Enterasys S-Series®

Stand Alone (SSA) Switch

Hardware Installation Guide

SSA-T4068-0252

SSA-T1068-0652

SSA-T1068-0652A

SSA-G1018-0652

P/N 9034458-07

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.

Risques d'électrocution: Seul un personnel qualifié doit effectuer les procédures d'installation.

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Enterasys Networks, Inc.
9 Northeastern Boulevard
Salem, NH 03079

Part Number: 9034458-07 December 2012

Documentation URL: https://extranet.enterasys.com/downloads/

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.

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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 Directive 2011/65/EU of the European Parliament and of the Council of 8 June 2011 on the restriction of the use of certain hazardous substances 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 contact Enterasys Customer Support at +353 61 705500 (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:	**9 Northeastern Boulevard** **Salem, NH 03079** **USA**
European Representative Name:	**Enterasys Networks Limited**
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** **EN55022:2006** **A1:2007** **EN 55024:1998** **A1:2001** **A2:2003** **EN 61000-3-2:2006** **A1:2009** **A2:2009** **EN 61000-3-3:2008** **EC Directive 2006/95/EC** **EN 60950-1:2006** **A1:2009** **EN 60825-1:2007** **EN 60825-2:2004** **A1:2007** **EC Directive 2011/65/EU**
Equipment Type/Environment:	**Information Technology Equipment, for use in a Commercial or Light Industrial Environment.**

The object of the declaration described above is in conformity with Directive 2011/65/EU of the European Parliament and of the Council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment.

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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.

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Appendix D: Installing the SSA-WALL-MOUNT

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About This Guide

This guide provides an overview, installation and troubleshooting instructions, and specifications for the Enterasys S-Series® Stand Alone (SSA) switch models:

- SSA-T4068-0252
- SSA-T1068-0652
- SSA-T1068-0652A
- SSA-G1018-0652

Who Should Use This Guide

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.

Risques d'électrocution: Seul un personnel qualifié doit installer ou effectuer les opérations de maintenance sur cet élément.

This guide is intended for a network administrator who is responsible for installing and setting up the SSA switch.

How to Use This Guide

Read through this guide completely to familiarize yourself with its contents and to gain an understanding of the features and capabilities of the SSA switch. A general working knowledge of data communications networks is helpful when setting up the SSA switch.

This preface provides the following:

- An overview of this guide and the S-Series manual set
- A brief summary of each chapter
- Definitions of the conventions used in this document
- Instructions regarding how to obtain technical support from Enterasys Networks.

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

For...	Refer to...
An overview of the SSA switch and its features.	Chapter 1, **Introduction**
Instructions for installing the SSA switch hardware and connecting the SSA switch to the network.	Chapter 2, **Installation**
Information on port, system, and power supply LEDs; how to replace SSA fans; and how to restart or shut down the SSA using the OFFLINE/RESET button.	Chapter 3, **Troubleshooting**

For...	Refer to...
Specifications, environmental requirements, and physical properties of the SSA.	Appendix A, **Specifications**
Information on how to reset the SSA mode switches.	Appendix B, **Resetting Mode Switches**
PoE overview information.	Appendix C, **About PoE (Power over Ethernet)**
Instructions for installing the SSA with the optional SSA-WALL-MOUNT mounting bracket.	Appendix D, **Installing the SSA-WALL-MOUNT**
Details environmental guidelines such as operating temperature, air flow, inlet temperature, and dust mitigation and prevention.	Appendix E, **Environmental Guidelines**

Related Documents

The *Enterasys S-Series Configuration Guide* and *Enterasys S-Series CLI Reference Guide* provide information on how to use the CLI to set up and manage the SSA switch.

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

https://extranet.enterasys.com/downloads/

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.
Lowercase x	Indicates the general use of an alphanumeric character.
	**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! **Avertissements:** Met en garde contre un geste qui pourrait entraîner des blessures ou la mort.

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!

Risques d'électrocution: Met en garde contre un geste qui pourrait entraîner des blessures ou la mort à la suite d'une électrocution.

Getting Help

For additional support related to the SSA 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 1-603-952-5000 For the Enterasys Networks Support toll-free number in your country: www.enterasys.com/services/support/contact/
Email	support@enterasys.com To expedite your message, please type **[S-Series SSA]** in the subject line.

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 provides an overview of the capabilities of the Enterasys S-Series SSA models:

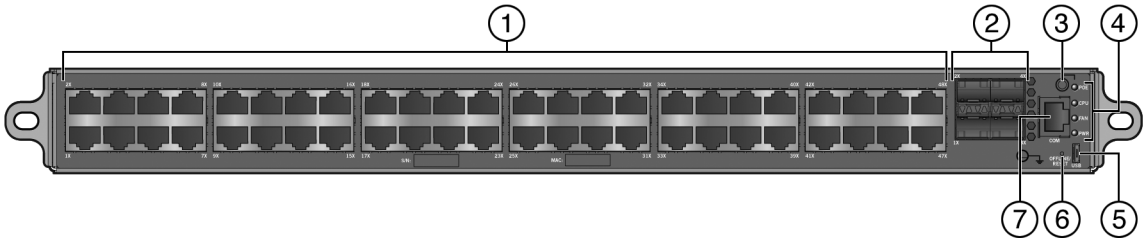
- SSA-T4068-0252
- SSA-T1068-0652 and SSA-T1068-0652A
- SSA-G1018-0652

For information about software features of the SSA and how to configure them, refer to the *Enterasys S-Series Configuration Guide*.

SSA-T4068-0252

The SSA-T4068-0252 has forty-eight 10/100/1000BASE-T RJ45 ports and four 10GBASE-X SFP+ ports, as shown in Figure 1-1.

Figure 1-1 SSA-T4068-0252 Front Panel



1	10/100/1000BASE-T RJ45 ports	**5**	Micro-USB debug port
2	10GBASE-X SFP+ ports	**6**	OFFLINE/RESTART button
3	PoE mode button	**7**	COM port
4	System LEDs		

Each of the 10/100/1000BASE-T ports, which support PoE (IEEE 802.3af and 802.3at), can operate in either half-duplex or full-duplex mode which can be determined by either auto-negotiation or manual configuration. Depending on your power supply configuration, the SSA-T4068-0252 can provide PoE power for powered devices to a maximum of all 48 RJ45 ports simultaneously.

On the 10/100/1000BASE-T ports, the SSA-T4068-0252 allows a maximum of eight authenticated users per port, though you can remove this restriction through an upgrade license (S-EOS-PPC).

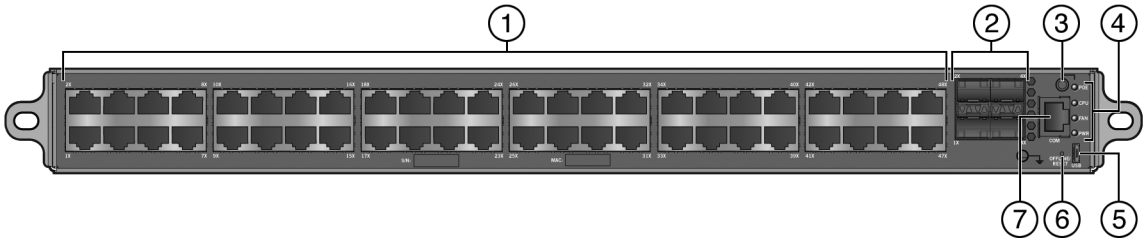
The SFP+ ports support a number of SFP+ pluggable transceivers. For more information about the transceivers, see the following:

http://www.enterasys.com/products/transceivers-ds.pdf

SSA-T1068-0652 and SSA-T1068-0652A

The SSA-T1068-0652 and SSA-T1068-0652A have forty-eight 10/100/1000BASE-T RJ45 ports and four 10GBASE-X SFP+ ports, as shown in Figure 1-2.

Figure 1-2 SSA-T1068-0652 and SSA-T1068-0652A Front Panel



1	10/100/1000BASE-T RJ45 ports	**5**	Micro-USB debug port
2	10GBASE-X SFP+ ports	**6**	OFFLINE/RESTART button
3	PoE mode button	**7**	COM port
4	System LEDs		

Each of the 10/100/1000BASE-T ports, which support PoE (IEEE 802.3af and 802.3at), can operate in either half-duplex or full-duplex mode which can be determined by either auto-negotiation or manual configuration. The SSA-T1068-0652 and SSA-T1068-0652A can provide PoE power for powered devices on all 48 RJ45 ports simultaneously.

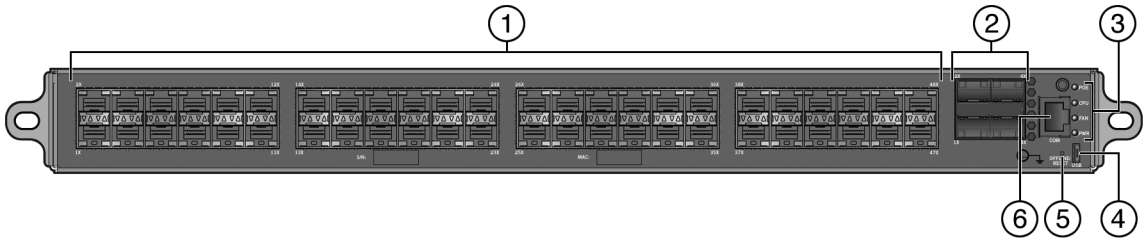
The SFP+ ports support a number of SFP+ pluggable transceivers. For more information about the transceivers, see the following:

http://www.enterasys.com/products/transceivers-ds.pdf

SSA-G1018-0652

The SSA-G1018-0652 has forty-eight 1000BASE-T SFP ports and four 10GBASE-X SFP+ ports, as shown in Figure 1-3.

Figure 1-3 SSA-G1018-0652 Front Panel



1	1000BASE-T SFP ports	**4**	Micro-USB debug port
2	10GBASE-X SFP+ ports	**5**	OFFLINE/RESTART button
3	System LEDs	**6**	COM port

Each of the 1000BASE-T ports can operate in either half-duplex or full-duplex mode which can be determined by either auto-negotiation or manual configuration.

The SFP and SFP+ ports support a number of SFP and SFP+ pluggable transceivers. For more information about the transceivers, see the following:

http://www.enterasys.com/products/transceivers-ds.pdf

AC Power Supplies

Two AC power supply models, which you must order separately, are available for the SSA:

- SSA-AC-PS-625W
- SSA-AC-PS-1000W

The SSA AC power supplies automatically adjust to the input voltage and frequency, which allows for an input voltage of 100 to 240 Vac, and a frequency between 50 and 60 Hz. See the operating specifications in Appendix A, **Specifications**. No additional adjustments are necessary. For installations in North America, a 15 Amp power cord is required. See "Powering Up the SSA" on page 2-14 for more details.

You can install up to two power supplies in the rear of the SSA chassis. Two operational modes of power supply redundancy are supported:

- **Redundant** mode, in which the power made available to the system is equal to the maximum output of the lowest rated supply. If you choose to use two power supplies in a redundant power configuration, system power redundancy is guaranteed if one supply is lost. Power supplies are hot swappable in this operational mode.
- **Non-redundant**, or additive, mode, in which the combined output of both supplies is made available to the system. If you choose to use two power supplies in a non-redundant power configuration, the loss of a single supply may result in a system reset. Power supplies are not hot swappable in this operational mode.

The following power configurations are supported:

- Redundant
  - 625 watts (2 x 625)
  - 625 watts (625 + 1000)
  - 1000 watts (2 x 1000)
- Non-redundant (additive)
  - 625 watts (1 x 625)
  - 1000 watts (1 x 1000)
  - 1250 watts (2 x 625)
  - 1625 watts (1000 + 625)
  - 2000 watts (2 x 1000)

For more information, see "Installing the Power Supplies" on page 2-13. For information on the power supply LEDs, see "Power Supply LEDs" on page 3-5.

Fans

The SSA uses thirteen individual 12V fans to cool the system. Though the SSA fans are field replaceable, they are not hot swappable. For information on how to replace SSA fans, see "Replacing the SSA Fans" on page 3-7.

Micro-USB Port

The micro-USB port is intended for debug purposes only.

Power over Ethernet

Three SSA models—SSA-T4068-0252, SSA-T1068-0652, and SSA-T1068-0652A—support both IEEE 802.3af and 802.3at Power over Ethernet (PoE) standards, with up to 1500 watts available for PoE. Depending on your power supply configuration, the SSA-T4068-0252, SSA-T1068-0652, and SSA-T1068-0652A and can supply PoE power to powered devices on all 48 RJ45 ports simultaneously.

The red PoE button switches the RJ45 port LEDs to report PoE information. In PoE mode, the PWR LED changes to indicate the power supplies installed in the SSA. For more information, see Table 3-2 in Chapter 3, **Troubleshooting**.

For an overview of PoE, see Appendix C, **About PoE (Power over Ethernet)**.

Management

You can manage the SSA either in-band or out-of-band. In-band remote management is possible using the Enterasys Networks' NetSight® management application or the command line interface (CLI) via Telnet. Out-of-band management is provided through the RJ45 COM (Communication) port on the front panel using a PC, a VT terminal, or a VT terminal emulator. For more information, see "Connecting to the Network" on page 2-15.

Virtual Switch Bonding

For data center redundancy, you can configure two co-located SSA chassis to operate as a single logical chassis (a virtual switch bonded chassis) managed by one IP address. Connect the chassis to each other by using at least two 10G ports on each SSA chassis.

Note: To configure virtual switch bonding, you may have to purchase and apply an additional license on each SSA chassis depending

For virtual switch bonding configuration commands, see the *S-Series Configuration Guide*.

2

Installation

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.

Risques d'électrocution: Seul un personnel qualifié doit effectuer les procédures d'installation.

Warning: To prevent possible injury when installing your Enterasys switch product, avoid contacting the edges of I/O ports with your fingers.

Advertencia: Para evitar posibles lesiones durante la instalación de su producto interruptor Enterasys, evite tocar con los dedos los bordes de los puertos de entrada/salida.

Warnhinweis: Verletzungsgefahr beim Installieren des Enterasys Switch – berühren Sie die Ränder der E/A-Anschlüsse nicht mit den Fingern.

Avertissements: Afin d'éviter toute blessure possible lors de l'installation de votre commutateur Enterasys, évitez que vos doigts touchent les rebords des ports d'entrée et de sortie.

Follow the order of the sections listed below for correct installation:

Required Tools

- ESD wrist strap (included with the SSA)
- Phillips screwdriver

Unpacking the SSA

Unpack the SSA as follows:

1. Open the box and remove the packing material protecting the SSA.

   Save the shipping box and materials in the event the unit must be reshipped.

2. Remove and set aside the rail kit, RJ45-to-DB9 converter, anti-static wrist strap, and adhesive feet (for desk-top placement).

   The SSA does not include screws for attaching the rails or the SSA to rack posts.

3. Verify the contents of the carton as listed in the Table 2-1.

Table 2-1 Contents of SSA

Item
SSA chassis
Rail kit, which includes right and left rails, rail extensions (installed on the rails), mounting brackets (2), 2-56 screws (2), 10-32 screws (2), and 10-32 cage nuts (2)
RJ45 management cable
RJ45-to-DB9 converter
Anti-static wrist strap
Adhesive rubber feet (4)
Installation Guide
Release Notes

4. Inspect the SSA for any signs of physical damage.

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

Mounting the SSA

You can install an SSA on a desktop or in a rack. For more information about desktop installation, see "Desktop Installation" on page 2-4.

Note: To install the SSA on a wall, use the optional SSA-WALL-MOUNT kit. For information on installing the SSA using the SSA-WALL-MOUNT kit, see Appendix D, **Installing the SSA-WALL-MOUNT**.

Using the SSA rail kit shipped with the SSA, you can install the SSA in three types of racks:

- Four-post rack — See "Rack Mounting the SSA in a Four-post Rack" on page 2-4
- Two-post rack (7-inch posts) — See "Rack Mounting the SSA in a Two-post Rack (7-inch Posts)" on page 2-7
- Two-post rack (3-inch posts) — See "Rack Mounting the SSA in a Two-post Rack (3-inch Posts)" on page 2-10

If you are installing the SSA in a rack, Enterasys Networks recommends that you install the SSA in a four-post, 48.26-centimeter (19-inch) equipment rack.

Caution: If you are installing an SSA in a four-post or two-post rack, you must use the SSA rail kit to install the SSA in the rack. Do not attempt to secure the SSA directly to the rack using the small front mounting ears.

Precaución: Si instala un SSA en un estante de cuatro o de dos postes, debe usar el kit de rieles de SSA para realizar la instalación. No intente asegurar el SSA directamente en el estante usando las lengüetas de montaje delanteras pequeñas.

In each of the three rack types, you can, optionally, secure the rear of the SSA to tabs on the rails. For more information about securing the rear of the SSA, see "Securing the SSA to the Rear of the Rails" on page 2-11.

If you plan to cable your SSA with SFP or SFP+ pluggable transceivers, you may need to have 3–4 inches of clearance at the front of the SSA.

The installation site must be within reach of the network cabling and meet the requirements listed below:

- Appropriate grounded power receptacles must be located within 7 feet of the site.
- A temperature of between 5°C (41°F) and 40°C (104°F) must be maintained at the installation site with fluctuations of less than 10°C (18°F) per hour.

Caution: To ensure proper ventilation and prevent overheating, leave a minimum clearance space of 5.1 cm (2.0 in.) at the left, right, and rear of the device.

Precaución: Para asegurar una buena ventilación y evitar que el sistema se sobrecaliente, deje un espacio mínimo de 5.1 cm (2 pulgadas) con respecto a los lados y a la parte posterior del aparato.

Warning: Before rack-mounting the device, ensure that the rack can support it without compromising stability. Otherwise, personal injury and/or equipment damage may result.

Advertencia. Antes de montar el equipo en el rack, asegurarse que el rack puede soportar su peso sin comprometer su propia estabilidad, de otra forma, daño personal o del equipo puede ocurrir.

Warnhinweis: Überzeugen Sie sich vor dem Einbau des Gerätes in das Rack von dessen Stabilität, ansonsten könnten Personenschäden oder Schäden am Gerät die Folge sein.

Avertissements: Avant de monter l'appareil sur le bâti, assurez-vous que l'étagère peut en supporter le poids sans en compromettre la stabilité. Cela pourrait, dans le cas contraire, entraîner des blessures ou des dommages au matériel.

Desktop Installation

For desktop installation, you must attach the adhesive rubber feet to the bottom of the SSA.

To attach the rubber feet to the bottom of the SSA:

1. Place the SSA upside down on a sturdy, flat surface.
2. Remove the adhesive backing from the four rubber feet.
3. Adhere the rubber feet to the round, recessed areas on the bottom of the SSA.

You can now unpack and install the SSA power supplies. See "Unpacking the Power Supplies" on page 2-12 and "Installing the Power Supplies" on page 2-13.

Rack Mounting the SSA in a Four-post Rack

Notes: If you plan to secure the rear of the SSA to the rails, you must remove the screw in the left rear corner of the SSA BEFORE you install the SSA in the rack. For more information, see "Securing the SSA to the Rear of the Rails" on page 2-11.

The SSA rail kit does not include screws for attaching the rails or the SSA to the rack posts.

For a four-post rack installation, the SSA rail kit requires that the front to back spacing of the rack posts be within the range of 24.5 inches to 32.5 inches.

In a four-post rack, the SSA is flush-mounted on the rails supplied in the SSA rail kit and secured to the front posts of the rack. If desired, you can secure the rear of the SSA to the rails.

Caution: If you are installing an SSA in a four-post or two-post rack, you must use the SSA rail kit to install the SSA in the rack. Do not attempt to secure the SSA directly to the rack using the small front mounting ears.

Precaución: Si instala un SSA en un estante de cuatro o de dos postes, debe usar el kit de rieles de SSA para realizar la instalación. No intente asegurar el SSA directamente en el estante usando las lengüetas de montaje delanteras pequeñas.

To install the SSA in a four-post rack:

1. Extend the right and left rails to fit the outside dimensions of the rack posts.

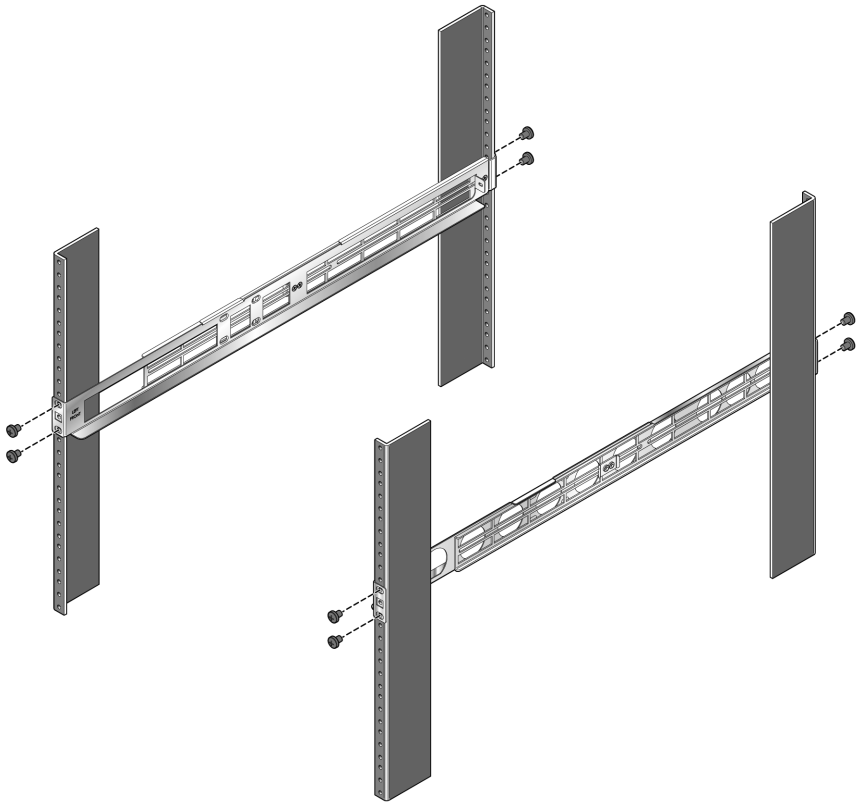
   The rails in the SSA rail kit are shipped with the rail extensions attached. If the rails do not slide easily, loosen the screws that secure the rail extensions to the main rails.

2. Position the right and left rails, which are labeled on the inside of each rail, in the rack with the bottom lip of the rail facing into the rack.

3. Attach each rail to the rack posts with two screws in the front and two screws in the back in the top and bottom screw holes. See Figure 2-1.

   The SSA rail kit does not include screws for attaching the rails to the rack posts.

Figure 2-1 Attaching the Rails to a Four-post Rack



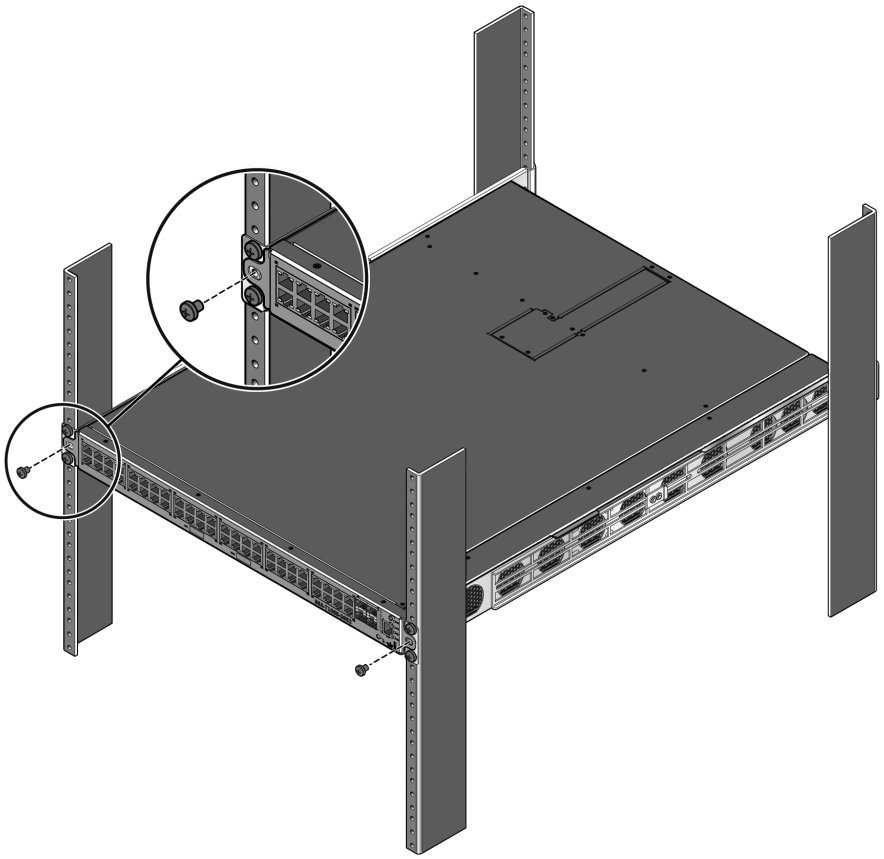
4. If necessary, tighten the screws that secure the rail extensions to the rails.

   These screws must be tight before you place the SSA in the rails.

5. From the front of the rack, slide the SSA onto the rails until the mounting ears of the SSA are against the front posts of the rack.

6. Secure the front of the SSA to the rack by screwing the customer-supplied rack screws in the mounting ears on the right and left front of the SSA. See Figure 2-2.

Figure 2-2 Securing the SSA in a Four-post Rack



7. (Optional) Secure the rear of the SSA to the rails. See "Securing the SSA to the Rear of the Rails" on page 2-11.

You can now unpack and install the SSA power supplies. See "Unpacking the Power Supplies" on page 2-12 and "Installing the Power Supplies" on page 2-13.

Rack Mounting the SSA in a Two-post Rack (7-inch Posts)

Notes: If you plan to secure the rear of the SSA to the rails, you must remove the screw in the left rear corner of the SSA BEFORE you install the SSA in the rack. For more information, see "Securing the SSA to the Rear of the Rails" on page 2-11.

The SSA rail kit does not include screws for attaching the rails or the SSA to the rack posts.

In a two-post rack with 7-inch posts, the SSA is flush-mounted in the rack and secured in the SSA rails to the front and rear of the posts. In this procedure, you need to modify the rails by removing the rail extensions and attaching the mounting brackets, which are supplied in the rail kit.

Caution: If you are installing an SSA in a four-post or two-post rack, you must use the SSA rail kit to install the SSA in the rack. Do not attempt to secure the SSA directly to the rack using the small front mounting ears.

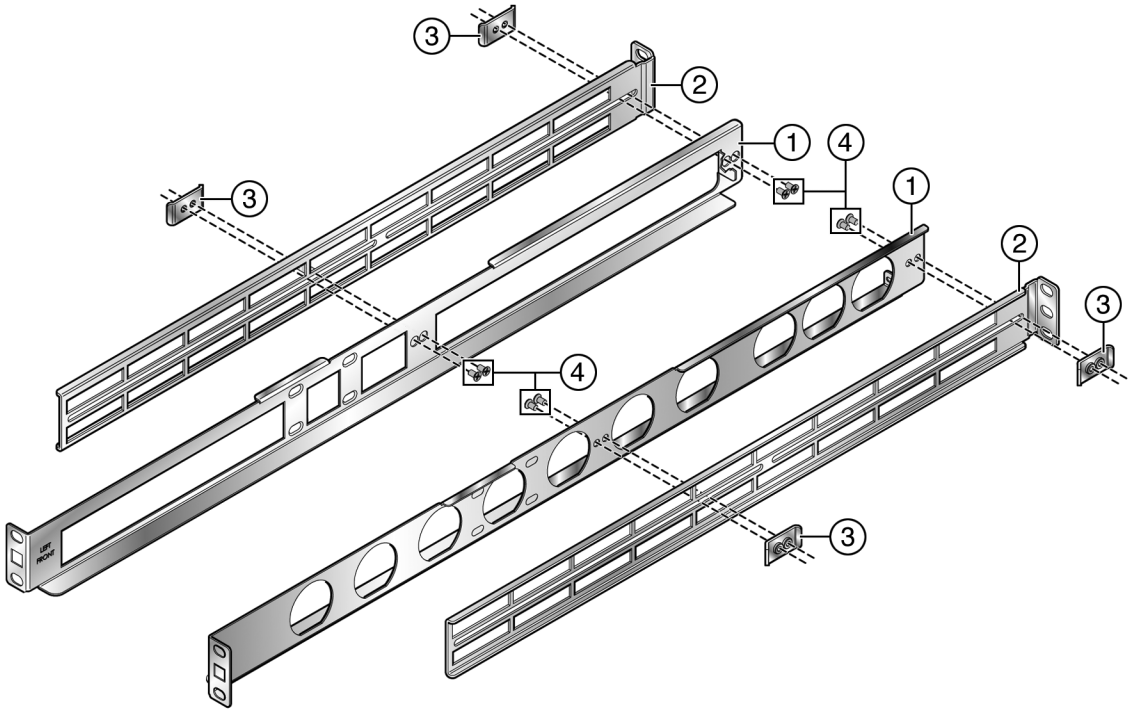
Precaución: Si instala un SSA en un estante de cuatro o de dos postes, debe usar el kit de rieles de SSA para realizar la instalación. No intente asegurar el SSA directamente en el estante usando las lengüetas de montaje delanteras pequeñas.

To rack mount the SSA in a two-post rack with 7-inch posts:

1. Remove the extensions from each rail by unscrewing the rail clamps. See Figure 2-3.

   The rail extensions and rail clamps are not used to install an SSA in a two-post rack. Save the eight 6-32 screws to be used in the next step.

Figure 2-3 Removing the Rail Extensions

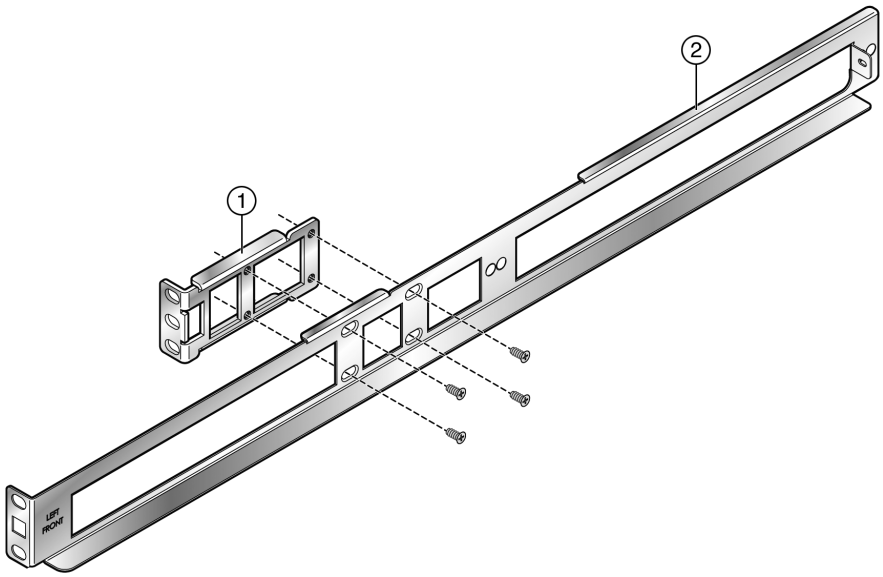


1	Rails (used in this procedure)	**3**	Rail clamps (not used in this procedure)
2	Rail extensions (not used in this procedure)	**4**	6-32 screws (used in this procedure)

2. Attach a mounting bracket, included in the SSA rail kit, to the outside of each rail using the 6-32 screws removed in step 1. See Figure 2-4.

   Use four 6-32 screws to attach each mounting bracket. Leave the 6-32 screws loose to position the mounting brackets properly against the rack posts.

Figure 2-4 Attaching the Mounting Brackets to the Rails (Left Rail Example)

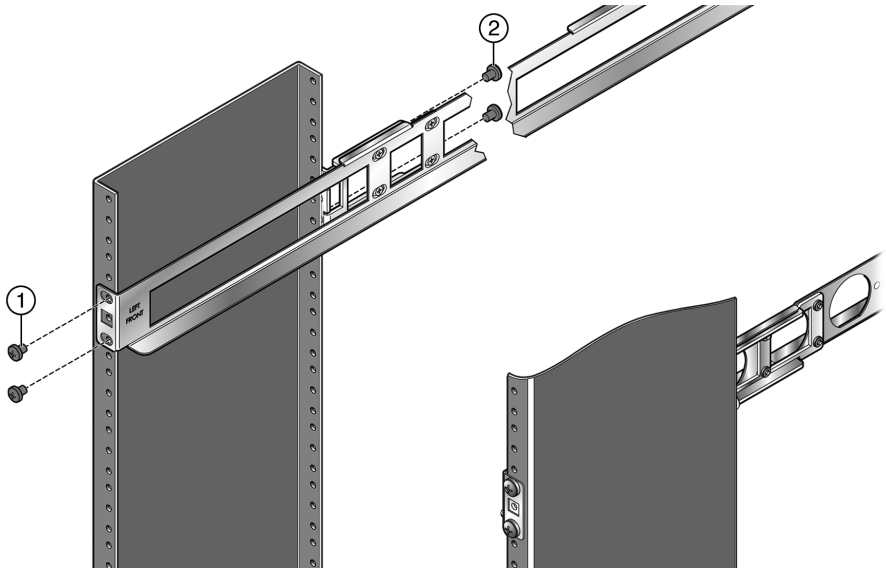


1	Mounting bracket	**2**	Rail

3. Position the right and left rails, which are labeled on the inside of each rail, in the rack with the bottom lip of the rail facing into the rack.

   The front mounting ears of the rails should be flush against the front screw holes of the rack posts. The mounting brackets should be flush against the rear screw holes of the rack posts. See Figure 2-5.

Figure 2-5 Positioning and Attaching the Rails to the 7-inch Posts



1	Securing the left rail to the front of the 7-inch post	**2**	Securing the left mounting bracket to the rear of the 7-inch post

4. Attach the rails to the rack posts. See Figure 2-5.
   a. Secure the front of the rail to the front of the rack post with customer-supplied screws in the top and bottom screw holes.
   b. Secure the mounting bracket to the back of the rack post with customer-supplied screws in the top and bottom screw holes.

   The SSA rail kit does not include screws for attaching the rails and mounting brackets to the rack posts.
5. Tighten the 6-32 screws that secure the mounting brackets to the rails.
6. Slide the SSA onto the rails until the front of the SSA is against the front of the rack posts.
7. Secure the front of the SSA to the rack by screwing the customer-supplied rack screws in the mounting ears on the right and left front of the SSA.
8. (Optional) Secure the rear of the SSA to the rails. See "Securing the SSA to the Rear of the Rails" on page 2-11.

You can now unpack and install the SSA power supplies. See "Unpacking the Power Supplies" on page 2-12 and "Installing the Power Supplies" on page 2-13.

Rack Mounting the SSA in a Two-post Rack (3-inch Posts)

Note: If you plan to secure the rear of the SSA to the rails, you must remove the screw in the left rear corner of the SSA BEFORE you install the SSA in the rack. For more information, see "Securing the SSA to the Rear of the Rails" on page 2-11.

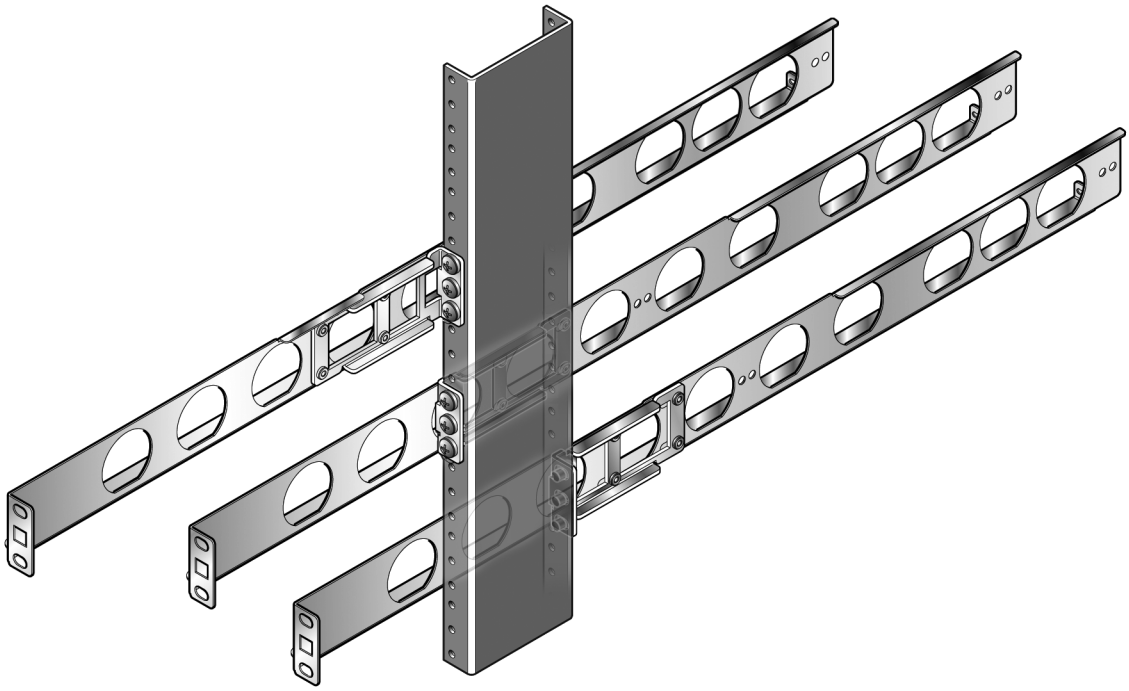
The SSA rail kit does not include screws for attaching the mounting brackets to the rack posts.

Caution: If you are installing an SSA in a four-post or two-post rack, you must use the SSA rail kit to install the SSA in the rack. Do not attempt to secure the SSA directly to the rack using the small front mounting ears.

Precaución: Si instala un SSA en un estante de cuatro o de dos postes, debe usar el kit de rieles de SSA para realizar la instalación. No intente asegurar el SSA directamente en el estante usando las lengüetas de montaje delanteras pequeñas.

In a two-post rack with 3-inch posts, three mid-mount positions are possible. See Figure 2-6 for possible mounting positions, as shown on the right post. Enterasys Networks considers the top mid-mount position shown in Figure 2-6 to be the best of the three options.

Figure 2-6 Installation Positions in a Two-post Rack (3-inch Posts)



To rack mount the SSA in a two-post rack with 3-inch posts:

1. Remove the extensions from each rack rail by unscrewing the rail clamps. See Figure 2-3 on page 2-7.

   The rail extensions and rail clamps are not used to install an SSA in a two-post rack.

2. Using the eight 6-32 screws removed in step 1, attach the mounting bracket to each rail (four screws for each mounting bracket) in the appropriate orientation for the mounting option that you have chosen. See Figure 2-6.

3. Secure the mounting brackets to the rack posts with three customer-supplied screws in each mounting bracket.

   Depending on the mounting option, you must secure the mounting brackets to either the front or back of the rack posts. See Figure 2-6.

The SSA rail kit does not include screws for attaching the mounting brackets to the rack posts.

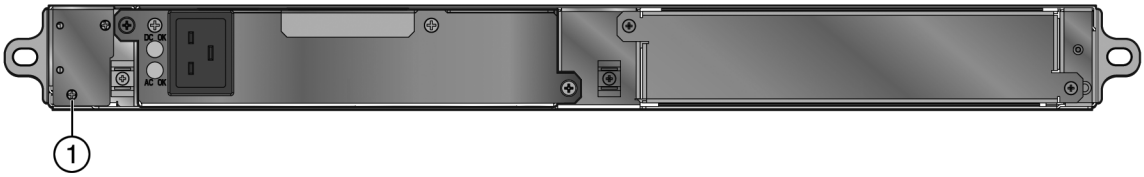
4. Snap the 10-32 cage nuts, included in the SSA rail kit, into the square screw holes on the front mounting ears of the rails.
5. Slide the SSA onto the rails until the front of the SSA is against the mounting ears of the rails.
6. Secure the front of the SSA to the rails by screwing the 10-32 screws, included in the SSA rail kit, into the mounting ears on the right and left front of the SSA.
7. (Optional) Secure the rear of the SSA to the rails. See "Securing the SSA to the Rear of the Rails" on page 2-11.

Securing the SSA to the Rear of the Rails

The optional procedure of securing the SSA to the rear of the SSA rails applies to all rack installation scenarios (four-post rack, 7-inch two-post rack, and 3-inch two-post rack). Securing the rear of the SSA is recommended only if you are shipping the rack in which the SSA is installed.

If you plan to secure the left rear corner of the SSA, you must remove the screw from the left rear corner of the SSA before installing the SSA in the rack. See Figure 2-7.

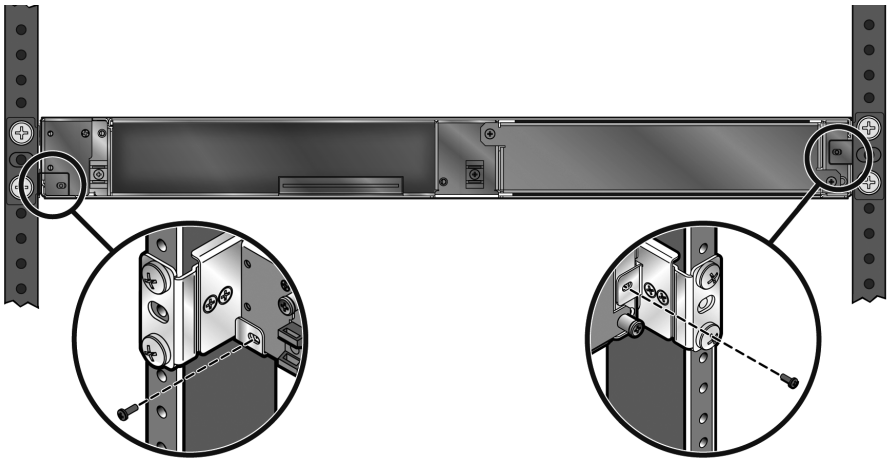
Figure 2-7 Screw to Remove if You Plan to Secure the Left Rear of the SSA



1 Remove this screw before installing the SSA in the rack

To secure the rear of the SSA to the rails, screw the 2-56 screws, included in the SSA rail kit, into the screw tabs on the right and left rail. See Figure 2-8.

Figure 2-8 Securing the Rear of the SSA (Four-post Rack Example)



Unpacking the Power Supplies

The SSA-AC-PS-625W and SSA-AC-PS-1000W power supply modules are shipped in boxes separate from the SSA. 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 2-2.
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 xvii for details.

Table 2-2 Contents of SSA Power Supply Carton

Item	Quantity
Power supply (SSA-AC-PS-625W or SSA-AC-PS-1000W)	1
For USA shipments: NEMA Power Cord 6-20, C19, R/A, SHLD Type of power cord is dependent on country of installation.	1
NOTICE Card	1

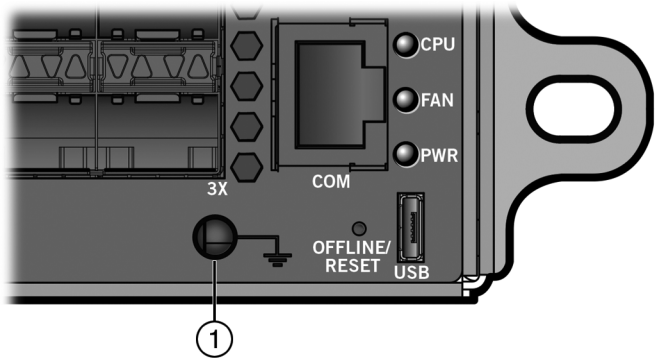
Installing the Power Supplies

If you are installing only one power supply, you must put the power supply in the left power supply bay (labeled PS1). The SSA ships without a coverplate on the PS1 bay.

To install the power supplies in the SSA:

1. Put on the antistatic wrist strap and attach it to the ground receptacle on the front of the SSA before handling a power supply. Refer to the instructions in the anti-static wrist strap package. See Figure 2-9 for the location of the ground receptacle.

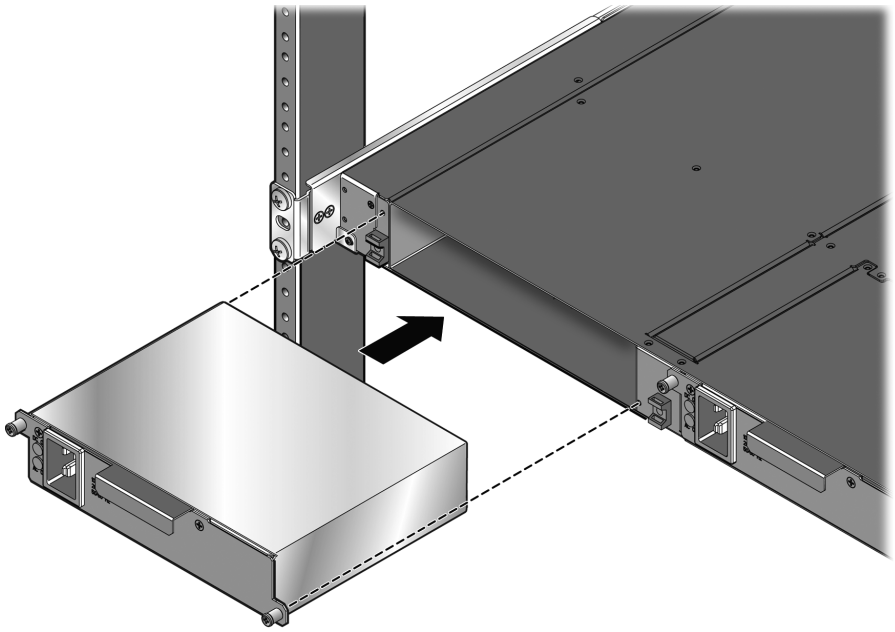
Figure 2-9 SSA Ground Receptacle



1 Ground receptacle

2. Holding the power supply with the handle on top, align the power supply with the left power supply bay (labeled PS1).
3. Slide the power supply forward until it is plugged into the chassis connector and is completely inside the bay. See Figure 2-10.

Figure 2-10 Installing a Power Supply



4. If you are installing a second power supply, remove the coverplate from the right power supply bay by unscrewing the screws that attach the coverplate to the SSA.

   Keep the coverplate in the event you need to remove the power supply.

5. Repeat steps 2–3 to install the power supply in the right power supply bay.
6. Tighten the captive screws of the power supplies.

Powering Up the SSA

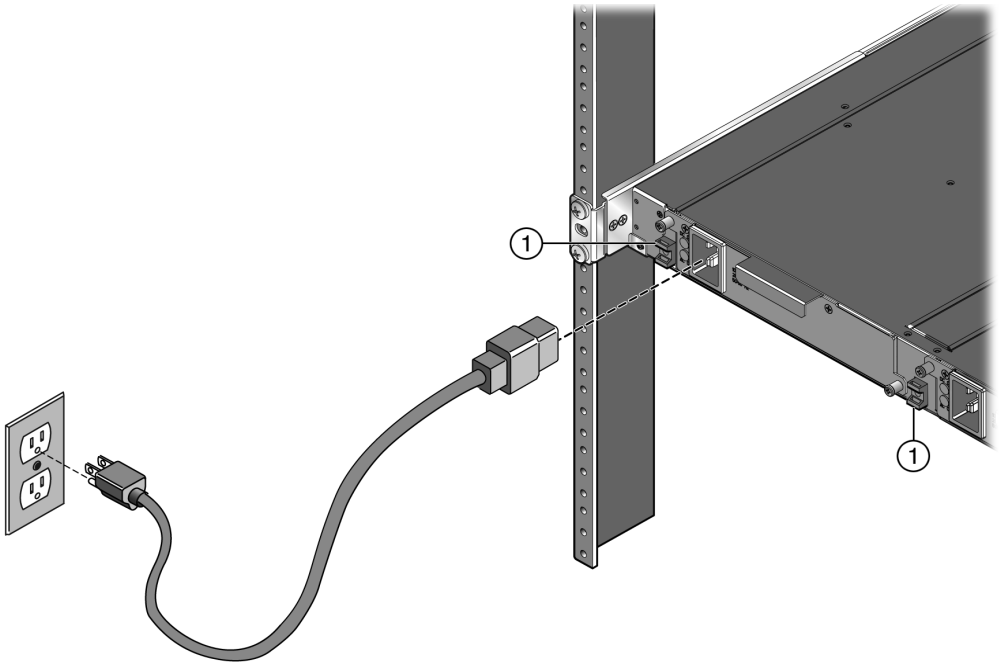
To connect the SSA to the power sources:

1. Plug a power cord into each power supply's AC power receptacle.
2. Plug the cord into a dedicated grounded AC outlet as shown in Figure 2-11.

   To take advantage of redundancy capabilities, plug each power cord into a separate dedicated AC outlet.

3. (Optional) Secure each power cord to the SSA by tying the power cords to the plastic brackets, adjacent to the power supply bays, with customer-supplied zip ties.

Figure 2-11 Connecting Power to the SSA



1 Plastic brackets for securing AC power cords to the SSA

The PWR LED, located on the front panel, turns ON (green) and the CPU LED turns red until the SSA completes its initialization.

When the initialization process is successful, the CPU LED turns green. If the CPU LED does not turn green, refer to Chapter 3, **Troubleshooting**, for troubleshooting information.

Removing a Power Supply

To remove a power supply from the SSA:

1. Put on the antistatic wrist strap and attach it to the ground receptacle on the front of the SSA before handling a power supply. Refer to the instructions in the anti-static wrist strap package. See Figure 2-9 on page 2-13 for the location of the ground receptacle.
2. Unplug the associated power cord from the AC outlet.
3. Remove the zip tie, if present, that secures the associated power cord to the SSA.
4. Unplug the associated power cord from the AC inlet.
5. Unscrew the captive screws to release the power supply from the SSA.
6. Remove the power supply by grasping the handle and pulling it straight out of the SSA.
7. If you are not immediately installing another power supply, fasten a coverplate over the empty power supply bay.

Caution: If you plan to operate the chassis with only one power supply, be sure to install the coverplate in place of the removed power supply to contain EMI radiation and ensure proper air circulation.

Precaución: Si desea trabajar sólo con una fuente de poder, no olvide colocar la tapa en el compartimiento de la fuente de poder que haya eliminado, para reducir la interferencia electromagnética y para asegurar una buena ventilación.

Connecting to the Network

This section provides the procedures for connecting Category 5 unshielded twisted pair (UTP) segments or SFP and SFP+ pluggable transceivers from the network or other devices to the SSA.

Note: If the SSA is being installed in a network using Link Aggregation, there are rules concerning the network cable and port configurations that must be followed for Link Aggregation to operate properly. Before connecting the cables, refer to the *Enterasys S-Series Configuration Guide* for the configuration information. For details on how to obtain manuals, refer to "Related Documents" on page xvi.

Connecting Category 5 UTP Ethernet Cables to the RJ45 Ports

The fixed RJ45 front panel connections of the SSA-T4068-0252, SSA-T1068-0652, and SSA-T1068-0652A are 10/100/1000 Mbps ports. They have internal crossovers and support automatic-polarity sensing which eliminates the need for a crossover cable, regardless of whether the connection is to another network device or a workstation.

Note: All RJ45 front panel ports on the SSA-T4068-0252, SSA-T1068-0652, and SSA-T1068-0652A support Category 5 Unshielded Twisted Pair (UTP) cabling with an impedance between 85 and 111 ohms. You can use Category 3 cable only for 10 Mbps connections.

1. Ensure that the far-end device connected to the other end of the segment is powered ON.
2. Connect the far-end device's twisted pair segment into the appropriate SSA RJ45 port connector.
3. Verify that a link exists by checking that the port RX (Receive) LED is ON (flashing amber, blinking green, or solid green).

   If the RX LED is OFF and the TX (Transmit) LED is not blinking amber, perform the following steps until it is on:

a. Verify that cabling is Category 5 UTP with an impedance between 85 and 111 ohms. If the port is to operate at 100 Mbps or 1000Mbps, you must use Category 5 cabling.

b. Verify that the device at the other end of the twisted pair segment is on and properly connected to the segment.

c. Verify that the RJ45 connectors on the twisted pair segment have the proper pinouts and check the cable for continuity.

If a link is not established, refer to Chapter 3, **Troubleshooting**, for details.

4. Repeat steps 1–3, until all connections have been made.

Connecting Pluggable Transceivers to the SFP and SFP+ Ports

This section describes how to install an SFP or SFP+ pluggable transceiver in any of the SSA SFP or SFP+ ports. For a list of supported SFP and SFP+ pluggable transceivers and their specifications, refer to the S-Series firmware *Release Notes* for the latest compatibility matrix for SFP and SFP+ pluggable transceivers. You can also refer to the datasheet located at the following URL:

http://www.enterasys.com/products/transceivers-ds.pdf

Warning: Fiber-optic SFPs and SFP+s use Class 1 lasers. 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.

Advertencia: Los transmisores receptores de fibra óptica SFP y SFP+ conectables utilizan sistemas de láser clase 1. No emplee instrumentos ópticos para ver la salida del láser. Hacerlo podría incrementar el riesgo de daño en los ojos. Cuando se revise el puerto óptico de salida, deberá cortarse la energía del adaptador de red.

Warnhinweis: Faseroptische, steckbare Transceiver der Typen SFP und SFP+ verwenden Laser der Klasse 1. Zur Ansicht der Laserausgabe dürfen keine optischen Geräte verwendet werden, da hierdurch die Wahrscheinlichkeit einer Gefährdung der Augen erhöht wird. Vor der Inspektion des optischen Ausgangsanschlusses muss das Stromkabel des Netzwerkadapters herausgezogen werden.

Avertissements: Les émetteurs-récepteurs en fibre optique enfichables ne fonctionnent qu'avec des lasers de classe 1. N'utilisez aucun instrument d'optique pour observer la sortie du laser. L'utilisation d'instruments d'optique augmente les risques de blessure aux yeux. L'alimentation de l'adaptateur de réseau doit être coupée lorsque vous inspectez le port optique de sortie.

Caution: Carefully follow the instructions in this manual to avoid damaging the SFP, SFP+, and SSA.

The SFP, SFP+, and SSA are sensitive to static discharges. Use an antistatic wrist strap and observe all static precautions during this procedure. Failure to do so could result in damage to the SFP, SFP+, and SSA. Always leave the SFP or SFP+ in the antistatic bag or an equivalent antistatic container when not installed.

Precaución: Siga las instrucciones del manual para no dañar el SFP, SFP+ ni el SSA, puesto que son muy sensible a las descargas de electricidad estática.

Utilice la pulsera antiestática y tome todas las precauciones necesarias durante este procedimiento. Si no lo hace, podría dañar el SFP, SFP+ o el SSA. Mientras no esté instalado, mantenga el SFP o SFP+ en su bolsa antiestática o en cualquier otro recipiente antiestático.

Preparation

Before installing the pluggable transceiver, proceed as follows:

1. Put on the antistatic wrist strap and attach it to the ground receptacle on the front of the SSA before removing the pluggable transceiver from the anti-static packaging. Refer to the

instructions in the anti-static wrist strap package. See Figure 2-9 on page 2-13 for the location of the ground receptacle.

2. Remove the pluggable transceiver from the packaging.
3. If there is a protective dust cover on the pluggable transceiver, do not remove it at this time.

Installing the Pluggable Transceiver

To install an SFP or SFP+ pluggable transceiver in the SSA:

1. Hold the pluggable transceiver so that the connector will seat properly.
2. Carefully align the pluggable transceiver with the port.
3. Push the pluggable transceiver into the port until the pluggable transceiver clicks and locks into place.

Removing the Pluggable Transceiver

To remove a pluggable transceiver from a port:

Caution: Do NOT remove an SFP or SFP+ from a slot without releasing the locking tab located under the front bottom end of the SFP or SFP+. This can damage the SFP or SFP+.

The SFP, SFP+, and SSA are sensitive to static discharges. Use an antistatic wrist strap and observe all static precautions during this procedure. Failure to do so could result in damage to the SFP, SFP+, and SSA. Always leave the SFP or SFP+ in the antistatic bag or an equivalent antistatic container when not installed.

Precaución: NO quite el SFP o SFP+ de la ranura sin antes abrir la traba ubicada en la parte frontal del el SFP o SFP+.

Utilice la pulsera antiestática y tome todas las precauciones necesarias durante este procedimiento. Si no lo hace, podría dañar el SFP, SFP+ o el SSA. Mientras no esté instalado, mantenga el SFP o SFP+ en su bolsa antiestática o en cualquier otro recipiente antiestático.

1. Put on the antistatic wrist strap and attach it to the ground receptacle on the front of the SSA before removing the pluggable transceiver. Refer to the instructions in the anti-static wrist strap package. See Figure 2-9 on page 2-13 for the location of the ground receptacle.
2. Remove the cables connected to the pluggable transceiver.
3. Release the pluggable transceiver from the port.
4. Grasp the sides of the pluggable transceiver and pull it straight out of the port.

If storing or shipping the pluggable transceiver, insert its dust protector to protect its fiber-optic ports.

Connecting Two SSA Chassis for Virtual Switch Bonding

If you are configuring two SSA chassis for virtual switch bonding, you must create two physical connections between each SSA chassis using the 10G ports. For example, you could connect ports 49 and 50 on SSA 1 to ports 49 and 50 on SSA 2.

Connecting to the COM Port for Local Management

This section describes how to install a UTP cable with RJ45 connectors and adapters to connect a PC or VT series terminal to an SSA to access Local Management. This section also details adapter pinout assignments.

What Is Needed

The following is a list of the parts that may be needed depending on the connection:

- UTP cable with RJ45 connectors (supplied with the SSA)
- RJ45-to-DB9 female adapter (supplied with the SSA)
- RJ45-to-DB25 female adapter (customer-supplied)

Using the UTP cable with RJ45 connectors and RJ45-to-DB9 adapter, you can connect from the SSA RJ45 COM port to a PC running a VT series emulation software package.

Using the UTP cable with RJ45 connectors and an optional RJ45-to-DB25 female adapter, you can connect from the SSA RJ45 COM port to a VT series terminal or VT type terminals running emulation programs for the VT series.

Connecting to a PC or Laptop

To connect a PC or laptop running the VT terminal emulation to the SSA COM port:

1. Connect the RJ45 connector at one end of the cable to the COM port on the SSA.
2. Plug the RJ45 connector at the other end of the cable into an RJ45-to-DB9 adapter.
3. Connect the RJ45-to-DB9 adapter to the communications port on the PC.
4. Configure the VT emulation package on your PC or laptop as follows:

Parameter	Setting
Mode	7 Bit Control
Transmit	Transmit=9600
Bits Parity	8 Bits, No Parity
Stop Bit	1 Stop Bit

When these parameters are set, the Local Management password screen will display. Refer to "Completing the Installation" on page 2-20 for further information.

Connecting to a VT Series Terminal

To connect a VT Series terminal to the SSA COM port, use a UTP cable with RJ45 connectors and an **optional** RJ45-to-DB25 female adapter.

1. Connect the RJ45 connector at one end of the cable to the COM port on the SSA.
2. Plug the RJ45 connector at the other end of the cable into the RJ45-to-DB25 female adapter.
3. Connect the RJ45-to-DB25 adapter to the port labeled COMM on the VT terminal.
4. Turn on the VT terminal and access the Setup Directory.

5. Set the following parameters:

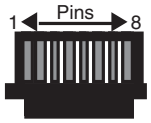
Parameter	Setting
Mode	7 Bit Control
Transmit	Transmit=9600
Bits Parity	8 Bits, No Parity
Stop Bit	1 Stop Bit

When these parameters are set, the Local Management password screen will display. Refer to "Completing the Installation" on page 2-20 for further information.

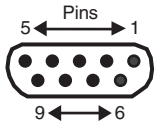
Adapter Wiring and Signal Assignments

COM Port Adapter Wiring and Signal Diagram

RJ45		DB9	
Pin	Conductor	Pin	Signal
1	Blue	2	Receive (RX)
4	Red	3	Transmit (TX)
5	Green	5	Ground (GRD)
2	Orange	7	Request to Send (RTS)
6	Yellow	8	Clear to Send (CTS)



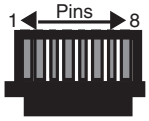
RJ45 Connector (Female)



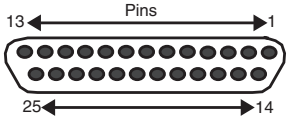
DB9 Connector (Female)

VT Series Port Adapter Wiring and Signal Diagram

RJ45		DB25	
Pin	Conductor	Pin	Signal
4	Red	2	Transmit (TX)
1	Blue	3	Receive (RX)
6	Yellow	5	Clear to Send (CTS)
5	Green	7	Ground (GRD)
2	Orange	20	Data Terminal Ready



RJ45 Connector (Female)



DB25 Connector (Female)

Completing the Installation

After installing the SSA and making the connections to the network, access the device management startup screen from your PC or terminal connection as described in the following section.

Note: This procedure applies only to initial log-in and to logging in to a device not yet configured with administratively-supplied user and password settings.

By default, the SSA is configured with three user login accounts: **ro** for Read-Only access; **rw** for Read-Write access; and **admin** for super-user access to all modifiable parameters. The default password is set to blank (null). For information on changing these default passwords, refer to the *Enterasys S-Series Configuration Guide*.

Start the Command Line Interface (CLI) from the device's local console port as follows:

1. Connect a terminal to the local console port as described in "Connecting to the COM Port for Local Management" on page 2-18. The startup screen displays.

```
login: admin
Password:


SSA
Command Line Interface

Enterasys Networks, Inc.
9 Northeastern Blvd.
Salem, NH 03079 USA

Phone:  +1 603 952 5000
E-mail: support@enterasys.com
WWW:    http://www.enterasys.com

(c) Copyright Enterasys Networks, Inc. 2012

Chassis Serial Number:      xxxxxxxxxxxx
Chassis Firmware Revision:  xx.xx.xx.xxxxT


User admin last logged in WED NOV 14 16:12:42 2012
There have been 0 failed login attempts since then


SSA (su)->
```

2. At the login prompt, enter one of the following default user names:
   - **ro** for Read-Only access
   - **rw** for Read-Write access
   - **admin** for Super User access. (This access level allows Read-Write access to all modifiable parameters, including user accounts.)
3. Press **Enter**.
4. The Password prompt displays. Leave this string blank and press **Enter**. The device information and SSA prompt appear as shown above.

The SSA is now ready to be configured. For information about setting the IP address and configuring Telnet settings for remote access to SSA management, refer to the *Enterasys S-Series Configuration Guide*.

The CLI commands enable you to initially set up and perform more involved management configurations. The *Enterasys S-Series Configuration Guide* is available online at:

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

3

Troubleshooting

This chapter provides information concerning the following:

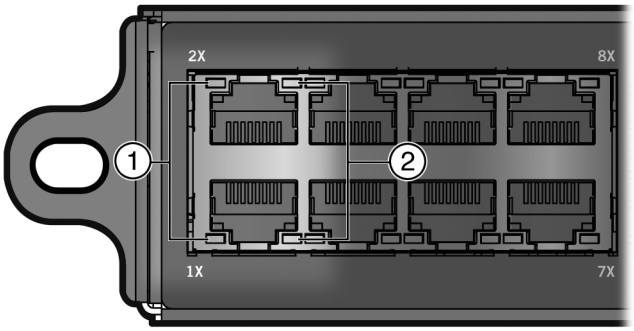
LEDs

The SSA has port, system, and power supply LEDs.

Port LEDs

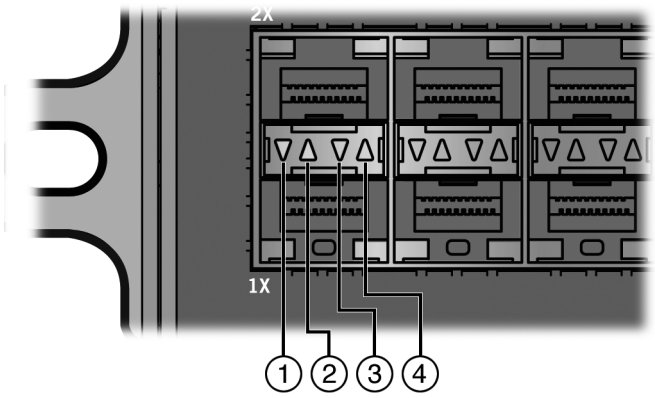
On the SSA, you can view the receive and transmit activity on the RX and TX LEDs for the RJ45, SFP, and SFP+ ports. See Figure 3-1 and Figure 3-2.

Figure 3-1 RJ45 Port LEDs



1 RX LED **2** TX LED

Figure 3-2 SFP and SFP+ Port LEDS



1	RX LED for bottom port	**3**	TX LED for bottom port
2	RX LED for top port	**4**	TX LED for top port

Note: Though Figure 3-2 shows SFP ports, the LEDs are the same for both SFP and SFP+ ports.

Table 3-1 describes the LED indications for the RX and TX LEDs for the RJ45, SFP, and SFP+ ports and provides recommended actions.

Table 3-1 Port LEDs

LED	Color	State	Recommended Action
RX (Receive)	None	No link. No activity. Port enabled or disabled.	None.
	Green (solid)	Link present, port enabled, no traffic is being received by the interface.	None.
	Yellow (blinking)	Link present, port enabled, traffic is being received by the interface.	None.
TX (Transmit)	None	Port enabled, but no activity.	If you know the port should be active and is not, contact Enterasys Technical Support.
	Green (blinking)	Indicates data transmission activity. Flashing frequency indicates the data rate.	None.
	Yellow (solid)	Fault or error (collision).	None, unless activity is high; in which case, check for network configuration problems or a defective device.

Table 3-2 describes the LED indications for the RX and TX LEDs when the RJ45 ports are in PoE mode. You can switch the RJ45 ports to PoE mode or RX/TX mode by pressing the red POE button in the upper right corner of the SSA. The POE LED, described in Table 3-3, indicates whether the RJ45 port LEDs are in PoE or RX/TX mode.

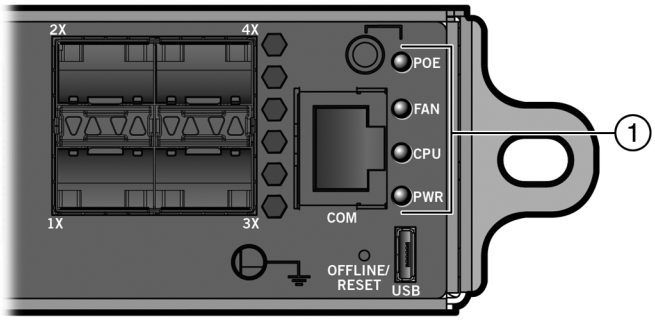
Table 3-2 RJ45 Port LEDs—PoE Mode

RX LED Color	TX LED Color	State
Green	None	There is a connection to the PD and there is 48VDC at the RJ45 connector.
None	Yellow	Port is off due to overload (attached PD exceeded maximum load).
Yellow	None	Port is off due to PoE power management.
None	None	Port is off due to another reason.

System LEDs

Figure 3-3 shows the SSA system LEDs.

Figure 3-3 SSA System LEDs



1 SSA system LEDs

Table 3-3 describes the LED indications for the system LEDs and provides recommended actions.

Table 3-4 describes the CPU LED when the SSA is in a virtual switch bonding configuration.

Table 3-3 System LEDs

LED	Color	State	Recommended Action
POE	Green	The RJ45 port LEDs are in PoE mode. See Table 3-2. You can switch to or from PoE mode by pressing the red POE button next to the POE LED. In PoE mode, the PWR LED indicates the numbers and types of power supplies installed.	None.
	None	The RJ45 port LEDs are in RX/TX mode. See Table 3-1 on page 3-2. You can switch to or from RX/TX mode by pressing the red POE button next to the POE LED.	None.

Table 3-3 System LEDs (continued)

LED	Color	State	Recommended Action
FAN	Off	Fans are off or booting up.	None.
	Green	All fans are operating normally.	None.
	Amber	One fan has failed.	Replace the failed fan. See “Replacing the SSA Fans” on page 3-7.
	Red	One or more of the following conditions has occurred: • Temperature is out of range. • The fan controller has failed. • Two or more fans have failed.	Check the CLI to determine the exact condition of the fans. Use the **show system** command. If fans have failed, replace the fans. See “Replacing the SSA Fans” on page 3-7.
CPU	Off	Power off.	Ensure chassis has adequate power.
	Amber	**Blinking**. Device in bootup process.	None.
		Solid. Testing.	If the LED remains amber for several minutes, contact Enterasys Networks for technical support.
	Green	**Blinking**. Image starts running.	None.
		Solid. Functional.	None.
	Red	**Solid**. Processor in reset.	None.
	Green and Amber	**Blinking**. Indicates that the SSA is in the process of shutting down.	None. This state is activated when the RESET button is pressed for less than 1 second to start an orderly shutdown.
	Amber and off	**Alternating (67% on, 33% off)**. Indicates a shutdown is complete. The indication will hold for 60 seconds then automatically restart.	While in this state, you have 60 seconds before the SSA will reboot.
PWR	Off	The SSA is not receiving power from the power supplies.	Ensure the power cords are plugged in and power is available at the source. Contact Enterasys Networks for technical support.
	Green	**Functional**. Indicates one of the following conditions: • A single power supply is present and operating normally. • Two power supplies are present and operating normally.	None.
	Amber	One of the following conditions has occurred: • Two power supplies are present but only one is operating normally while the other is not connected. • Two power supplies are present but only one is operating normally while the other indicates a fault. • Both power supplies are faulty but the SSA is still receiving power. • Power supplies are operating in additive (non-redundant) mode. • Other internal fault.	Ensure the power cords are plugged in and power is available at the source. Contact Enterasys Networks for technical support.

Table 3-3 System LEDs (continued)

LED	Color	State	Recommended Action
PWR (continued)	Blue	**Solid.** Indicates, in PoE mode, that two 625W power supplies are installed.	None.
	Blue/ Green	Indicates, in PoE mode, that one 625W power supply is installed.	None.
	White	**Solid.** Indicates, in PoE mode, that two 1000W power supplies are installed.	None.
	White/ Green	Indicates, in PoE mode, that one 1000W power supply is installed.	None.
	Blue/ White	Indicates, in PoE mode, that 625W and 1000W power supplies are installed.	None.

Note: The PWR LED status indication is based on power supplies being powered on.

Table 3-4 CPU LED in Virtual Switch Bonding Configuration

Color	State
Green and Blue	**Blinking**. Image has started and found chassis bonding enabled.
Blue	**Solid**. Functional (binding is operational and ready to switch)
Blue	**Blinking**. Binding is not functional (non-operational).

Power Supply LEDs

There are two LEDs on both the SSA-AC-PS-625W and SSA-AC-PS-1000W power supplies: a DC OK LED, indicating the operational status of outgoing power, and an AC OK LED, indicating incoming AC line voltage is sufficient or has fallen below operational limits. Table 3-5 describes the different states of the power supply LEDs.

Table 3-5 Power Supply LED Status Definitions

LED	LED Color	Status
AC OK	Green	Sufficient AC power supply (influx).
	Off	Power supply malfunctioning.
DC OK	Green	Power supply successfully providing 48 VDC to the system.
	Off	Power supply malfunctioning.

Troubleshooting Checklist

If the SSA is not working properly, refer to Table 3-6 for a checklist of problems, possible causes, and recommended actions to resolve the problem.

Table 3-6 Troubleshooting Checklist

Problem	Possible Cause	Recommended Action
All LEDs are OFF.	Loss of power.	Ensure the SSA was installed properly according to the installation instructions in Chapter 2, **Installation**, and that the chassis has power.
No Local Management Password screen.	Incorrect terminal setup.	Refer to the *S-Series Configuration Guide* for proper setup procedures.
	Improper console cable pinouts.	Refer to Appendix A, **Specifications** for proper COM port pinouts.
	Corrupt firmware image or hardware fault.	If possible, attempt to download the image to the SSA again. Refer to Appendix B, **Resetting Mode Switches** for instructions to clear NVRAM.
Cannot navigate beyond Password screen.	Improper username/ password combination entered.	If the username/password combination has been forgotten, refer to Appendix B, **Resetting Mode Switches** for instructions on how to set the mode switch to reset the username/password combination to the default values.
Cannot contact the SSA through in-band management.	IP address not assigned.	See *S-Series Configuration Guide* for instructions to assign an IP address.
	Port is disabled.	Enable port. See *S-Series Configuration Guide* for instructions to enable/disable ports.
	Host Port policy and/or management VLAN is incorrectly configured, or not configured.	Verify that a management VLAN exists and that it is associated with the Host Port. Refer to the *S-Series Configuration Guide* for information about Host Port and management VLAN configuration.
	No link to device.	Verify that all network connections between the network management station and the SSA are valid and operating. If the problem continues, contact Enterasys Networks for technical support.
Port(s) goes into standby for no apparent reason.	Loop condition detected.	Verify that Spanning Tree is enabled. Refer to the *S-Series Configuration Guide* for the instructions to set the type of STA. Review the network design and delete loops. If the problem continues, contact Enterasys Networks for technical support.
User parameters (IP address, device and device name, etc.) were lost when the SSA power was cycled or the OFFLINE/ RESET button was pressed.	Position of Mode switch (7), Persistent Data Reset, was changed sometime before either cycling power or pressing the RESET button, causing the user-entered parameters to reset to factory default settings. Clear Persistent Data that was set through Local Management.	Reenter the lost parameters as necessary. Refer to the *S-Series Configuration Guide* for the instructions to configure the device. If the problem persists, contact Enterasys Networks for technical support.

Replacing the SSA Fans

Electrical Hazard: Do not remove the cover from the SSA while power is applied to the unit. Hazardous voltages are present and could cause personal injury and/or damage the unit.

Do not power up the SSA again until the cover and screws are in place.

Riesgo Eléctrico: No debe de remover la tapa durente que este coneltado a la corriente, una descarga electrica le puede causar y probocarle daños, al igual que al aparato.

No enchufe a la corriente hasta que la tapa y los tornillos esten en su lugar.

Elektrischer Gefahrenhinweis: Entfernen sie nicht den Deckel des C, wenn dieser noch an die Stromzufuhr angeschossen ist, gefährliche Spannungen können Personen verletzten oder das Gerät beschädigen.

Schalten Sie den SSA nicht ein, bevor der Deckel das Gerät abdeckt und mit den Schrauben fixiert wurde.

Risques d'électrocution: Ne retirez pas le volet du commutateur lorsque l'appareil est sous tension. Des tensions dangereuses pourraient entraîner des blessures ou endommager l'élément.

Actionnez de nouveau le commutateur uniquement une fois que le volet et que toutes les vis sont bien en place.

Warning: This unit may have more than one power supply cord. Disconnect two power supply cords before servicing to avoid electric shock.

Advertencia: Esta unida puede tener mas de un cable de fuente de poder. Desconectar dos cables de fuentes de poder antes de dar servicio para prevenir riesgo eléctrico.

Warnhinweis: Dieses Gerät hat mehrere Netzanschlüße, trennen Sie vor den Wartungsarbeiten beide Netzanschlüsse vom Versorgungsnetz. zum Schutz vor elektrischen Schlägen.

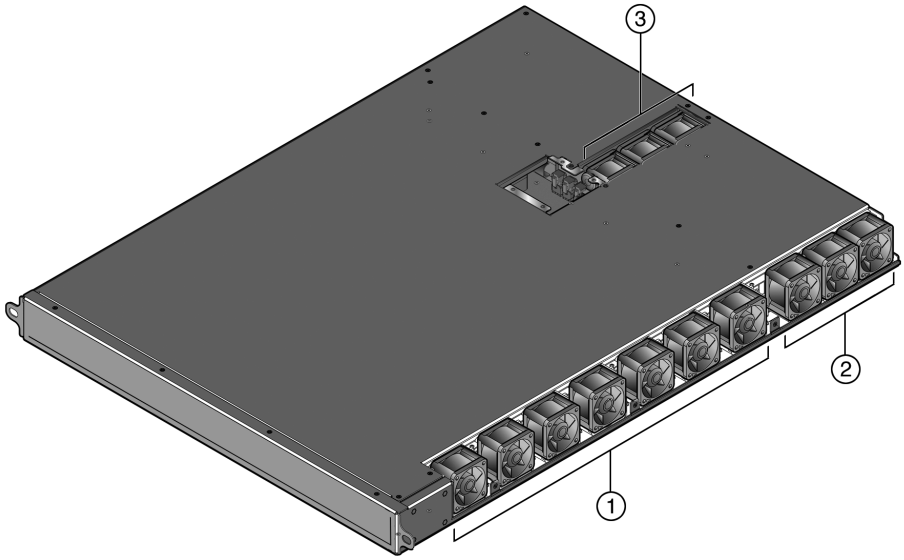
Avertissements: Cet élément pourrait avoir plus d'un câble d'alimentation. Déconnectez tous les câbles d'alimentation avant d'effectuer les opérations de maintenance sur l'appareil afin de réduire les risques d'électrocution.

The SSA is cooled by thirteen individual 12V fans. If the FAN LED and the output of the CLI **show system** command indicate that a fan has failed, you must replace the failed fan.

The thirteen SSA fans are divided into three groups (see Figure 3-4):

- Fans F1–F7, which are located on the right side of the SSA. Each F1–F7 fan's connector is adjacent to the fan. See "Replacing Fans F1–F7" on page 3-9.
- Fans F8–F10, which, like fans F1–F7, are located on the side of the SSA; however, fans F8–F10 do not have adjacent connectors—they are located behind fan F7. See "Replacing Fans F8–F10" on page 3-12.
- Fans F11–F13, which are located in the rear of the SSA, between the power supply bays. Like fans F8–F10, fans F11–F13 do not have adjacent connectors. See "Replacing Fans F11–F13" on page 3-14.

Figure 3-4 SSA Fan Locations



1 Fans F1–F7 **2** Fans F8–F10 **3** Fans F11–F13

Before replacing any of the SSA fans, you must first power down the SSA and, if installed in an equipment rack, remove the SSA from the rack.

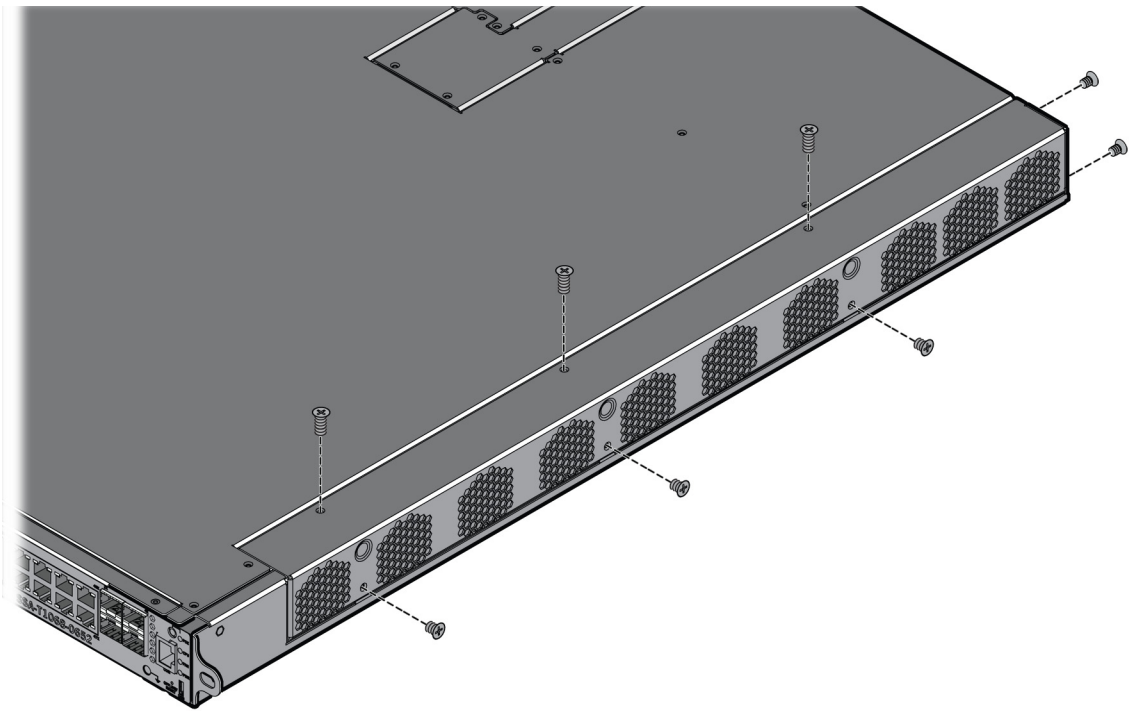
The replacement fan kit, SSA-FAN-KIT, which you must order separately, contains one replacement fan.

Replacing Fans F1–F7

To replace an F1–F7 fan:

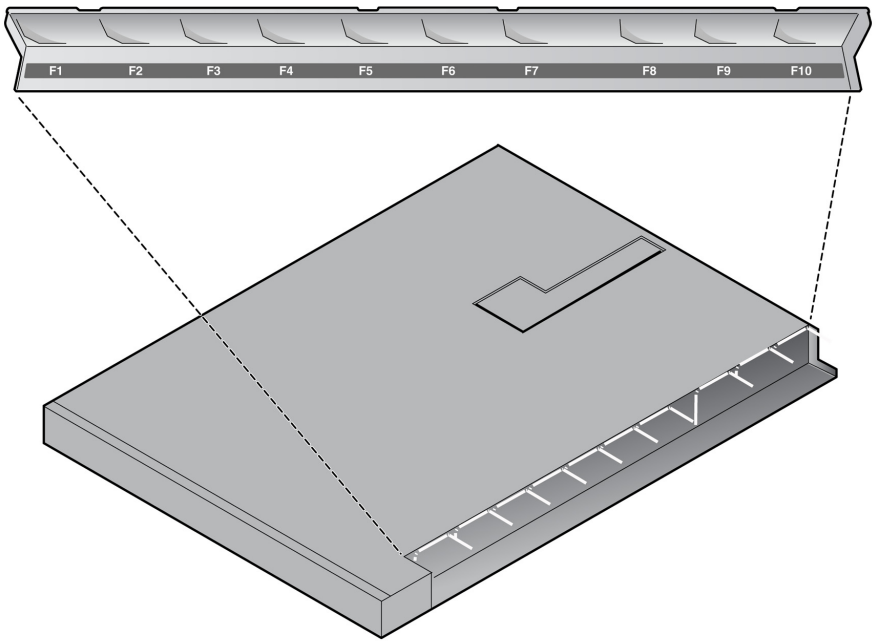
1. Put on the ESD wrist strap and attach it to the ground receptacle on the front of the SSA.
2. Remove the side panel from the SSA by unscrewing the eight zinc (silver) screws from the side panel. See Figure 3-5.

Figure 3-5 Removing the Side Panel of the SSA



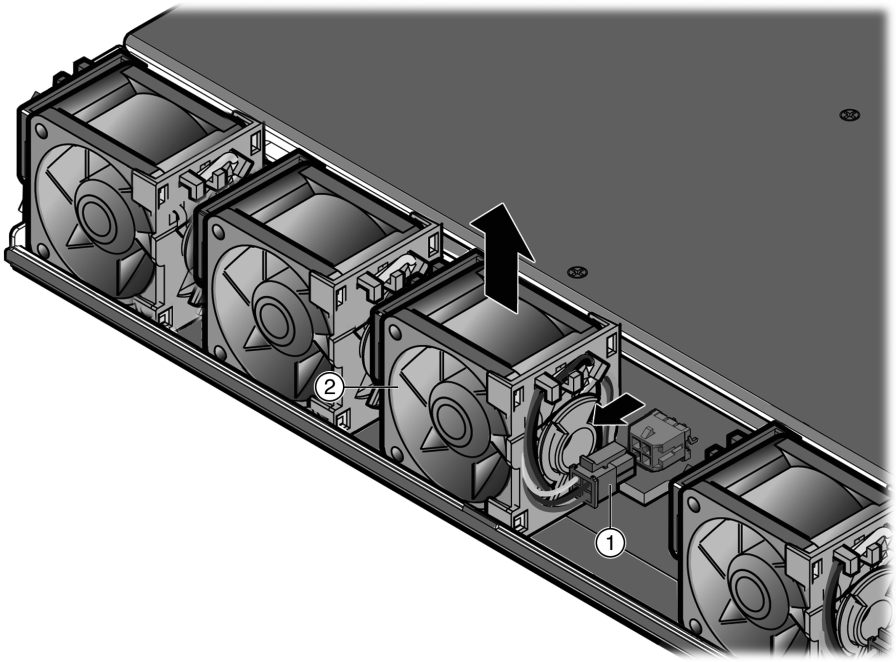
3. Set the side panel upside down to view the label on the inside of the side panel that indicates the position of each fan. See Figure 3-6.

Figure 3-6 Underside of the SSA Side Panel



4. Remove the failed fan from its position in the SSA.
5. Disconnect the failed fan from its connector, located to the right of the fan. See Figure 3-7.

Figure 3-7 Disconnecting an F1–F7 Fan (Fan F3 Example)

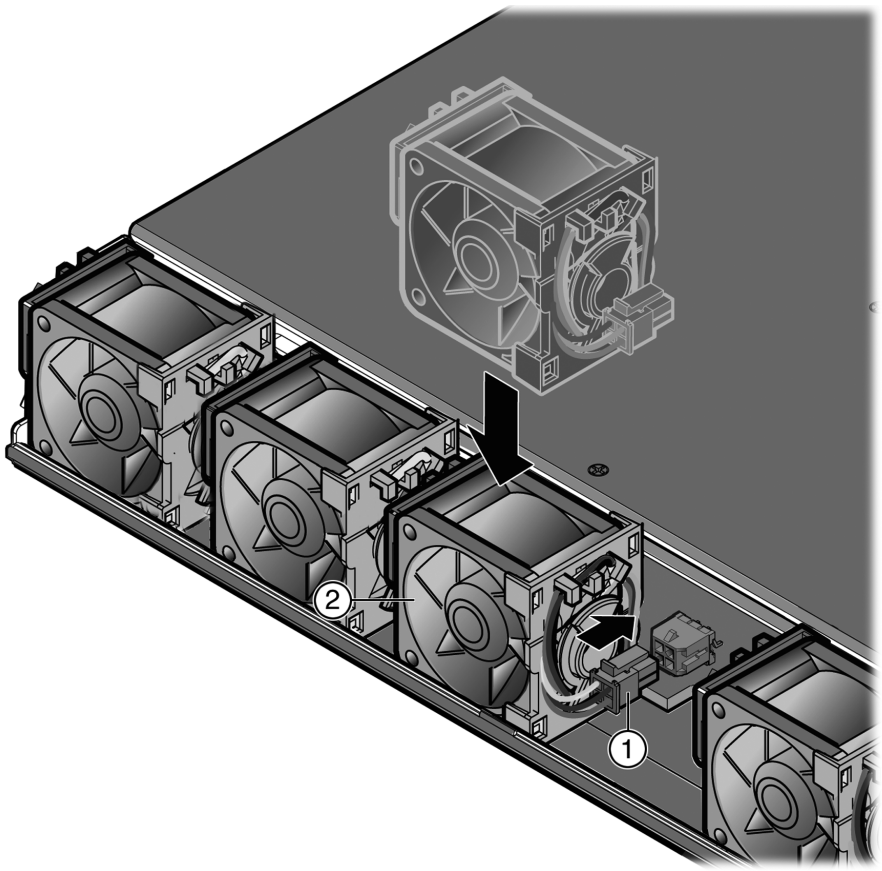


1 Fan F3 connector **2** Fan F3

6. To ensure proper air flow, connect the new fan to the chassis connector with the label side of the replacement fan facing into the SSA and the cable clip on the right. See Figure 3-8.

   Do not remove the cable clip on fans F1–F7. See Figure 3-9 on page 3-12, which shows the cable clip.

Figure 3-8 Connecting an F1–F7 Fan (Fan F3 Example)



1	Fan F3 connector	**2**	Fan F3 (label facing into the SSA)

7. Place the fan in the chassis next to the connector. See Figure 3-8.
8. Reinstall the side panel of the SSA.

You can now reinstall the SSA in the equipment rack.

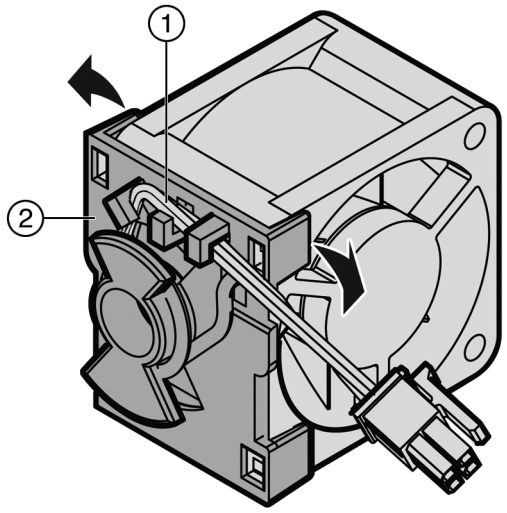
Replacing Fans F8–F10

To replace an F8–F10 fan:

1. Put on the ESD wrist strap and attach it to the ground receptacle on the front of the SSA.
2. Remove the side panel from the SSA by unscrewing the eight zinc (silver) screws from the side panel. See Figure 3-5 on page 3-9.
3. Set the side panel upside down to view the label on the inside of the side panel that indicates the position of each fan. See Figure 3-6 on page 3-10.
4. Disconnect and remove fan F7 to access the F8–F10 bank of connectors, located behind fan F7. See Figure 3-10 on page 3-13, which shows the connectors for the F8–F10 fans.
5. Lift the failed fan out of the chassis.
6. Disconnect the failed fan from the appropriate connector.
   - F8 connector: left connector
   - F9 connector: middle connector
   - F10 connector: right connector
7. Unwind the replacement fan's cables.
8. Remove the cable clip from the replacement fan. See Figure 3-9.

   You may discard the cable clip.

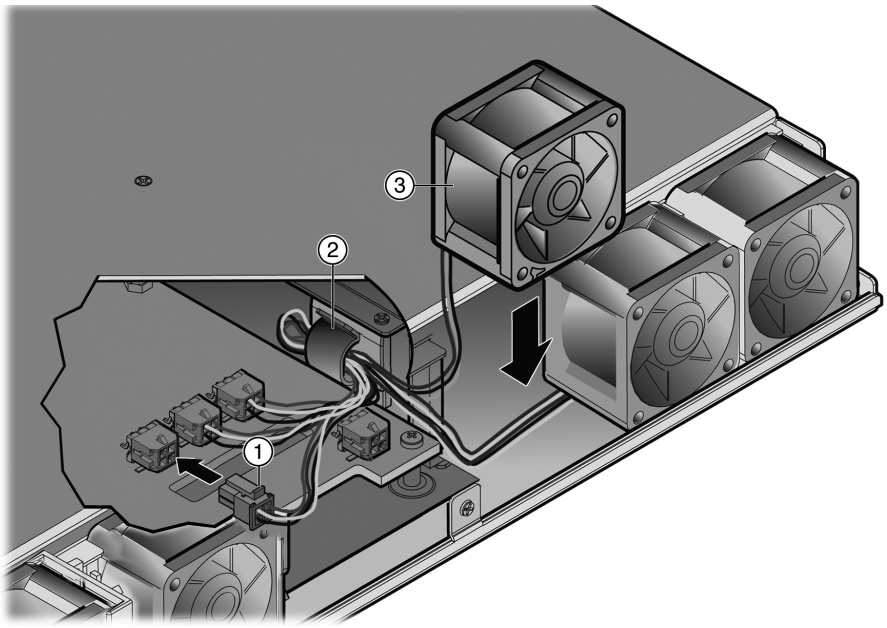
Figure 3-9 Removing a Fan's Cable Clip



1 Fan cables **2** Cable clip

9. With the label side of the replacement fan facing into the SSA and the cable on the left, connect the replacement fan to the chassis connector. See Figure 3-10.

Figure 3-10 Connecting an F8–F10 Fan (Fan F8 Example)



1	Fan F8 connector	**2**	F8–F10 cable management clip	**3**	Fan F8

10. Feed the excess fan cable into the cable management clip. See Figure 3-10.
11. Position the cables of the F8–F10 fans on the floor of the SSA.
12. Position the F8–F10 fans on top of their cables.
13. Reinstall fan F7.
14. Reinstall the side panel of the SSA.

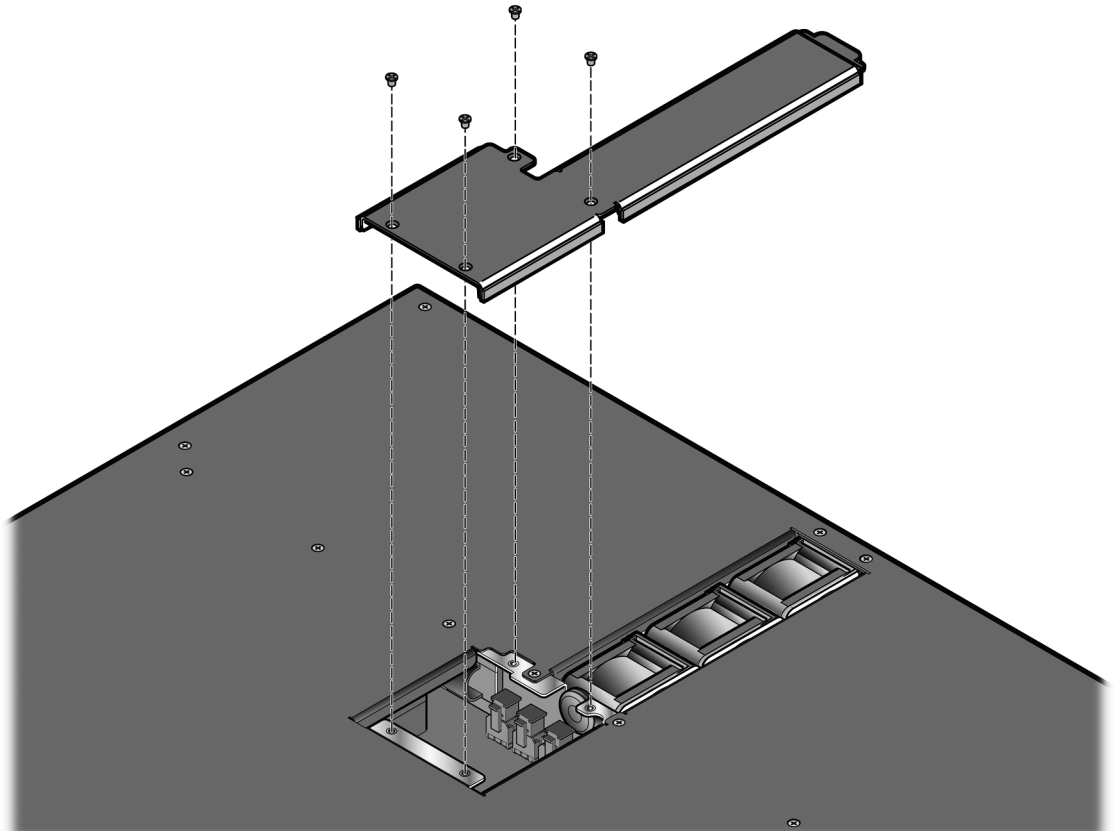
You can now reinstall the SSA in the equipment rack.

Replacing Fans F11–F13

To replace an F11–F13 fan:

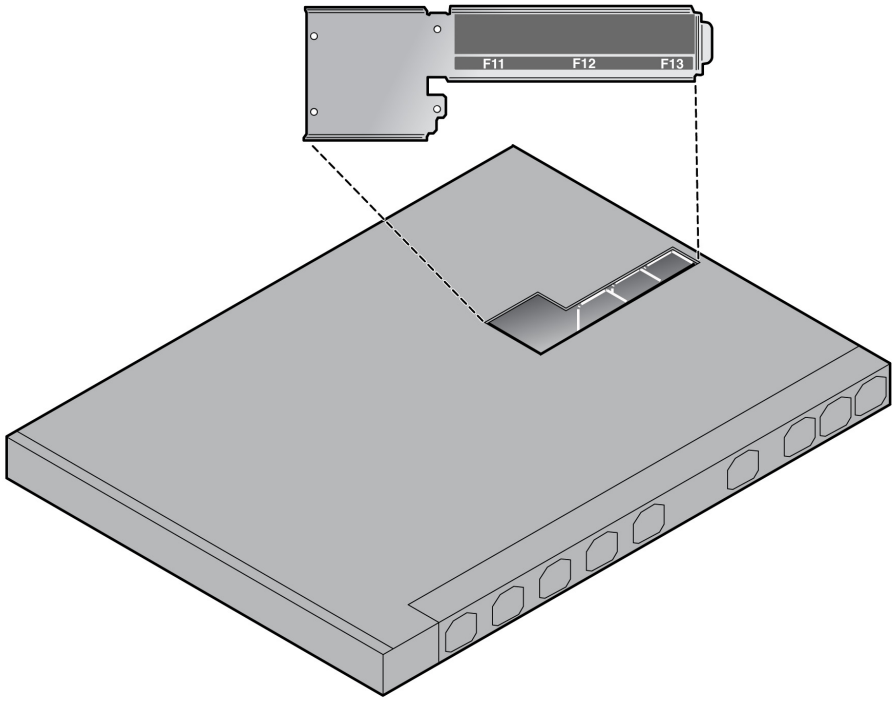
1. Put on the ESD wrist strap and attach it to the ground receptacle on the front of the SSA.
2. Remove the rear panel of the SSA by unscrewing the four zinc (silver) screws from the rear panel. See Figure 3-11.

Figure 3-11 Removing the Rear Panel



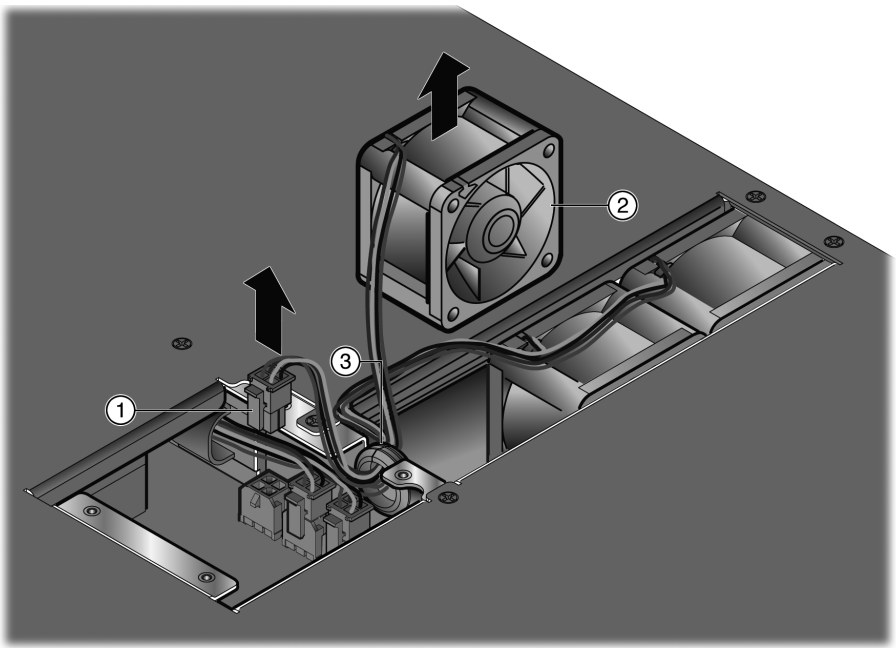
3. Set the side panel upside down to view the label on the inside of the rear panel that indicates the position of each fan. See Figure 3-12.

Figure 3-12 Underside of the SSA Rear Panel



4. Remove the failed fan from the SSA. See Figure 3-13.
   a. Lift the failed fan out the SSA.

Figure 3-13 Disconnecting an F11–F13 Fan (Fan F11 Example)



1	Fan F11 connector	**2**	Fan F11	**3**	Rubber grommet

b. Remove the failed fan's cables from the rubber grommet.

You may have to lift the rubber grommet out of the chassis to remove the failed fan's cables from the grommet. The grommet is slit.

c. Disconnect the fan from the appropriate connector.

The bank of F11–F13 connectors is located next to fan F11, on the other side of the sheet metal wall that separates the power supply bays from the rest of the SSA. If you are facing towards the back of the SSA, the F11–F13 connectors are arranged as follows:

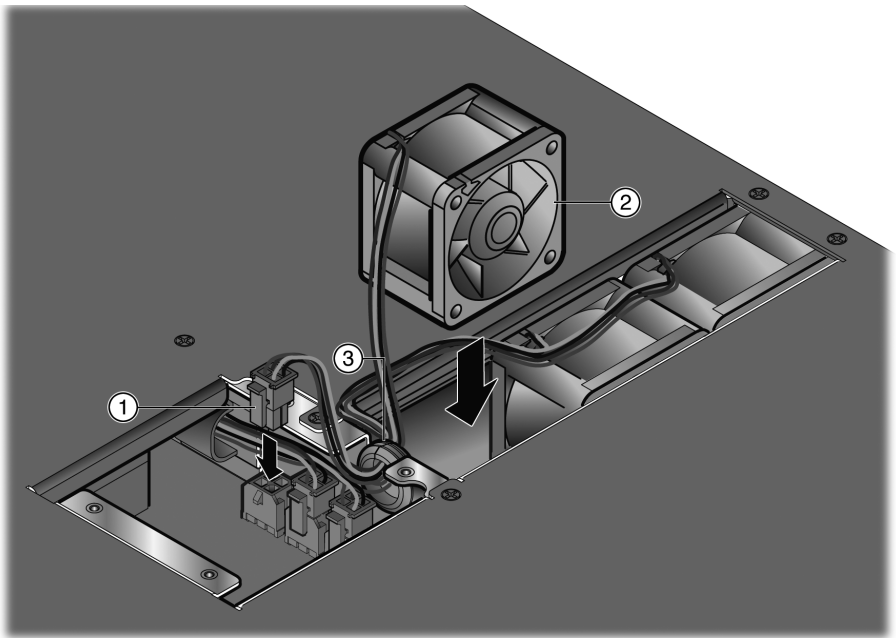
- F11 connector: left connector
- F12 connector: middle connector
- F13 connector: right connector

5. Unwind the replacement fan's cables.
6. Remove the cable clip from the replacement fan. See Figure 3-9 on page 3-12.

You may discard the cable clip.

7. With the label side of the replacement fan facing into the second power supply bay (labeled PS2) and the cable on the left, slip the fan cable into the rubber grommet and connect the cable to the chassis connector. See Figure 3-14.

Figure 3-14 Connecting an F11–F13 Fan (Fan F11 Example)



1 Fan F11 connector **2** Fan F11 **3** Rubber grommet

8. Position the fan in the SSA.
9. Position the cables of the F11–F13 fans on top of the fans, ensuring that the cables are not in a position that would cause the cables to be pinched by the rear panel.
10. Reinstall the rear panel of the SSA.

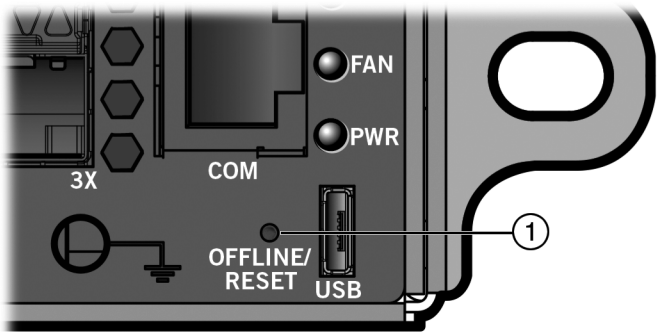
You can now reinstall the SSA in the equipment rack.

Using the OFFLINE/RESET Button

You can shut down an SSA using the OFFLINE/RESET button, shown in Figure 3-15, which is slightly recessed behind the SSA faceplate. There are two procedures to shut down an SSA:

- Recommended Shutdown Procedure Using OFFLINE/RESET Button
- Last Resort Shutdown Procedure Using OFFLINE/RESET Button (This procedure is not recommended)

Figure 3-15 OFFLINE/RESET Button



1 OFFLINE/RESET button

Recommended Shutdown Procedure Using OFFLINE/RESET Button

Before shutting off power to an SSA, **press or tap** on its OFFLINE/RESET button for less than one second.

The SSA CPU LED changes from solid green to blinking between green and amber, indicating that the SSA is shutting down. At the end of the shutdown routine, the CPU LED changes to a 67%/33% sequence of amber/off, respectively, indicating the system is in a halt state. At this time it is safe to restart the SSA.

When you initiate a controlled shutdown with the OFFLINE/RESET button, you have 60 seconds from the time the CPU LED starts flashing amber/off until the device automatically restarts.

Last Resort Shutdown Procedure Using OFFLINE/RESET Button

Caution: This method of shutting down an SSA is not recommended except as a last resort, because all processes currently running on the SSA will be interrupted resulting in loss of frames.

Precaución: No se recomienda utilizar este método para apagar los módulos SSA. Recurra a él sólo como último recurso, puesto que interrumpe todos los procesos del módulo en funcionamiento, lo que podría resultar pérdidas de frames.

To reset an SSA without it performing an orderly shutdown routine, **press and hold** the OFFLINE/RESET button for approximately 6 seconds.

A

Specifications

This appendix provides the following information:

Enterasys Networks reserves the right to change specifications at any time without notice.

SSA Specifications

Table A-1 describes I/O ports, physical, electrical, and environmental specifications for the SSA.

Table A-1 Specifications

Item	Specification
SSA-T4068-0252 Ports	
Ports 1 through 48	48 10/100/1000BASE-T RJ45 ports
Ports 49 through 52	4 10GBASE-X SFP+ ports
SSA-T1068-0652 Ports	
Ports 1 through 48	48 10/100/1000BASE-T RJ45 ports
Ports 49 through 52	4 10GBASE-X SFP+ ports
SSA-T1068-0652A Ports	
Ports 1 through 48	48 10/100/1000BASE-T RJ45 ports
Ports 49 through 52	4 10GBASE-X SFP+ ports
SSA-G1018-0652 Ports	
Ports 1 through 48	48 1000BASE-T SFP ports
Ports 49 through 52	4 10GBASE-X SFP+ ports
Physical (SSA Chassis)	
Dimensions	4.44 cm H x 44.70 cm W x 59.43 cm D 1.75” H x 17.60” W x 23.40” D
Approximate Weight	Gross: 11.79 kg (26 lb)
Mean Time Between Failure (MTBF)	Refer to the MTBF web site at URL http://www.enterasys.com/support/mtbf/

Table A-1 Specifications (continued)

Item	Specification
SSA-AC-PS-1000W	
Input Frequency	50 to 60 Hz
Input (Voltage/Current) at Output Power	100 to 125 Vac: 12 A at 1000 watts 200 to 240 Vac: 7 A at 1200 watts
Approximate Weight	1.41 kg (3.1 lb)
SSA-AC-PS-625W	
Input Frequency	50 to 60 Hz
Input (Voltage/Current) at Output Power	100 to 240 Vac: 8 A at 625 watts
Approximate Weight	1.22 kg (2.7 lb)
Environmental	
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 95% (non-condensing)

Pluggable Transceiver Specifications

For SFP and SFP+ transceiver specifications, refer to the datasheet at the following URL:

http://www.enterasys.com/products/transceivers-ds.pdf

COM Port Pinout Assignments

The COM port is an RJ45 communications port for local access to local management. Refer to the table below for the COM port pin assignments.

Table A-2 COM Port Pin Assignments

Pin	Signal Name	Input/Output
1	Transmit Data (XMT)	Output
2	Data Carrier Detect (DCD)	Output
3	Data Set Ready (DSR)	Input
4	Receive Data (RCV)	Input
5	Signal Ground (GND)	NA
6	Data Terminal Ready (DTR)	Output
7	Request to Send (RTS)	Input
8	Clear to Send (CTS)	NA

Regulatory Compliance

The SSA meets the safety, electromagnetic compatibility (EMC), and environmental requirements listed in Table A-3:

Table A-3 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/NZS CISPR-22 (Class A). VCCI V-3. CNS 13438 (BSMI), 2004/108/EC (EMC Directive)
Environmental	2011/65/EU (RoHS Directive), 2002/96/EC (WEEE Directive), Ministry of Information Order #39 (China RoHS)

B

Resetting Mode Switches

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.

Risques d'électrocution: Seul un personnel qualifié doit effectuer les procédures d'installation.

This appendix covers the following items:

Electrical Hazard: Do not remove the cover from the SSA while power is applied to the unit. Hazardous voltages are present and could cause personal injury and/or damage the unit.

Do not power up the SSA again until the cover and screws are in place.

Riesgo Eléctrico: No debe de remover la tapa durente que este coneltado a la corriente, una descarga electrica le puede causar y probocarle daños, al igual que al aparato.

No enchufe a la corriente hasta que la tapa y los tornillos esten en su lugar.

Elektrischer Gefahrenhinweis: Entfernen sie nicht den Deckel des SSA, wenn dieser noch an die Stromzufuhr angeschossen ist, gefährliche Spannungen können Personen verletzten oder das Gerät beschädigen.

Schalten Sie den SSA nicht ein, bevor der Deckel das Gerät abdeckt und mit den Schrauben fixiert wurde.

Risques d'électrocution: Ne retirez pas le volet du commutateur lorsque l'appareil est sous tension. Des tensions dangereuses pourraient entraîner des blessures ou endommager l'élément.

Actionnez de nouveau le commutateur uniquement une fois que le volet et que toutes les vis sont bien en place.

Warning: This unit may have more than one power supply cord. Disconnect two power supply cords before servicing to avoid electric shock.

Advertencia: Esta unida puede tener mas de un cable de fuente de poder. Desconectar dos cables de fuentes de poder antes de dar servicio para prevenir riesgo eléctrico.

Warnhinweis: Dieses Gerät hat mehrere Netzanschlüße, trennen Sie vor den Wartungsarbeiten beide Netzanschlüsse vom Versorgungsnetz. zum Schutz vor elektrischen Schlägen.

Avertissements: Cet élément pourrait avoir plus d'un câble d'alimentation. Déconnectez tous les câbles d'alimentation avant d'effectuer les opérations de maintenance sur l'appareil afin de réduire les risques d'électrocution.

Required Tools

Use the following tools to perform the procedure provided in this appendix:

- ESD wrist strap
- Phillips screwdriver

Caution: An antistatic wrist strap is required to perform the procedures in this appendix. Use the antistatic wrist strap to minimize ESD damage to the devices involved.

Precaución: Para llevar a cabo los procedimientos especificados en el apéndice deberá utilizar una pulsera antiestática. Esta pulsera sirve para minimizar los efectos de las descargas de electricidad estática.

About the Mode Switches

Caution: Read the appropriate sections to be fully aware of the consequences when changing switch settings.

Only qualified personnel should change switch settings.

Precaución: Si desea modificar la configuración del interruptor, lea las secciones correspondientes para saber cuál será el resultado de hacerlo.

Estas modificaciones a la configuración sólo debe realizarlas personal calificado.

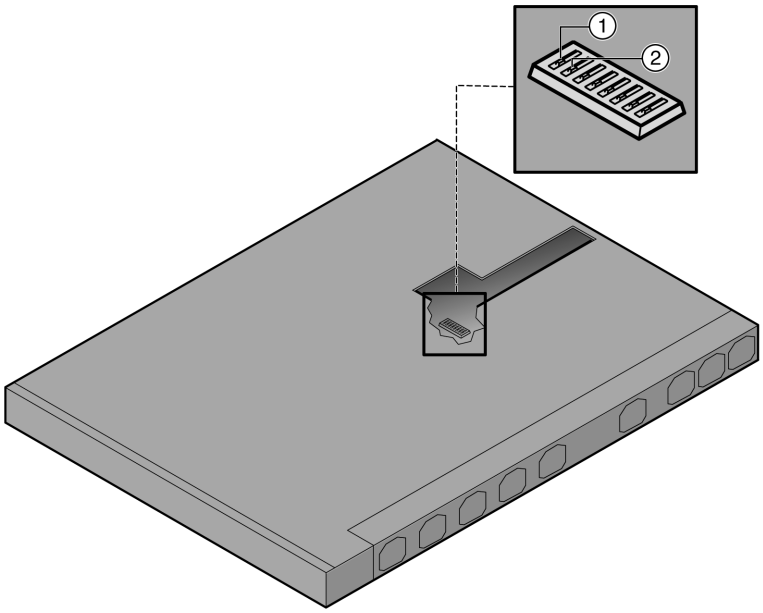
Figure B-1 on page B-3 shows the locations of the mode switches and the switch settings for normal operation. These switches are set at the factory and rarely need to be changed.

Switch definitions and positions are as follows:

- Switches 1– 6: For Enterasys Networks use only.
- Switch 7: Clear Persistent Data. Changing the position of this switch clears Persistent Data on the next power-up of the SSA. All user-entered parameters, such as the IP address, system name, and so on, are reset to the factory default settings. Once the system resets, you can either use the factory default settings or reenter your own parameters.
- Switch 8: Clear Admin Password. Changing the position of this switch clears the admin password, and restores the factory default password on the next power-up of the system. Once the SSA resets, you can either use the factory default settings or reenter your own password.

Note: Do not change the position of Switch 8 unless it is necessary to reset the admin password to its factory default setting.

Figure B-1 Mode Switch Location



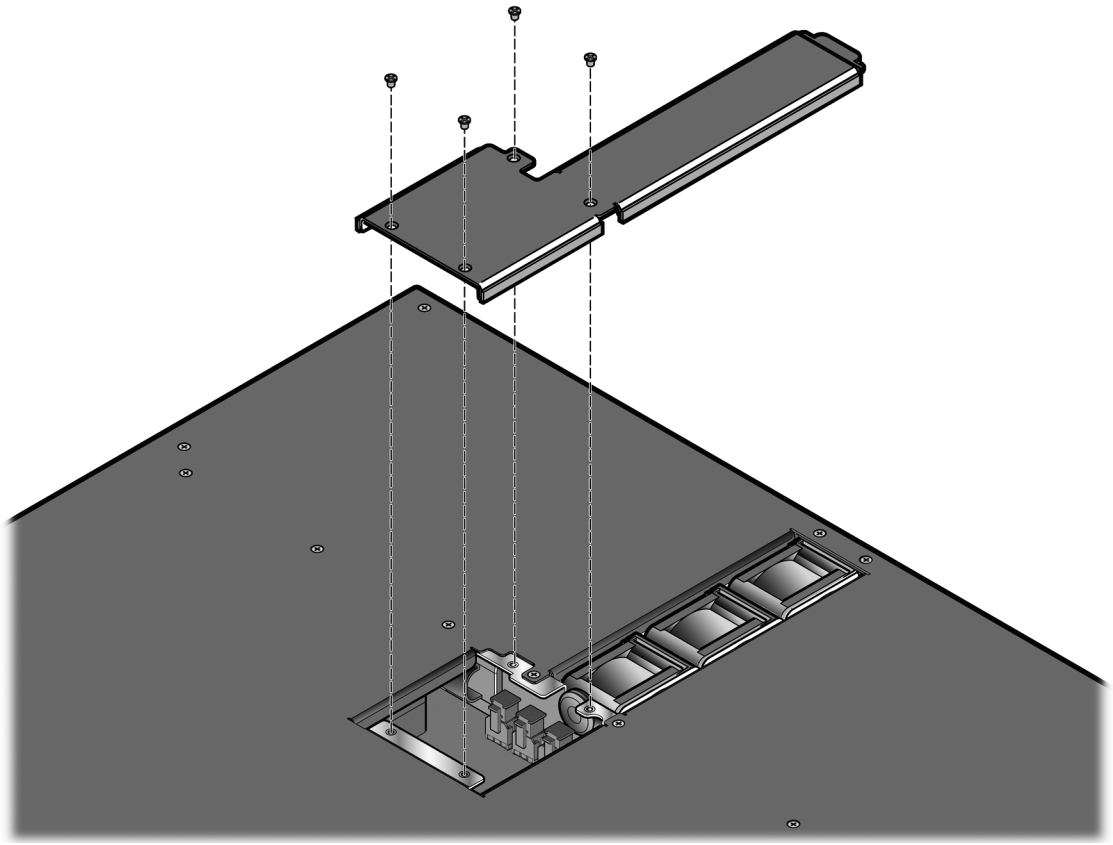
1 Switch 8 **2** Switch 7

Setting the Mode Switches

Before setting the mode switches, you must power down the SSA.

1. Put on the ESD wrist strap and attach it to the ground receptacle on the front of the SSA.
2. Remove the rear panel of the SSA by unscrewing the four zinc (silver) screws from the rear panel. See Figure B-2.

Figure B-2 Removing the Rear Panel



3. Reset the appropriate switch.
4. Replace the rear panel of the SSA.

C

About PoE (Power over Ethernet)

This appendix provides an overview of Power over Ethernet technology and how it is implemented in relation to the S-Series devices.

Overview

Power over Ethernet (PoE) refers to the ability to provide operational power through the same Ethernet cabling to a PD (powered device) connected to a data network. Modern Ethernet implementations employ differential signals over twisted pair cables. This requires a minimum of two twisted pairs for a single physical link. Both ends of the cable are isolated with transformers blocking any DC or common mode voltage on the signal pair. PoE exploits this fact by using two twisted pairs as the two conductors to supply a direct current. One pair carries the power supply current and the other pair provides a path for the return current. While several proprietary legacy implementations of PoE have been deployed by LAN equipment vendors, in 2003 the IEEE published the IEEE 802.3af-2003 specification, which is part of the 802.3 suite of standards.

The S-Series devices that support PoE are fully compliant with the IEEE 802.3af and 802.3at standards. They support the standard resistor-based detection method, as well as AC disconnect capability.

Each PD has a PDC (Powered Device Classification) that is transmitted to the SSA for power management purposes. Table C-1 lists the classifications and the associated power ranges.

Table C-1 Powered Device Classifications

Class	Usage	PD Maximum Power Range Usage
0	Default	0.44 to 12.95 Watts
1	Optional	0.44 to 3.84 Watts
2	Optional	3.84 to 6.49 Watts
3	Optional	6.49 to 12.95 Watts
4	Reserved	12.95 to 25.50 watts

Proprietary PD Detection

S-Series devices support a subset of the currently deployed proprietary PoE methods. This includes support for Cisco PDs, including a proprietary capacitor based detection scheme.

PoE Port Status LEDs

The PoE port status of each 10/100/1000 Mbps RJ45 port is indicated by the two-color RX and TX LED display for each port. To observe the PoE port status indications, you must switch the SSA from the default RX/ TX status mode to the PoE Port status mode using the red PoE button. The switch operation and a description of how to use the LED indications are described in "Port LEDs" on page 3-1.

Allocation of PoE Power to Devices

The S-Series firmware determines the power available in the SSA for PoE based on power supply status and power supply redundancy mode. The system calculates and reserves the correct amount of power required by the SSA and then makes the balance of power available for PoE. When any change is made to the power supply status or redundancy mode, the firmware recalculates the power available for PoE.

The power available for PoE is distributed based on the configured allocation mode:

- **Automatic** mode (default), in which available power is distributed evenly. Any change in available power, due to a change in power supply status or redundancy mode, will trigger an automatic redistribution of power.
- **Manual** mode, in which the power budget is manually configured, using either CLI commands or the MIBs. The wattage configured cannot exceed the total power available on the switch for PoE.

  The configured wattage assignment is used to calculate the total available PoE power. If the total available PoE power changes, a redistribution of available power will occur, applying the calculated percentage.

If the PoE power needed or requested exceeds the power available, the system will generate an SNMP trap to notify the system manager.

For more information on configuring allocation mode, see the *Enterasys S-Series CLI Reference Guide*.

Power Distribution Upon Power Supply Removal or Addition

When a power supply is removed, the SSA responds to the decrease in available power by doing the following:

1. Detecting the power supply removal and recalculating available power.
2. Subtracting the power capacity for its base system from available power.
3. Distributing remaining power equally for PoE.
4. Dropping support to PoE devices as necessary to stay within the programmed maximum power.

When a power supply is added, the SSA responds to the increase in available power by doing the following:

1. Detecting the power supply addition and recalculating available power.
2. Subtracting the power capacity for its base system from available power.
3. Distributing remaining power equally for PoE.

Management of PoE Power to PDs

You can configure how the SSA makes power available to attached powered devices (PDs):

- **Real-time** mode (default), in which the PoE controller calculates the power needed by a PD based on the actual power consumption of the attached devices.
- **Class** mode, in which the PoE controller manages power based on the IEEE 802.3at definition of the class limits advertised by the attached devices. In this mode, the maximum amount of power required by a device in the advertised class is reserved for the port, regardless of the actual amount of power being used by the device.

For more information on configuring power management mode, see the *Enterasys S-Series CLI Reference Guide*.

D

Installing the SSA-WALL-MOUNT

This appendix provides instructions for installing the SSA on a wall using the optional SSA-WALL-MOUNT kit.

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.

Risques d'électrocution: Seul un personnel qualifié doit effectuer les procédures d'installation.

Required Tools

- ESD wrist strap (included with the SSA chassis)
- Phillips screwdriver

Contents of SSA-WALL-MOUNT Kit

Table D-1 lists the contents of the SSA-WALL-MOUNT kit.

Table D-1 Contents of SSA-WALL-MOUNT Kit

Item	Number
Mounting bracket	1
10-32 x .5 inch pan head screws	2

Note: The SSA-WALL-MOUNT kit does not include hardware for installing the mounting bracket on a wall.

You must provide screws and wall anchors that are appropriate for the wall on which you are installing the mounting bracket. The screws and wall anchors that you provide must be capable of supporting at least four times the combined weight of the SSA chassis and two power supplies. For example, the combined weight of an SSA chassis and two SSA-AC-PS-1000W power supplies is 32.2 lb (14.6 kg). The screws and wall anchors must be able to support at least 128.8 lb (58.42 kg).

Installation Site Requirements

Ensure that the installation site has a minimum of 6 inches (15.24 cm) of clear wall space at the top, bottom, left side, and right side of the mounting bracket. This minimum clearance allows for proper airflow, space for cabling the ports, and space for replacing power supplies.

Note: You must manage the port cables to ensure that the air vents are not blocked.

Preparing the Installation Site

The SSA-WALL-MOUNT mounting bracket may be attached to various types of wall construction.

- Hollow Wall Construction
- Concrete or Masonry Wall Construction

Ensure that walls are clear of plumbing and electrical lines prior to drilling any mounting holes.

Use the SSA-WALL-MOUNT mounting bracket as a template to mark locations on wall sheathing prior to drilling.

Hollow Wall Construction

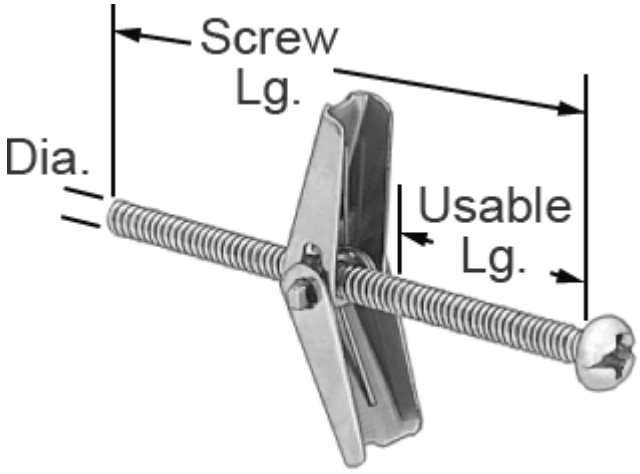
For hollow walls studded with metal or wood framing and sheathed with drywall, plaster, or plywood, use appropriate hollow wall fasteners in all four mounting locations through the sheathing material.

- Toggle Bolts
- Reusable Anchors
- Pan Head Steel Machine Screws

The four mounting locations on the SSA-WALL-MOUNT mounting bracket, which are located side to side on 18.576” centers, do not coincide with typical wall stud centers. Position the mounting bracket to avoid studs at the four mounting locations.

Toggle Bolts

Toggle bolts must be at least 3/16″. Each of the four toggle bolts used must be rated for 32.2 lb (14.6 kg) minimum.



Typical drill size is ½″ for the 3/16″ toggle bolt. Follow the manufacturer's instructions.

Reusable Anchors

The minimum recommended size for reusable anchors is #10 size minimum. Each of the four reusable anchors must be rated for 32.2 lb (14.6 kg) minimum and be the appropriate size for the sheathing thickness.

Typical drill size is 3/8″ for the #10 reusable anchor. Follow the manufacturer's instructions.

Pan Head Steel Machine Screws

If the rear side of the sheathing is accessible, you can bolt the wall mount bracket to the wall sheathing using four #10-#12 pan head steel machine screws with fender washers and lock nuts behind the sheathing. The screws must be long enough to fully engage all threads on the nuts.

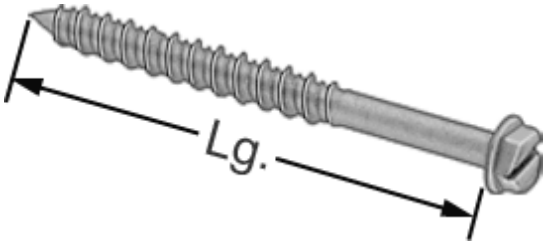
Concrete or Masonry Wall Construction

For concrete or masonry walls, use appropriate wall fasteners in all four mounting points.

- Concrete Screws
- Concrete Inserts

Concrete Screws

Concrete screws must be at least 3/16". Each of the four screws must be rated for 32.2 lb (14.6 kg) minimum.



Typical drill size is 5/32" for the 3/16" concrete screw. Follow the manufacturer's instructions, including the recommendation for drill depth.

Concrete Inserts

You can use concrete inserts, such as conical lead or flanged polypropylene, for installing the rack mount bracket in concrete. Each insert must be individually rated to support 32.2 lb (14.6 kg) minimum.

Use sizes that support a #10 screw minimum.

Typical drill size is 5/16" for the #10 conical lead anchor for concrete.

Typical drill size is 1/4" for the #10 flanged polypropylene anchor for concrete.

Follow the manufacturer's instructions, including the recommendation for drill depth for the insert that you are using.

Mounting the SSA Chassis on a Wall

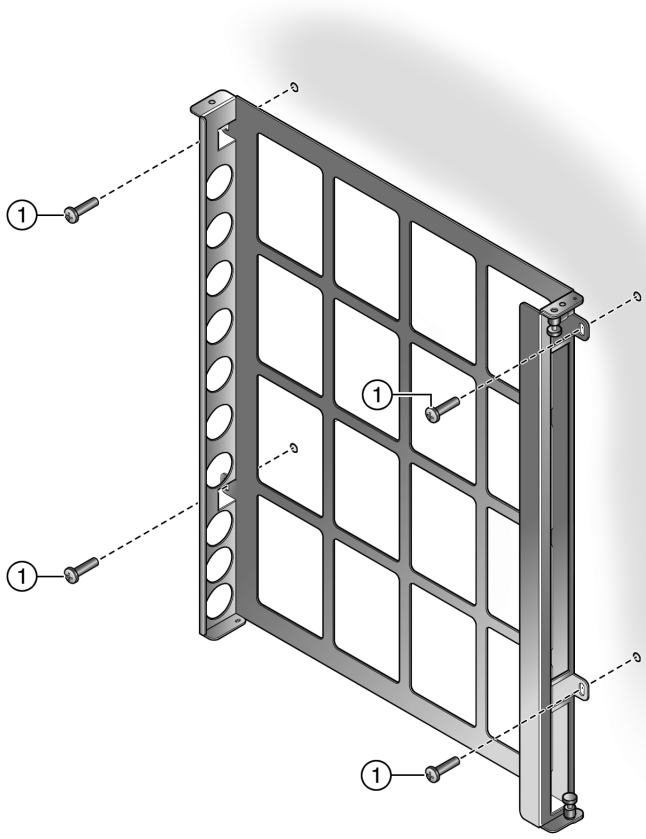
To mount the SSA chassis on a wall:

1. Using four customer-supplied screws and wall anchors, secure the mounting bracket to the wall. See Figure D-1.

   The screws and wall anchors that you provide must be capable of supporting at least four times the combined weight of the SSA chassis and two power supplies.

Note: You must secure the mounting bracket to the wall in the orientation shown in Figure D-1. No other orientation is supported.

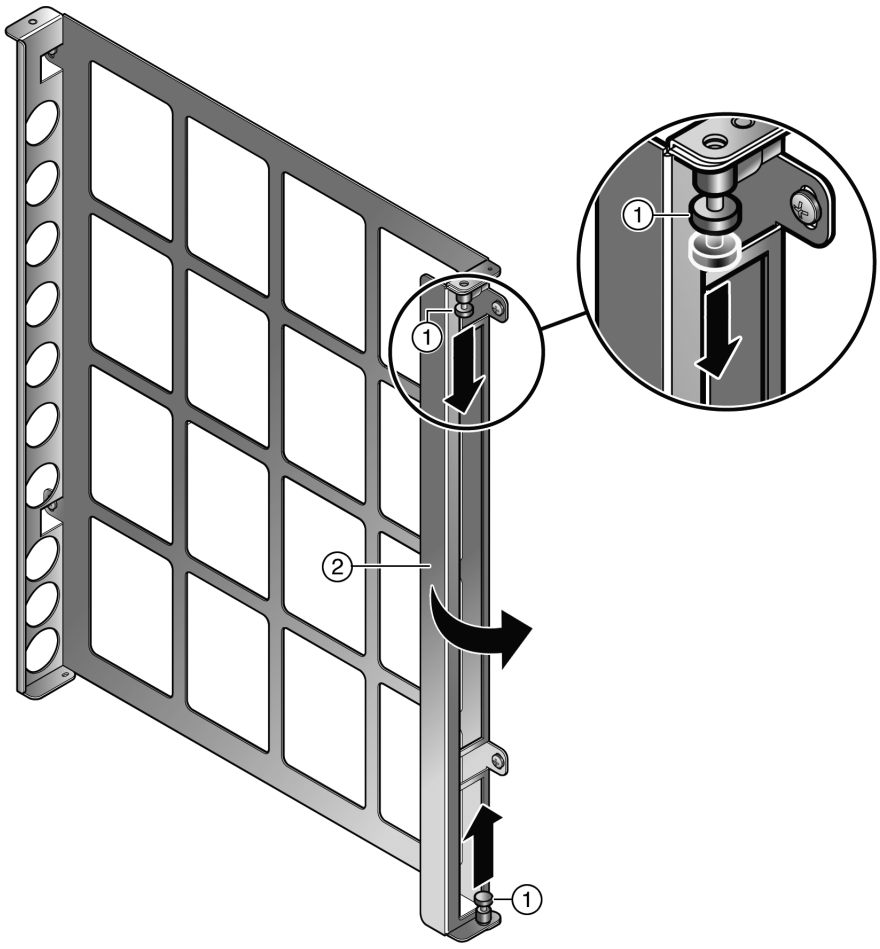
Figure D-1 Securing the Wall Mounting Bracket to a Wall



1 Customer-supplied screws

2. Open the gate on the right side of the mounting bracket. See Figure D-2.
   a. Pull the top and bottom plungers simultaneously to unlock the gate.
      To lock the plungers in the open position, rotate the opened plungers counter-clockwise.
   b. Swing the gate into the open position.

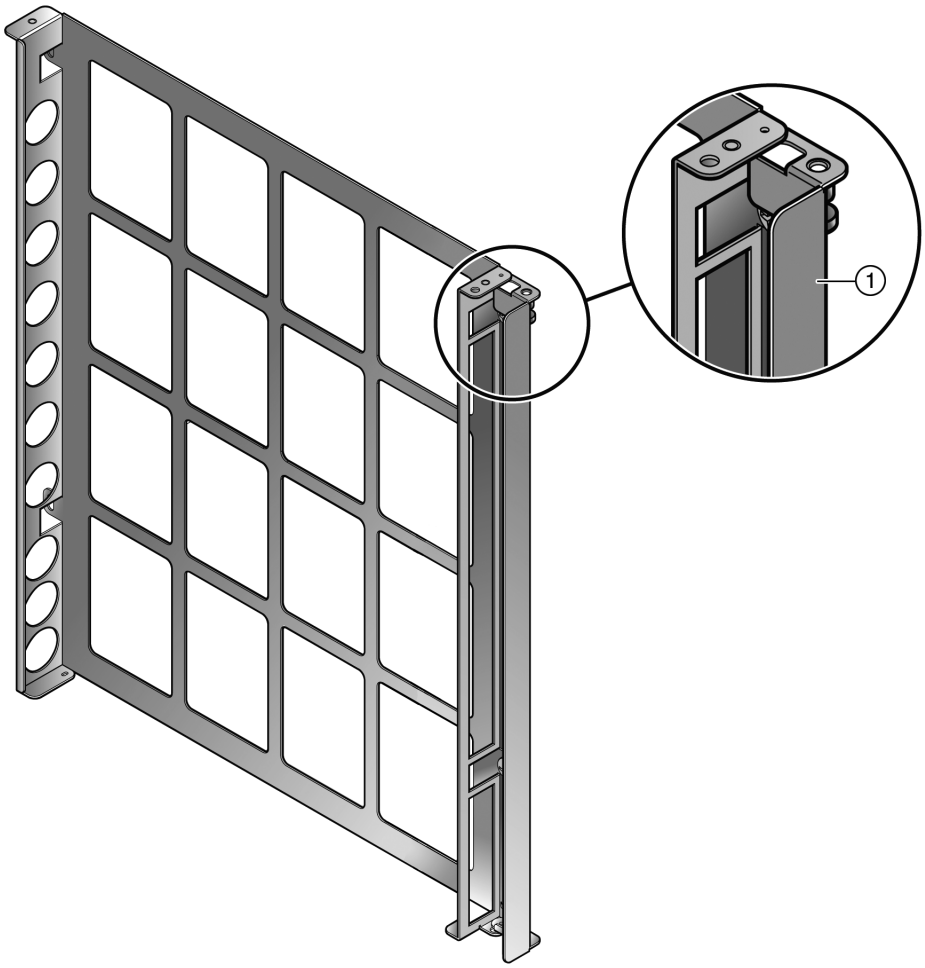
Figure D-2 Opening the Gate



1 Top and bottom plungers **2** Gate

Figure shows the gate in the open position.

Figure D-3 Mounting Bracket Gate in the Open Position

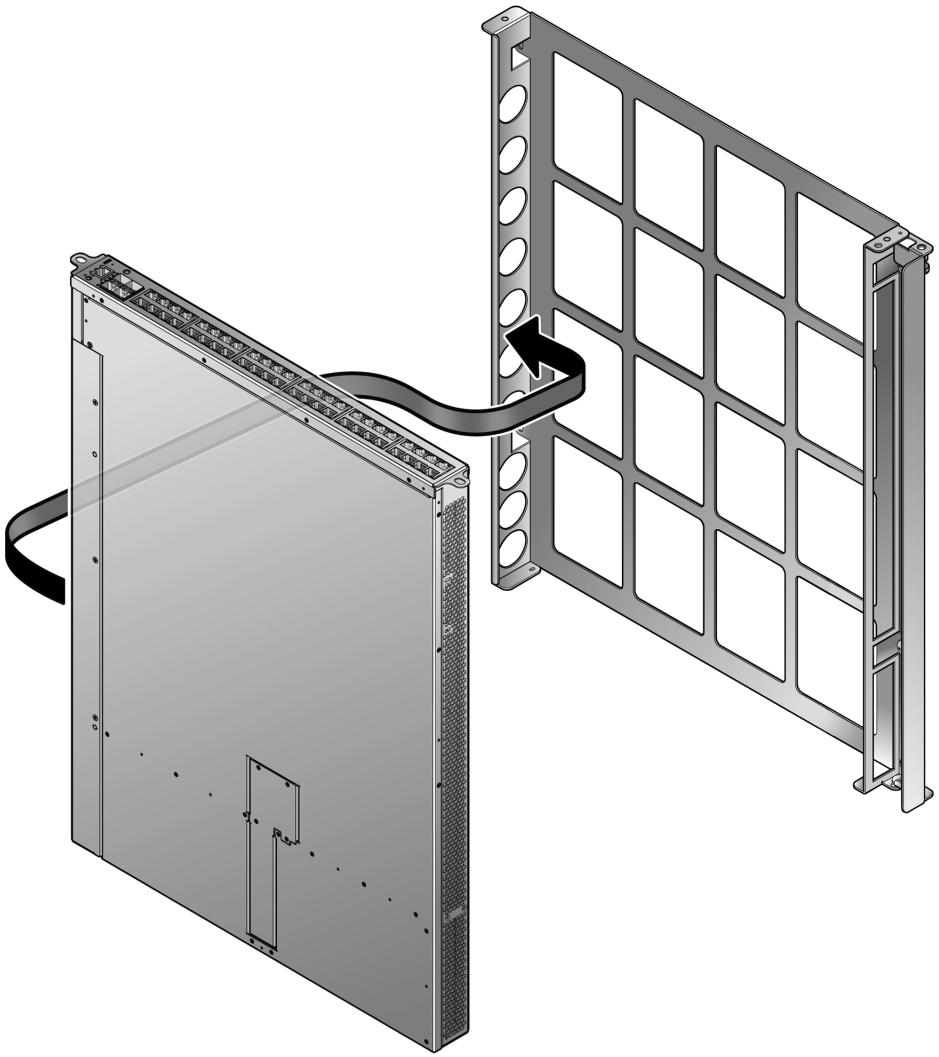


1 Gate in the open position

3. Holding the SSA with the I/O connectors facing up, slide the left side of the SSA chassis under the lip on the left side of the mounting bracket. See Figure D-4.

Note: You must install the SSA chassis in the orientation shown in Figure D-4 (I/O connectors facing up, top of SSA facing out). No other orientation of the SSA chassis is supported.

Figure D-4 Installing the SSA in the Mounting Bracket

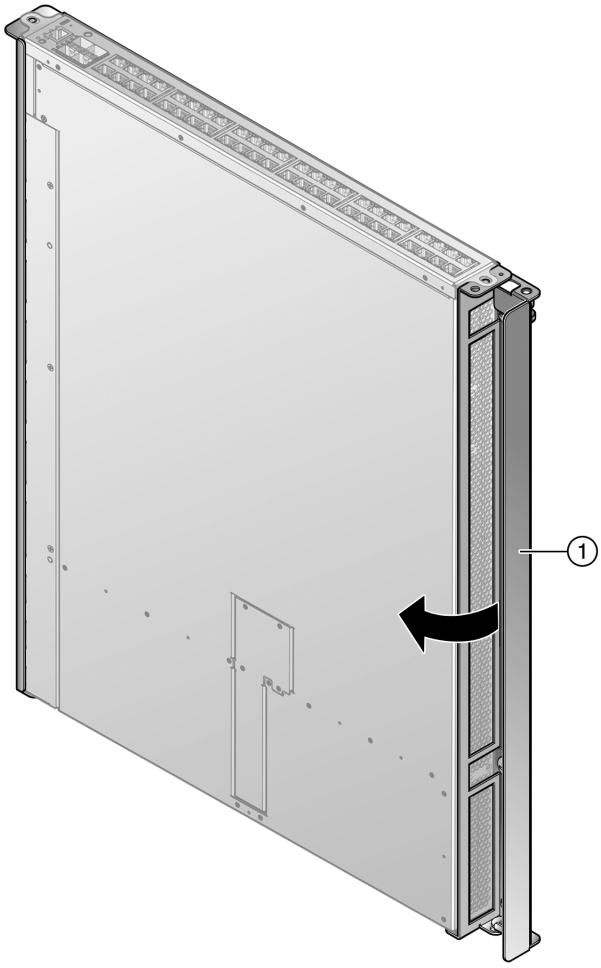


4. Insert the right side of the SSA chassis in the mounting bracket.

5. Close the gate to hold the SSA chassis in place. See Figure D-5.

   Ensure that the plungers lock into place when you close the gate. If the plungers are in the open locked position, rotate the plungers clockwise until they unlock.

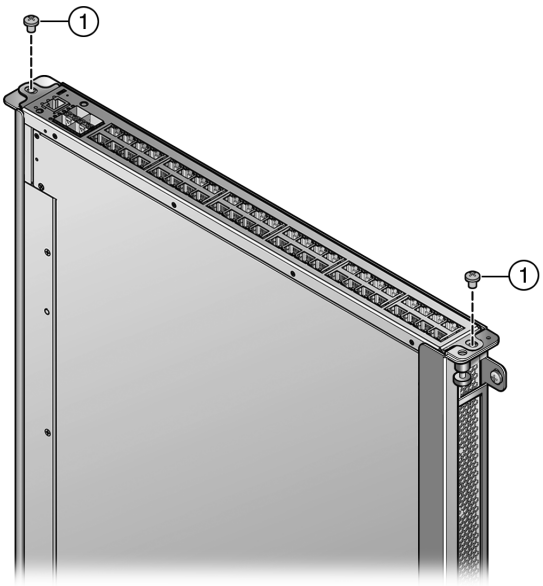
Figure D-5 Closing the Mounting Bracket Gate



1 Gate

6. Using the 10-32 screws included with the mounting bracket, secure the front of the SSA chassis to the top of the mounting bracket. See Figure D-6.

Figure D-6 Securing the SSA Chassis to the Mounting Bracket



1 10-32 screws

You can now cable the I/O ports and power up the SSA chassis as described in Chapter 2, **Installation**.

E

Environmental Guidelines

Enterasys Networks provides high quality and reliable products. To ensure customer satisfaction and the continued reliable operation of our products, installation and operation must comply with the environmental guidelines as described in our product documentation. This document references limits on operating temperature and humidity. Failure to operate the equipment in these prescribed ranges can result in reduced performance and damaged equipment. Failure to comply with these limits and guidelines may void the product warranty and it may also exclude the equipment from support entitlements of any applicable maintenance contract agreements. The following information describes these limits and recommendations in further detail.

Temperature and Humidity Guidelines

Operating Temperatures

All equipment must operate within the prescribed temperature and humidity ranges specified in Enterasys documentation. Operation of the equipment outside these limits may result in damaged equipment and/or reduced performance and reliability. This may require reliable, monitored and 24x7 operation of climate control systems (heating and air conditioning).

Inlet Air Temperature Measurement

Operating temperature maximums and minimums are limits on the ambient air temperature entering the switching equipment. This area is located within 1 inch of the main equipment inlet. This is not necessarily the same air temperature throughout the room.

Cooling Air

Careful consideration is needed when mounting this equipment. Proper inlet and exit spaces must be allowed to get fresh, cool air into the equipment and to allow hot exhaust air to exit away from the equipment. Blocked venting can result in an overheating condition that can damage the equipment. Pay close attention to cable ingress and egress routing to verify that cabling is not blocking venting.

Power Conditioning

Enterasys products are rated to be used with internationally accepted AC input parameters. It is important that these parameters are monitored and verified to operate as expected for the ratings that apply to the equipment installed. Surges and excessive noise outside of these prescribed ranges in the power circuits feeding this equipment may cause permanent damage to the equipment installed and must be monitored and prevented.

Airflow Concerns for Closed Racks

Note: The SSA switch directs air flow from side to side, not front to back.

When placing Enterasys switches into enclosed racks, rack exhaust fans must be considered if the rack does not contain adequate inlet and exit venting. These fans may be needed to help exhaust hot air from the rack. They must be sized properly to exhaust the collective volumetric flow from all equipment within the rack.

Figure E-1 illustrates the ideal configuration for a fully vented closed rack. All panels are vented, and side-to-side cooled sub-systems are flowing in the same direction.

Cool air ingress through the bottom of the rack must be carefully allowed to enhance overall system airflow and prevent stagnant air recirculation. This may need to be confirmed through thermal testing at the installation site.

Figure E-1 Closed Rack Ideal Configuration

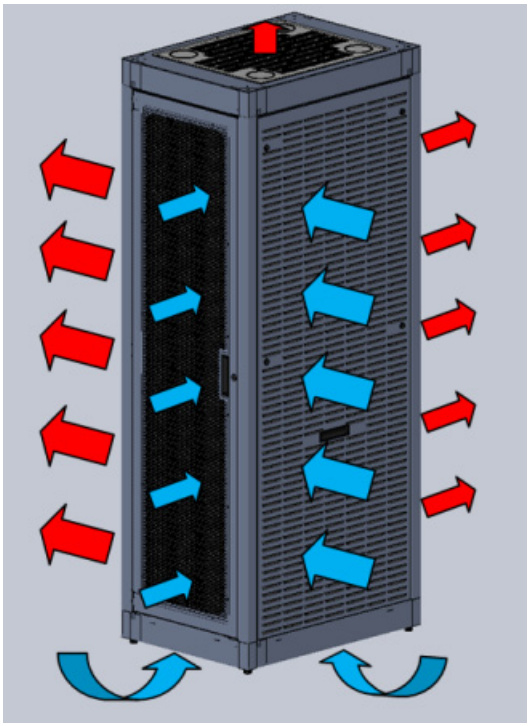


Figure Key

	Blue arrows indicate cool air ingress
	Red arrows indicate hot air egress
	White arrows indicate airflow through the system

Airflow Concerns for Open Racks

Note: The SSA switch directs air flow from side to side, not front to back.

Equipment with different air flow cooling patterns, such as front to back or side to side, can present special concerns. Recirculation of heated air through equipment is unwanted because it increases the inlet temperature which causes the equipment components to operate at elevated temperatures. Likewise, equipment in neighboring racks must be planned to prevent hot air exhaust from one system being pulled into the inlet of an adjacent system.

Figure E-2 illustrates the ideal configuration for an open rack. All sub-systems flow in the same direction, as shown by the white arrows.

Figure E-2 Open Rack Ideal Configuration

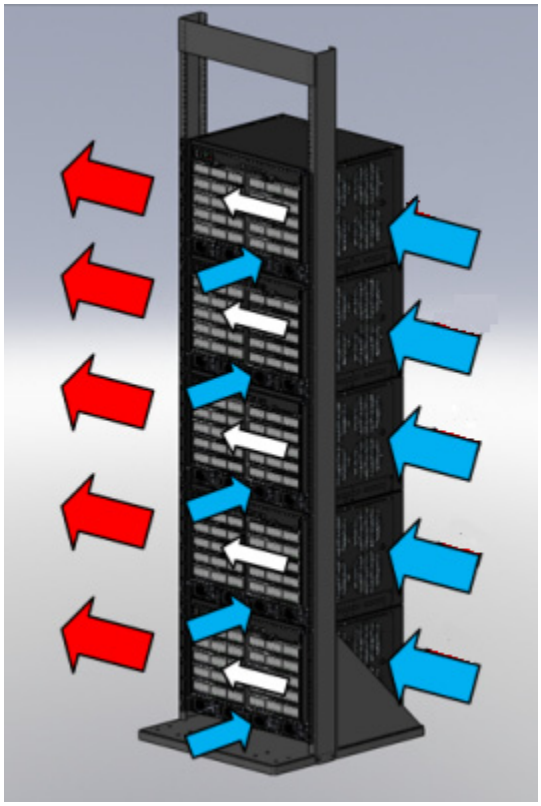
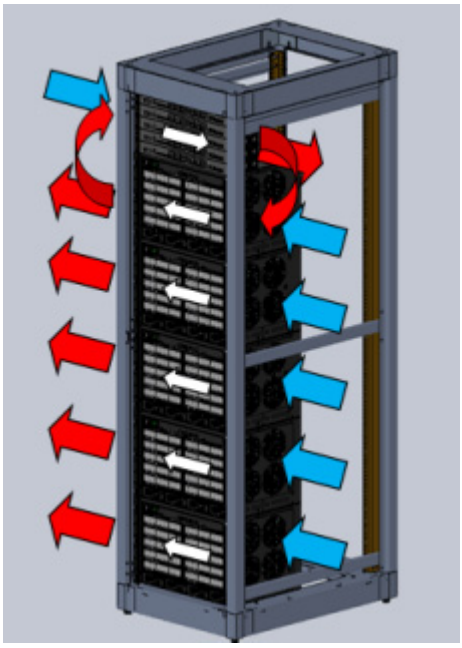


Figure E-3 on page E-4 below shows a non-ideal configuration for an open rack, where sub-systems with mixed flow directions (white arrows) are combined in one rack. Circular red arrows show potential for hot air recirculation.

Figure E-3 Non-ideal Open Rack Configuration



Non-ideal flows should be avoided or mitigated and confirmed through thermal testing.

Figure E-4 below shows a non-ideal open rack configuration containing sub-systems with mixed flow directions (white arrows). This configuration shows mitigation of potential hot air recirculation by leaving a gap in the rack population.

Figure E-4 Mitigated Non-ideal Open Rack Configuration

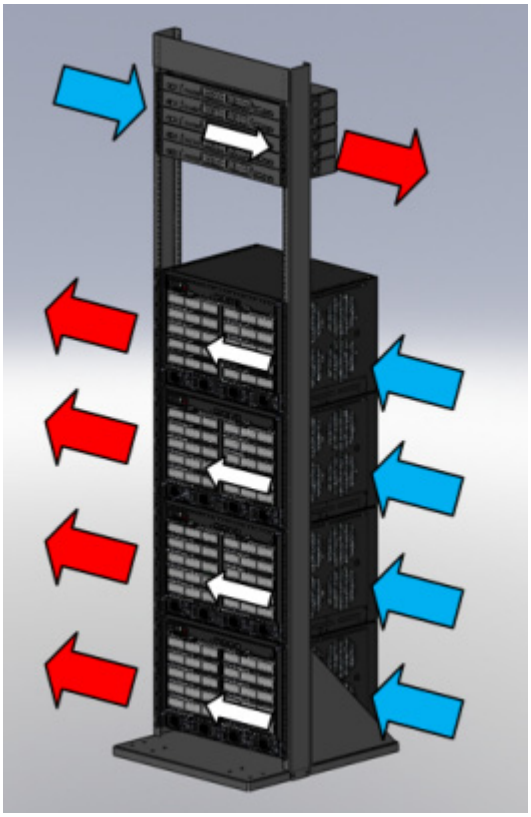
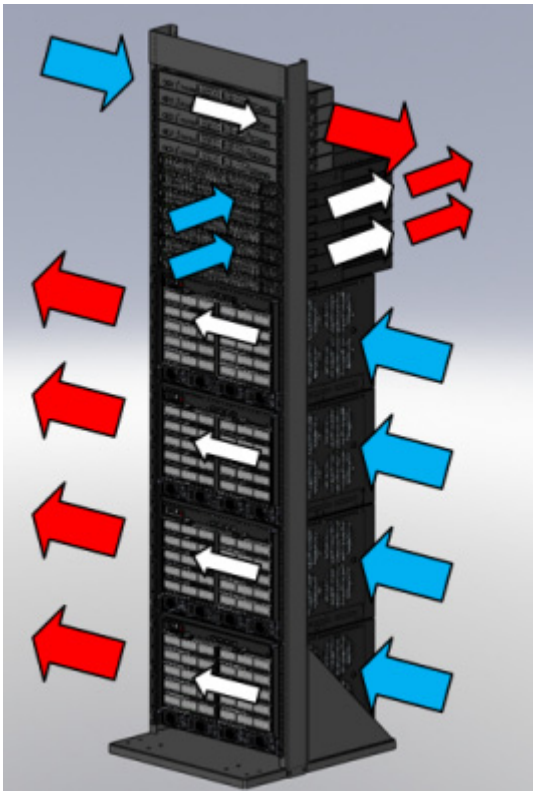


Figure E-5 below shows another mitigation strategy for open racks containing sub-systems with mixed flow direction. Mitigation of potential hot air recirculation is achieved by separating unlike systems with products having front to back airflow patterns.

Figure E-5 Another Mitigated Non-ideal Open Rack Configuration



Dust Mitigation and Prevention

Dust accumulation on inlet and exit venting is not uncommon after prolonged use. In dustier environments this accumulation can be much quicker.

Enterasys strongly recommends routine maintenance to check for clean inlet and exit vents on this equipment. Over time, dust accumulation can create vent blockages, thereby decreasing airflow and increasing component temperatures, resulting in reduced reliability. Recommended maintenance should start with monthly inspections and be adjusted based on dust accumulation levels.

Table E-1 on page E-6 notes the maximum dust and debris accumulation limits for room environments as a reference.

Table E-1 Airborne Dust Specification for Enterasys Equipment — Airborne Dust Maximum Values

Dust	Guidelines
All/Total Airborne Particles (TSP-Dichot 15):[1]	20 µg/m^3
PM10/Coarse Particles (2.5 to 15 microns):[1,2]	Preferred[1]: <10 µg/m^3 Maximum[2]: 20 µg/m^3
PM2.5/Fine particles (< 2.5 microns):[2]	10 µg/m^3

1 Value from NEBs GR-63-CORE issue #3 table 4-12.
2 Recommended value by WHO (World Health Organization) for 2005 air quality.
3 TSP-Dichot 15 = Total Suspended Particulates as determined using a Dichotomous sampler with a 15 micron inlet.
4 µg/m3 = micro grams per cubic meter.
5 Note: The equipment will operate at higher levels than listed above. However, the higher levels can decrease the products' service life.

Dust removal from the equipment is a required part of maintenance. When removing dust:

- Use proper ESD precautions
- Use a vacuum that is properly grounded through a cord having an equipment-grounding conductor and grounding plug

Carefully vacuum the dust particles from the inlet and exit venting of the equipment to allow for proper air flow and ventilation.

Please contact Enterasys Technical Support for additional information about external filter options.

Airborne Chemicals and Prevention

Various airborne chemicals and contaminants can cause corrosion and thus decrease the service life of most vendors' equipment. To reduce the risk of such corrosion, locate the equipment only in areas that are safe for human occupation.

For more product information and documentation, go to:

https://extranet.enterasys.com/downloads