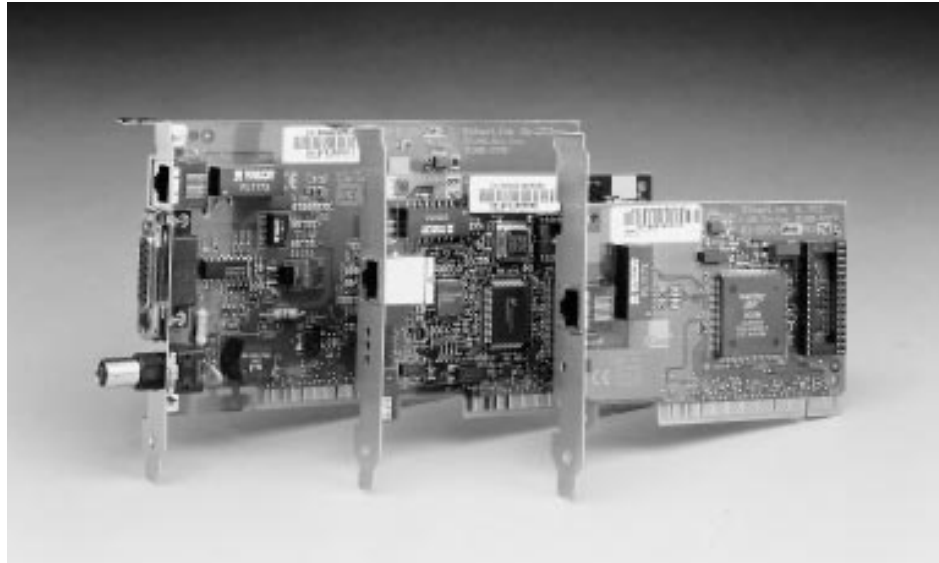




# Fast EtherLink XL and EtherLink XL PCI Network Interface Cards

*Delivering optimized network performance with Parallel Tasking and DynamicAccess features*

The XL family of PCI network interface cards delivers a breakthrough in performance and functionality. This new family includes the Fast EtherLink XL PCI card, available in a 10/100BASE-TX version for Category 5 UTP cable, and the EtherLink XL PCI card, available in 10BASE-T only and Combo (10BASE-T, AUI, and Coax) versions.



Delivering the highest performance at 10 or 100 Mbps, 3Com's Fast EtherLink<sup>®</sup> XL and EtherLink<sup>®</sup> XL PCI network interface cards (NICs) revolutionize network connectivity. The XL family combines 3Com's patented Parallel Tasking<sup>®</sup> architecture and PACE<sup>™</sup> Interactive Access technology with DynamicAccess<sup>™</sup> features to deliver optimized network performance in both Ethernet and Fast Ethernet networks.

3Com's DynamicAccess features make the XL NICs active network components that interact intelligently with the network to optimize overall performance. DynamicAccess features deliver total management and control as well as enhanced performance that is optimized for switched LANs and real-time applications. Additional DynamicAccess features will continue to be added to the XL family through simple software updates.

## Key Benefits:

- **Top Performance.** Parallel Tasking and PACE Interactive Access technologies provide the maximum throughput and lowest CPU utilization.
- **DynamicAccess Features.** XL PCI cards are active network components that interact intelligently with the network. Advanced DynamicAccess features include PACE Interactive Access technology, Desktop dRMON (Distributed RMON) support, Efficient Multicast Control, PACE real-time and multimedia application support, and PictureTel<sup>®</sup> LiveShare<sup>™</sup> Plus dataconferencing software.

- **Complete Scalable Solution.** XL network interface cards are an integrated part of 3Com's complete scalable networking solution that includes SuperStack<sup>™</sup> II hubs and switches, routers, and network management software.
- **Superior Reliability.** State-of-the-art design and ASIC hardware integration have earned 3Com cards a worldwide reputation for top quality and reliability.
- **Common Software Drivers.** Fast EtherLink XL and EtherLink XL PCI cards use the same software drivers for popular operating systems, simplifying support and lowering overall cost.





## DynamicAccess Features

DynamicAccess features, an integral part of 3Com's XL family of network interface cards, enable NICs to dynamically interact with the network to optimize overall network performance. With DynamicAccess, you will continue to receive enhancements in performance and management, as well as support for real-time applications and switched environments.

## PACE Multimedia Application Support and PictureTel LiveShare Plus Software

Applications such as videoconferencing and distance learning offer tremendous potential. But their use has been limited by lack of support from network operating systems and networking infrastructures unable to keep up with the specialized demands of real-time data.

3Com's PACE technology removes these barriers at both 10 and 100 Mbps. With PACE drivers, you can set the Class of Service (CoS) of the application. A PACE-enabled switch (such as the SuperStack II Switch 1000 or 3000) can then recognize prioritized data, providing lower latency as well as regular delivery of data using Interactive Access technology.

To demonstrate the productivity improvements of collaborative computing, 3Com and PictureTel, the worldwide leader in videoconferencing, have partnered to provide free LAN-based dataconferencing with all XL network interface cards. PictureTel's LiveShare Plus dataconferencing software lets users in separate locations work on data files, jointly, in real-time. In addition, Fast EtherLink XL and EtherLink XL customers receive low-cost upgrades to PictureTel's

LiveLAN-V videoconferencing software and hardware.

## PACE Interactive Access

3Com has taken its PACE Interactive Access technology (developed originally for real-time applications) and delivered benefits in any application environment and in any switched or shared network. 3Com XL NICs use this technology to constantly evaluate network traffic and load conditions to intelligently decide how to optimize network performance. Combined with Parallel Tasking, PACE Interactive Access technology results in higher throughput and very low CPU utilization. Interactive Access improves performance in any switched or shared environment, independent of the hub, PC, or server attached, and with any application.

## Desktop Multicast Control

The use of multicast applications, such as video training and multi-point videoconferencing in a switched environment, can cause excess multicast traffic to flood desktop links. With Efficient Multicast Control, XL NIC drivers automatically program the switch, multicast filters to dynamically reconfigure Virtual LANs (VLANs) and control traffic, dramatically improving network performance.

## Desktop Distributed RMON

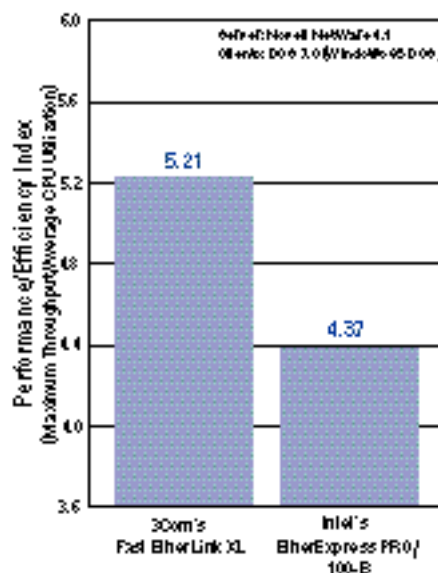
The growing use of switched and high-speed networks has made monitoring and managing networks difficult and more complex. In switched networks, the number of LAN segments is increased, dramatically increasing the overall cost of RMON management. In Fast Ethernet networks, full RMON is prohibitively expensive.

With 3Com's distributed RMON (dRMON), full-time complete RMON can be attained in switched and high-speed environments. With desktop dRMON, 3Com XL network interface cards collect RMON information and work with hubs and switches to provide full RMON in both switched and Fast Ethernet networks.

## Leading Performance

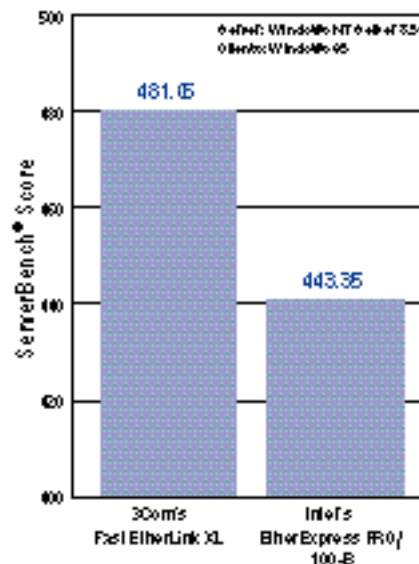
By combining 3Com's patented Parallel Tasking architecture with PACE Interactive Access, the XL family delivers industry-leading performance at both 10 and 100 Mbps. For example, in Novell NetWare environments, the EtherLink XL PCI NIC delivers over 8 Mbps throughput with less than 3% CPU utilization, while the Fast EtherLink XL PCI NIC delivers over 88 Mbps throughput with less than 17% CPU utilization. The charts below demonstrate the high performance possible at 100 Mbps.

### Novell NetWare Performance



Source: LANQuest Labs 6/96

### Microsoft Windows NT Performance



## Fast EtherLink XL and EtherLink XL PCI Features and Benefits

Features	Benefits
<b>Performance</b>	
Parallel Tasking architecture	Highest peak throughput at 10 Mbps or 100 Mbps
PACE Interactive Access technology	Maximum throughput, lowest CPU utilization at 10 Mbps or 100 Mbps
32-bit bus master PCI design	Wide data path and fast transfers with low CPU utilization provide optimized performance
Full Duplex 10 Mbps and 100 Mbps support	Optimized for high-performance switched Ethernet or switched Fast Ethernet server connections
<b>DynamicAccess Features</b>	
PACE Interactive Access Technology	Intelligent XL NICs can dynamically analyze network traffic to tune network performance
PictureTel LiveShare Plus dataconferencing software	Free application-sharing software from the leader in videoconferencing; discounted upgrades to full videoconferencing
PACE real-time and multimedia application support (Available Q4CY96)	Optimized for switched environments and multimedia applications; First and only true Class of Service (CoS) capability available
Desktop dRMON management (Available Q4CY96)	Provides affordable full RMON network management in switched and Fast Ethernet networks
Desktop-configured Efficient Multicast Control (Available Q1CY97)	Allows desktop applications to control switch multicast filters (IEEE 802.1p) to optimize network performance
<b>Ease of Use</b>	
Common drivers between all XL PCI cards	Single driver configuration to maintain for any 10 Mbps or 100 Mbps connection
Automated 10/100 NWay speed auto-negotiation in Fast EtherLink XL PCI	Simple integration in any 10BASE-T or 100BASE-T network with a single NIC installation
AutoLink configuration software for NetWare drivers and support for Windows 95 Plug-and-Play features	Fast, easy installation and automatic detection and configuration of the NIC
Transcend network management	SNMP management integration with full range of 3Com Ethernet and Fast Ethernet products
LEDs that indicate link integrity and activity for both 10 Mbps and 100 Mbps	Simplified installation and troubleshooting by verifying connection status from the PC
EtherLink XL PCI available in 10BASE-T or Combo (10BASE-T, AUI, Coax) versions with automatic transceiver detection	Simplified installation in mixed cable environments
<b>Reliability and Compatibility</b>	
Custom ASIC combines 10/100 Ethernet controller, bus interface, and 8 KB RAM on a single chip	Component integration delivers higher reliability and lower cost
Complete set of drivers for the most popular network operating systems	Novell NetWare v4.x and 3.x Server with HSM 3.2 and HSM 3.3; Novell NetWare DOS ODI client; Novell NetWare OS/2 ODI client; Microsoft NDIS 2.01; Microsoft NDIS 3.1 for Windows 95, Windows NT v3.51, Windows 3.x, and Windows for Workgroups v3.11.
IEEE 802.3 and 802.3u compliant	Full compliance with international standards for Ethernet and Fast Ethernet
PCI 2.1 compliant	Full compliance with PCI SIG (Special Interest Group) PCI v2.1 specification
Guaranteed PCI compatibility	Money-back guarantee eliminates risk
Fully integrated with 3Com's comprehensive Ethernet/Fast Ethernet product line	Assured interoperability of NICs, hubs, switches, bridges/routers, and network management
Lifetime warranty	Unsurpassed 3Com reliability



# Specifications

## Fast EtherLink XL and EtherLink XL PCI Network Interface Cards

### 3Com Corporation

P.O. Box 58145  
5400 Bayfront Plaza  
Santa Clara, CA 95052-8145  
Phone: 800-NET-3Com  
or 408-764-5000  
Fax: 408-764-5001  
World Wide Web:  
<http://www.3com.com>

### 3Com ANZA

ANZA East: 61 2 9937 5000  
ANZA West: 61 3 9866 8022

### 3Com Asia Limited

Beijing, China: 86 10 68492 568  
Shanghai, China: 86 21 6374 0220  
Ext. 6115

Hong Kong: 852 2501 1111

India: 91 11 644 3974

Indonesia: 62 21 523 9181

Korea: 82 2 319 4711

Malaysia: 60 3 732 7910

Singapore: 65 538 9368

Taiwan: 886 2 377 5850

Thailand: 662 231 8151 4

### 3Com Benelux B.V.

Belgium: 32 725 0202  
Netherlands: 31 30 6029700

### 3Com Canada

Calgary: 403 265 3266  
Montreal: 514 874 8008  
Ottawa: 613 566 7055  
Toronto: 416 498 3266  
Vancouver: 604 434 3266

### 3Com European HQ

44 1628 897000

### 3Com France

33 1 69 86 68 00

### 3Com GmbH

Austria: 43 1 513 4323  
Czech and Slovak Republics:  
42 2 21845 800

Berlin, Germany: 49 30 3498790

Munich, Germany: 49 89 627320

Hungary: 36 1 250 83 41

Poland: 48 22 6451351

Switzerland: 41 31 996 14 14

### 3Com Ireland

353 1 820 7077

### 3Com Japan

81 3 3345 7251

### 3Com Latin America

U.S. Headquarters: 408-764-6075

Argentina: 54 1 312 3266

Brazil: 55 11 546 0869

Chile: 56 2 633 9242

Mexico: 52 5 520 7841

### 3Com Northern Latin America

Miami, Florida: 305-261-3266

Colombia: 57 1 616 2884

Peru: 51 1 221 5399

Venezuela: 58 2 953 8122

### 3Com Mediterraneo

Milan, Italy: 39 2 253011

Rome, Italy: 39 6 5922769

Spain: 34 1 3831700

### 3Com Middle East

971 4 349049

### 3Com Nordic AB

Denmark: 45 39 27 85 00

Finland: 358 0 435 420 67

Norway: 47 22 18 40 03

Sweden: 46 8 632 56 00

### 3Com South Africa

27 11 807 4397

### 3Com UK Ltd.

Edinburgh: 44 1312 208228

Manchester: 44 1618 737717

Marlow: 44 1628 897000

## Compatibility

### EtherDisk XL Software

Fast EtherLink XL and EtherLink XL cards ship with the 3Com 3C90X EtherDisk XL (3.5") containing drivers to support the leading network operating systems:

- Novell NetWare versions 2.x and 3.1 (client); versions 3.12, 4.0, and 4.1 (client and server). HSM 3.2 and 3.3 support available from 3Com

- NDIS version 2.01 and 3.0 compliant systems, including Microsoft Windows NT version 3.51, Windows 95, Windows version 3.x, Windows for Workgroups and LAN Manager as well as for OS/2 and Banyan clients.

### Other Software

Drivers for other third-party software will be available from 3Com's Bulletin Board System or the third party. For a current list of drivers supported, retrieve Document 9071 from the 3ComFacts fax system.

*Note: The 3C90x EtherDisk XL drivers are different from the 3C59x EtherDisk drivers.*

### Hardware

- PCI bus computers

## Connector, Cables, and Operating Distances

### Fast EtherLink XL:

*RJ-45 Connector (Female):*

10BASE-T: Category 3, 4, or 5 UTP on two pairs up to 328 ft/100 m

100BASE-TX: Category 5 UTP on two pairs up to 328 ft/100 m

### EtherLink XL TPO:

*RJ-45 Connector (Female):* Category 3, 4, or 5 UTP on two pairs up to 328 ft/100 m

### EtherLink XL Combo:

*RJ-45 Connector (Female):* Category 3, 4, or 5 UTP on two pairs up to 328 ft/100 m

*BNC Connector:* Thin Ethernet coaxial cable (RG58 C/U or A/U) up to 1000ft/305m

*AUI Connector:* For attaching a transceiver drop cable and IEEE 802.3-compatible external transceiver

## Network Interface

**Fast EtherLink XL:** Ethernet IEEE

802.3 10 Mbps baseband CSMA/CD (10BASE-T) and 802.3u 100 Mbps baseband CSMA/CD (100BASE-T) standards

**EtherLink XL:** Ethernet IEEE 802.3

10 Mbps baseband CSMA/CD

(10BASE-T) standard

## LEDs

**Fast EtherLink XL:** Each card has three LEDs. The LED marked "10 LNK" glows green continuously to indicate operation in 10 Mbps mode and link integrity with a 10BASE-T hub. The LED marked "100 LNK" glows green continuously to indicate operation in 100 Mbps mode and link integrity with a 100BASE-T hub. The LED marked "ACT" flashes yellow when there is link activity in either 10BASE-T or 100BASE-T mode.

**EtherLink XL:** Each card has one LED that glows to indicate link integrity with a 10BASE-T hub; the LED flashes if the polarity of the wire is reversed.

## Interrupt Levels

Interrupt line INTA, which conforms with the PCI specification.

## I/O Base Address

The address can be selected via diagnostic software provided on EtherDisk XL.

Select any 32-bit I/O Base Address. Card occupies 32 bytes of I/O space.

## ROM Socket Address

Supports PCI 32-bit Boot ROM address. Card occupies 64 KB of memory space.

## Transmit/Receive Buffer Memory

8 KB. Receive and Transmit Buffer Memory is partitioned at 4KB/4KB and may be partitioned at 5K/3K, 6K/2K or 2K/6K.

## Physical Dimensions

**Fast EtherLink XL:**

Length: 3.375 in/8.57 cm

Width: 4.75 in/12.07 cm

**EtherLink XL TPO:**

Length: 3 in/7.62 cm

Width: 4.8 in/12.20 cm

**EtherLink XL Combo:**

Length: 4 in/10.16 cm

Width: 7 in/17.79 cm

## Power Requirements

**Fast EtherLink XL:** +5V +/-5% at 650 mA max

**EtherLink XL TPO:** +5V +/- 5% at 250 mA max

**EtherLink XL Combo:** +5V +/- 5% at 250 mA max, +12V at 350 mA max

## Operating Ranges

Temperature: 32° to 158° F (0°-70° C)

Humidity: 10-90% (non-condensing)

Altitude: to 9800 ft/3000 m

## Safety and Electromagnetic Compatibility

FCC Part 15, Subpart J Class A  
EN55022 Class A (CISPR); VCCI

## Customer Support

Quick access to support information is available through the 3ComBBS (electronic bulletin board system) and 3ComFacts interactive fax service.

To reach the 3ComFacts<sup>sm</sup> service in the United States or Canada, dial 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 from the United States, set your modem to 8 data bits, no parity, and 1 stop bit (8,N,1), then transmit using the following baud rate and U.S. telephone number: Up to 28800 baud; 408-980-8204. To reach the 3ComBBS service from outside the United States, ask your local 3Com office or reseller for the appropriate baud rate and telephone number.

## Ordering Information

### Fast EtherLink XL 10/100 PCI

10/100BASE-TX	3C905-TX
5-pack	3C905-TX-5PK
20-pack	3C905-TX-20PK
60-pack	3C905-TX-60PK

### EtherLink XL PCI TPO

10BASE-T	3C900-TPO
5-pack	3C900-TPO-5PK
20-pack	3C900-TPO-20PK
60-pack	3C900-TPO-60PK

### EtherLink XL PCI Combo

10BASE-T, AUI, BNC	3C900-COMBO
5-pack	3C900-COMBO-5PK
20-pack	3C900-COMBO-20PK
60-pack	3C900-COMBO-60PK

### Desktop Link Manageability

Transcend EtherLink SmartAgent	3C551B
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## Lifetime Warranty

3Com warrants its XL network interface cards to be in good working order for as long as you own them.

To learn more about 3Com products, visit our World Wide Web site at <http://www.3com.com>.

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