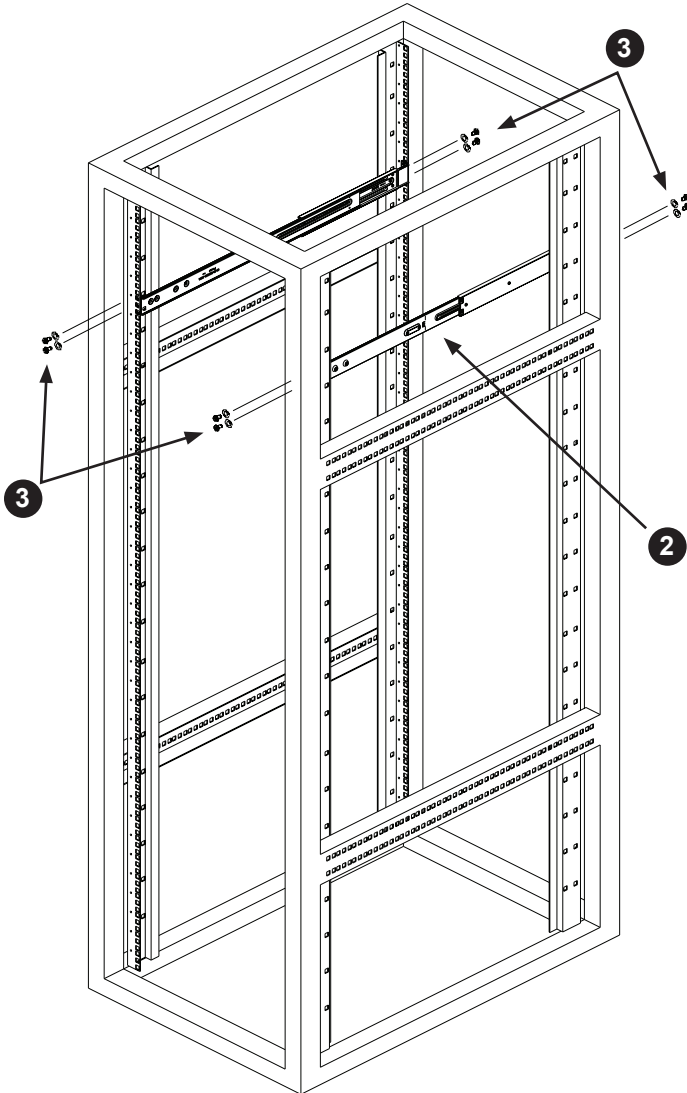


**Figure 6-3. Assembling the Outer Rails**

## Outer Rails

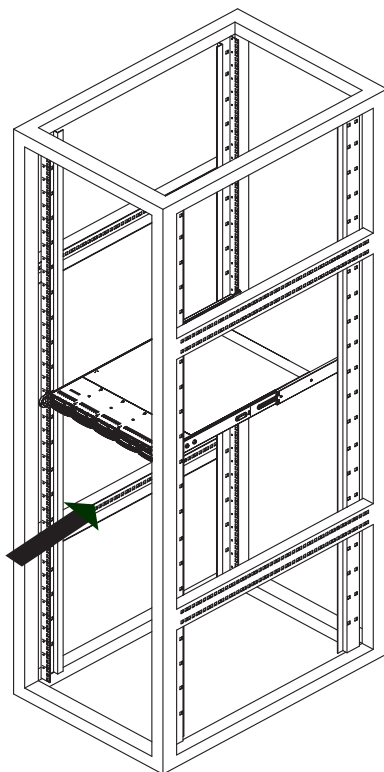
### *Installing the Outer Rails to the Rack*

1. Attach the shorter outer rail to the outside of the longer outer rail. You must align the pins with the slides. Also, both bracket ends must face the same direction.
2. Adjust both the shorter and longer brackets to the proper distance so that the rail fits snugly into the rack.
3. Secure the long bracket to the front side of the outer rail with two M5 screws and the short bracket to the rear side of the outer rail with three M5 screws.
4. Repeat steps 1-4 for the left outer rail.



**Figure 6-4. Installing the Outer Rails to the Server Rack**

**Note:** Figures are for illustrative purposes only. Always install servers into racks from the bottom up.



**Figure 6-5. Installing the Server into a Rack**

#### ***Installing the Chassis into a Rack***

1. Confirm that chassis includes the inner rails and inner rail extensions. Also confirm that the outer rails are installed on the rack.
2. Align the chassis inner rails with the front of the out rails on the rack.
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 into position.
4. (Optional) Insert and tighten the thumbscrews which secure 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.



## Installing the Chassis into a Telco rack

To install the chassis into a Telco type rack, use two L-shaped brackets on either side of the chassis (four total). First, determine how far forward the server will extend out the front of the rack. Larger chassis should be positioned to balance the weight between front and back. If a bezel is included on your server, remove it. Then attach the two front brackets to each side of the chassis, then the two rear brackets positioned with just enough space to accommodate the width of the telco rack. Finish by sliding the chassis into the rack and tightening the brackets to the rack.

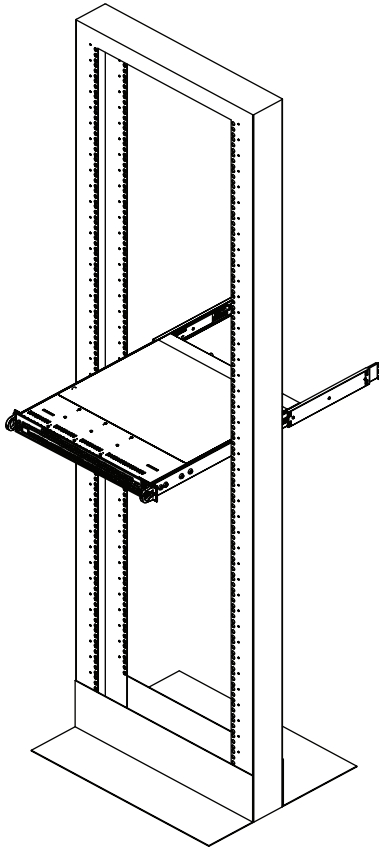


Figure 6-6. Installing the Server into a Telco Rack

## Notes

## Appendix A

### SC113 Chassis Cables

#### A-1 Overview

This appendix lists supported cables for your 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](http://www.supermicro.com).

#### A-2 Cables Included with SC113 Chassis (SAS/SATA)

Part #	Type	Length	Description
CBL-0227L	Round ribbon cable	48 cm	SATA round S-RA PBF
CBL-0157L	Round ribbon cable	40 cm	8-pin to 8-pin ribbon cable for SGPIO (supports up to 4 drives)
CBL-0335L	Round ribbon cable	70 cm	Front control cable, 20-pin to 20-pin with tube.
CBL-0206L	SATA cable	48 cm	48 cm SATA round S-S PBF

## A-3 Compatible Cables

These cables are compatible with the SC113 chassis.

### Alternate SAS/SATA Cables

Some compatible motherboards 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 four SAS connectors (seven 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-pin) at one end and four SAS connectors on the other end. This cable connects from the host (motherboard or other controller) to the backplane SAS hard drive port.

## Extending Power Cables

Although Supermicro 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 motherboards. 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 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-048
20-pin	20-pin	CBL-0047
16-pin	Split*	CBL-0068
20-pin	Split*	CBL-0067

\* Split cables: Use these cables if your motherboard has different pin definitions than a Supermicro motherboard.

# Notes

## Appendix B

### BPN-SAS-113TQ Backplane

To avoid personal injury and property damage, carefully follow all the safety steps listed below when accessing your system or handling the components.

#### B-1 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.

#### B-2 General Safety Guidelines

- Always disconnect power cables before installing or removing any components from the computer, including the SAS-113TQ backplane.
- Disconnect the power cable before installing or removing any cables from the backplane.
- Make sure that the SAS-113TQ backplane is securely and properly installed on the motherboard to prevent damage to the system due to power shortage.

## **B-3 An Important Note to Users**

All images and layouts shown in this user's guide are based upon the latest PCB revision available at the time of publishing. The card you have received may or may not look exactly the same as the graphics shown in this manual.

## **B-4 Introduction to the SAS-113TQ Backplane**

The SAS-113TQ backplane has been designed to utilize the most up-to-date technology available, providing your system with reliable, high-quality performance.

This manual reflects SAS-113TQ Revision 1.02, the most current release available at the time of publication. Always refer to the Supermicro Web site at [www.supermicro.com](http://www.supermicro.com) for the latest updates, compatible parts and supported configurations.



## B-5 Front Connectors

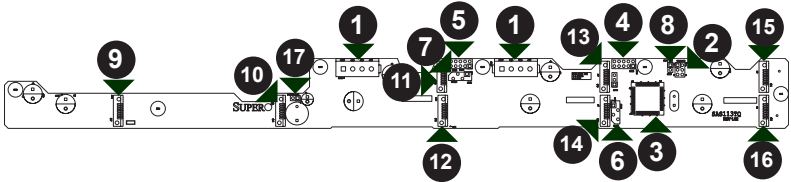


Figure C-1: Front Jumpers and Connectors

### *Front Connectors and Jumpers*

- |  |                      |
|--|----------------------|
| 1. Power Connectors (4-pin) JP10, JP13 | 10. Connector #6 J14 |
| 2. Upgrade Pin JP46                    | 11. Connector #5 J12 |
| 3. MG9072 Chip                         | 12. Connector #4 J10 |
| 4. Sideband #1 JP51                    | 13. Connector #3 J8  |
| 5. Sideband #2 JP52                    | 14. Connector #2 J7  |
| 6. I <sup>2</sup> C Connector #1 JP44  | 15. Connector #1 J6  |
| 7. I <sup>2</sup> C Connector #2 JP45  | 16. Connector #0 J5  |
| 8. MG9072 Reset JP29                   | 17. Buzzer Reset     |
| 9. Connector #7 J16                    |                      |

## B-6 Front Connector and Pin Definitions

### #1. Backplane Main Power Connectors

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

Backplane Main Power 4-Pin Connector (JP10)	
Pin#	Definition
1	+12V
2 and 3	Ground
4	+5V

### #2 Upgrade Connector

The Upgrade connector, designated JP46, serves a diagnostic purpose. This connector 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 and #5. Sideband Headers

The sideband headers are designated JP51 and JP52. For SES-2 to work properly, you must connect an 8-pin sideband cable. See the table to the right for pin definitions.

Sideband Headers (JP51 and JP52)			
Pin #	Definition	Pin #	Definition
2	SDIN/ Backplane Addressing (SB5)	1	Controller ID (SB6)
4	SDOUT/I <sup>2</sup> C Reset (SB4)	3	GND (SB2)
6	GND (SB3)	5	SLOAD/ SDA (SB1)
8	Backplane ID (SB7)	7	SCLOCK/ SCL (SB0)
10	No Con- nection	9	No Con- nection

**#6 and #7. I<sup>2</sup>C Connectors**

The I<sup>2</sup>C Connectors, designated JP44 and JP45, are used to monitor HDD activity and status. See the table on the right for pin definitions.

I <sup>2</sup> C Connector Pin Definitions (JP44 and JP45)	
Pin#	Definition
1	Data
2	Ground
3	Clock
4	No Connection

**#8. MG9072 Reset**

Allows the MG9072 chip to be reset.

**#9 - #16. Connectors**

Connectors 0 through 7.

**#17. Buzzer Reset**

Allows the buzzer to be reset.

## B-7 Front Jumpers and LED Indicators

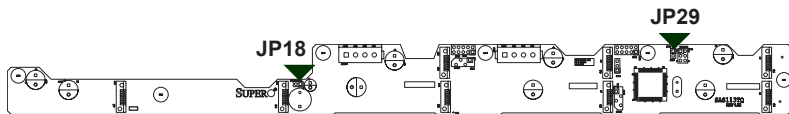
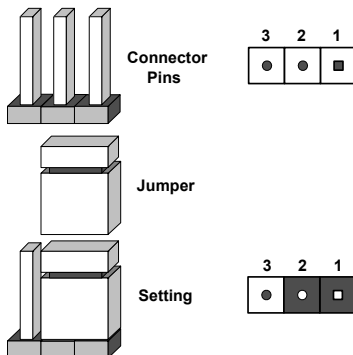


Figure C-2: Front Jumpers

### 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.



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:**

1. Hard drive failure
2. Fan failure
3. System temperature over 45° Celsius.

## I<sup>2</sup>C and SGPIO Modes and Jumper Settings

This backplane can utilize I<sup>2</sup>C or SGPIO. SGPIO 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 I<sup>2</sup>C mode or restore your backplane to SGPIO mode.

I <sup>2</sup> C and SGPIO Settings			
Jumper	I <sup>2</sup> C Jumper Setting	SGPIO Jumper Setting	Note
JP33	2-3	1-2	Controller ID

## Front LED Indicators

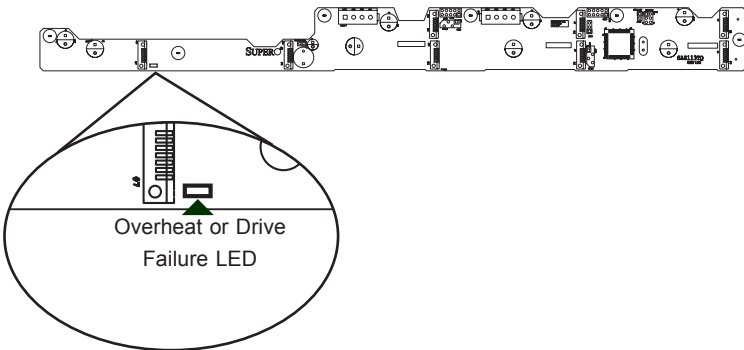


Figure C-2: Front LED

Front Panel LED		
LED	State	Specification
D3	ON	Overheat or Drive Failure

## B-8 Rear Connectors and LED Indicators

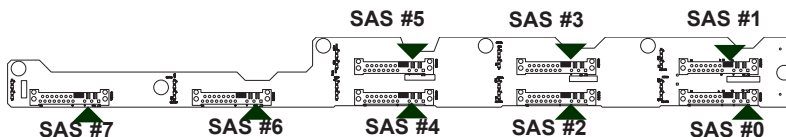


Figure C-3: Rear Connectors

Rear SAS/SATA Connectors		
Rear Connector	Connector Number	SAS Drive Number
SAS/SATA #0	J1	SAS/SATA HDD #0
SAS/SATA #1	J2	SAS/SATA HDD #1
SAS/SATA #2	J3	SAS/SATA HDD #2
SAS/SATA #3	J4	SAS/SATA HDD #3
SAS/SATA #4	J9	SAS/SATA HDD #4
SAS/SATA #5	J11	SAS/SATA HDD #5
SAS/SATA #6	J13	SAS/SATA HDD #6
SAS/SATA #7	J15	SAS/SATA HDD #7

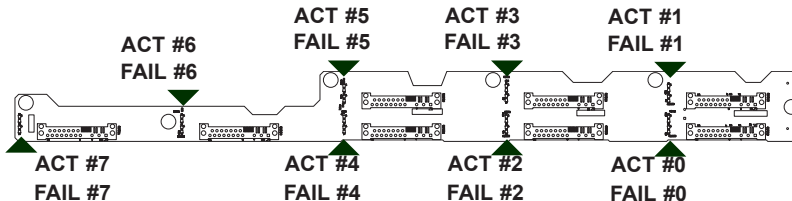


Figure C-4 Rear LEDs

Rear LED Indicators		
Rear Connector	Hard Drive Activity	Failure LED
SAS/SATA #0	D12	D5
SAS/SATA #1	D13	D6
SAS/SATA #2	D14	D7
SAS/SATA #3	D15	D8
SAS/SATA #4	D18	D19
SAS/SATA #5	D21	D20
SAS/SATA #6	D22	D23
SAS/SATA #7	D25	D26

## Notes

Disclaimer (cont.)

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