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FCC Warning

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 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.

Shielded interface cables must be used in order to comply with emission limits. You are cautioned that changes or modifications not expressly approved by the party responsible for compliance could void your 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 cause undesired operation.

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 PC card,
Model: **ENW-3502-FC**
CardBus 10/100Mbps Fast Ethernet Adapter
Part No.: **EM3502FC**
Rev: 1.00 (May, 1999)

About this manual

This is a user's guide for your **ENW-3502-FC**, CardBus 10/100Mbps Fast Ethernet Adapter. Please read this manual before you attempt to install the product.

This manual includes the following topics:

- Product description, features and specifications
- Hardware description, LED indicators
- Hardware installation procedure
- Software installation procedure

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Chapter 1

Introduction

1.1 Product Description

Thank you for purchasing **ENW-3502-FC**, the CardBus 10/100Mbps Fast Ethernet Adapter.

The **ENW-3502-FC** is a network adapter card for notebook computers and complies with the CardBus TYPE II standard. It provides 10 and 100Mbps auto-sensing features let you easily connect to Ethernet networks of different speeds without additional setup. And with auto-negotiation capability, the card can run in full-duplex mode for both 10 and 100Mbps line speeds to double your network bandwidth.

An Ethernet adapter cable with male RJ-45 connector and a female-to-female RJ-45 adapter are provided for users to choose two kinds of connections :

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

ENW-3502-FC is switchless and software configurable. An enabler program can successfully drive the card. Even without the card and socket service drivers for CardBus 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 and IEEE 802.3u 100Base-TX
- Complies with PCMCIA 1995 PC Card Standard
- PC Card standard 68-pin 32-bit CardBus Interface
- 10/100Mbps Auto-sensing capability
- Full/Half-duplex Auto-negotiation for both 10Base-T and 100Base-TX
- Supports UTP-5 cable or STP-5 cable (optional)
- 3.3V Power consumption
- LED indicators include, 10/100Mbps Link active, Full/Half-duplex, and Transmit/Receive LED Indicators

1.3 Quick installation

This section briefly outlines the steps needed to install the ENW-3502-FC and its driver software, and how to connect the card to the network.

To install the ENW-3502-FC to your notebook computer:

1. Connect the Ethernet adapter cable to the card, then insert the card into the CardBus slot. (Refer to *Chapter 2* for details.)
2. Connect the Ethernet adapter cable to the network. (See *Chapter 2* for details.)
3. Install the driver software. (See *Chapter 3, 4, 5, and 6* for details.)

Chapter 2

Hardware Installation

2.1 What's in the Package

Please check whether the following items are in your package:

- **ENW-3502-FC**, CardBus 10/100Mbps Ethernet Card
- Ethernet adapter cable with a 15-pin PC card connector at one end and male RJ-45 connector at the other end for 10Base-T or 100Base-TX connectivity.
- This user's manual
- Plastic protective adapter case
- 8P8C RJ45 female-to-female adapter
- 1.44MB 3.5-inch driver diskette

2.2 Hardware Description

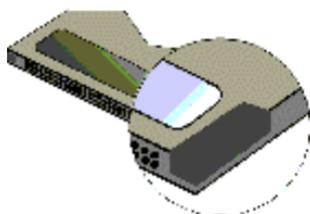
The **ENW-3502-FC** is encased in a stainless compact frame that is easily transportable. It has a 68-pin connector and a 15-pin flat connector for attaching to the Notebook and Ethernet adapter cable respectively (see figure 2-2.1 for the card's diagram).

Please take note that the hardkey of a CardBus card is different from that of the traditional 16-bit PCMCIA card. This mechanism can protect the 3.3V CardBus card from mis-insertion to 5V 16-bit PCMCIA slot (see figure 2-2.2).



Figure 2-2.1 CardBus 10/100Mbps Ethernet Card

Traditional PC Card (5V)



CardBus Card (3.3V)

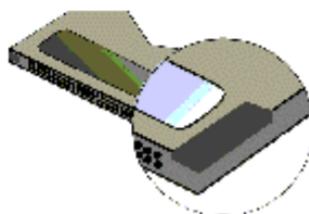


Figure 2-2.2 Hard key of CardBus Card and Traditional PCMCIA Card

2.2.1 Ethernet Adapter Cable and RJ-45 Adapter

The Ethernet adapter cable with a male RJ-45 connector at the end is for attaching the card to the Hub or for directly connecting to the RJ-45 phone jack on the wall.

The RJ-45 female-to-female adapter can be used to connect the Ethernet adapter cable to the male RJ-45 connector at the end of the network cable.

Figure 2-2.3 shows the Ethernet adapter cable and RJ-45 adapter.

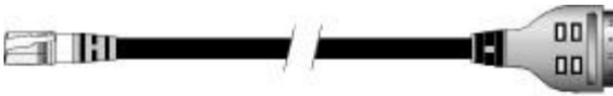


Figure 2-2.3 Ethernet Adapter Cable and RJ-45 Adapter

2.2.2 LED indicators

There are four LED indicators atop the 15-pin connector of the Ethernet adapter cable (see Figure 2-2.4 below) .

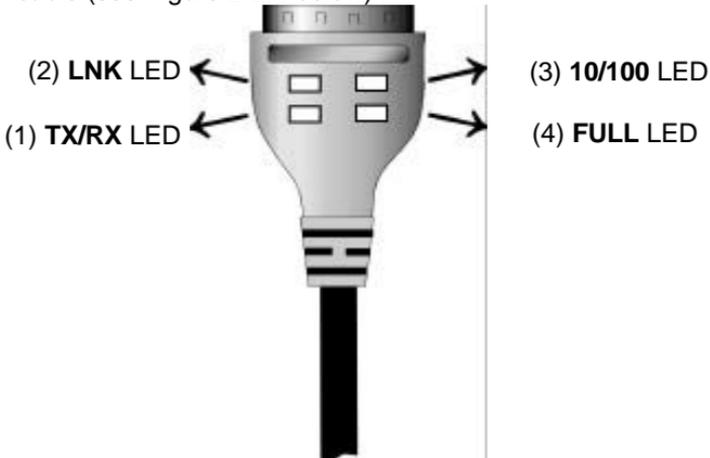


Figure 2-2.4 LED Indicators

(1) Tx/Rx LED :

This LED can monitor the network activity. It is red in color. This LED is normally off. It will flash off and on when there is traffic on the network. The frequency of flashing rapidly increases with the network traffic.

(2) LNK LED and 10/100 LED

This two LEDs can monitor the link status of the card's connection. The LNK LED is orange in color, and the 10/100 LED is green colored. The following table shows the meaning of the two LEDs:

LNK LED	10/100 LED	Description
off	off	No any valid connection
on	off	10Base-T link is established
on	on	100Base-TX link is established
off	on	Invalid

(3) FULL LED:

This LED can monitor the link status of the card's connection. It is red colored. This LED lights up to indicate that the connection is in Full-duplex mode.

2.3 Installing the ENW-3502-FC

Follow the procedure below to install the PLANET **ENW-3502-FC**.

1. Turn off the host computer.
2. With the card's 68-pin connector facing the PCMCIA CardBus slot, slide the card all the way into the PCMCIA CardBus slot as illustrated in Figure 2-3.1.
Do not force the connection.



Figure 2-3.1 Insert the ENW-3502-FC into the Socket

3. Plug the Ethernet adapter cable to the 15-pin connector on the card as shown in Figure 2-3.2.

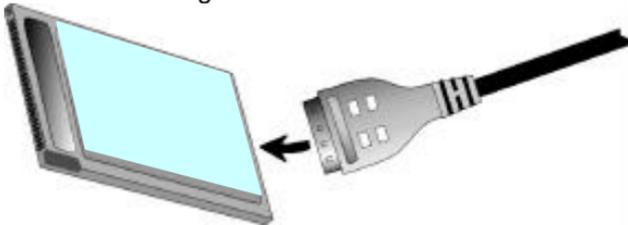


Figure 2-3.2 Plug 15-pin Flat connector to 15-pin Mating Connector

4. Connect the Ethernet adapter cable to a network.
 - a. 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 directly.

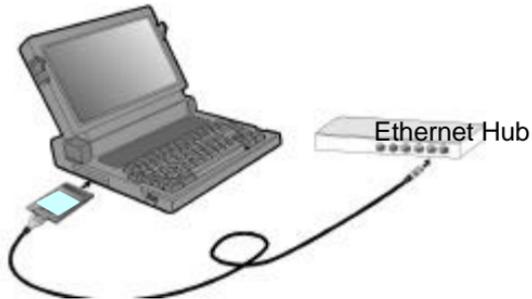
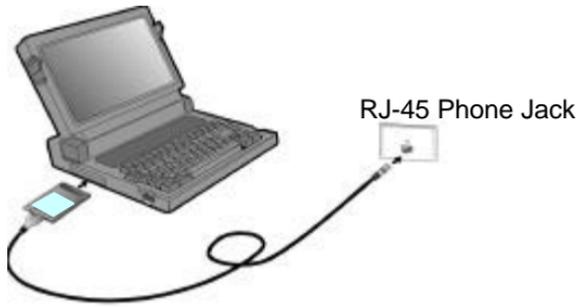


Figure 2-3.3 Connecting to a Hub or RJ-45 Phone Jack

- b. If your network uses a twisted-pair cable with male RJ-45 connector, connect the Ethernet adapter cable to one end of the provided female-to-female RJ-45 adapter. Then connect the twisted-pair network cable to the other end of the RJ-45 adapter. (The cable connection is shown in Figure 2-3.4.)

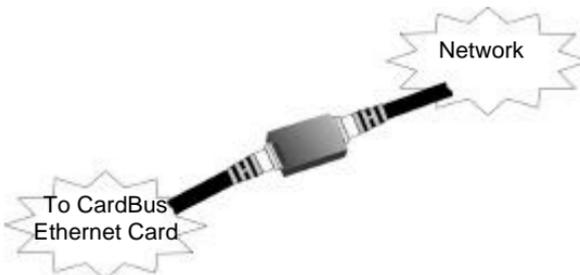


Figure 2.3.4 Connection Using RJ-45 Adapter

- 5. Turn on the computer.

Chapter 3

Driver Installation for Windows 95 OSR2

3.1 System Requirements

- Windows 95 OSR2
- Notebook equipped with CardBus Controller

3.2 Before Installation

Before you install your **ENW-3502-FC**, check first whether or not you have Windows 95 OSR2.

To identify the version of Windows 95, you can check the General system properties, as shown in Figure 3-2.1. To get the general system properties, double-click the System icon from the Control Panel.

The version of Windows 95 OSR2 is 4.00.950 B. Make sure the version of your Windows 95 is correct.



Figure 3-2.1 General System Properties

Next, check whether your notebook PCMCIA controller supports CardBus. You can check it from Device Manager (as shown in Figure 3-2.2). If the PCMCIA socket is shown to be PCIC or TCIC compatible Controller, then the notebook cannot support CardBus.

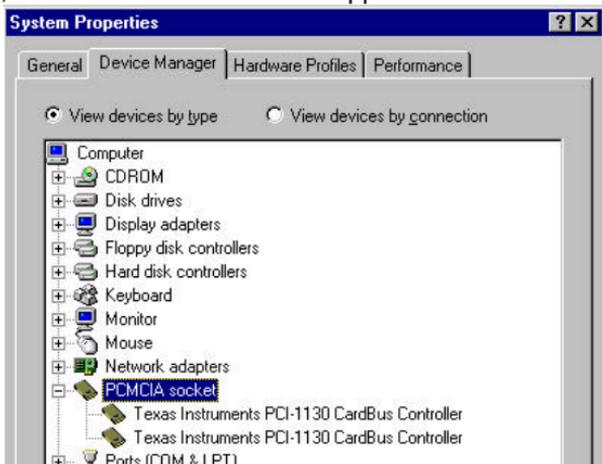


Figure 3-2.2 PCMCIA Socket

3.3 Installation

If your notebook meets the system requirements, you can proceed to install your **ENW-3502-FC**.

Installing the **ENW-3502-FC** is just the same as any normal Windows 95 Plug & Play device. Follow the steps below to install.

1. Insert the **ENW-3502-FC** into an open CardBus slot on your notebook.

(Note: The hard key of Cardbus slots is different from that of traditional 16-bit PCMCIA slots, and it can protect the slots from mis-insertions of cards that do not support Cardbus.)

2. After Windows 95 detects the card, the *Update Device Driver Wizard* window, as shown in Figure 3-3.1, will appear. Insert the driver diskette and click "Next" to continue the installation.



Figure 3-3.1 Update Device Driver Wizard

3. When Windows 95 finds the installation file from the driver diskette, i.e. "A:" and shows the window in Figure 3-3.2 on your screen, click Finish.

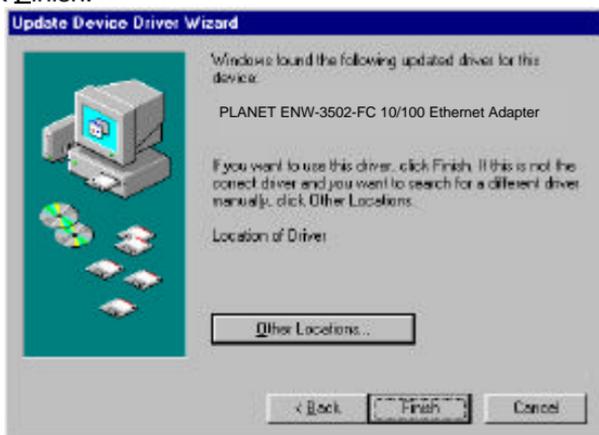


Figure 3-3.2 Found Driver

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.

3.4 Advanced Properties

To change the properties of your **ENW-3502-FC**, select **Network** from the **Control Panel**, then select **PLANET ENW-3502-FC**, and click **Properties**.

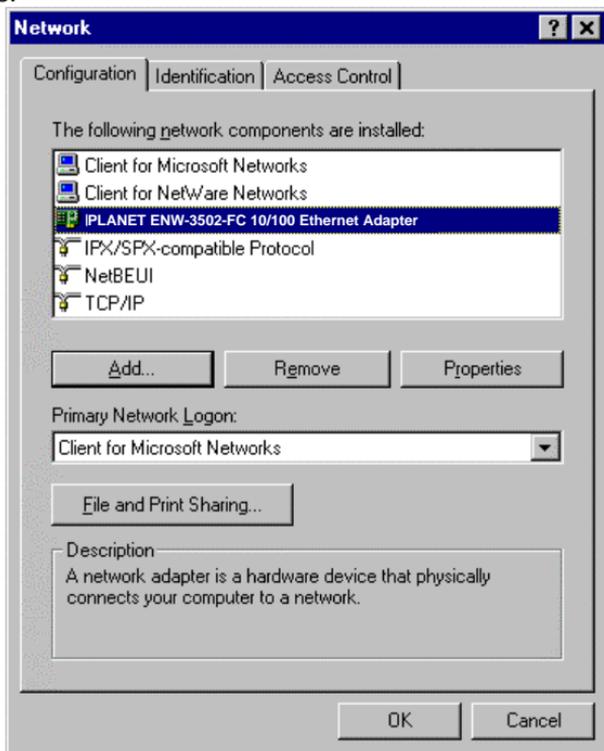


Figure 3-4.1 Network Configuration

Next, click the “Advanced” tab. You will then see the following property sheet:

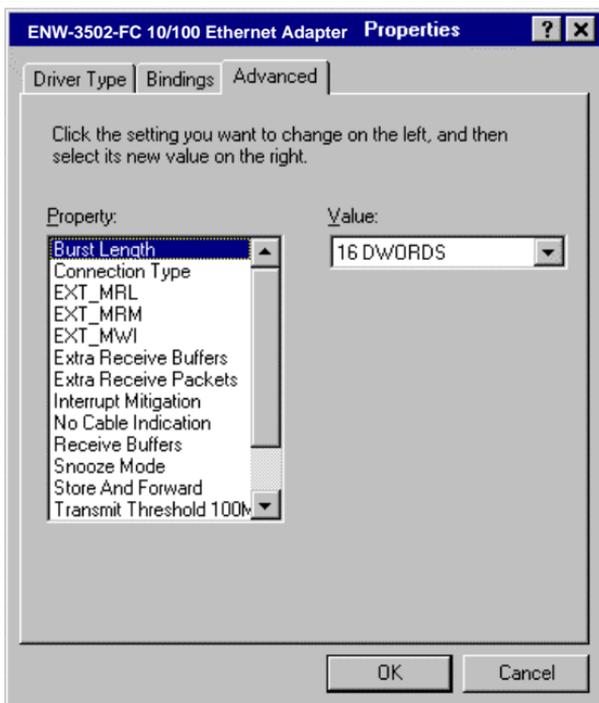


Figure 3-4.2 Advanced Properties

The configurable properties are given in the Property list. Click the property you want to reconfigure and choose your desired setting from the Value drop-down menu.

Basically, the default parameters are set to fit most computer platforms. Users do not need to change them. For more detailed information, please refer to the **Readme.txt** file under the **Win9X** sub-directory of the driver diskette.

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Chapter 4

Driver Installation for Windows 98

4.1 Installation

Installing the **ENW-3502-FC** is similar as any normal Windows 95 Plug & Play device. Follow the steps below to install.

1. Insert the **ENW-3502-FC** into an open CardBus slot on your notebook.
1. After Windows 98 detects the **ENW-3502-FC**, the *Add New Hardware Wizard* window, as shown in Figure 4-1.1, will appear. Click Next to continue the installation.



Figure 4-1.1 Add New Hardware Wizard

3. Select Search for the best driver for your device. [Recommended]
-

and click **N**ext.



Figure 4-1.2 Search Driver

4. Uncheck the **Microsoft Windows Update**. Let Windows 98 search floppy disk drives only. Then insert the driver diskette and click **N**ext to continue.



Figure 4-1.3 Search Floppy disk drives

5. Select the found updated driver, **ENW-3502-FC**, then click **N**ext.



Figure 4-1.4 The updated driver

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

4.2 Advanced Properties

To change the properties of your **ENW-3502-FC**, please refer to section 3.4 Advanced Properties.

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Chapter 5

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 **ENW-3502-FC** into an open CardBus slot on your notebook. Login to NT 4.0 as the **administrator**.
2. If you have installed SystemSoft CardWizard For Windows NT™, this utility will recognize **ENW-3502-FC** and request to install the driver for it. In this situation, you click the **Correct** button, the Figure 5.1 displayed.

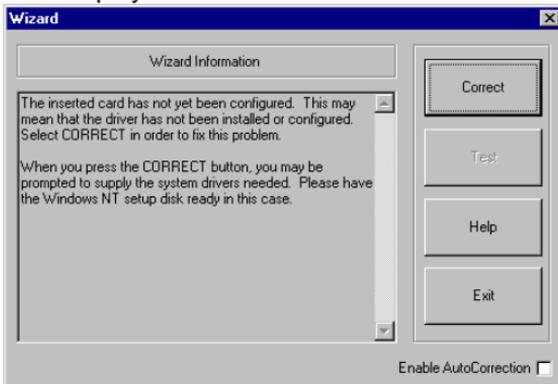


Figure 5.1 SystemSoft Wizard

3. Double click **Network** icon in **Control Panel**, and select **Adapters** tab, the Figure 5.2 displayed.
-

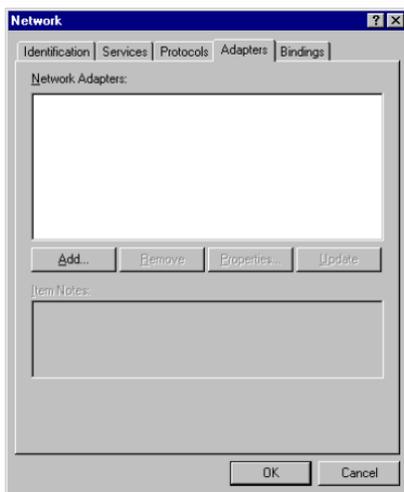


Figure 5.2 Network Window

4. Click **Add** to add a new adapter, the window, Figure 5.3, popped up.

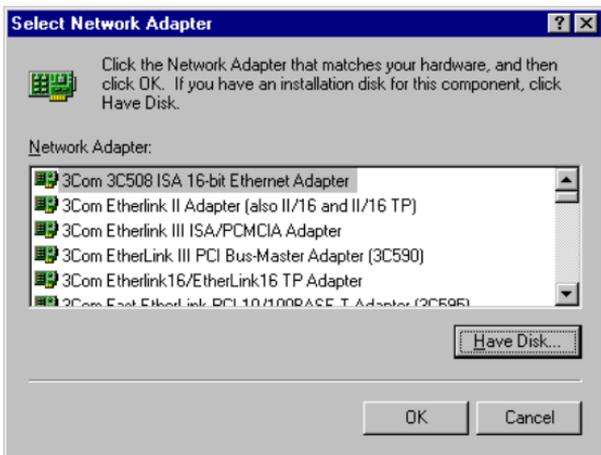


Figure 5.3 Select Network Adapter Window

- 5.. Click **Have Disk ...**, after *Insert Disk* window, shown in Figure 5.4, popped up, give the search path, **A:WINNT40**, then insert driver diskette, and click **OK**.

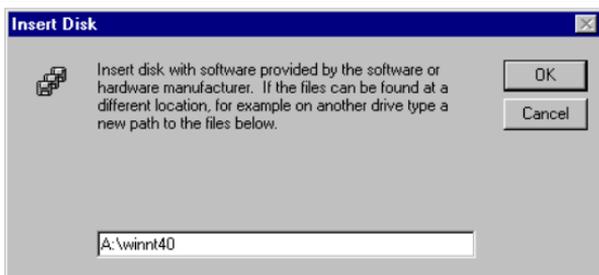


Figure 5.4 Insert Disk Window

6. After finding the installation file, the *Select OEM Option* window shown in Figure 5.5 is displayed. Click **OK** to choose the **ENW-3502-FC** option.

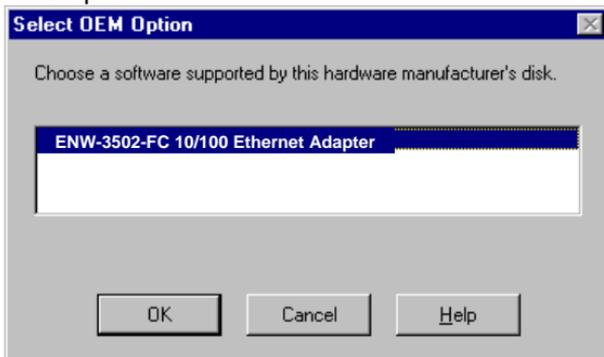


Figure 5.5 Select OEM Option Window

7. In the *Configuration of ENW-3502-FC* window, Figure 5.6, select the desired connection type from **Connection Type** pull down menu. The **CardBus Enabler** option determines whether the CardBus controller is enabled directly by the driver or by third party cardbus controller utility (like SystemSoft CardWizard). If SystemSoft CardWizard For Windows NT™ is installed, **SystemSoft** should be selected (as Figure 5.6) otherwise leave this option as **Direct Enable** (as Figure 5.7). After selecting desired configuration, click **OK** to continue.

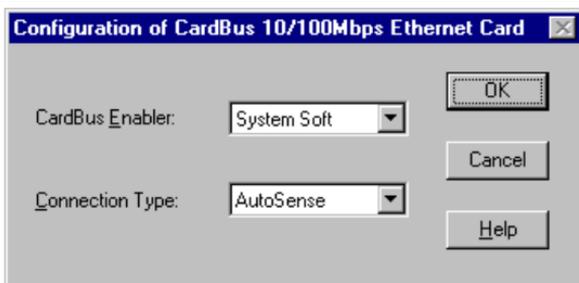


Figure 5.6 Configuration Window-1

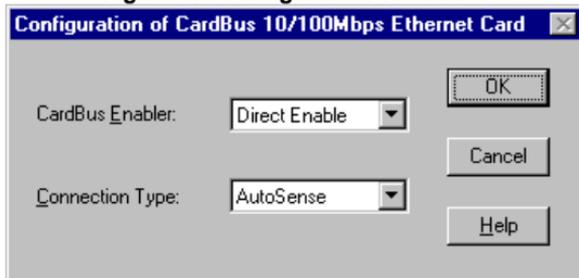


Figure 5.7 Configuration Window-2

8. Click Close to close the *Network* window, and let Windows NT 4.0 binding the adapter with network component.
9. Eventually, Windows NT 4.0 will prompt you to restart the computer, click Yes to finish installation.
10. Select the slot of “10/100Mbps LAN Card” on the SystemSoft CardWizard window, then click Wizard button to activate CardWizard (see Figure5.8).

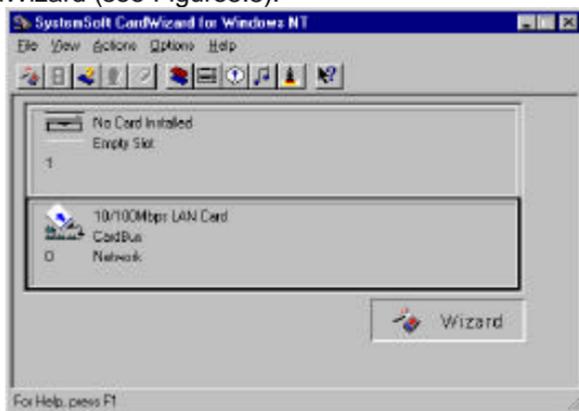


Figure 5.8 CardWizard Window

11. After the Wizard window is displayed, click **Test** button to let

CardWizard to test hot-swap capability of the card (as figure 5.9). When SystemSoft CardWizard For Windows NT™ has identified **ENW-3502-FC** as a hot-swappable adapter, you can hot-swap the card.

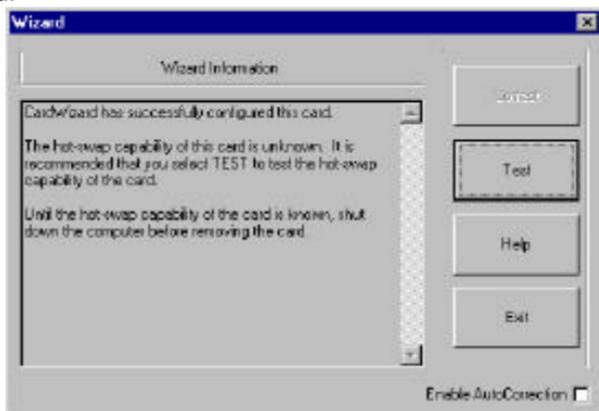


Figure 5.9 Test Window

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Chapter 6

Client Driver Installation

6.1 System Requirements

6.1.1 Hardware Requirements

Notebook equipped with Type II CardBus slot and CardBus Socket controller.

6.1.2 Firmware Requirements

Fully compliant Rev. 2.1 or above PCI BIOS supplied with the PC.

6.1.3 Software Requirements

Due to the newness of the CardBus specification, most Card and Socket Services software still do not currently support CardBus devices. The Card & Socket service drivers should comply with PC Card Standard, February 1995 or higher version.

For your reference, the following DOS versions of the Card and Socket Services are known to support CardBus :

- AMICard Manager Pro Ver 2.1.2
(supports CL-PD6832, TI113X)
- Phoenix Card Manager Ver 2.0
(supports TI113X)

6.2 Driver Installation

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

6.2.1 Driver Installation Program

INSTALL.EXE is the **ENW-3502-FC** 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.

6.2.2 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-FC**.

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

3. If you are using Card and Socket Services, it is necessary to use the Card Service client driver, **CARDGO.EXE**, found on your Installation 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. If you do not have Card and Socket Services or if your card does not work with your version of Card and Socket Services, use the direct enabler, **ENABLER.EXE**, to enable the CardBus controller. The direct enabler communicates directly with the CardBus controller on your system. Most popular controllers are supported. To run the direct enabler, type **ENABLER** at the DOS prompt or include it as a line in your AUTOEXEC.BAT file.

5. Turn off your computer and insert the **ENW-3502-FC** into the PCMCIA socket. The card is keyed to go in one way only. Then attach the network cable to the card.

6. Now turn your computer on and connect to your network. If you cannot connect to the network, refer to the Appendix B and C.

6.3 The INSTALL Program

Before you can use your **ENW-3502-FC**, 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 enablers and the files needed by the network operating system.

6.3.1 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.

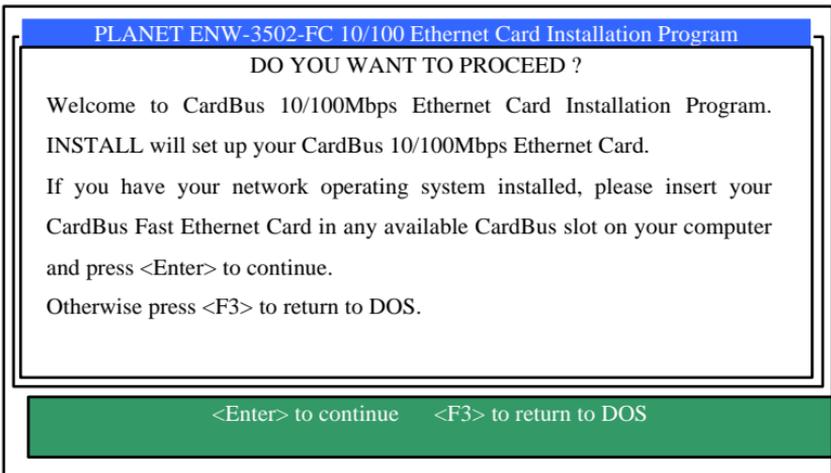


Figure 6-3.1 Opening Screen

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.

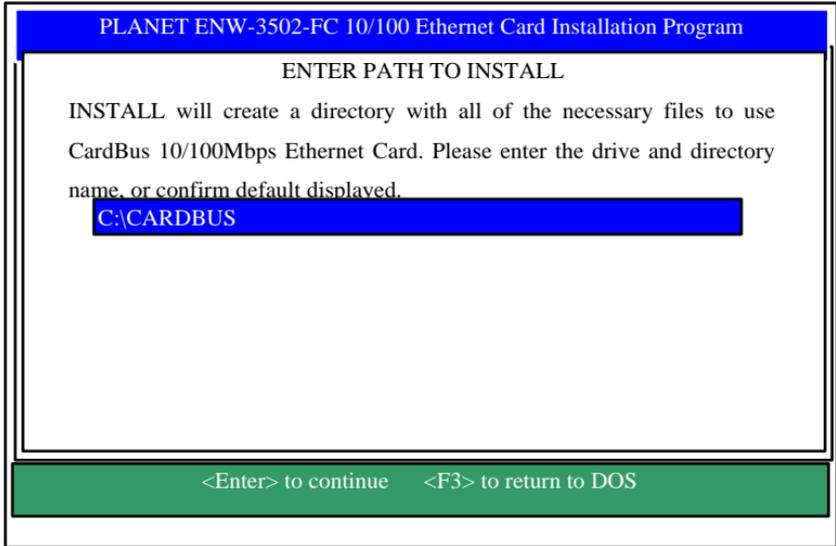


Figure 6-3.2 Specify Directory Path

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*.

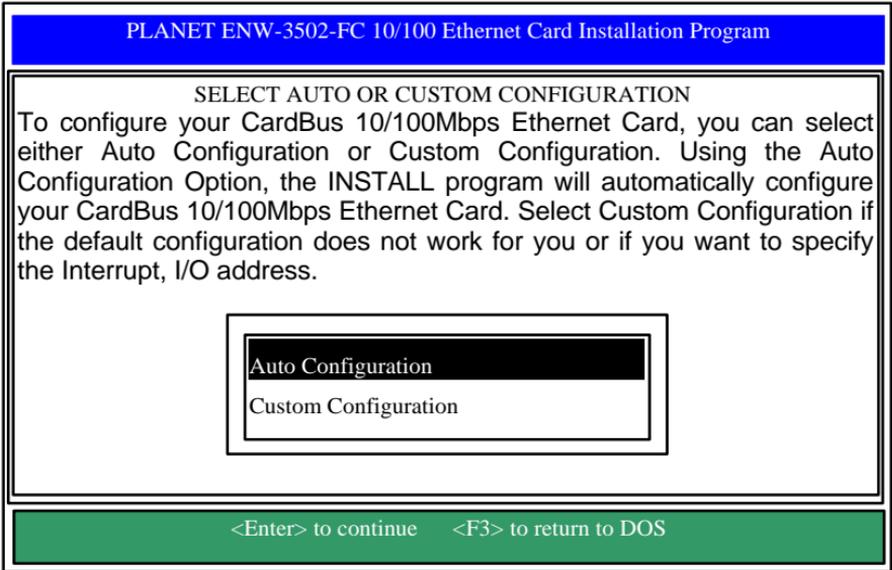


Figure 6-3.3 Select Auto or Custom Installation

6.3.1.1 Auto Configuration

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

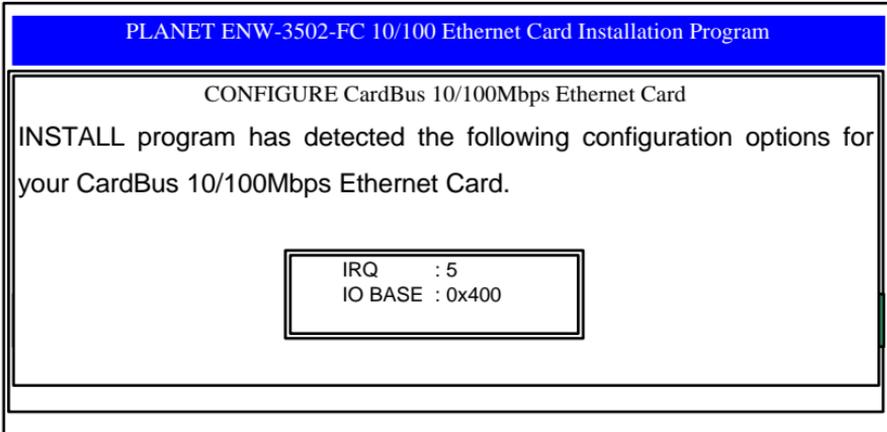


Figure 6-3.4 Configuration Information

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>.

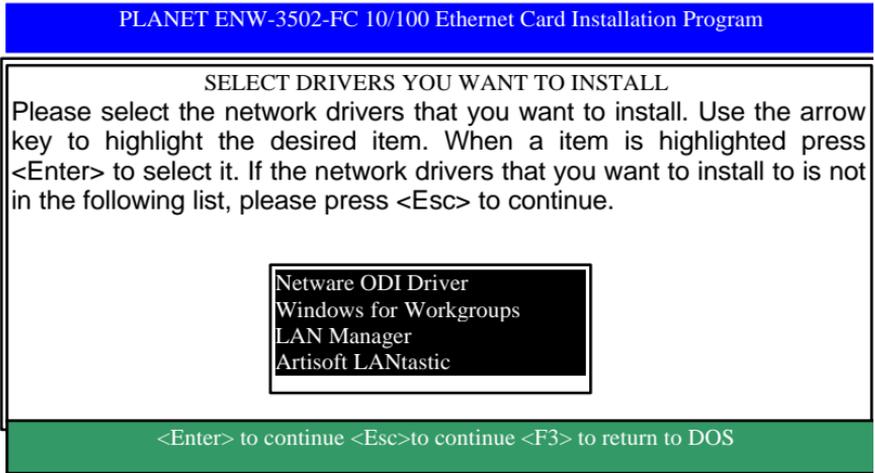


Figure 6-3.5 Network OS Selection

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.

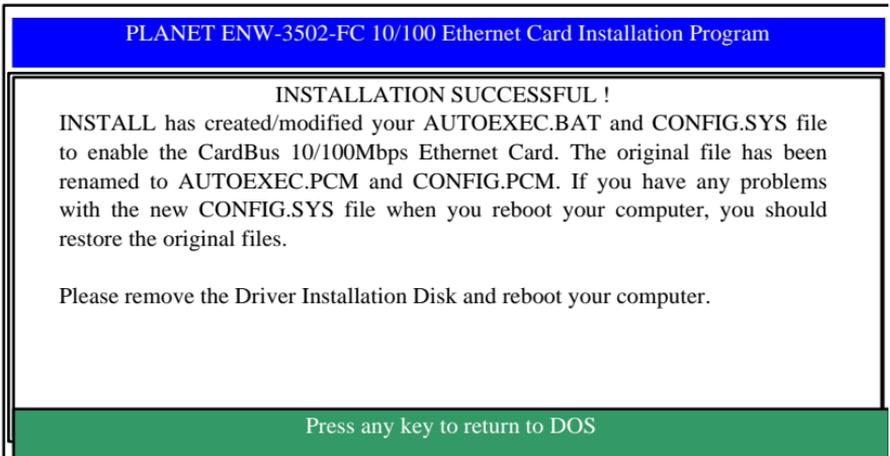


Figure 6-3.6 Successful Installation Screen

6.3.1.2 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 and I/O 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 CardBus Fast Ethernet card include 2, 3, 4, 5, 6, 10, 11, 12 and 15.

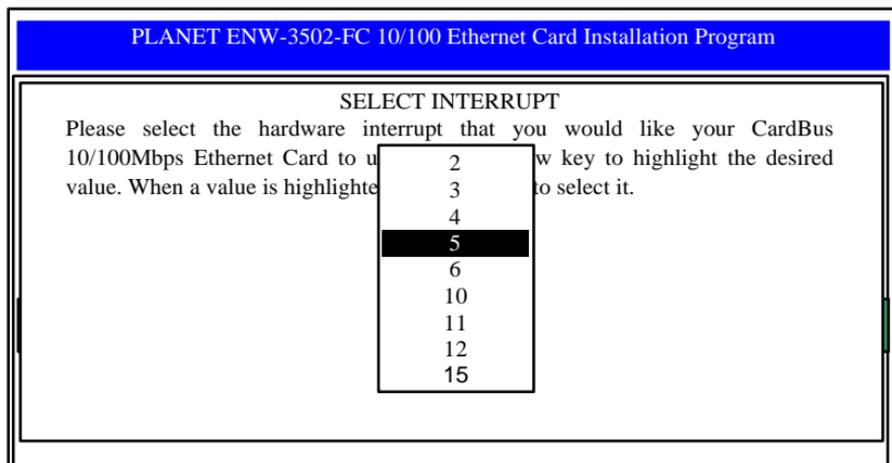


Figure 6-3.7 Select Interrupt

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 D000H, D4000H, D800H, E000H, E400H and E800H.

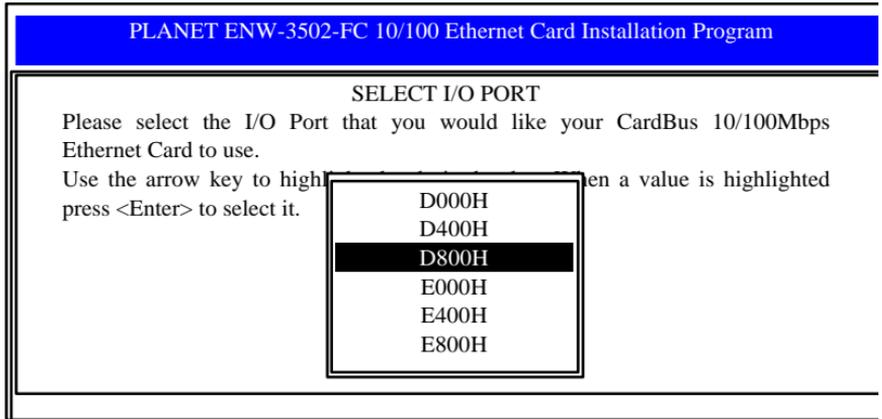


Figure 6-3.8 Select I/O Port

6.4 Manual Installation

In most cases, the INSTALL program can make all system changes necessary for using your **ENW-3502-FC**. But in some cases, you may wish to make the change manually. This section explains the driver and file modifications needed to enable your **ENW-3502-FC**.

6.4.1 Enablers

The **ENW-3502-FC** can be enabled by either a Card Services client driver, **CARDGO.EXE**, or a direct enabler, **ENABLER.EXE**.

CARDGO.EXE

The Card Service client driver, **CARDGO.EXE**, communicates with the CardBus controller of your computer. This program is needed only for DOS and Windows 3.1 systems. You should install the CardBus Socket and Card Services to your notebook before executing the client driver. If you do not have the Socket and Card Services program, please contact your notebook vendor.

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=xx] [/PORT=xxxx][/U][/?]
```

where :

[/INT=xx]	Specifies the hardware interrupt (IRQ) where your card will be indicated. Default value is 5.
[/PORT=xxxx]	The valid IRQs are 3,4,5,6,9,10,11,12,15. Specifies the I/O address. Default value is

	auto detect. The valid port addresses are xx00 or xx80, where xx = 4 ~ FEH.
[U]	Allows the client driver to free the resident program when the card is removed from the socket.
[?]	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   : 0400H      (for example)
```

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

ENABLER.EXE

The direct enabler, ENABLER.EXE, directly controls the CardBus controller of your computer. This program is needed only if you do not have Card and Socket Services installed. The INSTALL program will automatically detect whether the Card and Socket Services were installed. If they were not, the INSTALL program will add a line to your AUTOEXEC.BAT file using the following syntax and format :

```
[path]ENABLER.EXE [-il xx] [-io xxxx] [-pi] [-h]
```

where :

[-il xx]	Specifies the hardware interrupt (IRQ) where your card will be indicated. Default value is 5. The option is valid only if the "-is" option is given.
[-io xxxx]	The valid IRQs are 3,4,5,6,9,10,11,12,15. Specifies the I/O address. Default value is auto detect. The valid port addresses are x000 , where x = Dh ~ Eh.
[-is]	Use ISA interrupt routing.
[-h]	Display the help message.

6.5 Client Driver Installation

6.5.1 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.

6.5.2 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.
8. Type the path, a:\wfw311, and press <Enter>.
9. When the "**ENW-3502-FC**" dialog box appear, select the options step by step.
10. Follow screen instructions to complete the process.
11. Restart your computer.

6.5.3 Microsoft LAN Manager

Installation procedure:

1. Run INSTALL program, and choose LAN Manager.
2. Type "Imsetup" 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:\, then push <OK> button.
7. Select the Network Adapter Driver, "**ENW-3502-FC**", 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.

6.5.4 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.

6.5.5 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.

Appendix A

Troubleshooting for Windows Environments

These guidelines give you tips to deal with some problems on using **ENW-3502-FC**. If the problems remain unsolved, contact your dealer for assistance.

A.1 Windows 95 OSR2

1. Ejecting the card from the CardBus 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 CardBus status lines for a time when the card is removed and reinserted. The Windows 95 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.

3. Windows 95 stopped responding with the card installed.

On certain laptop computers with CardBus support, the computer may hang when you attempt to start Windows 95 OSR2. This may occur if you insert the card and a non-CardBus card into the slots before you start OSR2.

Solution: To work around this problem, insert the non-CardBus card into the slot after you have started OSR2.

4. The card in the docking station cannot be recognized or configured, or cannot function.

This problem occurs in some docking stations and prevents IRQ available to the PCI bus from being assigned to CardBus devices

in the docking station.

Solution: This is a hardware problem. Contact your docking station manufacturer for a remedy.

5. Inserting the card into the docking station causes the system to reboot. This symptom has been observed with certain docking stations.

Solution: Contact your computer manufacturer for a possible remedy.

6. Data transfer with the card is slow and unreliable.

Solution: (1) Some computers with poor PCI bus latency may cause transmit FIFO underrun, therefore, some packets will be lost. Enable the store and forward property (refer to readme.txt under the \Win9X subdirectory of the driver diskette).

- (2) This problem can also occur with docking stations. If this is the case, contact your computer manufacturer for a possible remedy.

A.2 Windows NT 4.0

1. The card can not be enabled.

Solution: Since Windows NT 4.0 does not support CardBus, make sure the CardBus Enable property of the card is set as Direct Enable to let the driver of the card to enable the CardBus controller directly.

2. The driver can not work in conjunction with third party Card and Socket Services drivers.

Answer: Currently, we support SystemSoft CardWizard For Windows NT™ only. If the Card and Socket Services drivers you used is provided by other party, you may need to uninstall it, and let our driver enable this network card directly, otherwise the performance is unpredicted.

3. Does the driver support "hot-swap" on NT 4.0 ?

Answer: If SystemSoft CardWizard For Windows NT™ is installed on your NT 4.0, "hot-swap" is supported; otherwise, since the driver does not handle card insertion and removal, "hot-swap" is not supported.

Appendix B

Error Messages of Enabler Programs

CARDGO.EXE

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

[Error 1]"ENW-3502-FC 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]"ENW-3502-FC 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 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 5.00 or higher!"

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

[Error 6]"ENW-3502-FC 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 "ENABLER.EXE" to enable the card directly."

Correction : As the description of the error message indicates.

[Warning 1] "ENW-3502-FC 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 ENW-3502-FC."

The ENW-3502-FC is not detected.

Correction : Insert the card.

ENABLER.EXE

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

**** PCI BIOS not detected !

PCIBIOS Ver 2.1 or higher is not present.

Correction : Please contact your Notebook vendor.

**** Unable to locate any PCI-to-CardBus Bridges

Cannot detect any PCI-to-CardBus bridge.

Correction: Make sure your notebook is equipped with CardBus controller. If it is not, please contact your Notebook vendor.

**** Please insert ENW-3502-FC.

The card is not detected.

Correction : Insert the card.

**** The BIOS does not assign a PCI IRQ for the card. Use ' -is' option to set ISA IRQ routing.

Correction : Use ' -is' option.

Appendix C

Specifications

Model:	ENW-3502-FC
Standards Conformance:	IEEE802.3 10BASE-TX, IEEE802.3u 100BASE-TX PC Card 1995 Standard
Card Size:	5.0mm Type II
Communication Mode:	Full-duplex or Half-duplex
Media Supported:	UTP-5 for 100Base-TX, UTP-3,4,5 for 10Base-T,
Operating Distance:	100m maximum hub to node distance
Network Interface:	Single RJ-45 connector for both 10Base-T and 100Base-TX
Socket Interface:	68-pin 32-bit CardBus socket connector
Power Consumption:	+3.3V DC, Normal mode 450mA for 100Base-TX 390 for 10Base-T Snooze mode 390mA for 100Base-TX 330mA for 10Base-T
Temperature:	0C to 60 C (Standard Operating)
Certification:	FCC Class A, CE
