

## Trademarks

Copyright © PLANET Technology Corp.  
Contents subject to revision without prior notice.  
PLANET is a registered trademark of PLANET Technology Corp. All other trademarks belong to their respective owners.

## FCC 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 instruction manual may cause harmful interference to radio communications. Its operation in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference as his own expense.

Changes or modifications not expressly approved by the parties responsible for compliance could void the user's authority to operate the equipment.

## CE Marking Warning

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

## Revision:

User's Manual for PLANET PC Card family,  
Model: **ENW-3502-T**

Ethernet PC Card with TP jack only

**Part No.: EM3502T**

Rev: 1.0 (May, 1998)

## About This Manual

This is a user's guide for your ENW-3502-T PCMCIA 10Mbps Ethernet Card. Please read this manual before you attempt to install the product.

This manual includes the following topics:

- Product descriptions, features and specifications.
- Hardware installation procedures
- Software installation procedures

## Table of Contents

---

TABLE OF CONTENTS .....	ii
<b>INTRODUCTION.....</b>	<b>1</b>
1.1 PRODUCT DESCRIPTION.....	1
1.2 FEATURES .....	2
1.3 QUICK INSTALLATION .....	2
<b>HARDWARE INSTALLATION .....</b>	<b>3</b>
2.1 PACKAGE CONTENTS .....	3
2.2 HARDWARE DESCRIPTION .....	3
2.3 INSTALLING THE ENW-3502-T ETHERNET PC CARD .....	3
<b>DRIVER INSTALLATION FOR WINDOWS 95.....</b>	<b>5</b>
<b>DRIVER INSTALLATION FOR WINDOWS 98.....</b>	<b>7</b>
<b>DRIVER INSTALLATION FOR WINDOWS NT 4.0.....</b>	<b>10</b>
<b>CLIENT DRIVER INSTALLATION.....</b>	<b>14</b>
6.1 DRIVER INSTALLATION .....	14
6.1.1 DRIVER INSTALLATION PROGRAM.....	14
6.1.2 QUICK INSTALLATION .....	14
6.2 THE INSTALL PROGRAM.....	15
6.2.1 USING THE INSTALL PROGRAM .....	15
6.3 MANUAL INSTALLATION .....	23
6.3.1 ENABLER.....	23
6.4 CLIENT DRIVER INSTALLATION .....	24
6.4.1 NETWARE 3.X / 4.X CLIENT.....	24
6.4.2 MICROSOFT WINDOWS FOR WORKGROUPS 3.11.....	24
6.4.3 MICROSOFT WINDOWS NT 3.51 .....	24
6.4.4 MICROSOFT LAN MANAGER.....	25
6.4.5 ARTISOFT LANTASTIC VERSION 6.0 .....	25
6.4.6 CONFIGURATION REFERENCE.....	25
<b>TROUBLESHOOTING FOR WINDOWS ENVIRONMENTS.....</b>	<b>26</b>
A.1 WINDOWS 9X .....	26
A.2 WINDOWS NT 4.0 AND 3.51 .....	26
<b>ERROR MESSAGES OF ENABLER PROGRAM.....</b>	<b>27</b>

CARDGO.EXE .....	27
<b>SPECIFICATIONS .....</b>	<b>29</b>

*This page left blank intentionally!*

# Introduction

## 1.1 Product Description

Thank you for purchasing PLANET ENW-3502-T Ethernet PC Card. ENW-3502-T 10Mbps Ethernet Card is a network adapter card for notebook computers and complies with the PCMCIA TYPE II standard. An Ethernet adapter cable with male RJ-45 connector two kinds of connections :

- Connect to a Hub directly, or
- Connect to a network cable with male RJ-45 connector

ENW-3502-T, the 10Mbps Ethernet Card is switchless and software configurable. An enabler program can successfully drive the card. Even without the card and socket service drivers for PCMCIA controller installed, you will still be able to use the card by running the enabler program.

## 1.2 Features

- 5.0 mm Type II credit card size
- Complies with IEEE 802.3 10Base-T.
- Complies with PCMCIA Release 2.1 Spec
- PC Card standard 68-pin 16-bit PCMCIA Interface
- Half-duplex 10Base-T
- 5.0V Power consumption

## 1.3 Quick installation

This section briefly outlines the steps needed to install the PCMCIA 10Mbps Ethernet Card and its driver software, and how to connect the card to the network.

To install ENW-3502-T 10Mbps Ethernet PC Card to your notebook computer:

1. Connect the Ethernet adapter cable to the card, then insert the card into the PCMCIA slot. (Refer to Chapter 2 for details.)
2. Connect the Ethernet adapter cable to the network. (See *Chapter 2 2.3 Installing the PCMCIA 10Mbps Ethernet Card* for details.)
3. Install the driver software like Windows 95/98, NT or other Network Operation System. (See Chapter 3, Chapter 4, Chapter 5, and Chapter 6 for details.)

# Hardware Installation

## 2.1 Package Contents

Please check whether the following items are in your package :

- ENW-3502-T, PCMCIA 10Mbps Ethernet Card
- Ethernet adapter cable with 15-pin flat connector at one end and female RJ-45 connector at the other end for 10Base-T connectivity.
- Plastic protective adapter case
- Driver Diskette (Device drivers, User's manual)

## 2.2 Hardware Description

The PCMCIA 10Mbps Ethernet Card is encased in a stainless compact frame that is easily transportable. It has a 68-pin connector and a 15-pin flat connector for attaching to the Notebook and Ethernet adapter cable respectively .

## 2.3 Installing the ENW-3502-T 10Mbps Ethernet PC Card

Follow the procedure below to install the PCMCIA 10Mbps Ethernet Card.

1. Turn off the host computer.
2. With the card's 68-pin connector facing the PCMCIA slot, slide the card all the way into the PCMCIA slot. **Do not force the connection.**
3. Plug the Ethernet adapter cable to the 15-pin connector on the card.
4. Connect the Ethernet adapter cable to a network. If there is an Ethernet Hub or RJ-45 phone jack connected to a network and is near by your notebook, you can connect the Ethernet adapter cable to a port on the Hub or to the RJ-45 phone jack with another male-to-male RJ-45 line or connector.

5. Turn on the computer.



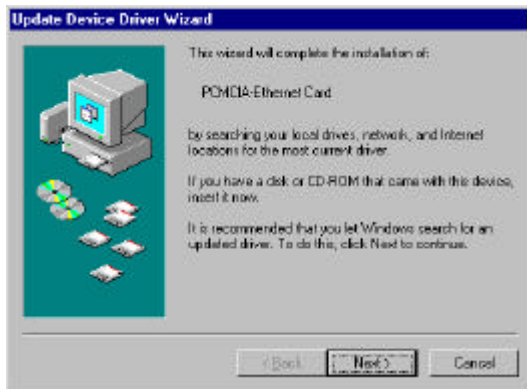
**Note:** Use the Network coupler bundled in the package. Use of other coupler could make the PC card or coupler malfunction.



# Driver Installation for Windows 95

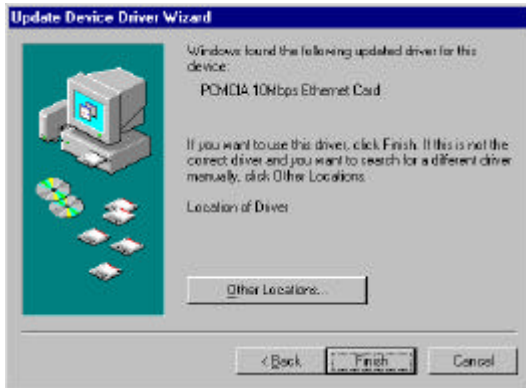
Installing the PCMCIA 10Mbps Ethernet Card is just the same as any normal Windows 95 Plug & Play device. Follow the steps below to install.

1. Insert the PCMCIA 10Mbps Ethernet Card into an open PCMCIA slot on your notebook.
2. After Windows 95 detects the card, the *Update Device Driver Wizard* window, as shown in Figure 3.1, will appear. Insert the driver diskette and click **N**ext to continue the installation.



**Figure 3.1 Update Device Driver Wizard**

3. When Windows 95 finds the installation file in Driver Diskette and shows the window in Figure 3.2 on your screen, click **F**inish.



**Figure 3.2 Found Driver**

4. Windows 95 will follow the direction of the installation file to locate the files that should be copied. Eventually Windows 95 may need to copy required system files. Give the correct path, then click **OK** to continue.
5. After all files have been copied, Windows 95 will prompt you to restart the system. Click **Yes** to complete installation.

# Driver Installation for Windows 98

Installing the PCMCIA 10Mbps Ethernet Card is similar as any normal Windows 95 Plug & Play device. Follow the steps below to install.

1. Insert the PCMCIA 10Mbps Ethernet Card into an open PCMCIA slot on your notebook.
2. After Windows 98 detects the PCMCIA 10Mbps Ethernet Card, the *Add New Hardware Wizard* window, as shown in Figure 4.1, will appear. Click **N**ext to continue the installation.



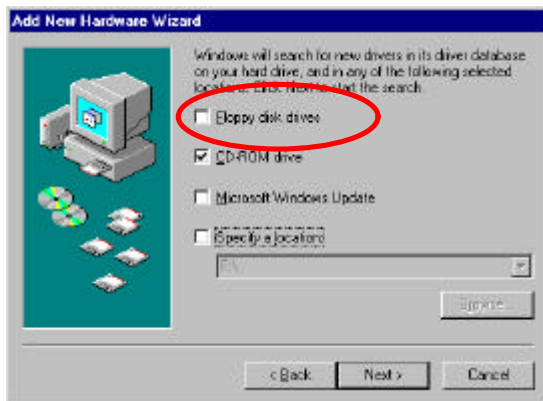
**Figure 4.1 Add New Hardware Wizard**

3. Select **S**earch for the best driver for your device. [**R**ecommended] and click **N**ext.



**Figure 4.2 Search Driver**

4. Uncheck the **Microsoft Windows Update**. Let Windows 98 search floppy drive. Then place the foopy disk and click **Next** to continue. —



**Figure 4.3 Search floppy Disk drive**

5. Select the found updated driver, **PCMCIA 10Mbps Ethernet Card**, then click **Next**.



**Figure 4.4** The updated driver

6. After copying all required files, Windows 98 will prompt you to restart the system. Click **Y**es to complete installation.

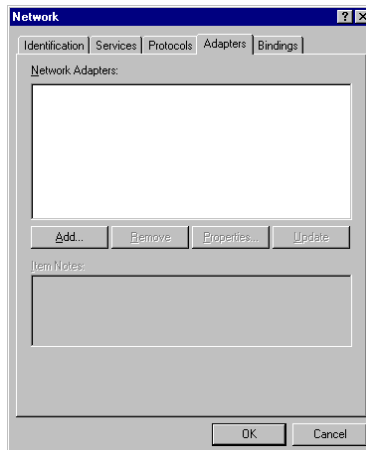
# Driver Installation for Windows NT 4.0

The installation procedure assumes the network component has been installed on your computer. To check whether the network component has been installed, double click the Network icon in Control Panel. If it has not, refer to the Windows NT 4.0 installation guide to install the component.

While installing the network component, Windows NT 4.0 will ask you to install the driver of network adapter. The driver installation procedure is similar to the following one.

Follow the steps below to install the driver.

1. Insert the PCMCIA 10Mbps Ethernet Card into an open PCMCIA slot on your notebook. Login to NT 4.0 as the **administrator**.
2. Double click **Network** icon in **Control Panel**, and select **Adapters** tab, the Figure 5.1 displayed.



**Figure 5.1 Network Window**

3. Click **Add** to add a new adapter, the window, Figure 5.2, popped up.

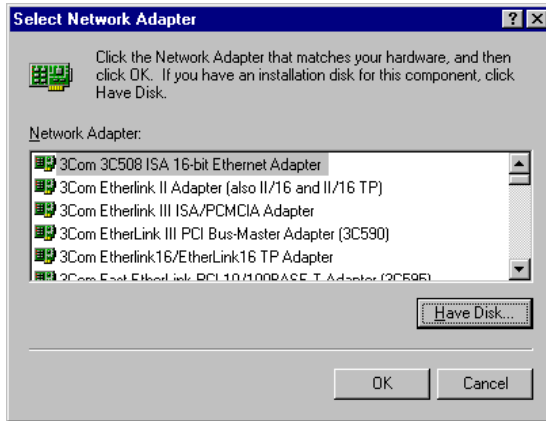


Figure 5.2 Select Network Adapter Window

4. Click **Have Disk ...**, after *Insert Disk* window, shown in Figure 5.3, popped up, give the search path, **A:\WINNT** (suppose A: is your floppy drive), then insert driver diskette, and click **OK**.

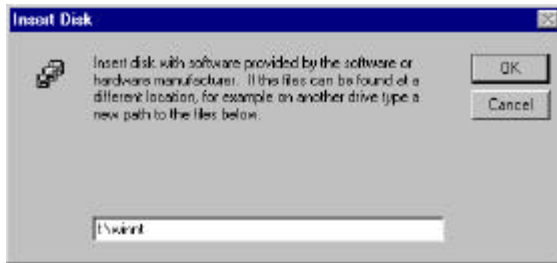
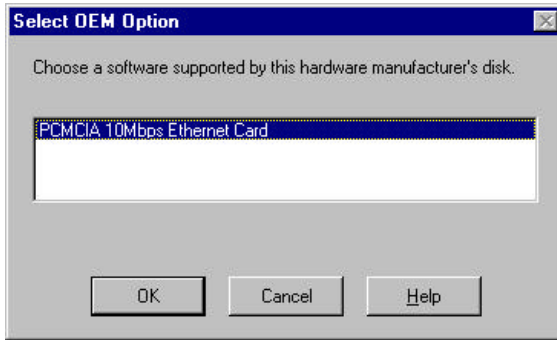


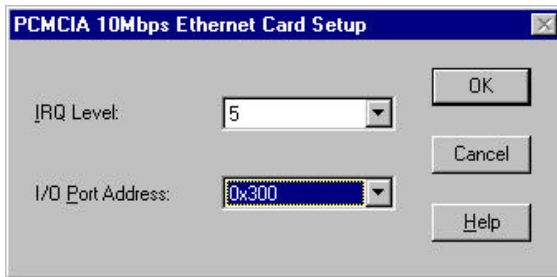
Figure 5.3 Insert Compact Disk Window

7. After finding the installation file, the *Select OEM Option* window shown in Figure 5.4 is displayed. Click **OK** to choose the **PCMCIA 10Mbps Ethernet Card** option.



**Figure 5.4 Select OEM Option Window**

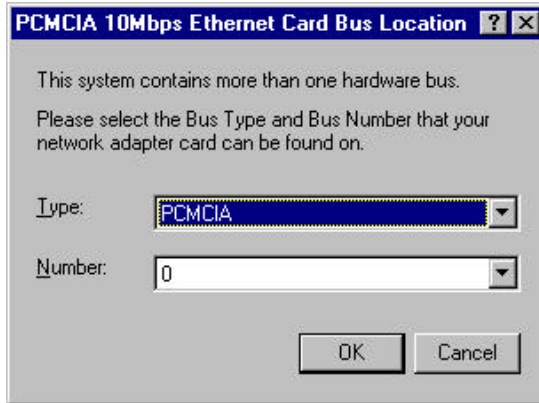
8. In the *PCMCIA 10Mbps Ethernet Card setup* window, Figure 5.5, select the desired IRQ level and I/O Port address. After selecting desired configuration, click **OK** to continue.



**Figure 5.5 Setup Window-1**



Select the PCMCIA type option as figure 5.6 and click OK to continue.



**Figure 5.6 Setup Window-2**

Click Close to close the *Network* window, and let Windows NT 4.0 binding the adapter with network component.

Eventually, Windows NT 4.0 will prompt you to restart the computer, click Yes to finish installation.

# Client Driver Installation

## 6.1 Driver Installation

Before your computer system can recognize your **ENW-3502-T Ethernet PC Card**, the driver programs must first be installed to enable the card.

### 6.1.1 Driver Installation Program

INSTALL.EXE is the **ENW-3502-T Ethernet PC Card** driver installation program. The INSTALL.EXE program allows you to do auto-configuration where the program automatically selects the most suitable option settings, or do a custom configuration where you individually select each option setting.

### 6.1.2 Quick Installation

This section gives a brief overview of the installation process. (For a clearer step-by-step procedure, refer to the next section.)

1. If the Card and Socket Services software is included as part of your computer, it is recommended that you use this software when installing your ENW-3502-T Ethernet PC Card.

A system with Card and Socket Services installed allows the PCMCIA card to automatically configure itself. While the system is on, available system resources and insertion or removal of the card will automatically be detected.

2. Run the INSTALL.EXE program found on your Installation floppy disk. The install program guides you through the installation process and will install the network drivers needed to run the card on your network operating system.

If you have successfully completed the installation, jump to step 5. If installation was unsuccessful, then go on to next step.

3. Use the Card Service client driver, **CARDGO.EXE**, found on your Installation floppy disk. You can install the client driver by typing **CARDGO** at the DOS prompt or including it as a line in your CONFIG.SYS or AUTOEXEC.BAT file. When installing the client driver, it is important to note that the driver should be loaded after Card and Socket Services are loaded.

4. Turn off your computer and insert the **ENW-3502-T Ethernet PC Card** into the PCMCIA socket. The card is keyed to go in one way only. Then attach the network cable to the card.
5. Now turn your computer on and connect to your network. If you cannot connect to the network, refer to the Appendix A and B.

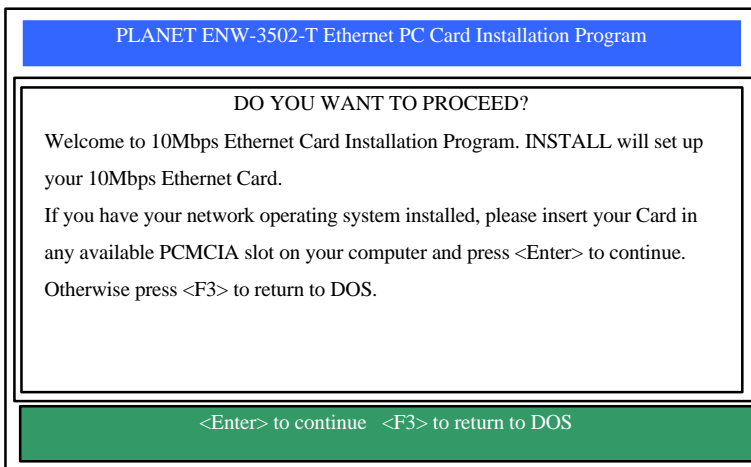
## 6.2 The INSTALL Program

Before you can use your **ENW-3502-T Ethernet PC Card**, you need to install and modify some files in your computer system. You can make these changes manually, or you can let the INSTALL.EXE program do them for you.

This section explains how you can use the INSTALL.EXE program to install the enabler and the files needed by the network operating system.

### 6.2.1 Using the INSTALL Program

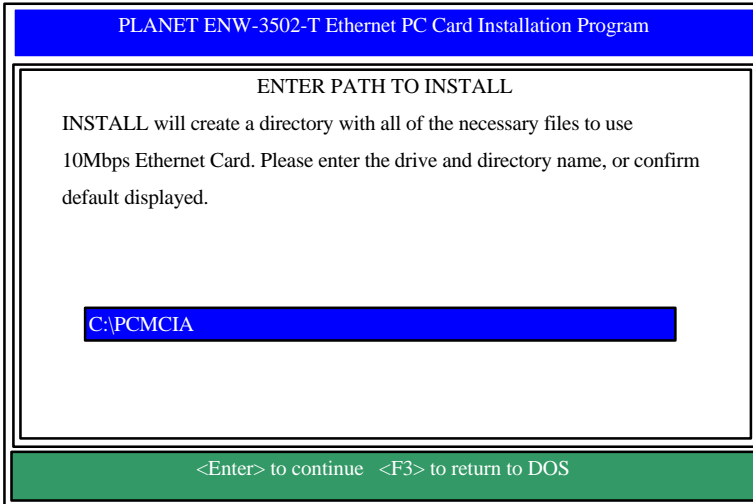
To run the INSTALL.EXE program, type **INSTALL** and press **<Enter>** at the DOS prompt. You should see an opening screen which welcomes you to the program and asks if you wish to continue.



**Figure 6-2.1 Opening Screen**

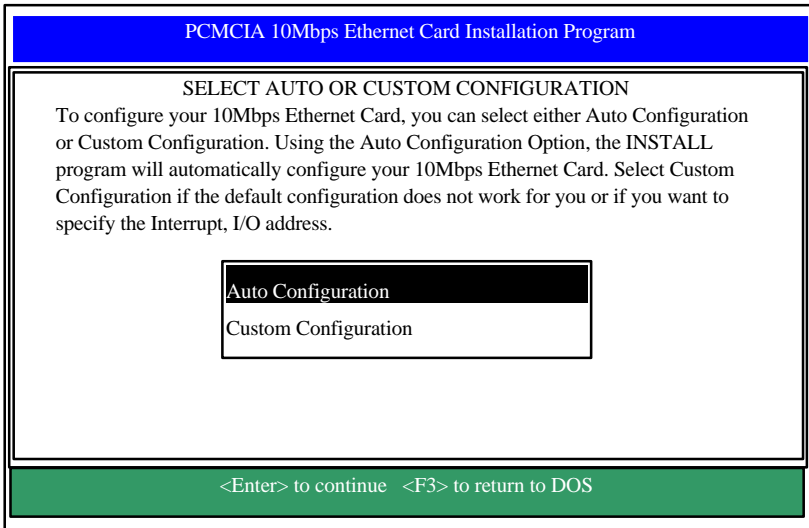
Press **<Enter>** to continue the installation.

The program will then prompt you for the directory where you want to install the driver files. You can choose the default directory name or enter a new name. Then, press <Enter> to continue with installation.



**Figure 6-2.2 Specify Directory Path**

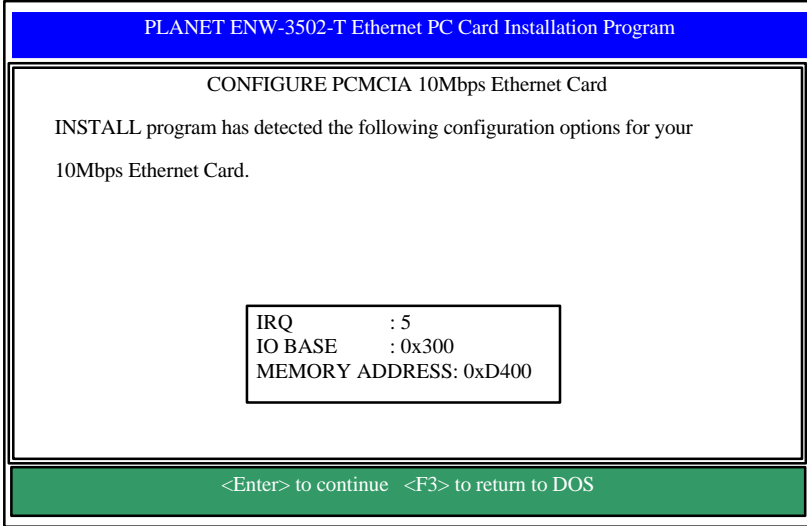
The next screen asks if you want to do an *Auto Configuration* or a *Custom Configuration*. Select **Auto Configuration** if you want to do a quick installation and use the default configuration settings. If you wish to individually set any of the settings, then select **Custom Configuration**.



**Figure 6-2.3 Select Auto or Custom Installation**

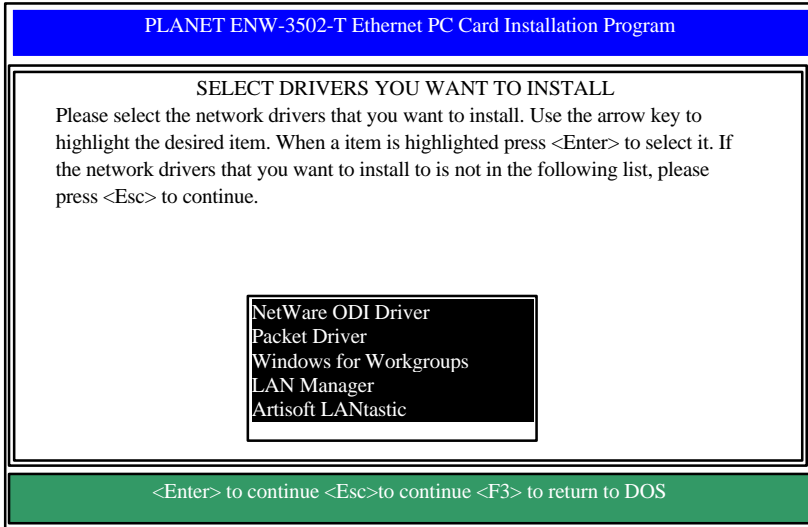
### 6.2.1.1 Auto Configuration

If you selected *Auto Configuration*, the program will auto detect which IRQ ,I/O Port and Memory address the ENW-3502-T Ethernet PC Card can use. After auto-detecting the configuration successfully, the program will show the following screen :



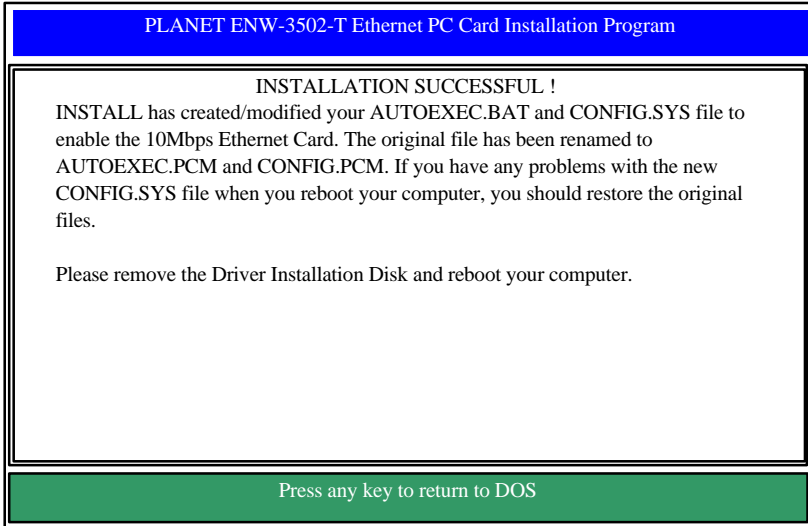
**Figure 6-2.4 Configuration Information**

After the configuration process, you will be prompted to select the type of network that you are installing the drivers into. Select a Network Operating System from the list by moving the cursor to your selection and pressing **<Enter>**.



**Figure 6-2.5 Network OS Selection**

After selecting the Network Operating System, the INSTALL program will copy and/or modify some files on your boot drive. Your CONFIG.SYS file will also be modified to include the Client Driver. You should see the following message if installation has been successful.



**Figure 6-2.6 Successful Installation Screen**

### **6.2.1.2 Custom Configuration**

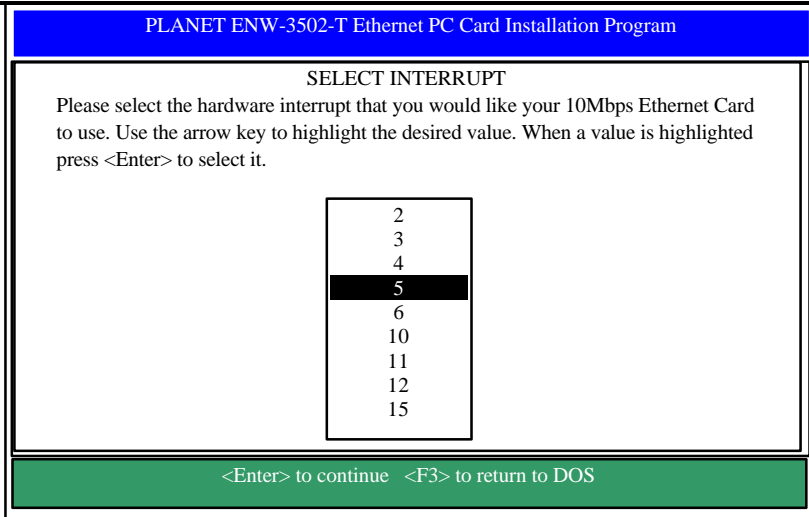
To do a custom installation, you need to select the Custom Configuration Menu after you begin the INSTALL program.

After selecting the Custom Installation Menu, you will see a series of submenus prompting you to select an IRQ , I/O port and Memory address.

#### **Interrupt Select**

The first submenu which will appear is the Interrupt submenu. To select an interrupt, move the cursor to the interrupt of your choice and select it by pressing <Enter>. Interrupts available for your 10Mbps Ethernet card include 2, 3, 4, 5, 6, 10, 11, 12 and 15.





**Figure 6-2.7 Select Interrupt**

### **IO Port Select**

To select an I/O Port, move the cursor to your selected I/O address and press <Enter> to select. Available I/O Ports are 240H, 280H, 300H, 320H, 340H and 360H.

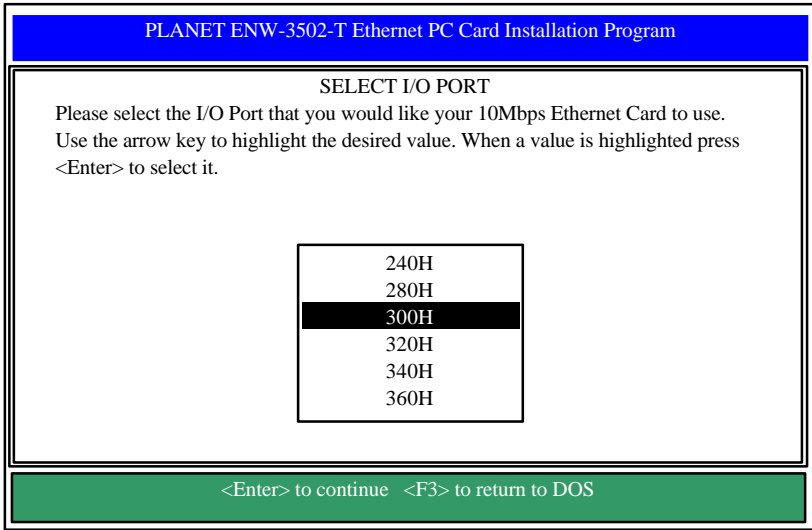


Figure 6-2.8 Select I/O Port

### Memory Address Select

To select a memory address, move the cursor to your selected memory address and press <Enter> to select. Available I/O Ports are D000H, D400H, D800H and DC00H.

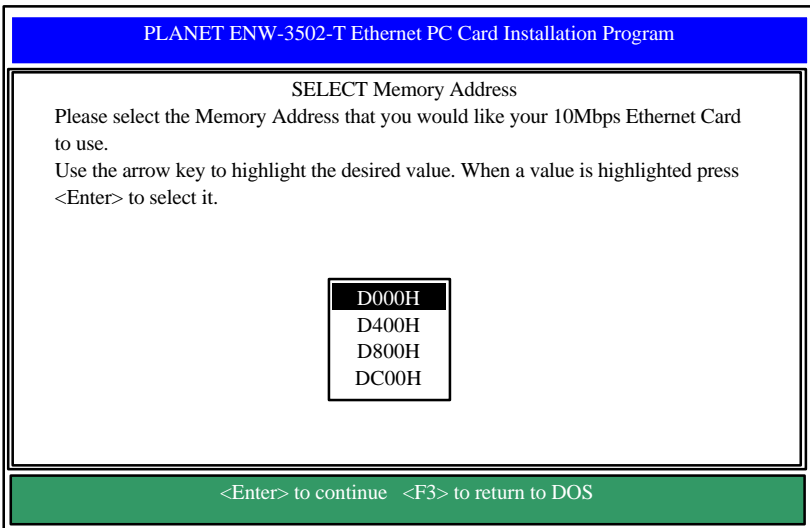


Figure 6-2.9 Select Memory Address

## 6.3 Manual Installation

In most cases, the INSTALL program can make all system changes necessary for using your PCMCIA 10Mbps Ethernet Card. But in some cases, you may wish to make the change manually. This section explains the driver and file modifications needed to enable your PCMCIA 10Mbps Ethernet Card.

### 6.3.1 Enabler

The **PCMCIA 10Mbps Ethernet Card** can be enabled by a Card Service client driver, CARDGO.EXE.

#### CARDGO.EXE

The Card Service client driver, CARDGO.EXE, communicates with the PCMCIA controller of your computer. This program is needed only for DOS and Windows 3.1 systems. The INSTALL program will automatically add a line to your CONFIG.SYS file using the following syntax and format:

```
DEVICE = [path_name] CARDGO.EXE [/INT=x] [/PORT=xxx]
[/mem=xxxx] [/?]
```

where:

- [/INT=x] Specifies the hardware interrupt (IRQ) where your card will be indicated. Default value is 5.  
The valid IRQs are **3,4,5,6,9,10,11,12,15**.
- [/PORT=xxx] Specifies the I/O port. Default value is auto detect. The valid port addresses are 240H, 280H, 300H, 320H, 340 and 360H.
- [/MEM=xxxx] Specifies the Memory address. Default value is auto detect.  
The valid addresses are **D000H, D400H, D800H and DC00H**.
- [/?] Displays all possible command syntax.

You can also run the CARDGO.EXE by typing "CARDGO" at the DOS prompt or by including it as a line in your AUTOEXEC.BAT file. After you executed CARDGO.EXE, you will see the following display indicating that installation was successful :

```
Socket : 0 (for example)
IRQ Number : 05 (for example)
I/O PORT Base : 0300H
Memory Address : D400H (for example)
```

Node ID: 00 A0 0C 01 00 3A (for example)

The list of error messages the client driver may display and the correction methods we suggest are given in *Appendix B*.

## 6.4 Client Driver Installation

### 6.4.1 NetWare 3.X / 4.X Client

Installation procedure:

1. Execute INSTALL program, and choose NetWare ODI Driver.
2. Follow the prompts to complete the installation.
3. Reboot the computer.
4. Log in to the network.

### 6.4.2 Microsoft Windows for Workgroups 3.11

Installation procedure:

1. Execute install.exe, and choose Windows for Workgroups.
2. Run Windows by typing WIN from the DOS prompt.
3. Click the "Network" icon in the Main Program Group.
4. Click the "Network Setup" icon from the Network window.
5. Select "Drivers" item from the Network Setup dialog box.
6. Select "Add Adapters" item in the Option dialog box.
7. Select "Unlisted or Updated Network Adapter" when the Install driver field appears.  
Type the path, A:\wfw311 (where A: is the floppy drive), and press <Enter>.
8. When the "PCMCIA 10Mbps Ethernet Card" dialog box appear, select the options step by step.
9. Follow screen instructions to complete the process.
10. Restart your computer.

### 6.4.3 Microsoft Windows NT 3.51

Installation procedure:

1. Insert **PCMCIA 10Mbps Ethernet Card** into an open PCMCIA slot.
2. Boot the computer.
3. Click **Control panel** in the **main** window, then click **Network** icon.
4. Click **Add Adapter**. Then pull down the adapter's list and select **<other> Requires disk from manufacturer**, then click **continue**.
5. Type **A:\winnt** (where A: is your floppy drive), then click **OK**.

6. Set the proper IRQ and IO Port settings for this card.
7. Set bus type to be **PCMCIA** and bus number to be **0**.
8. Reboot the computer and installation is completed.

#### **6.4.4 Microsoft LAN Manager**

Installation procedure:

1. Run INSTALL program, and choose LAN Manager.
2. Type "lmsetup" In LAN Manager Directory. Press Enter
3. Choose "Network Drivers" in "Configuration". Press Enter.
4. Choose <Add New Configs> ,press Enter.
5. Choose <Other Driver> , press Enter.
6. Insert the Driver Diskette, and specified drive A:\ (where A: is the floppy drive), then push <OK> button.
7. Select the Network Adapter Driver, "PCMCIA 10Mbps Ethernet Card", then push <OK> button.
8. Press the SPACEBAR to select the protocol that you want.
9. Push <OK> button. Configuration Complete appear.
10. Push <Save> button, then press "F3" to exit.

#### **6.4.5 Artisoft LANtastic Version 6.0**

Installation procedure:

1. Run INSTALL program, and choose LANtastic.
2. Install the Artisoft LANtastic, and specify C:\LANTASTI as the destination directory.
3. When "Select network adapter" screen popped up, choose "NDIS Support for Network Adapters".
4. When install program prompts you the "manufacturer's driver disk" on the "Enter NDIS driver directory" screen, insert the driver diskette.
5. Complete the installation, then reboot the computer and start LANtastic.

#### **6.4.6 Configuration Reference**

The configuration reference of each NOS client driver can be found in the readme.txt file of the associated subdirectory of the driver diskette.

# Troubleshooting for Windows Environments

These guidelines give you tips to deal with some problems on using PCMCIA 10Mbps Ethernet Card. If the problems remain unsolved, contact your dealer for assistance.

## A.1 Windows 9X

1. Ejecting the card from the PCMCIA socket hangs or reboots the computer.

**Solution:** To prevent this phenomenon from occurring, stop the card by using the PC Card tool in the Control Panel or the PC Card icon on the taskbar before you remove the card.

2. The card can not be detected when reinserted

It is caused by certain unstable PCMCIA status lines for a time when the card is removed and reinserted. The Windows 9X drivers may read an incorrect status during this period of signal instability, and fail to detect the correct status of the card.

**Solution:** The card can be detected by clicking “Refresh” in Device Manager.

## A.2 Windows NT 4.0 and 3.51

Does the driver support “hot-swap” on NT 4.0 and 3.51?

**Answer:** Windows NT 4.0 and 3.51 are not plug-and-play systems. If you want to remove the card, shut down the computer and remove it.

# Error Messages of Enabler Program

### CARDGO.EXE

Here is the list of error messages the CARDGO.EXE may display and correction method we suggested.

**[Error 1]** "PCMCIA 10Mbps Ethernet Card enabler failed in request IRQ."  
The IRQ number you specified is not supported by the Card Services or is in conflict with another device.

**Correction:** Change the IRQ number to a valid setting, as listed above.

**[Error 2]** "PCMCIA 10Mbps Ethernet Card enabler failed in request I/O port."  
The IO port you specified is not supported by the Card Services or is in conflict with another device.

**Correction:** Change the IO port to a valid setting, as listed above.

**[Error 3]** "PCMCIA 10Mbps Ethernet Card enabler failed in request memory window."  
The memory address you specified is not supported by the Card Services or is in conflict with another device.

**Correction:** Change the memory address to a valid setting, as listed above.

**[Error 4]** "General error."  
Register service failed with Card Services program.

**Correction:** Reboot the system and try again.

**[Error 5]** "Your Card Service is not compliant with Version 2.00 or higher!"

**Correction:** Re-install a new version of Card Service.

**[Error 6]** "PCMCIA 10Mbps Ethernet Card is not active ! Enable again."  
Maybe the Ethernet controller malfunctioned.

**Correction:** Enable again. If it still can not work, contact your dealer.

**[Error 7]** "Your Card Services is outdated."  
"Please install new version of Card Service."

**Correction :** Re-install a new version of the Socket and Card Services program.

**[Error 8]** "Parameter too long."

Too many parameters issued with CARDGO.

**Correction :** Refer to the default syntax listed above and correct it.

**[Error 9]** "Unknown parameters."

CARDGO.EXE Syntax error.

**Correction :** Refer to the default syntax listed above and correct it.

**[Error 10]** "Invalid value !"

An invalid parameter value was issued.

**Correction :** Refer to the valid settings listed above and correct it.

**[Error 11]** "Card Service Driver is not loaded."

"Please load the Card & Socket Service Drivers first, or use

"CARGGO.EXE" to enable the card directly."

**Correction :** As the description of the error message indicates.

**[Warning 1]** "PCMCIA 10Mbps Ethernet Card Client Driver is already resident."

CARDGO.EXE has already been executed.

**Correction :** If you want to change the parameter setting, reboot your system.

**[Warning 2]** "Please insert PCMCIA 10Mbps Ethernet Card."

The PCMCIA 10Mbps Ethernet Card is not detected.

**Correction :** Insert the card.



# Specifications

<b>Model:</b>	ENW-3502-T
<b>Standards Conformance:</b>	IEEE802.3 10BASE-T
<b>Card Size:</b>	5.0mm Type II
<b>Bus Width:</b>	16-bit
<b>Communication Mode:</b>	Half-duplex
<b>Media Supported:</b>	UTP-3,4,5 for 10Base-T
<b>Operating Distance:</b>	100m maximum hub to node distance
<b>Network Interface:</b>	RJ-45 connector for 10Base-T
<b>Socket Interface:</b>	68-pin 32-bit PCMCIA socket connector
<b>Temperature:</b>	0C to 60 C (Standard Operating)
<b>Certification:</b>	FCC Class B