ZX340Q SERIES USER GUIDE

Fast Ethernet Adapters for PCI Systems®

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ZX340Q Series User Guide
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ABOUT THIS MANUAL

This manual includes the installation, troubleshooting, and reference data for the ZX340Q Series Ethernet adapters. See the ZNYX Networks data sheet for product specifications.

All documentation for ZNYX Networks products, including data sheets, release notes and user guides are available for downloading from the ZNYX Networks web site (www.znyx.com). Documentation files are supplied in PDF format so your system requires Adobe Acrobat Reader to open and read the documentation (www.adobe.com).

For help configuring an application-specific driver, download the corresponding driver user guide.

ZX340Q Series Models

Model	Description	System
ZX345Q	Single channel 10/100 Mbps port with separate IEEE Auto Negotiation	PCI
ZX348Q	Two channel 10/100 Mbps ports with separate IEEE Auto Negotiation	PCI
ZX346Q	Four channel 10/100 Mbps ports with separate IEEE Auto Negotiation	PCI

Technical Support

If you have difficulty downloading the driver for your system or need further assistance after reading this user manual, the ZNYX Networks professional technical support team is available to answer your questions. Contact us at:

Telephone:	(510) 249-0800 or (800) 724-0911
Fax:	(510) 656-2460
Email:	support@znyx.com
Web site:	www.znyx.com

INSTALLATION

Board Installation

Your ZNYX NetBlaster adapter may be installed in a system in any PCI bus-mastering slot. The following steps will guide you through installation. Some steps in this procedure may vary depending on the specific system used. Refer to your system's documentation if necessary.

> **Important Note**: All multi-channel NetBlaster adapters must be installed into computer systems that support PCI-PCI bridges. Your vintage 486-based server may not support these ZNYX adapters.

1. Power off your computer.

2. Unplug the AC power cable from the outlet.

3. Use proper static precautions. Discharge any static electricity from your body by touching the metal case or by using an anti-static wrist strap.

4. Insert the adapter into an available 32-bit PCI slot.

5. Secure the card with the screw.

6. To install additional adapters into the same computer, repeat steps 1 through 5.

7. Install the network cable (see the next section for details)

8. Re-install the AC power cord and turn your computer on.

   Tip: It may be advisable to proceed without replacing the system enclosure's cover. Some of the diagnostic LEDs may only be visible with the cover off.

Once these steps are completed, the network connections can be made and the software drivers must be installed.

Driver Installation

After you have successfully secured your adapter to the system, you can begin installing the driver (*see separate documentation*). Attach all Ethernet cables before you begin. *See the Hardware Installation section in this manual for further cable requirements.*

Download the specific driver and applicable release notes for your system from the ZNYX Networks web site (www.znyx.com).

Network Connections

The NetBlaster adapter provides one (ZX345), two (ZX348) to four (ZX346) RJ45 network connectors. Each connector independently supports either 10BaseT, 10BaseT Full Duplex, 100BaseTX, or 100BaseTX Full Duplex. All these network media types are used with the same Category 5 four-conductor twisted pair cable. Category 3 cable may be used with

10BaseT and 10BaseT Full Duplex only. Each cable may be attached to any of the RJ45 sockets.

There are two types of attachments that can be made, each requiring a different type of cable:

Cable Type	Other End of Connection	Notes
Straight	Hub or switch with the MDI-X connection.	Do not plug into a port marked "uplink" or MDI. Some hubs and switches provide a few ports with selections to make them type MDI for uplinks and daisy-chaining.
Crossover (or Null)	Directly to another PC's network adapter.	Direct PC-PC connections, without an intervening hub or switch.

The wiring for a **straight cable** is simply pin 1 to pin 1, pin 2 to pin 2, etc. Pins 4, 5, 7 and 8 are not used. The wiring for a **crossover** (or null) **cable** is shown in the table below.

RJ45	Straight Connections	Null Connections
1	1	3
2	2	6
3	3	1
4	-	-
5	-	-
6	6	2
7	-	-
8	-	-

Wiring Guidelines
For 100BaseTX (Fast Ethernet) and 10BaseT (Ethernet)

- All cables must be Category 5 (or better).

- Maximum distance is 100 meters.

- Only 1, 2, 3 and 6 are used.

- Pins 1 - 2 should use the same twisted pair; 3 - 6 should use the same twisted pair.

Network connections may be made at any time during installation or system operation. If re-cabling the network becomes necessary, during system operation, care should be taken not to interrupt any current network sessions that may be active.

The selection of the media speed and duplex mode is made either automatically by the auto-negotiation protocol or manually through management interface. In most cases, it is best to let the auto-negotiation protocol supported by the adapter to select the media speed and type. It will attempt to make connections in the following order.

1. 100 Mbps, Full Duplex

2. 100 Mbps, Half Duplex

3. 10 Mbps, Full Duplex

4. 10 Mbps, Half Duplex

If none of the above works, no link will be established.

TROUBLESHOOTING

Hardware Diagnostics

1. Restart your computer in DOS mode.

At the command prompt, run the diagnostic program that came with your adapter. For example:

Adapter	Diagnostic Program	Type This
NetBlaster ZX345	diag345.exe	diag345 list
NetBlaster ZX345Q	diag345q.exe	diag345q list
NetBlaster ZX346	diag346.exe	diag346 list
NetBlaster ZX346Q	diag346q.exe	diag346q list
NetBlaster ZX348	diag348.exe	diag348 list
NetBlaster ZX348Q	diag348q.exe	diag348q list

For example, if you have a NetBlaster ZX346Q, then run this command from DOS:

```
diag346q list
```

You will see a report listing the current status of each active PCI device on your host computer's PCI bus. Note the bus and device numbers corresponding to your adapter. You will need these numbers when installing your software driver.

Note: If you do not see the listing, you will need to initialize your adapter using the following command:

```
ppbinit all
```

to initialize the PCI-PCI bridge chip in your host computer system. This utility is supplied on your driver diskette.

2. To test an adapter, use your adapter's diagnostic program and specify the bus and device numbers; see the list command (above).

For example, if your four-channel NetBlaster ZX346Q is on bus 1, the device numbers may be 4, 5, 6 and 7. To test all four channels, your commands would be:

```
diag346q 1 4
diag346q 1 5
```

```
diag346q 1 6
diag346q 1 7
```

3. When your testing is completed, the program will report each time, proceed with the software installation. If the diagnostic program does not indicate a successful completion, continue to the troubleshooting section (next).

Basic Troubleshooting

For all operating systems, try the following if you are having difficulty.

1. Make sure the adapter is securely seated into its slot.

2. Check the green LINK LEDs. This status indicator (one per channel) will be on whenever there is an active network link. The network cable must be directly attached to a hub, switch, router or similar system. The amber activity LEDs (one per channel) are on only when transmitting or receiving data.

3. Try another network cable. A faulty cable is common.

4. Try a different network port on the network switch or hub.

5. Refer to your operating system documentation to correct any error messages or logs when the adapter's driver is being loaded.

APPENDIX A: LEGAL NOTICES AND CERTIFICATION

FCC Class A Notice: ZX340Q SERIES

Modification to this product not authorized by ZNYX Networks could void the FCC approval and negate your authority to operate the product.

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 in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if it is 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.

Canada Compliance:

This Class A digital apparatus complies with Canadian ICES-003.

Cet appareil numeriqué de la classe A est conforme à la norme NMB-003 du Canada.

CE Conformity:

The ZX340Q Series is in compliance to CE testing according to the following standards with respect to the stated level and given criteria:

EN 55022 (1998)   Class A
EN 55024 (1998)
EN 61000-4-11 (1995)
EN 60950 (1992) + Amendments 1, 2, 3, 4, and 11

THIS ADAPTER CARD IS FOR USE ONLY WITH PCI BUS OR COMPATIBLE UL LISTED PERSONAL COMPUTERS THAT HAVE ENCLOSED POWER SUPPLIES WITH SELV OUTPUTS AND INSTALLATION INSTRUCTIONS DETAILING USER INSTALLATION OF CARD CAGE ACCESSORIES.

Manufacturer Name: ZNYX Networks

Manufacturer Address: 48421 Milmont Drive,

                             Fremont, CA 94538

Warranty

ZNYX Networks warrants to the original purchaser of any ZNYX Networks Gigabit Ethernet adapter product that is to be free from defects in workmanship and materials, under normal use and service, for a period of one year from the date of purchase from ZNYX Networks or its authorized dealer. In order for this warranty to be valid, this hardware product must remain in its original system and be registered with ZNYX Networks within one year of purchase. ZNYX Networks warrants to the original purchaser of this hardware product that it is to be in good working order for a period of twelve (12) months from the date of purchase from ZNYX Networks or an authorized dealer.

Should this product, in ZNYX Network's opinion, malfunction during the applicable warranty period, ZNYX Networks will, at its expense, repair the defective product or part or, at its option, deliver to the Customer an equivalent product or part to replace the defective item. To prevent damage in transport, the Customer must return the product in its original packaging or, if this is not available, other protective packaging approved in advance by ZNYX Networks. All returned products will become the property of ZNYX Networks. At ZNYX Network's option, replacement parts may be new or reconditioned. Any replaced product or part has a ninety (90) day warranty or the remainder of the initial warranty period, whichever is longer.

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