

RG205 NAWJA - 4/98 3/10/01

10/100BASE-TX
Fast Ethernet Card
for PCI

**32-bit Bus Mastering
and Auto-Configuration**

Installation and Configuration Guide

FCC Compliance Statement

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

NOTE

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio / TV technician for help.

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This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.
Cet appareil numérique de la Classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

CE Compliance Statement

We hereby certify that the PCI Ethernet adapter complies with the EN 50081-1 and EN 50082-1 requirements.



NOTE:

- EN 50081-1 standard : EN 55022 Class B
(CISPR 22 Class B)
- EN 50082-1 standard : IEC 801-2
(Electrostatic Discharge)
: IEC 801-3
(Radiated Immunity)
: IEC 801-4
(Electrical Fast Transient/Burst)

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Section 1 Introduction

Your PCI-based adapter is a 10/100BASE-TX Fast Ethernet PCI adapter that implements the 32-bit-wide, and bus mastering interface. The Fast Ethernet PCI adapter is based upon Industry Standard PCI local bus specification revision 2.0, that features the Plug-and-Play(PnP) function, making it fully auto-configurable.

The Fast Ethernet PCI adapter is a dual-speed adapter connected to an Ethernet network with a single connection over unshielded twisted-pair (UTP) cable. The adapter automatically senses and switches to either 10 Mbps or 100 Mbps. For 100 Mbps operation, the adapter supports operation on Category 5 UTP cable. For 10 Mbps operation, the adapter supports operation on Category 3, 4, or 5 UTP cable.

Adapter features:

- .. Compliant with both 10BASE-T and 100BASE-TX specifications of the IEEE 802.3 standards
- .. 32-bit bus mastering for high throughput and low processor utilization
- .. Full-duplex operation at both 10 Mbps and 100 Mbps
- .. Automatic selection for 10 or 100 Mbps network operation
- .. Two bracket mounted status LEDs for easy viewing and troubleshooting
- .. Single shielded RJ-45 connector for use at either speed (Category 3, 4, or 5 UTP cable for 10 Mbps operation, and Category 5 UTP cable for 100 Mbps operation)
- .. On-board socket for optional BOOT ROM
- .. Diagnostic software, network driver installation utility, and network drivers on the diskette

Section 2 Card Installation

This section describes how to install your Ethernet adapter. Perform the following steps to install the adapter.

1. Turn off your computer and all peripherals.
2. Make a note of the cables and cords that are connected to the computer and disconnect them.
3. Remove your personal computer's cover (refer to the owner's manual of your personal computer).
4. Select any available bus mastering PCI slot, and remove the slot cover.
5. Carefully install the Ethernet adapter into the expansion slot by firmly pressing the card into the connector slot until the adapter is snugly seated in the expansion slot then fasten the retaining bracket with screw from the slot cover.
6. Reinstall your personal computer's cover and reconnect the power cord and all cables.
7. Connect the Ethernet cable to the RJ-45 connector on your personal computer.

NOTE:

System Requirements:

A PC and BIOS that support the PCI Local Bus Specification revision 2.0.

Section 3 Configuration and Diagnostics

Your Ethernet adapter is automatically configured when you power-up your computer. In certain computers, however, you must modify your BIOS by entering your CMOS SETUP utility.

To view the configuration parameters assigned by the BIOS, insert the software diskette into your drive and execute the utility software, by typing EZRTS.

Before you install the drivers and connect the adapter to the network, make sure to run the diagnostics to assure the proper function of the adapter. The diagnostics includes two groups of tests:

1. Card initialization and test
This test is a series of tests designed to check Network Controller Registers, Internal Loopback and Interrupt Generation.
2. Advanced Network test
This test verifies that the network cable is connected, so that the adapter can transmit and receive data.

The test requires two computers. One computer, configured as the Master, generates and sends test messages. The other computer, configured as the Slave, receives messages and transmits them back to the Master. Results can be viewed on both the Master and Slave computers. A screen menu provides you with the instructions to conduct this test.

NOTE: Run the Card Initialization and Test before running the Advance Network Test to ensure that adapter's basic functions are working properly.

Section 4 Drivers Installation

Before you connect your 10/100BASE-TX Fast Ethernet PCI adapter to the network, you have to install the network driver first. You should use the network driver supplied by the software diskette that is compatible with your Network Operating Systems. The network driver for each Network Operating System is under a separate directory. Each directory includes a README.TXT file to describe the detailed installation procedures. A RELEASE.TXT file under root directory lists the information of all the available network drivers.

NOTE: The menu-driven network driver installation utility, INSTALL, lets you easily and quickly install your Network Operating System. Refer to the README.TXT file under subdirectory INSTALL for more detailed information.

Section 5 BOOT ROM Installation

The optional BOOT ROM device allows you to connect a diskless workstation to the network. Perform the following steps to install your BOOT ROM device.

1. Insert the BOOT ROM into the socket on the adapter.
2. Execute the EZRTS file to enable the BOOT ROM function by selecting the appropriate BOOT ROM address from the configuration menu.
3. Refer to the installation procedure provided by your Networking Operating System. Here lists the reference subjects under four commonly used Networking Operating System.

Novell NetWare:	DOSGEN
Microsoft LAN MANAGER:	Starting Remoteboot Service
Microsoft Windows NT:	Starting Remoteboot Service
IBM LAN Server:	Starting Remote BOOT Access

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Section 6 Card Specifications

IEEE 802.3 standards: 10BASE-T and 100BASE-TX
Wiring Connector: RJ-45
Bus Characteristics: 32 bits bus master;
PCI local bus revision 2.0
I/O address: Assigned by the BIOS to a free
I/O address block
IRQ Line: INTA; assigned by the BIOS
to a free IRQ (interrupt)
number
Dimensions: 4.72" x 2.55"
(120mm x 65mm)
Emission Compliance: FCC Part 15 Class B
EN 55022 Class B
CISPR 22 Class B
Immunity Compliance: IEC 801-2
(Electrostatic Discharge)
IEC 801-3
(Radiated Immunity)
IEC 801-4
(Electrical Fast Transient/Burst)
Power Consumption: 300mA, @5V
Operating Temperature: 0 to 55 degrees Centigrade
Operating Humidity: 10% to 90%, non-condensing

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Section 7 Understanding the status LEDs

10/100BASE-TX Indicators

The green 100 Mbps LED and green LNK LED indicate the connecting status on the port for either speed.

LED State		Description
LNK	100	
Off	---	No connection between adapter and hub
On	On	Good 100BASE-TX connection between adapter and hub
On	Off	Good 10BASE-T connection between adapter and hub

EXHIBIT D

Circuit Diagram