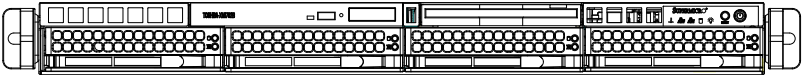




## SC815 Chassis Series



SC815T-563(CB)(UB)	SC815T-330(CB)(UB)
SC815TQ-720(CB)(UB)	SC815TQ-710U(B)
SC815TQ-710(B)	SC815TQ-710C(B)
SC815TQ-R706WB	SC815TQ-R700 (CB)(UB)(WB)
SC815TQ-R600 (CB)(UB)(WB)	SC815TQ-R563 (CB)(UB)
SC815TQ-R500 (CB)(UB)(WB)	SC815TQC-R706 (CB)(WB)
SC815TQC-R605 (CB)(WB)	SC815TQC-R504 (CB)(WB)
SC815S-R650C(V)(B)	SC815TQ-R650C(V)(B)
SC815TQ-R650U(V)(B)	SC815TQ-R654(CB)

# USER'S MANUAL

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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.**

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Manual Revision 1.1b  
Release Date: December 18, 2015

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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 SC815 1U chassis. Installation and maintenance should be performed by experienced technicians only.

Supermicro's SC815 1U chassis features a unique and highly-optimized design for Xeon and Opteron platforms. The chassis is equipped with a 330W, 500W, 560W, 650W, 700W, 710W, 720W or 750W high-efficiency power supply, or Gold Level 720W system for superb power savings. High-performance fans provide ample optimized cooling, latest generation memory modules and four hot-swappable 3.5" drive bays offers maximum storage capacity in a 1U form factor. Optional LCD front bezels are also available for customization requirements. Bulk package and quick release slide rails are available for HPC and datacenter use.

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

## Manual Organization

### Chapter 1: Introduction

The first chapter provides a checklist of the main components included with this chassis and describes the main features of the SC815 chassis. This chapter also includes contact information.

### Chapter 2: Standardized Warning Statements for AC/DC Systems

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

### Chapter 3: Chassis Components

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

### Chapter 4: System Interface

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

### Chapter 5: Chassis Setup and Installation

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

### Chapter 6: Rack Installation

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

### Appendices

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

#### Appendix A: Power Supply Specifications

#### Appendix B: BPN-SAS-815TQ Backplane Specifications

#### Appendix C: BPN-SAS3-815TQ Backplane Specifications

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### **Appendix A SC815 Power Supply Specifications**

### **Appendix B BPN-SAS-815TQ Backplane Specifications**

### **Appendix C BPN-SAS3-815TQ Backplane Specifications**

## Notes

# Chapter 1

## Introduction

### 1-1 Overview

Supermicro's SC815 1U chassis features a unique and highly-optimized design. The chassis is equipped with a high efficiency power supply. High performance fans provide ample optimized cooling for FB-DIMM memory modules and four hot-swap drive bays offer maximum storage capacity in a 1U form factor.

### 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>

SC815 Chassis			
Model	HDD	I/O Slots	Power Supply
SC815T-563(CB)(UB)	4x SAS/SATA	CB: 1x FF UB: 1 FH UIO: 1x FF, 1x LP	560W (Gold Level)
SC815T-330(CB)(UB)	4x SAS/SATA	CB: 1x FF UB: 1 FH UIO: 1x FF, 1x LP	330W (Gold Level)
SC815TQ-720(CB)(UB)	4x SAS/SATA	CB: 1x FF UB: 1 FH UIO: 1x FF, 1x LP	700W (Gold Level)
SC815TQ-710(U)(B)	4x SAS/SATA	1 FH UIO: 1x FF, 1x LP	710W DC
SC815TQ-R706WB	4x SAS/SATA	1 WIO: 2x FF, 1x LP	750W Redundant (Platinum Level)
SC815TQ-R700 (CB)(UB)(WB)	4x SAS/SATA	WB: 1 WIO: 2x FF, 1x LP CB: 1x FF UB: 1 FH UIO: 1x FF, 1x LP	700W Redundant
SC815TQ-R654CB	4x SAS/SATA	1x FF	650W DC Redundant

SC815 Chassis			
SC815TQ-600 (CB)(UB)(WB)	4x SAS/SATA	CB: 1x FF UB: 1 FH UIO: 1x FF, 1x LP WB: 1 WIO: 2x FF, 1x LP	600W (Digital Switching)
SC815TQ-R563 (CB)(UB)	4x SAS/SATA	CB: 1x FF UB: 1 FH UIO: 1x FF, 1x LP	560W Redundant (Gold Level)
SC815TQ-R500 (CB)(UB)(WB)	4x SAS/SATA	CB: 1x FF UB: 1 FH UIO: 1x FF, 1x LP WB: 1 WIO: 2x FF, 1x LP	500W Redundant (Platinum Level)
SC815TQC-R700(CB) (WB)	4x SAS/SATA	CB: WB:	700W
SC815TQC-R504(CB) (WB)	4x SAS/SATA	CB: WB:	500W
SC815TQ-R654CB	4x SAS/SATA	1x FF	650W DC
SC815TQ-R650C(V)(B)	4x SAS/SATA	CB: WB:	650W

## Legend:

FF: Full-height, full-length

FH: Full-height, half-length

LP: Low-profile

## 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)

Website: [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)

Website: [www.supermicro.nl](http://www.supermicro.nl)

### Asia-Pacific

Address: Super Micro Computer, Inc.  
3F, No. 150, Jian 1st Rd.  
Zhonghe Dist., New Taipei City 235  
Taiwan (R.O.C)

Tel: +886-(2) 8226-3990

Fax: +886-(2) 8226-3992

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

Website: [www.supermicro.com.tw](http://www.supermicro.com.tw)

## 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/DC 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.

### תקנון הצהרות אזהרה

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

יש לקרוא את הנספח במלואו לפני התקנת או הגדרת הרכיבים במאוזן 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

주의!

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: 60VDC, 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60VDC、20A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60VDC, 20A。

警告

此產品的短路(過載電流)保護由建築物的供電系統提供, 確保短路保護設備的額定電流不大於60VDC, 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: 60VDC, 20A 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: 60VDC, 20A.

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 : 60VDC, 20A.

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

경고!

이 제품은 전원의 단락(과전류)방지에 대해서 전적으로 건물의 관련 설비에 의존합니다. 보호장치의 정격이 반드시 60V(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 60V, 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、シャーシー内部にアクセスするには、

システムの電源はすべてのソースから切斷され、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 chasis 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 لتنشيت 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 لتكيب 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 installé 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 لتركيبها في مناطق محظورة . يمكن الوصول إلى منطقة محظورة فقط من خلال استخدام أداة خاصة، قفل ومفتاح أو أي وسيلة أخرى للأمان

경고!

이 장치는 접근이 제한된 구역에 설치하도록 되어 있습니다. 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

此裝置連接的電源可能不只一個，必須切斷所有電源才能停止對該裝置的供電。

#### Warnung

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

修理するにはご注意ください。

#### 警告

当系统正在进行时，背板上有很危险的电压或能量，进行维修时务必小心。

#### 警告

當系統正在進行時，背板上有危險的電壓或能量，進行維修時務必小心。

#### Warnung

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

#### ¡Advertencia!

Quando 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

本产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 외곽의 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.

## DC Power Supply



### Warning!

When stranded wiring is required, use approved wiring terminations, such as closedloop or spade-type with upturned lugs. These terminations should be the appropriate size for the wires and should clamp both the insulation and conductor.

### 警告

より線が必要な場合、承認済みのケーブル終端(上向きの端子を備えたクローズループ型またはU字型の終端など)を使用してください。使用するワイヤーに適したサイズで、絶縁体および導体が両方ともクランプされている終端でなければなりません。

### 警告

需要多股佈線時，請使用經核准的佈線終端，例如閉環或鑷型接線片。這些終端的大小應適合線路，並且可以同時夾住絕緣體和導體。

### 警告

需要使用绞线连接时，请使用经认可的连接端子，如闭环端子或具有接线柱的铲形端子。这些端子的大小应与线缆相吻合，并且可以将绝缘部分和导体夹紧固定。

### Warnung

Wenn Litzenverdrahtung erforderlich ist, sind zugelassene Verdrahtungsabschlüsse, z.B. für einen geschlossenen Regelkreis oder gabelförmig, mit nach oben gerichteten Kabelschuhen zu verwenden. Diese Abschlüsse sollten die angemessene Größe für die Drähte haben und sowohl die Isolierung als auch den Leiter festklemmen.

### ¡Advertencia!

Quando se necesite hilo trenzado, utilizar terminales para cables homologados, tales como las de tipo "bucle cerrado" o "espada", con las lengüetas de conexión vueltas hacia arriba. Estos terminales deberán ser del tamaño apropiado para los cables que se utilicen, y tendrán que sujetar tanto el aislante como el conductor.

### Attention

Quand des fils torsadés sont nécessaires, utiliser des douilles terminales homologuées telles que celles à circuit fermé ou du type à plage ouverte avec cosses rebroussées. Ces douilles terminales doivent être de la taille qui convient aux fils et doivent être refermées sur la gaine isolante et sur le conducteur.

### תקנון הצהרות אזהרה

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

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

### تحذير

كالتسأل امدختسو، لبسلا مهب تعطقت ني ذل كالتسأل ابولطم نوكي امدن عونلا ةيقي قرحل اهئامس أب عايشأل وأ قق لغم قق لرح لشم، اهيلع ةققفاوملا اءان! كالتسأل بسانملا مچرحل نوكي تاءاهنإل اذهل يغبنني و. ةبولقم تاورعلا عم لصومو لزعل نم لك حبك بجوي.

### 주의!

꼬인 배선이 요구 될 때에는 폐회로나 돌출부가 위로 튀어 나온 Spade 형태의 승인된 배선 터미네이션들을 사용하세요.

이 터미네이션들은 배선들을 위해 적절한 크기여야 하고, 절연체와 도체 모두를 고정시킬 수 있어야 합니다.

### Waarschuwing

Wanneer geslagen bedrading vereist is, dient u bedrading te gebruiken die voorzien is van goedgekeurde aansluitpunten, zoals het gesloten-lus type of het grijperschop type waarbij de aansluitpunten omhoog wijzen. Deze aansluitpunten dienen de juiste maat voor de draden te hebben en dienen zowel de isolatie als de geleider vast te klemmen.



¡Advertencia!

Puede haber energía o voltaje peligrosos en los terminales eléctricos de CC. Reemplace siempre la cubierta cuando no estén utilizándose los terminales. Asegúrese de que no haya acceso a conductores descubiertos cuando la cubierta esté colocada.

Attention

Le voltage ou l'énergie électrique des terminaux à courant continu peuvent être dangereux. Veuillez à toujours replacer le couvercle lors les terminaux ne sont pas en service. Assurez-vous que les conducteurs non isolés ne sont pas accessibles lorsque le couvercle est en place.

**אזהרה!**

בוקר מתח מסוכן עלול להיות נוכח על הקטבים של זרם ה-DC. החלף תמיד את המכסה כאשר הקטבים לא בשימוש. ודא כי המוליכים הלא מבודדים אינם נגישים כאשר המכסה נמצא במקומו.

**تحذير**

لادبتسا. ةمصاعلا ةقلاطلا تااطحم ىلع ةدوجوم نوكت ةقلاطلا وأ ةرطخلا دهجلا دق ريغ تالصولا هيف لكش ال امم. ةمدخلا يف تسيل تااطحلا امدنع امئاد اعاطغ هنالكم يف اعاطغلا امدنع اهيل لوصولا نكمي ال لوزعم

주의!

DC전원 단자들에 위험한 전압이나 에너지가 발생할 수 있습니다.

단말기들을 운영하지 않을 때에는 덮개로 다시 덮어 놓아 주십시오. 덮개가 제자리에 있어야만 절연되지 않은 도체들의 접근을 막을 수 있습니다.

Waarschuwing

Op DC-aansluitingspunten kunnen zich gevaarlijke voltages of energieën voordoen. Plaats altijd de afsluiting wanneer de aansluitingspunten niet worden gebruikt. Zorg ervoor dat blootliggende contactpunten niet toegankelijk zijn wanneer de afsluiting is geplaatst.

## 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. For more information, see the installation instructions detailed later in this manual.

Chassis may include one slim CD-ROM bay and/or four hard drive bays. Most chassis models include a DVD-ROM. Hard drives must be purchased separately. For the latest shipping lists, visit our website at: [www.supermicro.com](http://www.supermicro.com).

This chassis accepts a 1U backplane, four fans (with an optional fifth fan) and one (sometimes two) power supplies. SC815 models come in silver and black.

### 3-2 Components

#### Backplane

Each SC815 chassis comes with a 1U backplane. Your backplane supports SAS/SATA. For more information regarding compatible backplanes, view the appendices found at the end of this manual. In addition, visit our website for the latest information: <http://www.supermicro.com>.

#### Fans

The SC815 chassis accepts four system fans with an optional fifth and on some models a sixth fan. System fans for SC815 chassis are powered from the serverboard. These fans are 1U high and are powered by 3-pin connectors.

#### Mounting Rails

The SC815 can be placed in a rack for secure storage and use. To setup your rack, follow the step-by-step instructions included in this manual.

## **Power Supply**

Each SC815 chassis model includes a high-efficiency power supply rated between 330, 560, 650, 700, 710 or 720 Watts. In the unlikely event that your power supply fails, replacement is simple and can be done without tools.

"R" model chassis include a redundant, hot-swappable power supply.

## **Air Shroud**

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

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

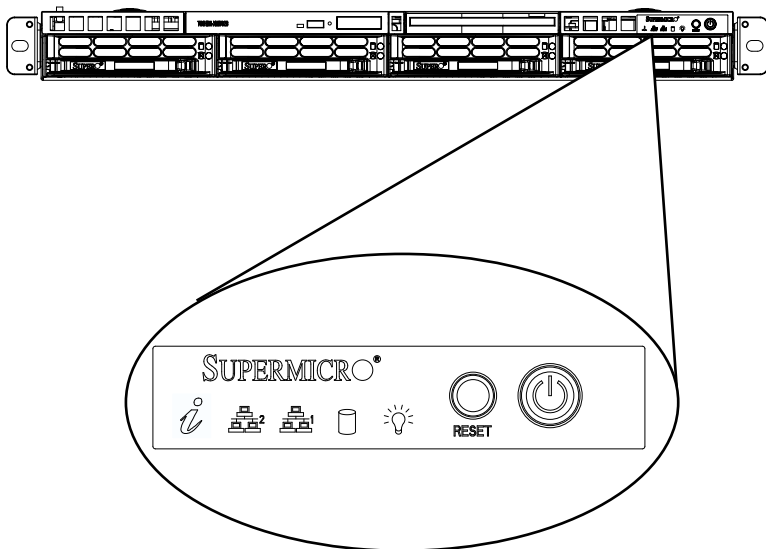
Though not frequently, you may need replacement parts for your system. To ensure the highest level of professional service and technical support, we strongly recommend purchasing exclusively from our Supermicro Authorized Distributors / System Integrators/Resellers. A list of Supermicro Authorized Distributors/System Integrators/Reseller can be found at: [www.supermicro.com](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 as well as others on the drive carriers to keep you constantly informed of the overall status of the system as well as the activity and health of specific components. This chapter covers these buttons, and explains the meanings of all LED indicators and the appropriate responses you may need to take.



**Figure 4-1. Chassis Control Panel**

**Note:** Your control panel may differ from the control panel pictured above. See the following pages for further information

## 4-2 Control Panel Buttons

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



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



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



**UID (UB and WB Models Only):** SC815 UB and WB chassis models include a UID button. 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 SC815 chassis has five LEDs. These LEDs provide you with critical information related to different parts of the system. This section explains what each LED indicates when illuminated and any corrective action you may need to take. Your chassis model will have some, but not all of the LEDs listed.



**Universal Information LED:** The Universal Information LED is used to indicate fan failure, power failure, overheat condition, or to identify the unit within a large rack installation. The feature requires a motherboard that supports the Universal Information LED.

When this LED blinks red quickly, it indicates a fan failure and when blinking red slowly a power failure. This LED will be blue when used for UID (Unit Identifier). When on continuously red, it indicates an overheat condition, which may be caused by cables obstructing the airflow in the system or the ambient room temperature being too warm. See the table below for descriptions of the LED states.

Universal Information LED States	
State	Indication
Fast Blinking Red (1x/sec)	Fan Fail
Solid Red	CPU Overheat
Slow Blinking Red (1x/4 sec)	Power Fail
Solid Blue	Local UID Button Depressed
Blinking Blue	IPMI-Activated UID

**Note:** Deactivating the UID LED must be performed in the same way it was activated. (If the UID LED was activated via IPMI, you can only turn the LED off via IPMI and not with the UID button.)





**Information LED:**

Information LED	
Status	Description
Solid 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 (300 msec)	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 HDD 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

Your chassis supports either SAS or SATA,

#### SAS/SATA Drives

Each SAS/SATA drive carrier has two LEDs.

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

### 4-5 Power Supply LEDs and Overheat Indicators

This chassis provides several options which may include hot-swappable, cold-swappable, and redundant power supplies. Some power supplies include an LED in the rear with the following definitions:

#### 450W and 650W Power Supplies

450W and 650W Power Supply LEDs	
State	Indication
Solid Green	System is on.
Solid Amber	System is off and plugged in.
Blinking Amber	Internal temperature has reached 63C and will shut down if the temperature reaches 70C.

**Solid Green:** When illuminated, the green LED indicates that the power supply is on.

**Solid Amber:** When illuminated, the amber LED indicates the power supply is plugged in and turned off, or the system is off but in an abnormal state.

**Blinking Amber:** When blinking, this system power supply temperature has reached to 63C. The system automatically power down when the power supply temperature reaches 70C and restarts when the power supply temperature goes below 60C.

## All Other Power Supplies

Solid Green: When illuminated, this green LED indicates that the power supply is on.

Solid Amber: When illuminated, the amber LED indicates the power supply is plugged in and turned off, or the system is off but in an abnormal state.

## 4-6 Overheating

The section lists actions that should be taken in the unlikely event the server overheats.

All Other Power Supply LEDs	
State	Indication
Solid Green	System is on.
Solid Amber	System is off and plugged in.

### Overheat Temperature Setting

Some backplanes allow the overheat temperature to be set at 45, 50, or 55 by changing a jumper setting. For more information, download the backplane user manual at [www.supermicro.com](http://www.supermicro.com). To access the manuals on the Website, click support, and then click the manuals link.

### Overheating Condition

***If the Server Overheats, do the Following:***

1. Use the LEDs to determine the nature of the overheating condition.
2. Confirm that the chassis covers are installed properly.
3. Check the routing of the cables and make sure all fans are present and operating normally.
4. Verify that the heatsinks are installed properly.

## 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 you will need to install components and perform maintenance is a Phillips screwdriver. Print this page to use as a reference while setting up your chassis.

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

## 5-2 Removing the Chassis Cover and Front Bezel

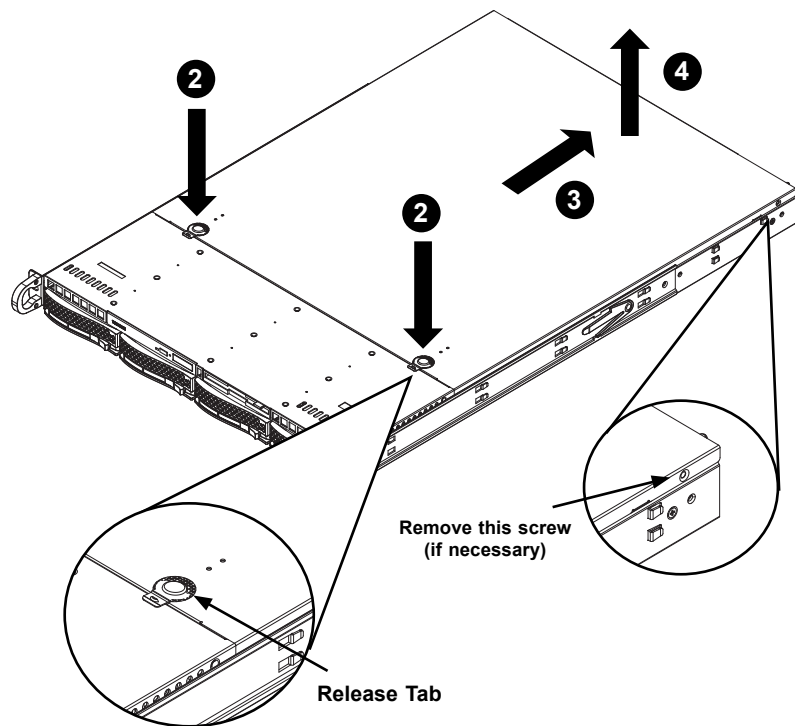


Figure 5-1. Removing the Chassis Cover

### Removing the Chassis Cover

1. Power down the system and remove the power cord from the rear of the power supply. Remove both power cords if your system includes a redundant power supply.
2. Press the release tabs to remove the cover from the locked position. Press both tabs at the same time.
3. Once the top cover is released from the locked position, slide the cover toward the rear of the chassis.
4. Lift the cover off the chassis.

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

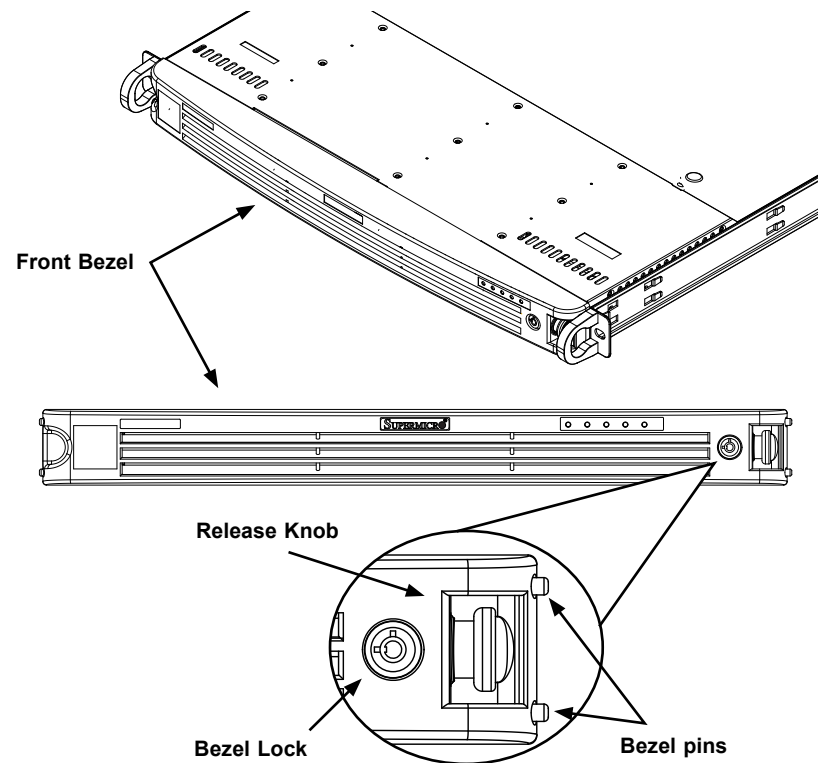


Figure 5-2. Removing the Front Bezel

### The Front Bezel (Optional)

If your system has an optional front bezel attached to the chassis, you must remove it to access the drive bays. A filter located within the bezel can be removed for cleaning or replacement. It is recommended that you keep a maintenance log and frequently replace the filter. The filter's condition will affect the airflow throughout the whole system.

### Removing the Front Bezel

1. Unlock the bezel lock.
2. Press the release knob to retract the bezel pins
3. Carefully remove the bezel with both hands.

## 5-3 Installing Hard Drives

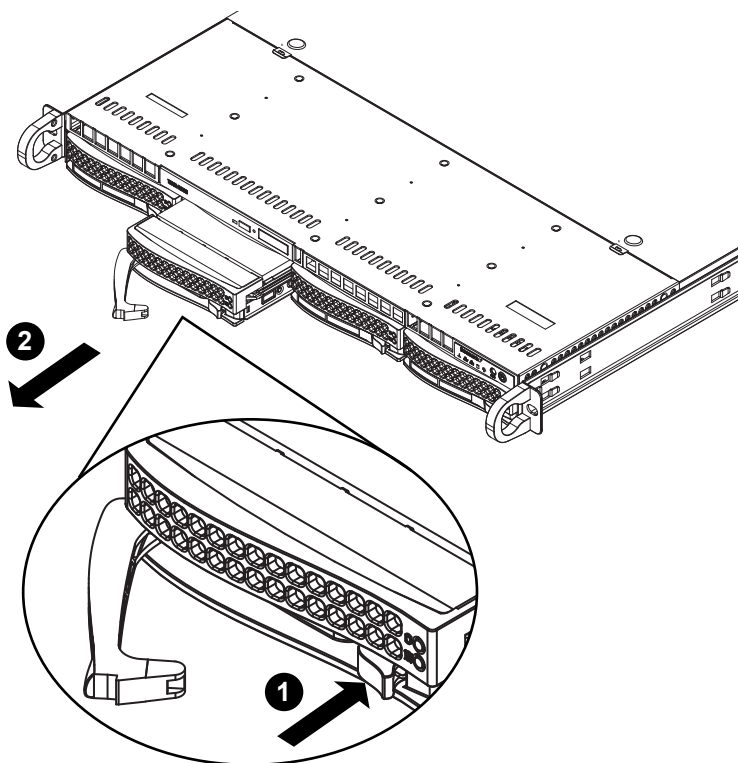


Figure 5-3. Removing Hard Drive Carriers

### 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 carrier out of the chassis.

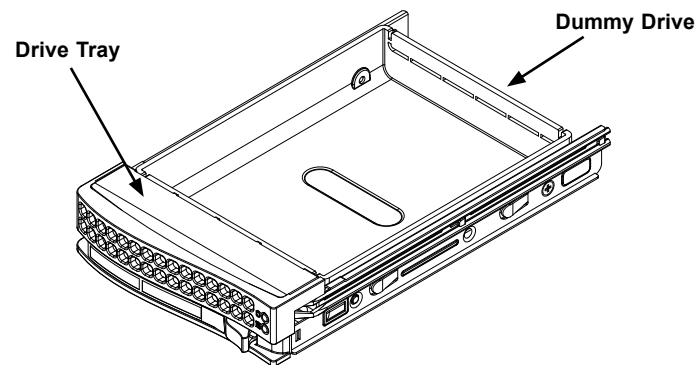


Figure 5-4. Chassis Drive Carrier

The drives are mounted in drive carriers to simplify their installation and removal from the chassis. These carriers also help promote proper airflow for the drive bays.

**Warning:** Except for short periods of time (swapping hard drives), do not operate the chassis without the drive carriers.

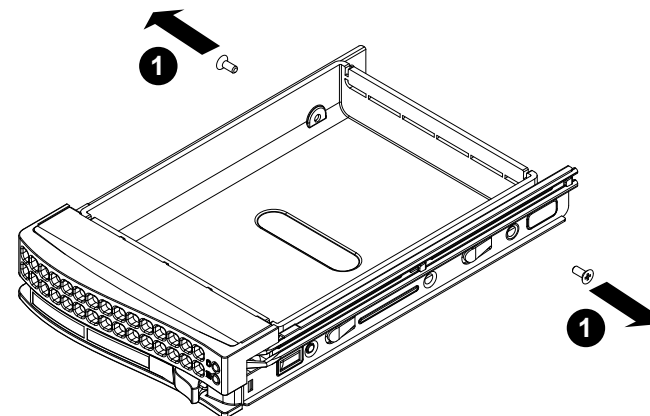
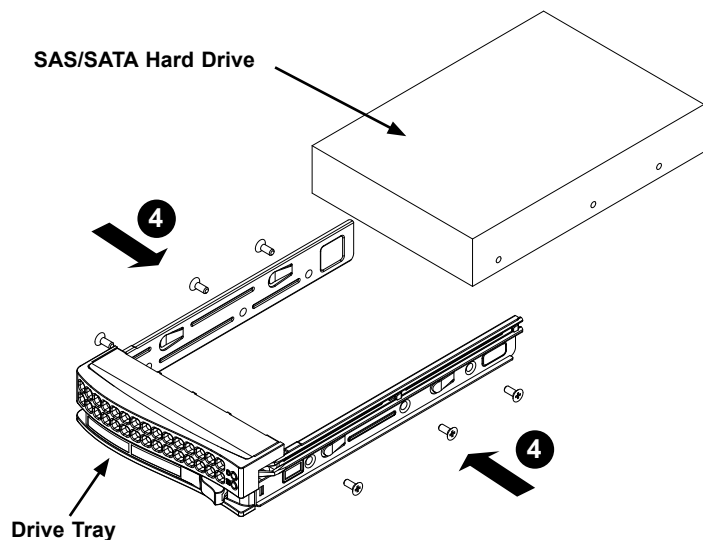


Figure 5-5. Removing a Dummy Drive from the Carrier

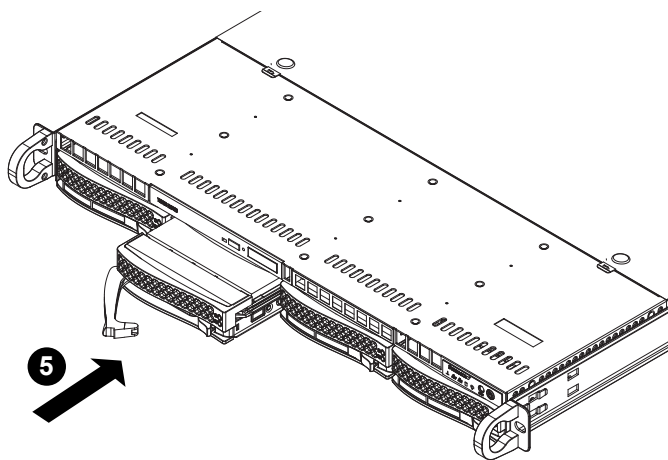
### Installing a Hard Drive to the Hard Drive Carrier

1. Remove the two screws securing the dummy drive to the carrier.
2. Remove the dummy drive from the carrier.



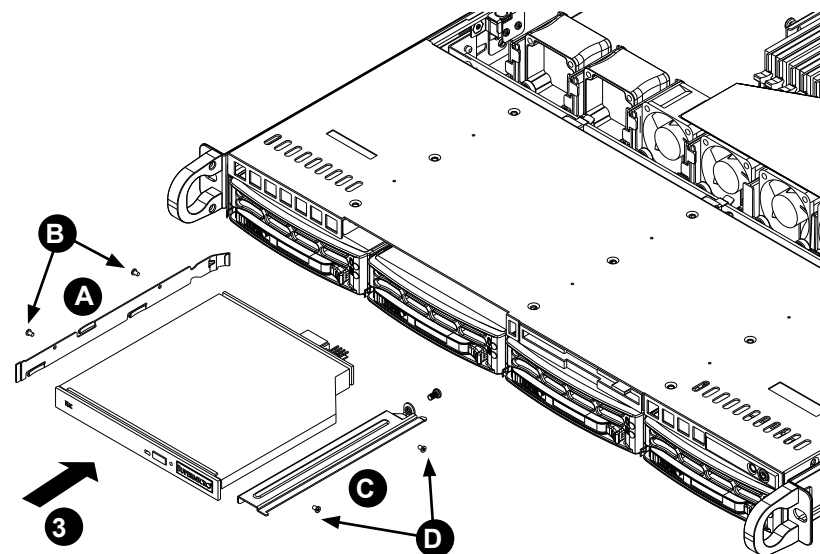
**Figure 5-6. Removing the Hard Drive From the Carrier**

3. Install a new drive into the carrier with the printed circuit board side facing down so that the mounting holes align with those in the carrier.
4. Secure the hard drive by tightening all six (6) screws.
5. Replace the drive tray into the chassis. Make sure the close the drive carrier handle.



**Figure 5-7. Replacing the Hard Drive Carrier**

## 5-4 Installing the DVD Drive



**Figure 5-8. Installing the DVD Drive**

SC815 chassis models include space for one optional DVD drive.

### ***Installing the DVD Drive***

1. Power down the system and unplug the power cord from the rear of the power supply. Open the chassis cover as described in Section 5-3.
2. Secure the left rail (A) to the left side of the DVD drive using two screws (B).
3. Attach the right rail (C) to the right side of the DVD drive using two screws (D).
4. Carefully slide the DVD drive and into the chassis.
5. Plug the power cord into the power supply and power up the system.

## 5-5 Installing the Motherboard

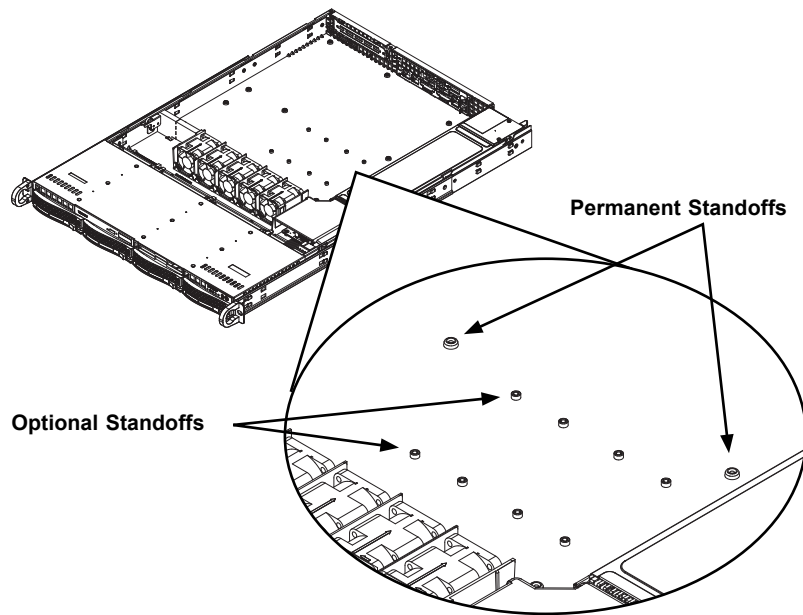


Figure 5-9 Chassis Standoffs

### Permanent and Optional Standoffs

Standoffs prevent short circuits by securing space between the motherboard and the chassis surface. The SC815 chassis includes permanent standoffs in locations used by most motherboards. These standoffs accept the rounded Phillips head screws included in the SC815 accessories packaging.

Some motherboards require additional screws for heatsinks and/or general components. 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 hexagonal nut (rounded side up).

### 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 and remove the power cord from the rear of the power supply. Remove both power cords if your system includes a redundant power supply. Remove the chassis cover as described in Section 5-3. Open the chassis cover.
3. 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.
4. As required by your motherboard, install standoffs in any areas that do not have a permanent standoff:
  - A. Place a hexagonal standoff screw through the bottom the chassis.
  - B. Secure the screw with the hexagonal nut (rounded side up).
5. Lay the motherboard on the chassis aligning the permanent and optional standoffs
6. Secure the motherboard to the chassis using the rounded, Phillips head screws. Do not exceed eight pounds of torque per square inch, when tightening down the motherboard.
7. Secure the CPU(s), heatsinks, and other components to the motherboard, chassis, and/or backplane as needed.
8. Reconnect the power cord(s), power up the system and replace the chassis cover.

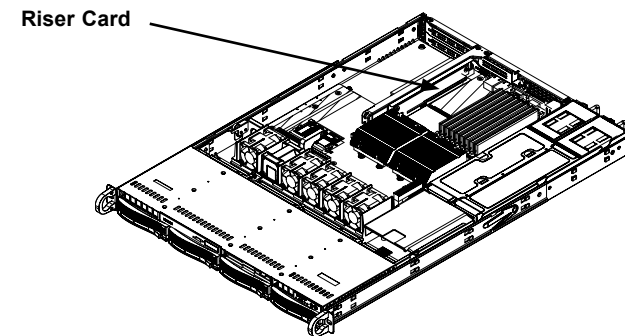
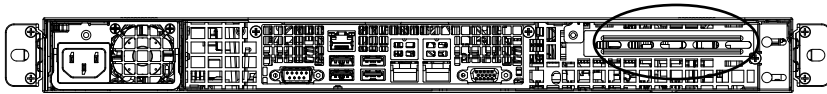


Figure 5-10. Chassis with a Riser Card ("U" Models Only)

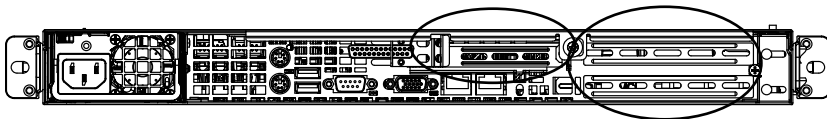
## Expansion Card Setup

The SC815 chassis includes PCI slots for expansion cards and expansion cards. "C" models (like SC815TQ-600CB) include one full height slot. "W" model chassis include two full-height expansion slots and one low-profile expansion slot. Other models include a full-height, full-length PCI slot and one low-profile PCI slot.

Note: You must use a riser card to install expansion cards into any SC815 chassis. Riser cards are sold separately. For the latest compatibility and performance information, visit our website at: <http://www.supermicro.com>.

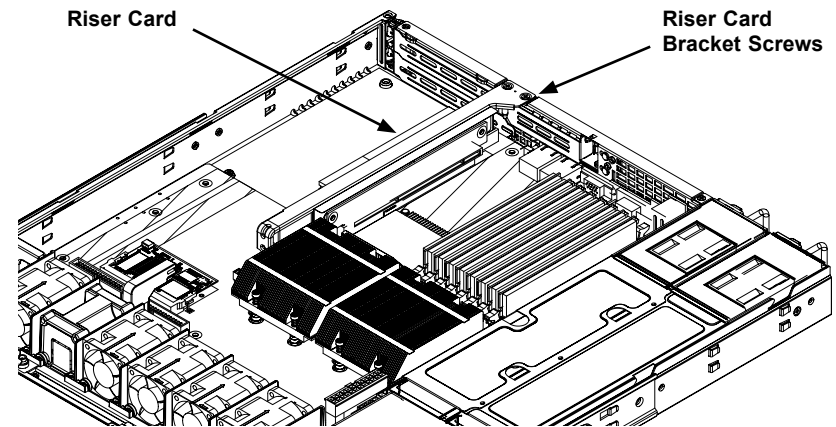


**"C" Model Chassis: One Full-Height, Full-Length PCI Slot**



**"W" Model Chassis: Two Full-Height, Full-Length and One Low-Profile PCI Slots**

**Figure 5-11. PCI Card Slot Variations**



**Figure 5-12. 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.



## 5-6 Installing the Air Shroud

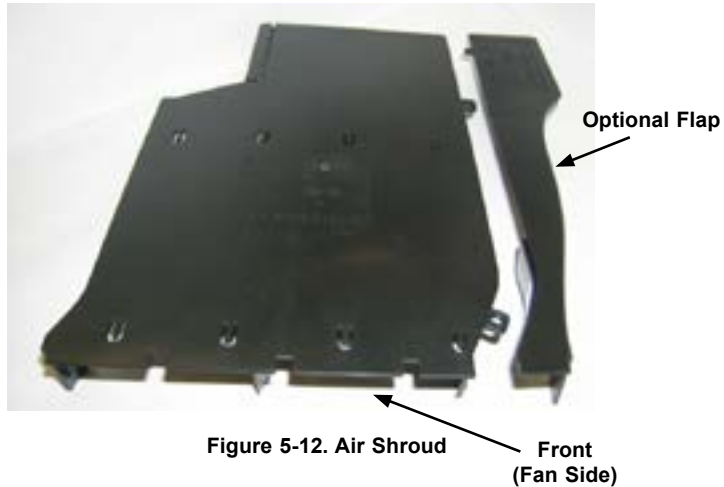


Figure 5-12. Air Shroud  
Front (Fan Side)

Air shrouds concentrate airflow to maximize fan efficiency. The SC815 chassis air shroud does not require screws to set up.

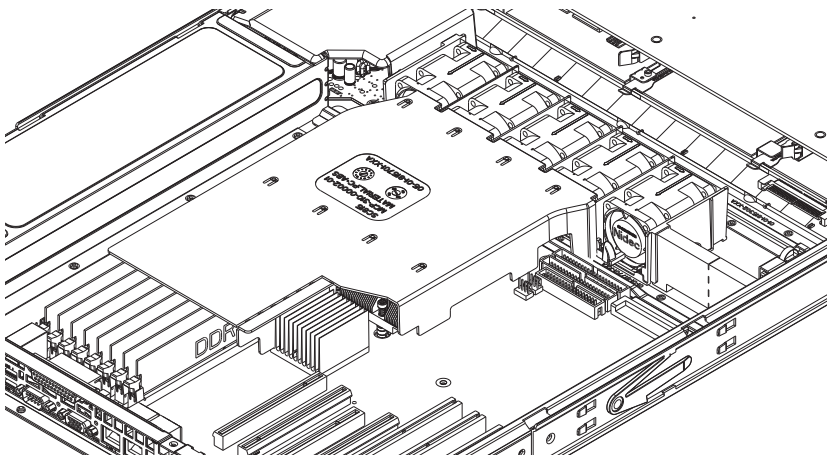


Figure 5-13. Air Shroud with the Optional Flap Removed

### *Installing the Air Shroud*

1. Power down the system and remove the power cord from the rear of the power supply. Remove both power cords if your system includes a redundant power supply. Remove the chassis cover as described in Section 5-3.
2. If your motherboard uses between 9 and 16 DIMMS, skip this step. If your motherboard uses 8 DIMMS, you must remove the optional flap. To do so:
  - a. With the fan side facing you, hold the air shroud with your left hand on the main shroud component and right hand on the optional flap.
  - b. Gently twist with your right hand by lifting the fan side and lowering the other end of the optional flap.
3. Place the air shroud in your chassis with the fan side touching the edge of the fans.
4. Reconnect the power cord(s), power up the system and replace the chassis cover.

### *Checking the Airflow in the Chassis*

1. Make sure there are no objects to obstruct airflow in and out of the chassis. In addition, if you are using a front bezel, make sure the bezel's filter is replaced periodically.
2. Do not operate the chassis without drive carriers in the drive bays. Use only recommended chassis parts.
3. Make sure no wires or foreign objects obstruct air flow through the chassis. Pull all excess cabling out of the airflow path or use shorter cables.
4. The control panel LEDs inform you of system status. See "Chapter 3: System Interface" for details on the LEDs and the control panel buttons.

## 5-7 System Fans



**Figure 5-14. System Fan**

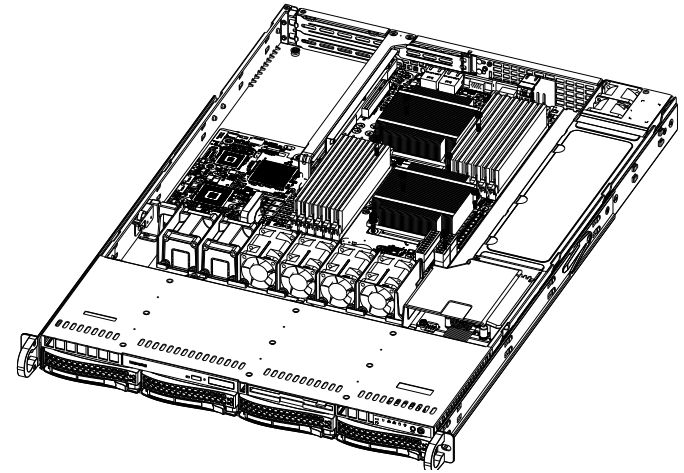
Four heavy duty fans provide cooling for the chassis. These fans circulate air through the chassis as a means of lowering the chassis internal temperature.

In models with 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.

In chassis that provide an additional open fan housing, an additional system fan may be added for optimal cooling.

### **Adding a System Fan**

1. Power down the system and remove the power cord from the rear of the power supply. Remove both power cords if your system includes a redundant power supply. Remove the chassis cover as described in Section 5-3.
2. Remove the dummy fan from the fan tray.
3. 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.
4. Connect the fan wires to the fan headers on the serverboard.
5. Reconnect the power cord(s), power up the system and check that the fan is working properly before replacing the chassis cover.



**Figure 5-15. Chassis Fans (Note additional fan options)**

The SC815 chassis includes four pre-installed fans. One or two extra slots are available so that additional 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 and remove the power cord from the rear of the power supply. Remove both power cords if your system includes a redundant power supply. Remove the chassis cover as described in Section 5-3.
3. Remove the failed fan's wiring from the serverboard.
4. Lift the failed fan from the chassis and pull it completely out from the serverboard.
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. Reconnect the power cord(s), power up the system and check that the fan is working properly before replacing the chassis cover.

## 5-8 Power Supply

Depending on your chassis model the SC815 chassis has a 330, 560, 600, 650, 700, 710 or 720 Watt power supply. This power supply is auto-switching capable. All power supplies with the exception of the 710 power supply, automatically sense and operate at a 100V to 240V input voltage. The 710 DC power supply operates at -36DC to -75DC. An amber light will be illuminated on the power supply when the power is off. An illuminated green light indicates that the power supply is operating.

### Power Supply Failure

If the power supply unit fails, the system will shut down the power supply unit and you will need to replace it. A power supply failure is indicated by a flashing red (0.25Hz) LED indicator. Replacement power supply units can be ordered directly from Supermicro (see contact information in the Preface). As there is only one power supply unit in the SC815 Chassis, power must be completely removed from the server before removing and replacing the power supply unit for whatever reason.

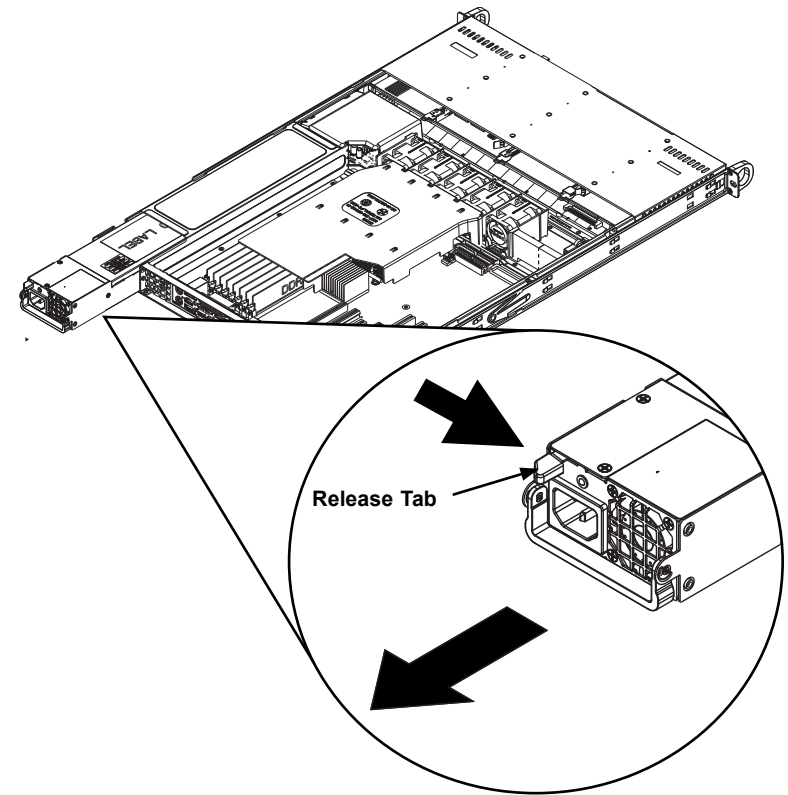


Figure 5-16. Removing the Power Supply

### Replacing the Power Supply

1. Power down the server and unplug the power cord. If your chassis includes a redundant power supply (at least two power modules), you can leave the server running and remove only one power supply.
2. Push the release tab (on the back of the power supply) as illustrated.
3. Pull the power supply out using the handle provided.
4. Replace the failed power module with the same model.
5. Push the new power supply module into the power bay until you hear a click.
6. Reconnect the power cord, power up the system and replace the chassis cover.

## 5-9 Routing the I<sup>2</sup>C Cables

It is necessary to correctly route the I<sup>2</sup>C cables to avoid interference due to noise on the I<sup>2</sup>C lines. Using tie wraps, secure the I<sup>2</sup>C cables to the large black power switching cable to keep it close to the power supply and away from the motherboard.

## 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 ( $T_{mra}$ ).

### *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 SC815 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.

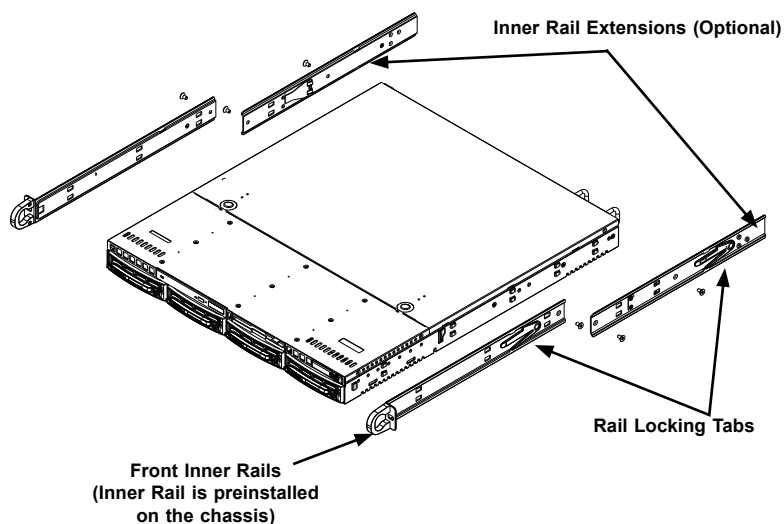


Figure 6-1. Identifying the Sections of the Rack Rails

### Locking Tabs

Both chassis rails have a locking tab. The tabs lock the server into place when installed and pushed fully into the rack. These tabs also lock the server in place when fully extended from the rack. This prevents the server from coming completely out of the rack when you pull it out for servicing.

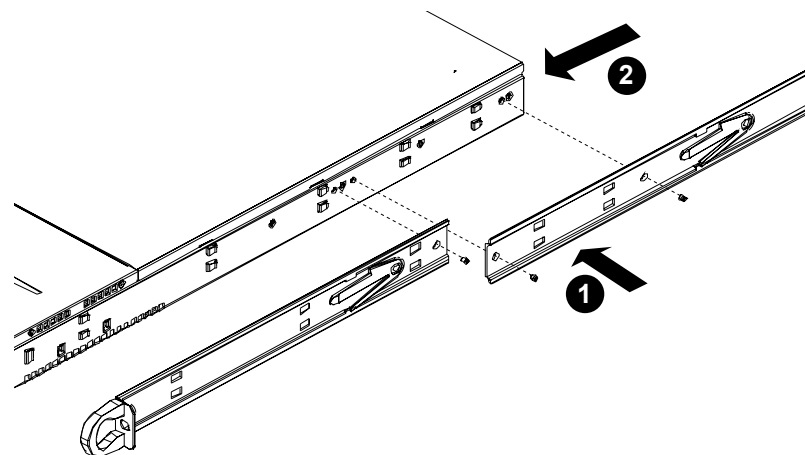


Figure 6-2. Identifying the Sections of the Rack Rails (right side rail shown)

### The Inner Rail Extension (Optional)

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. If you are not using a rack, you do not have to install the inner rail extensions.

#### Installing the Inner Rails

1. Place the inner rack 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. Repeat steps for the other inner rail extension.



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

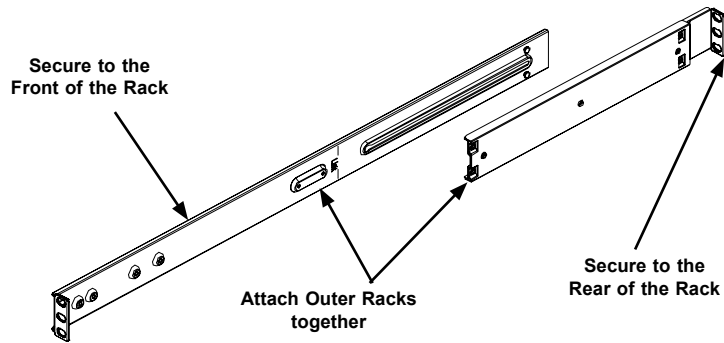


Figure 6-3. Assembling the Outer Rails

### Outer Rack Rails

Outer rails attach to the server rack and hold the server in place. The outer rails for the SC815 chassis extend between 30 inches and 33 inches.

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

1. Attach the short bracket to the outside of the long bracket. You must align the pins with the slides. Also, both bracket ends must face the same direction.
2. Adjust both the short and long 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 1-3 for the left outer rail.

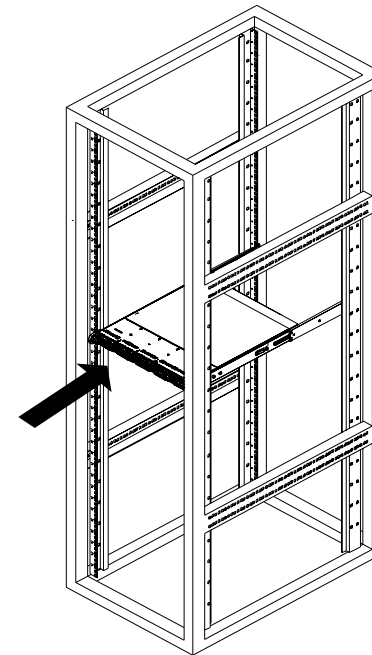


Figure 6-4. Installing into a Rack

Note: Figure is for illustrative purposes only. Always install servers into racks from the bottom up.

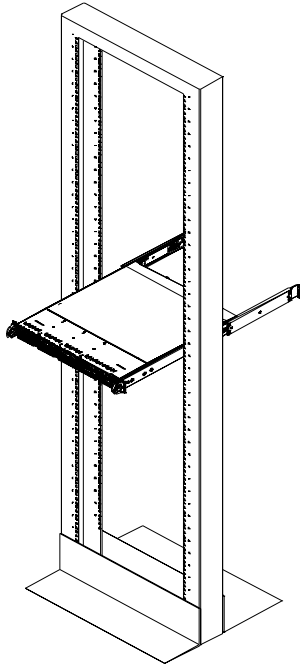
#### *Installing the Chassis into a Rack*

1. Confirm that chassis includes the inner rails and rail extensions. Also, confirm that the outer rails are installed on the rack.
2. Line chassis rails with the front of the rack rails.
3. Slide the chassis rails into the rack rails, keeping the pressure even on both sides (It may be necessary to depress the locking tabs when inserting). When the server has been pushed completely into the rack, the locking tabs will "click" into the locked position.
4. (Optional) Insert and tightening the thumbscrews that hold the front of the server to the rack.



Stability hazard. The rack stabilizing mechanism must be in place, or the rack must be bolted to the floor before you slide the unit out for servicing. Failure to stabilize the rack can cause the rack to tip over.





**Figure 6-5. Installing into an Open Rack**

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

#### ***Installing the Chassis into a Mid-Mount Position (Telco) Rack***

1. Use the two L-shaped brackets on either side of the chassis (four total).
2. Determine how far the chassis 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.
3. 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.
4. Finish by sliding the chassis into the rack and tightening the brackets to the rack.

## Appendix A

### SC815 Power Supply Specifications

This appendix lists power supply specifications for your chassis system.

Power Supply Specifications					
	750W (Redundant)	720W	710W/ PDB	700W (Redundant)	700W/ PDB
<b>MFR Part #</b>	PWS-504P-1R	PWS-721P-1R	PWS-711-1R	PWS-704P-1R	PWS-702A-1R
<b>Input Voltage Range</b>	85 Vac Minimum, 100/240 Vac Nominal, 264 Vac Max,	---	---	85 Vac Minimum, 100/240 Vac Nominal, 264 Vac Max, 11-3 Amp	---
<b>Rated AC Voltage</b>	100-240 V, 60-50 Hz, 6.1-2.6 Amp	100-240 V, 50-60 Hz, 4-9 Amp	100 - 240V 50-60Hz 24-11 Amp	100-240V, 47-63 Hz,	100 - 240V 50 - 60Hz 10-4 Amp
<b>+5V standby</b>	4 Amp	3 Amp	4 Amp	3 Amp	4 Amp
<b>DC Output</b>	---	3 Amp at +5V standby 59 Amp at +12V	---	---	---
<b>+12V</b>	42 Amps	---	59 Amp	58 Amp (62 Amp with PDB)	57 Amp
<b>+5V</b>	25	30 Amp	24 Amp	25 Amp	30 Amp
<b>+3.3V</b>	25	24 Amp	21 Amp	25 Amp	24 Amp
<b>-12V</b>	0.6	0.6 Amp	0.6 Amp	6 Amp	0.6 Amp

PDB: Power Distribution Board.

Power Supply Specifications					
	650W/PDB (Redundant)	600W	560W	560W (C Models)	330W
<b>MFR Part #</b>	PWS-651-1R	PWS-605P-1H	PWS-561-1H20	PWS-561-1H	PWS-333-1H20
<b>Rated AC Voltage</b>	100 - 240V 50 - 60Hz 8 - 4 Amp		100 - 240V 50 - 60Hz 8.5 - 4 Amp	100 - 240V 50 - 60Hz 8.5 - 4 Amp	100-240 V, 50-60 Hz, 4.5 Amp max
<b>+5V standby</b>	3 Amp		3 Amp	3 Amp	3 Amp
<b>DC Output</b>					
<b>+12V</b>	54 Amp		43.6 Amp	43.6 Amp	27 Amp @ 100-180 Vac, 31 Amp @ 180-240 Vac
<b>+5V</b>	25 Amp		25 Amp	25 Amp	18 Amp
<b>+3.3V</b>	12 Amp		21 Amp	21 Amp	15 Amp
<b>-12V</b>	0.5 Amp		0.6 Amp	0.6 Amp	0.5 Amp

## Appendix B

### BPN-SAS-815TQ Backplane Specifications

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 card 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 BPN-SAS-815TQ backplane.
- Disconnect the power cable before installing or removing any cables from the BPN-SAS-815TQ backplane.
- Make sure that the BPN-SAS-815TQ 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 BPN-SAS-815TQ Backplane

The BPN-SAS-815TQ backplane has been designed to utilize the most up-to-date technology available, providing your system with reliable, high-quality performance.

This manual reflects BPN-SAS-815TQ Revision 1.00, the most current release available at the time of publication. Always refer to the Supermicro website at [www.supermicro.com](http://www.supermicro.com) for the latest updates, compatible parts and supported configurations.

### B-5 Front Connectors

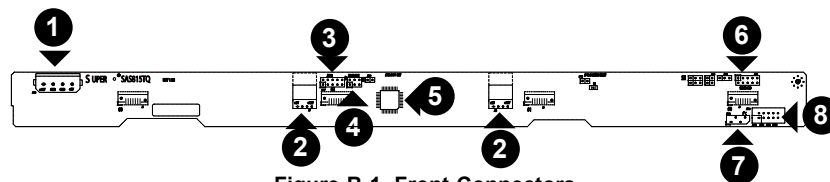


Figure B-1. Front Connectors

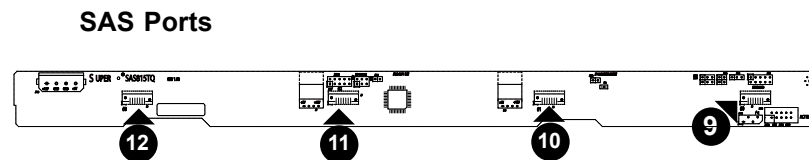


Figure B-2. SAS Ports

1. Power Connectors (4-pin): JP10
2. CD-ROM/Floppy Drive Power Connector: J9 and J10
3. JTAG JP47
4. Upgrade Connector: JP46
5. MG9071 Chip
6. Sideband JP51
7. I<sup>2</sup>C Connector JP44
8. ACT\_IN JP26
9. SAS Port #0 J5
10. SAS Port #1 J6
11. SAS Port #2 J7
12. SAS Port #3 J8

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

### 2. CD-ROM/Floppy 4-Pin Connectors

The 4-pin connectors, designated J9 and J10, provide power to the CD-ROM and floppy drives. See the table on the right for pin definitions.

CD-ROM/FDD Power 4-Pin Connector	
Pin#	Definition
1	+5V
2 and 3	Ground
4	+12V

### 3. - 4. JTAG Connector and Upgrade Connector

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

### 4. MG9071 Chip

The MG9071 is an enclosure management chip that supports the SES-2 controller and SES-2 protocols.

### 6. Sideband Headers

The sideband headers are designated JP51. 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			
Pin #	Definition	Pin #	Definition
2	Backplane Addressing (SB5)	1	Controller ID (SB6)
4	Reset (SB4)	3	GND (SB2)
6	GND (SB3)	5	SDA (SB1)
8	Backplane ID (SB7)	7	SCL (SB0)
10	No Connection	9	No Connection

### 7. I<sup>2</sup>C Connectors

The I<sup>2</sup>C Connectors, designated JP44, 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	
Pin#	Definition
1	Data
2	Ground
3	Clock
4	No Connection

### 8. Activity LED Header

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

SAS Activity LED Header Pin Definitions			
Pin #	Definition	Pin #	Definition
1	ACT IN#0	6	ACT IN#4
2	ACT IN#1	7	ACT IN#5
3	ACT IN#2	8	ACT IN#6
4	ACT IN#3	9	ACT IN#7
5	Ground	10	Empty

### 9. - 12. SAS Ports

The SAS ports are used to connect the SAS drive cables. The four ports are designated #0 - #4. Each port is also compatible with SATA drives.

### B-7 Front Jumper Locations and Pin Definitions

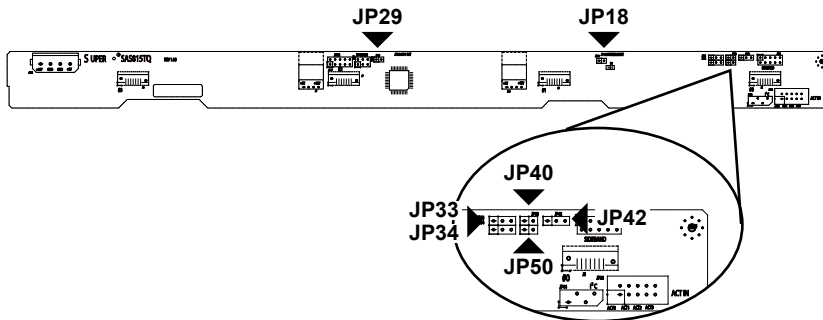
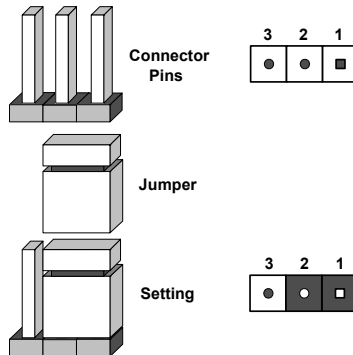


Figure B-3. Front Connectors and Jumpers

#### 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	MG9071 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. I<sup>2</sup>C is the default mode and can be used without making changes to your jumpers. The following information details which jumpers must be configured to use SGPIO mode or restore your backplane to I<sup>2</sup>C mode.

I <sup>2</sup> C Setting (Default)		
Jumper	Jumper Setting	Note
JP33	Pins 2-3	Controller ID
JP34	Pins 1-2:ID#0	Backplane ID
JP40	Open	I <sup>2</sup> C Reset SD OUT
JP42	Pins 2-3	Backplane ID SDIN
JP50	Closed	I <sup>2</sup> C Reset

SGPIO Setting		
Jumper	Jumper Setting	Note
JP33	Pins 1-2	Controller ID
JP34	Pins 1-2:ID#0	Backplane ID
JP40	Closed	I <sup>2</sup> C Reset SD OUT
JP42	Pins 1-2	Backplane ID SDIN
JP50	Open	I <sup>2</sup> C Reset

### B-8 Front LED Indicators

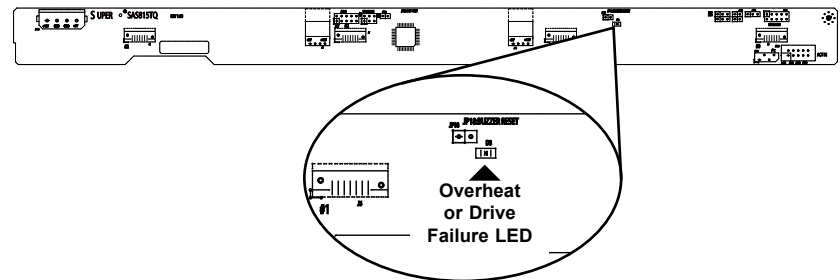


Figure B-4. Front LED Indicators

Front Panel LEDs		
LED	State	Specification
D3	On	Overheat or drive failure

## B-9 Rear Connectors and LED Indicators

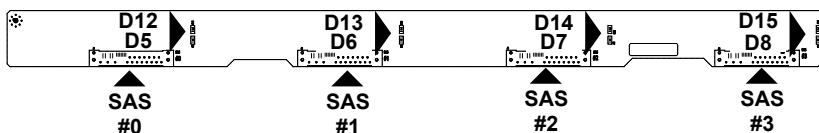


Figure B-5. Rear Connectors and LED Indicators

Rear SAS/SATA Connectors		
Rear Connector	Connector Number	SAS Drive Number
SAS #0	J1	SAS/SATA HDD #0
SAS #1	J2	SAS/SATA HDD #1
SAS #2	J3	SAS/SATA HDD #2
SAS #3	J4	SAS/SATA HDD #3

Rear LED Indicators		
Rear Connector	Hard Drive Activity	Failure LED
SAS #0	D12	D5
SAS #1	D13	D6
SAS #2	D14	D7
SAS #3	D15	D8



## Appendix C

### BPN-SAS3-815TQ Backplane Specifications

This chapter offers guidelines for personal and equipment safety, and notes about the BPN-SAS3-815TQ version documented in this manual.

#### C-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 card and peripherals back into their antistatic bags when not in use.

#### C-2 General Safety Guidelines

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

### C-3 Version Information

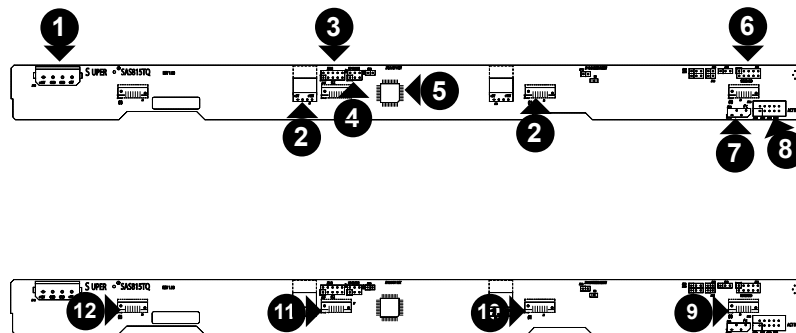
The BPN-SAS3-815TQ backplane has been designed to utilize the most up-to-date technology available, providing your system with reliable, high-quality performance.

This manual reflects BPN-SAS3-815TQ, Revision 1.00, the most current release available at the time of publication. Refer to the Supermicro website at [www.supermicro.com](http://www.supermicro.com) for the latest updates, compatible parts and supported configurations.

### C-4 Rear Connector Locations

This manual covers BPN-SAS3-815TQ enabling SAS3 drives with 12Gbps speeds.

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



**Figure C-1. Rear Connectors**

- |   |                               |
|---|-------------------------------|
| 1. Main Power: JP10 (4 pin)             | 7. I2C Connector JP44 (4 pin) |
| 2. Peripheral power: J9 and J10 (4 pin) | 8. ACT_IN JP26 (10 pin)       |
| 3. JTAG JP47 (10 pin)                   | 9. SAS Port #0 J5             |
| 4. Upgrade: JP46 (6 pin)                | 10. SAS Port #1 J6            |
| 5. MG9071 Chip                          | 11. SAS Port #2 J7            |
| 6. Sideband JP51 (10 pin)               | 12. SAS Port #3 J8            |

## C-5 Rear Connector Definitions

### 1. Backplane Main Power Connectors

The 4-pin connectors, designated JP10 provide power to the backplane.

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

### 2. Peripheral Drive 4-Pin Connectors

The 4-pin connectors, designated J9 and J10, provide power to DVD or other peripheral drives.

Peripheral Drive Power (J9 and J10)	
Pin#	Definition
1	+5V
2 and 3	Ground
4	+12V

### 3. - 4. JTAG Connector and Upgrade Connector

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

### 5. MG9071 Chip

The MG9071 is an enclosure management chip that supports the SES-2 controller and SES-2 protocols.

### 6. Sideband Headers

The sideband header is designated JP51. For SES-2 to work properly, you must connect an 8-pin sideband cable.

Sideband Header (JP51)			
Pin #	Definition	Pin #	Definition
2	Backplane Addressing (SB5)	1	Controller ID (SB6)
4	Reset (SB4)	3	GND (SB2)
6	GND (SB3)	5	SDA (SB1)
8	Backplane ID (SB7)	7	SCL (SB0)
10	No Connection	9	No Connection

### 7. I<sup>2</sup>C Connectors

The I<sup>2</sup>C Connectors, designated JP44, are used to monitor HDD activity and status.

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

### 8. Activity LED Header

The Activity LED header, designated JP26, is used to indicate the activity status of each SAS drive. To enable, connect using a 10-pin LED cable.

SAS Activity LED Header (JP26)			
Pin #	Definition	Pin #	Definition
1	ACT IN#0	6	ACT IN#4
2	ACT IN#1	7	ACT IN#5
3	ACT IN#2	8	ACT IN#6
4	ACT IN#3	9	ACT IN#7
5	Ground	10	Empty

### 9. - 12. SAS Ports

The SAS ports are used to connect cables to SAS3 drives, enabling 12Gbps speeds. The four ports are designated #0 - #4. Each port is also compatible with SATA drives.

## C-6 Rear Jumpers and Pin Definitions

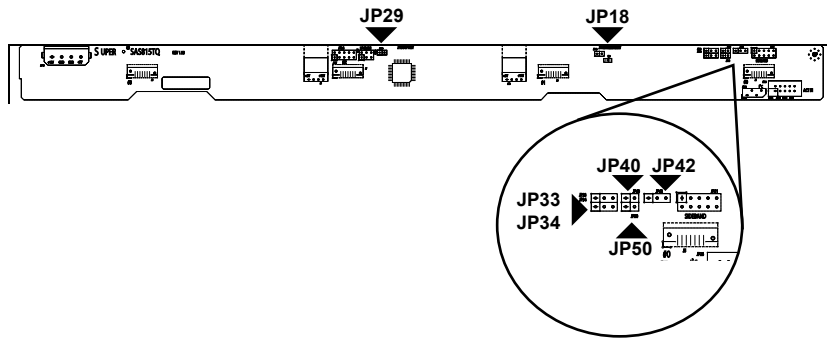
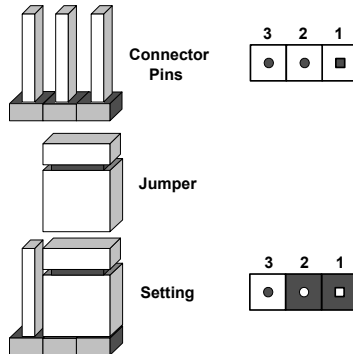


Figure C-2. Rear Jumpers

### 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.



General Jumpers		
Jumper	Settings	Description
JP18	Open: Enabled Closed: Disabled	Buzzer Reset
JP29	Open: Default Closed: Reset	MG 9071 Chip Reset

## 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. Use the following settings for I<sup>2</sup>C mode.

SGPIO Jumpers (Default)		
Jumper	Setting	Description
JP33	Pins 1-2	Controller ID
JP34	Pins 1-2:ID#0	Backplane ID
JP40	Closed	I <sup>2</sup> C Reset SD OUT
JP42	Pins 1-2	Backplane ID SDIN
JP50	Open	I <sup>2</sup> C Reset

I <sup>2</sup> C Jumpers		
Jumper	Setting	Description
JP33	Pins 2-3	Controller ID
JP34	Pins 1-2:ID#0	Backplane ID
JP40	Open	I <sup>2</sup> C Reset SD OUT
JP42	Pins 2-3	Backplane ID SDIN
JP50	Closed	I <sup>2</sup> C Reset

### C-7 Rear LED Indicators

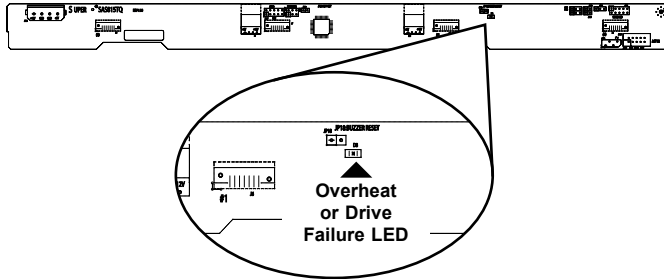


Figure C-3. Rear LEDs

Rear LEDs		
LED	State	Specification
D3	On	Overheat or Drive Failure

### C-8 Front Connectors and LED Indicators

The front of the backplane has four sockets to connect disk drives, along with LEDs indicators.

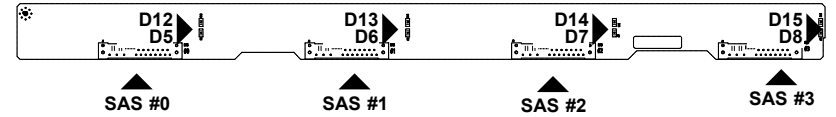


Figure C-4. Front Connectors

Front SAS/SATA Connectors and LED Indicators			
Drive Number	Label	HDD Activity LED (blue)	Failure LED (red)
SAS #0	J1	D12	D5
SAS #1	J2	D13	D6
SAS #2	J3	D14	D7
SAS #3	J4	D15	D8

Disclaimer (cont.)

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