



# Installing Novell NetWare Drivers

Network Administrator Guide

---

HP Vectra XM 5/xxx Series 4

## Notice

The information contained in this document is subject to change without notice.

Hewlett-Packard makes no warranty of any kind with regard to this material, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose. Hewlett-Packard shall not be liable for errors contained herein or for incidental or consequential damages in connection with the furnishing, performance, or use of this material.

Hewlett-Packard assumes no responsibility for the use or reliability of its software on equipment that is not furnished by Hewlett-Packard.

This document contains proprietary information that is protected by copyright. All rights are reserved. No part of this document may be photocopied, reproduced, or translated to another language without the prior written consent of Hewlett-Packard Company.

Magic Packet™ is a trademark of AMD Corporation.  
Microsoft®, MS® and MS-DOS® are U.S. registered trademarks of Microsoft Corporation. Windows™ is a trademark of Microsoft Corporation.

Novell® is a registered trademark of Novell, Inc.

OS/2™ is a trademark of International Business Machines Corporation.

Hewlett-Packard France  
Grenoble Personal Computer Division  
Technical Marketing  
38053 Grenoble Cedex 9  
France

© 1996 Hewlett-Packard Company

---

---

## Installing Novell NetWare Drivers

This document explains how to install the Novell NetWare Open Data Link Interface (ODI) drivers required to use the PC with a Novell NetWare LAN.

- If the PC is supplied with the HP LAN Disk, use this disk to install the LAN drivers.
- If the PC has preinstalled software on the hard disk, the LAN drivers are supplied on the PC's hard disk in subdirectories in the `\LANDRV` directory.

When you start your PC for the first time you will be asked to select which type of network you want to use with your PC. According to your selection the appropriate drivers and files will be automatically installed. If you want to install network software at any other time, follow the procedure described below.

If you want to use the DOS-based Vectra PC as a client on the LAN, refer to the steps given under “ODI DOS Client Driver” on page 3. Alternatively, refer to the steps given under “Parallel Transferring ODI DOS Client Driver” on page 19.

If you want to use the OS/2-based Vectra PC as a client on the LAN, refer to the steps given under “ODI OS/2 Client Driver” on page 8.

If you want to use the Windows for Workgroups 3.11-based Vectra PC as a client on the LAN, refer to the steps given under “ODI Driver for Windows for Workgroups Clients” on page 12.

If you want to use the Windows NT-based Vectra PC as a client on the LAN, refer to the steps given under “ODI Driver for Windows NT Clients” on page 18.

---

### **NOTE**

Before installing the network drivers, connect the Enhanced PCI Ethernet interface to the LAN and set up (configure) the Enhanced PCI Ethernet interface.

---

## ODI DOS Client Driver

The Novell ODI driver for DOS is used with many Novell products. It is also used by DOS and Microsoft Windows 3.x computers to gain access to Novell servers through one of the following:

- NetWare DOS Requester (using Virtual Loadable Modules or VLMs)
- or
- NetWare DOS Shell (using NETX.EXE)

Both NetWare clients use an ODI driver to enable them to use the Enhanced PCI Ethernet interface to access the LAN medium. File service to all versions of NetWare servers is possible from either the DOS Requester or DOS Shell clients. Access to enhanced services provided by later versions of NetWare servers may require using the DOS Requester. Other Novell products, like Personal NetWare and LAN Workplace for DOS, also use the DOS ODI driver.

The DOS ODI driver is contained within the **NOVELL\DOSCLNT** directory of your LAN Disk, the contents of this directory are:

```
\NOVELL\DOSCLNT\PCNTNW.COM  
\NOVELL\DOSCLNT\PCNTNW.INS  
\NOVELL\DOSCLNT\NET.CFG
```

To install the ODI driver with DOS Requester (VLM.EXE), refer to page 4.

To install the ODI driver with DOS Shell (NETX.EXE), refer to page 6.

For more information about Netware DOS Client, refer to the *Netware Client for DOS and MS Windows User's Guide* and *Netware Client for DOS and MS Windows Technical Reference* manuals provided with your Novell software.

For more information about the NET.CFG file, refer to the Novell NetWare manuals and to page 24.

---

**NOTE**

When the DOS ODI driver is used, it will locate the HP Enhanced PCI Ethernet Interface and read its settings automatically.

---

## ODI Driver with DOS Requester

To install the ODI driver for DOS, follow the instructions below:

- 1 Locate the Novell DOS Requester “NetWare Client for DOS and MS Windows” diskettes. These could be labeled “WSDOS\_1” and “WSWIN\_1”. To create these diskettes from the NetWare CD ROM, follow the NetWare documentation included with the CD-ROM.
- 2 Run the NetWare client installation program.
  - a Insert the number 1 diskette into the drive and run the INSTALL program. For example, if the NetWare diskette is in drive A, then type:  

```
A: \ 
```

```
INSTALL 
```
  - b Follow the Novell instructions to fill in the first three fields of the form.
  - c It is recommended to answer **Yes** when asked if you want to allow the Novell install program to modify the start-up files. This will make the NetWare client start up automatically and attach to the server every time the computer is rebooted. If **No** is entered, the commands to start up the NetWare client will have to be entered manually.
  - d If Windows is installed on the computer, it is recommended to answer **Yes** to allow the Novell install program to add Windows support.
- 3 When asked to select the driver for your network board, remove the Novell diskette and insert the LAN Disk. Press  to bring up the Network Board window.
- 4 Select **A:\NOVELL\DOSCLNT** then press .
- 5 The line **HP Enhanced PCI Ethernet Interface** will be highlighted. Press  to select the driver (PCNTNW.COM).

## Installing Novell NetWare Drivers

### ODI DOS Client Driver

- 6 The Novell INSTALL program will display a window with the settings for the card. The following parameters will be shown:

**Optional Bus Identifier**  
**Optional Media Frame Type(s)**  
**Optional Node Address**  
**Optional Media Type**  
**Optional LAN activity LED**

Press  without selecting to override any parameters and proceed with the remainder of the steps in the NetWare DOS Requester INSTALL program.

- 7 The installation of the DOS ODI driver and NetWare client software is complete. Refer to page 7 for information on how to start a NetWare client.

---

#### **NOTE**

The ODI driver default frame type is ETHERNET\_802.2. NetWare 286 and 386 servers use frame type ETHERNET\_802.3 as their default, but NetWare 4.0 uses both ETHERNET\_802.2 and ETHERNET\_802.3 types. The HP Enhanced PCI Ethernet Interface supports both Ethernet frame types.

---

## ODI Driver with DOS Shell

To install the ODI driver for DOS, follow the instructions below:

- 1 To begin the installation you require the Novell DOS Shell installation diskette labeled 'WSGEN' and the LAN Disk.
- 2 Create a directory on the DOS boot drive (for example C) for the HP and NetWare files using the following commands at the DOS prompt:

```
C:  
MKDIR C:\NOVELL
```

- 3 Copy the DOS ODI Driver and NET.CFG File. For example, if the LAN Disk is in Drive A use the following commands:

```
COPY A:\NOVELL\DOSCLNT\PCNTNW.COM C:\NOVELL  
COPY A:\NOVELL\DOSCLNT\NET.CFG C:\NOVELL
```

The contents of the NET.CFG file are given below:

```
LINK DRIVER PCNTNW  
BUSTYPE PCI1  
FRAME ETHERNET_802.3  
LED2 90
```

- 4 Copy the following files from the Novell installation diskette labeled "WSGEN" to the C:\NOVELL directory:

```
LSL.COM (must be version 2.11 or later)  
IPXODI.COM (must be version 2.20 or later)  
NETX.EXE
```

These files are either in the root or the DOSODI directory on the NetWare diskette.

- 5 The installation of the DOS ODI driver and NetWare client software is complete. Refer to page 7 for information on how to start a NetWare client.

---

**NOTE**

The DOS Shell can only access a server's bindery. If you want access any enhanced NetWare Directory Services, you should use the DOS Requester (VLM).

---

**Installing Novell NetWare Drivers**  
ODI DOS Client Driver

## Starting a NetWare Client

To start a NetWare client, execute the following commands at the DOS prompt:

- 1 Change to the directory where the required files are located (for example **CD \NOVELL**).
- 2 Type:

```
LSL   
PCNTNW   
IPXODI 
```

and either,

```
NETX 
```

or

```
VLM 
```

(If you use VLM.EXE, the CONFIG.SYS file must include LASTDRIVE=Z to work correctly.)

You will be in the LOGIN directory of the server to which the PC is connected.

- 3 Type **LOGIN server/user**

server is your server name  
user is your user name on that server

(If you are not sure of your server name, type **SLIST**  to display a list of the available servers.)

---

**NOTE**

If you want the PC to be able to log onto the server when it starts, add the commands listed above to the PC's AUTOEXEC.BAT file. Otherwise create another batch file and run it when you want the PC to be able to log onto the server.

---

---

## ODI OS/2 Client Driver

An OS/2 computer gains access to NetWare servers by using the Requester for OS/2. The Requester needs the OS/2 ODI driver to enable it to use the Enhanced PCI Ethernet interface to access the LAN medium.

The OS/2 ODI driver **PCNTNW.OS2** is contained in the LAN Disk in the **\NOVELL\OS2CLNT** directory.

To install the ODI driver for OS/2, follow the instructions below:

- 1 Boot the computer into OS/2. Enter OS/2 into full screen mode by double-clicking on the Command Prompts icon in the OS/2 System window and then double clicking on the OS/2 Full Screen icon.
- 2 If you are installing OS/2 Requester from the NetWare Requester Disk, go to the steps given under “Installing OS/2 Requester from NetWare Requester Disk” on page 9.

If you are installing OS/2 Requester from the NetWare WSOS2\_1 Disk, go to the steps given under “Installing OS/2 Requester from NetWare WSOS2\_1 Disk” on page 10.

## Installing Novell NetWare Drivers

ODI OS/2 Client Driver

Installing OS/2  
Requester from  
NetWare Requester  
Disk

To install from the NetWare Requester disk, follow the steps below:

- 1 Insert the NetWare Requester diskette into the drive and run the INSTALL program. For example, if the diskette is in drive A, then type the following commands:

```
A: \   
INSTALL 
```

- 2 Choose the **Requester on Workstation** under the Installation menu.
- 3 When the Select Options for CONFIG.SYS window appears, type the driver name **PCNTNW.OS2** into the field labeled **Network Interface Card driver**.
- 4 Select any other CONFIG.SYS options you wish to modify. When finished click on the **Save** button.
- 5 Click on the **YES** button when asked if PCNTNW.OS2 is a third party NIC driver.
- 6 When the window Install Third Party NIC Driver appears, remove the Novell diskette then insert the LAN Disk.
- 7 When asked for the **File to Install** type in the name (PCNTNW.OS2) and path of the ODI driver. For example, if the LAN Disk is in drive A, the name and path is **A:\NOVELL\OS2CLNT\PCNTNW.OS2**. Click on the **OK** button.

The installation of the OS/2 ODI driver is now complete.

Installing OS/2  
Requester from  
NetWare WSOS2\_1  
Disk

To install from the NetWare Requester disk, follow the steps below:

- 1 Insert the NetWare WSOS2\_1 diskette into the drive and run the INSTALL program. For example, if the diskette is in drive A, then type the following commands:

```
A: \   
INSTALL 
```

- 2 Choose the **Requester on Workstation** under the Installation menu.
- 3 When the Choose the ODI LAN Driver window appears, enter the name **PCNTNW.OS2**. Click on the **Continue** button.
- 4 When the window titled Copy ODI LAN Driver Files appears, it will have the line **Default ODI LAN Driver: PCNTNW.OS2** with the **Copy only the default driver** button selected. Click on the **OK** button.
- 5 The INSTALL program will now prompt for the driver diskette with the message:  
  
**Insert diskette labeled WSDRV\_1 or a diskette containing third-party drivers.**  
  
Insert the LAN Disk. Click the **OK** button.
- 6 The Copy Requester Files window will be displayed. Click the **OK** button to copy the OS/2 ODI driver into the NetWare Requester directory on the OS/2 drive.
- 7 After the software installation process has completed, select **This workstation** in the Configuration menu to edit the NET.CFG file.

## Installing Novell NetWare Drivers

### ODI OS/2 Client Driver

- 8 Click on the **Edit** button to open the edit window.

Edit the NET.CFG file to match the HP Enhanced PCI Ethernet Interface configuration (refer to "Sample NET.CFG File" on page 26 if necessary). Create a link driver section for the HP Enhanced PCI Ethernet Interface as shown below:

```
LINK DRIVER PCNTNW  
BUSTYPE PCI1  
FRAME ETHERNET_802.3  
LED2 90
```

- 9 Click on the **SAVE** button when all the link driver parameters are correct.
- 10 The installation and changes made will not take effect until the computer is rebooted. Use the OS/2 shutdown procedure to restart the OS/2 system safely.

The installation of the OS/2 ODI driver is now complete.

---

#### **NOTE**

The OS/2 ODI driver default frame type is ETHERNET\_802.2. NetWare 286 and 386 servers use frame type ETHERNET\_802.3 as their default but NetWare 4.0 uses both ETHERNET\_802.2 and ETHERNET\_802.3 types.

---

---

## ODI Driver for Windows for Workgroups Clients

Windows for Workgroups is designed to support file and print sharing with multiple types of servers at the same time, such as Novell and Microsoft. Both Novell and Microsoft protocols can use the ODI driver to access the LAN adapter and the LAN medium.

Microsoft Windows for Workgroups computers can attach to Novell servers through the Novell NetWare Client for DOS and MS Windows, which is also known as the Novell DOS Requester.

To attach to Windows NT or LAN Manager servers, Windows for Workgroups provides software called the Microsoft Windows Network.

This section contains instructions for installing Windows for Workgroups with the Novell DOS ODI driver.

The ODI driver **PCNTNW.COM** is contained in the LAN Disk directory **\NOVELL\DOSCLNT\**.

---

### *NOTE*

When you start your PC for the first time you will be asked to select which type of network you want to use with your PC. According to your selection the appropriate drivers and files will be installed automatically. If you want to install network software at any other time (for example having deleted your hard disk), follow the procedure described below.

---

### Installing Novell NetWare Drivers

ODI Driver for Windows for Workgroups Clients

To install the ODI driver, follow the instructions below:

- 1 Check that you have the items necessary for installation:
  - The Windows for Workgroups 3.11 disks.
  - The NetWare Client for DOS Requester (VLM.EXE).
  - The LAN Disk for the HP Enhanced PCI Ethernet Interface.
- 2 Windows for Workgroups must be installed to allow the Novell client to install its Windows support. However, the Windows for Workgroups network setup requires the Novell client to be installed to complete the configuration successfully.
  - a Insert diskette 1 of Windows for Workgroups into the diskette drive. To start the installation, type the following at the DOS prompt:

```
A: <Enter>
SETUP <Enter>
```

- b Select **Custom Setup** when prompted for the type of setup to run.
- c Select **Networks...** when the Network Setup windows appears.
- d Select **No Windows support for networks** and then click on the **OK** button.
- e Select **Continue** when the Network Setup window reappears.
- f Choose the **Make all modifications for you** button in the Windows Setup window to make changes to CONFIG.SYS and AUTOEXEC.BAT automatically, and select **Continue**.
- g Select **Return to MS-DOS** when the Windows for Workgroups installation is completed.

- 3 The Netware Client for DOS and Windows should now be installed.
  - a Insert diskette 1 of the NetWare Client into the diskette drive. To start the installation, type the following at the DOS prompt:

**A:**   
**SETUP**

- b Select **YES** to update the AUTOEXEC.BAT file.
  - c Select **YES** to install the NetWare Windows support.
  - d Press  to continue the installation.
  - e Insert the LAN Disk when the **Insert The Driver Disk** window appears and press .
  - f When the driver name **HP Enhanced PCI Ethernet Interface** appears, press ENTER to continue with the rest of the NetWare client installation.
- 4 Having completed the installation, the computer must be rebooted and Windows for Workgroups restarted.

It is not necessary to login or attach to a NetWare server, but the NetWare DOS Requester must have been successfully initialized.

- 5 In Program Manager, double-click on the Network Setup icon in the Network group to configure Windows for Workgroups networking.

To connect to Novell servers only, go to the steps given under refer to the steps given under “Connecting to Novell Servers Only” on page 15.

To connect to both Novell and Microsoft servers then go to the steps given under refer to the steps given under “Connecting to Novell and Microsoft Servers” on page 16

### Installing Novell NetWare Drivers

ODI Driver for Windows for Workgroups Clients

Connecting to Novell  
Servers Only

To configure Windows for Workgroups for connection to Novell servers:

- 1 Select **Networks...** at the Network Setup window.
- 2 Choose the **Install Windows support for the following network only** button in the Networks window.
- 3 Highlight the **Novell Netware (Workstation Shell 4.0 and above)** line in the drop-down listbox and select **OK**.
- 4 Select **OK** in the Network Setup window.
- 5 Select **NO** in the Windows Setup window to leave the NetWare Client software untouched.
- 6 Select Restart Windows in the last window for all the changes to take effect.

The installation is now complete.

---

#### ***NOTE***

---

Login to the NetWare server before starting Windows for Workgroups.

Connecting to Novell  
and Microsoft Servers

To configure Windows for Workgroups for connection to Novell and Microsoft servers:

- 1 Select **Networks...** at the Network Setup window.
- 2 Choose the button **Install Microsoft Windows Network** in the Networks window.
- 3 Choose the button **Other** under the line **You can also install Windows support for an additional network.**
- 4 Highlight the **Novell Netware (Workstation Shell 4.0 and above)** line in the drop-down listbox and select **OK**.
- 5 Select **Drivers...** at the Network Setup window.
- 6 Select **Add Adapter...** at the Network Drivers window.
- 7 Highlight the **Unlisted or Updated Network Adapter** line in the listbox and select **OK**.
- 8 Insert the LAN Disk.
- 9 Type **A:\WFW311\** in the Path field of the Install Driver window.
- 10 Highlight the line **HP Enhanced PCI Ethernet Interface** and select **OK**. If this line does not appear then refer to “Windows for Workgroups OEM Information Files” on page 17
- 11 Select **Close** at the Network Drivers window.
- 12 Select **OK** in the Network Setup window.
- 13 Enter the user, workgroup, and computer names at the Microsoft Windows Network Names window and select **OK**.
- 14 Select **NO** in the Windows Setup window to leave the NetWare Client software untouched.
- 15 Select Restart Windows in the last window for all the changes to take effect. The installation is now complete.

---

**NOTE**

---

Login to the NetWare server before starting Windows for Workgroups. Logins to Microsoft servers occur automatically after they have been configured in the “Connect Network Drive” window.

## Installing Novell NetWare Drivers

ODI Driver for Windows for Workgroups Clients

### Windows for Workgroups OEM Information Files

Windows for Workgroups 3.11 network adapter setup uses the file OEMSETUP.INF to determine the driver information for the HP LAN adapter installed in your computer. Information from the OEMSETUP.INF file is used by the network adapter setup program to install the drivers into the Windows directory and to create a PROTOCOL.INI file with the correct parameters.

When Windows for Workgroups installs a driver from a vendor diskette, it also stores a copy of the vendor's OEMSETUP.INF file in the Windows system directory. The OEMSETUP.INF file is renamed OEMnn.INF, where "nn" is two decimal digits (00, 01, 02, and so on). There is no checking for duplicate information.

When the Windows for Workgroups network adapter setup program is run from the Control Panel network icon, it scans all the OEMnn.INF files for any network drivers. This scan can become confused if multiple OEMnn.INF files contain identical information (perhaps being copies of the same original OEMSETUP.INF file).

To correct this situation and allow installation of the ODI driver from the LAN Disk, any copies of the HP OEMSETUP.INF file from previous installation attempts must be deleted from the Windows directory.

---

**NOTE**

---

To rectify any problems in finding the ODI driver, delete all OEMnn.INF files that are identical to the OEMSETUP.INF file on the LAN Disk.

## ODI Driver for Windows NT Clients

The 32-bit ODI driver is designed specially for high performance use. It is located in the LAN Disk directory: **\NOVELL\NTCLNT**.

To install the 32-bit ODI driver for Windows NT Requester, follow the instructions below:

- 1 Install Microsoft Windows NT. Refer to *Microsoft Windows NT User's Guide* for installation instructions if necessary.

NT networking can be installed at this time. However, bind the NT networking protocols to a different adapter than the one to be used by the NetWare Requester.

- 2 Follow Novell's installation instructions to install the Novell Netware NT Requester.

- 3 During the installation of the NT requester, when you are asked to choose an adapter, a list of adapters will appear in the dialog box.

Choose the **<Other> Requires disk from manufacturer** selection at the bottom of the dialog box containing the list of adapters to choose.

Enter the full path to the OEMSETUP.INF file. Enter the path **A:\NOVELL\NTCLNT\** in the dialog box field, and press the **Continue** button.

- 4 Select the line **HP Enhanced PCI Ethernet Driver**.
- 5 Some more files are copied from the LAN Disk. Select **OK** in response to any configuration questions.
- 6 Follow the remaining Novell instructions for the installation of the NT requester.

The installation is now complete.

## Parallel Transferring ODI DOS Client Driver

The Parallel Transferring ODI DOS Client Driver is a high performance, optimized version of the ODI driver for DOS. It achieves extra performance by utilizing the LAPP capability of the Enhanced PCI Ethernet Interface.

It is only recommended to use this driver where extra performance is essential. Otherwise the standard ODI DOS driver should be used.

It can be used by DOS and Microsoft Windows 3.x computers to gain access to Novell servers through one of the following:

- NetWare DOS Requester (using Virtual Loadable Modules or VLMs)  
or
- NetWare DOS Shell (using NETX.EXE)

The Parallel Transferring DOS ODI driver is contained within the **NOVELL\LAPPCLNT** directory of your LAN Disk.

To install the Parallel Transferring ODI driver with DOS Requester (VLM.EXE), refer to page 20.

To install the Parallel Transferring ODI driver with DOS Shell (NETX.EXE), refer to page 22.

For more information about the NET.CFG file, refer to the Novell NetWare manuals and “NET.CFG Options for Novell NetWare” on page 24.

## Parallel Transferring ODI Driver with DOS Requester

To install the Parallel Transferring ODI driver for DOS, follow the instructions below:

- 1 Locate the Novell DOS Requester “NetWare Client for DOS and MS Windows” diskettes. These could be labeled “WSDOS\_1” and “WSWIN\_1”. To create these diskettes from the NetWare CD ROM, follow the NetWare documentation included with the CD-ROM.

- 2 Run the NetWare client installation program.

- a Insert the number 1 diskette into the drive and run the INSTALL program. For example, if the NetWare diskette is in drive A, then type:

```
A:   
INSTALL 
```

- b Follow the Novell instructions to fill in the first three fields of the form.
  - c It is recommended to answer **Yes** when asked if you want to allow the Novell install program to modify the start-up files. This will make the NetWare client start up automatically and attach to the server every time the computer is rebooted. If **No** is entered, the commands to start up the NetWare client will have to be entered manually.
  - d If Windows is installed on the computer, it is recommended to answer **Yes** to allow the Novell install program to add Windows support.
- 3 When asked to select the driver for your network board, remove the Novell diskette and insert the LAN Disk. Press  to bring up the Network Board window.
  - 4 Enter **A:\NOVELL\LAPPCLNT** then press .
  - 5 The line **HP Enhanced PCI Ethernet Interface (LAPP)** will be highlighted. Press  to select the driver (PCLAPP.COM).

### Installing Novell NetWare Drivers

#### Parallel Transferring ODI DOS Client Driver

- 6 The Novell INSTALL program will display a window with the settings for the card. The following parameters will be shown:

**Optional Bus Identifier**  
**Optional Media Frame Type(s)**  
**Optional Node Address**  
**Optional Media Type**  
**Optional LAN Activity Light**

Press  without selecting to override any parameters and proceed with the remainder of the steps in the NetWare DOS Requester INSTALL program.

- 7 The installation of the Parallel Transferring DOS ODI driver and NetWare client software is complete. Refer to page 23 for information on how to start a Parallel Transferring NetWare client.

---

**NOTE**

The ODI driver default frame type is ETHERNET\_802.2. NetWare 286 and 386 servers use frame type ETHERNET\_802.3 as their default, but NetWare 4.0 uses both ETHERNET\_802.2 and ETHERNET\_802.3 types. The HP Enhanced PCI Ethernet Interface supports both Ethernet frame types.

---

## Parallel Transferring ODI Driver with DOS Shell

To install the ODI driver for DOS, follow the instructions below:

- 1 To begin the installation you require the Novell DOS Shell installation diskette labeled 'WSGEN' and the LAN Disk.
- 2 Create a directory on the DOS boot drive (for example C) for the HP and NetWare files using the following commands at the DOS prompt:

```
C:  
MKDIR C:\NOVELL
```

- 3 Copy the DOS ODI Driver and NET.CFG File. For example, if the LAN Disk is in Drive A use the following commands:

```
COPY A:\NOVELL\LAPPCLNT\PCLAPP.COM C:\NOVELL  
COPY A:\NOVELL\LAPPCLNT\NET.CFG C:\NOVELL
```

The contents of the NET.CFG file are given below:

```
LINK DRIVER PCLAPP  
BUSTYPE PCI1  
FRAME ETHERNET_802.3  
LED2 90
```

- 4 Copy the following files from the Novell installation diskette labeled "WSGEN" to the C:\NOVELL directory:

```
LSL.COM (must be version 2.11 or later)  
IPXODI.COM (must be version 2.20 or later)  
NETX.EXE
```

These files are either in the root or the DOSODI directory on the NetWare diskette.

- 5 The installation of the Parallel Transferring DOS ODI driver and NetWare client software is complete. Refer to page 23 for information on how to start a Parallel Transferring NetWare client.

---

**NOTE**

---

The DOS Shell can only access a server's bindery. If you want access any enhanced NetWare Directory Services, you should use the DOS Requester (VLM).

## Installing Novell NetWare Drivers

Parallel Transferring ODI DOS Client Driver

### Starting a Parallel Transferring NetWare Client

To start a Parallel Transferring NetWare client, execute the following commands at the DOS prompt:

- 1 Change to the directory where the required files are located (for example **CD \NOVELL**).
- 2 Type:

```
LSL   
PCLAPP   
IPXODI 
```

and either,

```
NETX 
```

or

```
VLM 
```

(If you use VLM.EXE, the CONFIG.SYS file must include LASTDRIVE=Z to work correctly.)

You will be in the LOGIN directory of the server to which the PC is connected.

- 3 Type **LOGIN server/user**

**server** is your server name  
**user** is your user name on that server

(If you are not sure of your server name, type **SLIST**  to display a list of the available servers.)

---

#### **NOTE**

If you want the PC to be able to log onto the server when it starts, add the commands listed above to the PC's AUTOEXEC.BAT file. Otherwise create another batch file and run it when you want the PC to be able to log onto the server.

---

## NET.CFG Options for Novell NetWare

For each workstation driver you configure, select a custom set of supported values from the PCnet configuration options. If a driver configuration is different from the default settings or if you are using multiple protocols, you should create a NET.CFG file.

The NET.CFG file is a configuration file that contains section headings and options that deviate from the established defaults of the ODI software.

You may also need to see the documentation specific to your protocol for additional NET.CFG information.

Use any DOS text editor to create the file. Specify only options that will change from the defaults.

### Conventions

Main section headings must be left-justified and are not case sensitive. The heading must precede the options you want to include in that section. Options are not case sensitive and must be preceded by a tab or hard spaces.

Precede comments with a semicolon (;). End each line with a hard return. Write all numbers in decimal notation except where noted otherwise.

## Options

The following chart lists the driver options defined by the DOS ODI software. The options available for the PCnet driver (PCNTNW) and IPX protocol stack are shown in a sample NET.CFG file. Protocol stacks other than IPX may have additional options not listed here. Refer to the other protocol's documentation for more information.

Link Driver drivename DMA [#1   #2] channel_number INT [#1   #2] interrupt_request_number MEM [#1   #2] hex_starting_address [hex_length] PORT [#1   #2] hex_starting_address [hex_number_of] NODE ADDRESS hex_address SLOT number FRAME frame_type PROTOCOL name hex_protocol_IDframe_type SAPS number LINK STATIONS number ALTERNATE MAX FRAM SIZE number CONNECTOR DIX
Link Support BUFFERS communication_number [size] MEMPOOL number[k]
Protocol protocol name BIND #board_number

The PCnet driver has these NET.CFG options.

- NODE ADDRESS
- FRAME
- PROTOCOL
- FDUP

---

**NOTE**

For the HP Enhanced PCI Ethernet interface, the DMA, INT, and PORT are not required for the driver. In some cases, using these keywords would be a violation of the bus specification. Otherwise, all other keywords may be used with the PCnet Family.

---

## Sample NET.CFG File

The following is an example NET.CFG file for the Enhanced PCI Ethernet interface:

```
LINK DRIVER PCNTNW
;Specify bus type for the HP Enhanced PCI Ethernet interface.
BUSTYPE PCI1
LED2 90
;To change FRAME type to Ethernet_II
FRAME Ethernet_II
PROTOCOL IPX 8137 ETHERNET_II

NetWare DOS Requester
FIRST NETWORK DRIVE = F
```

Note that there is a remark line preceded by a semicolon before each option line in the sample to indicate the option change.

**Installing Novell NetWare Drivers**  
NET.CFG Options for Novell NetWare