Enterasys S-Series®

PoE Subsystem

Upgrade Installation Guide

S8-POE-8BAY-UGK

S8-POE-4BAY-UGK

S4-POE-4BAY-UGK

S3-POE-4BAY-UGK

P/N 9034457-03

enterasys®

Electrical Hazard: Only qualified personnel should perform installation procedures.

Riesgo Electrico: Solamente personal calificado debe realizar procedimientos de instalacion.

Elektrischer Gefahrenhinweis: Installationen sollten nur durch ausgebildetes und qualifiziertes Personal vorgenommen werden.

Notice

Enterasys Networks reserves the right to make changes in specifications and other information contained in this document and its web site without prior notice. The reader should in all cases consult Enterasys Networks to determine whether any such changes have been made.

The hardware, firmware, or software described in this document is subject to change without notice.

IN NO EVENT SHALL ENTERASYS NETWORKS BE LIABLE FOR ANY INCIDENTAL, INDIRECT, SPECIAL, OR CONSEQUENTIAL DAMAGES WHATSOEVER (INCLUDING BUT NOT LIMITED TO LOST PROFITS) ARISING OUT OF OR RELATED TO THIS DOCUMENT, WEB SITE, OR THE INFORMATION CONTAINED IN THEM, EVEN IF ENTERASYS NETWORKS HAS BEEN ADVISED OF, KNEW OF, OR SHOULD HAVE KNOWN OF, THE POSSIBILITY OF SUCH DAMAGES.

Enterasys Networks, Inc.
50 Minuteman Road
Andover, MA 01810

Part Number: 9034457-03 June 2010

Documentation URL: http://www.enterasys.com/support/manuals

Documentacion URL: http://www.enterasys.com/support/manuals

Dokumentation im Internet: http://www.enterasys.com/support/manuals

Regulatory Compliance Information

Federal Communications Commission (FCC) 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, and (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 uses, generates, and can radiate radio frequency energy and if not installed in accordance with the operator's manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause interference in which case the user will be required to correct the interference at his own expense.

WARNING: Changes or modifications made to this device which are not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Industry Canada Notice

This digital apparatus does not exceed the class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la class A prescrites dans le Règlement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.

Class A ITE Notice

WARNING: This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Clase A. Aviso de ITE

ADVERTENCIA: Este es un producto de Clase A. En un ambiente doméstico este producto puede causar interferencia de radio en cuyo caso puede ser requerido tomar medidas adecuadas.

Klasse A ITE Anmerkung

WARNHINWEIS: Dieses Produkt zählt zur Klasse A (Industriebereich). In Wohnbereichen kann es hierdurch zu Funkstörungen kommen, daher sollten angemessene Vorkehrungen zum Schutz getroffen werden.

VCCI Notice

This is a class A product based on the standard of the Voluntary Control Council for Interference by Information Technology Equipment (VCCI). If this equipment is used in a domestic environment, radio disturbance may arise. When such trouble occurs, the user may be required to take corrective actions.

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。

BSMI EMC Statement — Taiwan

This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

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，在這種請況下，使用者會被要求採取某些適當的對策。

AS/NZS CISPR 22

Hazardous Substances

This product complies with the requirements of European Directive, 2002/95/EC, Restriction of Hazardous Substances (RoHS) in Electrical and Electronic Equipment.

European Waste Electrical and Electronic Equipment (WEEE) Notice

In accordance with Directive 2002/96/EC of the European Parliament on waste electrical and electronic equipment (WEEE):

1. The symbol above indicates that separate collection of electrical and electronic equipment is required and that this product was placed on the European market after August 13, 2005, the date of enforcement for Directive 2002/96/EC.
2. When this product has reached the end of its serviceable life, it cannot be disposed of as unsorted municipal waste. It must be collected and treated separately.
3. It has been determined by the European Parliament that there are potential negative effects on the environment and human health as a result of the presence of hazardous substances in electrical and electronic equipment.
4. It is the users' responsibility to utilize the available collection system to ensure WEEE is properly treated.

   For information about the available collection system, please go to www.enterasys.com/services/support/ or contact Enterasys Customer Support at 353 61 705586 (Ireland).

Battery Notice

This product contains a battery used to maintain product information. If the battery should need replacement it must be replaced by Service Personnel. Please contact Technical Support for assistance.

Caution: There is an explosion risk if you replace the battery with the incorrect type. Dispose of expended battery in accordance with local disposal regulations.

Precaución: Hay riesgo de explosion si la bateria se reemplaza con el typo incorrecto. Deshágase de las baterías gastadas de conformidad con las regulaciones de eliminación local.

产品说明书附件
Supplement to Product Instructions

部件名称 (Parts)	有毒有害物质或元素 (Hazardous Substance)					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr^{6+})	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
金属部件 (Metal Parts)	×	○	○	×	○	○
电路模块 (Circuit Modules)	×	○	○	×	○	○
电缆及电缆组件 (Cables & Cable Assemblies)	×	○	○	×	○	○
塑料和聚合物部件 (Plastic and Polymeric parts)	○	○	○	○	○	×
电路开关 (Circuit Breakers)	○	○	×	×	○	○

○： 表示该有毒有害物质在该部件所有均质材料中的含量均在 SJ/T 11363-2006 标准规定的限量要求以下。
Indicates that the concentration of the hazardous substance in all homogeneous materials in the parts is below the relevant threshold of the SJ/T 11363-2006 standard.

×： 表示该有毒有害物质至少在该部件的某一均质材料中的含量超出SJ/T 11363-2006 标准规定的限量要求。
Indicates that the concentration of the hazardous substance of at least one of all homogeneous materials in the parts is above the relevant threshold of the SJ/T 11363-2006 standard.

对销售之日的所售产品, 本表显示,
凯创供应链的电子信息产品可能包含这些物质。注意:在所售产品中可能会也可能不会含有所有所列的部件。
This table shows where these substances may be found in the supply chain of Enterasys' electronic information products, as of the date of sale of the enclosed product. Note that some of the component types listed above may or may not be a part of the enclosed product.

除非另外特别的标注, 此标志为针对所涉及产品的环保使用期标志. 某些零部件会有一个不同的环保使用期(例如, 电池单元模块)贴在其产品上.
此环保使用期限只适用于产品是在产品手册中所规定的条件下工作.
The Environmentally Friendly Use Period (EFUP) for all enclosed products and their parts are per the symbol shown here, unless otherwise marked. Certain parts may have a different EFUP (for example, battery modules) and so are marked to reflect such. The Environmentally Friendly Use Period is valid only when the product is operated under the conditions defined in the product manual.

Safety Information
Class 1 Laser Transceivers

The single mode interface modules use Class 1 laser transceivers.
Read the following safety information before installing or operating these modules.

The Class 1 laser transceivers use an optical feedback loop to maintain Class 1 operation limits. This control loop eliminates the need for maintenance checks or adjustments. The output is factory set, and does not allow any user adjustment. Class 1 Laser transceivers comply with the following safety standards:

- 21 CFR 1040.10 and 1040.11 U.S. Department of Health and Human Services (FDA).
- IEC Publication 825 (International Electrotechnical Commission).
- CENELEC EN 60825 (European Committee for Electrotechnical Standardization).

When operating within their performance limitations, laser transceiver output meets the Class 1 accessible emission limit of all three standards. Class 1 levels of laser radiation are not considered hazardous.

When the connector is in place, all laser radiation remains within the fiber. The maximum amount of radiant power exiting the fiber (under normal conditions) is -12.6 dBm or 55 x 10^{-6} watts.

Removing the optical connector from the transceiver allows laser radiation to emit directly from the optical port. The maximum radiance from the optical port (under worst case conditions) is 0.8 W cm^{-2} or 8 x 10^{3} W m^{2} sr-1.

Do not use optical instruments to view the laser output. The use of optical instruments to view laser output increases eye hazard. When viewing the output optical port, power must be removed from the network adapter.

Safety Compliance

Warning: Fiber Optic Port Safety

When using a fiber optic media expansion module, never look at the transmit laser while it is powered on. Also, never look directly at the fiber TX port and fiber cable ends when they are powered on.

Avertissment: Ports pour fibres optiques - sécurité sur le plan optique

Ne regardez jamais le laser tant qu'il est sous tension. Ne regardez jamais directement le port TX (Tramsmission) à fibres optiques et les embouts de câbles à fibres optiques tant qu'ils sont sous tension.

Warnhinweis: Faseroptikanschlüsse - Optische Sicherheit

Niemals ein Übertragungslaser betrachten, während dieses eingeschaltet ist. Niemals direkt auf den Faser-TX-Anschluß und auf die Faserkabelenden schauen, während diese eingeschaltet sind.

Declaration of Conformity

Application of Council Directive(s):	**2004/108/EC** **2006/95/EC**
Manufacturer's Name:	**Enterasys Networks, Inc.**
Manufacturer's Address:	**50 Minuteman Road** **Andover, MA 01810** **USA**
European Representative Name:	**Enterasys Networks, Ltd.**
European Representative Address:	**Nexus House, Newbury Business Park** **London Road, Newbury** **Berkshire RG14 2PZ, England**
Conformance to Directive(s)/Product Standards:	**EC Directive 2004/108/EC** **EN 55022:2006** **EN 55024:1998** **EN 61000-3-2:2006** **EN 61000-3-3:1995** **EC Directive 2006/95/EC** **EN 60950-1:2006** **EN 60825-1:2007** **EN 60825-2:2004**
Equipment Type/Environment:	**Information Technology Equipment, for use in a Commercial or Light Industrial Environment.**

Enterasys Networks, Inc. declares that the equipment packaged with this notice conforms to the above directives.

Enterasys Networks, Inc. Firmware License Agreement

BEFORE OPENING OR UTILIZING THE ENCLOSED PRODUCT, CAREFULLY READ THIS LICENSE AGREEMENT.

This document is an agreement ("Agreement") between the end user ("You") and Enterasys Networks, Inc., on behalf of itself and its Affiliates (as hereinafter defined) ("Enterasys") that sets forth Your rights and obligations with respect to the Enterasys software program/firmware (including any accompanying documentation, hardware or media) ("Program") in the package and prevails over any additional, conflicting or inconsistent terms and conditions appearing on any purchase order or other document submitted by You. "Affiliate" means any person, partnership, corporation, limited liability company, other form of enterprise that directly or indirectly through one or more intermediaries, controls, or is controlled by, or is under common control with the party specified. This Agreement constitutes the entire understanding between the parties, with respect to the subject matter of this Agreement. The Program may be contained in firmware, chips or other media.

BY INSTALLING OR OTHERWISE USING THE PROGRAM, YOU REPRESENT THAT YOU ARE AUTHORIZED TO ACCEPT THESE TERMS ON BEHALF OF THE END USER (IF THE END USER IS AN ENTITY ON WHOSE BEHALF YOU ARE AUTHORIZED TO ACT, "YOU" AND "YOUR" SHALL BE DEEMED TO REFER TO SUCH ENTITY) AND THAT YOU AGREE THAT YOU ARE BOUND BY THE TERMS OF THIS AGREEMENT, WHICH INCLUDES, AMONG OTHER PROVISIONS, THE LICENSE, THE DISCLAIMER OF WARRANTY AND THE LIMITATION OF LIABILITY. IF YOU DO NOT AGREE TO THE TERMS OF THIS AGREEMENT OR ARE NOT AUTHORIZED TO ENTER INTO THIS AGREEMENT, ENTERASYS IS UNWILLING TO LICENSE THE PROGRAM TO YOU AND YOU AGREE TO RETURN THE UNOPENED PRODUCT TO ENTERASYS OR YOUR DEALER, IF ANY, WITHIN TEN (10) DAYS FOLLOWING THE DATE OF RECEIPT FOR A FULL REFUND.

IF YOU HAVE ANY QUESTIONS ABOUT THIS AGREEMENT, CONTACT ENTERASYS NETWORKS, LEGAL DEPARTMENT AT (978) 684-1000.

You and Enterasys agree as follows:

1. **LICENSE.** You have the non-exclusive and non-transferable right to use only the one (1) copy of the Program provided in this package subject to the terms and conditions of this Agreement.

2. **RESTRICTIONS.** Except as otherwise authorized in writing by Enterasys, You may not, nor may You permit any third party to:

   (a) Reverse engineer, decompile, disassemble or modify the Program, in whole or in part, including for reasons of error correction or interoperability, except to the extent expressly permitted by applicable law and to the extent the parties shall not be permitted by that applicable law, such rights are expressly excluded. Information necessary to achieve interoperability or correct errors is available from Enterasys upon request and upon payment of Enterasys' applicable fee.

   (b) Incorporate the Program in whole or in part, in any other product or create derivative works based on the Program, in whole or in part.

   (c) Publish, disclose, copy reproduce or transmit the Program, in whole or in part.

   (d) Assign, sell, license, sublicense, rent, lease, encumber by way of security interest, pledge or otherwise transfer the Program, in whole or in part.

   (e) Remove any copyright, trademark, proprietary rights, disclaimer or warning notice included on or embedded in any part of the Program.

3. **APPLICABLE LAW.** This Agreement shall be interpreted and governed under the laws and in the state and federal courts of the Commonwealth of Massachusetts without regard to its conflicts of laws provisions. You accept the personal jurisdiction and venue of the Commonwealth of Massachusetts courts. None of the 1980 United Nations Convention on the Limitation Period in the International Sale of Goods, and the Uniform Computer Information Transactions Act shall apply to this Agreement.

4. **EXPORT RESTRICTIONS.** You understand that Enterasys and its Affiliates are subject to regulation by agencies of the U.S. Government, including the U.S. Department of Commerce, which prohibit export or diversion of certain technical products to certain countries, unless a license to export the product is obtained from the U.S. Government or an exception from obtaining such license may be relied upon by the exporting party.

If the Program is exported from the United States pursuant to the License Exception CIV under the U.S. Export Administration Regulations, You agree that You are a civil end user of the Program and agree that You will use the Program for civil end uses only and not for military purposes.

If the Program is exported from the United States pursuant to the License Exception TSR under the U.S. Export Administration Regulations, in addition to the restriction on transfer set forth in Section 1 or 2 of this Agreement, You agree not to (i) reexport or release the Program, the source code for the Program or technology to a national of a country in Country Groups D:1 or E:2 (Albania, Armenia, Azerbaijan, Belarus, Cambodia, Cuba, Georgia, Iraq, Kazakhstan, Laos, Libya, Macau, Moldova, Mongolia, North Korea, the People's Republic of China, Russia, Tajikistan, Turkmenistan, Ukraine, Uzbekistan,

Vietnam, or such other countries as may be designated by the United States Government), (ii) export to Country Groups D:1 or E:2 (as defined herein) the direct product of the Program or the technology, if such foreign produced direct product is subject to national security controls as identified on the U.S. Commerce Control List, or (iii) if the direct product of the technology is a complete plant or any major component of a plant, export to Country Groups D:1 or E:2 the direct product of the plant or a major component thereof, if such foreign produced direct product is subject to national security controls as identified on the U.S. Commerce Control List or is subject to State Department controls under the U.S. Munitions List.

5. **UNITED STATES GOVERNMENT RESTRICTED RIGHTS.** The enclosed Program (i) was developed solely at private expense; (ii) contains "restricted computer software" submitted with restricted rights in accordance with section 52.227-19 (a) through (d) of the Commercial Computer Software-Restricted Rights Clause and its successors, and (iii) in all respects is proprietary data belonging to Enterasys and/or its suppliers. For Department of Defense units, the Program is considered commercial computer software in accordance with DFARS section 227.7202-3 and its successors, and use, duplication, or disclosure by the U.S. Government is subject to restrictions set forth herein.

6. **DISCLAIMER OF WARRANTY.** EXCEPT FOR THOSE WARRANTIES EXPRESSLY PROVIDED TO YOU IN WRITING BY ENTERASYS, ENTERASYS DISCLAIMS ALL WARRANTIES, EITHER EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO IMPLIED WARRANTIES OF MERCHANTABILITY, SATISFACTORY QUALITY, FITNESS FOR A PARTICULAR PURPOSE, TITLE AND NON-INFRINGEMENT WITH RESPECT TO THE PROGRAM. IF IMPLIED WARRANTIES MAY NOT BE DISCLAIMED BY APPLICABLE LAW, THEN ANY IMPLIED WARRANTIES ARE LIMITED IN DURATION TO THIRTY (30) DAYS AFTER DELIVERY OF THE PROGRAM TO YOU.

7. **LIMITATION OF LIABILITY.** IN NO EVENT SHALL ENTERASYS OR ITS SUPPLIERS BE LIABLE FOR ANY DAMAGES WHATSOEVER (INCLUDING, WITHOUT LIMITATION, DAMAGES FOR LOSS OF BUSINESS, PROFITS, BUSINESS INTERRUPTION, LOSS OF BUSINESS INFORMATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR RELIANCE DAMAGES, OR OTHER LOSS) ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM, EVEN IF ENTERASYS HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. THIS FOREGOING LIMITATION SHALL APPLY REGARDLESS OF THE CAUSE OF ACTION UNDER WHICH DAMAGES ARE SOUGHT.

THE CUMULATIVE LIABILITY OF ENTERASYS TO YOU FOR ALL CLAIMS RELATING TO THE PROGRAM, IN CONTRACT, TORT OR OTHERWISE, SHALL NOT EXCEED THE TOTAL AMOUNT OF FEES PAID TO ENTERASYS BY YOU FOR THE RIGHTS GRANTED HEREIN.

8. **AUDIT RIGHTS.** You hereby acknowledge that the intellectual property rights associated with the Program are of critical value to Enterasys, and, accordingly, You hereby agree to maintain complete books, records and accounts showing (i) license fees due and paid, and (ii) the use, copying and deployment of the Program. You also grant to Enterasys and its authorized representatives, upon reasonable notice, the right to audit and examine during Your normal business hours, Your books, records, accounts and hardware devices upon which the Program may be deployed to verify compliance with this Agreement, including the verification of the license fees due and paid Enterasys and the use, copying and deployment of the Program. Enterasys' right of examination shall be exercised reasonably, in good faith and in a manner calculated to not unreasonably interfere with Your business. In the event such audit discovers non-compliance with this Agreement, including copies of the Program made, used or deployed in breach of this Agreement, You shall promptly pay to Enterasys the appropriate license fees. Enterasys reserves the right, to be exercised in its sole discretion and without prior notice, to terminate this license, effective immediately, for failure to comply with this Agreement. Upon any such termination, You shall immediately cease all use of the Program and shall return to Enterasys the Program and all copies of the Program.

9. **OWNERSHIP.** This is a license agreement and not an agreement for sale. You acknowledge and agree that the Program constitutes trade secrets and/or copyrighted material of Enterasys and/or its suppliers. You agree to implement reasonable security measures to protect such trade secrets and copyrighted material. All right, title and interest in and to the Program shall remain with Enterasys and/or its suppliers. All rights not specifically granted to You shall be reserved to Enterasys.

10. **ENFORCEMENT.** You acknowledge and agree that any breach of Sections 2, 4, or 9 of this Agreement by You may cause Enterasys irreparable damage for which recovery of money damages would be inadequate, and that Enterasys may be entitled to seek timely injunctive relief to protect Enterasys' rights under this Agreement in addition to any and all remedies available at law.

11. **ASSIGNMENT.** You may not assign, transfer or sublicense this Agreement or any of Your rights or obligations under this Agreement, except that You may assign this Agreement to any person or entity which acquires substantially all of Your stock assets. Enterasys may assign this Agreement in its sole discretion. This Agreement shall be binding upon and inure to the benefit of the parties, their legal representatives, permitted transferees, successors and assigns as permitted by this Agreement. Any attempted assignment, transfer or sublicense in violation of the terms of this Agreement shall be void and a breach of this Agreement.

12. **WAIVER.** A waiver by Enterasys of a breach of any of the terms and conditions of this Agreement must be in writing and will not be construed as a waiver of any subsequent breach of such term or condition. Enterasys' failure to enforce a term upon Your breach of such term shall not be construed as a waiver of Your breach or prevent enforcement on any other occasion.

13. **SEVERABILITY.** In the event any provision of this Agreement is found to be invalid, illegal or unenforceable, the validity, legality and enforceability of any of the remaining provisions shall not in any way be affected or impaired thereby, and that provision shall be reformed, construed and enforced to the maximum extent permissible. Any such invalidity, illegality, or unenforceability in any jurisdiction shall not invalidate or render illegal or unenforceable such provision in any other jurisdiction.

14. **TERMINATION.** Enterasys may terminate this Agreement immediately upon Your breach of any of the terms and conditions of this Agreement. Upon any such termination, You shall immediately cease all use of the Program and shall return to Enterasys the Program and all copies of the Program.

Contents

Tables

About This Guide

This guide explains how to upgrade an Enterasys S-Series® S8, S4, or S3 chassis with a four-bay or eight-bay Power over Ethernet (PoE) subsystem. This guide also provides information on how to contact Enterasys Networks for additional help.

Who Should Use This Guide

This guide is intended for the qualified electrician responsible for installing the S-Series PoE upgrade kit.

Electrical Hazard: Only qualified personnel should install or service this unit.

Riesgo Electrico: Nada mas personal capacitado debe de instalar o darle servicio a esta unida.

Elektrischer Gefahrenhinweis: Installationen oder Servicearbeiten sollten nur durch ausgebildetes und qualifiziertes Personal vorgenommen werden.

How to Use This Guide

Read through this guide completely before attempting to upgrade an S-Series chassis with a PoE subsystem.

To locate information about various subjects in this guide, refer to the following table.

For...	Refer to...
An overview of the PoE upgrade and installation and operation precautions.	Chapter 1, **Introduction**
Instructions for installing the PoE upgrade kit.	Chapter 2, **Installing the PoE Upgrade Kit**
Installing PoE power supplies.	Chapter 3, **Installing the PoE Power Supplies**
Specifications, environmental requirements, and physical properties of the PoE subsystems.	Appendix A, **Specifications and Regulatory Compliance**

Related Documents

S-Series manuals can be obtained from the World Wide Web in Adobe Acrobat Portable Document Format (PDF) at the following site:

http://www.enterasys.com/support/manuals

Typographical Conventions

The following typographical conventions and icons are used in this document.

blue type	Indicates a hypertext link. When reading this document online, click the text in blue to go to the referenced figure, table, or section.
	**Note:** Calls the reader's attention to any item of information that may be of special importance.
	**Caution:** Contains information essential to avoid damage to the equipment. **Precaución:** Contiene información esencial para prevenir dañar el equipo. **Achtung:** Verweißt auf wichtige Informationen zum Schutz gegen Beschädigungen.
	**Warning:** Warns against an action that could result in personal injury or death. **Advertencia:** Advierte contra una acción que pudiera resultar en lesión corporal o la muerte. **Warnhinweis:** Warnung vor Handlungen, die zu Verletzung von Personen oder gar Todesfällen führen können!
	**Electrical Hazard:** Warns against an action that could result in personal injury or death. **Riesgo Electrico:** Advierte contra una acción que pudiera resultar en lesión corporal o la muerte debido a un riesgo eléctrico. **Elektrischer Gefahrenhinweis:** Warnung vor sämtlichen Handlungen, die zu Verletzung von Personen oder Todesfällen – hervorgerufen durch elektrische Spannung – führen können!

Getting Help

For additional support related to the S-Series devices or this document, contact Enterasys Networks using one of the following methods:

World Wide Web	www.enterasys.com/services/support/
Phone	1-800-872-8440 (toll-free in U.S. and Canada) or 1-978-684-1888 For the Enterasys Networks Support toll-free number in your country: www.enterasys.com/services/support/contact/
Internet mail	support@enterasys.com To expedite your message, please type **[S-Series]** in the subject line.
To send comments or suggestions concerning this document to the Technical Publications Department: techpubs@enterasys.com To expedite your message, include the document part number in the Email message.	

Before contacting Enterasys Networks for technical support, have the following data ready:

- Your Enterasys Networks service contract number
- A description of the failure
- A description of any action(s) already taken to resolve the problem (for example, changing mode switches or rebooting the unit)
- The serial and revision numbers of all involved Enterasys Networks products in the network
- A description of your network environment (such as layout, cable type, other relevant environmental information)
- Network load and frame size at the time of trouble (if known)
- The device history (for example, if you have returned the device before, or if this is a recurring problem)
- Any previous Return Material Authorization (RMA) numbers

1

Introduction

This chapter describes the following:

PoE Upgrade Overview

Enterasys offers four PoE upgrade kits for the S-Series multi-slot chassis. See Table 1-1.

Table 1-1 S-Series PoE Upgrade Kits

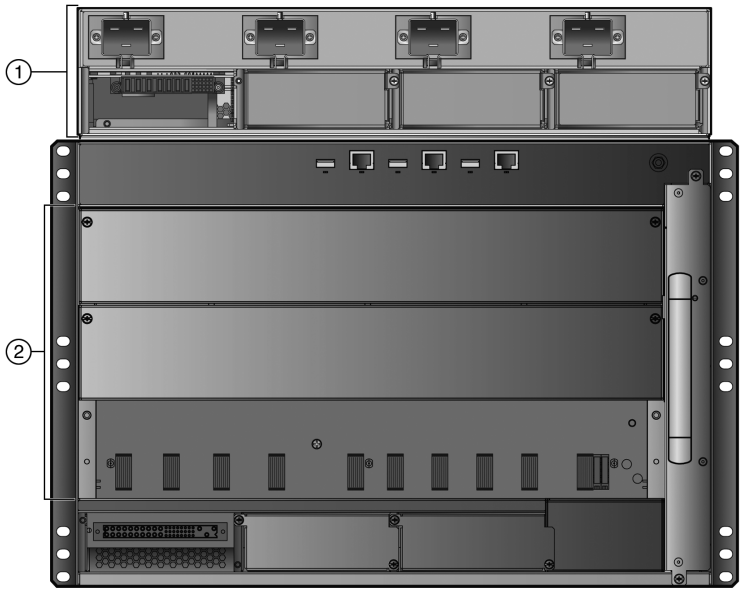
PoE Upgrade Kit	Applicable S-Series Chassis	PoE Subsystem Included in Upgrade Kit	Number of S-POE-PS Power Supplies Supported by PoE Subsystem
S3-POE-4BAY-UGK	S3	S-POE-4BAY-PWR	4
S4-POE-4BAY-UGK	S4	S-POE-4BAY-PWR	4
S8-POE-4BAY-UGK	S8	S-POE-4BAY-PWR	4
S8-POE-8BAY-UGK	S8	S-POE-8BAY-PWR	8

Depending on the S-Series chassis that you want to upgrade to PoE, your PoE upgrade kit will include one of the following PoE subsystem models, which you must install on top of the S-Series chassis:

- S-POE-4BAY-PWR — A four-bay PoE subsystem for up to four S-POE-PS power supplies, which can deliver up to 8,000 watts (240 VAC input) or 4,800 watts (125 VAC input). The S-POE-4BAY-PWR PoE subsystem, which is included in the S8-POE-4BAY-UGK, S4-POE-4BAY-UGK, and S3-POE-4BAY-UGK upgrade kits, can be installed on the S8, S4, or S3 chassis. See Figure 1-1 on page 1-2 for an example of the S-POE-4BAY-PWR PoE subsystem installed on an S3 chassis.
- S-POE-8BAY-PWR — An eight-bay PoE subsystem for up to eight S-POE-PS power supplies, which can deliver up to 16,000 watts (240 VAC input) or 9,600 watts (125 VAC input). The S-POE-8BAY-PWR PoE subsystem, which is included in the S8-POE-8BAY-UGK upgrade kit, can be installed on the S8 chassis only. See Figure 1-2 on page 1-3.

Besides the PoE subsystem, each PoE upgrade kit contains a bus bar, which connects the PoE subsystem to the backplane of the S-Series chassis, and all other hardware necessary for upgrading the S-Series chassis. For a complete list of the hardware included in each upgrade kit, refer to Table 2-1 on page 2-2.

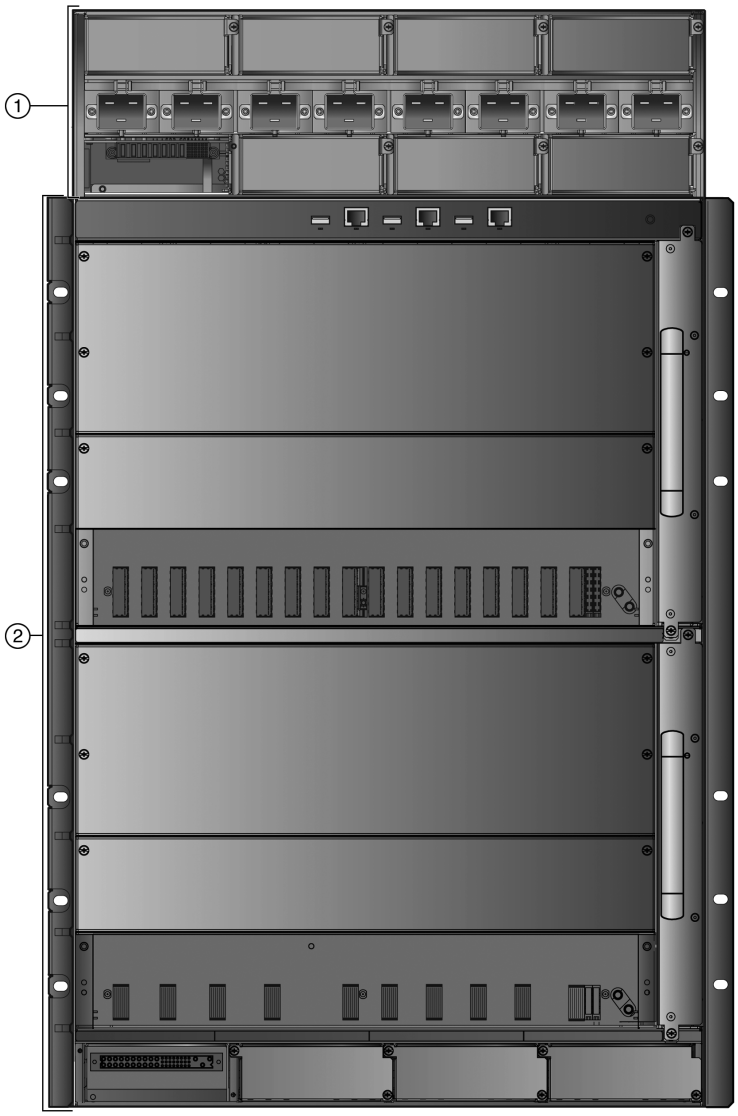
Figure 1-1 S3 Chassis with S-POE-4BAY-PWR PoE Subsystem



1 Four-bay PoE subsystem (S-POE-4BAY-PWR)

2 S3 Chassis

Figure 1-2 S8 Chassis with S-POE-8BAY-PWR PoE Subsystem



1 Eight-bay PoE subsystem (S-POE-8BAY-PWR)

2 S8 Chassis

For the PoE upgrade process, see Chapter 2, **Installing the PoE Upgrade Kit**.

For specifications and compliance information for the PoE subsystems, see Appendix A, **Specifications and Regulatory Compliance**.

Note: The PoE upgrade kit does not include S-POE-PS power supplies. You must order the S-POE-PS power supplies separately.

For information about the S-POE-PS power supply, see the *Enterasys S-Series Chassis Hardware Installation Guide* included with your S-Series chassis.

Precautions

Ensure that you have read and understood the installation and operation precautions before installing the PoE upgrade.

Warning: The installation of this upgrade should be performed by an electrical professional familiar with high current electrical distribution and safety precautions.

Advertencia: La instalación de esta actualización debe realizarla un electricista profesional que esté familiarizado con la alta distribución eléctrica y las medidas de seguridad actuales.

Warnhinweis: Diese Aufrüstung sollte von einer Elektrofachkraft vorgenommen werden, die mit Starkstromverteilung und den entsprechenden Sicherheitsvorkehrungen vertraut ist.

Warning: Install the Enterasys S-Series chassis in a Restricted Access Location only. Access to the equipment by users must be restricted through the use of a tool or lock and key or other means of security and is controlled by the authority responsible for the location.

Advertencia: Instalar el chasis Enterasys S en un lugar de Acceso Restringido. Acceso al equipo debe ser restringido mediante el uso de una herramienta o candado o cualquier otro método de seguridad y debe ser controlado por el responsable del lugar.

Warnhinweis: Installieren Sie das S nur in einer zugangsgeschützten Umgebung. Der Bereich zu den Komponenten sollte durch ein Schloß, einen Schlüssel oder sonstigen Sicherungen geschützt und durch einen Verantwortlichen kontrolliert werden.

2

Installing the PoE Upgrade Kit

Electrical Hazard: Only qualified personnel should perform installation procedures.

Riesgo Eléctrico: Solamente personal calificado debe realizar procedimientos de instalacion.

Elektrischer Gefahrenhinweis: Installationen sollten nur durch ausgebildetes und qualifiziertes Personal vorgenommen werden.

This chapter provides installation instructions for the Enterasys S-Series PoE upgrade kit. Follow the order of the sections listed below to correctly install the PoE upgrade kit.

Required Tools

- ESD wrist strap (included in the PoE upgrade kit)
- Phillips screwdriver (#2)
- Hex wrench (3/16″)
- Torque wrench

Unpacking the PoE Upgrade Kit

To unpack the S-Series PoE upgrade kit:

1. Open the box and remove the packing material protecting the contents of the kit.

   Save the shipping box and packing materials in the event the upgrade kit must be reshipped.

2. Verify the contents of each carton and compare the contents shipped with those listed in Table 2-1.

3. Perform a visual inspection of the PoE subsystem and bus bar for any signs of physical damage.

   If there are any signs of damage, DO NOT install the PoE upgrade kit; instead, contact Enterasys Networks. Refer to "Getting Help" on page xv for details.

Table 2-1 Hardware Contents of PoE Upgrade Kit

Item	Quantity
PoE subsystem (S-POE-4BAY-PWR or S-POE-8BAY-PWR)	1
Bus bar (S3-POE-BUSBAR, S4-POE-BUSBAR, or S8-POE-BUSBAR)	1
ESD wrist strap	1
EMI gasket	1
Flat head screws	8
Nylon spacers, .375"	2
Nylon washers, .100" (included in S3-POE-4BAY-UGK only)	2
Hex nuts	2
Flat washers	5 (one spare)
Belleville washers	5 (one spare)
Socket head cap screws	5 (one spare)

Note: PoE power supplies (S-POE-PS), which you must order separately, are shipped separately.

Preparing for Installation

You cannot perform the PoE installation procedure while the S-Series chassis is installed in a rack.

1. Ensure that you have read and understood the precautions in "Precautions" on page 4.
2. If the S-Series chassis is powered up, disconnect the S-Series chassis from AC power.

   Unplug each AC power cord from its AC terminal and S-AC-PS power supply.

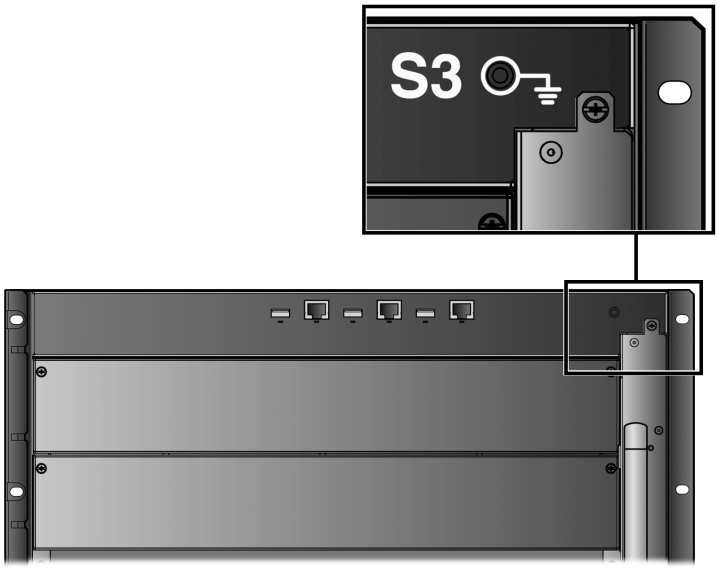
   Electrical Hazard: The device must be disconnected from its power source to prevent electric shock.

   Riesgo electrico: El dispositivo debe ser desconectado de la corriente electrica para prevenir algun choque electrico.

   Elektrischer Gefahrenhinweis: Das Gerät muss von der Stromzufuhr getrennt sein, um den Schutz vor Stromschlägen gewährleisten zu können.

3. Remove all S-AC-PS power supplies from the S-Series chassis.
4. Remove all modules from the S-Series chassis.
5. If the S-Series chassis is mounted in a rack, you must remove the S-Series chassis from the rack.
6. Put on the ESD wrist strap and attach it to the ESD grounding receptacle on the S-Series chassis. See Figure 2-1.

Figure 2-1 ESD Grounding Receptacle (S3 Chassis Example)



Installing the PoE Subsystem and the Bus Bar

Electrical Hazard: Only qualified personnel should perform installation procedures.

Riesgo Eléctrico: Solamente personal calificado debe realizar procedimientos de instalacion.

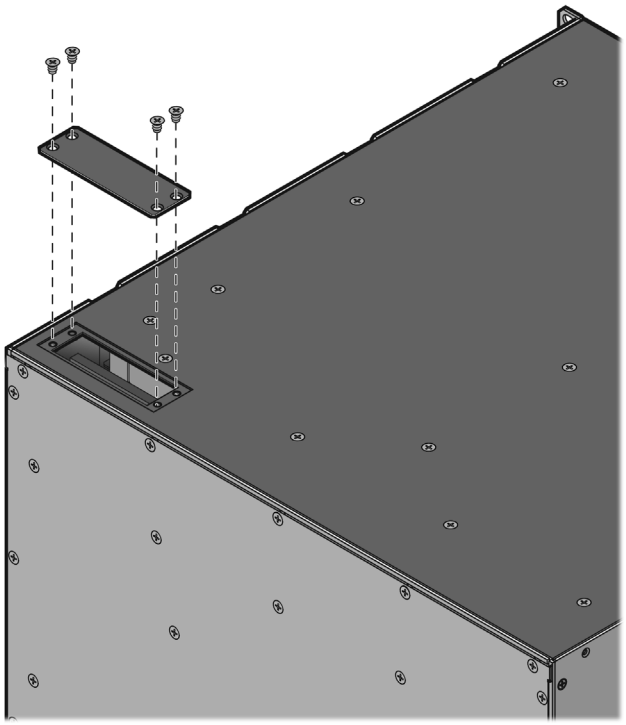
Elektrischer Gefahrenhinweis: Installationen sollten nur durch ausgebildetes und qualifiziertes Personal vorgenommen werden.

Note: For correct functionality of the system, you must use the hardware supplied with the PoE upgrade kit.

1. Remove the small PoE cover in the back left corner on the top panel of the S-Series chassis. See Figure 2-2.

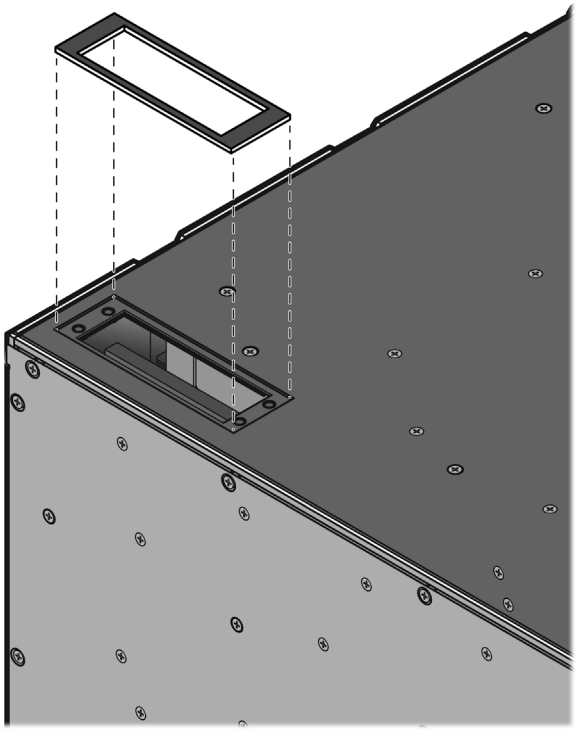
   This cover and its four screws will not be reinstalled.

Figure 2-2 Removing the PoE Cover from the S-Series Chassis



2. Install the EMI gasket on the S-Series chassis.
   a. Remove the adhesive backing from the gasket.
   b. Place the gasket carefully in the recessed area of the S-Series chassis. See Figure 2-3. Ensure that the gasket does not bulge inside the opening on the S-Series chassis.

Figure 2-3 Installing the EMI Gasket on the S-Series Chassis



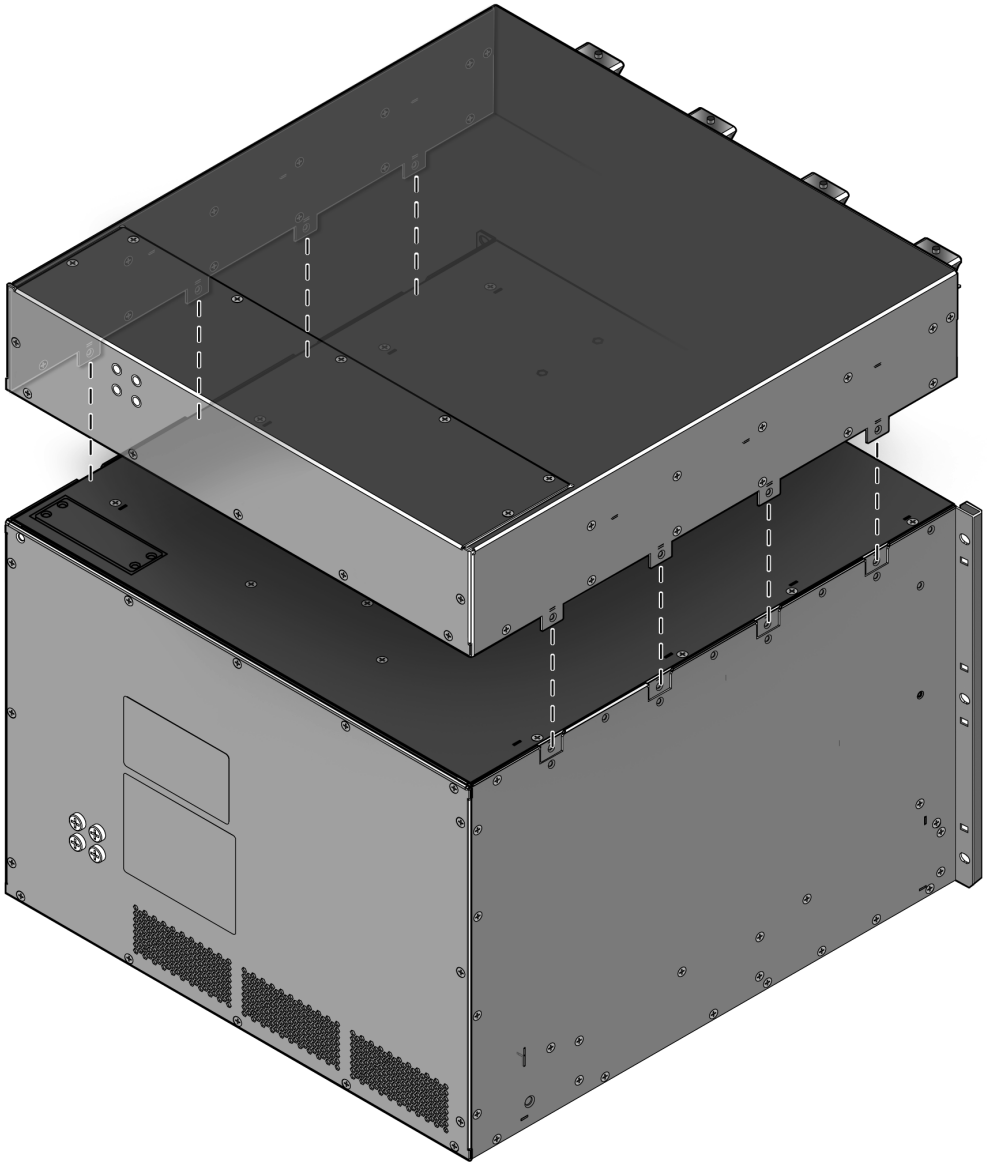
3. With the PoE subsystem's AC receptacles and power supply bays facing the same way as the S-Series chassis's module slots, set the PoE subsystem on top of the S-Series chassis.

   The PoE subsystem will be flush with the S-Series chassis. The screw tabs on the PoE subsystem will align with the cut outs on the S-Series chassis. See Figure 2-4.

Note: If the PoE subsystem's ribbon cable is hanging outside the PoE subsystem, feed the cable through the opening in the S-Series chassis before setting the PoE subsystem down on the S-Series chassis.

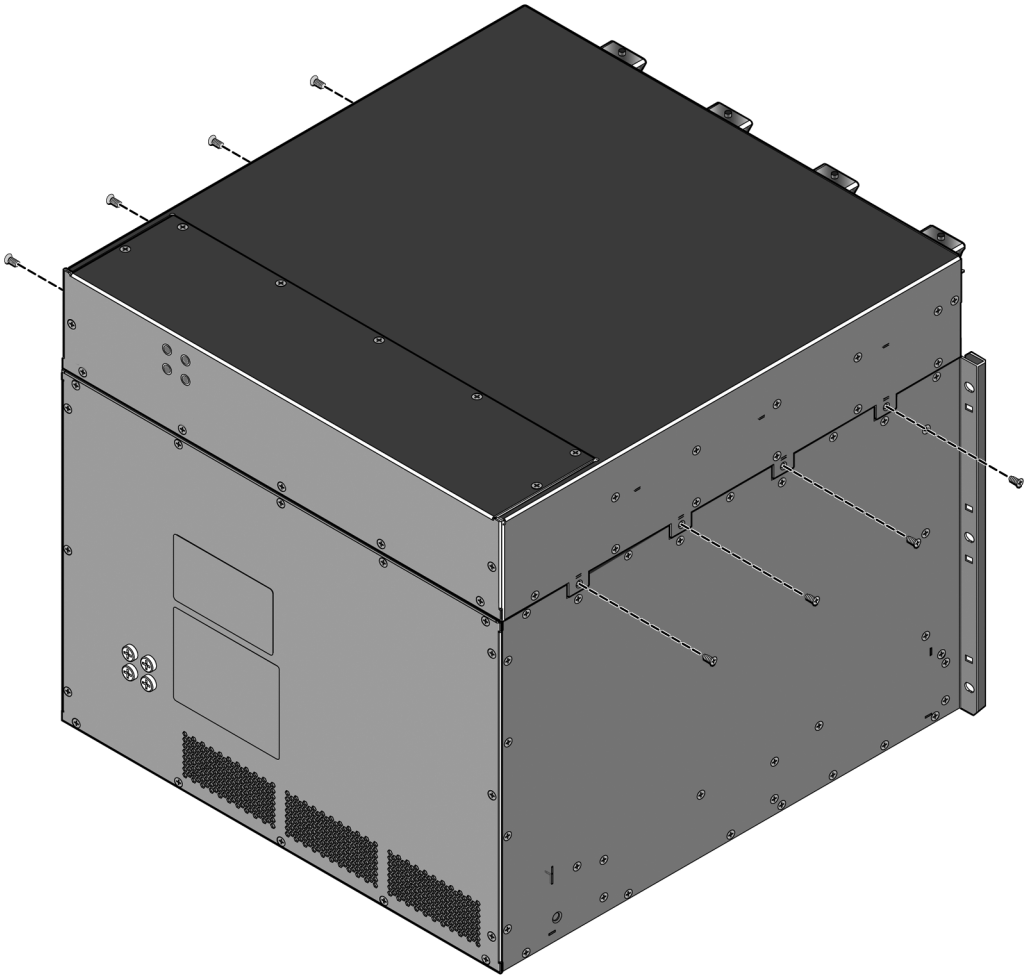
Ensure that you do not pinch the ribbon cable.

Figure 2-4 Placing the PoE Subsystem on the S-Series Chassis (S3 Chassis/S-POE-4BAY-PWR Example)



4. Secure the PoE subsystem to the S-Series chassis with the eight flat head screws—four screws on each side—included in the upgrade kit. See Figure 2-5.

Figure 2-5 Securing the PoE Subsystem to the S-Series Chassis (S3 Chassis/S-POE-4BAY-PWR Example)



5. Remove the rear panels from both the S-Series chassis and the PoE subsystem. See Figure 2-6.

   Remove only the zinc (silver) colored screws from the rear panels of the S-Series chassis and PoE subsystem. Do not remove any black screws. See Table 2-2 for the number of screws you must remove from the rear panels of each S-Series chassis and PoE subsystem.

Table 2-2 Number of Screws to Remove

S Chassis/PoE Subsystem	Number of Screws to Remove from the Rear Panel
S3	16 screws
S4	18 screws
S8	22 screws
S-POE-4BAY-PWR	14 screws
S-POE-8BAY-PWR	18 screws (see Figure 2-7 for the location of the screws)

   Set the panels and screws aside for reinstallation at the end of this procedure.

Figure 2-6 Removing the Rear Panels from the S-Series Chassis and the PoE Subsystem (S3 Chassis/S-POE-4BAY-PWR Example)

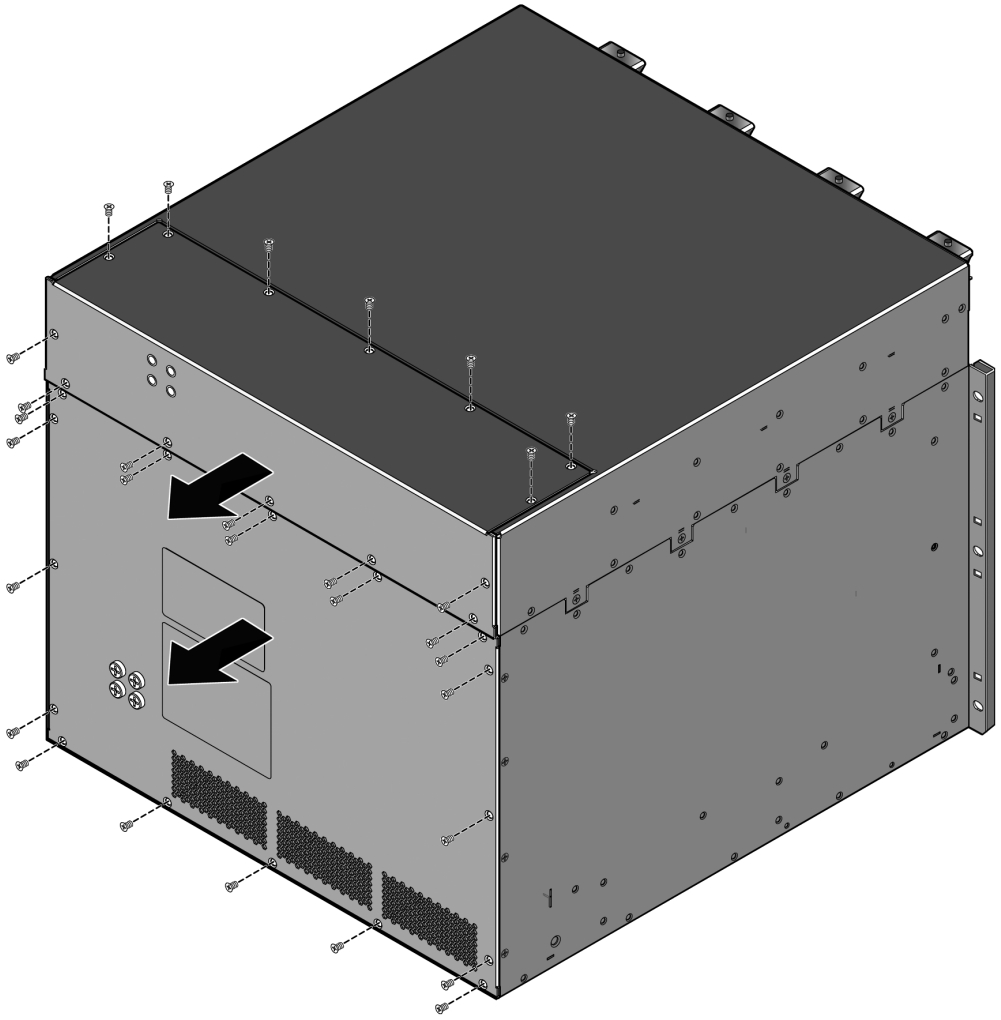
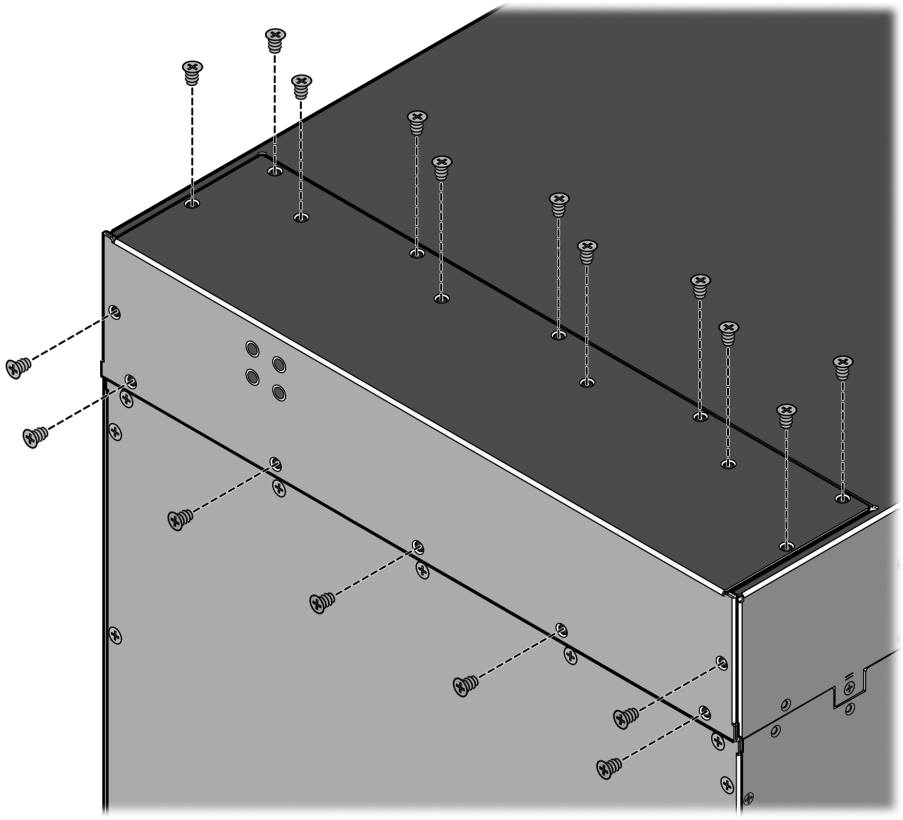
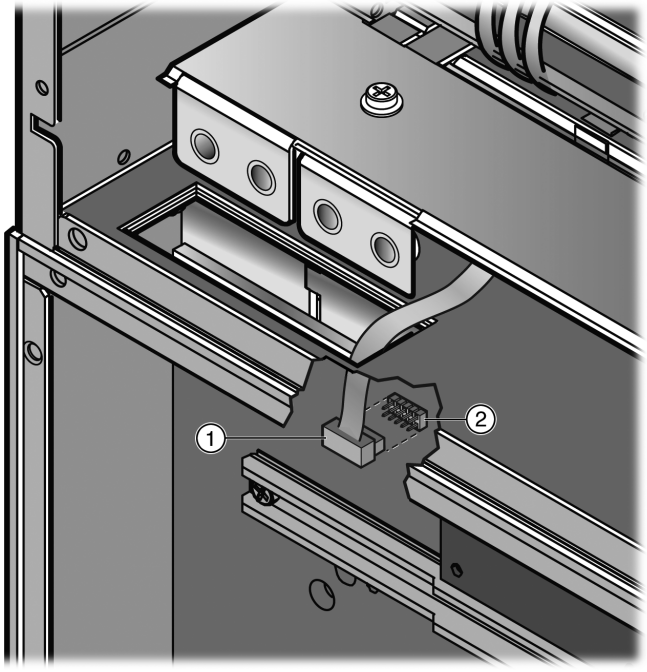


Figure 2-7 Location of Rear Panel Screws on the S-POE-8BAY-PWR PoE Subsystem



6. If not already done, feed the PoE subsystem's ribbon cable down into the S-Series chassis through the opening between the PoE subsystem and the S-Series chassis.
7. Attach the PoE subsystem's ribbon cable to the connector on the S-Series chassis backplane. See Figure 2-8.

Figure 2-8 Attaching the PoE Subsystem Ribbon Cable to the S-Series Chassis Backplane

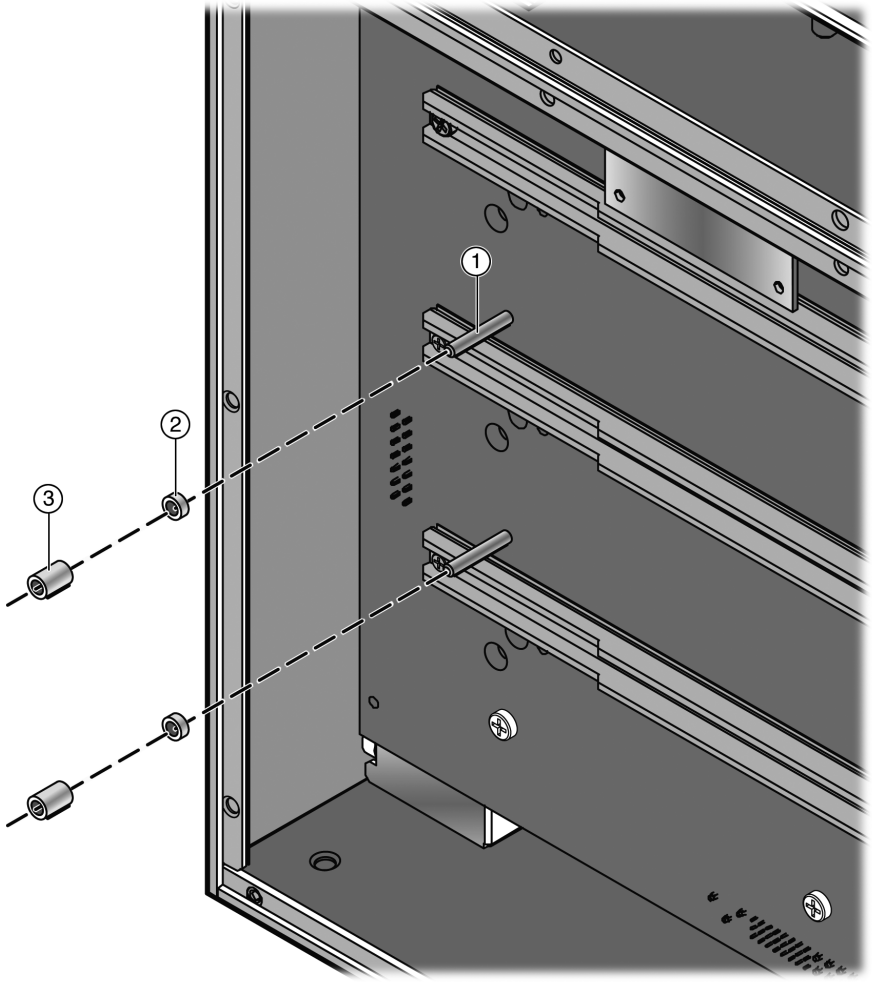


1	PoE subsystem ribbon cable	**2**	S-Series chassis backplane connector

Note: Ensure that the ribbon cable is connected properly to the backplane connector as misalignment can occur.

8. Install, as applicable to the S-Series chassis, the nylon washers and spacers provided in the upgrade kit on the studs extending from the backplane.
   – S3 chassis: A nylon washer (.100″) and a nylon spacer (.375″) go on each backplane stud. See Figure 2-9.

Figure 2-9 Installing the Nylon Washers and Spacers on the S3 Chassis Backplane Studs

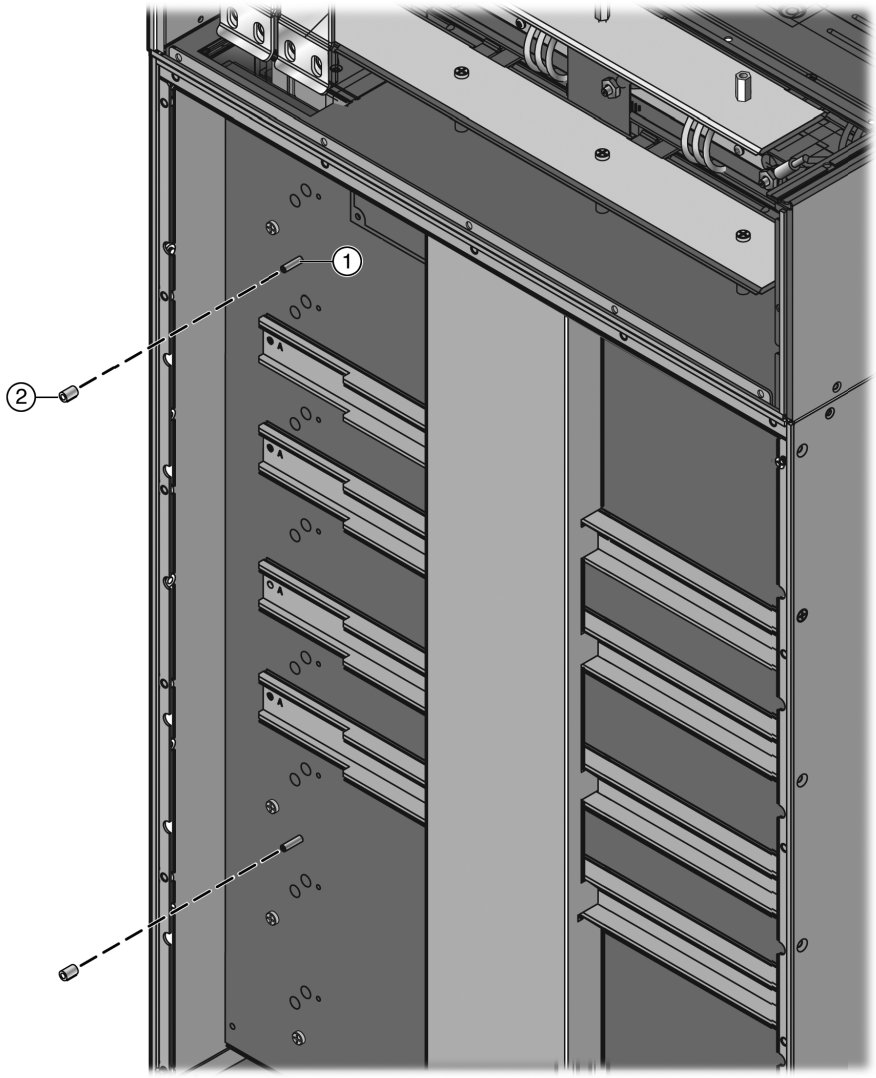


1 Backplane stud
2 Nylon washer (.100”)
3 Nylon spacer (.375”)

Note: The .100” washers, which are included only with the S3-POE-4BAY-UGK upgrade kit, apply to the S3 upgrade only.

– S4 and S8 chassis: Only a nylon spacer (.375″) goes on each backplane stud. See Figure 2-10.

Figure 2-10 Installing the Nylon Spacers on the S4 and S8 Chassis Backplane Studs (S8 Chassis Example)



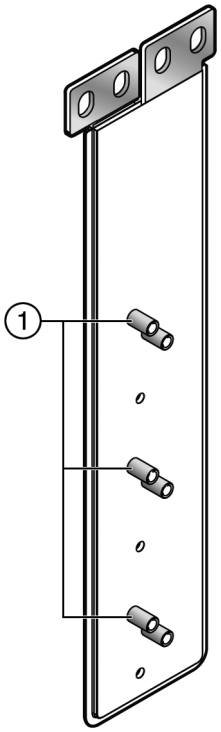
1 Backplane stud **2** Nylon spacer (.375”)

Note: The .100” nylon washers used in the S3 upgrade are not used in the S4 and S8 upgrade and are not included in the S4-POE-4BAY-UGK, S8-POE-4BAY-UGK, and S8-POE-8BAY-UGK upgrade kits.

9. Install the bus bar.

   a. Orient the bus bar so that the pairs of PoE connectors, which extend from the bus bar, face the backplane of the S-Series chassis. See Figure 2-11.

Figure 2-11 PoE Connectors on the Bus Bar (S3-POE-BUSBAR Example)

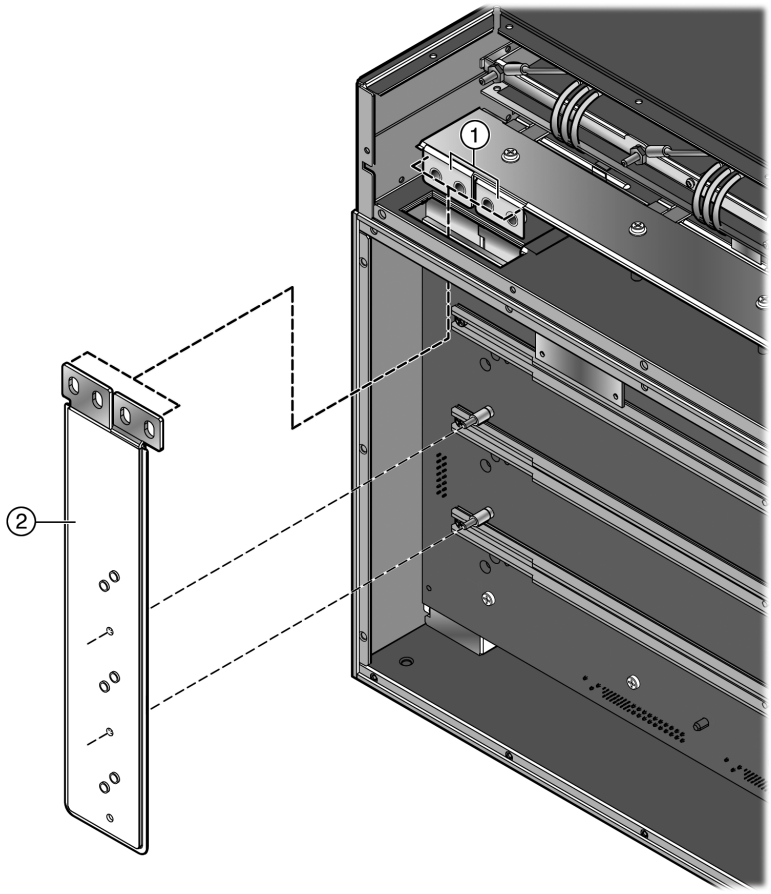


1 Bus bar PoE connectors must face the backplane of the S-Series chassis

b. Insert the terminating end of the bus bar (that is, the end with the screw holes) up through the opening between the S-Series chassis and the PoE subsystem. See Figure 2-12.

- If you are installing the S-POE-4BAY-PWR PoE subsystem, you must place the terminating end of the bus bar in front of the PoE subsystem's jumper plates. See Figure 2-13 on page 2-15.
- If you are installing the S-POE-8BAY-PWR PoE subsystem on an S8 chassis, you must sandwich the terminating end of the bus bar between the PoE subsystem's jumper plates. See Figure 2-14 on page 2-15.

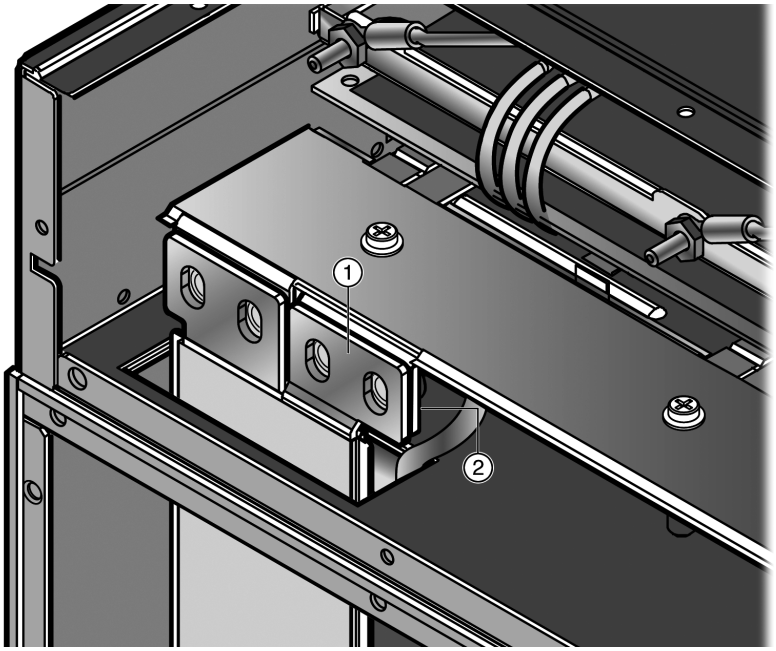
Figure 2-12 Inserting the Bus Bar through the S Chassis into the PoE Subsystem (S3 Chassis/S-POE-4BAY-PWR Example)



1 PoE subsystem jumper plates **2** Bus bar

c. Align the holes in the bus bar with the backplane studs and slide the bus bar onto the backplane studs. See Figure 2-12.

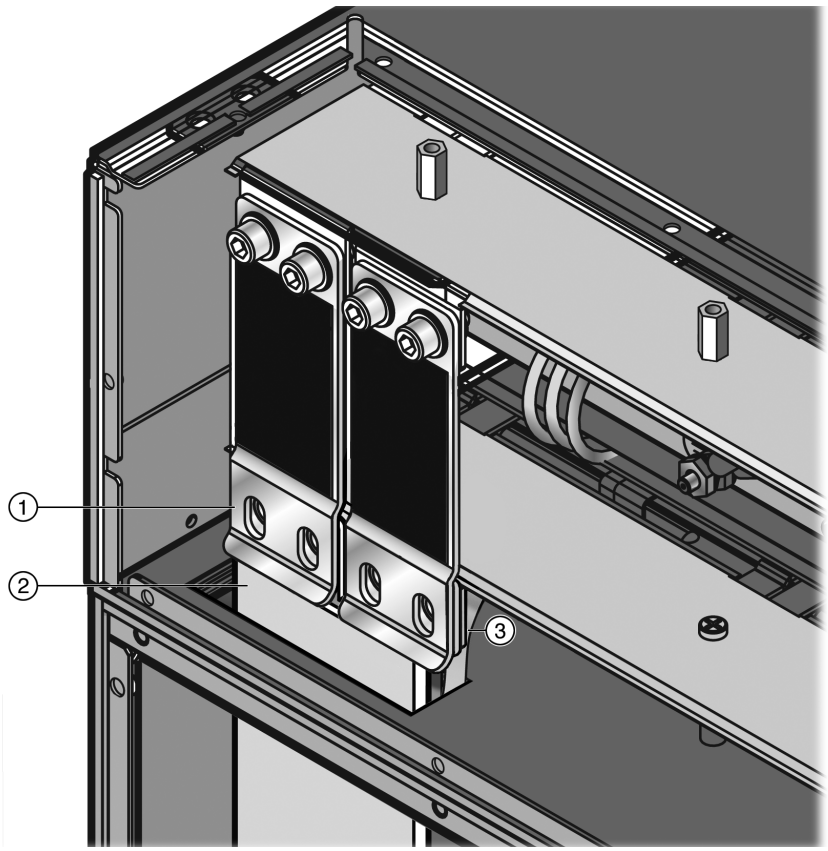
Figure 2-13 Bus Bar Placed in Front of the S-POE-4BAY-PWR Jumper Plates



1 Bus bar

2 S-POE-4BAY-PWR jumper plates

Figure 2-14 S8 Bus Bar Sandwiched between the S-POE-8BAY-PWR Jumper Plates



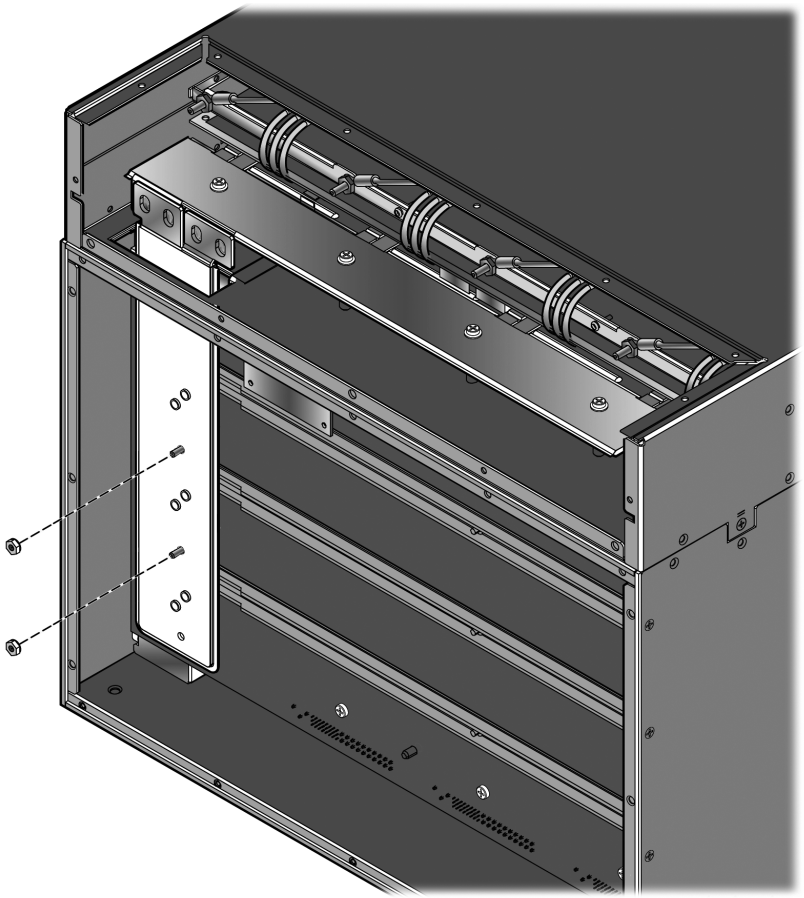
1 S-POE-8BAY-PWR front jumper plates

2 S8 bus bar

3 S-POE-8BAY-PWR rear jumper plates

10. Secure the bus bar to the backplane studs with the hex nuts provided in the upgrade kit. See Figure 2-15.

Figure 2-15 Securing the Bus Bar to the Backplane Studs with Hex Nuts (S3 Chassis/S-POE-4BAY-PWR Example)



Note: Torque the hex nuts to 9 inch pounds.

11. Secure the bus bar to the PoE subsystem's jumper plates with the flat washers, Belleville washers, and socket head cap screws provided in the upgrade kit as follows (see Figure 2-16):

    a. Place the flat washer against the bus bar (for the S-POE-4BAY-PWR PoE subsystem) or the front jumper plates (for the S-POE-8BAY-PWR PoE subsystem).

    b. Place the Belleville washer against the flat washer, with the concave side (that is, the cupped side) of the Belleville washer against the flat washer.

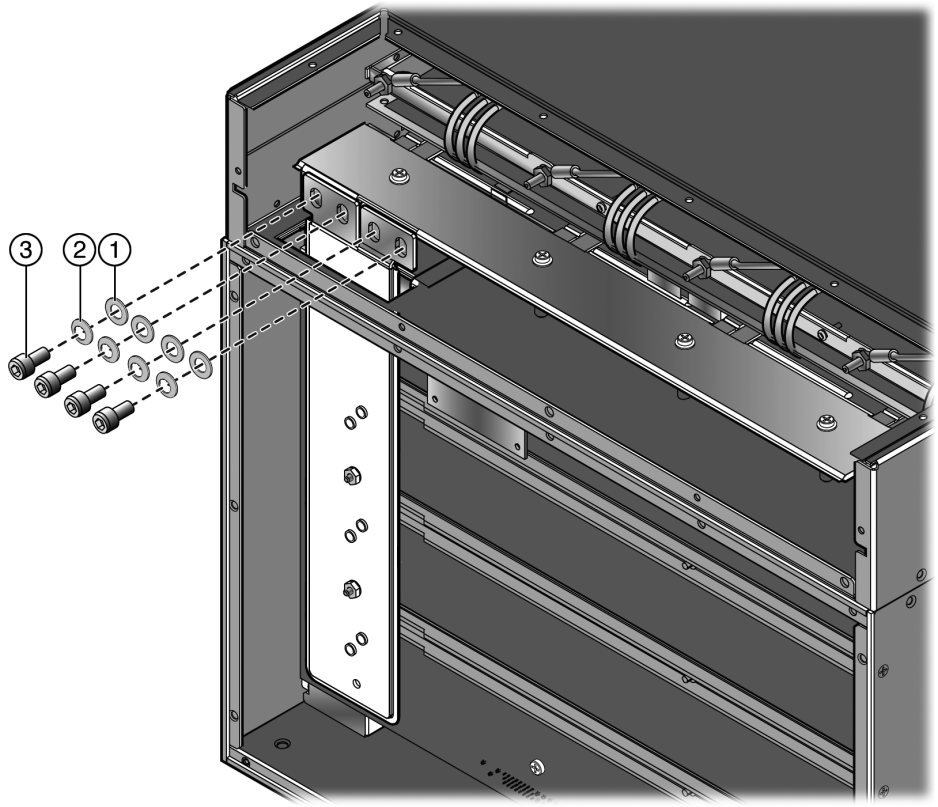
    c. Insert the socket head cap screw and tighten.

Note: Torque the socket head cap screws to 67 inch pounds.

If you do not torque the socket head cap screws as specified, you may adversely affect the path of the electrical current from the PoE subsystem to the bus bar.

    d. Repeat steps a–c for each of the remaining three screw holes.

Figure 2-16 Securing the Bus Bar to the PoE Subsystem's Jumper Plates (S3 Chassis/S-POE-4BAY-PWR Example)

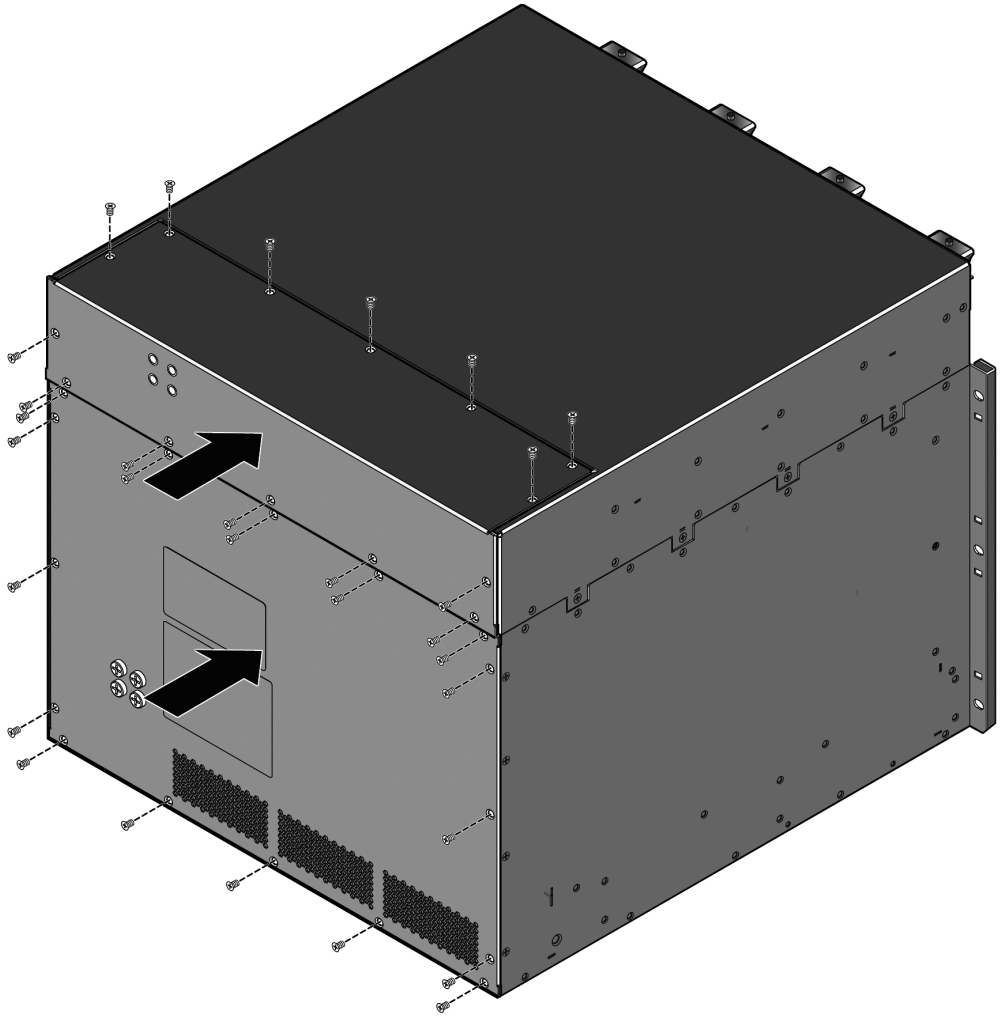


1 Flat washers
2 Belleville washers (concave side facing the flat washers)
3 Socket head cap screws

12. Reinstall the rear panels of the S-Series chassis and the PoE subsystem. See Figure 2-17.

Note: Torque the flat head screws for the rear panels of both the S-Series chassis and the PoE subsystem to 9 inch pounds.

Figure 2-17 Reinstalling the Rear Panels of the S Chassis and the PoE Subsystem (S3 Chassis/S-POE-4BAY-PWR Example)



You can now install the upgraded S-Series chassis in an equipment rack in a restricted access location, bond and ground the S-Series chassis, install the AC power supplies in the S-Series chassis, install PoE power supplies in the PoE subsystem, and connect the S-Series chassis and PoE subsystem to AC power. For more information, refer to the *Enterasys S-Series Chassis Hardware Installation Guide* for your S-Series chassis. For information about S-Series chassis bonding and grounding, see Appendix B, **Chassis Bonding and Grounding**.

3

Installing the PoE Power Supplies

This chapter provides installation instructions for the S-POE-PS power supplies.

For information about connecting the S-POE-PS power supplies to power and troubleshooting the S-POE-PS power supplies, see the *Enterasys S-Series Hardware Installation Guide* for your S-Series chassis.

Unpacking the S-POE-PS Power Supplies

The S-POE-PS power supply modules are shipped in boxes separate from the S-Series chassis. To unpack a power supply:

1. Unpack the power supply by removing it from the shipping box and sliding the two foam end caps off the unit.

   Save the shipping box and materials in the event the unit must be reshipped.
2. Verify the contents of the box using Table 3-1 as appropriate.
3. Remove the power supply from its protective plastic bag.
4. Examine the power supply carefully, checking for damage.

   If there are any signs of damage, DO NOT install the power supply; instead, contact Enterasys Networks. Refer to "Getting Help" on page xv for details.

Table 3-1 Contents of S-POE-PS Power Supply Carton

Item	Quantity
S-POE-PS power supply	1
For USA shipments: NEMA Power Cord 5-20, C19, R/A, SHLD Type of power cord is dependent on country of installation.	1
NOTICE Card	1

Installing the S-POE-PS Power Supplies in the PoE Subsystem

You must install the PoE subsystem on the S-Series chassis before installing the S-POE-PS power supplies in the PoE subsystem.

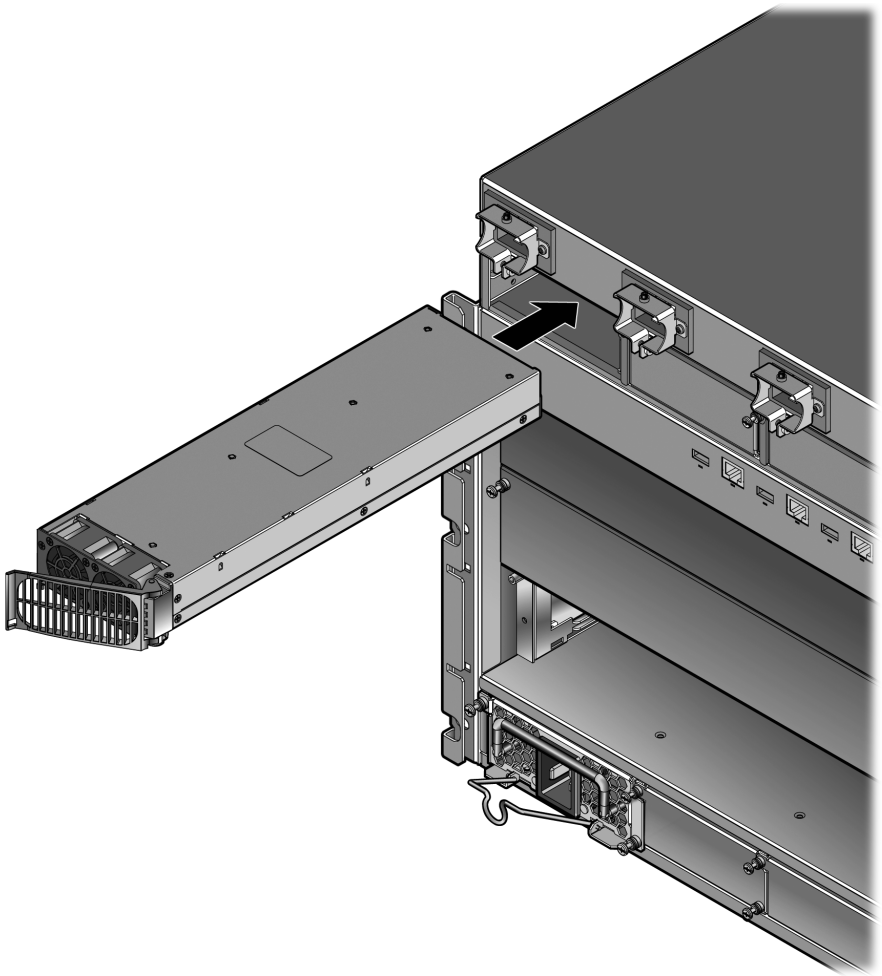
To install the S-POE-PS power supplies in the PoE subsystem:

1. Open the faceplate of the S-POE-PS power supply by releasing the spring clip on the lower left of the faceplate.
2. Align the power supply with bay 1 (labelled PS1), then slide the S-POE-PS power supply forward until the S-POE-PS power supply is plugged into the subsystem connector and is completely inside the bay. See Figure 3-1.

   The power supply's faceplate will close as the power supply plugs into the subsystem connector.

   If you encounter significant resistance before the S-POE-PS power supply reaches the end of its travel, remove and reinsert the power supply.

Figure 3-1 Inserting the S-POE-PS Power Supply in the PoE Subsystem

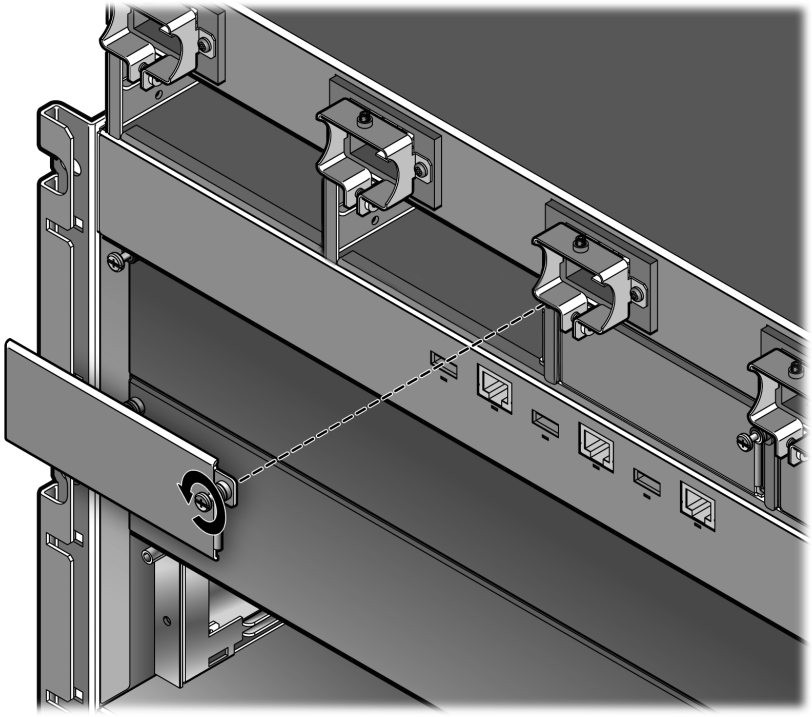


3. Close the power supply's faceplate completely against the spring clip on the power supply.

4. If you are installing more than one power supply, remove the coverplates from the applicable number of power supply slots by unscrewing the captive screw that attaches each coverplate to the PoE subsystem. See Figure 3-2.

   Keep the coverplates in the event you need to remove the power supplies. The PoE subsystem ships without a cover on bay 1.

Figure 3-2 Removing a Cover Plate from the PoE Subsystem



5. Repeat steps 1 through 3 for each additional power supply.

A

Specifications and Regulatory Compliance

This appendix provides operating specifications for the Enterasys S-Series PoE subsystems and the S-POE-PS power supply. Enterasys Networks reserves the right to change the specifications at any time without notice.

For specifications for the S-Series multi-slot chassis, refer to the *Enterasys S-Series Chassis Hardware Installation Guide* for your chassis.

PoE Subsystem Specifications

Table A-1 PoE Subsystem Specifications

Item	Specification
S-POE-4BAY-PWR	
Dimensions	8.89 cm x 44.70 cm x 47.32 cm (3.50” x 17.60” x 18.63”)
Weight	12.41 kg (27.35 lbs)
S-POE-8BAY-PWR	
Dimensions	13.35 cm x 44.70 cm x 47.32 cm (5.25” x 17.60” x 18.63”)
Weight	17.7 kg (39 lbs)
Environmental Requirements	
Operating Temperature	5°C to 40°C (41°F to 104°F)
Storage Temperature	-30°C to 73°C (-22°F to 164°F)
Operating Relative Humidity	5% to 90% (non-condensing)

S-POE-PS Power Supply Specifications

Table A-2 S-POE-PS Power Supply Specifications

Item	Specification
Electrical	
Input Frequency	50 to 60 Hz
Input (Voltage/Current) at Output Power	100 to 125 Vac: 15 A at 1200 watts 200 to 240 Vac: 11 A at 2000 watts

Table A-2 S-POE-PS Power Supply Specifications (continued)

Item	Specification
Physical	
Dimensions	4.22 cm x 10.16 cm x 35.18 cm (1.66” x 4.00” x 13.85”)
Weight	2.1 kg (4.6 lbs)

Torque Values

Table A-3 describes the recommended torque values to use when installing standard threaded fastener machine screws and bolts.

Table A-3 Recommended Torque Values by Screw Size

Screw Size		Torque in Pounds			Bit Size
English	Metric	-%5	Nominal	+%5	
N/A	N/A	1.42	1.5	1.57	0
2 – 56	1.5	2.85	3.0	3.15	0
4 – 40	2.5	4.75	5.0	5.25	0/1
6 – 32	3.5	8.55	9.0	9.45	1
8 – 32	4.5	17.10	18.0	18.90	2
10 – 32	5	30.40	32.0	33.60	2
1/4 – 20	6.5	63.65	67.0	70.35	3

Regulatory Compliance

This product meets the safety, electromagnetic compatibility (EMC), and environmental requirements listed in Table A-4.

Table A-4 Compliance Standards

Regulatory Compliance	Standard
Safety	UL 60950-1, FDA 21 CFR 1040.10 and 1040.11, CAN/CSA C22.2 No. 60950-1, EN 60950-1, EN 60825-1, EN 60825-2, IEC 60950-1, 2006/95/EC (Low Voltage Directive)
Electromagnetic Compatibility (EMC)	FCC 47 CFR Part 15 (Class A), ICES-003 (Class A), EN 55022 (Class A), EN 55024, EN 61000-3-2, EN 61000-3-3, AS/NZ CISPR-22 (Class A). VCCI V-3. CNS 13438 (BSMI), 2004/108/EC (EMC Directive)
Environmental	2002/95/EC (RoHS Directive), 2002/96/EC (WEEE Directive), Ministry of Information Order #39 (China RoHS)

B

Chassis Bonding and Grounding

This appendix provides chassis bonding and grounding instructions for the S-Series chassis.

Installing the chassis as described in this appendix meets the protective earth grounding requirements of the National Electrical Code (NEC) UL 60950 and IEC 60950 standards. However, in some cases it is necessary to use an alternative grounding method at installation sites that must meet the Telcordia GR-1089 Section 9, Bonding and Grounding Requirements, or national deviations. To meet these requirements, use the four tapped holes located on the rear-center side of the chassis. These holes meet the hole grounding bolt pattern requirements.

Alternate grounding requirements when a connection is needed between the chassis and the enclosure metalwork, a nearby point on the Central Office (CO) Ground system, or earth ground. The connection is made using one or more grounding wires (as needed) fabricated from an 8 AWG (6^2mm) stranded copper wire. To fabricate and install a grounding wire, proceed as follows:

1. Cut an 8 AWG (6^2mm) stranded-copper wire to length, long enough to reach from the grounding location of the chassis to the selected grounding location on the CO Ground, earth ground, or enclosure metalwork.
2. Install a listed two-hole compression-type connector on both ends of the grounding wire.
3. Apply a suitable antioxidant to the chassis grounding location and unpainted surface grounding location on the CO Ground or enclosure metalwork.
4. Connect one ground cable two-hole connector to the chassis using two of the 1/4-20 screws shipped with the chassis. Connect the two-hole connector at the other end of the cable to the CO Ground or enclosure metalwork using user-supplied screws.
5. Torque screws to 67 inch pounds (± 5%).

National Deviations:

- In Norway, Sweden, and Finland, the same procedure can be used for a permanent protective earth ground connection as required by their national deviation to IEC 60950, Section 5.1.7.
- In Denmark, the chassis must be installed utilizing a Type B grounded plug.