

Installation Manual

Ethernet PCMCIA Card

Credit Card-sized Connectivity Solutions for Portable PC's

Installation Manual

Ethernet PCMCIA Card

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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 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 at his own expense.

A shielded transceiver cable is required to be used in order to ensure compliance with FCC Part 15, and it is the responsibility of the user to provide such cable.

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

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The Ethernet PCMCIA Card is a credit card-sized adapter for PCMCIA-compliant personal computers. It plugs into a Type II PCMCIA slot, providing a 16-bit bus interface and a 16KB network data packet buffer. Two media couplers are available for users to choose from. One has a single connector for unshielded twisted-pair connection and the other has a 10BASE-T and 10BASE2 connector. The card is switchless, software configurable, and provides full support for the PCMCIA Card Information Structure (CIS).

An intelligent enabler program that automatically detects your PC's controller type and recognizes previously installed Card and Socket Services, if any, is also included. Even without Card and Socket Services, you will still be able to use the Ethernet PCMCIA Card by running the enabler program. This makes it highly compatible with most computer systems.

Features

- Conforms to IEEE 802.3, PCMCIA Release 2.1, JEIDA 4.1 Standard
- Fits into Type II PCMCIA slot
- Provides 68-pin connector for attachment to PC and 15-pin flat connector for attachment to media coupler
- Two type or Media Coupler available, 10baseT or 10baseT and 10base2.
- Switchless design, hardware settings are software configurable
- Low power consumption
- Extensive driver support including Novell NetWare, NDIS Driver for Microsoft LAN Manager, Microsoft Windows for Workgroups, IBM LAN Server 2.x, Banyan VINES V5.5.

Hardware Description

The Ethernet PCMCIA Card's main PCB board is encased in a stainless compact frame that is easily transportable. It has a 68-pin connector for plugging the card into the PCMCIA socket and a 15-pin flat connector for attaching to the media coupler (see **Figure 1.1** for the Card's diagram).

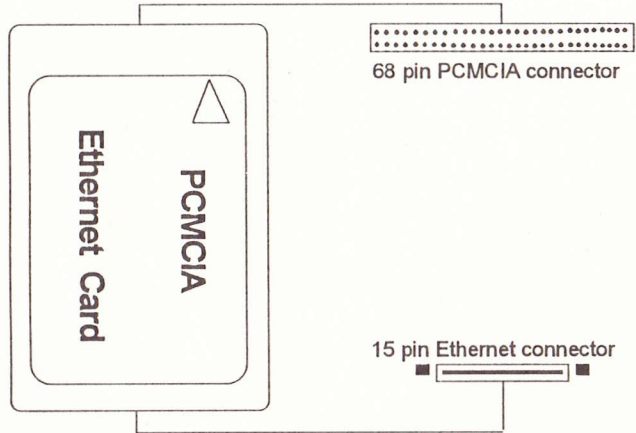


Figure 1.1 Ethernet PCMCIA Card

Media Coupler

A media coupler with an RJ-45 connector and another with both RJ-45 and BNC connectors are available for attaching the Card to the Ethernet network. **Figures 1.2 and 1.3** shows a sample of each.

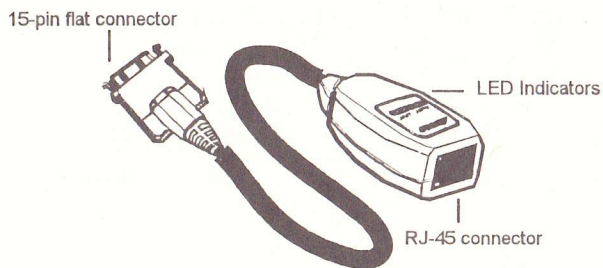


Figure 1.2 Media Coupler with RJ-45 Connector

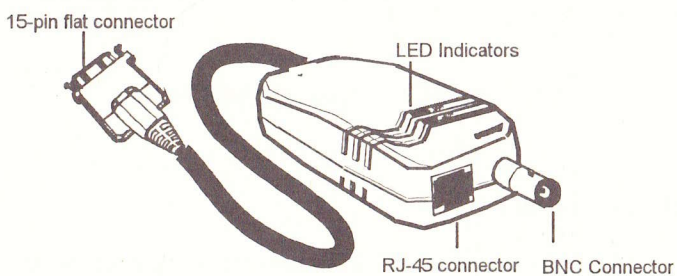


Figure 1.3 Media Coupler with RJ-45 and BNC Connectors

LED Indicators

Transmit/Receive LED

Color : Green

Function: Monitors signals transmitted to and received from the network.

The green LED labeled Tx/Rx lights up to indicate that the Ethernet PCMCIA Card is transmitting or receiving signals from the network. This LED is normally off. It will flash off and on when the Card transmits signals to the network. The frequency of flashing rapidly increases with the network traffic.

LED Indicator	Function
Rx/Tx	Lights up to indicate that the Card is receiving/transmitting signals from and to the network; flashes off and on at a rate proportional to the traffic level on the network
Link	Lights up to indicate that a valid twisted-pair link exists; should be on under normal operating condition

Figure 1.4 LED Indicators

Introduction

Link LED

Color : Green

Function: Monitors link status of Card's twisted-pair connection.

The Ethernet PCMCIA Card supports the link integrity test function. This function is enabled automatically when the unit is configured for twisted-pair cabling. The green link LED labeled LINK lights up to indicate that a valid 10BASE-T link is established. It is on under normal operating condition. If the LED remains off after power is applied, check the RJ-45 port's cable connection.

Note: *The Link LED only monitors the 10BASE-T (RJ-45) connection. To check the condition of the BNC link, run diagnostics.*

This chapter describes the procedure for installing the Ethernet PCMCIA Card. Additional information about running diagnostics, installing software drivers and brief word about the RELEASE.TXT file are also included.

Installing the Ethernet PCMCIA Card

1. Turn off the host computer.

Once you have installed and configured the Ethernet PCMCIA Card and loaded the software driver, you can

Note: *insert or remove it while the host PC is on. The Card is "hot swappable," thus, inserting or removing it while the host PC is on will not affect the PC.*

2. Insert the Ethernet PCMCIA card in the PCMCIA slot of the computer.

Insert the card in the computer with the 68-pin connector facing the PCMCIA slot and the label facing up. Slide the card all the way into the slot. See **Figure 2.1** for illustration.

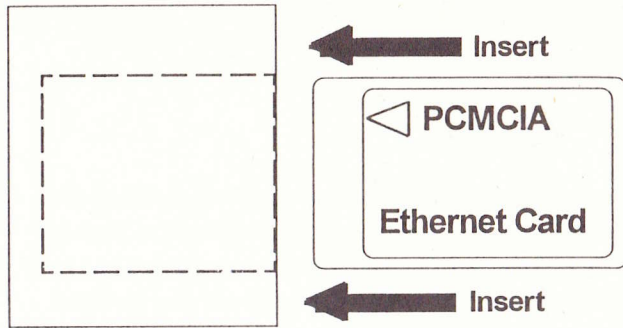


Figure 2.1 Insert the Ethernet PCMCIA Card into the Type II PCMCIA socket

3. Plug the media coupler to the card's 15-pin connector.

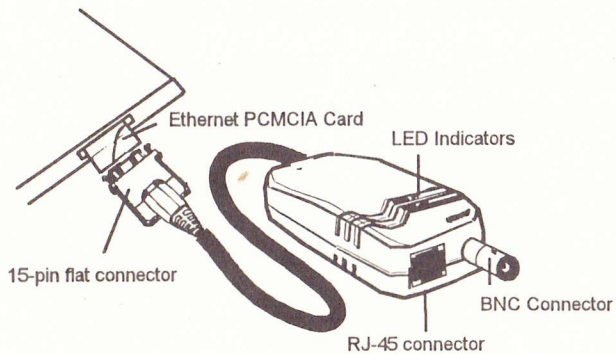


Figure 2.2 Plug 15-pin flat connector to 15-pin mating connector

4. Connect the media coupler to the network using either UTP cabling or thin coax.

a. Using UTP cabling

Plug the free end of the UTP cable into an RJ-45 mating connector on a twisted-pair hub or a network access port which is usually on a wall connection.

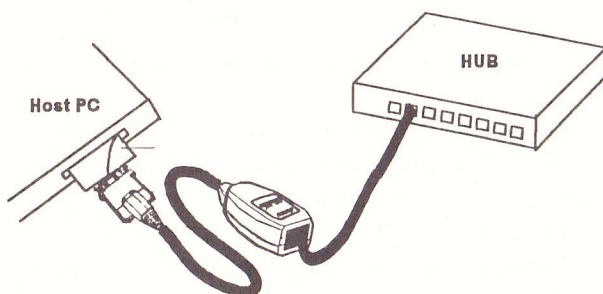


Figure 2.3 Connection using twisted-pair

b. Using thin coax cabling

Plug a T-connector connected to a thin coax cable to the BNC connector on the media coupler.

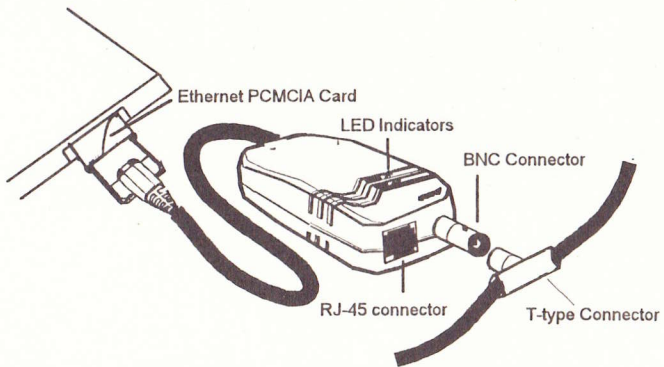


Figure 2.4 Connecting to a thin coax cable

Attach both ends of the T-connector to the network cabling. If the Card is at the end of the network segment, install a 50 ohm terminator at the open end of the T-connector which is not attached to the network. Do this to prevent accidental shorts that may disrupt network operation.

5. Power on the PC.

Hardware installation is now complete. The Ethernet PCMCIA Card gets its power from the PC.

Warning: *To avoid a shock hazard, do not connect or disconnect cables or perform installation or maintenance of the Card during an electrical storm.*

Removing the Card

To remove the Card, do the following:

1. Remove the media coupler from its connection to the Ethernet PCMCIA Card.

Squeeze the locking arms on either side of the coupler-to-card connector. Pull to unplug the media coupler from the adapter.

2. Remove the coupler from the RJ-45 or T-connector on the network cable.
3. Remove the Card from the slot and store it together with the coupler in a safe place.

Software Driver Installation

The Driver Diskette contains all the software driver programs supported by the adapter. Refer to the RELEASE.TXT file for a listing of these programs. Run the INSTALL.EXE command for quick installation, and follow the instruction to address to your system.

RELEASE.TXT File

In addition to software drivers and *.TXT files for driver installation, the Driver Diskette contains a RELEASE.TXT file. It is located in the root directory of the diskette, and provides you with information about the Driver Diskette's contents. Use the DOS "TYPE" command to check the contents of the file.

NETOPEN.EXE

NETOPEN is an intelligent PCMCIA Enabler. It eliminates the complexity of installing a PCMCIA card into a Type II socket because it auto detects the working environment of the PCMCIA socket and acts as a bridge between the host CPU and PCMCIA card. NETOPEN recognizes the types of services available (i.e. Socket and Card Services) in your PC and the controller used. NETOPEN must run after any PCMCIA Card and Socket Service and before any network drivers. To run NETOPEN , insert the Driver Diskette in drive A: and type the following:

```
A:NETOPEN [/INT=Q] [/PORT=BBB] [/  
MEM=MMMM] [/SKT=S ] [/IOBASE=XXX]
```

where,

Q is a one digit hex number representing interrupt

PPP is a 3-digit hex number representing I/O port base address.

MMMM is a 4-digit hex number representing attribute memory base address.

S is a 1-digit number representing socket number

XXX is a 3-digit host PCMCIA controller base address.

Default Settings:

Q = 5

PPP = 300

MMMM = D000

S = 1

XXX =

There is a software utility diskette included with the Ethernet PCMCIA Card. This utility diskette configures the card to the type of software in your system. Before beginning the installation procedure make a back-up diskette for the software driver diskettes. Use the backup diskette as the working diskette.

NOTE: It is important to note that when working in DOS that typed-commands are not case sensitive. So it does not matter how you type each command, so long as they are entered correctly and in the correct sequence.

NETOPEN.EXE

To configure the card properly, you should first run the NetOpen.exe utility. The NetOpen.exe file actually is the first initialization step of your card. To enable the file, type the following at the DOS prompt;

NETOPEN.EXE /port=xxx /int=x

The card will begin initializing and the following message will appear:

**“LAN Card Enabler, vX.XX
Copyright 1994, All rights Reserved
Configuration parameters:
Socket: X Int: XX Port: XXXX Mem: XXXX
Configured socket X
Configured card”**

The Ethernet Adapter is now configured and should be ready to load the network drivers.

NOVELL ODI DRIVER FEATURES

A NET.CFG file is needed to establish defaults for the Ethernet network adapter. There must exist a MLID section in the NET.CFG if your network has more than one adapter. Depending on your hardware and software, the automatic configuration property can eliminate the need of the NET.CFG file.

***NOTE:** The ODI driver is always parsing the NET.CFG file first. If the related adapter's configuration parameters are found, they will be recognized as the "preferred setting", even though it conflicts with parameters stored in the EEPROM adapter. Thus, it will fail to initialize the adapter. The following is an example of a NET.CFG file:*

Link Driver xxxMLID**Frame Ethernet_802.3****Frame Ethernet_II****Frame Ethernet_802.2****Frame Ethernet_Snap****INT 5****PORT 300**

Novell has changed the default Ethernet frame-type to 802.2 starting with NetWare v4.0. This will enable it to support future protocol and networking features. Some of the features include IPX with checksum, security enhancements, and protocol independence. The default frame type for the DOS ODI driver now will be Ethernet 802.2 when there is no protocol binding in the NET.CFG file. If your server is not NetWare v4.0, make sure the Ethernet 802.2 frame type has been bound "before" logging in.

NOVELL NETWORK ODI DRIVERS (VERSIONS 2.1 OR LATER)

The Ethernet PCMCIA Card supports the Novell Netware ODI driver and other protocols that operate under Novell's Open Data- Link Interface (ODI) specifications. Follow the installation instructions on the next page for using Netware.

NETWARE VERSION 4.x

1. Run the NetWare Client Install program from the NetWare Client for DOS/Windows diskette. Follow the instructions in the NetWare installation.
2. Complete steps 1 through 3 on the NetWare Client Install opening screen, accordingly.
3. Press <ENTER> at step 4.
4. Remove the NetWare diskette at the "Insert the Driver Diskette" screen and insert the Ethernet PCMCIA driver diskette.
5. Type the diskette path followed by the directory path \ODI and press <ENTER>. For example if the diskette is in drive A, type: A:\ODI
6. Select "Ethernet PCMCIA Adapter" and press <ENTER>.
7. Press <ESC> at the Setting... screen. There are no jumpers to be set.
8. Continue the Netware Installation with Step 5.
9. Once the installation is complete, use an ASCII editor to edit your CONFIG.SYS file by adding the following line:

NETOPEN.EXE /port=xxx /int=x

to your config.sys line, after the loading of your Card and Socket Service drivers. Consult the NetWare documentation for additional information.

You must also configure your NET.CFG to match the parameters of your Ethernet adapter for I/O port, and Interrupt request line. A sample of how your NET.CFG should look is given below.

NET.CFG

Link Driver xxxMLID

Port 300

Int 5

Frame Ethernet_II

Frame Ethernet_802.2

Frame Ethernet_802.3

Frame Ethernet_SNAP

Protocol IPX 0 Ethernet_802.2

NDIS DRIVERS

The information in the MSLANMAN.DOS directory contains the driver utilities for the Ethernet PCMCIA card. Included in the MSLANMAN.DOS directory and the NDIS subdirectory are the following files.

In the :\\MSLANMAN.DOS\\DRIVERS\\ETHERNET\\ directory:

- xxxxPE.DOS
- PROTOCOL.INI
- The DOS NDIS MAC driver
- A sample section of PROTOCOL.INI file in the C:\\MSLANMAN.DOS\\DRIVERS\\NIF directory:
- xxxxPE.NIF
- Network information file in the C:\\NDIS directory:
- READ.ME
- xxxxPE.DOS
- OEMSETUP.INF
- The DOS NDIS MAC DRIVER
- Network information file for Windows for Workgroups

Installation

To install the NDIS drivers, run the INSTALL.BAT in DOS. The [PMXPE_NIF] file is a sample of the PROTOCOL.INI and its parameters. The following is the default section of the PROTOCOL.INI for the adapter:

Drivername=PMXPE\$
IRQ=5
iobase=0x300

IBM OS/2 LAN SERVER VERSION 3.0

Do the following to install IBM's OS/2 LAN Server:

1. Install the OS/2 Advanced LAN server from the OS/2 documentation.
2. Install the LAN Adapter and Protocol Support (LAPS) program.
3. Select "Install" again to copy the Ethernet PCMCIA driver file to the hard disk. When prompted, type:
A:\NDIS
4. Select Configure and choose the Ethernet PCMCIA adapter.
5. Choose the appropriate protocols and bindings.
6. Choose Apply the Changes and follow the instructions to complete the installation.
7. Close OS/2 and reboot.

MICROSOFT LAN MANAGER (VERSIONS 2.1 OR LATER) FOR DOS AND OS/2 (NDIS DRIVER)

1. Use the Setup program to begin installation.
2. Select "Other Driver" when prompted to select the available network adapter.
3. Insert the Ethernet PCMCIA driver diskette.
4. Select the "Ethernet PCMCIA Adapter" from the menu
5. Complete the installation and reboot the computer.

MICROSOFT LAN MANAGER (VERSIONS 2.0) FOR DOS AND OS/2 (NDIS DRIVER)

1. Use the Setup program to begin installation.
2. Choose "Yes" at the Import Network Drivers screen.
3. Insert the Ethernet PCMCIA driver diskette.
4. Select the "Ethernet PCMCIA Adapter" from the list of drivers to import.
5. Continue installation.
6. Select the "Ethernet PCMCIA Adapter" from the Network Driver menu.
7. Complete installation and reboot the computer.

LAN MANAGER Version 2.0

Do the following to install the LAN Manager drivers.

1. Type "Setup" in the LAN Manager Directory and press <ENTER>.
2. Press <ENTER> again.
3. Choose "Import Network Driver..." in "Action" and press <ENTER>.
4. Enter the specific floppy drive (A:> or B:>). The Import Network Drivers screen should now appear.
5. Press the <SPACEBAR> to select the PCMCIA Adapter card and press <ENTER>.
6. Select "NO" on the screen.
7. Press <ENTER> three times and the Network Driver will appear.
8. Choose the "PCMCIA Ethernet Card" in the Network Adapter Cards select menu.
9. Select the "Add Driver" option, the "Add Protocol," and the "OK" selections. The Workstation Primary parameters appears. Select "OK."
10. Select "OK" three times.
11. Choose "Save" in "Action."
12. Press the <F3> to exit.

LAN MANAGER Version 2.1

Do the following to install the LAN Manager drivers.

1. Type "lmSetup" in the LAN Manager Directory and press <ENTER>.
2. Choose "Network Driver..." in "Configuration" and press <ENTER>.
3. Choose "Add New Configs" and press <ENTER>. The Network Adapter Drivers should now appear.
4. Choose "Other Driver" and press <ENTER>.
5. Insert the Driver diskette into the specific floppy drive and enter the drive (A:> or B:>).
6. Select an available Network Adapter Driver (PCMCIA Ethernet adapter) and select "OK."
7. Press the <SPACEBAR> to select the specific protocol.
8. Select "OK" and the Configuration Complete indication appears.
9. Choose "Save" and press <ENTER>.

Windows For Workgroups 3.1

Do the following to install the Windows for Workgroups drivers

1. Select "Control Panel" icon in Main group in Windows environment.
2. Select "Network" icon.
3. Select "Adapters" item in "Option" dialog.
4. push <Add> button.
5. Select "Unlisted or Updated Network Adapter".
"install driver" appears.
6. Key in specified drive and path name.(A:\ndis or B:\ndis)
7. Insert your Driver Disk in specified drive, then press <Enter>.
8. press <OK>.
9. press <close>.

10. press <OK> twice.
11. Restart computer.

Banyan Vines

Do the following to install the Banyan Vines drivers

1. Type Pconfig. Press <Enter>.
"Configuring A PC for the Network" appear.
2. Select "1 - Network Card Setting", press <Enter>.
"The possible hardware configuration option are"
appear.
3. Chose "NDIS Ethernet", Press <Enter>.
4. Key in specified interrupt number, and PCMCIA to the
PROTOCOL bindings = .
5. Press 'F10' when done. Press <Esc> to exit this screen.
6. Select "2 - Login Environment Settings. ", Press
<Enter>.
7. Select "1 - Select Default Communications Driver. ",
press <Enter>.
8. Choose "NDIS Ethernet" , press <Esc> to exit this menu.
9. Press 'F10' when all done.
"Please wait" appear.
10. Modify the config.sys and protocol.ini files, see the
example.

The Configuration files on your computer configures the system upon boot-up. The following files include the CONFIG.SYS, the AUTOEXEC.BAT, and the PROTOCOL.INI. Each configuration file uses a series of user-defined commands to implement software loaded on the system, and will also allow the user to adjust the computer to accommodate his or her requirements.

Use a text editor to add and or remove lines to the configuration files if needed, in most instances, the software installation software will make the proper changes. The following are examples of each configuration file that can be implemented into your system:

CONFIG.SYS

Microsoft Lan Manager

Version 2.0

LASTDRIVE=Z

BUFFERS=35

FILES=35

SHELL=C:\DOS50\COMMAND.COM C:\DOS50le:1000 /p/E:1024

DEVICE=C:\HIMEM.SYS

DEVICE=C:\DOS50\SETVER.EXE

DOS=HIGH,UMB

DEVICE=C:\LANMAN.DOS\NETOPEN.EXE /int=5 /port=300

DEVICE=C:\LANMAN.DOS\DRIVERS\PROTMAN\PROTMAN.DOS/i:C:\LANMAN.DOS

DEVICE=C:\LANMAN.DOS\DRIVERS\ETHERNET\PMXPE\PMXPE.DOS

DEVICE=C:\LANMAN.DOS\DRIVERS\PROTOCOL\NETBEUI\NETBEUI.DOS

Version 2.1

LASTDRIVE=Z

BUFFERS=35

CONFIG.SYS (cont'd.)

FILES=35

SHELL=C:\DOS50\COMMAND.COM C:\DOS50\le:1000 /p\le:1024

DEVICE=C:\HIMEM.SYS

DEVICE=C:\LANMAN.DOS\DRIVERS\DOSUTILS\EMM386.EXE /EXE NoEMS

DEVICE=C:\DOS50\SETVER.EXE

DOS=HIGH,UMB

DEVICE=C:\LANMAN.DOS\NETOPEN.EXE /int=5 /port=300

DEVICE=C:\LANMAN.DOS\DRIVERS\PROTMAN\PROTMAN.DOS /i:C:\LANMAN.DOS

DEVICE=C:\LANMAN.DOS\DRIVERS\ETHERNET\PMXPE\PMXPE.DOS

Windows for Wordgroups 3.1 installation

FILES=30

BUFFERS=30

STACKS=P,256

DEVICE=C:\WINDOWS\HIMEM.SYS

DEVICE=C:\WINDOWS\NETOPEN.EXE /port=300 /int=5

DEVICE=C:\WINDOWS\PROTMAN.DOS /i:C:\WINDOWS

DEVICE=C:\WINDOWS\WORKGRP.SYS

DEVICE=C:\WINDOWS\PMXPE.DOS

LASTDRIVE=Y

Banyan VINES installation (a partial section of the file)

DEVICE=C:\BANYAN\NETOPEN.EXE /PORT=300 /INT=5

DEVICE=C:\BANYAN\PROTMAN.DOS /i:C:\BANYAN

DEVICE=C:\BANYAN\PMXPE.DOS

AUTOEXEC.BAT

Microsoft LAN Manager

Version 2.0

@echo off

PROMPT \$P\$G

PATH=c:\PE2;C:\DOS50;C:\WC;

APPEND=C:\PE2;C:\DOS50;

REM==LANMAN 2.0==DO NOT MODIFY BETWEEN THESE LINES==LANMAN 2.0==

SET PATH=C:\LANMAN.DOS\NETPROG;%PATH%

C:\LANMAN.DOS\DRIVERS\PROTMANN\NETBIND

NET START WORKSTATION

REM==LANMAN 2.0==DO NOT MODIFY BETWEEN THESE LINES==LANMAN 2.0==

Version 2.1

@echo off

PROMPT \$P\$G

PATH=c:\PE2;C:\DOS50;C:\WC;

APPEND=C:\PE2;C:\DOS50;

REM==LANMAN 2.1==DO NOT MODIFY BETWEEN THESE LINES==LANMAN 2.1==

SET PATH=C:\LANMAN.DOS\NETPROG;%PATH%

C:\LANMAN.DOS\DRIVERS\PROTMANN\NETBIND

NET START WORKSTATION

LOAD NETBEUI

REM==LANMAN 2.1==DO NOT MODIFY BETWEEN THESE LINES==LANMAN 2.1==

Windows for Wordgroups 3.1 installation

C:\WINDOWS\SMARTDRV.EXE

C:\WINDOWS\net start

@echo off

Installation

AUTOEXEC.BAT (Cont'd.)

PROMPT \$P\$G

PATH C:\WINDOWS;

SET TEMP=C:\WINDOWS\TEMP

PROTOCOL.INI

Microsoft LAN Manager

Version 2.0

[PROTOCOL MANAGER]

DRIVERNAME=PROTMAN\$

[NETBEUI_XIF]

Drivename=netbeui\$

BINDINGS="PMXPE_NIF"

[PMXPE_NIF]

;PROTOCOL.INI for PCMCIA ethernet adapter

drivename=PMXPE\$

;irq=5

;iobase=0x300

Version 2.1

[PROTOCOL]

DRIVERNAME=PROTMAN\$

DYNAMIC=YES

PRIORITY=NETBEUI

[NETBEUI_XIF]

Drivename=netbeui\$

SESSIONS=6

NCBS=12

BINDINGS="PMXPE_NIF"

LANABASE=0

PROTOCOL.INI (Cont'd)

```
[PMXPE_NIF]
;PROTOCOL.INI for PCMCIA ethernet adapter
drivername=PMXPE$
;irq=5
;ioba$e=0x300
```

Windows for Wordgroups 3.1 installation

```
[network.setup]
version=0x3100
netcard=pcmcia,1,PCMCIA
transport=ms$netbeui,MS$NETBEUI
lana0=pcmcia,1,ms$netbeui
```

```
[protman]
DRIVERNAME=PROTMAN$
PRIORITY=MS$NETBEUI
```

```
[PCMCIA]
DRIVERNAME=PMXPE$
```

```
[MS$NETBEUI]
DRIVERNAME=NETBEUI$
SESSIONS=10
NCBS=32
BINDINGS=PCMCIA
LANABASE=0
```

Banyan Vines installation (a partial section of the file)

```
[protocol manager]
DRIVERNAME=PROTMAN$
```

```
[PCMCIA]
DRIVERNAME=PMXPE$
```


System Configuration : PCMCIA-compliant computers

Standard Conformance : IEEE 802.3 Standard, PCMCIA
Release 2.1 Type II, JEDIA 4.1

Bus-Width : 16-bit

RAM Buffer : 16KB

I/O Base Address : 240H to 360H, software selectable

Interrupt : 3, 4, 5, 10, 11, 12, 15

Media Coupler : RJ-45 for UTP ; RJ-45 for UTP and
BNC for thin coaxial

Card Dimensions : 85mm x 54mm x 5mm

Drivers : DOS ODI driver, DOS NDIS driver

Power Requirement : BNC Transceiver: +5V/0.28A max.
(typical)
Twisted-pair: +5V/0.16A max.(typical)

Temperature : 0°C to 55°C (Standard Operating)
32 F to 131 F

Humidity : 10% to 90% (Noncondensing)

FCC : Meets Part 15, Class A Requirements

Trouble Shooting and Error Messages

The following is a list of the possible software error messages and their solutions:

Message: "The Board Can Not be Found"

Problem: The adapter does not exist, or the driver does not recognize the adapter.

Solution: Plug the adapter into your PC bus slot.

Message: "Board RAM failed the memory test."

Problem: The RAM buffer on the adapter failed.

Solution: Change to a new adapter and run the driver again.

Message: "The Board did not respond to the initialization command."

Problem: The driver recognized the adapter, but the adapter failed to respond."

Solution: Change to a new adapter and run the driver again.

Message: "There is no cable connected to adapter."

Problem: There is no cable connecting to the adapter, or the transceiver within the adapter failed.

Solution: Connect the cable to the adapter and run the driver again.

Message: "Adapter card not found or I/O port error."

Problem(s): There two possible reasons for this message:
(1) the adapter card is not installed correctly
(2) or an incompatibility between the computer and the adapter card.

Solution: Check to make sure the card is seated properly, or check if the card is enabled correctly.

Message: "Incorrect media setting or bad transceiver."

Problem(s): There are three possible reasons why this error message may have appeared:

- (1) the transceiver is bad
- (2) the cable is broken
- (3) or the cabling is not attached.

Solution: Use CARDTEST.EXE to find the problem. Also, check the cable and /or the cabling.

This section provides tips to isolate and solve common problems. If the problems remain unsolved, contact your dealer for assistance. Write a problem description, including what problems occurred, when they occurred, duration of the problems, the product number, serial number, hardware, software and DOS version that you're using.

You may also run the MSD (Microsoft Diagnostics) program, which is available from DOS 6.0 or Windows V3.1. Then select Report ALL and send this report to your dealer's technical support assistance by FAX or by modem. In your report, also indicate your:

- a. NOS and version number
- b. Software driver type and version number

Symptoms: 1. Unshielded twisted-pair connection results to Card failure, Link LED indicator is off

2. Running Test Adapter results to External Loopback Test failure

Possible Cause: Invalid twisted-pair link

Solution: 1. Check the RJ-45 connection for loose cabling.
2. Check for wrong RJ-45 pin assignments.

Symptoms: 1. Coax connection results to Card failure,
Rx/Tx LED indicator flashing on and off

Solution: Bad coax cable link
1. Check BNC connection for loose cabling
2. See to it that both ends of the network segment are properly terminated. Terminate open end of the network segment with a 50-ohm terminator.

Symptom: Ethernet PCMCIA Card failure, suddenly cannot log into the network

Possible Causes: 1. Bad cable connection
2. Ethernet PCMCIA Card not properly installed in PCMCIA slot
3. Host PC's slot defective

Solution: 1. Check cabling for loose connection or wrong pin assignment if you're using the RJ-45 connection.
2. Check if the Card is properly inserted in the PCMCIA slot; it may have been accidentally loosened.
3. Install the Ethernet PCMCIA Card in another PC, or install it on another slot. If the problem is eliminated, then the original PC's slot is

Error Messages

defective. Contact your PC vendor for assistance.

Symptom: Card failure after configuration

Possible Cause: Configuration conflict

Solution: Check I/O and IRQ for possible setting conflicts. Make sure they don't conflict with other devices.

ACCNE.NIF: A network information file.

Card Services: PCMCIA software utility that allocates and controls PC Card resources. It provides the interface between the driver and application program drivers.

CIS: Card Information Structure, used to provide card configuration parameters for Card and Socket Services.

Conventional Memory: You will need NETx.COM for the network requirements.

Enabler: A software utility that is used to configure the PC Card to the host socket. This is the function of NETOPEN.EXE.

ETHPCM.DOS: This is the DOS NDIS MAC driver.

Expanded Memory: (LIM 4.0 EMS Compatible) You will need EMSNETx.EXE for the network requirements.

Extended Memory: (XMS 2.0 Compatible) You will need XMSNETx.EXE for the network requirements.

Hub: A device that allows the network transmission to be lengthened and expanded to other workstations.

IOBASE: This option specifies the IOBASE address used by the adapter. The address given is specified in hexadecimal values. Acceptable values for this parameters are 0x240, 0x280, 0x2C0, 0x300, 0x320, 0x340, and 0x360.

IRQ: This option specifies the interrupt channel used by the adapter. The following numbers are acceptable values for the parameter: 2, 3, 4, 5, 10, 11, 12, and 15.

IPXODI.COM: This is Novell's protocol stack for DOS ODI workstations. It performs the same functions as does the IPX.COM in DOS workstations.

LSL.COM: This file implements the Link Support Layer for DOS ODI workstations and is generally loaded first when booting. The Link Support Layer file enables the workstation to communicate over several protocols.

MaxMultiCast: (1 .. 1000 Default 10) This is the maximum number for MultiCast addresses. This also configures the size of the MultiCast Address table.

MaxRequests: (6 .. 64 Default 8) This is the maximum number of outstanding General Request. This also configures the size of the General Request Queue.

MaxTransmits: (6 .. 64 Default 12) This is the maximum number of outstanding Transmit Chain commands. This also configures the size of the Transmit Chain Request Queue.

NETBIOS.EXE: The NetBIOS emulation program (INT5CH interface) allows you to run NetBIOS applications that are based on the NETBIOS.EXE interface. The following is the running sequence:

1. IPX shell driver
IPX.COM
NETBIOS.EXE-->NetBIOS emulation interface
2. DOS ODI driver
LSL.COM
PMXMLID.COM-->DOS ODI driver

IPXODI.COM
NETBIOS.EXE

NETx.COM: This is the Network Program.

OEMSETUP.INF: This is the network information file for Windows for Workgroups.

PROTOCOL.INI: The following is a sample section of the PROTOCOL.INI file:

\\MSLANMAN.DOS\\PCMCIA\\ACCNE\\

ReceiveBuffers: (6 .. 96 Default 12) This configures the number of the ReceiveBuffers buffers in theReceiveBuffers Buffer Pool.

ReceiveChains: (6 .. 96 Default 12) This is the maximum number of outstanding ReceiveChains commands. This also configures the size of the ReceiveChains Request Queue.

Socket Services: Software utility that the interface between the socket, and Card Services.

Transmit BufSize: (128 .. 1514 Default 1514) This configures the size (in bytes) of buffers in the Transmit Buffer Pool. In most cases, the default values are used as the parameters. The values are seldom changed by the user.

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