# 32-bit 10/100/1000Mbps Ethernet Network Adapter

# ENW-9606

# User's Manual

**Version 1.0**

## Copyright

## FCC Caution

To assure continued compliance. (example-use only shielded interface cables when connecting to computer or peripheral devices). Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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.

## CE Mark Warning

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

## Revision

# Table of Contents

# Chapter 1  Introduction

The ENW-9606 is a 10/100/1000Mbps 32-bit Peripheral Component Interconnect (PCI) Local Bus Ethernet adapter designed to address high-performance system application requirements. The bus-master architecture provides very high data throughput as it runs in the 32-bit PCI bus of the server's mainboard rather than waiting on the CPU.

The ENW-9606 supports both current motherboards (32-bit/33MHz PCI) and also the new PCI interface (32-bit/66MHz) and operating systems of the next generation, future-proofing your investment. Lower TCO (Total Cost of Ownership) and with increased performance, the ENW-9606 is now the choice of your network data server or just right for your powerful desktop PCs.

## 1.1 Package Content

Check that your package contains the following items:

ü   ENW-9606 * 1

ü   Driver Disk * 1

ü   Quick Installation Guide * 1

Contact the place of purchase if an item is missing or damaged.

**Note:** Be sure to retain your proof of purchase, as it is required to receive warranty service.

## 1.2 Verifying Your System Requirements

Before installing the ENW-9606, be sure your computer meets the following requirements:

**Hardware**

ü   CPU: 90MHz or Faster

ü   RAM: 16MB (Minimum)

ü   PCI Local Bus 2.1 or 2.2 compliant (Support 3.3V)

**Software**

ü   Microsoft Windows 98/Me/NT/2000/XP

ü   Novell 5.x (or higher)

ü   Linux Kernel 2.2 (or higher)

ü   Solaris 7 (or higher)

## 1.3 Gathering Tools And Documentations

To install the adapter, you need the following items:

ü   A suitable screw driver

ü   Your operating system documentation

ü   Your system unit documentation, including any service documentation

# Chapter 2  Hardware Installation

## 2.1 Product Description

### 2.1.1 Overview

Equipped with a RJ-45 port, the ENW-9606 provides up to 2000 Mbps in Full-duplex bandwidth capacity to high-end workstations. This adapter delivers the highest performance for demanding applications, while providing a tremendous flexibility for the existing network infrastructures. In addition, with advanced features like Wake-On-LAN management and Plug-and-Play support, users can not only wake up and power on their workstations from anywhere on the network but also save tremendous time on configuring their systems.

### 2.1.2 Features

Ø   IEEE802.3, IEEE802.3u, IEEE802.3ab Compliant

Ø   Auto-Negotiation determines the transmission speed at 10/100/1000 Mbps and Full/Half duplex mode

Ø   Supports CSMA/CD protocol

Ø   Supports Auto-MDI/MDI-X to swap the transmission and reception

Ø   Integrated 128KB Frame Buffer Memory

Ø   Programmable cache line size

Ø   Supports WOL (Wake on LAN) function to power management support (through PCI 2.2 interface)

Ø   Supports PCI V2.2, 32-bit, 33/66 MHz

Ø   ACPI Power Management, compliant to ACPI 2.0

### 2.1.3 Front Panel And LEDs

The faceplate of ENW-9606 has 2 LEDs: Link, and Act. Figure 2-1 shows the faceplate of ENW-9606. Table 2-1 explains the function and state of the LEDs.
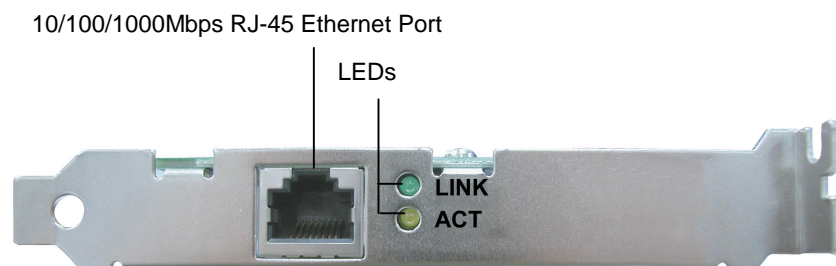


**Figure 2-1** Faceplate of ENW-9606

| LED | Color | Description |
|------|--------|-------------|
| LINK | Green | Lights to indicate a functional network link through the port. |
| ACT | Yellow | Blinks to indicate data has been sending and receiving via the port. |

**Table 2-1** Functions and State of the LEDs

## 2.2 ENW-9606 Installation

Step 1:   Turn off the PC.

Step 2:   Remove any metal decorations from your hands and wrists.

Step 3:   Remove the cover from your PC.

Step 4:   Locate an empty, non-shared bus mastering PCI slot and remove the corresponding back plate. Save the screw for use in Step 6.

Step 5:   Carefully insert the adapter into the chosen slot and press firmly with proper push to ensure it is fully seated in the slot.
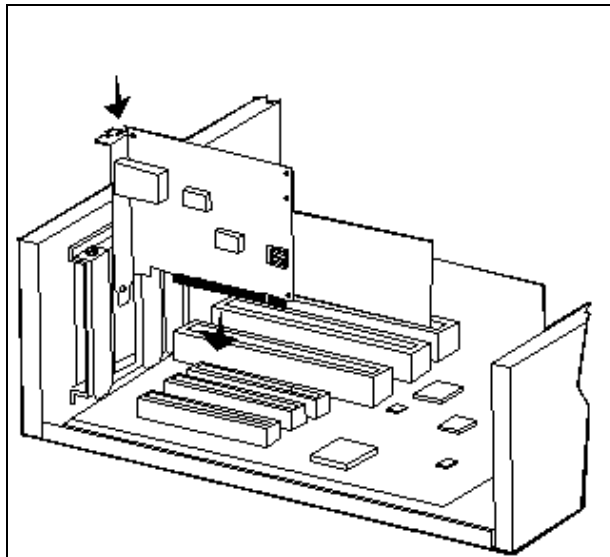


Step 6:   Secure the adapter with the screw you saved in step 4.

Step 7:   Replace the PC cover.

Step 8:   Power on the PC and refer to next chapter to install the driver of this adapter.

**Note**:   Please do not install the ENW-9606 in a shared PCI slot. Avoid any PCI slot next to an ISA slot because this is often a shared slot and does not support bus mastering.

# Chapter 3  Driver Installation

A device driver must be installed before your ENW-9606 can be used with your computer. This chapter describes how to install the driver for various operating systems. Before you begin the driver installation process, make sure you have the installation disks for your computer's operation system nearby.

## 3.1 Installing Driver To Windows 2000

Make sure the ENW-9606 has been successfully installed in your computer before you start to install the driver. If this is the first time you are installing the ENW-9606 into your computer, Window will automatically detect it and updates the hardware information database. To install the driver provided, follow these steps:

*Note: The following installation operates under Window 2000. Procedures will be similar to Window 98/Me. About Windows XP driver installation, please refer to next section.*

1. Install ENW-9606 into your PC's PCI slot.
2. Power on the PC and insert Driver Disk into CD-ROM drive.
3. Windows will automatically detect ENW-9606 and ask the user to install driver. Please click "Next".



4. Please select the first option and click "Next" to continue.
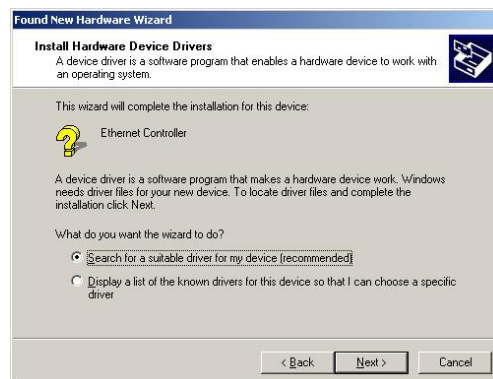


5. Select "Specify a location" and click "Next".

6. You can click "Browse" to find the driver location. (Assume "E" is your CD-ROM drive, the driver can be found in E:\Drivers\Win2000). Please click "OK" to continue.



7. Windows will show this screen to prompt you that it found a driver for the device you are installing, please click "Next" to continue.
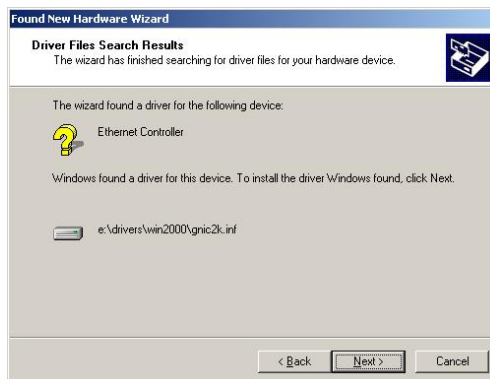


8. Please click "Finish" to complete the driver installation.



(For Win98/Me, Windows will ask you restart your PC when driver installation finished.)
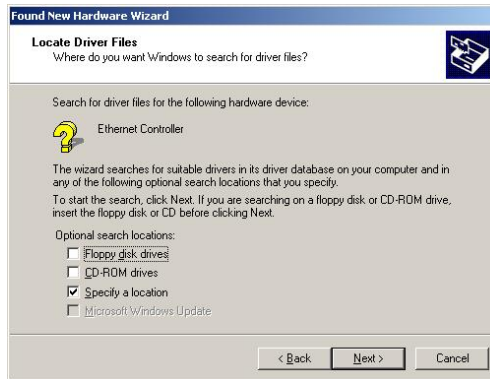
## 3.2 Installing Driver To Windows XP

1. Install ENW-9606 into your PC's PCI slot.
2. Power on the PC and insert Driver Disk into CD-ROM drive.
3. Windows XP will detect ENW-9606 and ask you to install driver. Please select the second option and click "Next".



4. Please select "Include this location in the search" and then click "Browse" to find out ENW-9606 driver location to install driver. (Assume "E" is your CD-ROM drive, you can find out ENW-9606 driver in E:\Drivers\WinXP). Please click "Next" to continue.



5. WinXP will show you this dialog box to prompt you the driver has not passed Windows logo testing, please press "Continue Anyway" to continue.



6. Please click "Finish" to complete the driver installation.
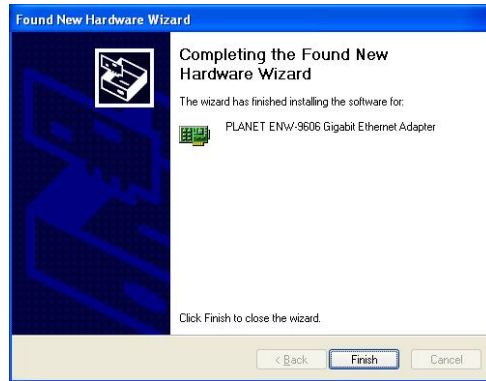
## 3.3 Install Driver To Other Operating Systems

When you want to install ENW-9606 to other OS, you can refer to the Readme.txt in each driver

folder and follow the installation to install ENW-9606 to the operating system you are using.

# Chapter 4  Specifications

## 4.1 Cable Specifications

| Ethernet Type | Cable Requirements | Maximum Length |
|---|---|---|
| 10BASE-T | Category 3 or better, UTP or STP | 328 ft (100M) |
| 100BASE-TX | Category 5 or better, UTP or STP | 328 ft (100M) |
| 1000BASE-T | Category 5e or better, UTP or STP | 328 ft (100M) |

**Caution:** Please do not use telephone cables. Telephone cables do not support Ethernet or Fast Ethernet.

There are two types of cables: Straight Through Cables and Crossover Cables. Category 5 UTP/STP cable has eight wires inside the sheath. The wires form four pairs. Straight Through Cables has same pin-out at both ends while Crossover Cables has a different pin arrangement at each end.

## 4.2 Technical Specifications

| Standards | IEEE 802.3, IEEE 802.3u, IEEE 802.3x IEEE802.3ab |
|---|---|
| **Protocol** | CSMA/CD |
| **Connectors** | RJ-45 |
| **Bus Type** | PCI 2.1, PCI 2.2, ACPI |
| **LEDs** | LINK, ACT |
| **Maximum Segment Length** | 100M (328 ft) over Category 5 twisted-pair cable |
| **Cabling Requirements** | 4-pair, Category 5, Category 5 enhanced |
| **Speed** | 10/100/1000 Mbps at Half duplex mode<br>20/200/2000 Mbps at Full duplex mode |

## 4.3 Environmental Information

| Dimensions | 120 mm x 22 mm X 120 mm (L x H x W) |
|---|---|
| **Weight** | 55 g |
| **Operating temperature** | 0° to 40°C (32° to 107°F) |
| **Storage temperature** | -40° to 70°C (-40° to 158°F) |
| **Operating humidity** | 20% to 95% relative humidity, non-condensing |
| **Storage humidity** | 20% to 95% relative humidity, non-condensing |

## 4.4 Standard Conformance

| EMC Certification | FCC Class B, CE |
|---|---|

## 4.5 Supported OS

**Drivers Support:**

Windows 98/Me/NT/2000/XP

Linux Kernel 2.2.20, 2.4.20

Solaris 7 or higher

Novell 5.x and 6.x

# Appendix A   Advanced Properties

The default settings of the adapter should work in most cases. However, if you experience any unusual circumstances during your installation, these settings may help you to trouble shoot the adapter. Do not change any of these settings without a thorough understanding of the specifics of your network. The following table briefly explains the function of each property.

| Property | Description | Default Value |
|---|---|---|
| Auto-Negotiate capabilities | Auto negotiate LAN speed and duplex | On |
| IEEE Compliance Enable | Allow your PC to communicate with other devices set to operate on the IEEE standard. | Auto |
| Interrupt Hold Off Time | Specifies the time the adapter will wait for a busy interrupt request. | 1(0-255) |
| Network Address | Allow the user to configure the network address of the adapter. | Not Present |
| Link Speed | This option is use to control the card will use fixed link speed to work or auto detect the link speed to fit to the network environment. | Auto |
| Wake Up Capabilities | Select one of the methods to let the card's Wake-On-LAN function work. | OS Controlled |