Quad T1/E1 10/100 Ethernet PCI

Network Interface Card Getting Started Guide

Part No. 1.024.1973-00

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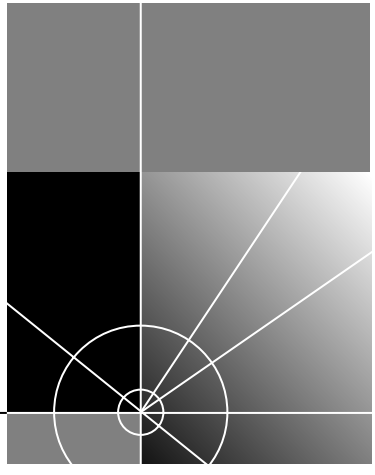

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Part No. 1.024.1973-00

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

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1 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*** ***(Outside Europe)***	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: `Netlogin:`
Text represented as **`commands`**	**`This typeface`** represents commands that you enter for example: **`setenv TCMHOME directory`** *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.*
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 Quad T1/E1 10/100 Ethernet Peripheral Component Interface (PCI) Network Interface Card (NIC) supports four E1 or T1 spans simultaneously with a 10/100 Mbps Ethernet port at full data rates with no degradation in NIC performance. This NIC has two separate PCI masters (or loads); one for all E1 or T1 interfaces, and one for the Ethernet interface.

Each of the E1/T1 spans is individually configured to be loop timed or referenced from a local timing master. Configuration of the T1/E1 interface is done via software.

Product Compatibility

The Quad T1/E1 10/100 Ethernet PCI NIC is compatible only with PCI based Network Application Cards (NACs) such as the EdgeServer Pro and RISC-based HiPer Arcs.

2 INSTALLATION

This chapter contains Quad T1/E1 10/100 Ethernet Peripheral Component Interface (PCI) 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:

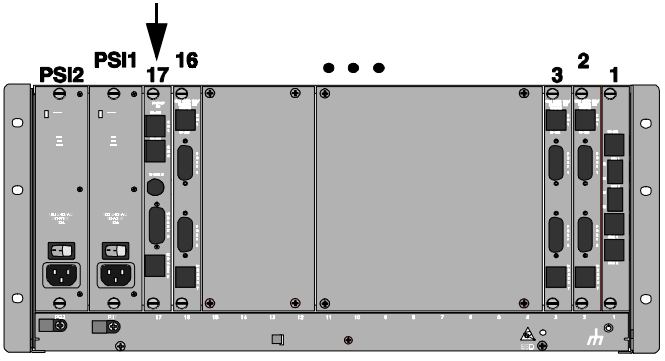
ESD: *To reduce the risk of electrostatic discharge (ESD), take proper grounding precautions before handling the NIC.*

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

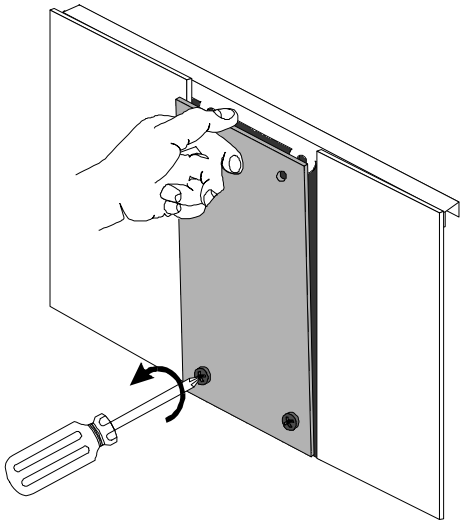
1 Select a slot at the rear of the Total Control chassis for installing the NIC.

Install this NIC in slot(s): 1–17

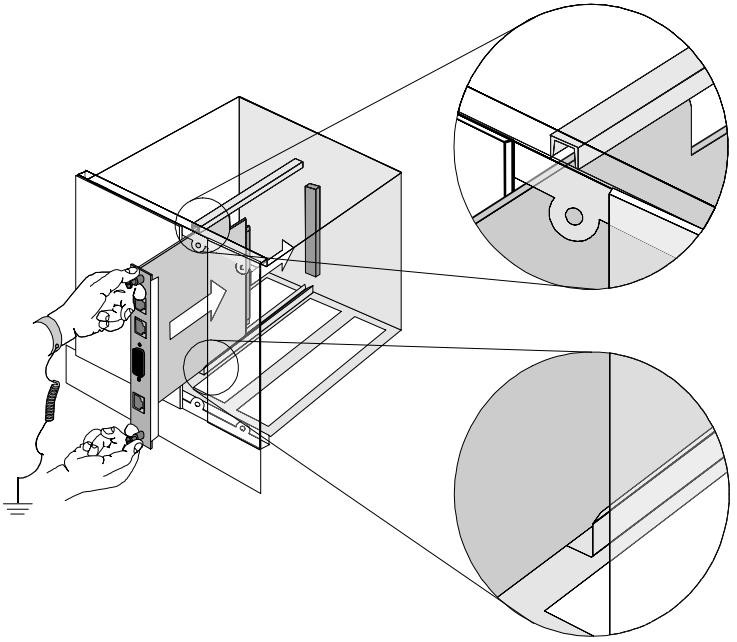
For managed chassis, slot 17 is reserved for the Network Management Card (NMC) NIC.



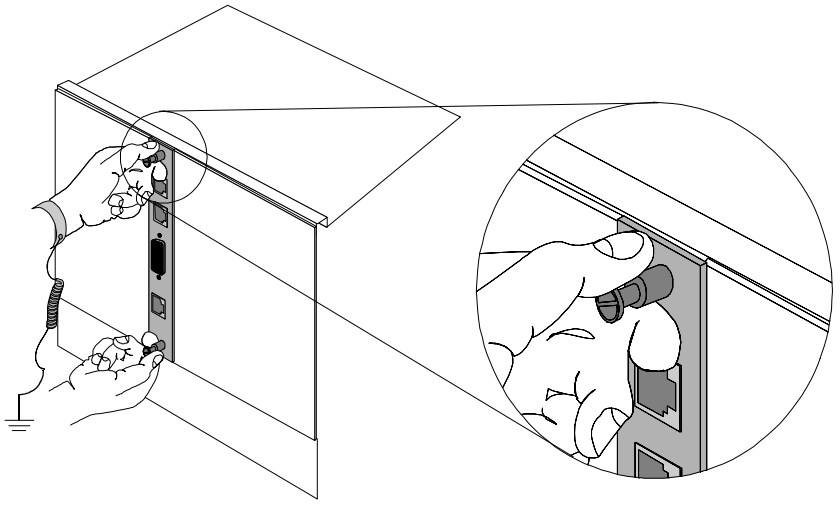
2 Use a #2 Phillips screwdriver to remove the safety panel covering this slot.



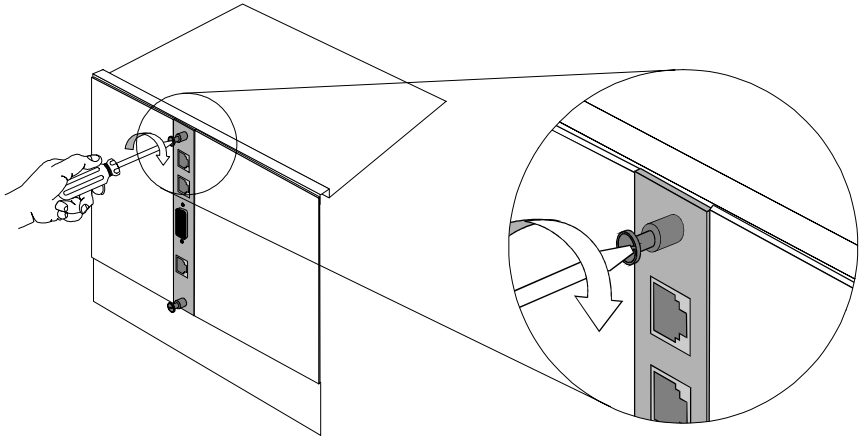
3 Insert the NIC between the slot's upper and lower card guides.



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.

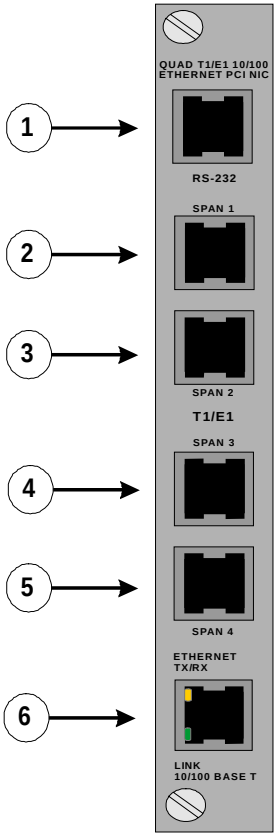
7 Install the Network Application Card (NAC) corresponding to this NIC. Refer to the NAC's Getting Started Guide for more information.

3 Network Interface Card Cabling

This chapter provides information about the physical interfaces of the Quad Network Interface Card (NIC) and instructions for accessing the corresponding Network Application Card (NAC) through the user Interface (UI) port for maintance and software downloads.

Physical Interfaces

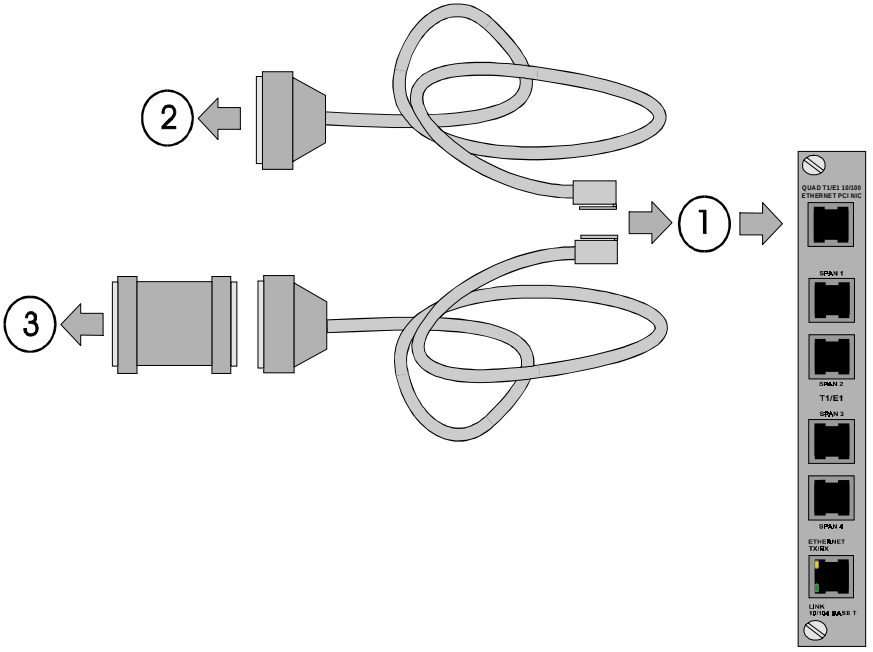
The Quad T1/E1 10/100 PCI NIC has the following interface ports:



Callout Number	Interface Description
1	RS–232 User Interface Port
2	T1/E1 RJ-48C Interface Port (Span 1)
3	T1/E1 RJ-48C Interface Port (Span 2)
4	T1/E1 RJ-48C Interface Port (Span 3)
5	T1/E1 RJ-48C Interface Port (Span 4)
6	10/100 Mbps Ethernet Port Port has LEDs for showing TX/RX and LINK connections

Accessing the User Interface

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



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

A TECHNICAL SPECIFICATIONS

Technical Specifications

Certification

Safety	■ EN60950 CB Report including all Country Annexes ■ UL 1950, C/UL ■ IEC 950 ■ AUSTEL
EMI/EMC	■ FCC Part 15, Class A, Radiated and Line Conducted ■ EN 55022, Class A, Radiated and Line Conducted EMI, Non-Residential Limits ■ VCCI, Class A ■ EN 50082-1, Electromagnetic Compatibility
Telco	■ FCC Part 68 ■ (IC) CS-03 ■ CTR 12 ■ CTR 13 ■ TS 016 ■ ETS-300-046 ■ NTR 4

Regulatory Compliance Statements

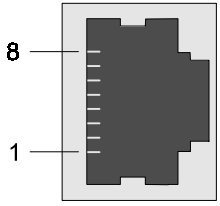
United States

FCC Part 15 Compliance Statement

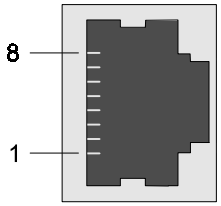
This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, 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 their own expense.

Interface Specifications

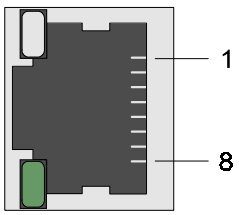
RS–232 Console Port

Electrical Specification:	RS–232-C (EIA/TIA-232-E standard)
Connector:	RJ-45, 8 position modular jack  <u>Pinouts</u> 1 = DSR 2 = DCD 3 = DTR 4 = Ground 5 = Receive data 6 = Transmit data 7 = CTS 8 = RTS
Configuration	Data Terminal Equipment (DTE)
Transmission Method	Unbalanced RS–232
Transmission Rate	115 Kbps maximum

T1/E1 Span Ports

Electrical Specification:	T1/E1 Long Haul/Short Haul Transceivers
Connector: 	RJ-48C, 8 position modular jack Pinouts 1 = Receive Ring 2 = Receive Ring 3 = N/C 4 = Transmit Ring 5 = Transmit Ring 6 = N/C 7 = N/C 8 = N/C
Switch Type:	5ESS
Line Coding:	Binary Eight Zero Code Suppression
T1/E1 Transmission rate:	1.544 Mbps / 2.048 Mbps
Framing:	T1: ESF, D4 E1: CAS, CCS
Trunk Type:	E+M II
Trunk Start:	Wink
Dial in/out address:	DNIS

Ethernet 10/100 Ports

Connector: 	Belden 1154A or equivalent; 8 conductors in 4 twisted pairs Pinouts 1 = Not Used 2 = Not Used 3 = Transmit Data + 4 = Receive Data + 5 = Receive Data - 6 = Transmit Data - 7 = Not Used 8 = Not Used
Topology:	Star Wired Hub (using multiport repeater)
Transmission Medium:	Unshielded Twisted Pair (UTP) cable type CAT3 or CAT5.
Data Transfer Rate:	10/100 Mbps Auto-negotiated
Accessing Scheme:	Carrier Sense Multiple Access with Collision Detection (CSMA/CD)
Maximum Nodes:	Limited only by repeater used
Network Lobe Distance:	100 meters (328 ft.) suggested maximum (Longer cabling can be used at the expense of reduced receiver squelch levels)

Current Draw +5.2 VDC @ 1800mA 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:	4.40	11.18
Width:	.79	2.01
Height:	6.40	16.26

3Com Corporation
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P.O. Box 58145
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