486 Network Management Card

Network Application Card Getting Started Guide

Part No. 1.024.1280-00

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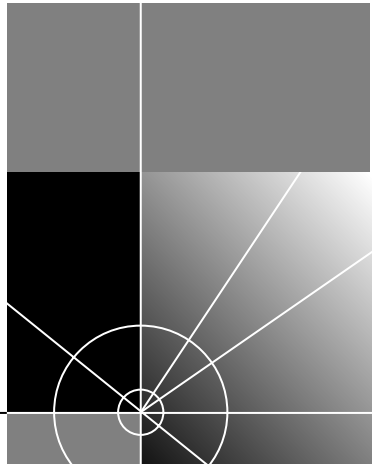

http://www.3com.com/

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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 Network Management Card (NMC) has the ability to manage all of the devices in the Total Control chassis under the direction of any computer running the console software. This computer is referred to as the management station (MS).

Two protocols are involved in the implementation of these management functions:

- Simple Network Management Protocol (SNMP)
  - Allows the NMC to communicate with the MS.
  - The NMC acts as a proxy agent to the chassis Network Application Cards (NACs) not running SNMP software directly.
- Management Bus Protocol (MBP)
  - Allows the NMC to communicate with and provide configuration management for the installed devices.
  - Supports automatic configuration, status queries, software upgrades, and event management via the NMC.

Product Compatibility

Two versions of the 486 NMC NAC are available.

- The 4meg NMC NAC — Support for all non-HiPer applications.
- The 16meg NMC NAC — Support for all standard applications as well as HiPer Arc and HiPer DSP.

For information on upgrading an existing 4meg NMC, see Appendix B.

2 INSTALLATION

This chapter contains Network Management Card (NMC) Network Application Card (NAC) installation information.

Installation Tools

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

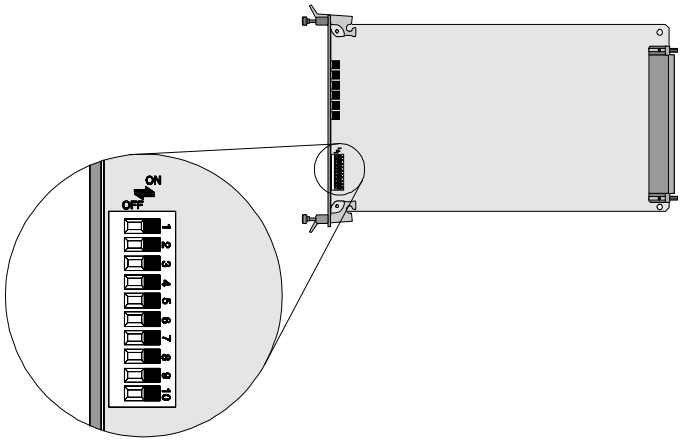
Installation Procedure

To install this NAC:

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

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

2 Configure the NAC via the DIP switches.



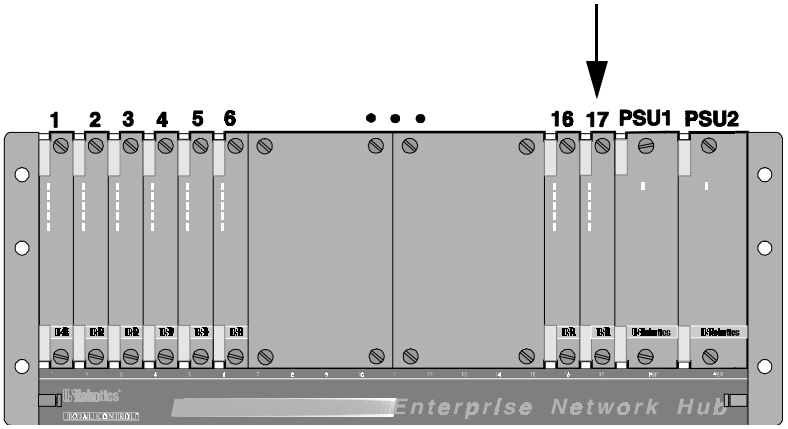
DIP Switch Number	Function		
1,2	NMC NIC CH1 Port Rate		
	DIP 1	**DIP2**	**Selects**
	OFF	OFF	9600bps
	OFF	ON	19200bps
	ON	OFF	38400bps
	ON	ON	57600bps
3,4	NMC NIC CH2 Port Rate		
	DIP 1	**DIP2**	**Selects**
	OFF	OFF	9600bps
	OFF	ON	19200bps
	ON	OFF	38400bps
	ON	ON	57600bps
5	**OFF**: NMC reads chassis configuration from NVRAM on power up. **ON**: NMC reads factory default chassis configuration from EEPROM.		
6	**OFF**: Password feature is disabled and CH1 acts as UI port only. **ON**: Password feature is enabled and CH1 can be configured to act as UI or second SLIP port.		
7–10	Reserved		

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

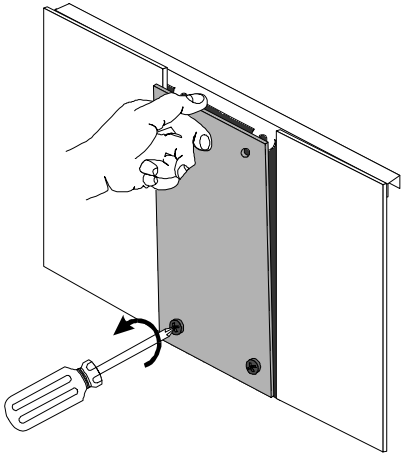
3 Select a slot at the front of the Total Control chassis for installing the NAC.

Install this NAC in slot(s): 1–17

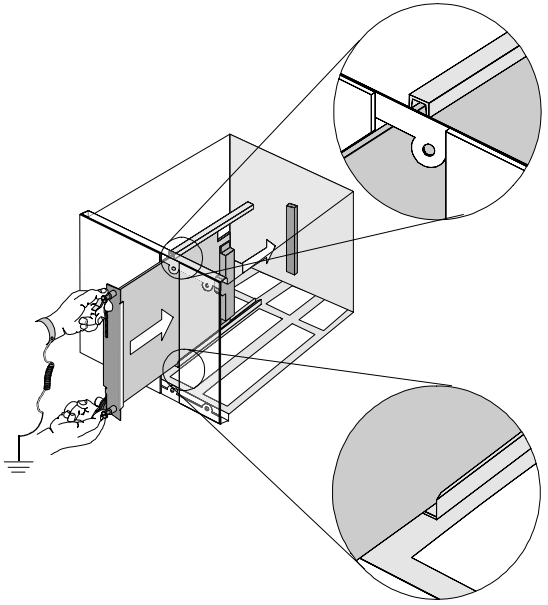
For managed chassis, slot 17 is reserved for the Network Management Card (NMC) NAC.



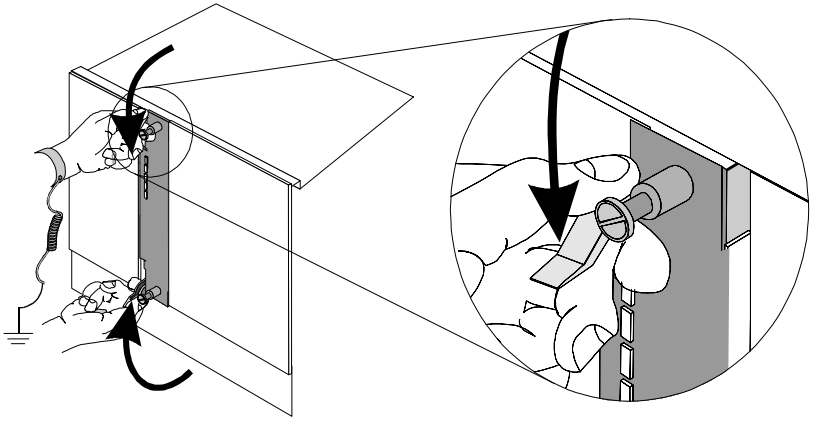
4 Use a #2 Phillips screwdriver to remove the safety panel covering this slot.



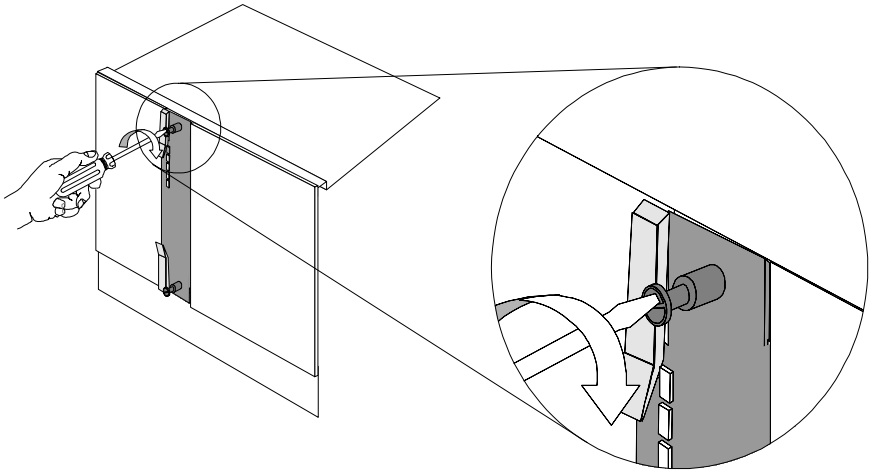
5 Insert the NAC between the slot's upper and lower card guides.



6 Holding the tabs perpendicular to the NAC's front panel, slide the NAC into the chassis, until the front of the NAC is flush with the chassis. Push the tabs toward each other to secure the NAC.



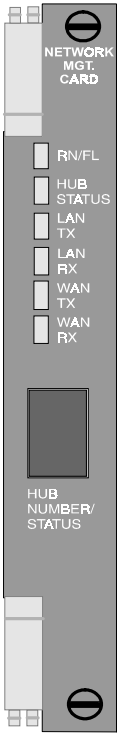
7 Use a flat-head screwdriver to tighten the screws on the front panel.



8 Cover any unused chassis slots with safety panels.

9 Apply power to the chassis, if power is not already applied.

10 After the NAC boots, verify that the run/fail (RN/FL) LED is green.



- If the RN/FL LED does not light, solid red or flashing red, there is an error. Refer to the *Trouble Clearing* section for more information.
- If the RN/FL LED is green, continue configuring the NMC NAC. Refer to the *Product Reference* for configuration information.

A

Trouble Clearing and Technical Specifications

This appendix contains 486 Network Managemement Card (NMC) Network Application Card (NAC) trouble clearing information and technical specifications.

Trouble Clearing

This section contains information to help you trouble clear problems that may occur after you first install and power-up a 486 NMC NAC.

NMC LEDs

Use the NMC LEDs to diagnose power-up, boot, and connectivity errors. This table lists the NMC NAC LEDs and their possible conditions.

Description	Status	Meaning
Run/Fail (RN/FL)	Solid green	Normal/diagnostics mode/boot-up self-test
	Solid red	Critical Failure
	Flashing red/green	Non-critical failure on initial power-up
	Flashing green	Testing or software download (required or in process)/also during boot-up sequence
Hub Status	Solid green	Chassis normal/diagnostics mode
	Solid red	Chassis critical failure
	Flashing red	Management bus failure with card in chassis
LAN TX	Green	NMC transmitting data on LAN port
	OFF	No data being transmitted on LAN port
LAN RX	Green	NMC receiving data on LAN port
	OFF	No data being received on LAN port
WAN TX	Green	NMC transmitting data on WAN port
	OFF	No data being transmitted on WAN port
WAN RX	Green	NMC receiving data on WAN port
	OFF	No data being received on WAN port

RN/FL LED Diagnostics

This table provides information on trouble clearing problems that may occur at power-up.

At power-up, the LEDs will be solid red for a short time. This is a normal condition.

Symptom	Cause	Trouble Clearing
RN/FL is solid green	The condition is normal.	No action required.
RN/FL is solid red	There is a critical failure.	Reinstall the 486 NMC and refer to the *Critical failure debug procedure* in this appendix.
RN/FL is flashing red and green	There is no NIC installed behind the HiPer NMC NAC.	Install the NIC. Refer to the appropriate *Getting Started Guide*. *Note: If the NIC is installed after the NMC, reboot the NMC by removing and reseating the NMC card.*
RN/FL is not lit	There is no power to the NAC.	**1** Make sure the NMC is installed properly. **2** Make sure the chassis is powered on. **3** Make sure power supply status LED is green.

Critical Failure Debug Procedure

Follow this procedure if you suspect a critical failure at start-up.

1. Pull the HiPer NMC NAC forward to unplug it from the midplane.
2. Reseat the card.

Check to see if the RN/FL LED turns green. If reseating the NAC does not solve the problem, contact 3Com Technical Support.

Technical Specifications

Certification

EMI/RFI	■ FCC 15A ■ EN55022A ■ VCCI, AUSTEL ■ 50082-1 Immunity
Safety	■ UL 1950 ■ C-UL ■ EN 60950 ■ JATE

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.

Processor

80486 at 33 Mhz

Operational Memory

Dynamic Random Access Memory (DRAM):	4 or 16 Mbytes
Flash Read-Only Memory (Flash ROM):	2 or 8 Mbytes

Data Retention Method

Clock, CMOS and chassis configuration values retained	
Type:	Supercap 5.5V 1 Farad
Retention:	3Days
Service Life:	MTBF of 100,000 hours

Current Draw +5.2 VDC @ 3.5mA 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
Humidity:	0 to 100%, Non-condensing

Operating

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

Physical Dimensions

	Inches	Centimeters
Length:	12.95	32.89
Width:	0.79	2.00
Height:	6.90	17.53

B

DRAM OR FLASHROM UPGRADE INSTALLATION

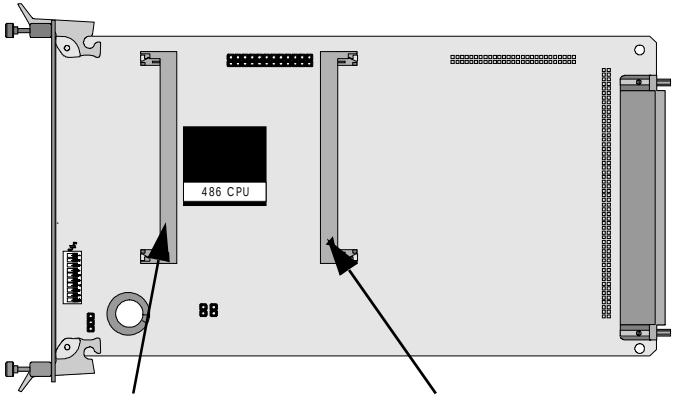
DRAM or FLASHROM Upgrade Installation

Follow this procedure when completing either a DRAM or FLASHROM upgrade.

1 Locate the DRAM or FLASHROM SIMM socket on the card. Refer to the illustration below.

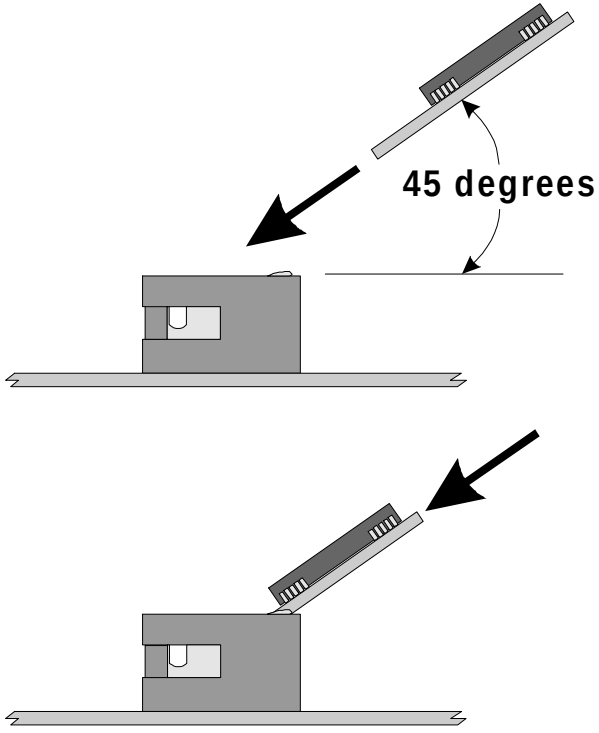
CAUTION: *Follow appropriate precautions for handling static-sensitive devices.*

The FLASHROM and/or DRAM SIMM can only be installed on 486 Network Management Card (NMC) and NETServer Gateway cards.

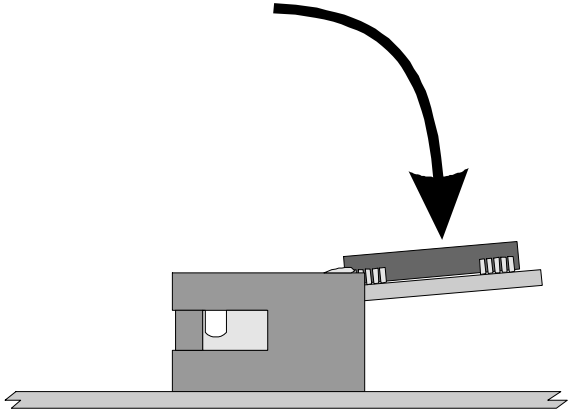


2 Remove the DRAM or FLASHROM SIMM from its packaging.

3 Insert the SIMM into the socket, keeping the component side facing up.



4 Gently press the SIMM downward until it locks into place.



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