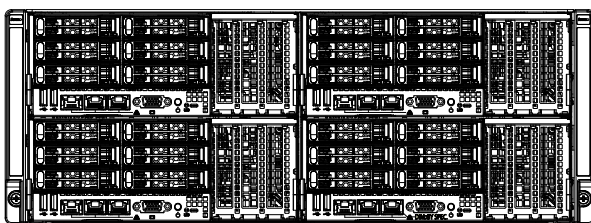
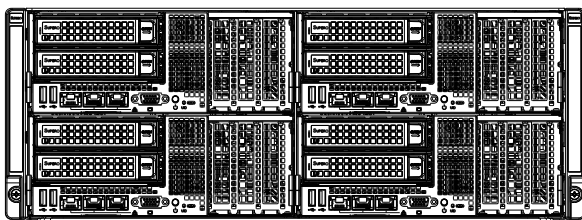


SUPERO[®]

SCF424AG/BG Chassis Series



SCF424AG-R1K62BP

SCF424BG-R1K62BP

USER'S MANUAL

1.0a

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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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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 SCF424AG/BG 4U chassis. Installation and maintenance should be performed by experienced technicians only.

The FatTwin™ is the latest addition to Supermicro's evolving line of Twin Architecture SuperServer® solutions. The 4U FatTwin greatly expands computer and storage capacities beyond Supermicro's existing 2U Twin2™ and 1U Twin™ SuperServer® systems to achieve increased performance with lower power consumption. By virtue of its shared components the FatTwin improves cost-effectiveness and reliability, while its modular architecture makes it flexible to configure and easy to maintain.

The FatTwin is available in high-density hot-plug four node configuration with twenty-four 2.5" hard disk drives, four 3.5" hard disk drives, redundant power supplies, rear I/O, PCI and networking options and more. Its high-efficiency, highly effective shared cooling architecture allows the FatTwin to operate in high-temperature, free-air cooled environments up to 47°C, providing considerable cost savings and improved TCO. Versatile configurations allow the FatTwin to be optimized for many different environments including Data Center, Cloud Computing, and HPC; Engineering, Research, and GPU projects; File and Storage Server deployments; and General Server and Enterprise Server applications..

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

Manual Organization

Chapter 1 Introduction

Chapter 1 describes components included with this chassis, and the main features of the SCF424AG/BG chassis. This chapter also includes contact information.

Chapter 2 Standardized Warning Statements for AC 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

See 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 Maintenance

Follow the procedures given in this chapter when installing or removing components, 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

The appendices list 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-F424-A2 Backplane Specifications

Appendix C BPN-SAS-F424-B6 Backplane Specifications

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Appendix A SCF424AG/BG Power Supply Specifications

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Appendix C BPN-SAS-F424-B6 Backplane Specifications

Chapter 1

Introduction

1-1 Overview

Supermicro's SCF424AG/BG "Fat Twin" chassis is designed to optimize performance per Watt and per dollar with up to four independent hot-pluggable DP computing nodes, efficiently organized into a 4U form factor. Each node in the SCF424AG model supports two 3.5" hard drives (eight total), one internal 10.5" GPU and two internal 13" GPUs. Each node in the SCF424BG model supports six 2.5" hard drives (twenty-four total), one internal 10.5" GPU and two internal 13" GPUs. The nodes of both models are contained in a convenient module to facilitate easy system upgrades, installation and maintenance. The SCF424AG/BG chassis is equipped with four high-efficiency 1 + 1 Platinum Level (94%+) redundant power supplies, power-efficient server board and optimized cooling subsystems. The Fat Twin is the best choice for HPC, datacenter and cost-effective blade-type applications.

1-2 Shipping List

Part Numbers

Please visit the Supermicro web site for the latest shipping lists and part numbers for your particular chassis model at <http://www.supermicro.com/products/nfo/Fat-Twin.cfm>

SCF424AG/BG Chassis					
Model	CPU	GPU	HDD	I/O Slots	Power Supply
SCF424AG-R1K62BP	GPU	4x 10.5" GPU total, 1x per node 8x 13" GPU total, 2x per node	8x SAS/SATA 3.5" HDD total, 2x per node	12x LP total, 3x LP per node	1620W (Redundant)
SCF424BG-R1K62BP	GPU	4x 10.5" GPU total, 1x per node 8x 13" GPU total, 2x per node	24x SAS/SATA 2.5" HDD total, 6x per node	12x LP total, 3x LP per node	1620W (Redundant)

Legend:

DP/UP: Dual processor, single processor

GPU: Graphics processor

FHFL: Full-height, full-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 (General Information)
support@supermicro.com (Technical Support)

Web Site: www.supermicro.com

Europe

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support@supermicro.nl (Technical Support)
rma@supermicro.nl (Customer Support)

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Tel: +886-(2) 8226-3990

Fax: +886-(2) 8226-3991

Web Site: www.supermicro.com.tw

Technical Support:

Email: support@supermicro.com.tw

Tel: +886-(2)-8226-3990

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.

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 במלוואו לפני התקנת או הגדרת הרכיבים במארוזי 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: 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(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 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 يمثل 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.

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，例如閉環或鏟型接線片。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 מחלקת תמיכה טכנית של סופרמיקרו. טכנאים מוסמכים בלבד רשאים להתקין או להגדיר את הרכיבים.

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

تحذير

كإل سأل ما دختس او ، لبس ل مهب تعطقت ني ذل كإل سأل ا بولطم نو كي امدن ع
عون ل ة ي ق ي ق ح ل ا ه ي ا م س أ ب ا ع ي ش أ ل أ و أ ق ق ل غ م ق ق ل ح ل ش م ، ا ه ي ل ع ق ق ف ا و م ل ا ء ا ه ن
كإل سأل ل بس ا ن م ل ا م ح ح ل ا نو كي ت ا ء ا ه ن إ ل ا ه ذ ل ي غ ب ن ي و . ق ب و ل ق م ت ا و ر ع ل ا ع م
ل ص و م و ل ز ع ل ا ن م ل ك ح ب ك ب ج ي و

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 aansluitingspunten, 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.

주의!

다음 절차를 수행하기 전에, 전원이 DC 회로로부터 제거되었는지를 확인해 주십시오.

Waarschuwing

Wanneer geslagen bedrading vereist is, dient u bedrading te gebruiken die voorzien is van goedgekeurde aansluitingspunten, 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.

Hazardous Voltage or Energy Present on DC Power Terminals



Warning!

Hazardous voltage or energy may be present on DC power terminals. Always replace cover when terminals are not in service. Be sure uninsulated conductors are not accessible when cover is in place.

警告

直接電力端子に危険な電圧やエネルギーが発生している可能性があります。使用していない端子には常にカバーをつけてください。カバーがついているときは非絶縁形コンダクターに接触していないことを確認してください。

警告

直流電源終端可能產生危險的電壓或能量。終端不使用時，請務必蓋上機蓋。當蓋上機蓋，確認不絕緣導體無法使用。

警告

直流电源终端可能会产生危险的电压或能量。终端不使用时，请务必盖上机盖。机盖盖上后，请确保导体未绝缘部分无法使用。

Warnung

In mit Gleichstrom betriebenen Terminals kann es zu gefährlicher Spannung kommen. Die Terminals müssen abgedeckt werden, wenn sie nicht in Betrieb sind. Stellen Sie bei Benutzung der Abdeckung sicher, dass alle nicht isolierten, stromführenden Kabel abgedeckt sind.

¡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!

מקור 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 تااطحملا امدنع امئاد اعاطغ هنالكم يف اعاطغلا امدنع اهيل لوصولنا نكمنى 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

The SCF424AG/BG chassis is available in a variety of configurations. This chapter describes the most common components included with the 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 and visit the

3-2 Components

Chassis

The SCF424AG/BG chassis includes four removable motherboard nodes. These nodes may contain 2.5" or 3.5" hard drives and 10.5" and 13" internal fixed GPUs. When a motherboard node is removed from the chassis, the hard drives associated with that node will power down. For more information, see Chapter 5 Chassis Setup and Maintenance, page 1-2 of this manual, and visit our web site at: www.supermicro.com.

Backplane

The SCF424AG chassis comes equipped with a BPN-SAS-F424-A2 backplane, and the SCF424BG chassis comes equipped with a BPN-SAS-F424-B6 backplane. For more information regarding compatible backplanes in SCF424AG/BG chassis, see the appendices at the end of this manual.

Fans

The SCF424AG/BG chassis may support internal front system fans, external rear exhaust fans or both. System fans for the SCF424AG/BG chassis are powered from the motherboards or the backplane. Each fan is controlled by one motherboard, so if a motherboard node is removed, the fan associated with that motherboard will not continue to operate.

Mounting Rails

The SCF424AG/BG includes a set of quick-release rails, and which allow the chassis to 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 SCF424AG/BG chassis model includes a high-efficiency 95%+ Plus Platinum Level power supply, rated at 1620 Watts. In the unlikely event your power supply fails, replacement is simple and can be accomplished without tools.

Air Shroud

The SCF424AG/BG chassis requires mylar air shrouds for each node to direct the airflow where cooling is needed. For more information see Installing the Air Shroud and Checking the Airflow sections of Chapter 5 Chassis Setup and Maintenance. For additional information visit the Supermicro web site at www.supermicro.com.

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 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 to keep you constantly informed of the overall status of the system. SCF424AG/BG models include four control panels on the handles of the chassis which control each of the systems.

This chapter explains the meanings of all LED indicators and the appropriate response you may need to take.

4-2 SCF424AG/BG Control Panel

The SCF424AG/BG chassis includes a power button and LED on the front control panel.

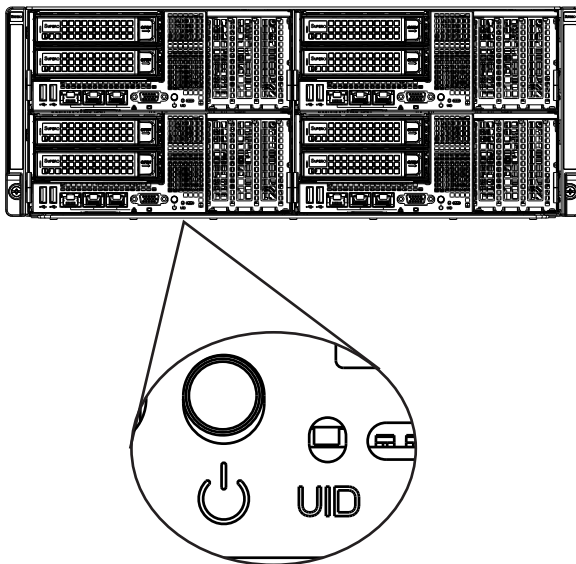


Figure 4-2: SCF424AG/BG Control Panel
(Your chassis and drives may differ from those shown in this illustration)



Power: The main power button on each of the four control panels is used to apply or remove power from the power supply to each of the four systems in the chassis. Turning off system power with this button removes the main power, but keeps stand-by power supplied to the system. Therefore, you must unplug system before servicing. The power button has a built-in LED which will turn green when the power is on.



UID: When used with a UID compatible motherboard, the UID button is used to turn on or off the blue light function of the LED. This is built into the front side of the UID button and at the rear end of each motherboard node, for those motherboards which support it. Once the blue light is activated, the unit can be easily located in very large racks and server banks.

4-3 Drive Carrier LEDs

The SCF424AG/BG chassis which support hot-swappable 2.5" and 3.5" SAS/SATA drives include the following LED indicators.

SAS/SATA Drives

Each SAS/SATA drive carrier has two LEDs.

- Blue: Each Serial ATA drive carrier has a blue LED. When illuminated, this blue 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 to indicate an SAS/SATA drive failure. If one of the SAS/SATA drives fail, you should be notified by your system management software.

SCSI Drives

This chassis does not support SCSI drives.

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 head screwdriver.

Read the safety warnings and installation instructions in Chapter 2 Safety Warnings and Cautions before performing setup or maintenance procedures.

5-2 Removing the Power Cord

Before performing any setup or maintenance on the chassis, use the following procedure to ensure that power has been removed from the system.

Removing the Power Cord

1. Use the operating system to power down the node, 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.
3. If your system has dual redundant power supplies, remove the cords from both power supplies.
4. Disconnect the cord from the power strip or wall outlet.

5-3 Removing Nodes from the Chassis

Each of the four individual motherboard nodes may be removed from the chassis. Note that any time a node is removed from the chassis, the hard drives located in the node will shut-down.

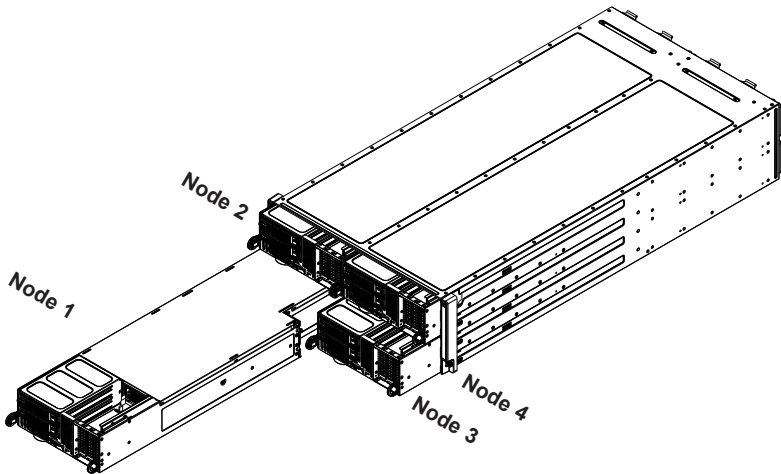
Removing a Motherboard Node

5. Power down the system and remove the power cords from the rear of the node as described in Section 5-3 above.
6. Grasp the node by the handles on either side of the front of the node.
7. Carefully pull the node forward and out of the chassis.

5-4 Installing and Removing Hard Drives

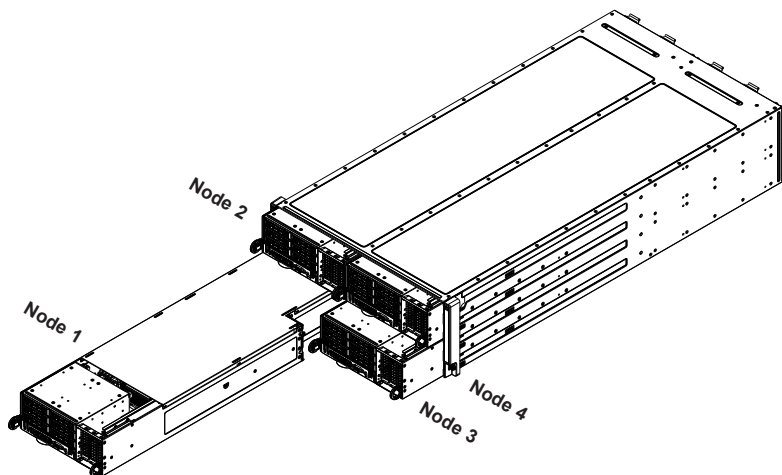
The SCF424AG/BG chassis contains individual motherboards in separate 2U nodes. Each motherboard node controls the hard drives contained within that node. Note that if a motherboard node is pulled out of the chassis, the hard drives associated with that node will power down as well. Refer to the charts below and on the following pages for your specific chassis configuration. These instructions apply to hot-swappable hard drives in both 2.5" and 3.5" sizes.

Only enterprise level hard drives are recommended for use in Supermicro chassis.



**Figure 5-1: SCF424AG-R1K62BP
Hard Drives and the Corresponding Motherboards**

SCF424AG-R1K62BP	
Node 2 Controls two 3.5" HDDs, B1-B2	Node 4 Controls two 3.5" HDDs, D1-D2
Node 1 Controls two 3.5" HDDs, A1-A2	Node 3 Controls two 3.5" HDDs, C1-C2



**Figure 5-2: SCF424BG-R1K62BP
Hard Drives and the Corresponding Motherboards**

SCF424BG-R1K62BP	
Node 2 Controls six 2.5" HDDs, A1-A6 B2	Node 4 Controls six 2.5" HDDs, A1-A6 B2
Node 1 Controls six 2.5" HDDs, A1-A6 B2	Node 3 Controls six 2.5" HDDs, A1-A6 B2

Removing Hard Drives from the Front of the Node

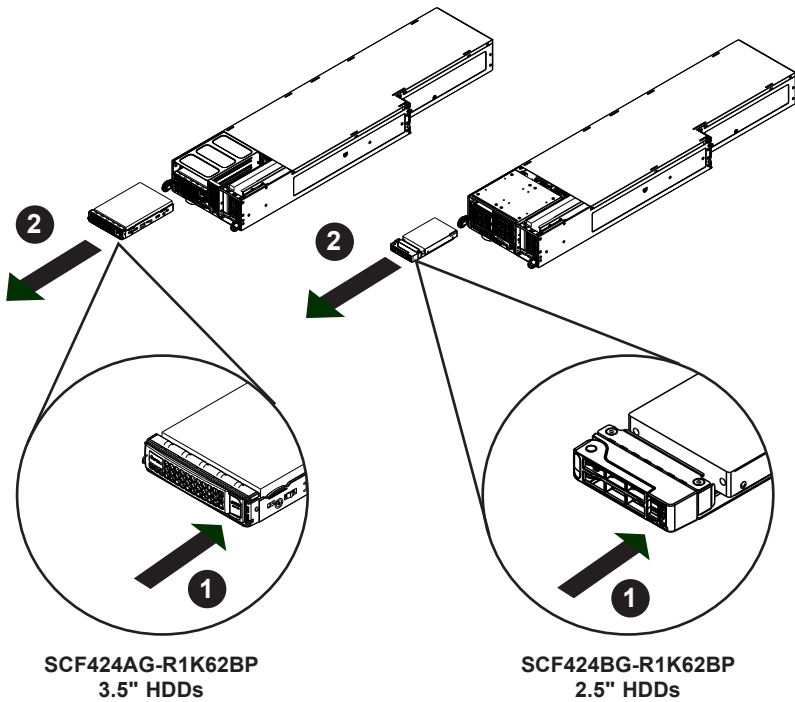


Figure 5-3: Removing a Hard Drive Carrier from the Front of the Node

SCF424AG models are equipped with two 3.5" hard drives in each node. SCF424BG models are equipped with six 2.5" hard drives per node. These hard drives are hot-swappable and can be removed without powering down the server. The procedure to remove hard drives from the node is the same for both models.

Removing Hard Drive Carriers from the Node

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

Installing 3.5" Hard Drives into the Drive Carriers

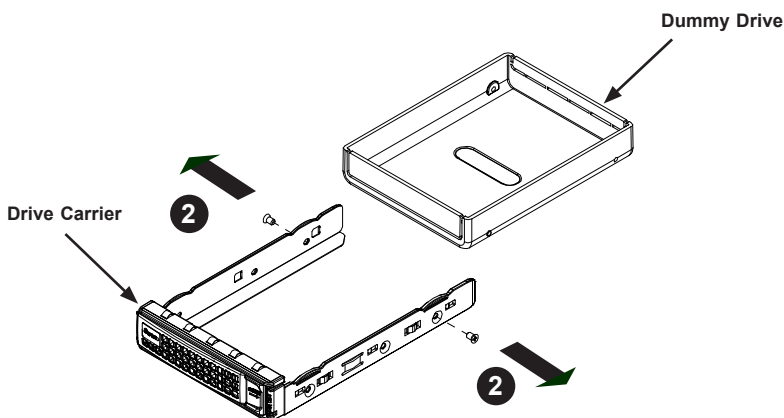


Figure 5-4: Removing a Dummy Drive from the Drive Carrier
(Your drives may differ from the one shown in this illustration)

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

Removing the Dummy Drive from the Drive Carrier

1. Remove the hard drive carrier from the chassis as described in the previous section and lay the drive carrier on a flat surface.
2. Remove the screws securing the dummy drive to the drive carrier.
3. Lift the dummy drive from the drive carrier.

Warning: Except for short periods of time while swapping hard drives, do not operate the server with the hard drive bays empty.

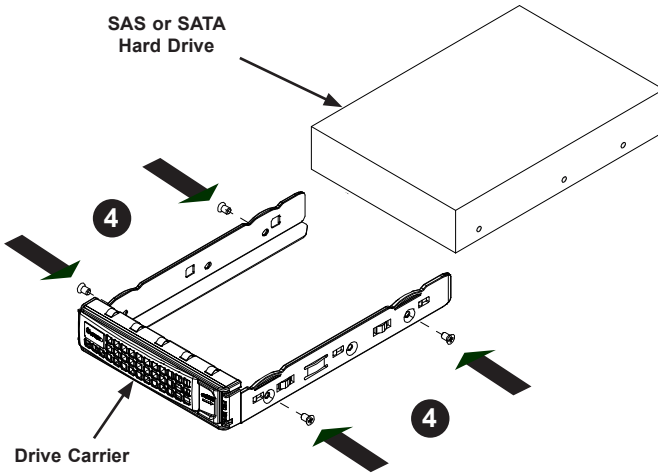


Figure 5-5: Installing a Hard Drive into the Drive Carrier
(Your drives may differ from the one shown in this illustration)

Installing a Hard Drive into the Drive Carrier

1. Place the hard drive carrier on a flat surface.
2. Insert the hard drive into the carrier with the printed circuit board side facing downward and so that the mounting holes in the drive align with those in the drive carrier.
3. Secure the hard drive to the carrier with the screws included with the hard drive.
4. Use the open handle of the drive carrier to insert the drive carrier into the open drive bay.
5. Secure the drive carrier into the drive bay by closing the drive carrier handle.

Warning: Only enterprise level hard drives are recommended for use in Supermicro chassis.

Installing 2.5" Hard Drives into the Drive Carriers

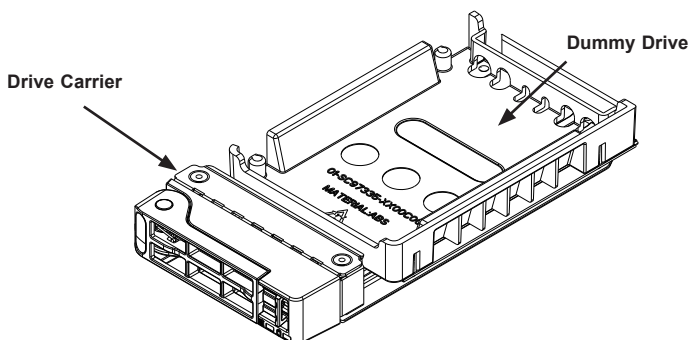


Figure 5-6: 2.5" Hard Drive Carrier

The 2.5" hard drives are mounted in drive carrier 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 while swapping hard drives, do not operate the server with the hard drives bays empty.

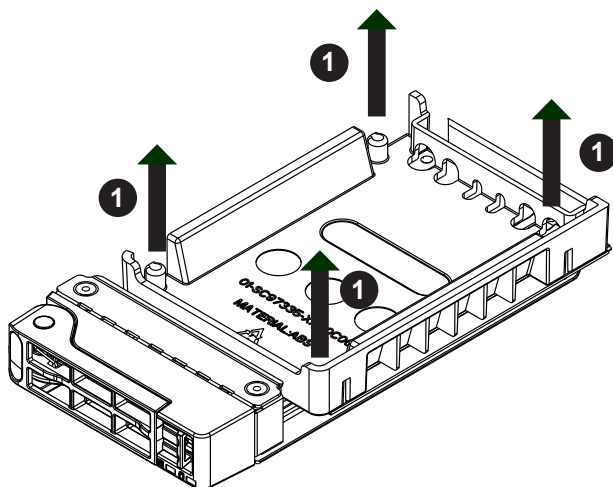


Figure 5-7: Removing the Dummy Drive from the 2.5" Drive Carrier

Installing a 2.5" Drive into the Hard Drive Carrier

1. Remove the two screws holding the drive to the carrier.
2. Remove the drive from the carrier.

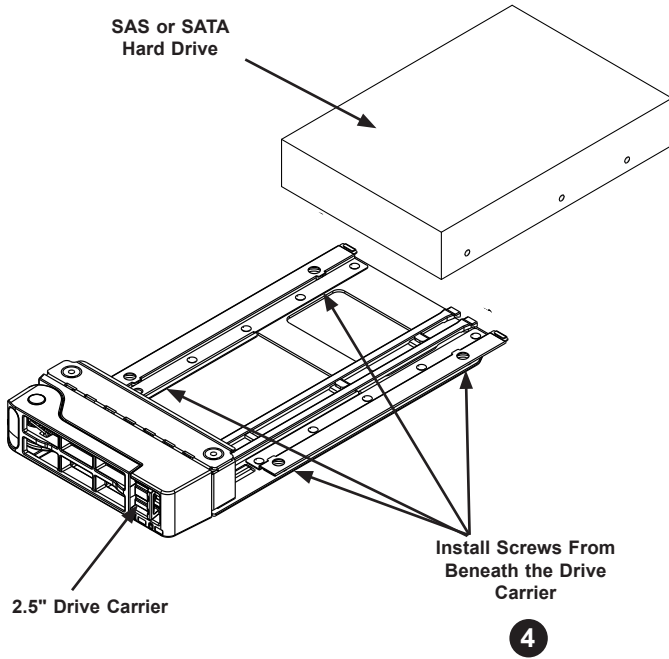


Figure 5-8: Installing a 2.5" Hard Drive in the Drive Carrier

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 four screws.
5. Use the open handle to replace the drive carrier into the chassis. Make sure the close the drive carrier handle.

5-5 Node Configurations

Overview of the Node

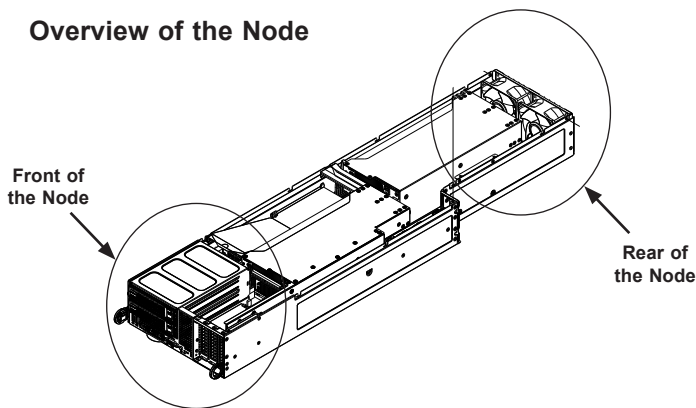


Figure 5-9: Front and Rear of the SCF424AG-R1K62BP Node

SCF424AG-R1K28BP	
Front of Node	Rear of Node
Three low-profile PCI-E slots Two 3.5" HDDs	Two optional fixed fans

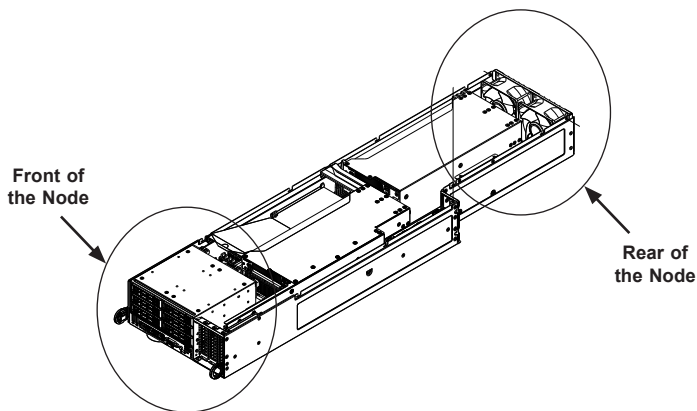


Figure 5-10: Front and Rear of the SCF424BG-R1K62BP Node

SCF424BG-R1K28BP	
Front of Node	Rear of Node
Three low-profile expansion cards Six 2.5" HDDs	Two optional fixed fas

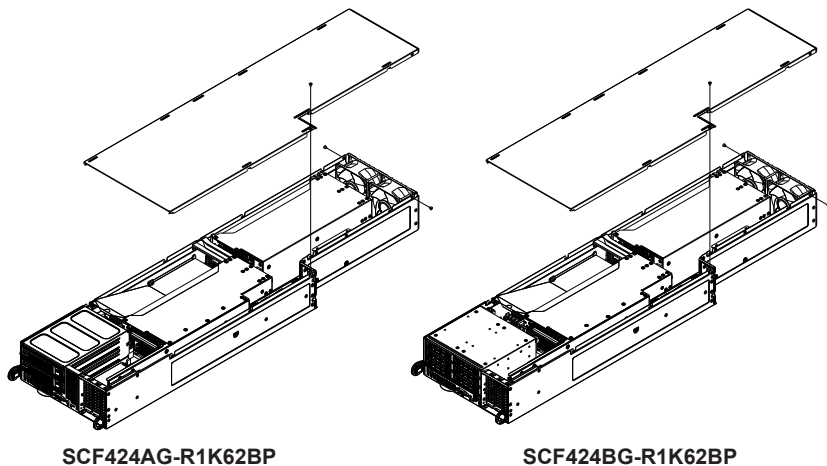


Figure 5-11: Removing the Node Cover

5-6 Removing the Node Cover

Each node has a removable cover which will permit access to the nodes components.

Removing the Node Cover

1. Remove the power cord from the rear of the node and remove the node from the chassis as described in Section 5-3. Remove the node from the chassis as described in Section 5-4. Place the node on a flat, stable surface.
2. Remove the three screws securing the cover to the node, as illustrated above.
3. Lift the cover up and off the node.

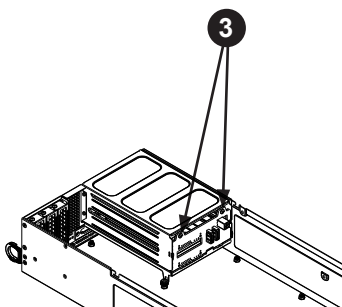
5-7 Removing and Installing the Backplane

The SCF424AG/BG chassis backplane is located behind the hard drives and in front of the front system fans in each motherboard node. Although backplane failure rarely occurs, in the event of a backplane failure, follow the instructions below.

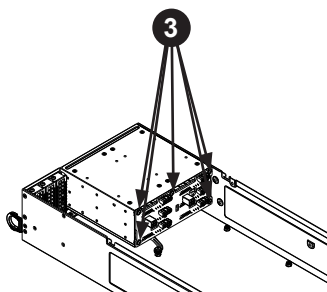
Removing the Backplane

Removing the Backplane from the Node

1. Remove the power cord from the rear of the node as described in Section 5-3. Remove the node from the chassis as described in Section 5-4. Place the node on a flat, stable surface and remove the node cover as described in Section 5-6.
2. Lift the mylar air shroud off the top of the motherboard and remove it from the node.



SCF424AG-R1K62BP
Remove Two Screws



SCF424BG-R1K62BP
Remove Five Screws

Figure 5-12: Removing the Screws from the Backplane

- Remove the screws securing the backplane to the node. The SCF424AG model has two screws, the SCF424BG model has five screws.
- Lift the backplane up and out of the node.

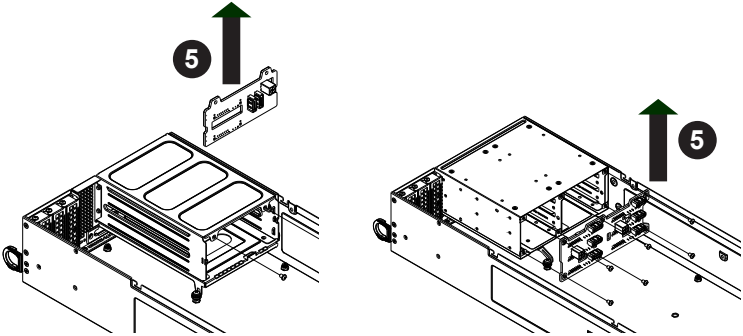
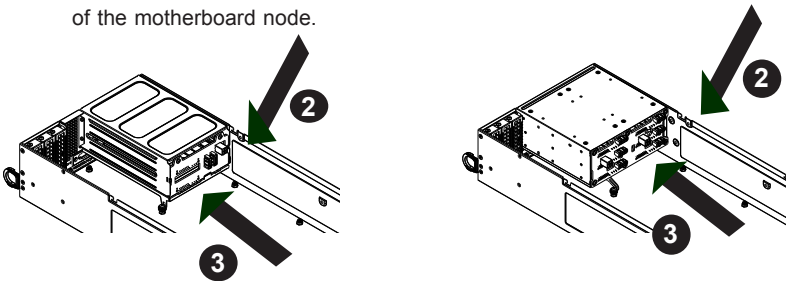


Figure 5-13: Removing the Backplane from the Node

Installing the Backplane

Installing the Backplane into the Node

- Ensure that all of the hard drive carriers have been removed from the bays in the front of the node (see 5-4 Installing and Removing Hard Drives).
- Ease the backplane forward, against the front of the node.
- Align the mounting holes in the backplane with the holes in the chassis. Replace the screws securing the backplane to the Node.
- Reconnect all cables and return the hard drive trays to their bays in the front of the motherboard node.



SCF424AG-R1K62BP
Install Two Screws

SCF424BG-R1K62BP
Install Five Screws

Figure 5-14: Installing the Backplane

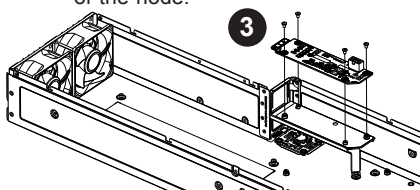
- Return the air shroud to its position on the motherboard, reinstall the cover onto the node, plug the power cord into the back of the power supply and power up the system.

5-8 Power Distributor Board Replacement

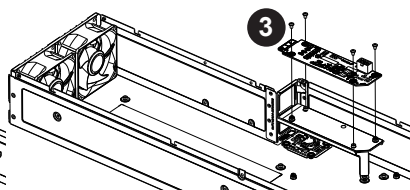
Each of the motherboard nodes includes an upper and lower power distributor board. In the unlikely event of a failure of the power distributor board, replacement is simple and requires only a Phillips head screwdriver.

Changing the Power Distributor Board

1. Remove the power cord from the rear of the node as described in Section 5-3. Remove the node from the chassis as described in Section 5-4. Place the node on a flat, stable surface and remove the node cover as described in Section 5-6.
2. Remove the four screws securing the upper power distributor board to the support bracket.
3. Carefully lift the power distributor board up and out of the node. Set the screws aside for later use.
4. Remove the screw securing the bracket to the floor of the node and lift it out of the node.



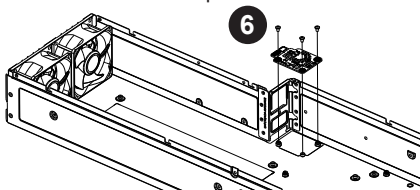
SCF424AG-R1K62BP
Removing the Upper Power
Distributor Board



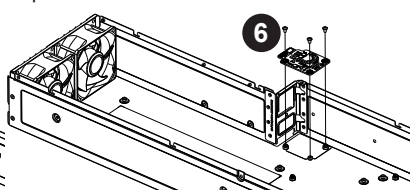
SCF424BG-R1K62BP
Removing the Upper Power
Distributor Board

Figure 5-15: Removing the Upper Power Distributor Board

5. Remove the screws securing the lower power distributor board to the floor of the node and set the screws aside for later use.
6. Lift the lower power distributor board up and out of the chassis.



SCF424AG-R1K62BP
Removing the Lower Power
Distributor Board



SCF424BG-R1K62BP
Removing the Lower Power
Distributor Board

Figure 5-16: Removing the Lower Power Distributor Board

7. Install the replacement lower power distributor board into the same position on the floor of the motherboard node, aligning the mounting holes of the board with those in the node.
8. Secure the lower power distributor board with the two screws previously set aside. Do not exceed eight pounds of torque when tightening the screws.

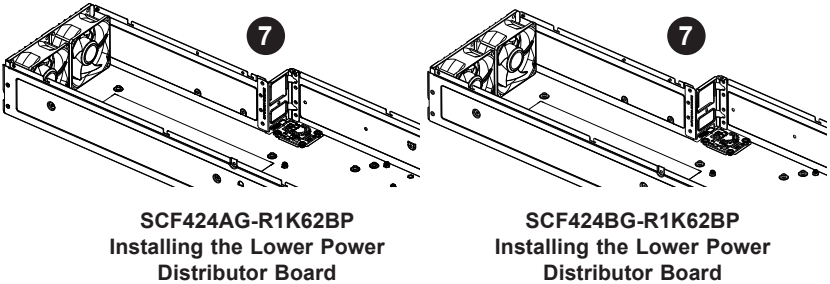


Figure 5-17: Installing the Lower Power Distributor Board

9. Put the support bracket back into place in the node and secure it with the screw previously set aside.
10. Secure the upper power distributor board to the support bracket using the four screws previously set aside. Do not exceed eight pounds of torque when tightening the screws.
11. Replace the air shroud as described on page 5-20 and return the node to its bay in the chassis.
12. Reattach the power cord to the back of the power supply and power up the node.

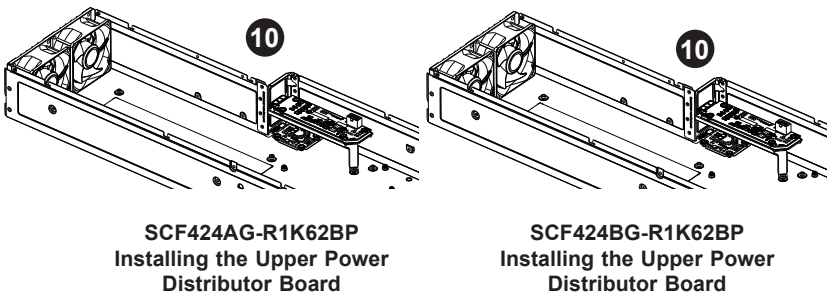


Figure 5-18: Installing the Upper Power Distributor Board

5-9 Installing the Motherboard

Compatible Motherboards

For the most up-to-date information on compatible motherboards and other parts, visit the Supermicro web site at www.supermicro.com.

Permanent and Optional Standoffs

Standoffs prevent short circuits by creating space between the motherboard and the floor of the node. The SCF424AG/BG includes permanent standoffs in locations used by most motherboards. These standoffs use the rounded Phillips head screws included in the SCF424AG/BG accessories packaging.

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

Remove the power cord from the rear of the node as described in Section 5-3. Remove the node from the chassis as described in Section 5-4. Place the node on a flat, stable surface and remove the node cover as described in Section 5-6.

To use an optional standoff, compare the mounting holes in the motherboard with those in the floor of the motherboard node. Then place a screw through the bottom the node and secure the screw with a hexagonal nut (rounded side up).

Depending upon the configuration of the motherboard being used, it is also possible that some of the optional standoffs which are pre-installed and may need to be removed. Add or remove standoffs as needed.

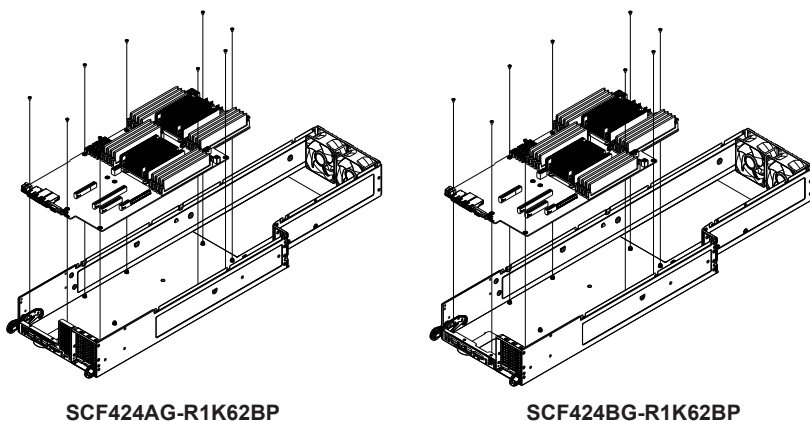


Figure 5-19: Installing the Motherboard in the Node

Installing the Motherboard

1. Review the documentation that came with your motherboard. Become familiar with component placement, requirements, cautions, and cable connections.
2. Remove the power cord from the rear of the node as described in Section 5-3. Remove the node from the chassis as described in Section 5-4. Place the node on a flat, stable surface and remove the node cover as described in Section 5-6.
3. Compare the holes in the motherboard to those in the node and add or remove standoffs as needed.
4. Lay the motherboard in the node and secure it to the floor of the node using the rounded, Phillips head screws included for this purpose. Do not exceed eight pounds of torque when tightening down the motherboard.
5. Secure the CPU(s), heatsinks, and other components to the motherboard as described in the motherboard documentation.
6. See the following page for instructions on installing expansion cards before reconnecting the cables.
7. After installing the expansion card, connect the cables between the motherboard, backplane, chassis, front panel, and power supply.
8. Place the air shroud as described in Section 5-9 Installing the Air Shroud
9. Return the node to the chassis.

5-10 Installing Front and Rear Expansion Cards

PCI-E Slot Setup

The nodes of the SCF424AG/BG chassis models support low-profile expansion cards. To install low-profile expansion cards, follow the instructions on the following pages.

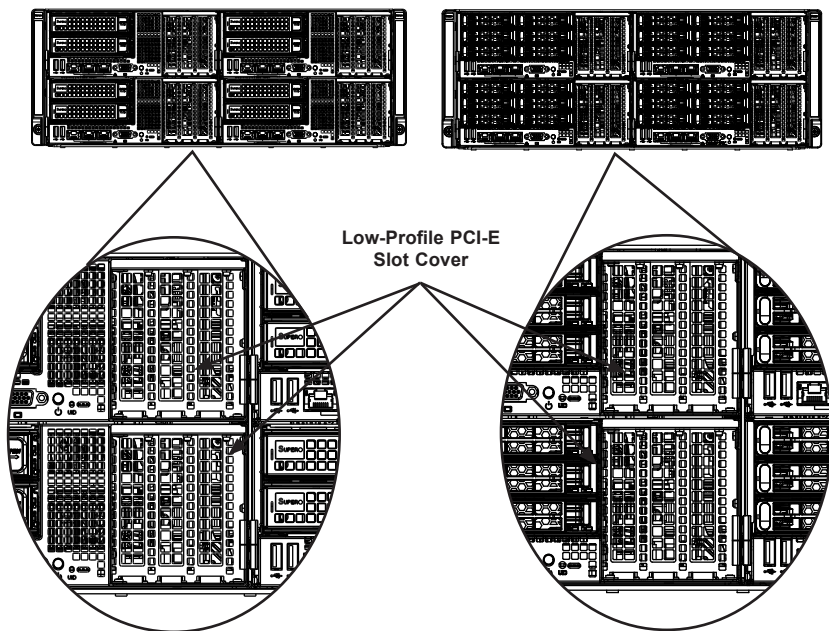


Figure 5-20: PCI-E Slot Cover Configuration

SCF424AG-R1K28BP	
Front of Node	Rear of Node
Three low-profile PCI-E slots Two 3.5" HDDs	Two optional fixed fans
SCF424BG-R1K28BP	
Front of Node	Rear of Node
Three low-profile expansion cards Six 2.5" HDDs	Two optional fixed fans

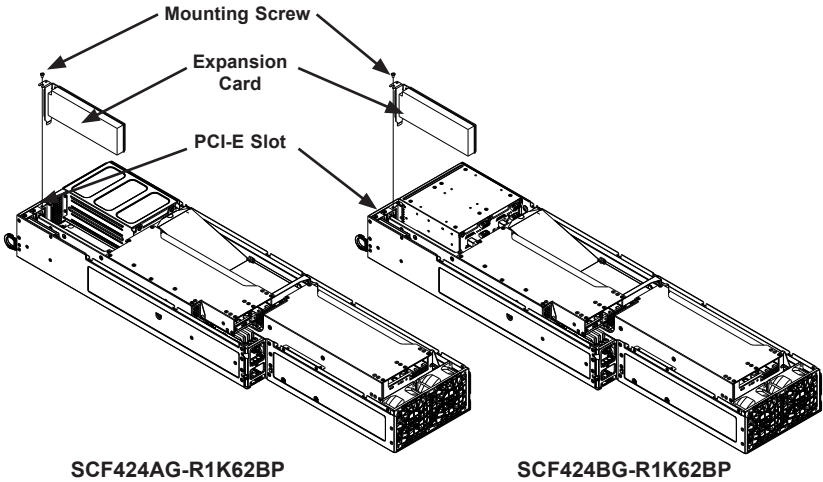


Figure 5-21: Installing the Expansion Card

Installing a Low-Profile Expansion Card

Each motherboard node supports one low-profile expansion card.

Installing an Expansion Card into a Node

1. Remove the power cord from the rear of the node as described in Section 5-3. Remove the node from the chassis as described in Section 5-4. Place the node on a flat, stable surface and remove the node cover as described in Section 5-6.
2. Remove the mounting screw which secures the PCI-E slot cover in the PCI-E slot and set this aside for later use.
3. Remove the PCI-E slot cover by sliding it upward and out of the PCI-E slot.
4. Simultaneously slide the expansion card into the open PCI-E slot, while inserting the expansion card into the motherboard.
5. Secure the expansion card to the node using the screws that were previously set aside.
6. Replace the air shroud as described in the following section.
7. Place the cover on the node and secure it with the screws previously set aside.
8. Return the node to its bay in the chassis.

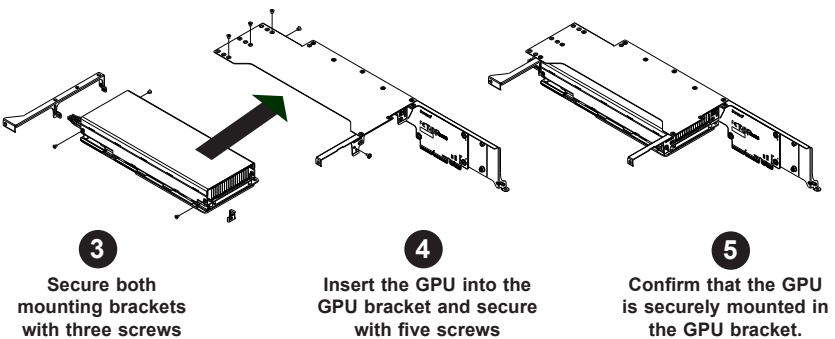
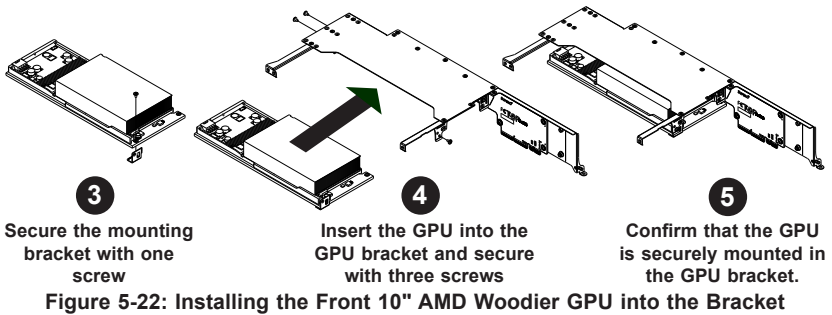
5-11 Installing Internal GPUs

Each node supports one 10.5" internal front GPU and up to two 13" rear GPUs, with the option to reduce one 13" GPU to 10.5" to accommodate an optional rear system fan. There are a variety of internal GPUs supported by the SCF424AG/BG chassis. For the most up-to-date list of compatible GPUs, visit the Supermicro web site at www.supermicro.com.

Installing Front 10.5" GPUs into the GPU Bracket

Installing a Front GPU into a Bracket

1. Remove the power cord from the rear of the node as described in Section 5-3. Remove the node from the chassis as described in Section 5-4. Place the node on a flat, stable surface and remove the node cover as described in Section 5-6.
2. Determine the correct method of installation for your particular GPU by examining the illustrations on the following pages. Follow steps three, four and five in the illustration specific to your GPU model.



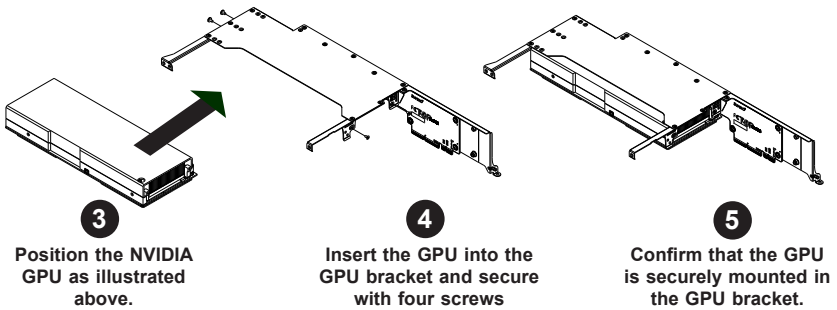
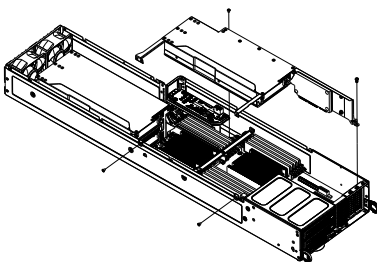


Figure 5-24: Installing the Front 10" NVIDIA GPU into the Bracket

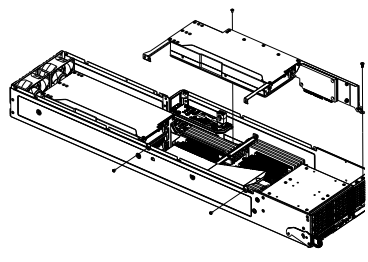
Installing a Front 10.5" GPU into the Node

Installing a Front GPU into a Node

1. Confirm that the GPU has been correctly installed in the GPU bracket as described in the previous section.
2. Position the GPU bracket in the node as illustrated below.
3. Secure the GPU bracket to the node as shown using the four screws provided.
4. Proceed to the next section to install the rear internal 13" GPUs.



SCF424AG-R1K62BP



SCF424BG-R1K62BP

Figure 5-25: Installing the Front 10" Internal GPU into the Node

Installing Rear 13" GPUs into the Node

Installing a Rear GPU into a Node

1. Confirm that the front GPU has been correctly installed as described in the previous section.
2. Determine the correct method of installation for your particular GPU by examining the illustrations on the following pages. Follow steps three, four and five in the illustration specific to your GPU model.

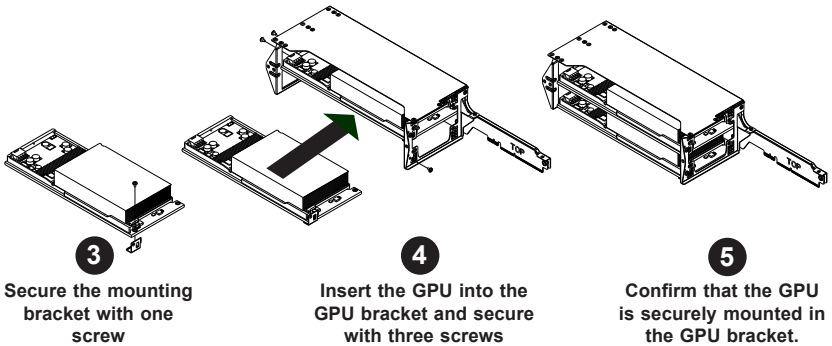


Figure 5-26: Installing the Rear 13" AMD Woodier GPU into the Bracket

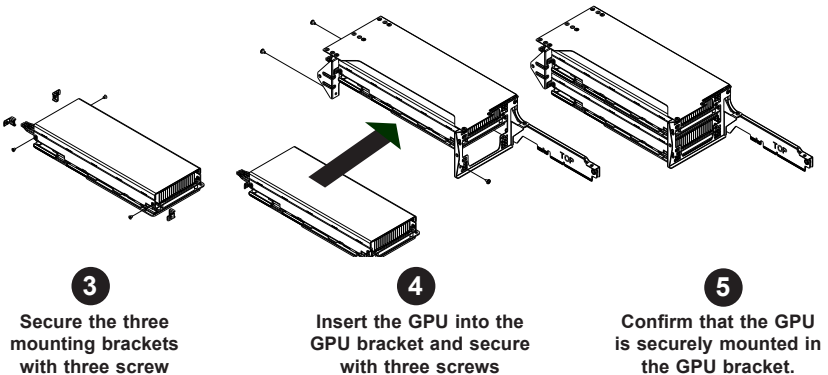


Figure 5-27: Installing the Rear 13" Intel Phi GPU into the Bracket

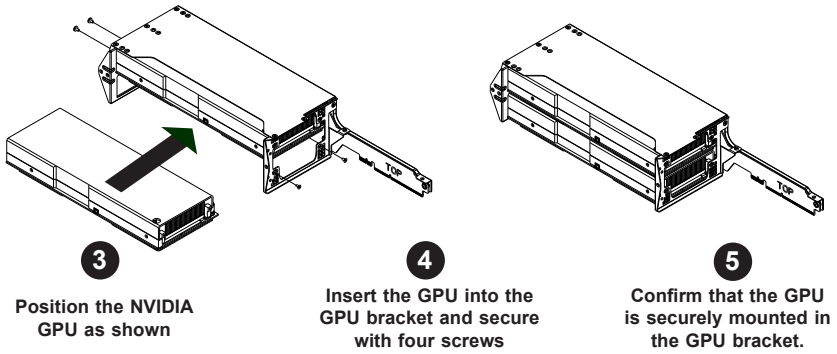


Figure 5-28: Installing the Rear 13" NVIDIA GPU into the Bracket

Installing Rear 13" GPUs into a Node

Installing a Front GPU into a Node

1. Confirm that the GPU has been correctly installed in the GPU bracket as described in the previous section.
2. Position the GPU bracket in the node as illustrated below.
3. Secure the GPU bracket to the node as shown using the four screws provided.
4. Attach the stabilizing bracket to the GPU bracket.
5. Secure the stabilizing bracket to the node with two screws.
6. Return the node to the chassis, reconnect the cord to the power supply and power up the system.

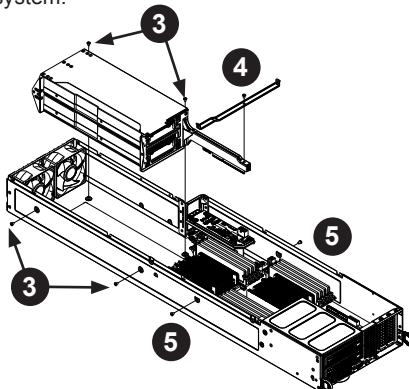


Figure 5-29: Installing the Rear 13" GPU into the Node

5-12 Installing the Air Shroud

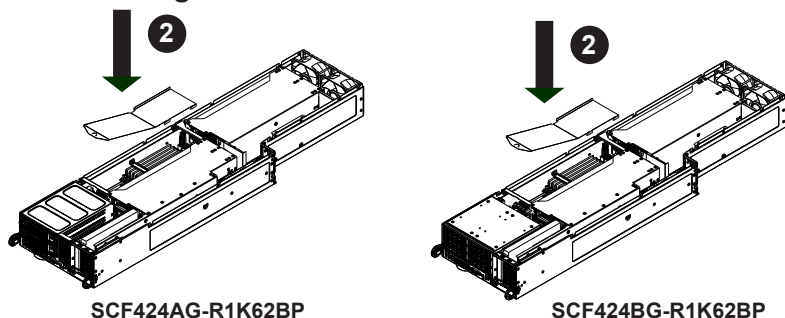


Figure 5-30: Installing the Air Shroud

Air Shrouds

Air shrouds concentrate airflow to maximize fan efficiency. The SCF424AG/BG chassis requires an air shroud in each motherboard node.

Installing the Air Shroud

1. Remove the power cord from the rear of the node as described in Section 5-3. Remove the node from the chassis as described in Section 5-4. Place the node on a flat, stable surface and remove the node cover as described in Section 5-6.
2. Make sure that the motherboard and all components are properly installed in each motherboard node.
3. Place the air shroud over the motherboard, as illustrated below. The air shroud sits behind the hard drive bays and goes over the top of the motherboard and its components.
4. Repeat the procedure for the remaining three motherboard nodes.

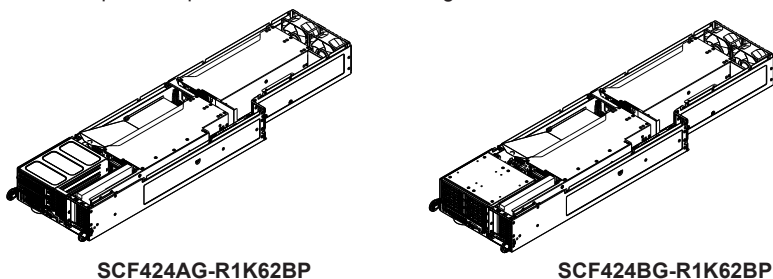


Figure 5-31: Air Shroud installed in the Node

5-13 Checking the Airflow

Checking Airflow

1. Make sure there are no objects to obstruct airflow in and out of the server. In addition, if you are using a front bezel, make sure the bezel's filter is replaced periodically.
2. Do not operate the server without drive carriers and either a drive or dummy drive in the carrier. Use only recommended server parts.
3. Make sure no wires or foreign objects obstruct airflow through the chassis. Pull all excess cabling out of the airflow path or use shorter cables.

Installation Complete

In most cases, the node power supplies and fans are pre-installed. If you need to install fans or power supplies, continue to the Systems Fan and Power Supply sections of this chapter. If the chassis will be installed into a rack, continue to the next chapter for rack installation instructions.

5-14 Replacing Exhaust Fans

Each node supports rear exhaust fans that provide cooling for the node. These fans circulate air through the node as a means of lowering the internal temperature. In the unlikely event of a fan failure, the SCF424AG/BG fans are easily removed from the rear of the node without tools.

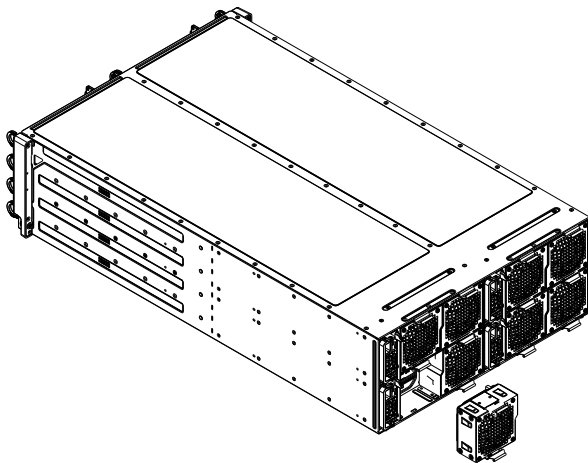


Figure 5-32: Replacing a Rear Fan

Removing a Rear Exhaust Fan

1. Determine which node contains the failed fan and power down the node with the operating system.
2. Remove the power cord from the rear of the node as described Section 5-3.
3. Press the release tab on the bottom of the fan and pull it away from rear of the node.

Installing a Rear Exhaust Fan

1. Press the release tab on the bottom of the fan and insert it into the open fan bay.
2. Push the fan into the bay until it clicks into the locked position.

5-15 Replacing the Power Supply

The SCF424AG/BG chassis includes a 1620W power supply. This power supply is auto-switching capable. This enables it to automatically sense and operate at a 100v to 240v input voltage. 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 Replacement

The SCF424AG/BG chassis models utilize redundant power supplies, with a total of four in the chassis. In the unlikely event that the power supply unit needs to be replaced, one power supply can be removed, without powering down the system. Replacement units can be ordered directly from Supermicro (See the contact information in the Preface of this manual).

Changing the Power Supply

1. Disconnect the power cord on the back of the failed power supply as described in Section 5-3.
2. Press the release tab on the back of the power supply and pull the power supply out using the handle provided.
3. Push the replacement power supply module into the power bay until it clicks into the locked position.
4. Plug the AC power cord back into the module and return the node to its bay in the chassis.

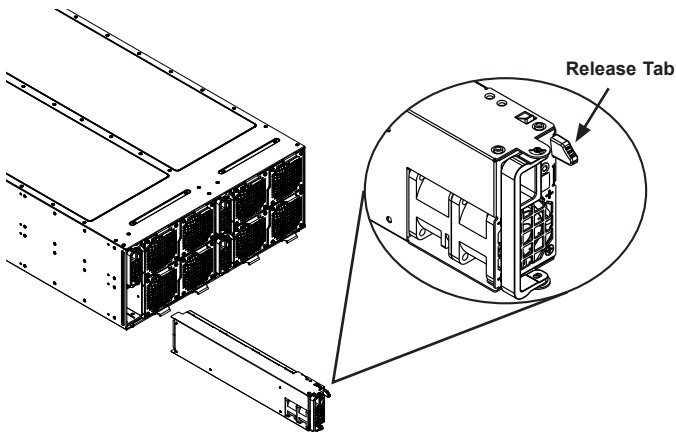


Figure 5-33: Changing the Power Supply

Notes

Chapter 6

Rack Installation

6-1 Overview

This chapter provides a quick setup to install the SCF424AG/BG chassis into a rack. Following these steps in the order given should enable you to have the system installed within a minimal amount of time.

6-2 Unpacking the System

You should inspect the box which 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. The system needs to be 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 and the mounting screws needed for installing 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).

6-4 Warnings and Precautions

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 installations, stabilizers should be attached to the rack.
- In multiple rack installations, the racks should be coupled together.
- Always make sure that 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 upwards.
- Use a regulating uninterruptible power supply (UPS) to protect the server from power surges, voltage spikes and to keep your system operating in case of a power failure.
- Allow the hot-plug hard drives and power supply modules to cool before touching them.
- Always keep the rack's front door and all panels and components on the servers closed when not servicing to maintain proper cooling.

Rack Mounting Considerations

Ambient Operating Temperature

If installed in a closed or multi-unit rack assembly, the ambient operating temperature of the rack environment may be greater than the ambient temperature of the room. Therefore, consideration should be given to installing the equipment in an environment compatible with the manufacturer's maximum rated ambient temperature (TMRA).

Reduced Airflow

Equipment should be mounted into a rack so that the amount of airflow required for safe operation is not compromised.

Mechanical Loading

Equipment should be mounted into a rack so that a hazardous condition does not arise due to uneven mechanical loading.

Circuit Overloading

Consideration should be given to the connection of the equipment to the power supply circuitry and the effect that any possible overloading of circuits might have on overcurrent protection and power supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.

Reliable Ground

A reliable ground must be maintained at all times. To ensure this, the rack itself should be grounded. Particular attention should be given to power supply connections other than the direct connections to the branch circuit (i.e. the use of power strips, etc.).



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.

6-6 Rack Mounting Instructions

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

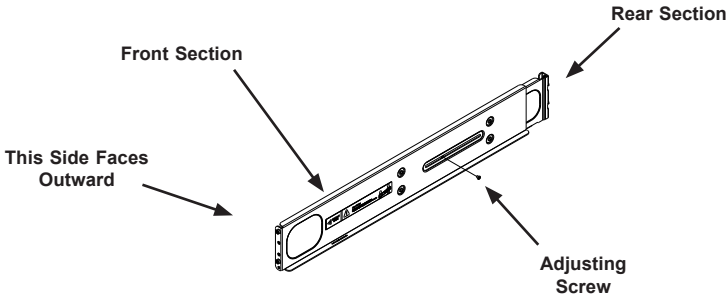
NOTE: This rail will fit a rack between 28.5" and 33.4" deep. The SCF424AG/BG is not designed for installation into a Telco post-style rack unit.

Identifying the Sections of the Rack Rails

The chassis package includes two rail assemblies in the rack mounting kit. Each assembly consists of two sections: A front section that secures to the front post of the rack and a rear section that can be adjusted in length and secures to the rear post of the rack. These assemblies are specifically designed for the left and right side of the chassis.

Adjusting the Rails

Each rail assembly has an adjusting screw. loosening this screw allows you to adjust the length of the rail to fit a variety of rack sizes.



**Figure 6-1: Identifying the Outer Rail and Inner Rails
(Left Rail Assembly Shown)**



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

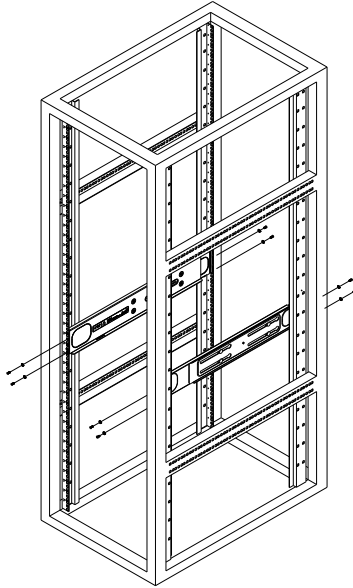


Figure 6-2: Attaching the Rails to a Rack

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

Installing the Rails on a Rack

Installing the Rails

1. Adjust the length of both rails as described on the previous page.
2. Hang the hooks of the front of the outer rail onto the slots on the front of the rack. Secure the front of the outer rail to the rack with two screws.
3. Pull out the rear of the inner rail, adjusting the length until it fits within the posts of the rack.
4. Hang the hooks of the rear portion of the inner rail onto the slots on the rear of the rack. Secure the rear of the outer rail to the rear of the rack with two screws.
5. Repeat steps 1-4 for the remaining rail.

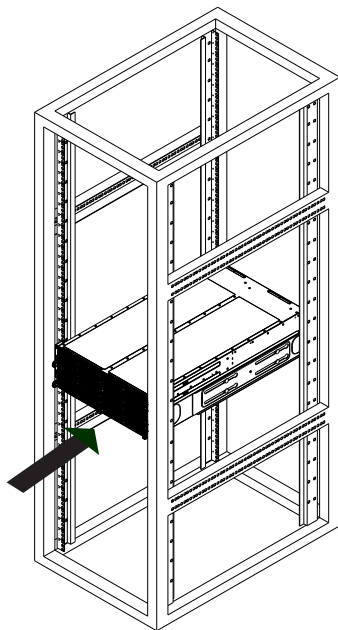


Figure 6-3: Installing into a Rack

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

Chassis Installation

Installing the Chassis into a Rack

1. Confirm that the rails are correctly installed on the rack.
2. Align the bottom of the chassis with the bottom of the rails.
3. Insert the chassis into the rails, keeping the pressure even on both sides, pushing the chassis into the rack until it clicks into the locked position.
4. Secure the chassis handles to the front of 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.

Appendix A

SCF424AG/BG Power Supply Specifications

This appendix lists power supply specifications for your chassis system.

SCF424AG-R1K62BP, SCF424AG-R1K62BP	
	1620W
MFR Part #	PWS-1K62P-1R
AC Input	1000W Output @ 100-120V, 12-10A, 50-60Hz 1200W Output @ 120-140V, 12-10A, 50-60Hz 1620W Output @ 180-240V, 10.5-8A, 50-60Hz
DC Output	1000W: +12V/84A; +5Vsb/4A 1200W: +12V/100A; +5Vsb/4A 1620W: +12V/150A; +5Vsb/4A



Notes

Appendix B

BPN-SAS-F424-A2 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 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.

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-F424-A2 Backplane

The BPN-SAS-F424-A2 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-F424-A2 Revision 1.01, the most current release available at the time of publication. Always refer to the Supermicro web site at www.supermicro.com for the latest updates, compatible parts and supported configurations.

B-5 Front Connectors

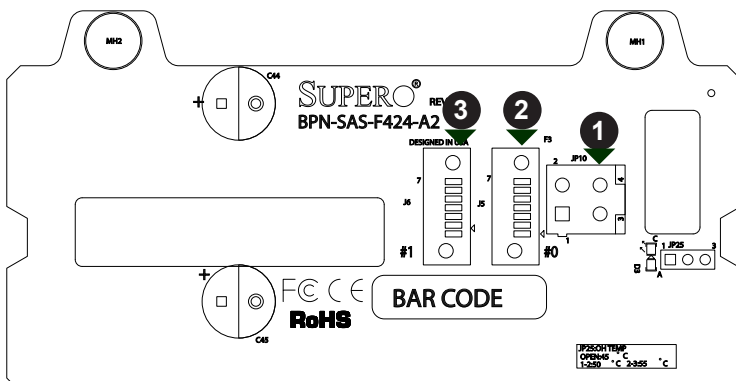


Figure B-1: Front Connectors

1. Main Power Connector (4-pin): JP10
2. SAS Port #0: J5
3. SAS Port #1: J6

B-6 Front Connector and Pin Definitions

1 Backplane Main Power Connector

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

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

2 - 3 SATA Connectors

The SATA connectors #0 - #1 are used to connect the SATA cables. The two ports are designated SAS #0 - SAS #1 and are compatible with both SAS and SATA drives.

B-7 Front Jumper and LED Indicator

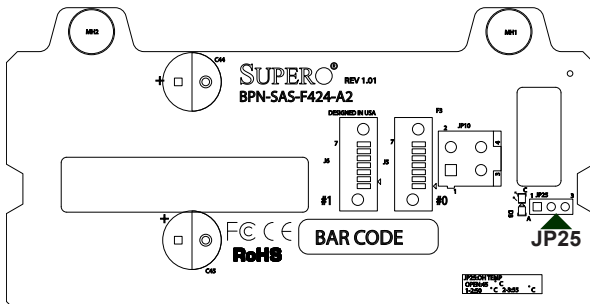
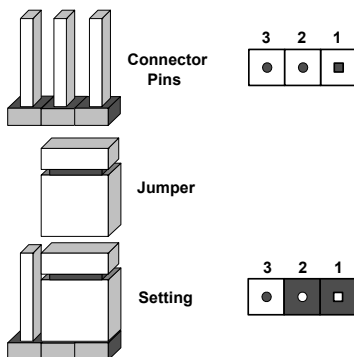


Figure B-2: Front Jumper

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 2-pin jumpers, "Closed" means the jumper is on and "Open" means the jumper is off the pins.



Jumper Settings		
Jumper	Jumper Settings	Note
JP25	Open: 45°C Pins 1 - 2: 50°C Pins 2 - 3: 55°C	Overheat/Temperature

B-8 Rear Connectors and LED Indicators

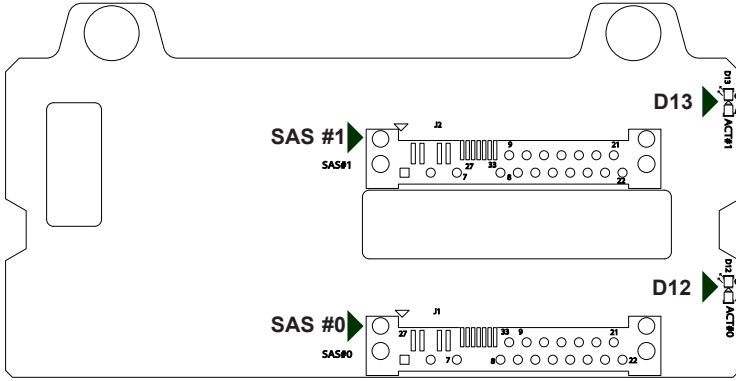


Figure B-3: Rear Connectors and LED Indicators

Rear SAS/SATA Connectors and LED Indicators			
Ports	SAS/SATA Drive Number	Rear Connectors	Activity LED Indicator
SAS#0	SAS/SATA HDD #0	J1	D12
SAS#1	SAS/SATA HDD #1	J2	D13

Appendix C

BPN-SAS-F424-B6 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.

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 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.

C-4 Introduction to the BPN-SAS-F424-B6 Backplane

The BPN-SAS-F424-B6 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-F424-B6 Revision 1.00, the most current release available at the time of publication. Always refer to the Supermicro Web site at www.supermicro.com for the latest updates, compatible parts and supported configurations.

C-5 Front Connectors

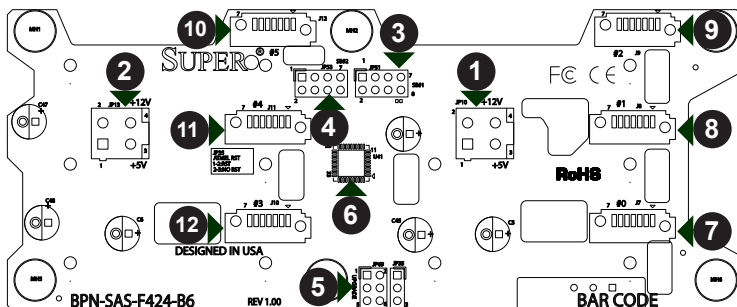


Figure C-1: Front Connectors

- | | |
|---------------------------------------|----------------------------|
| 1. Main Power Connector (4-pin): JP10 | 7. SATA Connector #0: J7 |
| 2. Main Power Connector (4-pin): JP13 | 8. SATA Connector #1: J8 |
| 3. Sideband Connector #1 (SB#1): JP51 | 9. SATA Connector #2: J9 |
| 4. Sideband Connector #2 (SB#2): JP53 | 10. SATA Connector #3: J10 |
| 5. Upgrade Connector: JP69 | 11. SATA Connector #4: J11 |
| 6. ATME1 Chip | 12. SATA Connector #5: J12 |

C-6 Front Connector Pin Definitions

1. - 2. Backplane Main Power Connectors

The 4-pin connectors, designated JP10 and JP13 provide power to the backplane. See the table on the right for pin definitions.

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

3. - 4. Sideband Connectors

The sideband connectors are designated JP51 and JP53. For SES-2 to work properly, an 8-pin sideband cable must be connected to JP51 and JP53. See the table to the right for pin definitions.

Sideband Connector			
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

5. Upgrade Connector

The upgrade connector, designated JP69 is a firmware upgrade port.

6. ATMEL Chip

The ATMEL chip is an enclosure management chip used in the BPN-SAS-F424-B6 backplane.

7. - 12. SATA Connectors

SATA connectors #0 - #5 are used to connect the SATA cables. The six ports are designated #0 - #5 and are compatible with both SAS and SATA drives.

C-7 Front Jumper Locations and Pin Settings

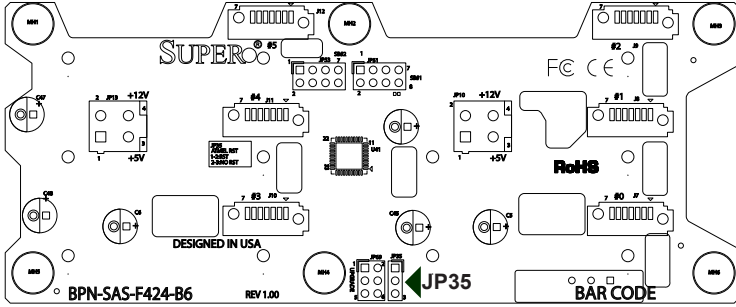
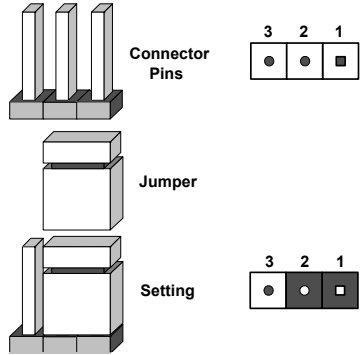


Figure D-2: Front Jumpers

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 2-pin jumpers, "Closed" means the jumper is on and "Open" means the jumper is off the pins.

Jumper Settings		
Jumper	Jumper Settings	Note
JP35	Pins 1 - 2 Reset Pins 2 - 3 No reset (Default)	Chip reset, not populated on the backplane.

C-8 Rear Connectors and LED Indicators

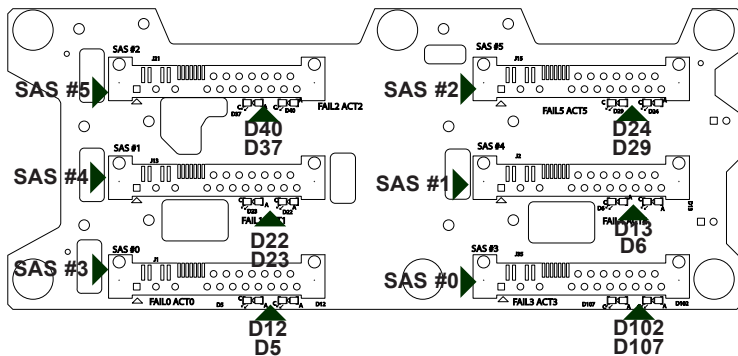


Figure D-3: Rear Connectors and LED Indicators

Rear SAS/SATA Connectors and LED Indicators				
Ports	SAS/SATA Drive Number	Rear Connectors	Failure LED Indicator	Activity LED Indicator
SAS#0	SAS/SATA HDD #0	J1	D5	D12
SAS#1	SAS/SATA HDD #1	J13	D23	D22
SAS#2	SAS/SATA HDD #2	J21	D37	D40
SAS#3	SAS/SATA HDD #3	J35	D107	D102
SAS#4	SAS/SATA HDD #4	J2	D6	D13
SAS#5	SAS/SATA HDD #5	J15	D29	D24

Notes

Disclaimer (cont.)

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