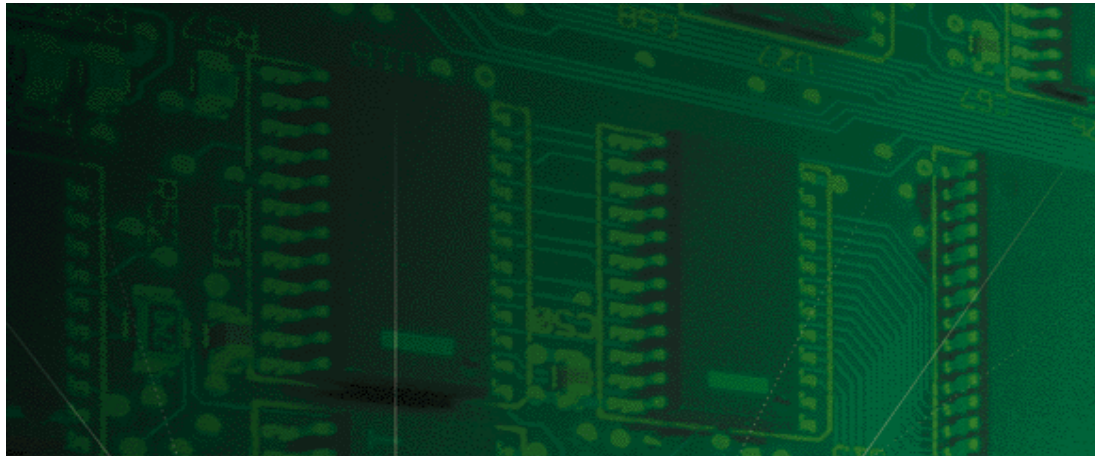




Dual E3 Asynchronous Transfer Mode

Network Interface Card
Getting Started Guide



Part No. 1.024.1334-00



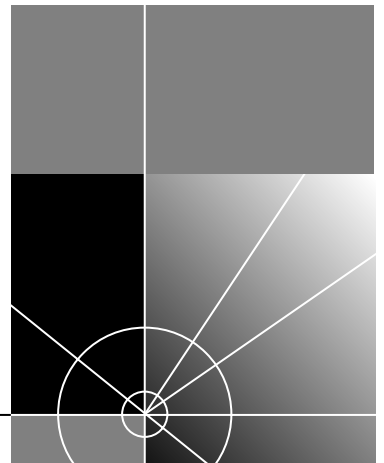


Dual E3 Asynchronous Transfer Mode

Network Interface Card Getting Started Guide

<http://www.3com.com/>

Part No. 1.024.1334-00



3Com Corporation
5400 Bayfront Plaza
Santa Clara, California
95052-8145

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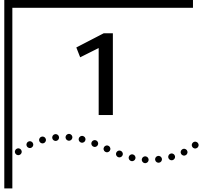
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<http://www.3Com.com/products/jr2000.html>

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OVERVIEW

This chapter provides an overview of:

- Contacting 3Com
- Document conventions
- Product description
- Product compatibility

Contacting 3Com

Call the appropriate toll free number listed below for technical support.



For European countries that do not have a toll free number listed, call +31 30 602 9900.

Country	Toll Free Number	Country	Toll Free Number
Austria	06 607468	Netherlands	0800 0227788
Belgium	0800 71429	Norway	800 11376
Canada	1800 2318770	Poland	00800 3111206
Denmark	800 17309	Portugal	0800 831416
Finland	0800 113153	South Africa	0800 995014
France	0800 917959	Spain	900 983125
Germany	0800 1821502	Sweden	020 795482
Hungary	00800 12813	Switzerland	0800 553072
Ireland	1800 553117	UK	0800 966197
Israel	0800 9453794	United States	1800 2318770
Italy	1678 79489	All Other Locations <i>(Outside Europe)</i>	1847 7976600





Refer to the Total Control Hub Documentation CD-ROM for more information regarding product warranty.



For information about Customer Service, including support, training, contracts, and documentation, visit our website at <http://totalservice.3com.com>

Document Conventions

These tables list conventions used throughout this guide.

Icon	Notice Type	Description
	Information note	Information that contains important features or instructions.
	Caution	Information to alert you to potential damage to a program, system, or device.
	Warning	Information to alert you to potential personal injury or fatality. May also alert you to potential electrical hazard.
	ESD	Information to alert you to take proper grounding precautions before handling a product.

Convention	Description
Text represented as a screen display	This typeface represents displays that appear on your terminal screen, for example: <code>Netlogin:</code>
Text represented as commands	This typeface represents commands that you enter for example: <code>setenv TCMHOME directory</code> <i>This guide always gives the full form of a command in uppercase and lowercase letters. However, you can abbreviate commands by entering only the uppercase letters and the appropriate value. Commands are not case-sensitive.</i>
Text represented as menu or sub-menu names.	This typeface represents all menu and sub-menu names within procedures, for example: On the File menu, click New .

Product Description

The Dual E3 Asynchronous Transfer Mode (ATM) Network Interface Card (NIC) works in conjunction with firmware running on the HiPer Access

Router Card (HiPer ARC) to provide a high speed ATM output pipe from the 3Com Total Control Enterprise Network Hub.

- Features** The ATM NIC supports:
- Dual E3 interfaces for cascading multiple chassis
 - Single auto-sensing 10/100Base-TX Ethernet interface
 - Various standards for routing local area network (LAN) traffic over an ATM network including:
 - RFC-1483—Multiprotocol encapsulation
 - RFC-1577—Classical IP and ARP
 - Configuration via the HiPer ARC's command line interface (CLI)

**Product
Compatibility**

The Dual E3 ATM NIC is compatible with the HiPer ARC Network Application Card (NAC).

2

INSTALLATION

This chapter contains Dual E3 Asynchronous Transfer Mode (ATM) Network Interface Card (NIC) installation information.

Installation Tools

To install this NIC in the Total Control chassis, you need a #2 Phillips and flat-head screwdriver.

Installation Procedure

To install this NIC:



ESD: To reduce the risk of electrostatic discharge (ESD), take proper grounding precautions before handling the NIC.



Install the NIC with or without power applied to the chassis.

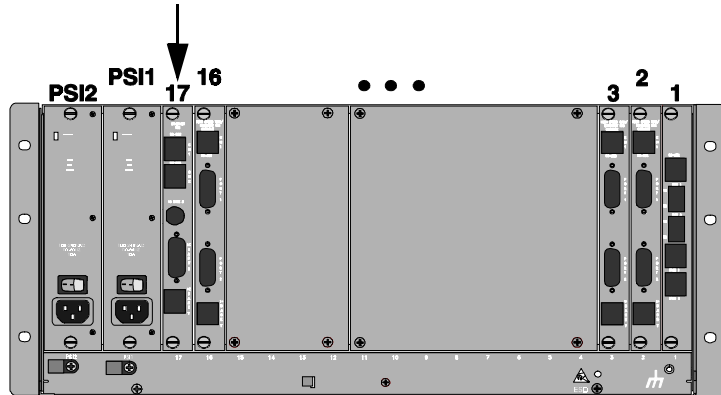
- 1 Select a slot at the rear of the Total Control chassis for installing the NIC.
Install this NIC in slots: 1–17



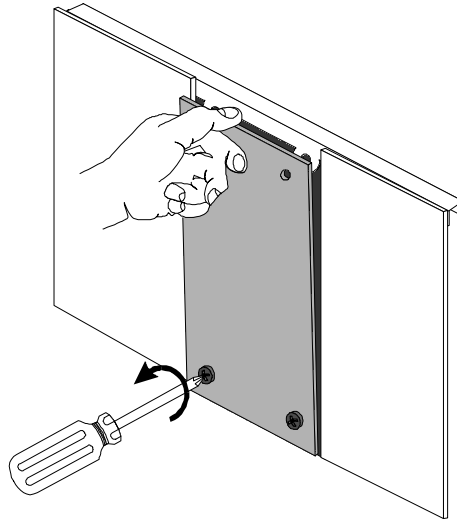
CAUTION: The Dual E3 ATM NIC must be installed behind a HiPer Access Router Card (ARC) Network Application Card (NAC).



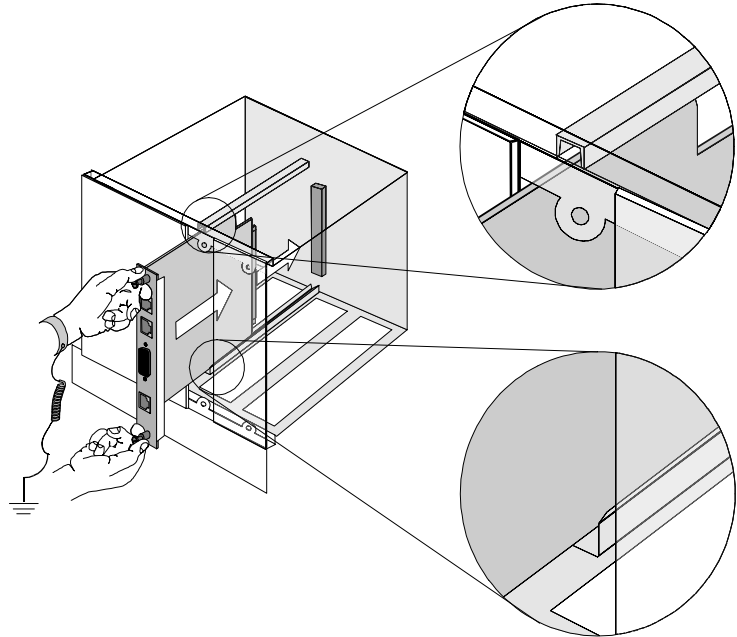
For managed chassis, slot 17 is reserved for a NIC corresponding to the Network Management Card (NMC).



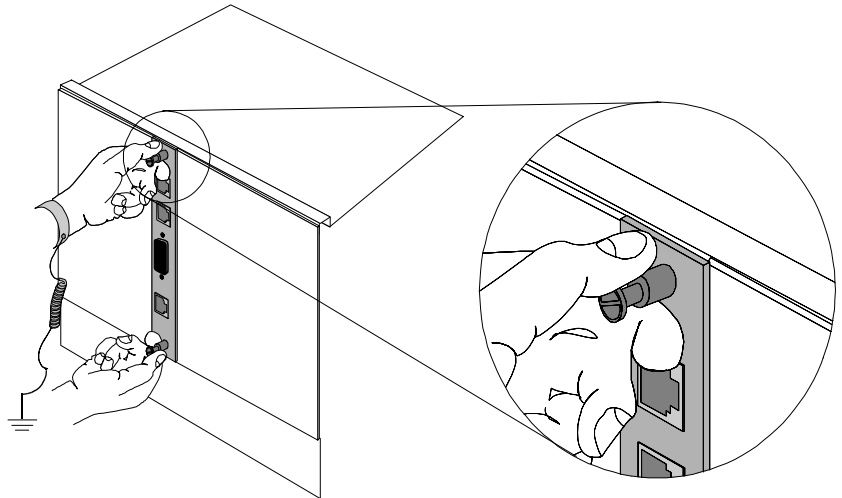
- 2 Use a #2 Phillips screwdriver to remove the safety panel covering this slot.



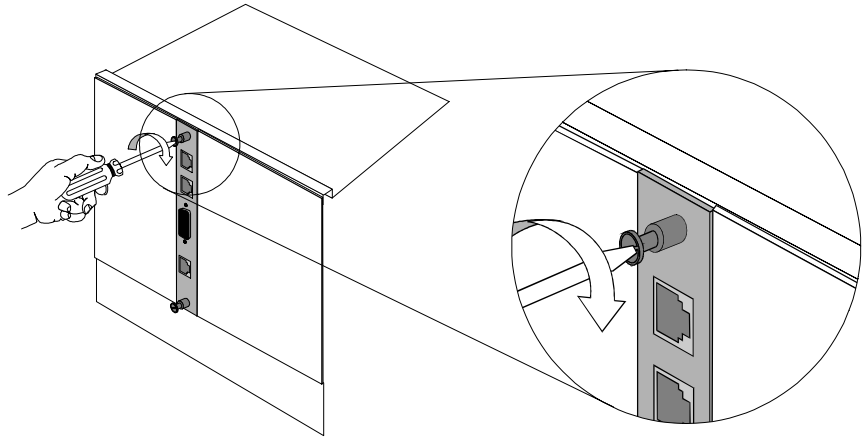
- 3 Insert the NIC between the slot's upper and lower card guides.



- 4 Slide the NIC into the chassis, until the front of the NIC is flush with the chassis.



- 5 Use a flat-head screwdriver to tighten the screws on the front panel.



- 6 Cover any unused chassis slots with safety panels.
- 7 Install the HiPer ARC NAC. Refer to the *HiPer ARC NAC Getting Started Guide* for more information.

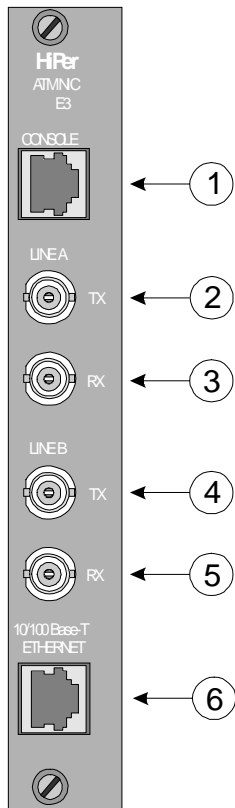
3

NETWORK INTERFACE CARD CABLING

This chapter provides information about the physical interfaces of the Dual E3 Asynchronous Transfer Mode (ATM) Network Interface Card (NIC), instructions for accessing the corresponding Network Application Card (NAC) through the command line interface (CLI), and options for cabling the E3 port.

Physical Interfaces

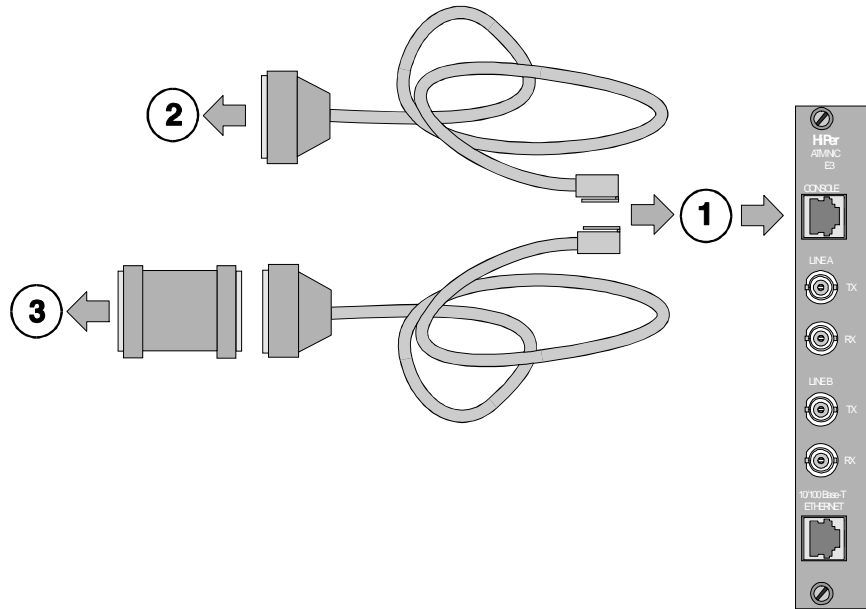
The Dual E3 ATM NIC has the following physical interfaces:



Callout	Interface Description
1	Console: RJ-45 RS-232-C port configured as DTE. <ul style="list-style-type: none"> Connect to this port to access the HiPer ARC NAC's CLI. This port is configured for 8 data bits, 1 stop bit, no parity. This port's baud rate is selectable via DIP switch settings on the HiPer ARC NAC.
2	Span A TX: BNC E3 transmit port for Span A.
3	Span A RX: BNC E3 receive port for Span A.
4	Span B TX: BNC E3 transmit port for Span B.
5	Span B RX: BNC E3 receive port for Span B.
6	10/100 Mbps Ethernet: RJ-45 Ethernet port. <ul style="list-style-type: none"> This port auto-senses Ethernet 10Base-T or 100Base-TX networks.

Accessing the Command Line Interface

To access the CLI of the corresponding NAC, connect the following cables to the NIC's console port.



Callout	Description
1	RJ-45 connector to NIC's console port
2	DB-25 male connector to modem for remote operations
3	DB-25 female-to-female null modem adapter to PC or terminal COM port

E3 Port Cabling Options

Cable the ATM NIC's E3 span ports for an independent connection between a single chassis and the ATM switch, or for multiple cascaded chassis with a single connection to the switch.



The Span B port must be used for cascading multiple chassis. It cannot be used as an independent connection to an ATM switch.

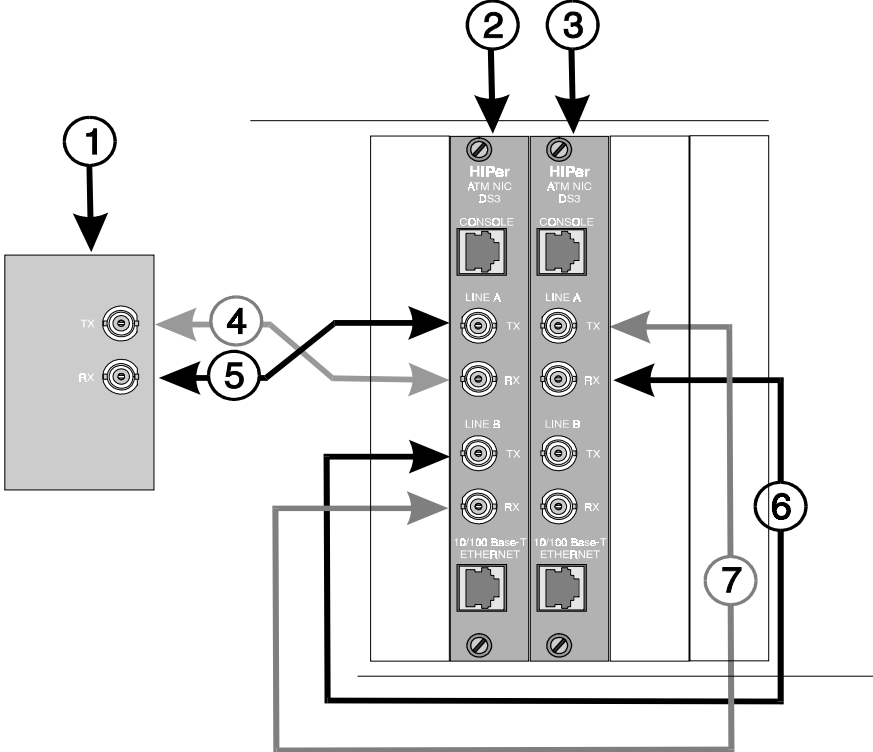
Cabling a Single ATM Network Interface Card

To cable a single chassis to an ATM switch, connect the ATM switch to the ATM NIC's Span A port. Refer to the *Dual E3 ATM NIC Product Reference* for configuration information.

Cabling Multiple Cascaded ATM Network Interface Cards

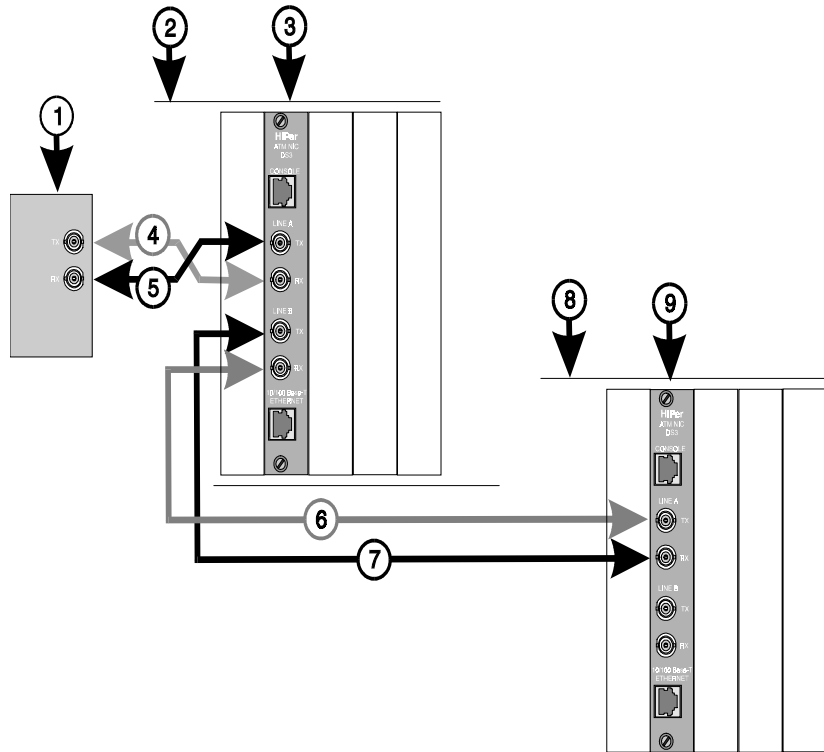
Cascade or daisy-chain multiple ATM NICs to provide additional modem ports and reduce the number of connections to the ATM switch. This configuration allows multiple NICs in the same chassis or multiple chassis.

Cascading Multiple NICs in the Same Chassis



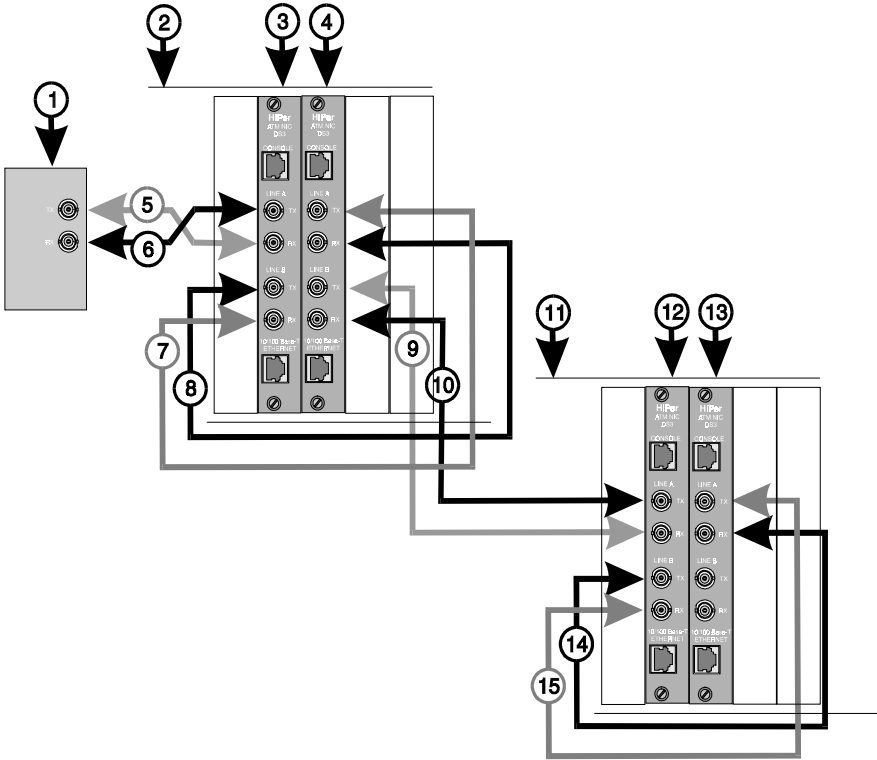
Callout	Description
1	ATM switch
2	ATM NIC 1
3	ATM NIC 2
4	Connection from switch's TX to SPAN A's RX of NIC 1
5	Connection from switch's RX to SPAN A's TX of NIC 1
6	Connection from Span B's TX of NIC 1 to SPAN A's RX of NIC 2
7	Connection from Span B's RX of NIC 1 to SPAN A's TX of NIC 2

Cascading Single NIC's in a Different Chassis



Callout	Description
1	ATM switch
2	Chassis 1
3	Chassis 1's ATM NIC
4	Connection from switch's TX to Span A's RX of Chassis 1's NIC
5	Connection from switch's RX to Span A's TX of Chassis 1's NIC
6	Connection from Span B's TX of Chassis 1's NIC to SPAN A's RX of Chassis 2's NIC
7	Connection from Span B's RX of Chassis 1's NIC to SPAN A's TX Chassis 2's NIC
8	Chassis 2
9	Chassis 2's ATM NIC

Cascading Multiple NIC's in a Different Chassis



Callout	Description
1	ATM switch
2	Chassis 1
3	Chassis 1's ATM NIC 1
4	Chassis 1's ATM NIC 2
5	Connection from switch's TX to Span A's RX of Chassis 1's NIC 1
6	Connection from switch's RX to Span A's TX of Chassis 1's NIC 1
7	Connection from Span B's TX of Chassis 1's NIC 1 to SPAN A's RX of Chassis 1's NIC 2
8	Connection from Span B's RX of Chassis 1's NIC 1 to SPAN A's TX of Chassis 1's NIC 2
9	Connection from Span B's TX of Chassis 1's NIC 2 to SPAN A's RX of Chassis 2's NIC 1
10	Connection from Span B's RX of Chassis 1's NIC 2 to SPAN A's TX Chassis 2's NIC 1

(continued)

Callout	Description
11	Chassis 2
12	Chassis 2's ATM NIC 1
13	Chassis 2's ATM NIC 2
14	Connection from Span B's TX of Chassis 2's NIC 1 to SPAN A's RX of Chassis 2's NIC 2
15	Connection from Span B's RX of Chassis 2's NIC 1 to SPAN A's TX of Chassis 2's NIC 2



TECHNICAL SPECIFICATIONS

Certification

EMI/RFI ■ EN55022 A

Safety ■ EN 60950

Regulatory Compliance Statements

United States

FCC Part 15 Compliance Statement

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

Interface Specifications

Console Port

Electrical Specification:	RS-232-C (EIA/TIA-232-E standard)
Connector:	RJ-45, 8 position modular jack
Configuration:	Data Terminal Equipment (DTE)
Transmission Method:	Unbalanced RS-232
Transmission Rate:	38,400 bps maximum

Line A and Line B E3 Ports

Electrical Specification:	E3 interface
Connectors:	BNC coaxial connectors; one transmit (TX) and one receive (RX)
Transmission Media:	75 ohm (nominal impedance) coaxial cable
Timing Source:	User selectable between: <ul style="list-style-type: none">■ Internal■ Network
Framing:	<ul style="list-style-type: none">■ ATM Direct Mapping (ADM)■ Physical Layer Convergence Protocol (PLCP)
Line Coding:	High Density Bipolar 3 Zeroes (HDB3)

Ethernet 10Base-T/100Base-TX Ports

Data Transfer Rate:	10/100 Mbps Auto-Negotiated
Connector:	8-position modular jack, Stewart 88-360808 or equivalent
Accessing Scheme:	Carrier Sense Multiple Access with Collision Detection (CSMA/CD)
Topology:	Star-wired hub using multiport repeater
Maximum Nodes:	Limited only by repeater
Transmission Medium:	Unshielded Twisted Pair (UTP) Category 3 or Category 5 for 10Base-T applications, Category 5 for 100Base-TX
Network Lobe Distance:	100 m (328 ft) suggested maximum. Longer cabling can be used at the expense of reduced receiver squelch levels.

Current Draw

+5.2 vDC @ 500 mA typical maximum



Typical maximum refers to the maximum current draw under most typical configurations.

Environment

Shipping and Storage

Temperature:	-25 to 75° C, -13 to 167° F
Relative Humidity:	0 to 100%, Non-condensing

Operating

Temperature:	0 to 40° C, 32 to 104° F
Relative Humidity:	0 to 95%, Non-condensing

Physical Dimensions

	Inches	Centimeters
Length:	5.30	13.46
Width:	0.79	2.00
Height:	6.90	17.53



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