EtherLink XL and EtherLink III

10 Mbps Network Interface Cards

The #1 best-selling Ethernet NICs, providing unmatched performance, reliability, and network functionality

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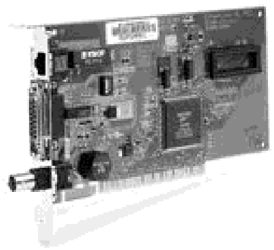
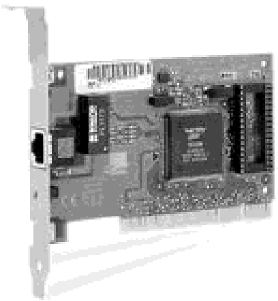
EtherLink XL PCI Network Interface Cards

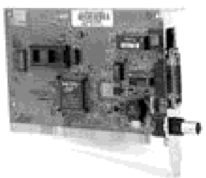


Combo
3C900-COMBO
BNC, RJ-45, and AUI connectors

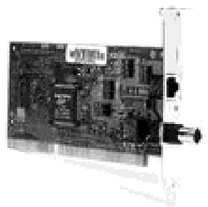


10BASE-T
3C900-TPO
RJ-45 connector only

EtherLink III 16-Bit ISA Network Interface Cards

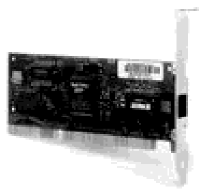


Combo
3C509B-COMBO
BNC, RJ-45, and AUI connectors



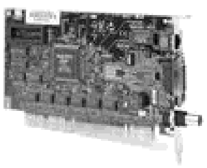
TPC 3C509B-TPC
RJ-45 and BNC connectors

10BASE-T
3C509B-TP RJ-45 and AUI connectors

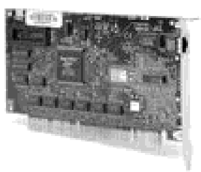


10BASE-T
3C509B-TPO
RJ-45 connector only

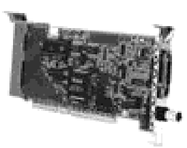
EtherLink III 32-Bit EISA and MCA Network Interface Cards



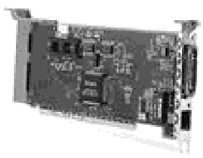
32-Bit EISA Combo
3C592-COMBO
BNC, RJ-45, and AUI connectors



32-Bit EISA 10BASE-T
3C592-TPO RJ-45 connector only



MCA Coax 3C529
BNC and AUI connectors



MCA 10BASE-T
3C529-TP RJ-45 and AUI connectors

EtherLink III PC Cards (PCMCIA)

LAN PC Card
10BASE-T/Coax
3C589D-COMBO

BNC and RJ-45 connecting cable

LAN PC Card
10BASE-T
3C589D-TP

RJ-45 connecting cable

One LED, showing linkbeat

LAN+33.6 Modem
10BASE-T/Coax
3C562D-COMBO,*
3C563D-COMBO**

RJ-45 and BNC connecting cable

One modem connecting cable with DAA and two RJ-11 female connectors

One RJ-11 phone cable (double male)
International telephone line adapter (3C563D only)

LAN+33.6 Modem
10BASE-T
3C562D-TP,*
3C563D-TP**

RJ-45 connecting cable

One modem connecting cable with DAA and two RJ-11 female connectors

One RJ-11 phone cable (double male)

International telephone line adapter (3C563D only)

* For use in Canada and U.S. only
** For use in approved countries only

Innovative Technology in the EtherLink NICs

The world’s leading supplier of Ethernet network interface cards, with 100 million connects worldwide, 3Com is the networking expert developing technologies that enhance NIC and network functionality and performance. EtherLink NICs provide PCs and notebooks with advanced networking capabilities that improve the productivity of network staff and users alike.

3Com NICs are the standard on Ethernet connectivity for desktops and servers. EtherLink XL and EtherLink III NICs provide the highest reliability, broadest compatibility, and best performance of any NIC.

Parallel Tasking Performance

The foundation for all EtherLink NICs is 3Com Parallel Tasking technology, which simultaneously performs multiple processing tasks to increase performance. For example, the NIC begins writing the first portion of a packet onto the cabling while still reading the last of the packet into NIC memory. Parallel Tasking software also dynamically adjusts the timing of interrupts to eliminate the lag that slows down other NICs.

EtherLink III NICs consistently out-perform competing NICs in a variety of LAN environments-including NetWare, Windows 95, Windows NT, LANtastic, and others-according to independent tests conducted by LANQuest Labs, PC Magazine, and others.

By standardizing on EtherLink III and XL PCI NICs, you can bring big performance advantages to users every-where-whether they work on systems with ISA, EISA, MCA, PCI, or PC Card buses.

EtherLink XL PCI NICs: DynamicAccess Software

You can further enhance your network connections, improving network performance and lowering the cost of ownership by utilizing DynamicAccess software on 3Com NICs. 3Com DynamicAccess software transforms the interface card into an active network component that interacts intelligently with the network. DynamicAccess software, which ships with the drivers on the EtherLink NIC, includes Fast IP switching software, class of service drivers, efficient multicast control software and dRMON SmartAgent intelligent agents. Additional features will be delivered as free software updates.

3Com DynamicAccess Software

DynamicAccess[tm] software, an integral part of the 3Com XL family of network interface cards, bring intelligence to the end system. DynamicAccess software turns network interface cards into active network components, enabling a truly "end-to-end" solution in which all devices collaborate to create the most manageable, highest-performing networks possible.

DynamicAccess software includes:

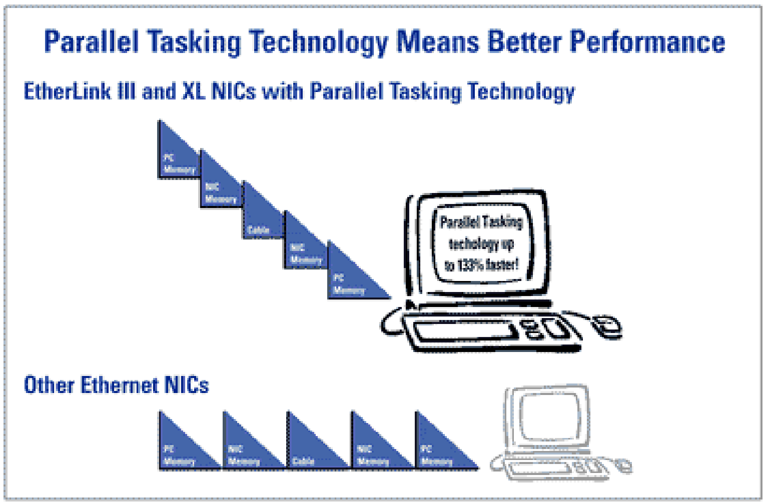
- Fast IP software for scaling internetworking performance by minimizing the bottlenecks that routers may cause
- Class of Service for giving priority to time-sensitive data to deliver improved performance for multimedia and business-critical applications
- Efficient multicast control for expanding bandwidth by automatically filtering unwanted multicast traffic before it can flood the LAN
- Distributed RMON (dRMON) SmartAgent® software for enabling comprehensive network management, including full RMON support, in switched and high-speed environments

LAN+33.6 Modem PC Cards: Fast Connections, Throughput

Notebooks needing both dial-up and direct LAN access get the industry’s fastest connections through the multifunction EtherLink III LAN+33.6 Modem PC Card. Rated #1 out of 20 PC Card modems in independent lab tests, this 33.6 Kbps PC Card modem delivers the highest data throughput available. It also connects at higher speeds and more often than other modem-only and multi-function PC Cards.

For notebook computers, EtherLink III LAN+33.6 Modem PC Cards use 3Com Parallel Tasking technology to deliver performance that is 46 percent faster than competing NICs.

The EtherLink III LAN+33.6 Modem PC Card is easy to install. It features Plug and Play support for Windows 95, AutoLink software for NetWare environments, and 3Com’s unique AutoIQ intelligent diagnostics software. For more information, call 3Com and request the EtherLink III PC Cards family data sheet (literature order #400206-00x).



3Com EtherLink Parallel Tasking NICs speed data flow by overlapping tasks.

EtherLink III and EtherLink XL NIC Features and Benefits

Features	**Benefits**
Performance	
3Com Parallel Tasking technology	Fastest throughput-up to 133 percent faster than competing NICs
Dynamic self-tuning drivers	Optimized performance for all bus and cabling options
EISA and XL PCI NICs: 32-bit bus mastering	Wide data path and fast transfers with low CPU utilization
LAN+33.6 Modem PC Card: 33.6 Kbps modem	The industry's fastest 33.6 PC Card modem
XL PCI NICs: PACE Interactive Access technology	Maximum throughput, lowest CPU utilization; NIC dynamically analyzes traffic to tune network performance
Reliability	
Highly integrated design, combining the Ethernet controller, twisted-pair transceiver, encoder/decoder, bus interface, and packet buffer memory in one ASIC chip	Reliable, trouble-free operation and low cost
3Com's lifetime warranty	Assured reliability for as long as you own the NIC

Ease of Use

Plug and Play and Windows 95 support	Automatic support for Plug and Play PCs, further streamlining installation; seamless Windows 95 support
Quick and easy installation in non-Plug and Play PCs; for NetWare LANs, a single menu choice configures the NIC and installs NetWare client files	Quick and easy installation in non-Plug and Play PCs; for NetWare LANs, a single menu choice configures the NIC and installs NetWare client files
LAN+33.6 Modem PC Card: AutoIQ intelligent diagnostics software	Automatically detects and resolves installation problems, such as memory resource conflicts
Windows-based configurations and diagnostics utility	Easy-to-use access to configuration and operational parameters
EtherDisk® diagnostics with online help	Simplified troubleshooting and administration
Robust configuration capabilities	Up to six 16-bit ISA NICs and sixteen 32-bit EISA NICs can be configured in one PC (configuration can be saved for easy duplication); unlimited number of XL PCI cards or PC Cards can be configured in one PC
Access to 3ComBBS and 3ComFacts℠ systems	Quick NIC and driver information via the World Wide Web, electronic bulletin board, and fax

Compatibility

Ships with NetWare and NDIS drivers; extensive third-party software support	Compatibility with leading network operating systems and applications in a wide range of LAN environments
XL PCI NICs: Guaranteed compatibility with PCI-compliant systems	Assured PCI compatibility-or your money back
ISA NICs: Guaranteed compatibility with ISA and EISA PCs, OSs, and NOSs	Assured compatibility with the most popular PCs, operating systems, and network operating systems
PC NICs: Guaranteed compatibility with leading notebooks	Assured PC Card compatibility-or your money back
Class of Service	Prioritize critical business and multimedia

	applications for maximum performance
Manageability	
Driver-integrated SmartAgent management agents	SNMP manageability to the desktop level
Integration with 3Com Transcend network management applications	Combined SNMP hub and NIC management with a common, easy-to-use Windows interface; can become part of a state-of-the-art, enterprise-wide management system
Desktop Management Interface (DMI 1.1 and 2.0) enabled	Ensures seamless interoperability with management applications conforming to the Desktop Management Task Force (DMTF) DMI standard
Desktop dRMON SmartAgent management	Provides affordable full RMON network management in switched LANs or Fast Ethernet LANs

Specifications

EtherLink 10 Mbps Network Interface Cards

Compatibility

- ***EtherDisk Software***
  EtherLink III NICs ship with a 3Com EtherDisk (3C59x) and EtherLink XL NICs ship with 3Com EtherDisk (3C90x) software that contains the drivers for leading network operating systems:
  ISA EISA PC XL
  MCA Cards PCI

	ISA MCA	EISA	PC Cards	XL PCI
NetWare 4.x & 3.x server	x	x	x*	x*
NetWare ODI client 2.x, 3.x, 4.x	x	x	x	x*
NetWare 2.x server	x			
DOS ODI	x	x	x	
OS/2 ODI	x	x	x	

NDIS 2.01 DOS	x	x	x	x
OS/2 Windows for Workgroups	x*	x	x	x
Windows NT	x*	x	x	x
Windows 95	x	x	x	x

* May be available separately on some versions

- ***Other Software***
  Drivers for other third-party software is available from 3Com's Bulletin Board System (3ComBBS) or the third party. For a current list of drivers supported, retrieve Document 9071 from the 3ComFacts fax system.

- ***Hardware***
  ISA NICs: IBM PC XT, PC AT, and PS/2 models and compatibles with ISA buses, and EISA computers
  MCANICs: IBM 16- or 32-bit Micro Channel architecture PS/2 models and compatibles **EISA NICs:** EISA bus computers
  XL PCI NICs: PCI bus computers PC Cards (PCMCIA): PC Card and PCMCIA 2.0, 2.1 computers

Network Interface

Ethernet IEEE 802.3 10 Mbps baseband CSMA/CD standard, coaxial, or 10BASE-T

LED

Each NIC has one LED that glows to indicate link integrity with a 10BASE-T hub or power for a coaxial link; the LED flashes if the polarity of the wire is reversed.

Interrupt Levels

XL PCI NICs: Interrupt line INTA, which conforms with the PCI specification

Other NICs: 3, 5, 7, 9, 10, 11, 12, 15

Connectors, Cables, and Operating Distances

The following table summarizes cable connector configurations:

	Connectors			
Card	**BNC**	**RJ-45**	**RJ-11**	**AUI**
ISA TPC	x	x		
ISA TP		x		x

ISA TPO		x		
ISA Combo	x	x		x
MCA Coax	x			x
MCA TP		x		x
EISA TPO	x			
EISA Combo	x	x		x
XL PCI TPO		x		
XL PCI Combo	x	x		x
PC Card TP		x		
PC Card Combo	x	x		
PC Card LAN+33.6 Modem TP		x	x	
PC Card LAN+33.6 Modem Combo	x	x	x	

- ***BNC Connector*** For use with on-board transceiver; supports network segments up to 1,000 ft/305 m with thin Ethernet coaxial cable (RG58 C/U or A/U). PC Card Combo NIC ships with an external coaxial MAU.

- ***RJ-45 Connector (Female)*** For use with on-board transceiver; supports Category 3, 4, or 5 unshielded twisted-pair network segments up to 328 ft/100 m.

- ***RJ-11 Connector (Female)*** For telephone line interface: one data and one voice; DAA includes two RJ-11 connectors; supports use with on-board transceiver; supports Category 3, 4, or 5 unshielded twisted-pair network segments up to 328 ft/100 m.

- ***AUI Connector with Slide Lock***
  For attaching a transceiver drop cable and IEEE 802.3-compatible external transceiver; supports network segments up to 3280 ft/100 m with thick Ethernet cable

I/O Base Address

- **ISA NICs:** 32 possible addresses, 200 to 3F0h

- **MCA NICs:** 64 possible addresses, 200 to FE00
- **EISA NICs:** Slot-specific addressing: 16 possible addresses, 0ZC80
  Z=slot number in hex
- **XL PCI NICs:** Selects any 32-bit I/O base address. Card 32 bytes of I/O space PC Cards: 16 possible addresses, 200 to 3A0h

ROM Socket Address

- **ISA NICs:** 8, 16, and 32 KB windows supported from C0000 to DE000

- **MCANICs:** 8, 16, and 32 KB windows supported from C0000 to DE000

- **EISA NICs:** Support 8-, 16-, and 32-bit TriROM address

- **XL PCI NICs:** Support PCI 32-bit TriROM address, occupy 64 KB of memory space

Physical Dimensions

- ***ISA NICs:***
  TP, Combo
  Length: 6.14 in/15.6 cm
  Width: 3.95 in/10.0 cm

  TPC
  Length: 6.14 in/15.6 cm
  Width: 3.05 in/7.8 cm

  TPO
  Length: 6.14 in/15.6 cm
  Width: 2.5 in/6.4 cm

- ***MCA NICs:***
  Length: 3.5 in/8.9 cm
  Width: 7.3 in/18.6 cm

- ***EISA NICs:***
  Length: 4.1 in/10.4 cm
  Width: 7.3 in/18.6 cm

- ***XL PCI NICs:***
  TPO
  Length: 3.0 in/7.62 cm
  Width: 4.8 in/12.20 cm

  Combo
  Length: 4.0 in/10.16 cm
  Width: 7.0 in/17.79 cm

- ***PC Cards:***
  Length: 3.37 in/8.56 cm
  Width: 2.12 in/5.4 cm
  Thickness: 0.19 in/0.5 cm

Power Requirements: Operating Voltage

- **ISA NICs:** +5V ± 5% at 150 mA max.
  +12V ± 5% at 500 mA max.

- **MCANICs:** +5V ± 5% at 0.5A max.

+12V ± 5% at 0.5A max.

- **EISA NICs:** +5V ± 5% at 1.5A max.
  +12V ± 5% at 0.5A max.

- **XL PCI NICs:** +5V ± 5% at 250 mA max.
  +12V ± 5% at 500 mA max.

- **PC Cards on TP:** +5V ± 5% at 48 mA max.

- **PC Cards on coax:** +5V ± 5% at 198 mA max.

- **LAN+33.6 Modem on TP:** +5V ± 5% at 380 mA max.

- **LAN+33.6 Modem on coax:** +5V ± 5% at 380 mA max.

Operating Ranges

Temperature: 32° to 158°F (0° to 70°C)
Humidity: 10% to 90% (noncondensing)
Altitude: to 9,800 ft/3,000 m

Safety and Electromagnetic Compatibility

- **ISA NICs:** FCC Part 15 Subpart J Class B; EN55022 (CISPR B); VCCI Class 2

- **MCANICs:** FCC Part 15 Class B, EN55022-A (CISPR A); VDE 0871 Class B when used with shielded twisted-pair wiring; UL1950, 1st edition

- **EISA NICs:** FCC Part 15 Subpart J Class B; VDE 0871 Class B; EN55022 (CISPR B); VCCI Class 2

- **XL PCI NICs:** FCC Part 15 Subpart J Class B; EN55022 Class B (CISPR); VCCI Class 2

- **PC Cards:** FCC Part 15 Class B; UL 1950, 1st edition; UL 478 5th Edition, CSA 23.2 #220; FCC Part 68; CSA 03 CE Murk; VCCI Class 2

Standards Conformance LAN+33.6 Modem PC Cards:

- **LAN** 10BASE-T Ethernet
  (IEEE 802.3 Section 14)

- **Modem**
  Modem Modulation Modes: Bell 212A; V.21, V.22, V.22 bis, V.23, V32 bis with rate re-negotiation; V.33, V.34

  Fax Modulation Modes: Class 1 and Class 2; V.21 (300 bps); V.27ter (4,800/2,400 bps); V.29 (2,700/9,600 bps), V.17 (12 Kbps/14.4 Kbps) DTE speed 230 Kbps

  Data Compression: V.42bis MNP 5 Error Detection/Correction: V.42, MNP 2, 4, 10 $^{+}$

- **Additional Standards** PCMCIA Release 2.0/2.1 and The PC Card Standard

  Register and architectural compatibility with a 16550 UART that adheres to the I/O and interrupt conventions established under the AT (IBM PC) definitions for COM 1COM 4

Hayes AT command set

Novell NetWare client (ODI) certification tests

Microsoft compatibility (NDIS) certification test suite

+ MNP 10 is available with purchase of cellular interface option

Customer Support

Quick access to NIC and driver information is available through the 3ComBBS and 3ComFacts interactive fax service. To reach the 3ComFacts service in Canada or the U.S., dial 1 408 727 7021 and follow the recorded instructions. In Europe, call 44 1442 278279. In Hong Kong, call 852 537 5610.

To reach the 3ComBBS service, set your modem to 8 data bits, no parity, and 1 stop bit (8,N,1), then transmit using the following list to find the appropriate baud rate and telephone number:

- Australia Up to 14,400 baud 61 2 9955 2073
- Brazil Up to 14,400 baud 55 1 547 9666
- France Up to 14,400 baud 33 11 69 86 69 54
- Germany Up to 9,600 baud 49 89 6 27 32 188 49 89 6 27 32 189
- Hong Kong Up to 14,400 baud 852 2537 5608
- Italy Up to 9,600 baud 39 2 273 00680
- Japan Up to 14,400 baud 81 3 3243 9245
- Mexico Up to 14,400 baud 52 55 207 835
- Singapore Up to 9,600 baud 65 534 5693
- Taiwan Up to 14,400 baud 886 2 577 6160
- U.K. Up to 14,400 baud 44 1442 278278
- Canada and U.S. Up to 28,800 baud 408 980 8204
  ISDN (U.S. only) 408 654 2703

Ordering Information

EtherLink III ISA Combo NIC

- ***10BASE-T, AUI, BNC***
  3C509B-COMBO
  5-pack 3C509B-COMBO-5PK
  20-pack 3C509B-COMBO-20PK
  100-pack 3C509B-COMBO-100PK

- ***EtherLink III ISA TPC NIC***
  10BASE-TPC 3C509B-TPC
  5-pack 3C509B-TPC-5PK
  20-pack 3C509B-TPC-20PK
  100-pack 3C509B-TPC-100PK

- ***EtherLink III ISA TP NIC***
  10BASE-T, AUI 3C509B-TP
  5-pack 3C509B-TP-5PK
  20-pack 3C509B-TP-20PK
  100-pack 3C509B-TP-100PK

- ***EtherLink III ISA TPO NIC***
  10BASE-T (RJ-45 only) 3C509B-TPO
  5-pack 3C509B-TPO-5PK
  20-pack 3C509B-TPO-20PK
  100-pack 3C509B-TPO-100PK

- ***EtherLink III MCA Coax NIC***
  AUI, BNC 3C529
  5-pack 3C529-5PK
  EtherLink III MCA 10BASE-T NIC
  RJ-45, AUI, BNC 3C529-TP
  5-pack 3C529-TP-5PK

- ***EtherLink III EISA Combo NIC***
  10BASE-T, AUI, BNC 3C592-COMBO
  5-pack 3C592-COMBO-5PK

- ***EtherLink III EISA TPO NIC***
  10BASE-T (RJ-45 only) 3C592-TPO
  5-pack 3C592-TPO-5PK

- ***EtherLink XL PCI Combo NIC***
  10BASE-T, AUI, BNC 3C900-COMBO
  5-pack 3C900-COMBO-5PK
  20-pack 3C900-COMBO-20PK
  60-pack 3C900-COMBO-60PK
  100-pack 3C900-COMBO-100PK

- ***EtherLink XL PCI TPO NIC***
  10BASE-T (RJ-45 only) 3C900-TPO
  5-pack 3C900-TPO-5PK
  20-pack 3C900-TPO-20PK
  60-pack 3C900-TPO-60PK
  100-pack 3C900-TPO-100PK

- ***EtherLink III LAN PC Card Combo NIC***
  10BASE-T and coax 3C589D-COMBO
  5-pack 3C589D-COMBO-5PK
  20-pack 3C589D-COMBO-20PK
  100-pack 3C589D-COMBO-100PK
  Coax and 10BASE-T cable 3C589D-COMBO-CABLE

- ***EtherLink III LAN PC Card TP NIC***
  10BASE-T 3C589D-TP
  5-pack 3C589D-TP-5PK
  20-pack 3C589D-TP-20PK
  100-pack 3C589D-TP-100PK
  10BASE-T cable 3C589D-TP-CABLE

- ***EtherLink III LAN+33.6 Modem PC Card Combo*** Certified for use in Canada and the United States only
  10BASE-T and coax 3C562D-COMBO
  5-pack 3C562D-COMBO-5PK
  Modem cable 3C562D-MODEM-CABLE
  Coax and 10BASE-T cable 3C589D-COMBO-CABLE

- ***EtherLink III LAN+33.6 Modem PC Card TP*** Certified for use in Canada and the United States only
  10BASE-T 3C562D-TP
  5-pack 3C562D-TP-5PK
  Modem cable 3C562D-MODEM-CABLE
  10BASE-T cable 3C589D-TP-CABLE

- ***EtherLink III LAN+33.6 Modem PC Card Combo*** ++
  10BASE-T and coax 3C563D-COMBO
  Modem cable 3C563D-MODEM-CABLE
  Coax and 10BASE-T cable 3C589C-COMBO-CABLE

- ***EtherLink III LAN+33.6 Modem PC Card TP*** ++
  10BASE-T 3C563D-TP
  5-pack 3C563D-TP-5PK
  Modem cable 3C563D-MODEM-CABLE
  10BASE-T cable 3C589C-TP-CABLE

- ***TriROM*** *(formerly BootROM)*
  TriROM (with McAfee anti-virus) for BootP, RPL, NetWare, and ISA
  3C5-TRIROM
  ISA 20-pack 3C5-TRIROM-20PK
  PCI 3C590-TRIROM
  PCI 20-pack 3C590-TRIROM-20PK
  EISA 3C592-TRIROM

- ***Desktop Link Manageability***
  Transcend EtherLink SmartAgent software 3C551B

Lifetime Warranty

3Com warrants its EtherLink III and XL NICs to be in good working order for as long as you own them.

For More Information

For more information about 3Com NICs, please call 1 800 NET 3Com (1 800 638 3266) in the United States, or call your local sales office and ask for the Guide to 3Com Network Interface Cards, stock number 100116-00x.

++For use in approved countries only

Literature Stock Number: 400230-010
Revised Web Date: September 22, 1997