Sun Fire™ E2900 Systems Installation Guide

Sun Microsystems, Inc.
www.sun.com

Submit comments about this document at: http://www.sun.com/hwdocs/feedback

Please
Recycle

Adobe PostScript™

Contents

Figures

Tables

Regulatory Compliance Statements

Your Sun product is marked to indicate its compliance class:

- Federal Communications Commission (FCC) — USA
- Industry Canada Equipment Standard for Digital Equipment (ICES-003) — Canada
- Voluntary Control Council for Interference (VCCI) — Japan
- Bureau of Standards Metrology and Inspection (BSMI) — Taiwan

Please read the appropriate section that corresponds to the marking on your Sun product before attempting to install the product.

FCC Class A Notice

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy, and if it is not installed and used in accordance with the instruction manual, it may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

Modifications: Any modifications made to this device that are not approved by Sun Microsystems, Inc. may void the authority granted to the user by the FCC to operate this equipment.

FCC Class B Notice

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/television technician for help.

Modifications: Any modifications made to this device that are not approved by Sun Microsystems, Inc. may void the authority granted to the user by the FCC to operate this equipment.

ICES-003 Class A Notice - Avis NMB-003, Classe A

This Class A digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

ICES-003 Class B Notice - Avis NMB-003, Classe B

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

VCCI 基準について

クラス A VCCI 基準について

クラス A VCCIの表示があるワークステーションおよびオプション製品は、クラスA情報技術装置です。これらの製品には、下記の項目が該当します。

この装置は、情報処理装置等電波障害自主規制協議会 (VCCI) の基準に基づくクラスA情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。

クラス B VCCI 基準について

クラス B VCCI の表示 $\boxed{\text{VCI}}$ があるワークステーションおよびオプション製品は、クラスB情報技術装置です。これらの製品には、下記の項目が該当します。

この装置は、情報処理装置等電波障害自主規制協議会 (VCCI) の基準に基づくクラスB情報技術装置です。この装置は、家庭環境で使用することを目的としていますが、この装置がラジオやテレビジョン受信機に近接して使用されると、受信障害を引き起こすことがあります。取扱説明書に従って正しい取り扱いをしてください。

BSMI Class A Notice

The following statement is applicable to products shipped to Taiwan and marked as Class A on the product compliance label.

警告使用者：

這是甲類的資訊產品，在居住的環境中使用

時，可能會造成射頻 干擾，在這種情況下，

使用者 會被要求採取某些適當的對策。

GOST-R Certification Mark
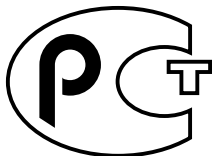
Safety Agency Compliance Statements

Read this section before beginning any procedure. The following text provides safety precautions to follow when installing a Sun Microsystems product.

Safety Precautions

For your protection, observe the following safety precautions when setting up your equipment:

- Follow all cautions and instructions marked on the equipment.
- Ensure that the voltage and frequency of your power source match the voltage and frequency inscribed on the equipment's electrical rating label.
- Never push objects of any kind through openings in the equipment. Dangerous voltages may be present. Conductive foreign objects could produce a short circuit that could cause fire, electric shock, or damage to your equipment.

Symbols

The following symbols may appear in this book:

Caution – There is a risk of personal injury and equipment damage. Follow the instructions.

Caution – Hot surface. Avoid contact. Surfaces are hot and may cause personal injury if touched.

Caution – Hazardous voltages are present. To reduce the risk of electric shock and danger to personal health, follow the instructions.

Depending on the type of power switch your device has, one of the following symbols may be used:

On – Applies AC power to the system.

Off – Removes AC power from the system.

Standby – The On/Standby switch is in the standby position.

Modifications to Equipment

Do not make mechanical or electrical modifications to the equipment. Sun Microsystems is not responsible for regulatory compliance of a modified Sun product.

Placement of a Sun Product

Caution – Do not block or cover the openings of your Sun product. Never place a Sun product near a radiator or heat register. Failure to follow these guidelines can cause overheating and affect the reliability of your Sun product.

Noise Level

In compliance with the requirements defined in DIN 45635 Part 1000, the workplace-dependent noise level of this product is less than 70 db(A).

SELV Compliance

Safety status of I/O connections comply to SELV requirements.

Power Cord Connection

Caution – Sun products are designed to work with power systems having a grounded neutral (grounded return for DC-powered products). To reduce the risk of electric shock, do not plug Sun products into any other type of power system. Contact your facilities manager or a qualified electrician if you are not sure what type of power is supplied to your building.

Caution – Not all power cords have the same current ratings. Household extension cords do not have overload protection and are not meant for use with computer systems. Do not use household extension cords with your Sun product.

The following caution applies only to devices with a Standby power switch:

Caution – The power switch of this product functions as a standby type device only. The power cord serves as the primary disconnect device for the system. Be sure to plug the power cord into a grounded power outlet that is nearby the system and is readily accessible. Do not connect the power cord when the power supply has been removed from the system chassis.

The following caution applies only to devices with multiple power cords:

Caution – For products with multiple power cords, all power cords must be disconnected to completely remove power from the system.

Battery Warning

Caution – There is danger of explosion if batteries are mishandled or incorrectly replaced. On systems with replaceable batteries, replace only with the same manufacturer and type or equivalent type recommended by the manufacturer per the instructions provided in the product service manual. Do not disassemble batteries or attempt to recharge them outside the system. Do not dispose of batteries in fire. Dispose of batteries properly in accordance with the manufacturer's instructions and local regulations. Note that on Sun CPU boards, there is a lithium battery molded into the real-time clock. These batteries are not customer replaceable parts.

System Unit Cover

You must remove the cover of your Sun computer system unit to add cards, memory, or internal storage devices. Be sure to replace the cover before powering on your computer system.

Caution – Do not operate Sun products without the cover in place. Failure to take this precaution may result in personal injury and system damage.

Rack System Warning

The following warnings apply to Racks and Rack Mounted systems.

Caution – For safety, equipment should always be loaded from the bottom up. That is, install the equipment that will be mounted in the lowest part of the rack first, then the next higher systems, etc.

Caution – To prevent the rack from tipping during equipment installation, the anti-tilt bar on the rack must be deployed.

Caution – To prevent extreme operating temperature within the rack insure that the maximum temperature does not exceed the product's ambient rated temperatures.

Caution – To prevent extreme operating temperatures due to reduced airflow consideration should be made to the amount of air flow that is required for a safe operation of the equipment.

Laser Compliance Notice

Sun products that use laser technology comply with Class 1 laser requirements.

Class 1 Laser Product
Luokan 1 Laserlaite
Klasse 1 Laser Apparat
Laser Klasse 1

CD and DVD Devices

The following caution applies to CD, DVD, and other optical devices.

Caution – Use of controls, adjustments, or the performance of procedures other than those specified herein may result in hazardous radiation exposure.

Conformité aux normes de sécurité

Veuillez lire attentivement cette section avant de commencer. Ce texte traite des mesures de sécurité qu'il convient de prendre pour l'installation d'un produit Sun Microsystems.

Mesures de sécurité

Pour votre sécurité, nous vous recommandons de suivre scrupuleusement les mesures de sécurité ci-dessous lorsque vous installez votre matériel:

■ Suivez tous les avertissements et toutes les instructions inscrites sur le matériel.

■ Assurez-vous que la tension et la fréquence de votre source d'alimentation correspondent à la tension et à la fréquence indiquées sur l'étiquette de la tension électrique nominale du matériel

■ N'introduisez jamais d'objets quels qu'ils soient dans les ouvertures de l'équipement. Vous pourriez vous trouver en présence de hautes tensions dangereuses. Tout objet étranger conducteur risque de produire un court-circuit pouvant présenter un risque d'incendie ou de décharge électrique, ou susceptible d'endommager le matériel.

Symboles

Vous trouverez ci-dessous la signification des différents symboles utilisés:

Attention – Vous risquez d'endommager le matériel ou de vous blesser. Veuillez suivre les instructions.

Attention – Surfaces brûlantes. Evitez tout contact. Les surfaces sont brûlantes. Vous risquez de vous blesser si vous les touchez.

Attention – Tensions dangereuses. Pour réduire les risques de décharge électrique et de danger physique, observez les consignes indiquées.

Selon le type d'interrupteur marche/arrêt dont votre appareil est équipé, l'un des symboles suivants sera utilisé:

Marche – Met le système sous tension alternative.

Arret – Met le système hors tension alternative.

Veilleuse – L'interrupteur Marche/Veille est sur la position de veille.

Modification du matériel

N'apportez aucune modification mécanique ou électrique au matériel. Sun Microsystems décline toute responsabilité quant à la non-conformité éventuelle d'un produit Sun modifié.

Positionnement d'un produit Sun

Attention – Evitez d'obstruer ou de recouvrir les orifices de votre produit Sun. N'installez jamais un produit Sun près d'un radiateur ou d'une source de chaleur. Si vous ne respectez pas ces consignes, votre produit Sun risque de surchauffer et son fonctionnement en sera altéré.

Niveau de pression acoustique

Le niveau de pression acoustique du lieu de travail définie par la norme DIN 45 635 Part 1000 doit être au maximum de 70 db(A).

Conformité SELV

Le niveau de sécurité des connexions E/S est conforme aux normes SELV.

Connexion du cordon d'alimentation

Attention – Les produits Sun sont conçus pour fonctionner avec des systèmes d'alimentation équipés d'un conducteur neutre relié à la terre (conducteur neutre pour produits alimentés en CC). Pour réduire les risques de décharge électrique, ne branchez jamais les produits Sun sur une source d'alimentation d'un autre type. Contactez le gérant de votre bâtiment ou un électricien agréé si vous avez le moindre doute quant au type d'alimentation fourni dans votre bâtiment.

Attention – Tous les cordons d'alimentation ne présentent pas les mêmes caractéristiques électriques. Les cordons d'alimentation à usage domestique ne sont pas protégés contre les surtensions et ne sont pas conçus pour être utilisés avec des ordinateurs. N'utilisez jamais de cordon d'alimentation à usage domestique avec les produits Sun.

L'avertissement suivant s'applique uniquement aux systèmes équipés d'un interrupteur Veille:

Attention – L'interrupteur d'alimentation de ce produit fonctionne uniquement comme un dispositif de mise en veille. Le cordon d'alimentation constitue le moyen principal de déconnexion de l'alimentation pour le système. Assurez-vous de le brancher dans une prise d'alimentation mise à la terre près du système et facile d'accès. Ne le branchez pas lorsque l'alimentation électrique ne se trouve pas dans le châssis du système.

L'avertissement suivant s'applique uniquement aux systèmes équipés de plusieurs cordons d'alimentation:

Attention – Pour mettre un système équipé de plusieurs cordons d'alimentation hors tension, il est nécessaire de débrancher tous les cordons d'alimentation.

Mise en garde relative aux batteries

Attention – Les batteries risquent d'exploser en cas de manipulation maladroite ou de remplacement incorrect. Pour les systèmes dont les batteries sont remplaçables, effectuez les remplacements uniquement selon le modèle du fabricant ou un modèle équivalent recommandé par le fabricant, conformément aux instructions fournies dans le manuel de service du système. N'essayez en aucun cas de démonter les batteries, ni de les recharger hors du système. Ne les jetez pas au feu. Mettez-les au rebut selon les instructions du fabricant et conformément à la législation locale en vigueur. Notez que sur les cartes processeur de Sun, une batterie au lithium a été moulée dans l'horloge temps réel. Les batteries ne sont pas des pièces remplaçables par le client.

Couvercle de l'unité

Pour ajouter des cartes, de la mémoire ou des périphériques de stockage internes, vous devez retirer le couvercle de votre système Sun. Remettez le couvercle supérieur en place avant de mettre votre système sous tension.

Attention – Ne mettez jamais des produits Sun sous tension si leur couvercle supérieur n'est pas mis en place. Si vous ne prenez pas ces précautions, vous risquez de vous blesser ou d'endommager le système.

Mise en garde relative au système en rack

La mise en garde suivante s'applique aux racks et aux systèmes montés en rack.

Attention – Pour des raisons de sécurité, le matériel doit toujours être chargé du bas vers le haut. En d'autres termes, vous devez installer, en premier, le matériel qui doit se trouver dans la partie la plus inférieure du rack, puis installer le matériel sur le niveau suivant, etc.

Attention – Afin d'éviter que le rack ne penche pendant l'installation du matériel, tirez la barre anti-basculement du rack.

Attention – Pour éviter des températures de fonctionnement extrêmes dans le rack, assurez-vous que la température maximale ne dépasse pas la fourchette de températures ambiantes du produit déterminée par le fabricant.

Attention – Afin d'empêcher des températures de fonctionnement extrêmes provoquées par une aération insuffisante, assurez-vous de fournir une aération appropriée pour un fonctionnement du matériel en toute sécurité

Avis de conformité des appareils laser

Les produits Sun qui font appel aux technologies lasers sont conformes aux normes de la classe 1 en la matière.

Class 1 Laser Product
Luokan 1 Laserlaite
Klasse 1 Laser Apparat
Laser Klasse 1

Périphériques CD et DVD

L'avertissement suivant s'applique aux périphériques CD, DVD et autres périphériques optiques:

Attention – L'utilisation de contrôles et de réglages ou l'application de procédures autres que ceux spécifiés dans le présent document peuvent entraîner une exposition à des radiations dangereuses.

Einhaltung sicherheitsbehördlicher Vorschriften

Lesen Sie vor dem Ausführen von Arbeiten diesen Abschnitt. Im folgenden Text werden Sicherheitsvorkehrungen beschrieben, die Sie bei der Installation eines Sun Microsystems-Produkts beachten müssen.

Sicherheitsvorkehrungen

Treffen Sie zu Ihrem eigenen Schutz bei der Installation des Geräts die folgenden Sicherheitsvorkehrungen:

- Beachten Sie alle auf den Geräten angebrachten Warnhinweise und Anweisungen.
- Stellen Sie sicher, dass Spannung und Frequenz der Stromversorgung den Nennleistungen auf dem am Gerät angebrachten Etikett entsprechen.
- Führen Sie niemals Fremdobjekte in die Öffnungen am Gerät ein. Es können gefährliche Spannungen anliegen. Leitfähige Fremdobjekte können einen Kurzschluss verursachen, der einen Brand, Stromschlag oder Geräteschaden herbeiführen kann.

Symbole

Die Symbole in diesem Handbuch haben folgende Bedeutung:

Achtung – Gefahr von Verletzung und Geräteschaden. Befolgen Sie die Anweisungen.

Achtung – Heiße Oberfläche. Nicht berühren, da Verletzungsgefahr durch heiße Oberfläche besteht.

Achtung – Gefährliche Spannungen. Befolgen Sie die Anweisungen, um Stromschläge und Verletzungen zu vermeiden.

Je nach Netzschaltertyp an Ihrem Gerät kann eines der folgenden Symbole verwendet werden:

Ein – Versorgt das System mit Wechselstrom.

Aus– Unterbricht die Wechselstromzufuhr zum Gerät.

Wartezustand – Der Ein-/Standby-Netzschalter befindet sich in der Standby-Position.

Modifikationen des Geräts

Nehmen Sie keine elektrischen oder mechanischen Gerätemodifikationen vor. Sun Microsystems ist für die Einhaltung der Sicherheitsvorschriften von modifizierten Sun-Produkten nicht haftbar.

Aufstellung von Sun-Geräten

Achtung – Geräteöffnungen Ihres Sun-Produkts dürfen nicht blockiert oder abgedeckt werden. Sun-Geräte sollten niemals in der Nähe von Heizkörpern oder Heißluftklappen aufgestellt werden. Die Nichtbeachtung dieser Richtlinien kann Überhitzung verursachen und die Zuverlässigkeit Ihres Sun-Geräts beeinträchtigen.

Lautstärke

Gemäß den in DIN 45 635 Teil 1000 definierten Vorschriften beträgt die arbeitsplatzbedingte Lautstärke dieses Produkts weniger als 70 dB(A).

SELV-Konformität

Der Sicherheitsstatus der E/A-Verbindungen entspricht den SELV-Anforderungen.

Anschluss des Netzkabels

Achtung – Sun-Geräte sind für Stromversorgungssysteme mit einem geerdeten neutralen Leiter (geerdeter Rückleiter bei gleichstrombetriebenen Geräten) ausgelegt. Um die Gefahr von Stromschlägen zu vermeiden, schließen Sie das Gerät niemals an andere Stromversorgungssysteme an. Wenden Sie sich an den zuständigen Gebäudeverwalter oder an einen qualifizierten Elektriker, wenn Sie nicht sicher wissen, an welche Art von Stromversorgungssystem Ihr Gebäude angeschlossen ist.

Achtung – Nicht alle Netzkabel verfügen über die gleichen Nennwerte. Herkömmliche, im Haushalt verwendete Verlängerungskabel besitzen keinen Überlastschutz und sind daher für Computersysteme nicht geeignet. Verwenden Sie bei Ihrem Sun-Produkt keine Haushalts-Verlängerungskabel.

Die folgende Warnung gilt nur für Geräte mit Standby-Netzschalter:

Achtung – Beim Netzschalter dieses Geräts handelt es sich nur um einen Ein/Standby-Schalter. Zum völligen Abtrennen des Systems von der Stromversorgung dient hauptsächlich das Netzkabel. Stellen Sie sicher, dass das Netzkabel an eine frei zugängliche geerdete Steckdose in der Nähe des Systems angeschlossen ist. Schließen Sie das Stromkabel nicht an, wenn die Stromversorgung vom Systemchassis entfernt wurde.

Die folgende Warnung gilt nur für Geräte mit mehreren Netzkabeln:

Achtung – Bei Produkten mit mehreren Netzkabeln müssen alle Netzkabel abgetrennt werden, um das System völlig von der Stromversorgung zu trennen.

Warnung bezüglich Batterien

Achtung – Bei unsachgemäßer Handhabung oder nicht fachgerechtem Austausch der Batterien besteht Explosionsgefahr. Verwenden Sie bei Systemen mit austauschbaren Batterien ausschließlich Ersatzbatterien desselben Typs und Herstellers bzw. einen entsprechenden, vom Hersteller gemäß den Anweisungen im Service-Handbuch des Produkts empfohlenen Batterietyp. Versuchen Sie nicht, die Batterien auszubauen oder außerhalb des Systems wiederaufzuladen. Werfen Sie die Batterien nicht ins Feuer. Entsorgen Sie die Batterien entsprechend den Anweisungen des Herstellers und den vor Ort geltenden Vorschriften. CPU-Karten von Sun verfügen über eine Echtzeituhr mit integrierter Lithiumbatterie. Diese Batterie darf nur von einem qualifizierten Servicetechniker ausgewechselt werden.

Gehäuseabdeckung

Sie müssen die Abdeckung Ihres Sun-Computersystems entfernen, um Karten, Speicher oder interne Speichergeräte hinzuzufügen. Bringen Sie vor dem Einschalten des Systems die Gehäuseabdeckung wieder an.

Achtung – Nehmen Sie Sun-Geräte nicht ohne Abdeckung in Betrieb. Die Nichtbeachtung dieses Warnhinweises kann Verletzungen oder Geräteschaden zur Folge haben.

Warnungen bezüglich in Racks eingebauter Systeme

Die folgenden Warnungen gelten für Racks und in Racks eingebaute Systeme:

Achtung – Aus Sicherheitsgründen sollten sämtliche Geräte von unten nach oben in Racks eingebaut werden. Installieren Sie also zuerst die Geräte, die an der untersten Position im Rack eingebaut werden, gefolgt von den Systemen, die an nächsthöherer Stelle eingebaut werden, usw.

Achtung – Verwenden Sie beim Einbau den Kippschutz am Rack, um ein Umkippen zu vermeiden.

Achtung – Um extreme Betriebstemperaturen im Rack zu vermeiden, stellen Sie sicher, dass die Maximaltemperatur die Nennleistung der Umgebungstemperatur für das Produkt nicht überschreitet

Achtung – Um extreme Betriebstemperaturen durch verringerte Luftzirkulation zu vermeiden, sollte die für den sicheren Betrieb des Geräts erforderliche Luftzirkulation eingesetzt werden.

Hinweis zur Laser-Konformität

Sun-Produkte, die die Laser-Technologie verwenden, entsprechen den Laser-Anforderungen der Klasse 1.

Class 1 Laser Product
Luokan 1 Laserlaite
Klasse 1 Laser Apparat
Laser Klasse 1

CD- und DVD-Geräte

Die folgende Warnung gilt für CD-, DVD- und andere optische Geräte:

Achtung – Die hier nicht aufgeführte Verwendung von Steuerelementen, Anpassungen oder Ausführung von Vorgängen kann eine gefährliche Strahlenbelastung verursachen.

Normativas de seguridad

Lea esta sección antes de realizar cualquier operación. En ella se explican las medidas de seguridad que debe tomar al instalar un producto de Sun Microsystems.

Medidas de seguridad

Para su protección, tome las medidas de seguridad siguientes durante la instalación del equipo:

- Siga todos los avisos e instrucciones indicados en el equipo.
- Asegúrese de que el voltaje y frecuencia de la fuente de alimentación coincidan con el voltaje y frecuencia indicados en la etiqueta de clasificación eléctrica del equipo.
- No introduzca objetos de ningún tipo por las rejillas del equipo, ya que puede quedar expuesto a voltajes peligrosos. Los objetos conductores extraños pueden producir cortocircuitos y, en consecuencia, incendios, descargas eléctricas o daños en el equipo.

Símbolos

En este documento aparecen los siguientes símbolos:

Precaución – Existe el riesgo de que se produzcan lesiones personales y daños en el equipo. Siga las instrucciones.

Precaución – Superficie caliente. Evite todo contacto. Las superficies están calientes y pueden causar lesiones personales si se tocan.

Precaución – Voltaje peligroso. Para reducir el riesgo de descargas eléctricas y lesiones personales, siga las instrucciones.

En función del tipo de interruptor de alimentación del que disponga el dispositivo, se utilizará uno de los símbolos siguientes:

Encendido – Suministra alimentación de CA al sistema.

Apagado – Corta la alimentación de CA del sistema.

Espera – El interruptor de encendido/espera está en la posición de espera.

Modificaciones en el equipo

No realice modificaciones de tipo mecánico ni eléctrico en el equipo. Sun Microsystems no se hace responsable del cumplimiento de normativas en caso de que un producto Sun se haya modificado.

Colocación de un producto Sun

Precaución – No obstruya ni tape las rejillas del producto Sun. Nunca coloque un producto Sun cerca de radiadores ni fuentes de calor. Si no sigue estas indicaciones, el producto Sun podría sobrecalentarse y la fiabilidad de su funcionamiento se vería afectada.

Nivel de ruido

De conformidad con los requisitos establecidos en el apartado 1000 de la norma DIN 45635, el nivel de ruido en el lugar de trabajo producido por este producto es menor de 70 db(A).

Cumplimiento de la normativa para instalaciones SELV

Las condiciones de seguridad de las conexiones de entrada y salida cumplen los requisitos para instalaciones SELV (del inglés *Safe Extra Low Voltage*, voltaje bajo y seguro).

Conexión del cable de alimentación

Precaución – Los productos Sun se han diseñado para funcionar con sistemas de alimentación que cuenten con un conductor neutro a tierra (con conexión a tierra de regreso para los productos con alimentación de CC). Para reducir el riesgo de descargas eléctricas, no conecte ningún producto Sun a otro tipo de sistema de alimentación. Póngase en contacto con el encargado de las instalaciones de su empresa o con un electricista cualificado en caso de que no esté seguro del tipo de alimentación del que se dispone en el edificio.

Precaución – No todos los cables de alimentación tienen la misma clasificación eléctrica. Los alargadores de uso doméstico no cuentan con protección frente a sobrecargas y no están diseñados para su utilización con sistemas informáticos. No utilice alargadores de uso doméstico con el producto Sun.

La siguiente medida solamente se aplica a aquellos dispositivos que dispongan de un interruptor de alimentación de espera:

Precaución – El interruptor de alimentación de este producto funciona solamente como un dispositivo de espera. El cable de alimentación hace las veces de dispositivo de desconexión principal del sistema. Asegúrese de que conecta el cable de alimentación a una toma de tierra situada cerca del sistema y de fácil acceso. No conecte el cable de alimentación si la unidad de alimentación no se encuentra en el bastidor del sistema.

La siguiente medida solamente se aplica a aquellos dispositivos que dispongan de varios cables de alimentación:

Precaución – En los productos que cuentan con varios cables de alimentación, debe desconectar todos los cables de alimentación para cortar por completo la alimentación eléctrica del sistema.

Advertencia sobre las baterías

Precaución – Si las baterías no se manipulan o reemplazan correctamente, se corre el riesgo de que estallen. En los sistemas que cuentan con baterías reemplazables, reemplácelas sólo con baterías del mismo fabricante y el mismo tipo, o un tipo equivalente recomendado por el fabricante, de acuerdo con las instrucciones descritas en el manual de servicio del producto. No desmonte las baterías ni intente recargarlas fuera del sistema. No intente deshacerse de las baterías echándolas al fuego. Deshágase de las baterías correctamente de acuerdo con las instrucciones del fabricante y las normas locales. Tenga en cuenta que en las placas CPU de Sun, hay una batería de litio incorporada en el reloj en tiempo real. Los usuarios no deben reemplazar este tipo de baterías.

Cubierta de la unidad del sistema

Debe extraer la cubierta de la unidad del sistema informático Sun para instalar tarjetas, memoria o dispositivos de almacenamiento internos. Vuelva a colocar la cubierta antes de encender el sistema informático.

Precaución – No ponga en funcionamiento los productos Sun que no tengan colocada la cubierta. De lo contrario, puede sufrir lesiones personales y ocasionar daños en el sistema.

Advertencia sobre el sistema en bastidor

Las advertencias siguientes se aplican a los sistemas montados en bastidor y a los propios bastidores.

Precaución – Por seguridad, siempre deben montarse los equipos de abajo arriba. A saber, primero debe instalarse el equipo que se situará en el bastidor inferior; a continuación, el que se situará en el siguiente nivel, etc.

Precaución – Para evitar que el bastidor se vuelque durante la instalación del equipo, debe extenderse la barra antivolcado del bastidor.

Precaución – Para evitar que se alcance una temperatura de funcionamiento extrema en el bastidor, asegúrese de que la temperatura máxima no sea superior a la temperatura ambiente establecida como adecuada para el producto.

Precaución – Para evitar que se alcance una temperatura de funcionamiento extrema debido a una circulación de aire reducida, debe considerarse la magnitud de la circulación de aire requerida para que el equipo funcione de forma segura.

Aviso de cumplimiento de la normativa para la utilización de láser

Los productos Sun que utilizan tecnología láser cumplen los requisitos establecidos para los productos láser de clase 1.

Class 1 Laser Product
Luokan 1 Laserlaite
Klasse 1 Laser Apparat
Laser Klasse 1

Dispositivos de CD y DVD

La siguiente medida se aplica a los dispositivos de CD y DVD, así como a otros dispositivos ópticos:

⚠ **Precaución –** La utilización de controles, ajustes o procedimientos distintos a los aquí especificados puede dar lugar a niveles de radiación peligrosos.

Nordic Lithium Battery Cautions

Norge

⚠ **Advarsel –** Litiumbatteri — Eksplosjonsfare. Ved utskifting benyttes kun batteri som anbefalt av apparatfabrikanten. Brukt batteri returneres apparatleverandøren.

Sverige

⚠ **Varning –** Explosionsfara vid felaktigt batteribyte. Använd samma batterityp eller en ekvivalent typ som rekommenderas av apparattillverkaren. Kassera använt batteri enligt fabrikantens instruktion.

Danmark

⚠ **Advarsel! –** Litiumbatteri — Eksplosionsfare ved fejlagtig håndtering. Udskiftning må kun ske med batteri af samme fabrikat og type. Levér det brugte batteri tilbage til leverandøren.

Suomi

⚠ **Varoitus –** Paristo voi räjähtää, jos se on virheellisesti asennettu. Vaihda paristo ainoastaan laitevalmistajan suosittelemaan tyyppiin. Hävitä käytetty paristo valmistajan ohjeiden mukaisesti.

Preface

This guide describes how to install and set up a Sun Fire™ E2900 system.

How This Book Is Organized

Chapter 1 contains information on installing and cabling the system.

Appendix A describes the connectors on the system.

Related Documentation

Application	Title
Administration	*Sun Fire Entry-level Midrange System Administration Guide*
Administration	*Sun Fire Entry-level Midrange System Controller Command Reference Manual*
Service	*Sun Fire E2900 Systems Service Manual*

Accessing Sun Documentation

You can view, print, or purchase a broad selection of Sun documentation, including localized versions, at:

http://www.sun.com/documentation

Contacting Sun Technical Support

If you have technical questions about this product that are not answered in this document, go to:

http://www.sun.com/service/contacting

Sun Welcomes Your Comments

Sun is interested in improving its documentation and welcomes your comments and suggestions. You can submit your comments by going to:

http://www.sun.com/hwdocs/feedback

Please include the title and part number of your document with your feedback:

Sun Fire E2900 Systems Installation Guide, part number 817-4053-15

Tools Required

For the procedures in this document, you will need these tools:

■ Computer lifting device
■ Phillips No. 2 Screwdriver
■ 13 mm Wrench
■ 8 mm Wrench

Physical Installation

Sun Fire E2900 systems can be shipped in several ways:

1. Not in a cabinet and with a slide rail mounting kit for installation in a cabinet

2. Not in a cabinet and intended upon being freestanding

3. Pre-installed in a cabinet

Following is a list of subjects covered. For method 1 begin with Section 1.1, "Installing Slides and Rails" on page 1-2. For methods 2 and 3 begin with Section 1.4, "Installing the Cable Management Arm" on page 1-21.

Caution – The cabinet stabilizers (if applicable) must be extended whenever a Sun Fire V1280/Netra 1280 system is pulled out of the cabinet.

Caution – The Sun Fire V1280/Netra 1280 system, with mounting cradle, weighs approximately 286 lb (130 kg). Two people using a computer equipment lift are required to move the system safely into the cabinet.

Caution – Pull only one Sun Fire V1280/Netra 1280 system out of the cabinet at a time to prevent unbalancing the cabinet.

1.1 Installing Slides and Rails

Systems which are to be mounted in a cabinet utilize a slide rail mounting kit. This kit includes the following:

- Two slide lock spacers
- Two slide lock nuts
- Four rails, two inner and two outer
- 8 MM. wrench

Note – If you received your system pre-installed in a cabinet you may proceed directly to Section 1.4, "Installing the Cable Management Arm" on page 1-21.

This section is divided into the following:

1.1.1 Adjusting the Rail Assembly

Each rail assembly consists of four components (FIGURE 1-1):

- Rear bracket that attaches to the slide assembly
- Adjustable bracket that attaches to the rear bracket (adjustable bracket is not used in some configurations)
- Slide assembly (with inner and outer slides)
- Front bracket
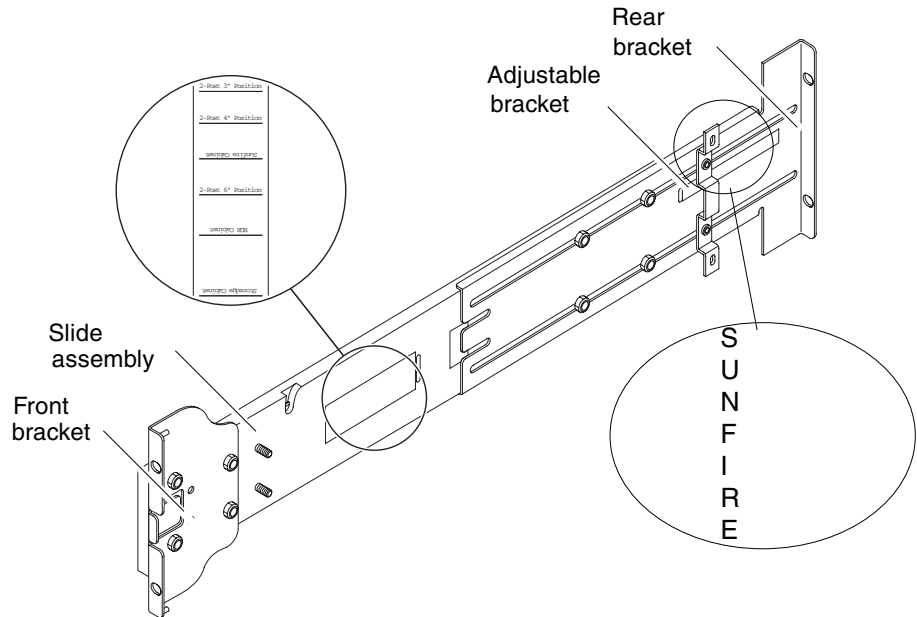
FIGURE 1-1   Rail Assembly (Standard Configuration)

Adjust the rear bracket or the adjustable bracket position to modify the length of the assembly. The slide assembly and the rear bracket have bracket locations for specific cabinets stamped onto the metal. FIGURE 1-1 shows the location of the markings.

1.1.2 Installing the Inner Slides on the System

1. **Remove the inner slide from the slide assembly:**

   a. **Press the latch adjacent to the green latch.**

   b. **Pull the inner slide free from the outer slide/rail assembly.**

2. **Push up on the inner slide so that the locating tab, on the side of the system, clips over the cutouts in the slide** (FIGURE 1-2)**.**

   The spring tab should engage.

   Note – The spring clips must be above the system hooks; the lip on the main body of the inner slide must engage under and behind the system hook.

   ---

3. **Secure the inner slide to the system using two 5 x 10 MM. screws for each slide.**

4. **Repeat Step 1 through Step 3 for the second inner slide.**
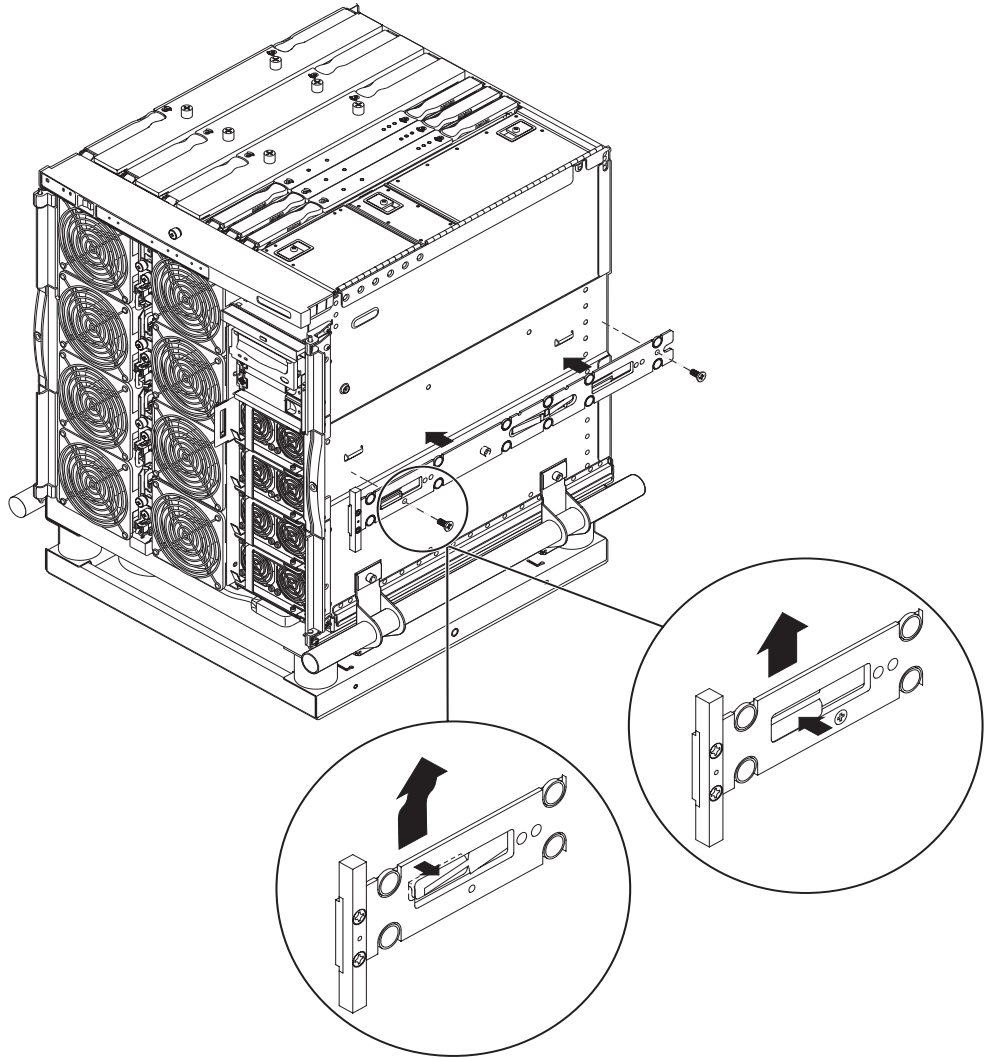
FIGURE 1-2   Spring Clips and Cutouts

1.1.3 Preparing the Rails for Two-Post Installations

For two-post installations, you can dismantle and reassemble the rail assemblies (FIGURE 1-3). The rail assemblies can be adjusted to suit a 19-inch two-post rack that has a post depth in the range of 3 to 6 inches (7.5 to 15.0 cm).

1. **Remove the nuts that secure the adjustable bracket and discard the adjustable bracket (**FIGURE 1-1**).**

2. **Remove the four nuts securing the front bracket.**

3. **Rotate the front bracket 180 degrees and secure it facing inward (**FIGURE 1-3**).**

4. **Remove the four nuts that secure the rear bracket.**

5. **Rotate the rear bracket 180 degrees so that it faces inward (**FIGURE 1-3**).**

6. **Align the rear bracket to the appropriate markings on the slide assembly and secure the rear bracket.**

7. **Repeat Step 1 through Step 6 for the second rail assembly.**
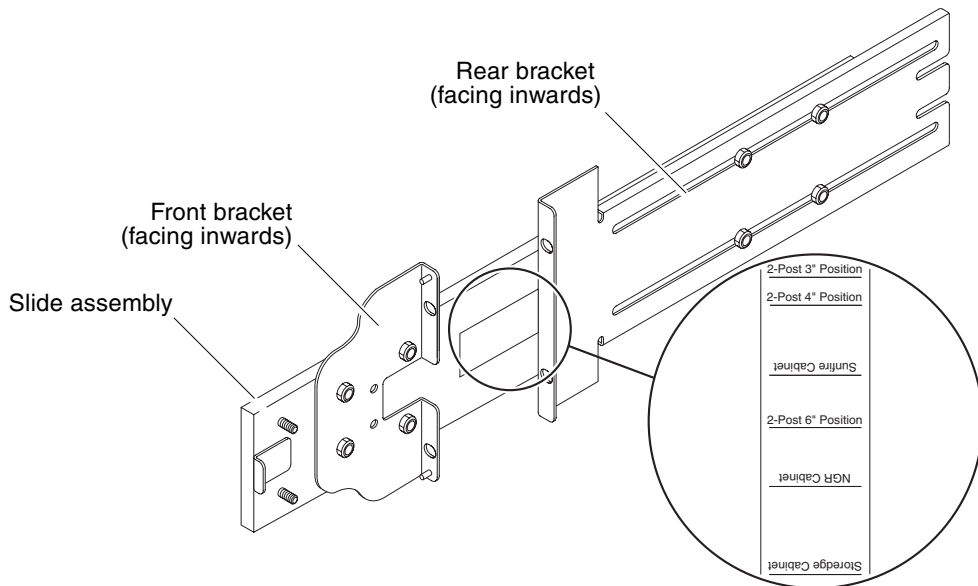
FIGURE 1-3   Rail Assembly (Modified for Two-Post Installation)

1.1.4 Installing the Rail Assemblies in a Sun Fire/StorEdge Cabinet

Sun Fire/StorEdge™ cabinets have No. 10-32 UNF tapped screw holes in the front and rear, which are numbered from bottom to top.

Note – The rail assemblies are reversible. They can be used on either side of the cabinet.

---

1. **Adjust the position of the adjustable bracket on each rail assembly.**

   a. **Loosen the two nuts that secure the adjustable bracket.**

   b. **Reposition the adjustable bracket to the location stamped "SUNFIRE" on the rear bracket and secure the adjustable bracket.**

2. **Adjust the length of each rail assembly.**

   a. **Loosen the four nuts that secure the rear bracket.**

   b. **Reposition the rear bracket to the location marked "Sun Fire Cabinet" on the slide assembly and secure the rear bracket.**

1.1.4.1 Installing the Rail Assemblies in the Bottom Position

1. **Insert the pins in the front bracket into cabinet holes 22 and 33** (FIGURE 1-4)**.**

   The pins will hold the bracket in place until the bracket is secured.

2. **Secure the adjustable bracket into cabinet holes 24 and 31 with two No. 10-32 UNF screws.**

3. **Secure the front bracket into cabinet holes 24 and 31 with two No. 10-32 UNF screws.**

4. **Repeat Step 1 through Step 3 for the second rail assembly.**

Note – Mounting the system in cabinet holes 24 and 31 allows for 10-inches of space beneath the system in order to service the baseplane.

1.1.4.2 Installing the Rail Assemblies in the Top Position

1. **Insert the pins in the front bracket into cabinet holes 58 and 69** (FIGURE 1-4)**.**

   The pins will hold the bracket in place until it is secured.

2. **Secure the adjustable bracket into cabinet holes 60 and 67 with two No. 10-32 UNF screws.**

3. **Secure the front bracket into cabinet holes 60 and 67 with two No. 10-32 UNF screws.**

4. **Repeat Step 1 through Step 3 for the second rail assembly.**

Front bracket
secured to outer cabinet holes

Adjustable bracket
secured to inner cabinet holes
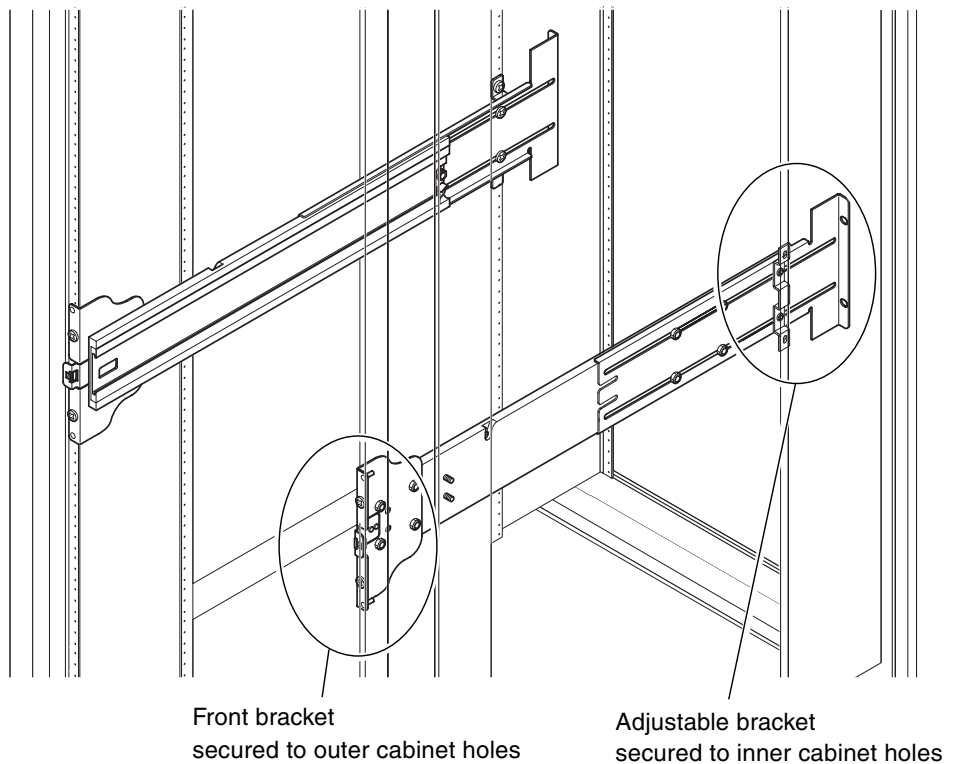
FIGURE 1-4   Installing the Rails in a Sun Fire Cabinet

1.1.5 Installing the Rail Assemblies in a Sun Rack 900 Cabinet

Sun™ Rack 900 cabinets have M-6 UNF tapped screw holes in the front and rear that are numbered from bottom to top.

Note – The rail assemblies are reversible. They can be used on either side of the cabinet.

---

1. **Remove the adjustable bracket on each rail.**

   a. **Loosen the two nuts that secure the adjustable bracket.**

   b. **Discard the adjustable bracket.**

2. **Adjust the length of each rail assembly.**

   a. **Loosen the four nuts that secure the rear bracket.**

   b. **Reposition the rear bracket to the location marked "NGR Cabinet" on the slide assembly and secure the rear bracket.**

1.1.5.1 Installing the Rail Assemblies in the Bottom Position

1. **Insert the pins in the front bracket into cabinet holes 22 and 33** (FIGURE 1-5)**.**
   The pins will hold the bracket in place until the bracket is secured.

2. **Secure the rear bracket into cabinet holes 24 and 31 with two M-6 UNF screws.**

3. **Secure the front bracket into cabinet holds 24 and 31 with two M-6 UNF screws.**

4. **Repeat Step 1 through Step 3 for the second rail assembly.**

Note – Mounting the system in cabinet holes 24 and 31 allows for 10-inches of space beneath the system in order to service the baseplane.

1.1.5.2   Installing the Rail Assemblies in the Top Position

1. **Insert the pins in the front bracket into cabinet holes 58 and 69** (FIGURE 1-5)**.**

   The pins will hold the bracket in place until the bracket is secured.

2. **Secure the rear bracket into cabinet holes 60 and 67 with two M-6 UNF screws.**

3. **Secure the front bracket into cabinet holes 60 and 67 with two M-6 UNF screws.**

4. **Repeat Step 1 through Step 3 for the second rail assembly.**

Front bracket
secured to outer cabinet holes

Rear bracket
secured to outer cabinet holes
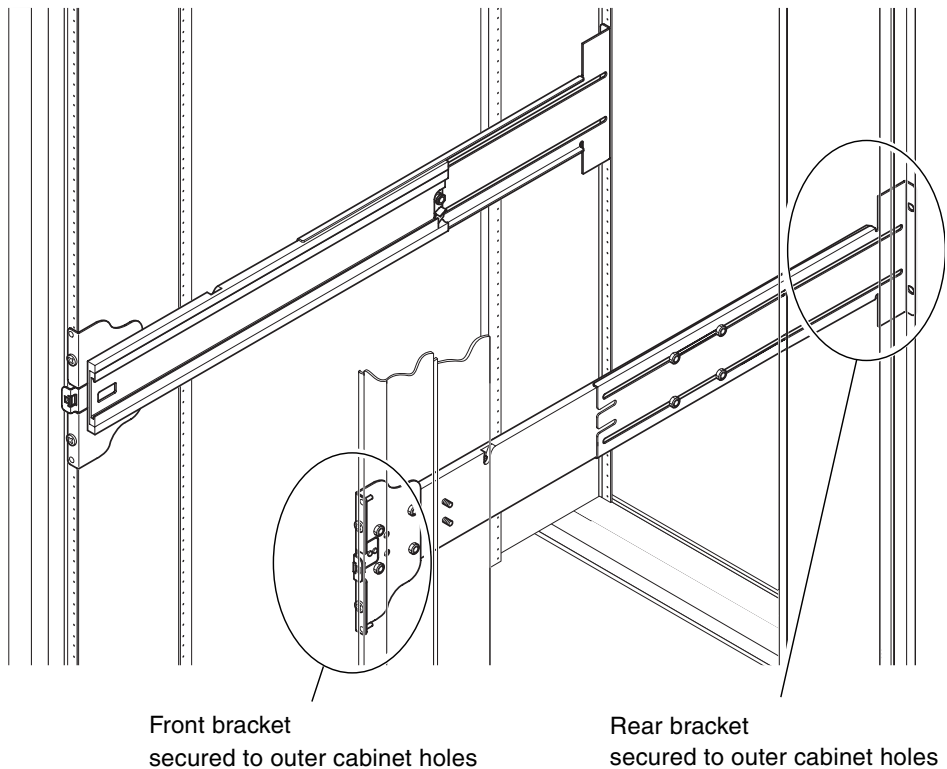
FIGURE 1-5   Installing the Rails in a Sun Rack 900 Cabinet or 19-Inch Four-Post Cabinet

1.1.6 Installing the Rail Assemblies in a 19-Inch Four-Post Cabinet

The rails can be adjusted to suit a 19-inch cabinet that is compliant with either IEC 297-4 or EIA 310-D. Each rail assembly has a distance between front and rear mounting rails from 17.7 to 30.7 inches (45.0 to 78.0 cm).

Note – The rail assemblies are reversible. They can be used on either side of the cabinet.

Caution – It is the installer's responsibility to ensure that the cabinet has sufficient structural strength and stability to handle any required installations.

---

1. **Remove the adjustable bracket on each rail assembly.**

    a. **Loosen the two nuts that secure the adjustable bracket.**

    b. **Discard the adjustable bracket.**

2. **Adjust the length of each rail assembly.**

    a. **Loosen the four nuts that secure the rear bracket.**

    b. **Reposition the rear bracket to the appropriate markings shown on the slide assembly and secure the rear bracket.**

3. **Secure the rear bracket with two No. 10-32 UNF screws** (FIGURE 1-5)**.**

    ■ To install the system in the *lowest* position, insert the rackmount securing screws no lower than 18.5 inches and 22.5 inches (47.0 cm and 57.2 cm) respectively. Refer to the Sun Fire V1280/Netra 1280 *Slide Rail Installation Instructions and Mounting Template* to determine cabinet hole locations.

Note – Mounting the bracket no lower than 18.5 inches and 22.5 inches allows for 10-inches of space beneath the system in order to service the baseplane.

    ■ To install the system in the *topmost* position, insert the rackmount securing screws no higher than 39.5 inches and 43.5 inches (100.0 cm and 110.0 cm) respectively. Refer to the Sun Fire V1280/Netra 1280 *Slide Rail Installation Instructions and Mounting Template* to determine cabinet hole locations.

4. **Secure the front bracket with two No. 10-32 UNF screws** (FIGURE 1-5)**.**

5. **Repeat Step 1 through Step 4 for the second rail assembly.**

1.1.7 Installing the Rail Assemblies in a 19-inch Two-Post Rack

Note – The rails assemblies must be prepared. See Section 1.1.3, "Preparing the Rails for Two-Post Installations" on page 1-6.

Note – The rail assemblies are reversible. They can be used on either side of the cabinet.

Caution – Ensure that the rack is anchored to the floor, ceiling, or adjacent frames. It is the installer's responsibility to ensure that the rack has sufficient structural strength and stability to handle any required installations.

1. **Secure the front bracket with two No. 10-32 UNF screws.**

   Insert the rackmount securing screws no lower than 18.5 inches and 22.5 inches (47.0 cm and 57.2 cm) respectively. Refer to the Sun Fire V1280/Netra 1280 *Slide Rail Installation Instructions and Mounting Template* to determine cabinet hole locations.

   Note – Mounting the bracket no lower than 18.5 inches and 22.5 inches allows for 10-inches of space beneath the system in order to service the baseplane.

2. **Secure the rear bracket with two No. 10-32 UNF screws.**

3. **Repeat Step 1 and Step 2 for the second rail assembly.**

1.2 Installing the System in a Cabinet

This section contains the following topics:

1.2.1 Preparing to Install the System in the Cabinet

1. **Remove the front bezel doors (**FIGURE 1-6**).**

   a. **Open the door and press down on the hinge pin levers to release the hinges.**

   b. **Lift the door off of the hinge pins and store the door in a safe place.**

   c. **Repeat Step a and Step b for the second front bezel door.**
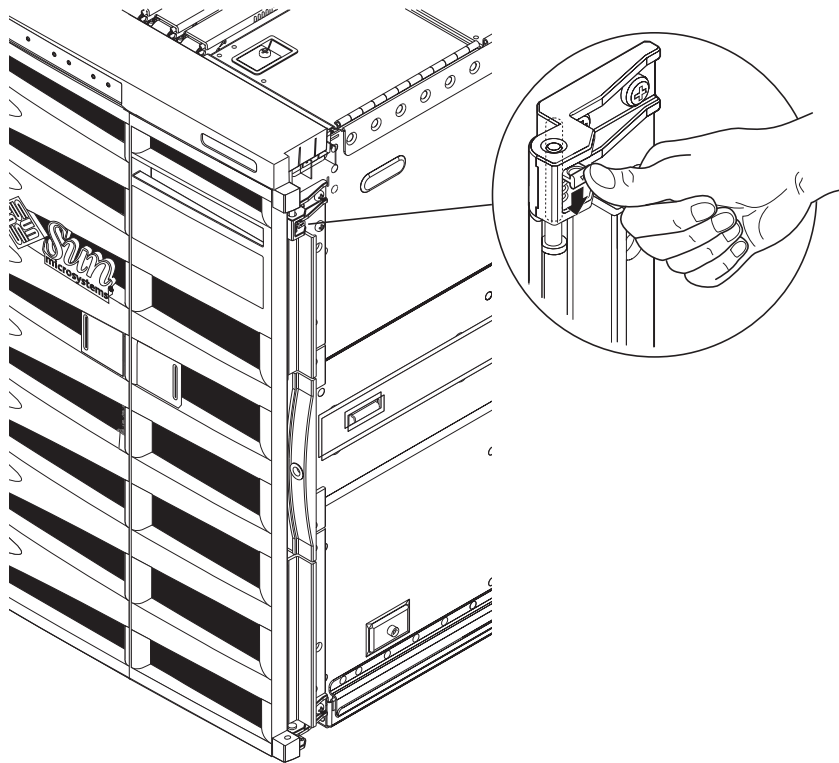
FIGURE 1-6   Releasing the Door Hinge Mechanism

2. Remove the shipping cradle bolts (FIGURE 1-7**).**

The bolts secure the orange metal shipping cradle to the wooden pallet.
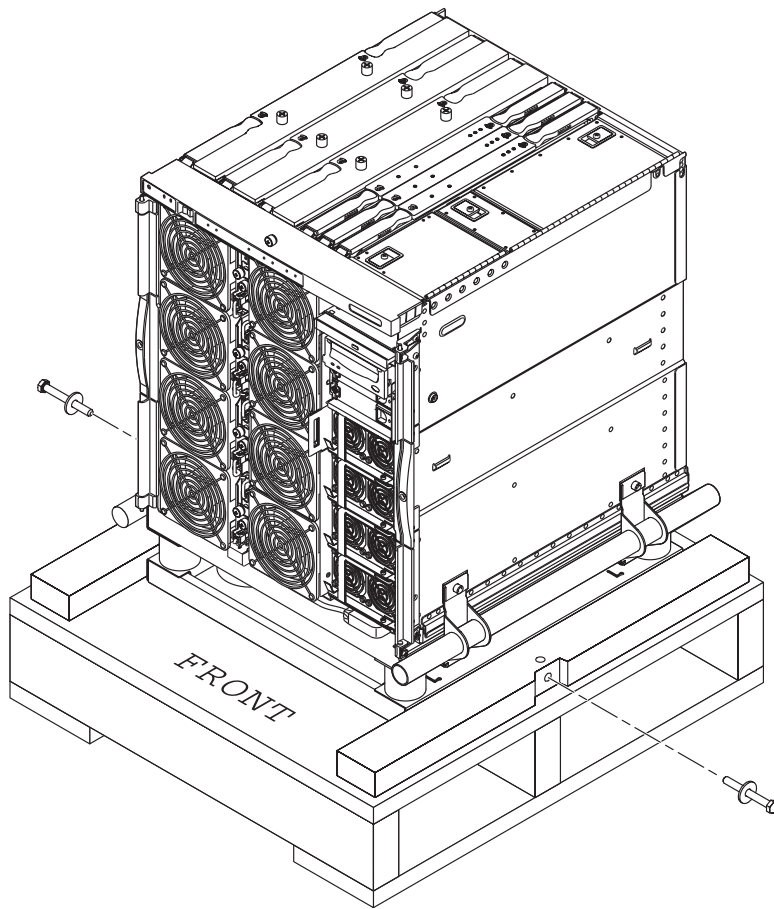
FIGURE 1-7 Removing the Shipping Cradle Bolts

1.2.2 Mounting the System in the Cabinet

⚠ **Caution –** The Sun Fire V1280/Netra 1280 system with mounting cradle weighs approximately 286.0 lb (130.0 kg). To prevent personal injury, two people are needed to move the system safely into the cabinet using a computer equipment lift.

1. Extend the cabinet stabilizer and lock it in position (as applicable).

⚠ **Caution –** The shipping cradle must be attached when the system is lifted. Failure to do so will result in major damage to the system.

2. Insert the forks of the lifting device fully through the shipping cradle opening (FIGURE 1-8**).**
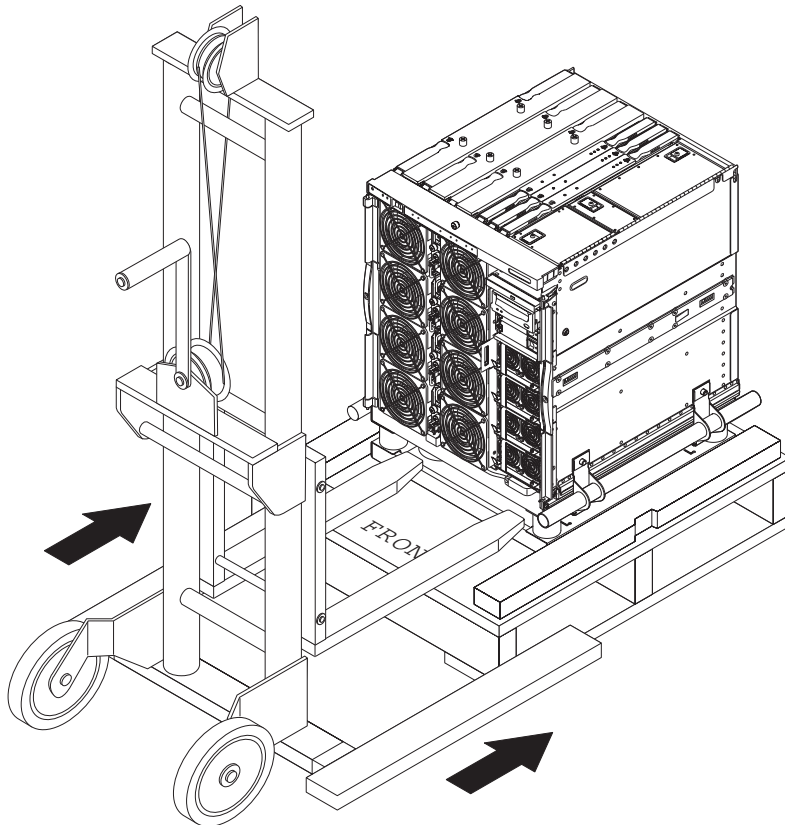
FIGURE 1-8 Inserting the Lifting Device into the Shipping Cradle

3. **Lift the system off of the wooden shipping pallet and remove the pallet.**

4. **Extend the outer slides from the cabinet and latch them in the extended position.**

5. **Lift the system until it is level with the outer slides on the cabinet.**

6. **Carefully move the lifting device forward until the slides on the system are fully engaged with the outer slides on the cabinet (**FIGURE 1-9**).**

   The latches on each side must click out, locking the slides.

Outer slides

Inner slides
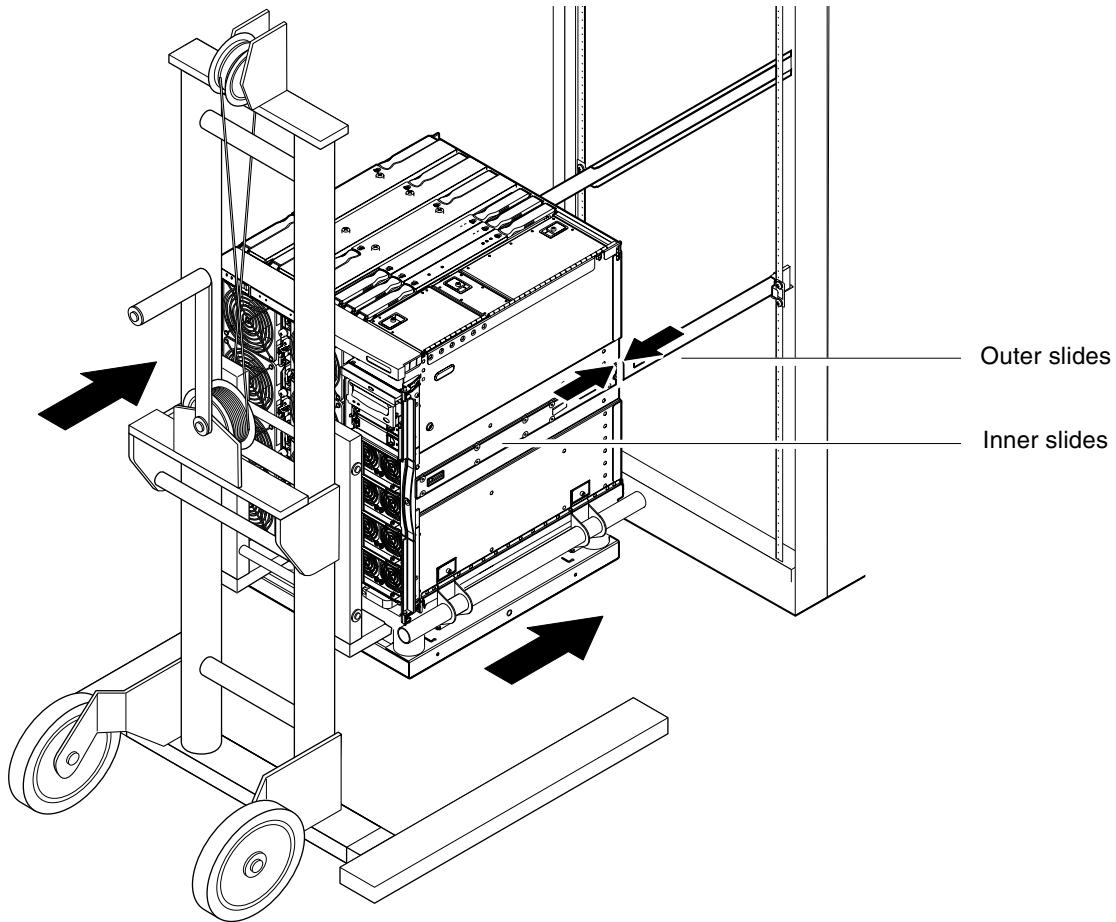
FIGURE 1-9 Aligning the Slides

Caution – The cabinet stabilizers (if applicable) must be extended or the cabinet might topple when the lifting device is withdrawn.

7. **With the lifting device still supporting the system, loosen the four captive screws attaching the handles of the shipping cradle to the system.**

8. **Loosen the four captive screws that attach the handles to the shipping cradle.**

9. **Pull both shipping cradle handles away from the system.**

   This disconnects the shipping cradle from the system.

10. **Lower the shipping cradle out of the way with the lifting device.**

    Store the shipping cradle for future use.
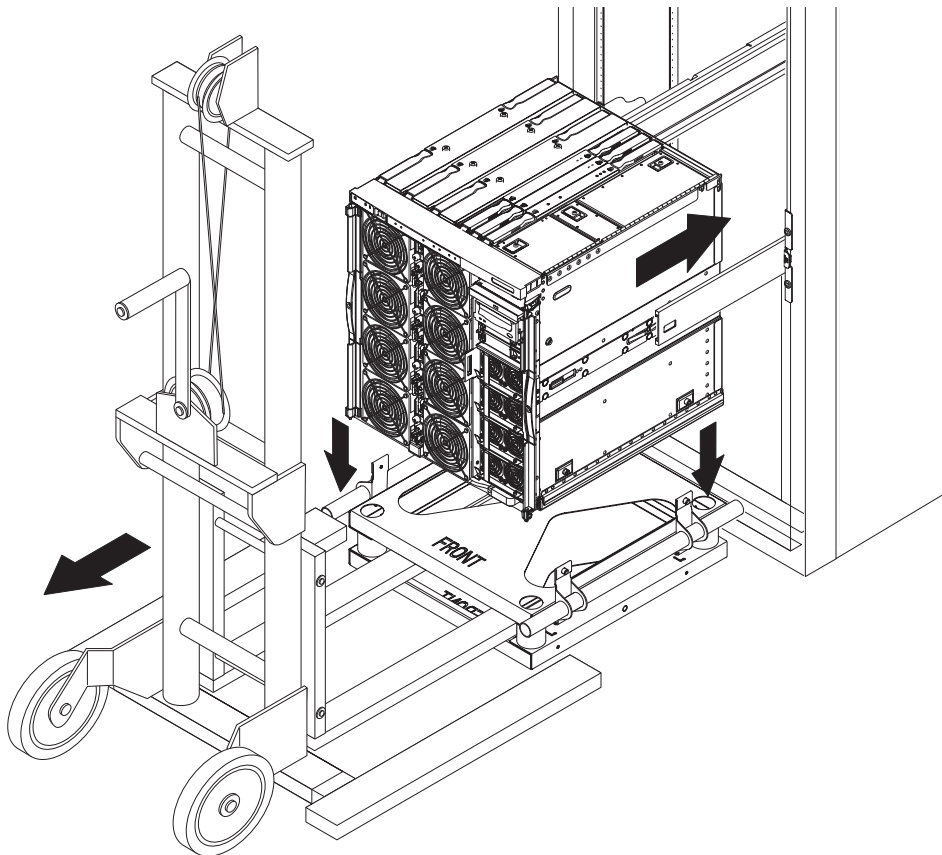
FIGURE 1-10 Removing the Shipping Cradle

11. Press the green latches on each slide and push the system into the cabinet (FIGURE 1-11**).**
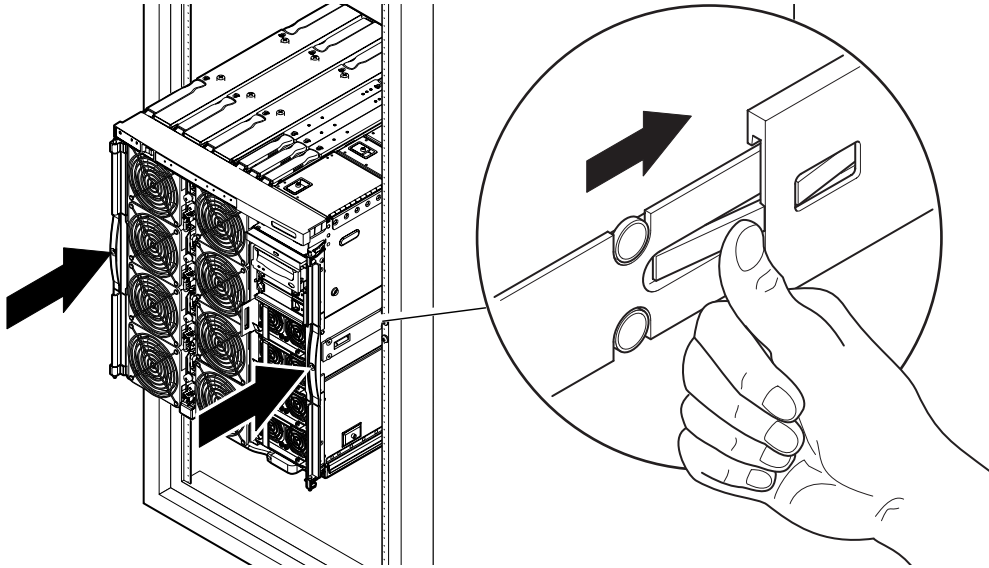
FIGURE 1-11   Pushing the System into the System Cabinet

12. Tighten the two securing screws on the front of the system to secure the system in the cabinet (FIGURE 1-12**).**

13. Retract the cabinet stabilization mechanism (as required).

14. Reattach the front doors of the system.

Securing screw ———————   ——————— Securing screw
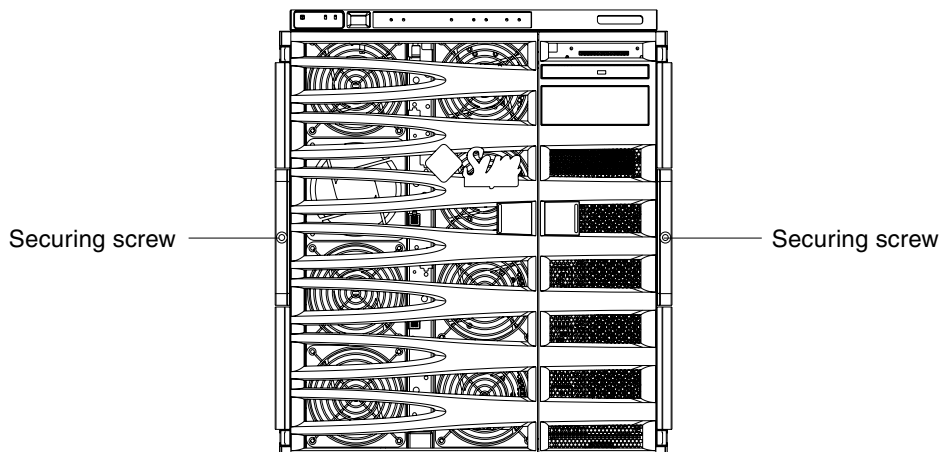
FIGURE 1-12   Tightening the Securing Screws

1.3　Installing Slide Rail Locking Nuts

Note – Slide rail locking nuts are pre installed on all units shipped from the factory in a cabinet.

For systems not shipped pre installed in a cabinet, a slide rail mounting kit is utilized that contains slide rail locking nuts, spacer and rails that are used to mount and secure a system in a cabinet, see Section 1.1, "Installing Slides and Rails" on page 1-2. Once locking nuts are installed on a system, the following is applicable:

■ Slide rail locking nuts must be loosened in order to remove a system from a cabinet

■ Slide rail locking nuts must be securely tightened on each system prior to moving a cabinet with one or more systems

Proceed as follows to install the slide rail locking nuts:

Note – The slide rail mounting kits contain a pair of spacers provided by the manufacturer along with the rails. The manufacturer's spacers must be discarded and replaced by the Sun spacers provided in the kit.

1. **Slide the system out of the system cabinet.**

2. **Remove and discard the manufactures spacers provided with the slide rails in the kit.**

3. **From the rear of the system, insert and tighten the supplied spacers onto the locking bolts on each slide (**FIGURE 1-13**).**

   The spacer shoulders must face outwards.
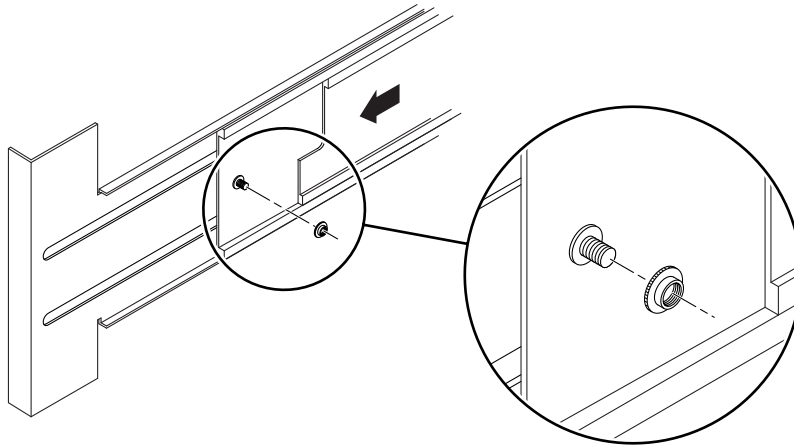
FIGURE 1-13 Inserting and Tightening the Slide Rail Spacers

4. **Slide the system into the system cabinet.**

5. **From the rear of the system, insert and tighten the locking nuts, one for each slide (FIGURE 1-14).**
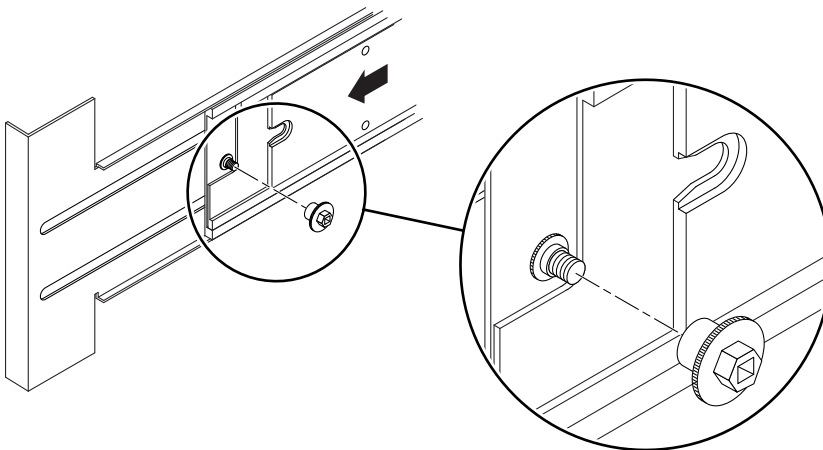
FIGURE 1-14 Inserting and Tightening the Slide Rail Locking Nut

6. **Repeat Step 1 through Step 5 for each system in the system cabinet.**

1.4 Installing the Cable Management Arm

This section contains the following topics:

- Section 1.4.1, "Installing the CMA–Lite" on page 1-22
- Section 1.4.2, "Installing the CMA–800." on page 1-23

The purpose of a cable management arm (CMA) is to support and protect cables when a system slides into or out of a cabinet.

Two cable management arm solutions are offered: CMA-Lite and CMA-800. The optimum choice of CMA is dependant upon the available depth in the cabinet and the quantity or type of cable to be supported. Use the CMA-Lite if the larger CMA-800 management arm does not fit your cabinet.

Threaded holes for attaching the CMA are provided on the rear of the system (FIGURE 1-15).
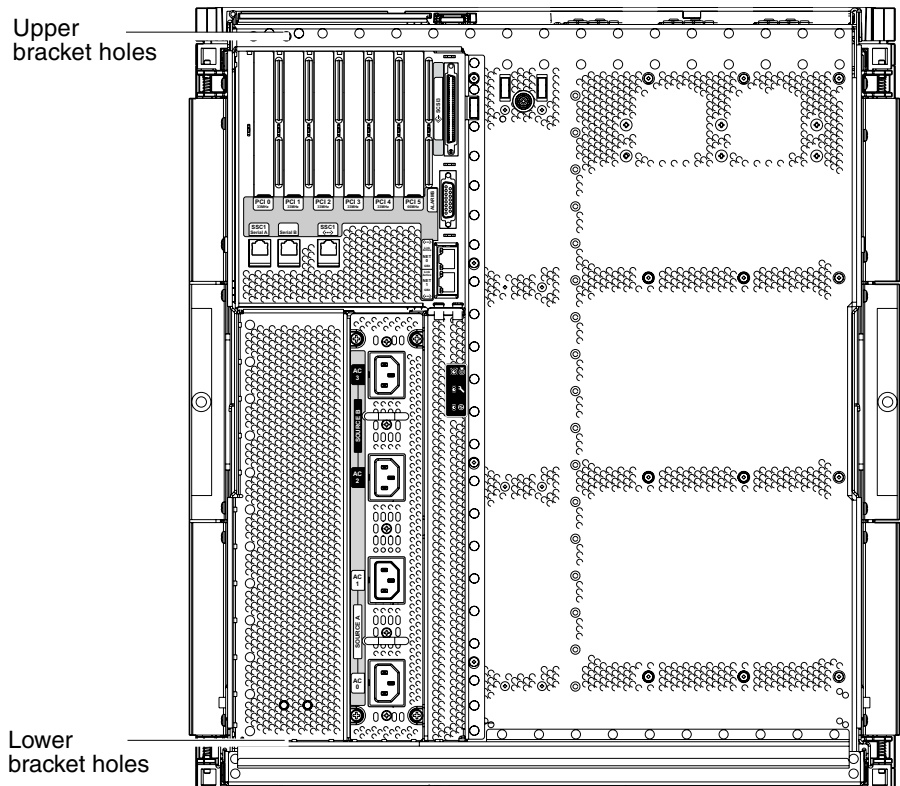
FIGURE 1-15 Bracket Mounting Holes

1.4.1 Installing the CMA–Lite

1. **Secure the pivot at the end of the upper arm to the top rear of the system, using the two captive screws (**FIGURE 1-16**).**

2. **Secure the center pivot point of the CMA to the inside rear of the left hand rail assembly, using the two captive screws.**

3. **Secure the pivot at the end of the lower arm to the bottom rear of the system, using the two captive screws.**

Captive screws (2)

CMA-LIte

Captive screws (2)

Captive screws (2)
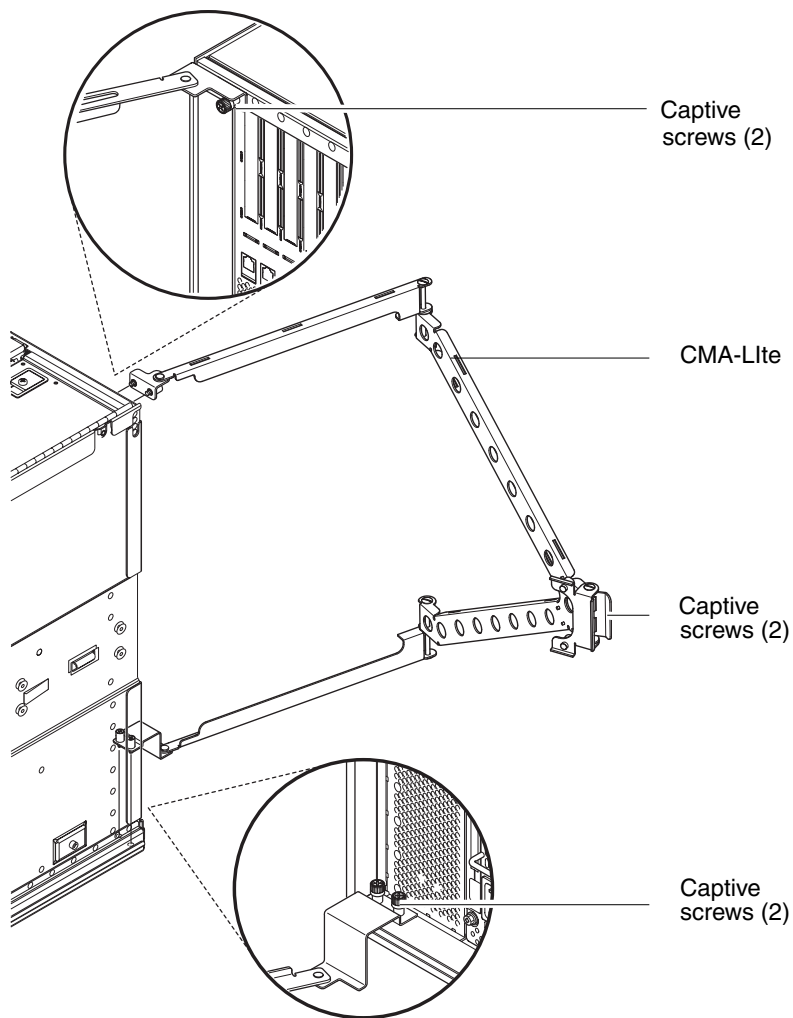
FIGURE 1-16 CMA–Lite Cable Management Arm

1.4.2   Installing the CMA–800.

To install a CMA-800 proceed as follows:

1. **Refer to** FIGURE 1-17**, throughout the following procedures for identification of CMA parts.**
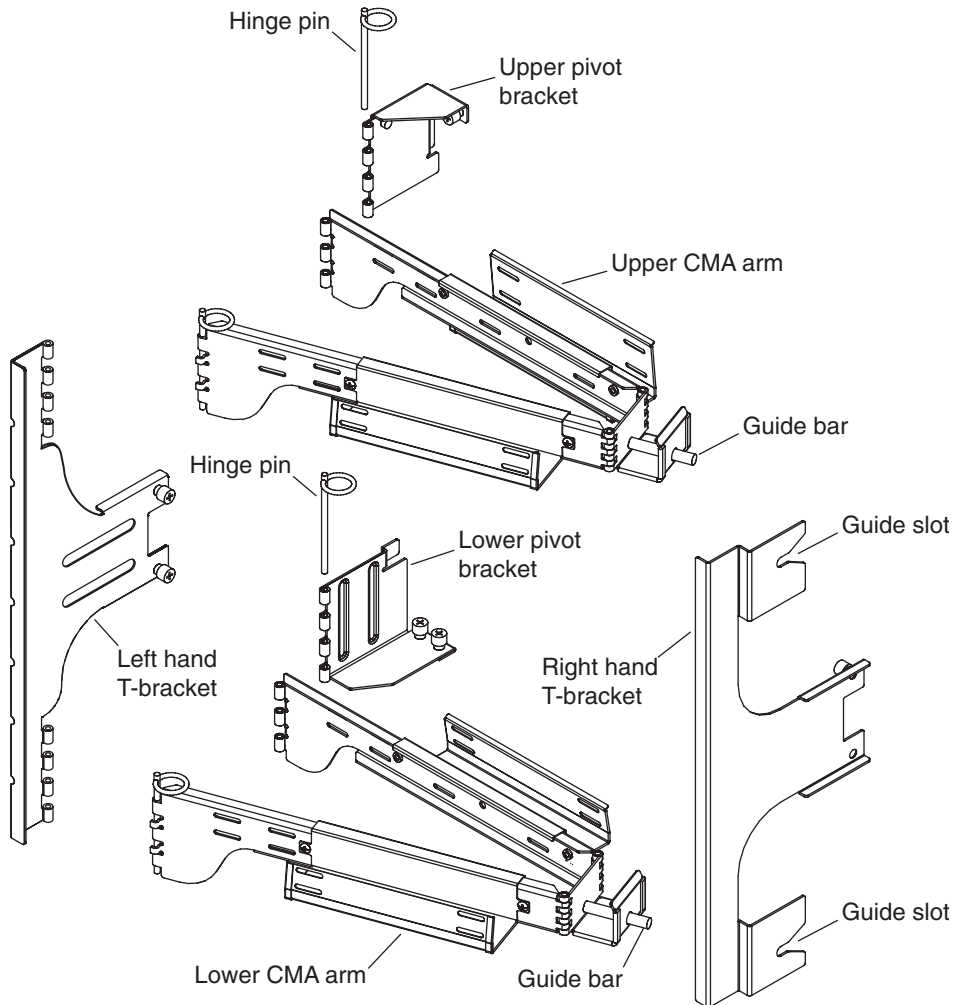
FIGURE 1-17 Upper/Lower CMA Arms and Left Hand/Right Hand T-Brackets

> **Note –** In the following procedure all left-hand and right-hand orientation is as viewed from the rear of the system chassis.

2. **Remove the hinge pin securing the pivot bracket to the upper CMA arm, which will facilitate attaching the bracket to the system chassis.**

3. **Secure the pivot bracket to the upper left hand side of the system chassis using** the two captive screws. See FIGURE 1-18 and FIGURE 1-19.

   After attaching the pivot bracket to the chassis, use the hinge pin removed previously to secure it to the upper CMA arm.
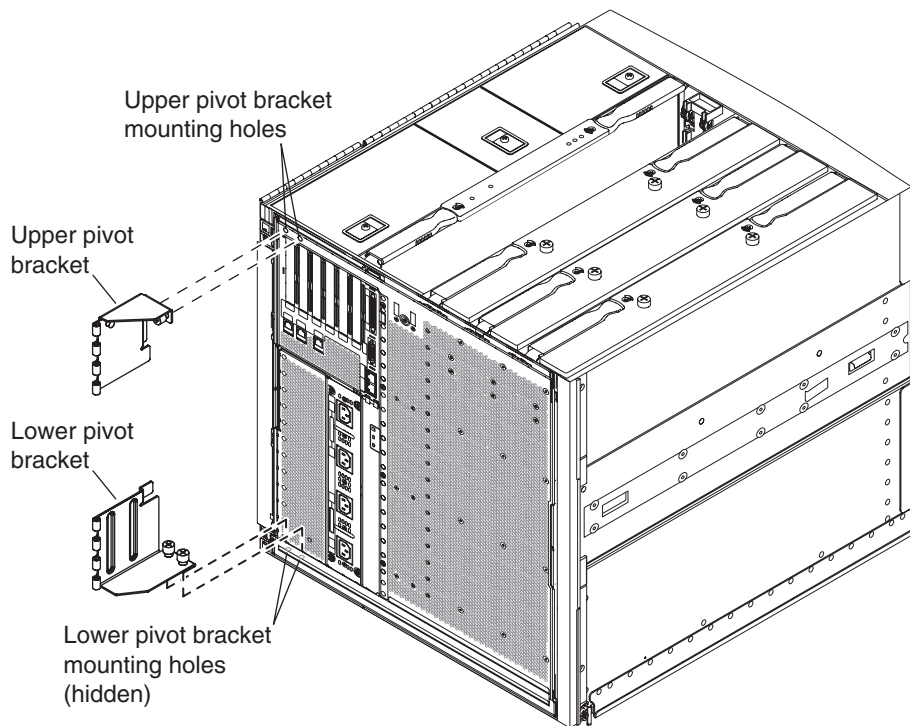
FIGURE 1-18 Upper/Lower Pivot Bracket Mounting Holes

Hinge pin

Upper pivot bracket
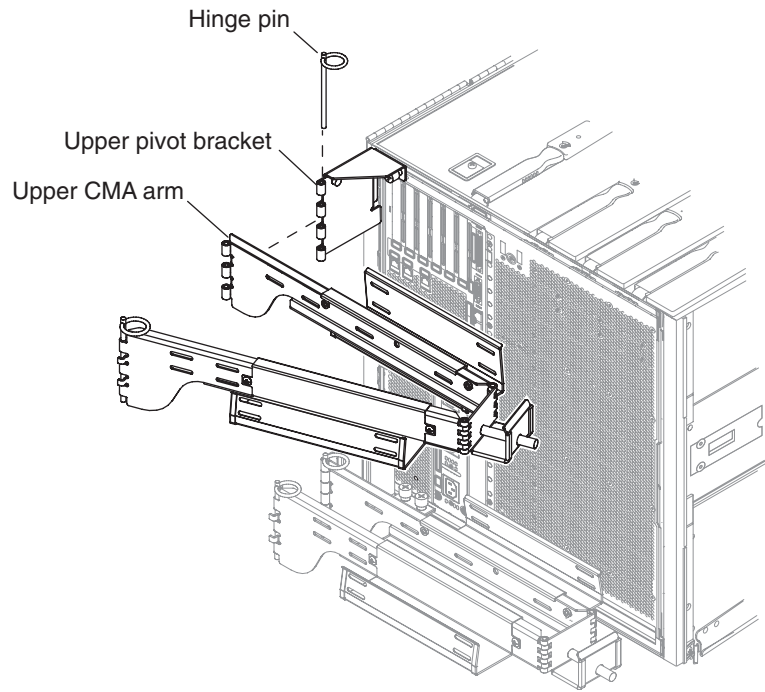
Upper CMA arm

FIGURE 1-19 Attachment of Upper CMA Arm and Pivot Bracket

4. **Remove the hinge pin securing the pivot bracket to the lower CMA arm, which will facilitate attaching the bracket to the system chassis.**

5. **Secure the pivot bracket to the lower left hand of the system chassis using the two captive screws, see** FIGURE 1-18 **and** FIGURE 1-20**.**

6. **After attaching the bracket to the chassis, secure the lower CMA arm to the bracket using the hinge pin removed previously.**

Hinge pin

Lower pivot bracket
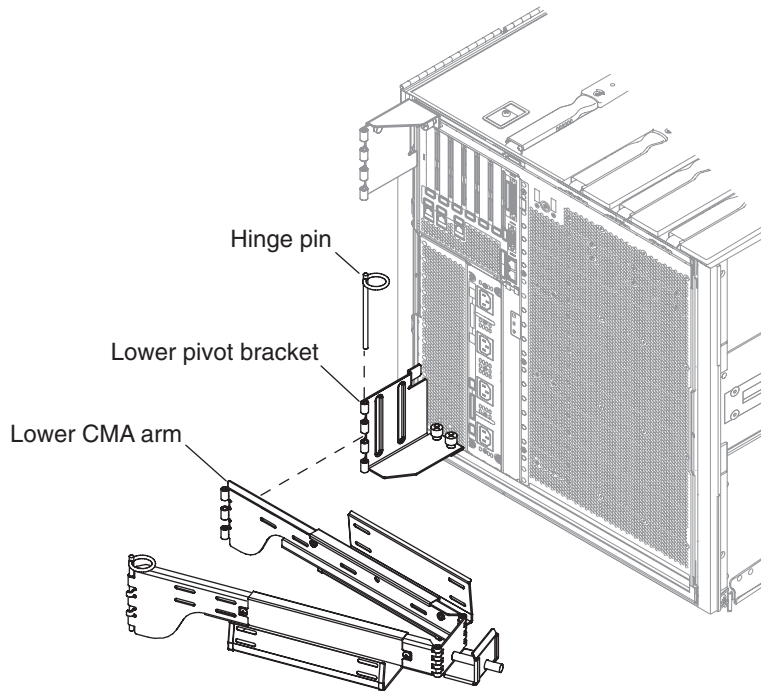
Lower CMA arm

FIGURE 1-20 Attachment of Lower CMA Arm and Pivot Bracket

7. Secure the left hand T-bracket to the left hand slide rail using two captive screws, FIGURE 1-21**.**
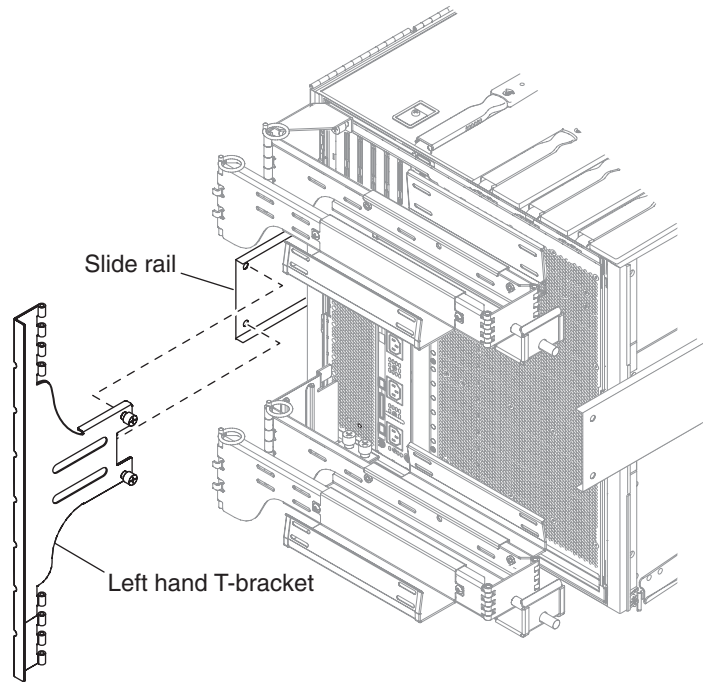
FIGURE 1-21 Attaching Left Hand T-Bracket

8. Secure the right hand T-bracket to the right hand slide rail using two captive screws, FIGURE 1-22**.**
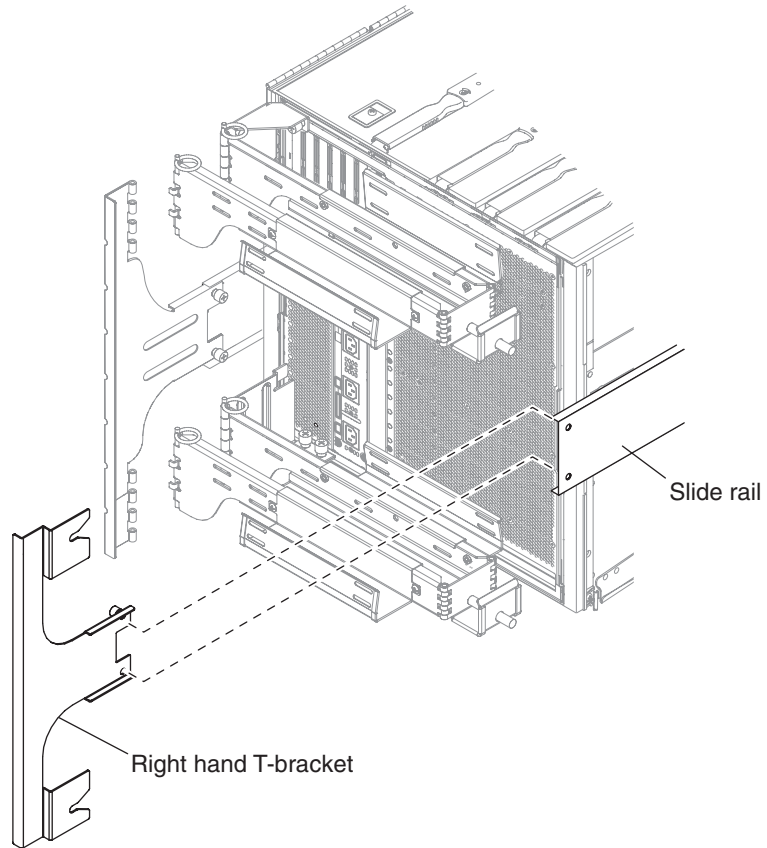
FIGURE 1-22 Attachment of Right-Hand T-Bracket

9. **Secure the upper CMA arm to left hand T-bracket using a single hinge pin**
   FIGURE 1-23**.**
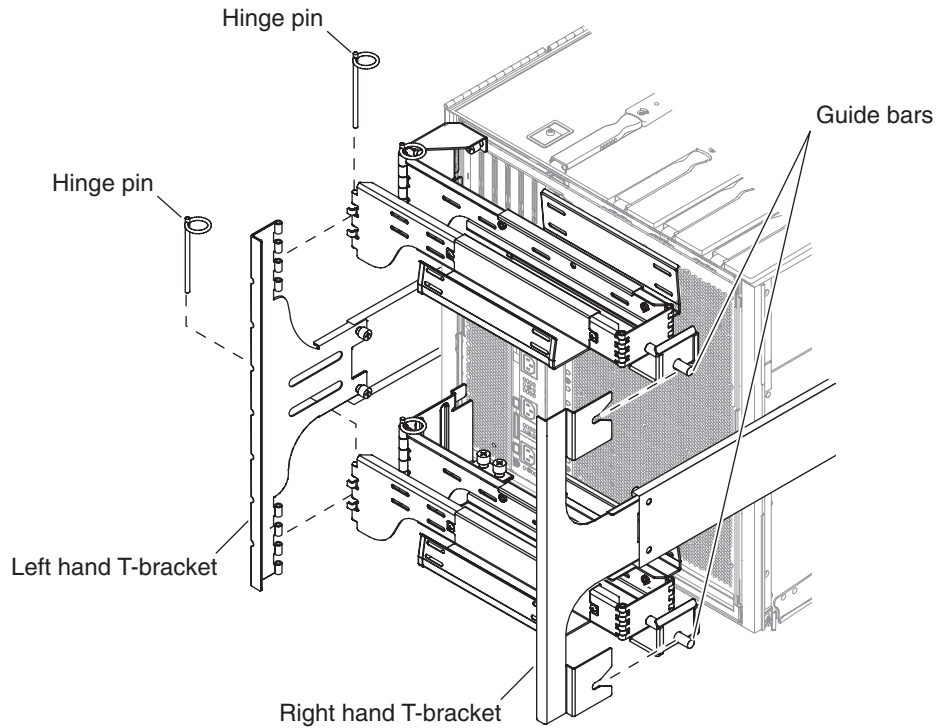
FIGURE 1-23 Attachment of Upper/Lower CMA Arms to T-Bracket

10. **Secure the lower CMA arm to the left hand T-bracket using a single hinge pin,.**
    FIGURE 1-23**.**

11. **Route the cabling through the cable channels as desired and then secure both the upper and lower CMA arms by inserting the guide bars of each arm into the slots provided on the right hand T-bracket.**

1.5 Connecting Sun Fire V1280/Netra 1280 Power Cables

Caution – The Sun Fire V1280/Netra 1280 system is designed to work with power systems having a grounded neutral conductor. Do not connect the equipment into any other type of power system. Contact your facilities manager or a qualified electrician to determine what type of power is supplied to your building.

Caution – Your Sun product is shipped with grounding-type (three-wire) power cords. Always connect the cords into grounded power outlets.

Caution – The socket outlets must be installed near the equipment and easily accessible.

1. **Turn the system power switch to the Standby position.**

Caution – The On/Standby power switch does not isolate the equipment. The AC power cords are the primary means of disconnection for this product.

2. **Turn the cabinet power off (in a powered cabinet).**

   Refer to the installation guide that came with the cabinet.

3. **Label both ends of the power cords.**

   Two cords should be labeled Source A and two should be labeled Source B.

4. **Connect the power cables to the system.**

   a. **Connect the Source A power cords to AC0 and AC1 on the system and the Source B power cords to AC2 and AC3 on the system.**

   b. **Run the power cords through the CMA and secure them with tie wraps.**

   Make sure the CMA can extend and retract without dislodging the power cords.

> **Note –** Step 3 and Step 4 will already be completed for systems that come pre installed in a Sun Rack 900 cabinet.

5. **Connect the system to the power source.**

> **Note –** It is the installer's responsibility to ensure that the cabinet has sufficient electrical power and redundancy to handle the required installation.

- **If mounted in an unpowered cabinet:**

  a. **Connect power cords from Source A on the system to the customer-supplied power source A circuit breakers.**

  b. **Connect power cords from Source B on the system to the customer-supplied power source B circuit breakers.**

- **If mounted in a powered cabinet:**

  a. **Connect power cords from Source A on the cabinet to the customer-supplied power source A circuit breakers and Source B on the cabinet to the customer-supplied power source B circuit breakers.**

    Refer to the installation guide that came with the cabinet for instructions on cabinet power cabling.

  b. **Connect power cords from Source A on the cabinet to Source A on the system and Source B on the cabinet to the Source B on the system.**

    Refer to the installation guide that came with the cabinet for instructions on cabinet power cabling.

1.6 Connecting Consoles to the System Controller

This section contains the following topics:

The system controller (SC) is responsible for providing the Lights-Out Management (LOM) functions, which include power on sequencing, executing module power-on self-tests (POST), environmental monitoring, fault indication and alarms.

The LOM command-line interface and the Solaris/OpenBoot™ PROM console are accessed by connecting an administrative console to either serial port A or the 10/100 LOM Ethernet port. The administrative console can be any external input device (laptop computer or workstation) connected to either of these ports.

Serial port A is used to connect directly to an ASCII terminal or a network terminal server (NTS) using a command-line interface. This port is used for the initial administrative console. It is used to modify the default system controller settings (usually so that the 10/100 LOM Ethernet port can be used as an administrative console). The configuration of Serial port A cannot be changed. See Appendix A for details on the Serial ports.

The 10/100 LOM Ethernet port is used to connect the system controller to the network. This port is preconfigured as follows:

- System controller configured to be on a network
- System controller Ethernet configured for Dynamic Host Configuration Protocol (DHCP)
- No pre-configured system controller Ethernet IP address, Gateway, Domain name system (DNS) domain, DNS servers

1.6.1   Connecting the Initial Administrative Console

For the initial configuration, connect Serial A port to the serial port on any of the following devices:

- ASCII terminal
- Sun workstation
- Terminal server (or patch panel connected to a terminal server)

Note – If the IP address assigned to the 10/100 LOM Ethernet port by DHCP is known, the 10/100 LOM Ethernet port can be accessed without the Serial A port.

---

1. **Connect the administrative console to the Serial A port.**

   The Serial A port is a DTE (data terminal equipment) port. An adapter, crossover cable or null modem cable is required to connect the Serial A port to another DTE port. For Serial A port connector pinouts and adaptor information, see Section A.4, "LOM Serial Ports" on page A-6.

2. **Turn the customer-supplied circuit breakers power switch to the On position.**

3. **Turn the system power switch to the On positio**n.

   Refer to the *Sun Fire Entry-level Midrange System Administration Guide*.

4. **Set up the administrative console.**

   Refer to the *Sun Fire Entry-level Midrange System Administration Guide.*

I/O Assembly

68-pin SCSI port

Alarms port

Serial A port

10/100 LOM
Ethernet port

Net0/Net1
Ethernet port
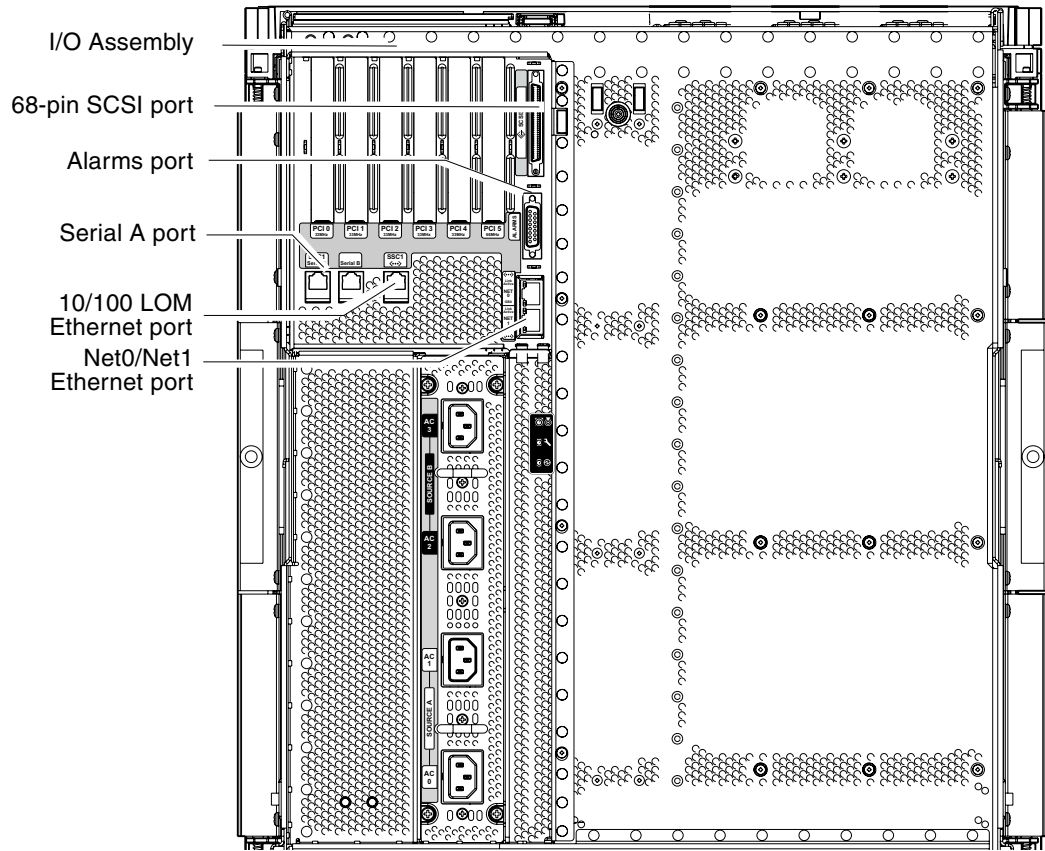
FIGURE 1-24 System Controller and I/O Assembly Locations

1.6.2 Connecting the Administrative Console

Once the initial configuration is complete, you can perform system administration tasks directly or over the network using the 10/100 LOM Ethernet port.

Note – Communication on the Serial A port is possible but is subject to interruption by the LOM device. Refer to the *Sun Fire Entry-level Midrange System Administration Guide.*

---

1. **Connect the 10/100 LOM Ethernet port to the chosen administrative console (local hub, router, or switch).**

   For 10/100 LOM Ethernet port connector information, see "10/100 LOM Ethernet Port" on page A-8.

2. **Set up the chosen administrative console.**

   Refer to the *Sun Fire Entry-level Midrange System Administration Guide.*

1.7 Connecting the I/O Assemblies

The I/O assemblies provide network interface and peripheral access to the system domains.

1. **Connect one end of the I/O Ethernet cable to the Net0/Net1 Ethernet port (FIGURE 1-24).**

2. **Connect the other end of the I/O Ethernet cable to the hub, workstation, or peripheral.**

1.8 Powering On the System

1. **Turn the power switch to the On position.**

2. **Power on the system.**

   Refer to the *Sun Fire Entry-level Midrange System Administration Guide.*

1.9 Powering Off the System

1. **Notify users that the system is going down.**

2. **Back up the system files and data to tape, if necessary.**

3. **Halt the Solaris™ operating system.**

   Refer to the *Sun Fire Entry-level Midrange System Administration Guide*.

4. **Wait for the system-halted message and the boot monitor prompt.**

5. **Turn off each external drive and expansion cabinet (as applicable).**

6. **Turn the power switch to the Standby position.**

Caution – The On/Standby power switch does not isolate the equipment. Turning off the power switch on the customer-supplied circuit breakers is required to isolate the equipment.

1.10 Installing Additional Hardware

Do not install additional hardware until the initial factory configuration has been completely installed, the system has been powered on, and POST has been completed successfully. This makes it easier to diagnose conflicts that might be caused by additional installations.

Caution – To avoid damaging boards when installing CPU/Memory boards, refer to the Sun Fire V1280/Netra 1280 *Systems Service Manual* for instructions.

Caution – During initial installation, turn off the power at the circuit breakers before removing or replacing system hardware. Refer to the installation guide of the additional hardware for any additional instructions.

For optimum performance, use only I/O cards and associated drivers that are qualified by Sun Microsystems for use on the Sun Fire V1280/Netra 1280 systems. It is possible for interactions to occur between cards and drivers on a specific bus that might lead to potential system panics or other negative outcomes if the card/driver

solution is not qualified by Sun Microsystems.

For an updated listing of qualified I/O cards and configurations for the system, contact your Sun authorized sales representative or your service provider. For additional information refer to:

```
http://www.sun.com/io
```

1.11   Installing Additional Peripheral Devices

When you add additional storage devices, refer to the *Rackmount Placement Matrix*, at `http://docs.sun.com,` for the mounting hole numbers of the mounting screws for Sun Microsystems disk arrays, other storage trays, and devices.

Unless otherwise specified in the *Rackmount Placement Matrix*, mount the heaviest subassemblies at the lowest available opening to minimize the effects of a top-heavy system in the event of an earthquake.

Refer to the installation guide for the peripheral device for additional instructions.

External Connections

This appendix describes the cables and connectors that should be available in order for the installation to be completed. Sun Fire V1280/Netra 1280 systems have the following slots, connectors, and ports on the rear of the system:

- Six I/O slots
- SCSI connector
- Alarms port
- LOM Serial ports (serial system controller ports, one reserved)
- 10/100 LOM Ethernet port (system controller Ethernet port)
- Net0/Net1 Ethernet port (Two-gigabit Ethernet RJ-45 ports)
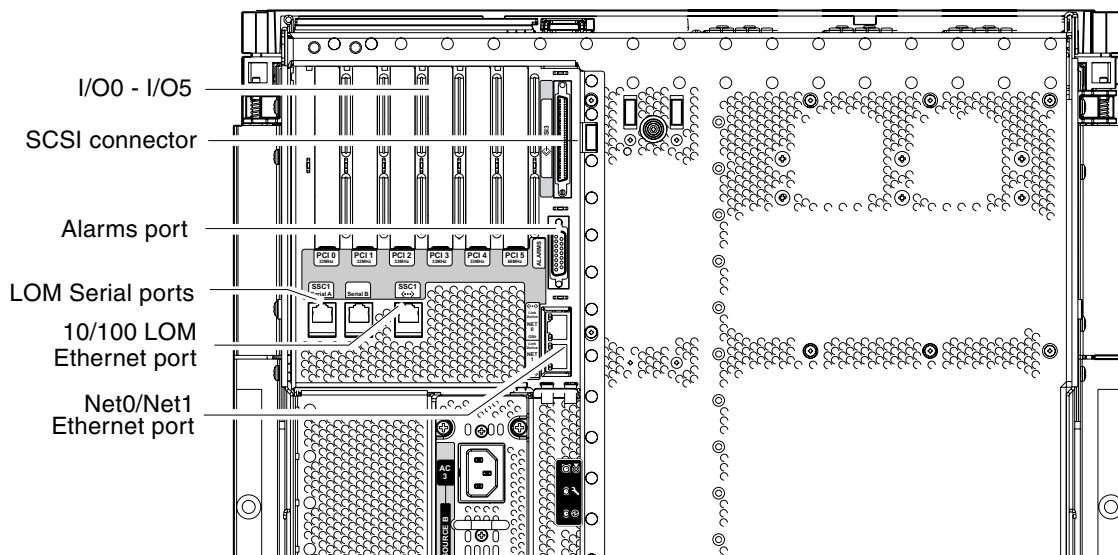
FIGURE A-1   External I/O Connections—Sun Fire V1280/Netra 1280 Systems (Rear View)

A.1 I/O Slots

There are currently two versions of IB_SSC assemblies, PCI and PCI+. Consult your Sun representative for cards supported by your version of the IB_SSC assembly.

Note – Mixing PCI, PCI+ and PCI-X cards within an IB6 leaf (two slots) is not recommended since leaf slots run at the lowest speed and the lowest mode for a given set of cards within a leaf. For example, if a 66 MHz PCI card is in slot 0 and a 100 MHz PCI-X card is in slot 1, then both leaf slots will run at the lower 66 MHz PCI speed. IB6 leafs are comprised of paired slots 0 and 1, 2 and 3, and 4 and 5.

A.1.1 PCI IB_SSC Assemblies

PCI IB_SSC assemblies provide six I/O slots labeled 0 through 5. When viewing the rear of the system, slot 0 is on the left and slot 5 is on the right. Slot 0 supports 66 MHz, slots 1-5 support 33 MHz with 5V signaling. The I/O slots are *not* hot swappable. All slots are half length.

A.1.2 PCI+ IB_SSC Assemblies

PCI+ IB_SSC assemblies provide six I/O slots labeled 0 through 5. When viewing the rear of the system, slot 0 is on the left and slot 5 is on the right. All six slots support 33/66 MHz. The I/O slots are *not* hot swappable, all slots are half length and 5V signaling is not supported.

A.1.3 PCI-X IB_SSC Assemblies

PCI- X IB_SSC assemblies provide six I/O slots labeled 0 through 5. When viewing the rear of the system, slot 0 is on the left and slot 5 is on the right. All six slots support 33/66/100 MHz. The I/O slots are *not* hot swappable, all slots are half length with 3.3V signaling.

A.2 SCSI Connector

The SCSI Connector is a 68-pin SCSI connector (FIGURE A-2). TABLE A-1 lists the pinout information.

SCSI3
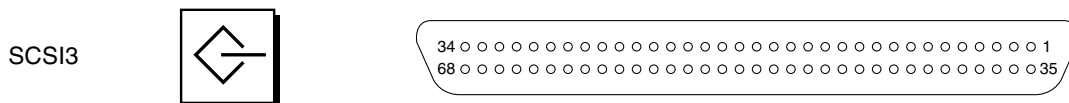
FIGURE A-2 68-Pin SCSI Connector

TABLE A-1 68-Pin SCSI Connector Pinout

Pin No.	Signal Name	Type	Pin No.	Signal Name	Type	Pin No.	Signal Name	Type
1	+DB(12)	I/O	24	+ACK	I/O	47	–DB(7)	I/O
2	+DB(13)	I/O	25	+RST	I/O	48	-DB(P0)	I/O
3	+DB(14)	I/O	26	+MSG	I/O	49	Ground	GND
4	+DB(15)	I/O	27	+SEL	I/O	50	Ground	GND
5	+DB(P1)	I/O	28	+C/D	I/O	51	Termpwr	POWER
6	+DB(0)	I/O	29	+REQ	I/O	52	Termpwr	POWER
7	+DB(1)	I/O	30	+I/O	I/O	53	Reserved	NA
8	+DB(2)	I/O	31	+DB(8)	I/O	54	Ground	GND
9	+DB(3)	I/O	32	+DB(9)	I/O	55	–ATN	I/O
10	+DB(4)	I/O	33	+DB(10)	I/O	56	Ground	GND
11	+DB(5)	I/O	34	+DB(11)	I/O	57	–BSY	I/O
12	+DB(6)	I/O	35	–DB(12)	I/O	58	–ACK	I/O
13	+DB(7)	I/O	36	–DB(13)	I/O	59	–RST	I/O
14	+DB(P0)	I/O	37	–DB(14)	I/O	60	–MSG	I/O
15	Ground	GND	38	–DB(15)	I/O	61	–SEL	I/O
16	Diffsens	ANAL	39	–DB(P1)	I/O	62	–C/D	I/O
17	Termpwr	POWER	40	–DB(0)	I/O	63	–REQ	I/O

Pin No.	Signal Name	Type	Pin No.	Signal Name	Type	Pin No.	Signal Name	Type
18	Termpwr	POWER	41	–DB(1)	I/O	64	–I/O	I/O
19	Reserved	NA	42	–DB(2)	I/O	65	–DB(8)	I/O
20	Ground	GND	43	–DB(3)	I/O	66	–DB(9)	I/O
21	+ATN	I/O	44	–DB(4)	I/O	67	–DB(10)	I/O
22	Ground	GND	45	–DB(5)	I/O	68	–DB(11)	I/O
23	+BSY	I/O	46	–DB(6)	I/O			

A.2.1   SCSI Implementation

For PCI IB_SSC assemblies the embedded SCSI subsystem is:

- SCSI Fast-160 (UltraSCSI) low-voltage differential parallel interface
  - 16-bit SCSI bus
  - 160-MBps data transfer rate

Maximum cable length (terminator to terminator) support is 82 ft. (25 meter) for low-voltage differential, point-to-point interconnect.

For PCI+ and PCI-X IB_SSC assemblies the embedded SCSI subsystem is:

- SCSI Ultra-320 (UltraSCSI) low-voltage differential parallel interface
  - 16-bit SCSI bus
  - 320-MBps data transfer rate

Maximum cable length support is 33 ft. (10 meters).

A.3 Alarms Port

The alarms service port is a male DB-15 (FIGURE A-3). TABLE A-3 lists the pinout information.
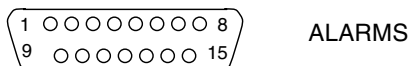
FIGURE A-3   DB-15 (Male) Alarms Service Port Connector

TABLE A-3   Alarms Service Port Connector Pinout

Pin	Signal Name	Description	State
1	Not connected		
2	Not connected		
3	Not connected		
4	Not connected		
5	SYSTEM_NO	UNIX Running	Normally open
6	SYSTEM_NC	UNIX Running	Normally closed
7	SYSTEM_COM	UNIX Running	Common
8	ALARM1_NO	Alarm1	Normally open
9	ALARM1_NC	Alarm1	Normally closed
10	ALARM1_COM	Alarm1	Common
11	ALARM2_NO	Alarm2	Normally open
12	ALARM2_NC	Alarm2	Normally closed
13	ALARM2_COM	Alarm2	Common
14	Not connected		
15	Not connected		

A.4 LOM Serial Ports

LOM Serial ports A and B use RJ-45 connectors (FIGURE A-4). These ports are also known as the system controller serial ports. TABLE A-4 lists the pinout information.
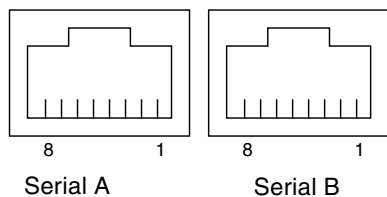
FIGURE A-4   RJ-45 Serial Connectors

TABLE A-4   RJ-45 Serial Connector Pinout

Pin	Signal
1	RTS
2	DTR
3	TXD
4	Signal Ground
5	Signal Ground
6	RXD
7	DSR
8	CTS

Note – Serial port B is reserved.

TABLE A-5 lists the settings needed to use the serial connection. The configuration of this port cannot be changed. Be sure to check the manufacturer's documentation for your specific terminal server. Communication on Serial A is subject to interruption by the LOM device. Refer to the *Sun Fire Entry-level Midrange System Administration Guide*.

TABLE A-5   Default Settings for Connecting to Serial A

Parameter	Setting
Connector	Serial A
Rate	9600 baud
Parity	No
Stop bits	1
Data bits	8

A.4.1   Using a DB-25 Adapter for Your Serial Link

To connect from a VT100 terminal, use either the DB-25 (25-Pin DSUB male to 8-POS RJ-45 female) adapter supplied with your system (part number 530-2889) or an alternative adapter that performs the same pin interconnections. The Sun-supplied DB-25 adapter enables you to connect to any Sun system. TABLE A-6 lists the pin interconnections the DB-25 adapter performs.

TABLE A-6   Pin Interconnections Performed by the Sun DB-25 Adapter

Serial Port (RJ-45 Connector) Pin	25-Pin Connector Pins
Pin 1 (RTS)	Pin 5 (CTS)
Pin 2 (DTR)	Pin 6 (DSR)
Pin 3 (TXD)	Pin 3 (RXD)
Pin 4 (Signal Ground)	Pin 7 (Signal Ground)
Pin 5 (Signal Ground)	Pin 7 (Signal Ground)
Pin 6 (RXD)	Pin 2 (TXD)
Pin 7 (DSR)	Pin 20 (DTR)
Pin 8 (CTS)	Pin 4 (RTS)

A.4.2　Using a DB-9 Adapter for Your Serial Link

Connect serial A to a DB-9 (9-pin) adapter to connect to a terminal that has a 9-pin serial connector. TABLE A-7 lists the pin interconnections.

TABLE A-7　Pin Interconnections Performed by a DB-9 (9-pin) Adapter

Serial Port (RJ-45 Connector) Pin	9-Pin Connector
Pin 1 (RTS)	Pin 8 (CTS)
Pin 2 (DTR)	Pin 6 (DSR)
Pin 3 (TXD)	Pin 2 (RXD)
Pin 4 (Signal Ground)	Pin5 (Signal Ground)
Pin 5 (Signal Ground)	Pin 5 (Signal Ground)
Pin 6 (RXD)	Pin 3 (TXD)
Pin 7 (DSR)	Pin 4 (DTR)
Pin 8 (CTS)	Pin 7 (RTS)

A.4.2.1　Connecting to a Male 9-Pin D-Type Serial Port

1. **Connect one end of the RJ-45 patch cable to Serial A and the other end to the DB-25 adapter (supplied with the system).**

2. **Connect the DB-25 adapter to an adapter that has one 25-way female connector and one 9-way D-type female connector.**

   Sun does not supply a 25x9-way D-type female-to-female adapter.

3. **Connect the male end of a 9-pin serial cable to the 25x9-way D-type female-to-female adapter and the other end to the 9-pin serial port on the administrative console.**

A.5 10/100 LOM Ethernet Port

The 10/100 LOM Ethernet port is an RJ-45 twisted-pair Ethernet (TPE) connector (FIGURE A-5). This port is also known as the system controller Ethernet port. TABLE A-8 lists the pinout information.
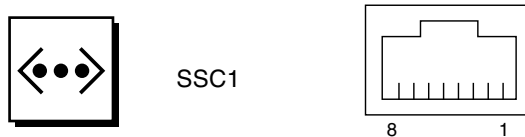

SSC1

FIGURE A-5   RJ-45 TPE Socket

TABLE A-8   Twisted-pair Ethernet Connector Pinout

Pin	Description	Pin	Description
1	TXD+	5	Common mode termination
2	TXD–	6	RXD–
3	RXD+	7	Common mode termination
4	Common mode termination	8	Common mode termination

A.5.1 Twisted-Pair Ethernet Cable-Type Connectivity

The following types of TPE cables can be connected to the 8-pin TPE connector:

- For 10BASE-T applications, shielded twisted-pair (STP) cable:
  - Category 3 (STP-3, *voice* grade)
  - Category 4 (STP-4)
  - Category 5 (STP-5, *data* grade)
- For 100BASE-T applications, shielded twisted-pair category 5 (STP-5, *data* grade) cable.

TABLE A-9   TPE STP-5 Cable Lengths

Cable Type	Application(s)	Maximum Length (Metric)	Maximum Length (Imperial)
Shielded twisted pair category 5 (STP-5, *data* grade)	10BASE-T	1000 m	3282 ft
Shielded twisted pair category 5 (STP-5, *data* grade)	100BASE-T	100 m	327 ft

A.6 Net0/Net1 Ethernet Ports

The Net0/Net1 Ethernet ports are shielded RJ-45 connectors (FIGURE A-6). The Net0/Net1 Ethernet ports are also known as the gigabit Ethernet RJ-45 ports. TABLE A-10 lists the pinout information.

NET 0

1

8

NET 1

1

8
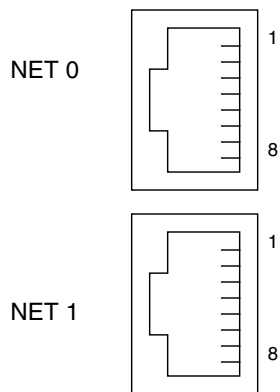
FIGURE A-6 RJ-45 Gigabit Ethernet Connectors

TABLE A-10 RJ-45 Gigabit Ethernet Connector Pinout

Pin	Signal Name	Pin	Signal Name
1	TRD0_H	5	TRD2_L
2	TRD0_L	6	TRD1_L
3	TRD1_H	7	TRD3_H
4	TRD2_H	8	TRD3_L