

Enterasys Matrix[®] N1

7C111 Single-Slot Chassis

Hardware Installation Guide



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.

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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.

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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.

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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

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

Product Safety

This product complies with the following: UL 60950, CSA C22.2 No. 60950, 2006/95/EC, EN 60950, IEC 60950, EN 60825, 21 CFR 1040.10.

Seguridad del Producto

El producto de Enterasys cumple con lo siguiente: UL 60950, CSA C22.2 No. 60950, 2006/95/EC, EN 60950, IEC 60950, EN 60825, 21 CFR 1040.10.

Produktsicherheit

Dieses Produkt entspricht den folgenden Richtlinien: UL 60950, CSA C22.2 No. 60950, 2006/95/EC, EN 60950, IEC 60950, EN 60825, 21 CFR 1040.10.

Electromagnetic Compatibility (EMC)

This product complies with the following: 47 CFR Parts 2 and 15, CSA C108.8, 2004/108/EC, EN 55022, EN 61000-3-2, EN 61000-3-3, EN 55024, AS/NZS CISPR 22, VCCI V-3.

Compatibilidad Electromagnética (EMC)

Este producto de Enterasys cumple con lo siguiente: 47 CFR Partes 2 y 15, CSA C108.8, 2004/108/EC, EN 55022, EN 55024, EN 61000-3-2, EN 61000-3-3, AS/NZS CISPR 22, VCCI V-3.

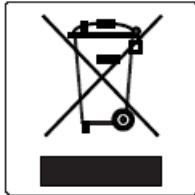
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Hazardous Substances

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

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

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.

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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.

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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.



VCCI Notice

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

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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.

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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 55×10^{-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 $8 \times 10^3 \text{ W m}^{-2} \text{ sr}^{-1}$.

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.

Declaration of Conformity

Application of Council Directive(s): 2004/108/EC
2006/95/EC

Manufacturer's Name: Enterasys Networks, Inc.

Manufacturer's Address: 50 Minuteman Road
Andover, MA 01810
USA

European Representative Address: Enterasys Networks, Ltd.
Nexus House, Newbury Business Park
London Road, Newbury
Berkshire RG14 2PZ, England

Conformance to Directive(s)/Product Standards: EC Directive 2004/108/EC
EN 55022
EN 61000-3-2
EN 61000-3-3
EN 55024
EC Directive 2006/95/EC
EN 60950
EN 60825

Equipment Type/Environment: Networking Equipment, for use in a Commercial
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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.

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About This Guide

This guide lists the Enterasys Matrix® N1 7C111 single-slot chassis features, options, specifications, and instructions to install the chassis on a flat surface or in a standard 19-inch equipment rack or cabinet. This guide also explains how to interpret the system status LEDs to facilitate troubleshooting when necessary, and also provides information on how to contact Enterasys Networks for additional help.



Note: In this guide, the Enterasys Matrix N1 7C111 chassis is also referred to as the N1 chassis, or simply, the chassis.

Who Should Use This Guide

This guide is intended for a network administrator responsible for installing and setting up the N1 chassis.



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.

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 N1 chassis. A general working knowledge of data communications networks is helpful when setting up the chassis.

For information about...	Refer to page...
Features and capabilities of the N1 chassis, and how to get help	1-1
Installation site requirements, configuration guidelines, operating specifications for the N1 chassis enclosure and power supply modules	2-1
Instructions for standalone or rackmount installation of the N1 chassis and powering up the N1 chassis	3-1
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Related Documents

Separate manuals have been developed for the Enterasys Matrix™ DFE-Platinum (7xxxxx) and DFE-Gold (4xxxxx) series modules that can be installed in the N1 chassis. The Matrix N1 chassis supports all DFE modules. Power over Ethernet (PoE) modules are also supported, but the N1 chassis does not supply PoE power to PoE-capable DFE modules.



Note: The N1 chassis supports the DFE (Distributed Forwarding Engine) 7xxxxx and 4xxxxx series of modules and does not support the older 6x1xx, 6x2xx, and 6x3xx series of modules.

The DFE series module hardware installation guides explain how to install the modules into the N1 chassis, attach cable segments to the modules, and module specifications. Command Line Interface (CLI) configuration guides describe how to configure the modules after the hardware installation is complete.

Each manual in this set assumes that only qualified personnel, having a general working knowledge of data communications networks and their physical layer components, will install the module.

Manuals can be accessed on the World Wide Web, using the following URL:

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

Document Conventions

The following conventions are used in this guide:



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: Verweist auf wichtige Informationen zum Schutz gegen Beschädigungen.



Electrical Hazard: Warns against an action that could result in personal injury or death due to an electrical hazard.

Riesgo Eléctrico: 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!



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!

Introduction

This chapter provides a functional overview of the Matrix N1 7C111 chassis and its features. Also covered in this chapter are the instructions on how to obtain additional help from Enterasys Networks, if needed.

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Overview

The N1 chassis design provides a single slot for a new advanced generation of modules, the Matrix DFE series modules. All DFE modules, including PoE, are supported, however, the N1 chassis does not supply PoE power to PoE-capable DFE modules.

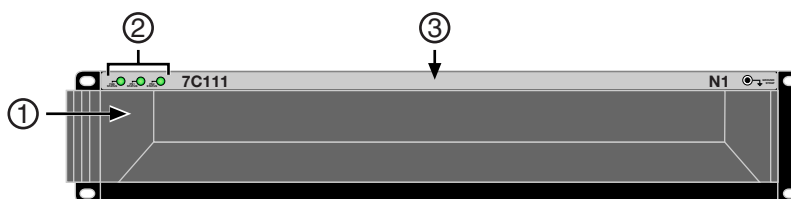
Modules installed in the N1 chassis interface to the chassis backplane utilizing the FTM2 connector.

The N1 chassis

- allows hot swapping of the DFE modules,
- supports two redundant, load-sharing power supplies, and
- can be installed as a freestanding unit or installed into a standard 48.26-centimeter (19-inch) rack.

All active components for the N1 chassis are located on the back side of the chassis for increased safety. All LED indicators are observable from the front of the chassis to aid in monitoring network operational status and performing maintenance. [Figure 1-1](#) illustrates the N1 chassis.

Figure 1-1 The Enterasys Matrix N1 7C111 Chassis



1 Module slot (1 total)

2 Status LEDs

3 Chassis (7C111)

Features

The following provides an overview of the N1 chassis features.

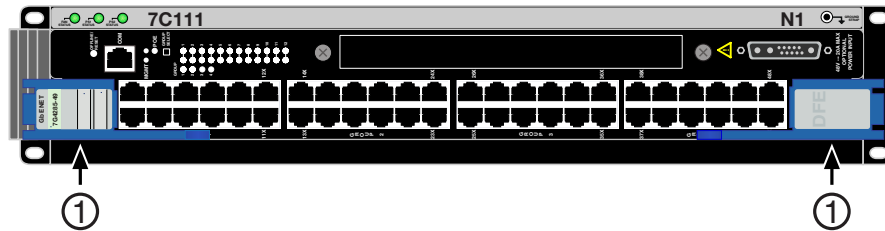


Note: The N1 chassis supports the DFE (Distributed Forwarding Engine) 7xxxxx and 4xxxxx series of modules and does not support the older 6x1xx, 6x2xx, and 6x3xx series of modules.

Enterasys Matrix N1 7C111 Chassis Modules

The N1 chassis has one slot for the new Enterasys Matrix DFE series of modules. Please refer to each module's individual configuration guide for information on specific product applicability and proper deployment of DFE modules within your network environment.

Figure 1-2 Module Locking Tab Orientation



1 Locking tabs

Redundant Power Supplies

The N1 chassis supports two fixed, auto-ranging redundant AC power supply modules. For power supply specifications, refer to [“Power Supply”](#) on page A-2.

Power Supply LANVIEW LEDs

Power supply status is indicated by LANVIEW[®] LEDs located on the front panel of the chassis.

Each power supply utilizes a single LED to monitor and detect power supply failure and redundancy status. Refer to [Chapter 2, Installation Requirements and Guidelines](#), for a full explanation of the power supply LEDs and their definitions.

Power Supply Status Through System Management

The N1 chassis power supplies report information to the DFE module installed in the chassis regarding their present operating status. This information includes the following:

- Power Supply ID (PS1, PS2)
- Power Supply Status (normal/fault)
- Power Supply Redundancy indication

Refer to the module-specific Configuration Guide for instructions on how to access power supply status information using Local Management.

Auto-Ranging Power Supplies

The N1 chassis 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. Refer to the operating specifications in [Appendix A](#). No additional adjustments are necessary. For installations in North America, two 15 A power cords are required. Refer to “[Powering Up an Enterasys Matrix N1 7C111 Chassis](#)” on page 3-7 for more details.

Power Supply Replacement

Power supplies in the N1 chassis are fixed and, as such, are not considered field-replaceable units.

If a power supply must be replaced, contact Technical Support for information (refer to “[Getting Help](#)” on page 1-4).

Chassis Cooling System

The N1 chassis backplane supports six 2-wire 12V fans. General fan failure is detected at the chassis backplane and the status is relayed to the module using the FTM2 connector.

The fans have one LANVIEW LED located on the front of the unit. This LED indicates the status of the fans, either normal or fault condition. Since the fans are built into the chassis, there is no support for a ‘Fan Present’ indicator. Refer to [Chapter 2, Installation Requirements and Guidelines](#), for a full description of fan LED states.

Standalone or Rack Mountable Chassis

The N1 chassis can be installed as a freestanding unit on a shelf or table. It can also be mounted into a standard 48.26-centimeter (19-inch) equipment rack. Refer to “[Site Guidelines](#)” on page 2-1 for requirements on ventilation and cooling.

Getting Help

For additional support related to the modules or this document, contact Enterasys Networks using one of the following methods:

World Wide Web	www.enterasys.com/support/
Phone	1-800-872-8440 (toll-free in U.S. and Canada) or 1-978-684-1000 For the Enterasys Networks Support toll-free number in your country: www.enterasys.com/services/support/contact/
Internet mail	support@enterasys.com To expedite your message, type [N-Series] in the subject line.

To send comments concerning this document to the Technical Publications Department:
techpubs@enterasys.com

Please include the document Part Number in your email message.

Before contacting Enterasys Networks for technical support, have the following information 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 a recurring problem)
- Any previous Return Material Authorization (RMA) numbers

Installation Requirements and Guidelines

This chapter describes site guidelines that must be met before installing a Matrix N1 7C111 chassis into a rack or cabinet, N1 chassis configuration guidelines, and operating specifications for the N1 chassis.



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.

For information about...	Refer to page...
Site Guidelines	2-1
Configuration Guidelines	2-2
LANVIEW LEDs	2-2

Site Guidelines

The following guidelines must be observed when a site is selected for the N1 chassis. If the guidelines are not followed, unsatisfactory network performance may result.

- To ensure proper ventilation and prevent overheating of the chassis in either the rackmounted or standalone configuration, there must be 5.1 centimeters (2 inches) of clearance on either side and in the rear of the unit.
- To install the N1 chassis as a freestanding unit on a shelf, the shelf must be able to support 13.6 kilograms (30 pounds) of static weight.
- To install the N1 chassis as a rackmounted unit, care must be taken to ensure that the rack used will support the unit and that the rack remains stable.
- The power supplies for the N1 chassis require two three-pronged power receptacles capable of delivering the current and voltage specified in “[Power Supply](#)” on page A-2. Two ac outlets on independently fused circuits are required for each power supply, and must be located less than 2 meters (6 feet) from the site. The power cord used and type of outlet is dependent on the country. In the United States, two power cords with NEMA 5-15P plugs are provided with each power supply.
- Ambient temperature at the installation site must be maintained between 5° and 40°C (41° to 104°F). Temperature changes must be maintained within 10°C (18°F) per hour.

Configuration Guidelines

The N1 chassis has one slot that accepts DFE and PoE modules in this chassis. The N1 chassis does not supply PoE power to PoE-capable DFE modules.

The DFE modules for the N1 chassis are equipped with a firmware-based management tool, which provides the capability to configure the DFE module and access chassis, power supply, and fan information.

LANVIEW LEDs

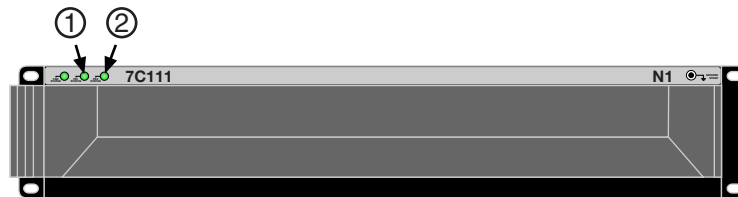
The following sections describe the LANVIEW LED indications for the following:

- N1 chassis power supplies
- N1 chassis fans

Power Supply LEDs

There are two power supply LEDs on the front panel of the chassis, one for each power supply. Refer to [Figure 2-1](#) for the location of the power supply LEDs. [Table 2-1](#) describes the different states of the power supply LEDs under different conditions.

Figure 2-1 Power Supply LEDs



1 PS1 LED

2 PS2 LED

Table 2-1 Power Supply (PS) LED Status Definitions

Condition	PS1	PS2	PS1 LED	PS2 LED
1	ON	ON	Green	Green
2	ON	OFF	Green	Red
3	OFF	ON	Red	Green

Fan LED

See [Figure 2-2](#) for the location of the fan LED. [Table 2-2](#) describes the different states of the fan LED.

Figure 2-2 Fan LED



1 Fan LED

Table 2-2 Fan LED States and Definitions

LED Color	Status
Green	All fans are operating normally.
Amber	One fan failure has occurred.
Red	More than one fan failure has occurred.



Note: The fan LED status functionality requires that a DFE module be installed and operational. Fan status will not be reported by the fan LED when a module is not installed or a module is not functioning.

Enterasys Matrix N1 7C111 Chassis Setup

This chapter contains instructions on setting up the Matrix N1 chassis.

Equipment needed:

- Phillips screwdriver
- Flat blade screwdriver



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

Riesgo Eléctrico: 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.

A Phillips screwdriver is needed to install the unit in a 48.26-centimeter (19-inch) equipment rack. Refer to [Chapter 2](#) for the guidelines that must be followed to install the N1 chassis.

Follow the order of the sections below for correct installation.

For information about...	Refer to page...
Unpacking the Matrix N1 7C111 Chassis	3-2
Setting Up the Enterasys Matrix N1 7C111 Chassis	3-4
Installing the Matrix N1 7C111 Chassis on a Flat Surface	3-4
Installing the Chassis into a Rack	3-5
Powering Up an Enterasys Matrix N1 7C111 Chassis	3-7
Cooling Fans	3-8

Unpacking the Matrix N1 7C111 Chassis



Note: Unpack the N1 chassis components only as needed. Leave the components in their respective shipping cartons until you are ready to install that component. Save all shipping materials in the event that the chassis has to be repacked.

Before unpacking the chassis, examine the outside packaging for obvious damage. To unpack the Matrix N1 chassis, refer to [Figure 3-1](#) and proceed as follows:

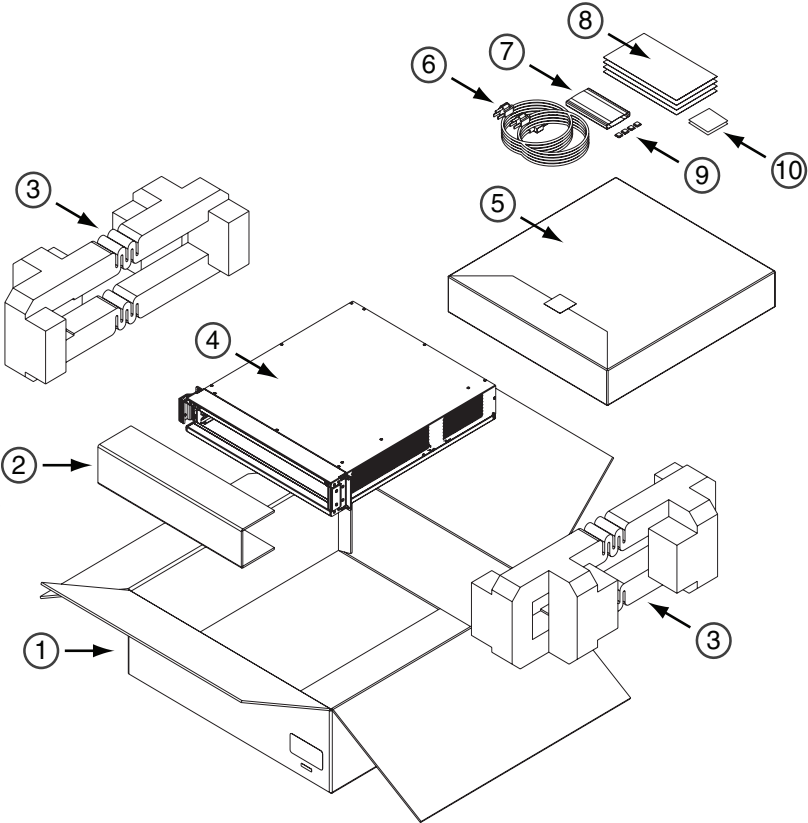
1. Open the box and remove the packing material protecting the N1 chassis.
2. Remove the power cords, documentation, Electrostatic Discharge (ESD) wrist strap, and adhesive feet (for standalone placement).
3. Verify the contents of the carton as listed in the table below, refer to [Figure 3-1](#) on page 3-3.

Table 3-1 Contents of the Matrix N1 7C111 Chassis Carton

Item	Quantity
Matrix N1 Chassis Standalone Series 7C111	1
Rubber Feet	4 (self-adhesive)
Power Cords	2
ESD Wrist Strap	1
Manual URL Location Card	1
Patents Sheet	1
Hardware Installation Guide (this manual)	1

4. Inspect the N1 chassis for any signs of physical damage. Contact Enterasys Networks if it is damaged. Refer to [“Getting Help”](#) on page 1-4 for details.

Figure 3-1 Unpacking the Matrix N1 Chassis



- 1 Shipping Carton
- 2 Front Cover Sheet
- 3 Styrofoam End Caps (2)
- 4 Matrix N1 7C111 chassis
- 5 Anti-Static Bag (24x36 inches)
- 6 Power Cords (2)
- 7 Poly Bag (4x6 inches)
- 8 Documentation
- 9 Self-Adhesive Rubber Feet (4)
- 10 ESD wrist strap (packaged)

Setting Up the Enterasys Matrix N1 7C111 Chassis

The following sections describe the procedures that must be followed to complete the installation of the N1 chassis.

Order of Installation

Once a suitable site has been chosen, the N1 chassis can be installed as a freestanding or rackmounted unit.

It is recommended that the N1 chassis installation proceed in the following order:

1. Install the rubber feet (for standalone installation). For details, refer to [“Installing the Rubber Feet”](#) on page 3-4.
2. Mount the chassis to a 48.26-centimeter (19-inch) rack or other secure location. For details, refer to [“Installing the Chassis into a Rack”](#) on page 3-5.
3. Attach the Electrostatic Discharge wrist strap. For details, refer to [“Attaching the Electrostatic Discharge Wrist Strap”](#) on page 3-7.

If you are installing the N1 chassis as a freestanding device, start with [“Installing the Rubber Feet”](#) on page 3-4. To install the chassis in a rack, rubber feet are not needed.



Note: Before installing the rubber feet, place the chassis on its back on a sturdy flat surface to have access to the bottom of the chassis.

Installing the Matrix N1 7C111 Chassis on a Flat Surface



Caution: Read [Chapter 2](#) before completing the following procedure to ensure that all installation guidelines are met.

Precaución: Antes de llevar a cabo el siguiente procedimiento, lea [Chapter 2](#) para y asegúrese de cumplir con todos los requisitos de instalación.

When installing the N1 chassis on a flat surface, the installation of the rubber feet is recommended to prevent the chassis from sliding on a flat surface. Installing the rubber feet is optional if you are installing the chassis in a rack. To install the rubber feet, proceed to [“Installing the Rubber Feet”](#) instructions below. For instructions to rack mount the chassis, proceed to [“Installing the Chassis into a Rack”](#) on page 3-5.

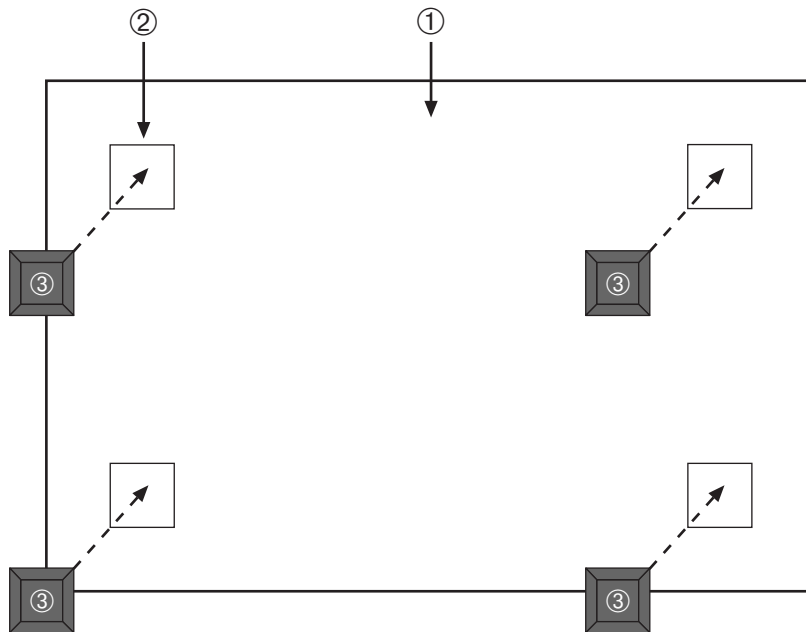
Installing the Rubber Feet

To install the rubber feet, refer to [Figure 3-2](#) and proceed as follows:

1. Place the chassis on its back on a sturdy flat surface to gain access to the bottom of the chassis.
2. Remove the four rubber feet from their plastic bag in the shipping box.
3. Locate the four marked locations on the bottom four corners of the chassis.
4. Remove the protective strip from the back of one rubber foot and position it on a marked location and press firmly into place. Repeat this procedure to install the remaining three rubber feet in the other three locations.

5. After installing the rubber feet, return the chassis to its upright position.
6. For a rackmount installation, proceed to “[Installing the Chassis into a Rack](#)” on page 3-5.

Figure 3-2 Chassis Bottom, Rubber Feet Placement



- 1 Bottom of chassis as seen when chassis is resting on its top
- 2 Locations to install the rubber feet (four locations)
- 3 Rubber feet with adhesive backing (four)

Installing the Chassis into a Rack



Caution: Read [Chapter 2](#) before completing the following procedure to ensure that all installation guidelines are met.

Precaución: Antes de llevar a cabo el siguiente procedimiento, lea [Chapter 2](#) para y asegúrese de cumplir con todos los requisitos de instalación.



Note: In order to prevent a possible interference between the rack frame front and chassis rack ears, the tapped rails may need to be adjusted such that they are recessed approximately 2 inches behind the rack frame front. If the rack has a front door, this distance may need to be slightly more, depending on the door thickness.

The N1 chassis can be mounted in a standard EIA-310-D compliant 48.26-centimeter (19-inch) equipment rack. To mount the chassis into a rack you must allow at least 60 centimeters (24 inches) of clearance in front of the rack for chassis installation. Then decide whether to install the chassis on a shelf in the rack, or to attach the chassis directly to the rack.

Installing the Chassis on the Rack Shelf

1. Keeping the above Caution note in mind, locate the position on the rack where you will install the shelf.
2. Refer to “[Installing the Rubber Feet](#)” on page 3-4.
3. Align the four holes in the ears of the shelf with those in the rack, then fasten the shelf to the rack using four of the screws supplied with the rack.
4. After installing the shelf, proceed to install the N1 chassis as described in “[Installing the Chassis Directly to the Rack](#)” on page 3-6.

Installing the Chassis Directly to the Rack



Caution: Read [Chapter 2](#) before completing the following procedure to ensure that all installation guidelines are met.

Precaución: Antes de llevar a cabo el siguiente procedimiento, lea [Chapter 2](#) para y asegúrese de cumplir con todos los requisitos de instalación.

To install the Matrix N1 chassis, proceed as follows:



Warning: To help prevent personal injury, at least two people are required to lift the chassis into the rack.

Advertencia: Para ayudar a prevenir alguna lesión personal, al menos dos personas son requeridas para levantar el chasis y meterlo al rack.

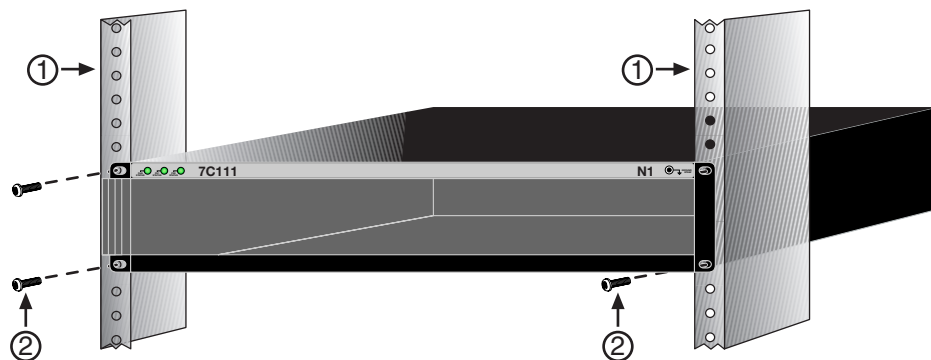
Warnhinweis: Zum Schutz vor körperlichen Schäden, sollten sie mit min. zwei Personen das Chassis in das Rack heben.

1. Lift the chassis into the rack and slide it all the way into the rack. Refer to [Figure 3-3](#).
2. Use 4 screws (2 per side) provided with the equipment rack to secure the chassis to the rack, starting with the bottom holes and working toward the top of the N1 chassis, as shown in [Figure 3-3](#).



Note: Refer to [Table A-3](#) on page A-2 for recommended torque values to use when installing the N1 chassis using standard threaded fastener machine screws and bolts.

Figure 3-3 Rack Mounting the Matrix N1 7C111 Chassis



1 Rails of 19-inch rack

2 Mounting screws (supplied by user)



Note: The N1 chassis must not exceed the 2U high rackmount standard and must comply with the requirements for mounting in a 19-inch (48.26-centimeter) rack.

Attaching the Electrostatic Discharge Wrist Strap

The Electrostatic Discharge (ESD) wrist strap must be attached before handling the modules used in the Matrix N1 chassis. In addition, observe all precautions when handling these modules to prevent damage from electrostatic discharge.

Place the ESD wrist strap on your wrist and plug the other end into the grounding receptacle, at the top right corner of the chassis, shown in [Figure 3-4](#).

Figure 3-4 ESD Grounding Receptacle



1 ESD grounding receptacle



Note: To install the modules, refer to the module installation guide for the installation instructions. Before you power up the N1 chassis, it is recommended that you complete the installation of the modules in the chassis.

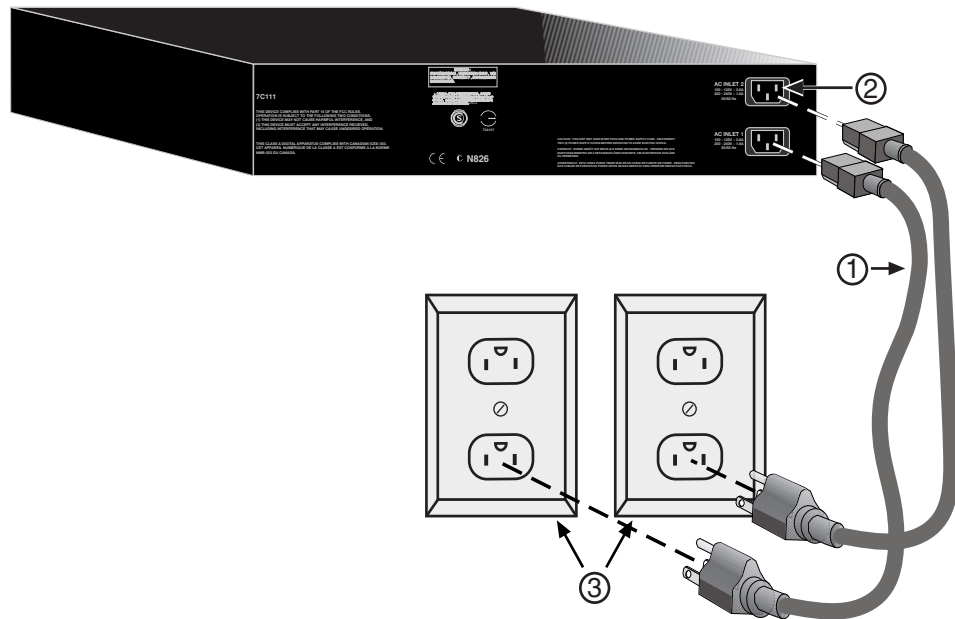
Powering Up an Enterasys Matrix N1 7C111 Chassis

To power up an N1 chassis with ac power supplies, refer to [Figure 3-5](#) and proceed as follows:



Note: For power redundancy, each of the power cords from the two power supplies must be connected to dedicated 15-Ampere ac power circuits.

1. Plug one end of each power cord (supplied with the chassis) into the ac power sockets on the back of the N1 chassis. See [Figure 3-5](#) for the power connections.

Figure 3-5 Connecting the 15-Amp AC Power Cords

- 1 NEMA 5-15P 15 A power cords (2)
- 2 AC power socket (2 each supply)
- 3 115 Vac, 15 A power outlet

Note: Power cords shown are for North America only. Each outlet must be on a separate circuit.

2. Plug each of the power cords into separate dedicated 115 Vac, 15 A receptacles.
3. Ensure that the Power LED on each power supply is green, located on the front panel of the N1 chassis.
4. Ensure that all fans in the fan tray unit are operating properly when power is received from the power supply modules (fan tray LED will be green, located on the front panel of the N1 chassis). For more information on the power supply LEDs (Power and Fan), refer to [LANVIEW LEDs](#) on page 2-2.

If you experience any problems with this installation, contact Enterasys Networks for assistance.

Cooling Fans

The N1 chassis is equipped at the factory with six (6) fixed cooling fans. These fans are not removable. If a fan should fail, contact Enterasys Networks Technical Support for assistance (refer to [“Getting Help”](#) on page 1-4).



Specifications and Regulatory Compliance

This appendix provides operating specifications for the Enterasys Matrix N1 7C111 chassis. Enterasys Networks reserves the right to change the specifications at any time without notice.

For information about...	Refer to page...
Physical Specifications	A-1
Environmental Requirements	A-3
Regulatory Requirements	A-1

Physical Specifications

The physical specifications for the N1 chassis, power supply modules, and the fans are as follows:

N1 Chassis

Table A-1 N1 Chassis Specifications

Item	Specification
Physical	
Dimensions:	8.81 H x 44.46 W x 51.92 D (cm) 3.47 H x 17.50 W x 20.44 D (in.)
Weight:	
Chassis empty:	6.36 kg (14 lb)
Chassis with DFE module:	12.72 kg (28 lb)
Mean Time Between Failures (MTBF)	118,975 hours

Power Supply

Table A-2 7C111 Power Supply Specifications

Item	Specification
Electrical	
Accepts up to (2) IEC320 C13 power cord plugs	
Input Frequency:	50 to 60 Hz
Input (Voltage/Amps):	2 x 100 to 125 Vac ~ 3.6 A 2 x 200 to 240 Vac ~ 1.6 A
Input Power:	400 W
Output Voltages:	5 V @ 40 amps 12 V @ 5.5 amps 3.3 V @ 40 amps -12 V @ 2 amps

Torque Values

The following table describes the recommended torque values to use when installing the N1 chassis using standard threaded fastener machine screws and bolts.

Table A-3 Recommended Torque Values by Screw Size

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

Environmental Requirements

The environmental specifications for the N1 chassis system are as follows:

Table A-4 Environmental Specifications

Item	Specification
Operating Temperature:	5°C to 40°C (41°F to 104°F)
Storage Temperature:	-30°C to 73°C (-22°F to 164°F)
Operating Relative Humidity:	5% to 90% (non-condensing)

Regulatory Requirements

[Table A-5](#) provides the safety and electromagnetic compatibility (EMC) requirements met by the N1 chassis system:

Table A-5 Regulatory Compliance Standards

Item	Specification
Safety:	Safety: UL 60950, CSA C22.2 No. 60950, EN 60950, IEC 60950. Modules which support laser connections also meet the EN 60825 and 21 CFR 1040.10 standards.
Electromagnetic Compatibility (EMC) FCC:	47 CFR Parts 2 and 15, CSA C108.8, EN 55022, EN 61000-3-2, EN 61000-3-3, EN 55024, AS/NZS CISPR 22, VCCI V-3

