NERONIX INC

Model No. : EA-1215C

*10/100 Fast Ethernet PCI
Adapter*

User's Guide
Ver. 4.0

FCC 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.

Warning! 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 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 instructions, 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.

CE-Mark Warning

In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Document Version: 4.0

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1. Introduction

Congratulations on the purchasing of your new 10/100 NWay Fast Ethernet PCI adapter. This document describes the installation of network adapter. This adapter supports 10BASE-T/100BASE-TX Fast Ethernet and complies with the electrical and protocol requirements of the PCI Local Bus Specification, revision 2.2. The Wake-On-LAN feature is optional for the adapter.

1.1 Features

The 10/100 Fast Ethernet PCI adapter is a cost effective, high-performance network interface card. It operates in 10BASE-T and 100BASE-TX modes and integrates easily with Fast Ethernet hub and switch.

- IEEE 802.3 standards 10BASE-T and 100BASE-TX standards
- 32-bit bus master for high throughput and low CPU utilization
- **Wake-On-LAN** feature is optional for different hardware version
- Full-duplex operation at both 10Mbps and 100Mbps
- Support 10/100Mbps auto-sensing capability
- Rich diagnostic LED mounted on bracket for easily viewing and troubleshooting
- Single shield RJ-45 connector for using at either Speed (Category 3, 4 or 5 UTP cable for 10Mbps Operation, and Category 5 UTP cable for 100Mbps Operation)
- Plug and Play Installation.
- Test program (include **Wake-On-LAN** events)
- Network drivers on the diskette for Windows 95, 98, 2000, NT, NetWare, SCO Unix and Packet driver.
- FCC,CE certification

1.2 System Requirements

To use the adapter, you need the following components:
- A PCI master mode expansion slot that is compliant with PCI bus specifications, revisions 2.2
- A 3.5-inch,1.44MB diskette drive
- The following cables:
  To operate at 10Mb/s, a Category 3, 4, 5 UTP Cable
  To operate at 100Mb/s, a Category 5 UTP cable

2. Installation

This section describes how to install the adapter. For connecting to the network, you must have the following:

1. Network adapter card installed to your computer.
2. Cabling (compatible with network topology)
3. Connect the Wake-On-LAN cable to the motherboard (if the WOL function is supported on the adapter)
4. Software for the adapter card contains both configuration utilities and drivers

2.1 Unpack and Inspect

Caution:
Under ordinary circumstances, this adapter card will not be affected by static charge as may be received through your body during handling of the unit. In special circumstances where you may carry an extraordinarily high static charge. It had better reduce the charge by touching a ground before handling the adapter card.

Open the shipping gift box and carefully remove all items. In addition to this User's guide, please check the following items:

- One 10/100 Fast Ethernet PCI Adapter Card
- One WOL cable (If adapter supports WOL function)
- One 3.5" Drivers and Utilities diskette
- This user's guide

Note:
If any of the listed items are missing, please contact your distributor or reseller

2.2 Install the Adapter

1. Turn off the computer.
2. Remove the computer's cover, in accordance to its manual.
3. Insert the contact edge of the adapter card into the connector of any available PCI Bus master expansion slot. Press the card firmly into the connector to PCI slot. Please make sure that the card's contacts are fully seated in the PCI slot.
4. Install the bracket screw that secures the card to the Computer chassis.
5. Connect the WOL cable to the motherboard. (If adapter supports WOL function)
6. Replace the computer's cover.
7. Connect the CAT3 or CAT5 UTP cable to the RJ45 network connector.
8. Remove [Drivers and Utilities] diskette from the PC diskette drive.
9. Turn on the computer.
10. If the BIOS section of your computer's boot program is Plug and Play compliant, then at power up the BIOS will configure any newly installed adapter automatically.

Note:

Due to some Plug-n-Play BIOS programs' problem, it happens occasionally that a newly installed adapter is assigned an Interrupt Number which is already used by another device adapter. In such a case, the conflict of Interrupt Number will cause faults in the behavior of both devices. Then it is necessary to run the CMOS Setup utility, and manually assign a non-conflict Interrupt Number.

2.3 Connect Fast Ethernet

Category 5 UTP cable is required for Fast Ethernet operation. The maximum cable run between the adapter and the supporting hub is 300ft (100m). Make the network connection by plugging one end of the cable into the RJ-45 receptacle of the adapter, and the other end into one port in the hub.
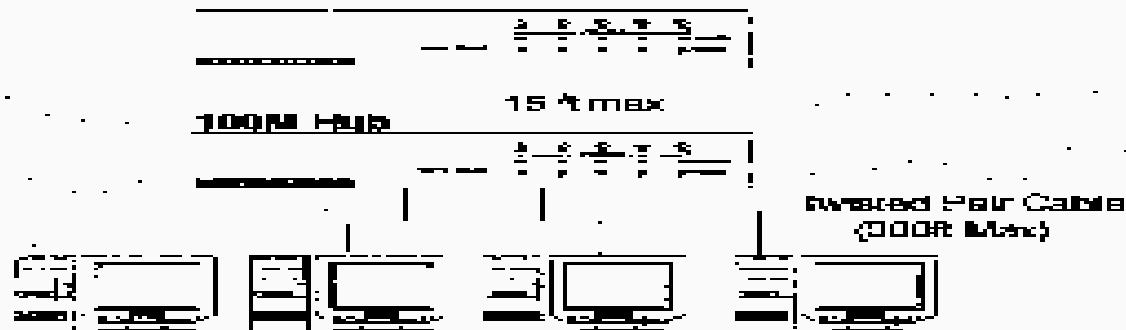
2.4 Connect 10Mbps Ethernet

Category 3, Category 4, and Category 5 UTP cable, as well as EIA/TIA 568 100 ohm STP cable, all qualification under Ethernet cabling rules. The maximum cable length run between this adapter and the supporting hub is 300 ft. Make the network connection by plugging one end of the cable into the RJ-45 receptacle of this adapter, and the other end into the hub.
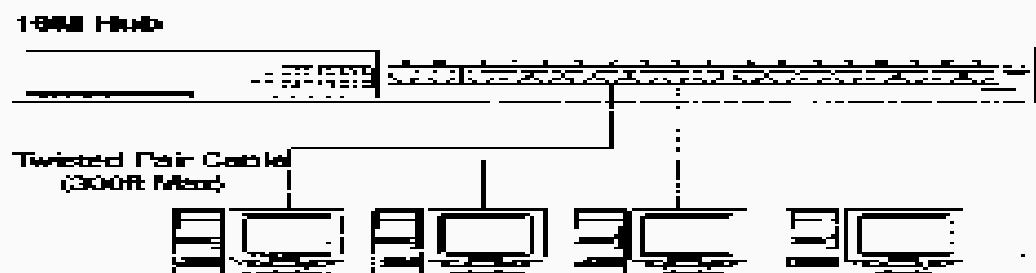
2.5 Drivers and Utiliti... Diskette

The [Divers and Utilities] disket a contains all the popular operating system drivers.
- Novell NetWare(client /se /er)
- NT 3.5 , NT4.0
- Windows 95/98/2000
- Microsoft Client (NDIS 2.0 C OS/OS2)
- Windows For Workgroup 3.1 '
- .... and so on

2.6 Software Installation

Please refer to "Quick Installation Guide"

2.7 Test Program

This test program verifies configuration of the adapter and assists the isolation of any faults in operation. Test procedure are optional, and will only be useful in the unusual event that there is a fault, such as an interrupt number conflict among your computer's add on cards. If your installation provides normal operation. you do not need these test procedures.

At your DOS prompt, type the following command:
a:\rset8139.exe <Enter>
The opening screen is displayed as following:

```
View Current Configuration
Set Up New Configuration
Run Diagnostics
Exit RSET8139
```

Choose <Set Up New Configuration> item allows you to set up the Network Speed, 10 or 100M, and Transmission Mode, Full or Half Duplex, and so on. Choose <Run Diagnostics> item to run the adapter test program.
Adapter test program includes:
<Run EEPROM Test>,
<Run Diagnostics on Board>,
<Run Diagnostics on Network>, and
<Run Power Management Test>.
The Power Management Test is available for WOL adapter only.

After choosing the <Run Diagnostics on Board> item, the screen will display like.

```
Node ID........: 00 e0 7d c0 00 01
Network Speed..: 100Mbps
I/O Base ......: E000
Interrupt ....: 11
Full-Duplex ...: Disabled

                          Pass Count   Fail Count
A.  I/O Register
B.  100Mbps Loopback
C.  10Mbps Loopback
D.  Cable Connection
```

<Cable Connection> test reminds you that the connection link might be fail, either the cable is not connected or the cable link fails.

For the <Run Diagnostics on Network> test, it is necessary to connect your computer with its supporting hub or another computer. This is a "Ping-Pong" test. This test cannot be completed except two computers on the LAN for sending or receiving the test packets between computers.

For the <Run Diagnostics On Network> test

Ethernet Address   Ethernet Address
00B07DC00002   00B07DC00001
Target Machine   Master Machine
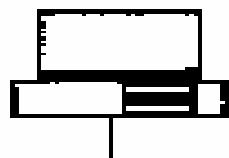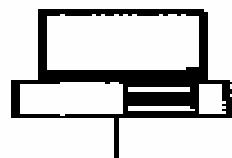
Network

Master Machine: Master machine sends magec packet or
                Wake up frame through the network.
Target Machine: Target machine is notified whenever a
                qualified wakeup packet is received.

To wake up Target Machine with Magic Packet

Step1: Target Machine:
   Target Machine is necessary to use the WOL cable
   link the Wake On LAN connector on adapter with
   your motherboard. Check BIOS <POWER
   MANGEMENT SETUP> ACPI, Wake On LAN
   function must be enable.
Step2: Target Machine:
   Select <Target Machine> then the system will setup
   wakeup event and wait a magic packet to do system
   wakeup
Step3: Master Machine:
   Select <Magic Packet> to send a magic packet and
   wake up the target machine. The MAC address of
   target machine will be asked for key-in, like
   00 e0 7d c0 00 02.
Step4: Target Machine:
   ACPI Testing events will be show

Device State 1:	PASS
Device State 2:	PASS
Device State 3:	PASS

Step5: Target Machine:
   Put the Target Machine to power down mode.
Step6: Master Machine:
   Send a magic packet to wake up Target Machine.

Test the Wakeup Frame

Step1: Target Machine:
   Select <Target Machine> then the system will setup
   wakeup event and wait a magic packet to do system
   wakeup
Step2: Master Machine:
   Select<WakeUp Frame> to send a wakeup frame.
Step3: Target Machine :
   ACPI Testing events will be show

Device State 1:	PASS
Device State 2:	PASS
Device State 3:	PASS

Note:

Adapter testing program can not be used in Windows
95/98 DOS mode. Do not load any device drivers,
memory manager, and anti-virus software. The testing
program only can work in clean DOS prompt.

Quick Installation Guide

Please take the following steps for driver installation.

Microsoft Windows 95/Windows 98

1. Turn off the computer.
2. Insert the adapter into the available PCI slot.
3. Restart the computer.
4. After Microsoft Windows reboot, the PCI Ethernet Controller will be found.
5. The system will prompt for driver installation.
6. Insert the "Driver and Utilities" diskette into diskette driver and press <Enter>.
7. For Windows 95, Key in a:\ path to install driver for the adapter
8. For Windows 98, Key in a:\w98_2000 path to install driver for the adapter
9. The Windows system will install the driver automatically.
10. Reboot the Windows system.

Windows NT

1. Turn off the computer.
2. Insert the adapter into the available PCI slot.
3. Restart the computer.
4. Click "Start" menu bar and select "Setting" item then "Control Panel" setting.
5. Select "Network" icon
6. If this is the first time to install network on the machine then the system will ask "YES" or "NO" to install network adapter. Please select "YES"
7. If the computer already install network before then you need to select "Interface" -> "Add"
8. The system will prompt for driver installation.
9. Insert the "Driver and Utilities" diskette into diskette driver and press <Enter>.
10. Key in a:\winnt path to install driver for the adapter
11. The Windows system will install the driver automatically.
12. Reboot the Windows system.

Microsoft Windows 2000

1. Turn off the computer.
2. Insert the adapter into the available PCI slot.
3. Restart the computer.
4. After Microsoft Windows reboot, the 10/100Mbps Fast Ethernet Adapter will be found and the system will assign the default network driver to the adapter.
5. Select "Control Panel" from "Start" menu bar
6. Select "Network and Dual-Up Connection" folder and click "Local Area Connection".
7. Click "Configure" Item and select "Driver"
8. From the "Driver" item then choose "Update Driver"
9. The system will prompt two optional for driver search, one is auto search and the other is "Display a list of known drivers ....". Please select second one "Display ...".
10. The system will prompt for driver installation and please select "Have Disk" button.
11. Key in a:\w98_2000 path to install driver for the adapter

Novell Netware System

Please execute the following commands:

For Netware Client
LSL
RTSODI
IPXODI
NETX or VLM
F:
LOGIN <USERNAME>

For Netware Server
LOAD RTSSRV
BIND IPX TO RTSSRV

The help file in the diskette will describe the detail driver installation Information for all popular operating systems.