

# Chapter 2 Installing an Internal ADSL Modem

In this chapter, you will learn the following:

- How to install the ADSL Modem software.
- How to install the ADSL Modem hardware.
- How to verify the connection with your service provider.

## Getting started

To install and configure your **ADSL** modem, you'll need to ensure that your computer has the following items installed:

- Four megabytes, or more, of free space on your hard drive
- 32 megabytes of RAM
- One free PCI slot
- Windows 95/98, or Windows NT 4.0 (SR3 or later)

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**Note** You also need to ensure that service from your ADSL provider is operational.

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## Included with the ADSL Modem



- ADSL Modem card
- ADSL cable (6' twisted pair cable with two RJ-45 connectors)
- High-Speed Modem User Guide

## What you need

To begin the installation, you need:

- A medium-sized Phillips screwdriver.
- Windows 95/98, or Windows NT (SR3 or higher) CD-ROM.
- An anti-static clip-on device fastened to your computer chassis and attached with a thin wire to your wrist. This device reduces the risk of static electricity damaging electronic parts.
- Determine the method of connection: **Ethernet**, **PPP over Ethernet**, or **PPP over ATM**. Call your service provider for this information.
- Get the **Virtual Path Identifier (VPI)** or **Virtual Channel Identifier (VCI)** settings. Call your service provider for this information.
- Determine if your service provider requires any additional setup or configuration adjustments. Call your service provider for this information.

## Conventions used in this manual


Convention	Description
Note	Refers to additional relevant explanations, tips, or comments.
	<b>Caution</b> - Refers to procedures that risk damaging your system or losing your data.
	<b>Warning</b> - Refers to procedures that risk causing personal injury.
<b>Bold Type</b>	Refers to section heads, specific fields in a screen, or items requiring <b>emphasis</b> .

## How to use this chapter

This chapter is divided into two parts:

- **Windows 95/98 Installation**
- **Windows NT 4.0 Installation**

If your operating system is **Windows NT**, proceed directly to the **Windows NT 4.0 Installation** section.

 <b>Caution</b> - Do not install the modem hardware until you are instructed to do so.
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You are now ready to begin the modem software installation.

## Windows 95/98 Installation

### Installing the Modem Software

1. Place the **ADSL CD-ROM** in your CD-ROM drive to display the **Setup** window.

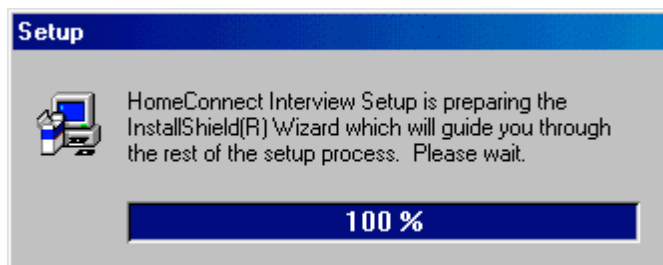


Figure 2-1 Set-up Screen

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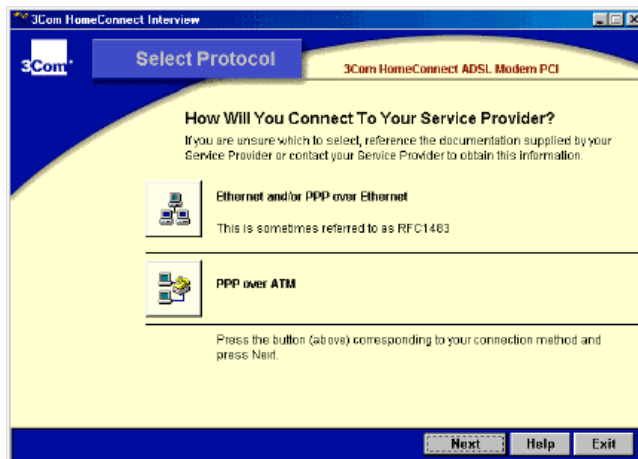
**Note** If you receive the error message stating, **Setup has detected that Uninstallshield is in use. Please close Uninstallshield and restart**, click **OK** and continue with the installation. This error arises when the **Setup** program is started more than once—because of too many mouse clicks.

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**Caution** - When you start the **Setup** program, close all open applications to avoid losing data.

2. If the installation doesn't automatically launch, do the following:
  - Choose **Start > Run**.
  - Type the following: **<x>:\setup.exe** where **<x>** is the letter designated as your CD-ROM drive (usually the **<D>** drive).
3. In the **Select Protocol** screen, click the connection method your service provider specifies.
  - a) If you choose **Ethernet**, go to **Ethernet and/or PPP over Ethernet** Configuration.
  - b) If you choose **PPP over ATM**, go to **PPP over ATM** Configuration.

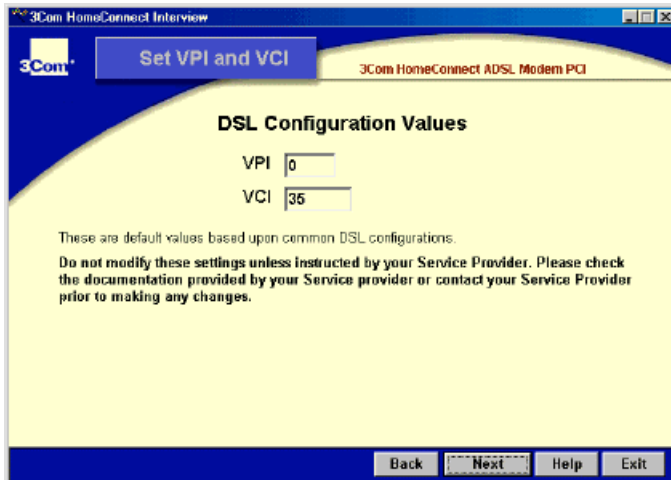


**Figure 2-2** Select Protocol Screen

## Ethernet and/or PPP over Ethernet Configuration

(Continued from Step 3. Refer to the last screen.)

1. Click **Ethernet and/or PPP over Ethernet** to display the **Set VPI and VCI** screen.



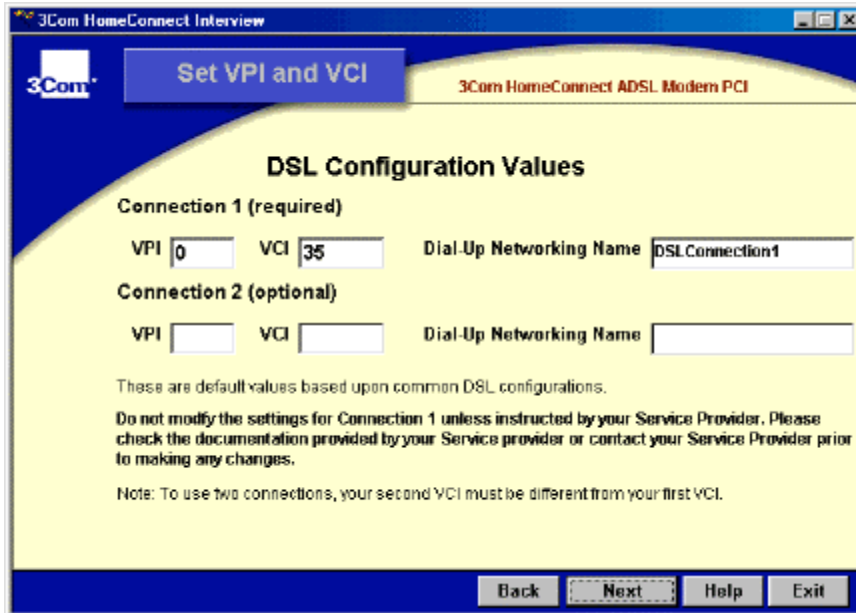
**Figure 2-3 Set VPI and VCI Screen**

2. Type the **DSL Configuration Values** given to you by your service provider.
  - a) Click **Back** if you wish to change your selection
  - b) Click **Next** to proceed to Installing the Applications.

## PPP over ATM Configuration

(Continued from Step 3. Refer to the **Select Protocol** screen.)

1. Click **PPP over ATM** to display the **Set VPI and VCI** screen.



**Figure 2-4** Set VPI and VCI Screen

2. In the **Select Protocol** screen, click the connection method your service provider specifies.
  - a) Type the **DSL Configuration Values** given to you by your service provider.
  - b) To type a **Dial-Up Networking Name**, type over the name that appears.

The name you have typed will appear under the connection icon in your **Dial-Up Networking folder**.

The installation software will create a shortcut on your desktop. The shortcut will be saved with the name you assign to it.

- c) Click **Back** to change your selection.
3. Click **Next** to display the **Install** screen.

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**Note** If the Installation software fails to create the **Dial-Up Networking Name** and shortcut, you will need to create them manually. See **Troubleshooting** at the end of the chapter.

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## Installing the Application

To install the application software, do the following in the **Install** screen:

1. Click **ASDL Control Center/Install**.

The **Next** button appears activated.

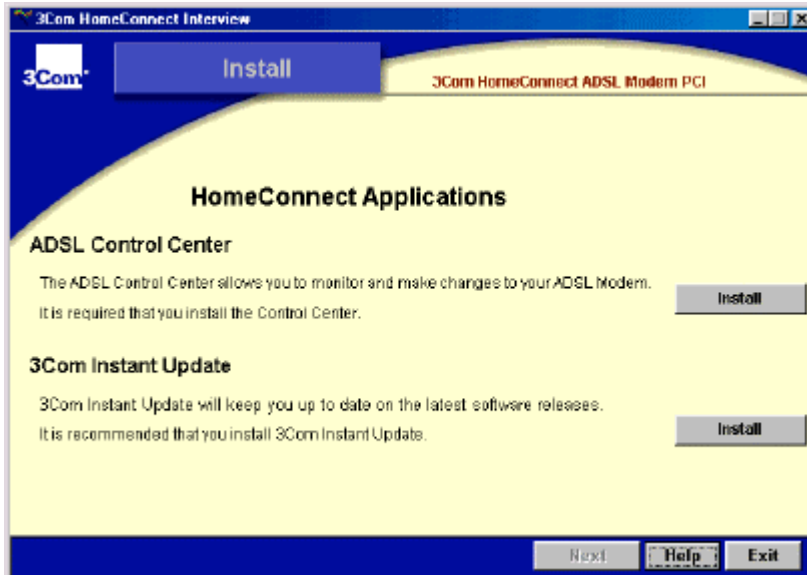


Figure 2-5 Install Screen

Choosing **Instant Update** is recommended. If you choose not to install this application, you may do so later.

Click **Next** and the **Finished** screen appears.

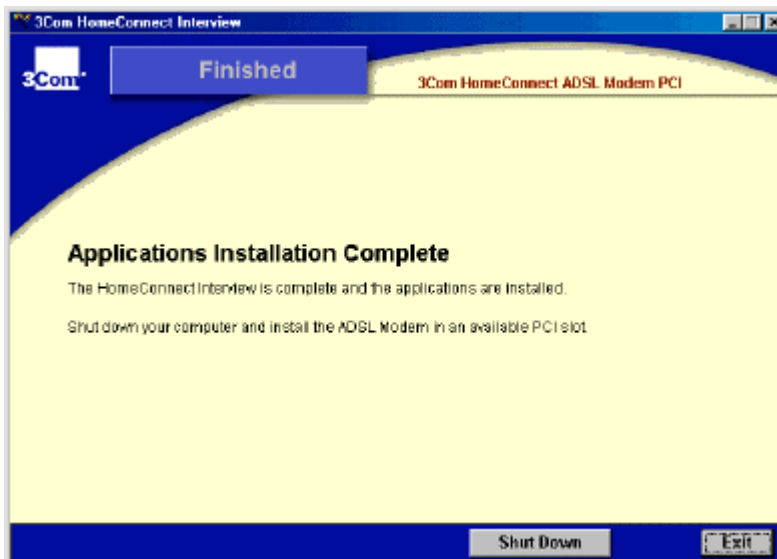


Figure 2-6 Finished Screen

2. Click **Shut Down** or **Exit**.

- To continue the installation process, click **Shut Down**. The computer must be shut down to install the modem hardware.
- If you want to continue the installation process later, click **Exit**.

## Installing the Modem Hardware

1. Unplug your computer.



**Warning** - Injury can result from working inside the computer while the power is connected. Disconnect the computer from its power source.

2. Remove the cover from your computer.

Refer to your computer manual if you need help removing the case.



Figure 2-7. Removing your computer cover



**Caution** - When installing the modem, ground yourself by using an anti-static clip-on device or by first touching a metal part of the computer case. Electrostatic discharge can damage your computer or your **ADSL Modem**.

3. Find a vacant PCI slot on the system board.

- Refer to the photograph of the PCI slot below.
- See your computer manual if you need assistance locating one.
- PCI slots are usually white and always shorter than the black ISA slots. AGP video slots are not part of the expansion slot array.

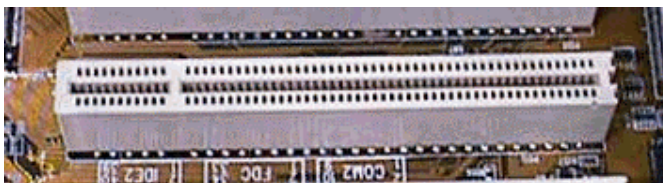


Figure 2-8. Vacant PCI slot

4. Locate the metal bracket at the rear of the computer, immediately behind the vacant PCI slot.



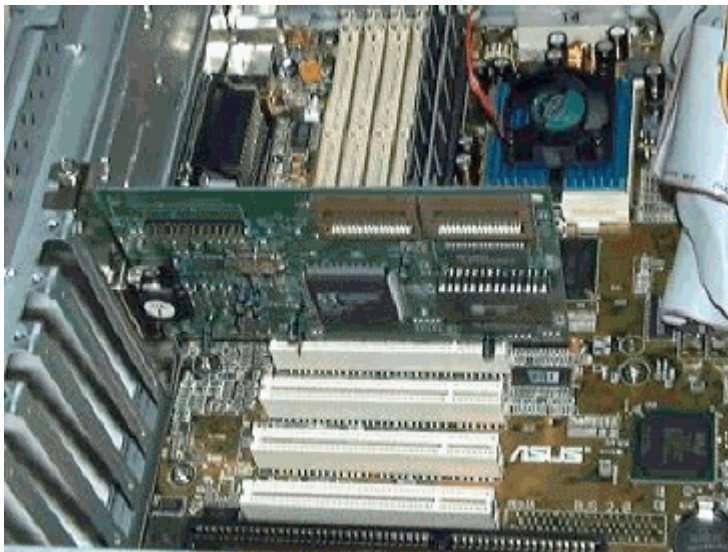
bracket

5. Using a screwdriver, remove the screw from the metal bracket.
  - Set the bracket aside, well away from the inside of the computer.



**Figure 2-9.** Removing the bracket screw

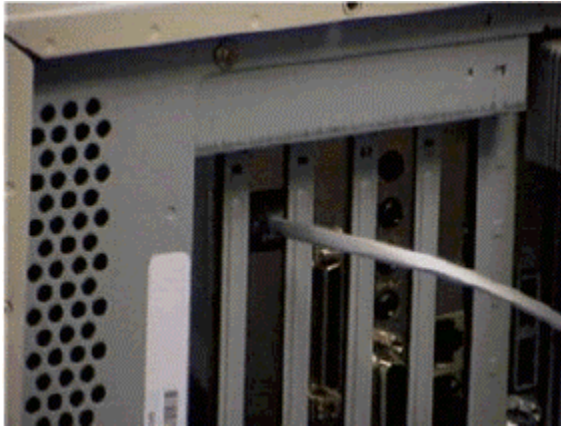
6. Insert your **ADSL Modem** into the vacant **PCI** slot.
  - a) Hold the modem by the edges.
  - b) Press it firmly, straight down.
  - c) Avoid touching any of the electronics on the board.
7. Ensure the modem is securely seated in the slot by gently rocking it from side to side.
8. Screw the modem into the computer chassis, using the metal tab on the modem and the screw you just removed from the bracket.
  - In the picture, on the left, note the screw holding down the metal tab.



**Figure 2-10.** ADSL Modem installed

9. Replace the computer cover.

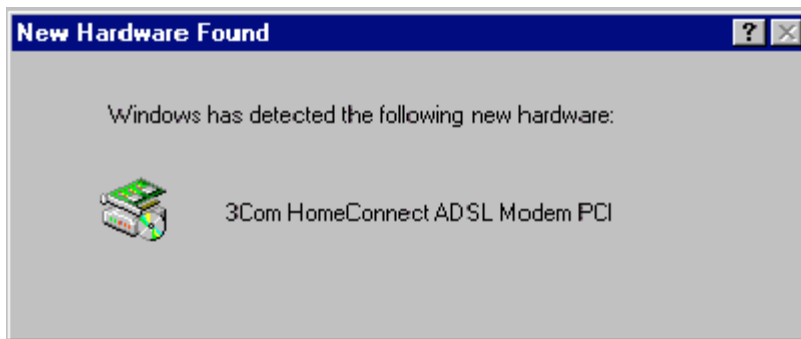
10. Plug your computer back into a power source.
11. On the back of the computer, in the location vacated by the bracket, insert one end of the ADSL cable into the exposed jack on the modem, as per the photo below.



**Figure 2-11.** Installed Modem Cable

12. Insert the other end of the ADSL cable into the telephone jack that is providing your ADSL service.
13. Turn on the power.

After the system boots, the **New Hardware Found** screen appears.



**Figure 2-12** New Hardware Found Screen

Windows has automatically detected the modem and configured your system.

14. At the prompt, restart your computer.  
To continue the installation, proceed to **Checking Your ADSL Connection** at the end of this chapter.

## Windows NT 4.0 Installation

### Installing the Modem Hardware

1. Unplug your computer.



**Warning** - Injury can result from working inside the computer while the power is connected. Disconnect the computer from its power source.

2. Remove the cover from your computer.

Refer to your computer manual if you need assistance removing the case.

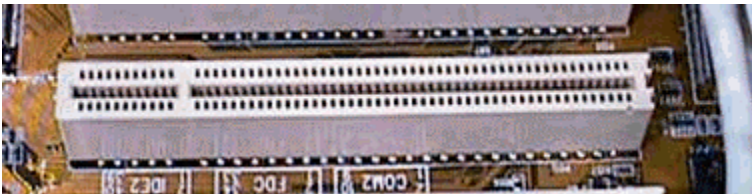


**Figure 2-13.** Removing your computer cover



**Caution** - When installing the modem, ground yourself by using an anti-static clip-on device or by touching a metal part of the computer case first. Electrostatic discharge can damage your computer or the ADSL Modem.

3. Find a vacant **PCI** slot on the system board.
  - a) Refer to the photograph of a PCI slot below.
  - b) See your computer manual if you need assistance locating one.
  - c) PCI slots are usually white and always shorter than the black ISA slots. AGP video slots are not part of the expansion slot array.



**Figure 2-14.** Vacant PCI slot

4. Locate the metal bracket at the rear of the computer, immediately behind the vacant PCI slot.

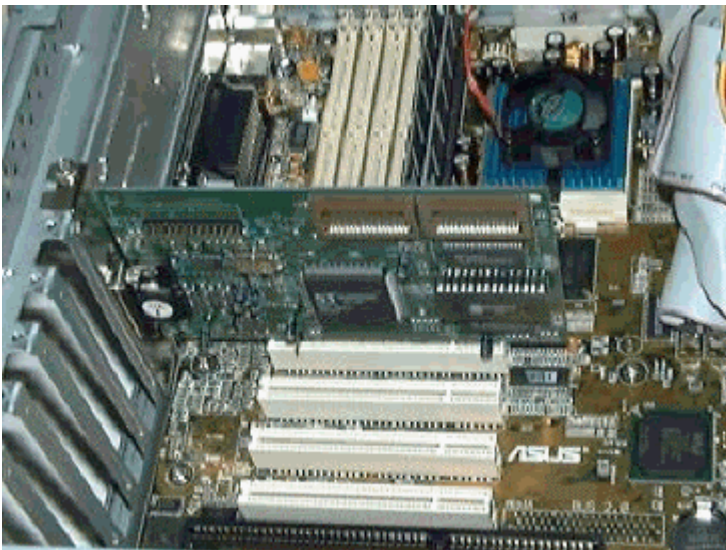


bracket

5. Using a screwdriver, remove the screw from the metal bracket.
  - Set the bracket aside, well away from the inside of the computer.

**Figure 2-15.** Removing the bracket screw

6. Insert your **ADSL Modem** into the vacant **PCI** slot.
  - d) Hold the modem by the edges.
  - e) Press it firmly, straight down.
  - f) Avoid touching any of the electronics on the board.
7. Ensure the modem is securely seated in the slot by gently rocking it from side to side.
8. Screw the modem into the computer chassis, using the metal tab on the modem and the screw you just removed from the bracket.
  - In the picture, on the left, note the screw holding down the metal tab.

**Figure 2-16.** ADSL Modem installed

9. Replace the computer cover.

10. Plug your computer back into a power source.
11. On the back of the computer, in the location vacated by the bracket, insert one end of the **ADSL cable** into the exposed jack on the modem, as per the photo below.

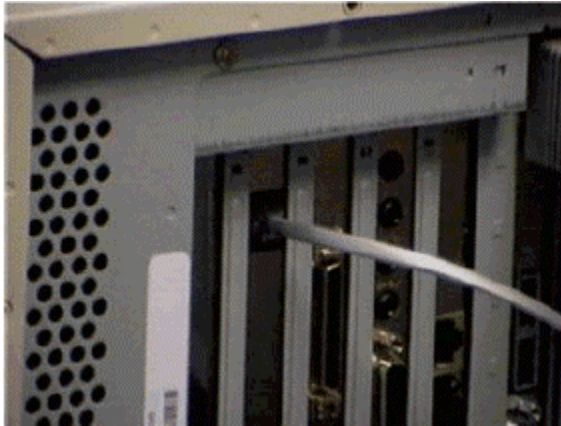


Figure 2-17. Installed modem cable

12. Insert the other end of the **ADSL cable** into the telephone jack that is providing your ADSL service.
13. Turn on the power.

## Installing the Modem Software

1. Place the **ADSL CD-ROM** in your CD-ROM drive.



**Caution** - Before installing your **ADSL Modem** on Microsoft Windows NT, be sure you have installed **Service Pack 3** or later. **Service Pack 3** is available free from Microsoft at their Web Site: [www.microsoft.com](http://www.microsoft.com)

The **Setup** screen appears:

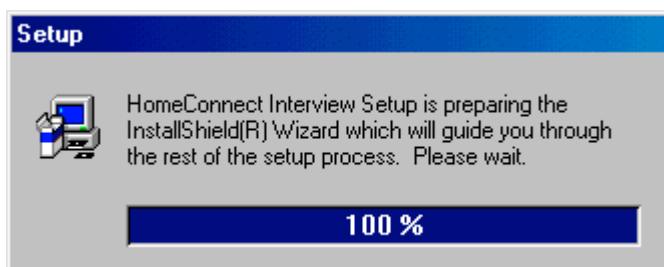


Figure 2-18. Setup Screen

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**Note** If you receive an error message stating, **Setup has detected that Uninstallshield is in use. Please close Uninstallshield and restart**, click **OK** and continue with the installation. This error arises when the **Setup** program is accidentally started more than once—due to too many mouse clicks.

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**Caution** - When you start **Setup** program, close all open applications. If you don't close these applications, you may lose data.

If the **Select Protocol** screen doesn't automatically appear, do the following:

- a) Choose **Start > Run**.
  - b) Type the following: **<x>:\setup.exe**, where **<x>** is the letter designated as your CD-ROM drive (usually the **<d>** drive).
  - c) Click **Enter** and the **Select Protocol** screen appears.
2. Click the connection method your service provider specifies.
    - If you choose **Ethernet**, go to **Ethernet and/or PPP over Ethernet** Configuration.
    - If you choose **PPP over ATM**, go to **PPP over ATM** Configuration.

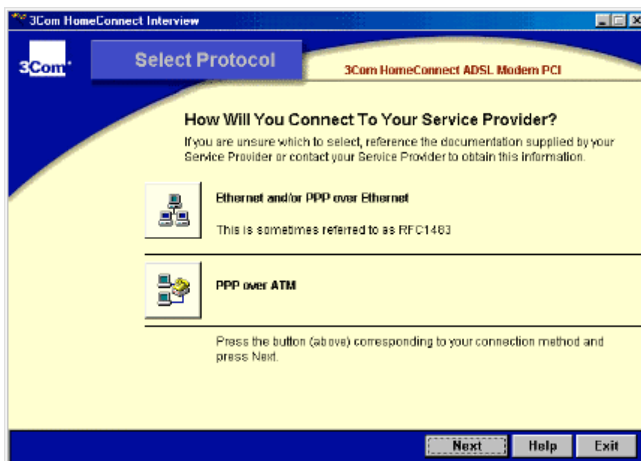
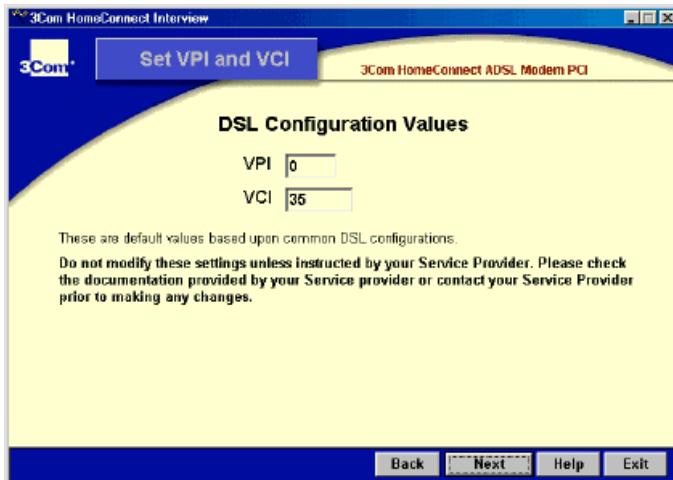


Figure 2-19. Select Protocol Screen

## Ethernet and/or PPP over Ethernet Configuration

(Continued from **Step 2**, as one of the two options. Refer to the **Select Protocol** screen.)

1. Click **Ethernet and/or PPP over Ethernet** to display the **SET VPI and VCI** screen.



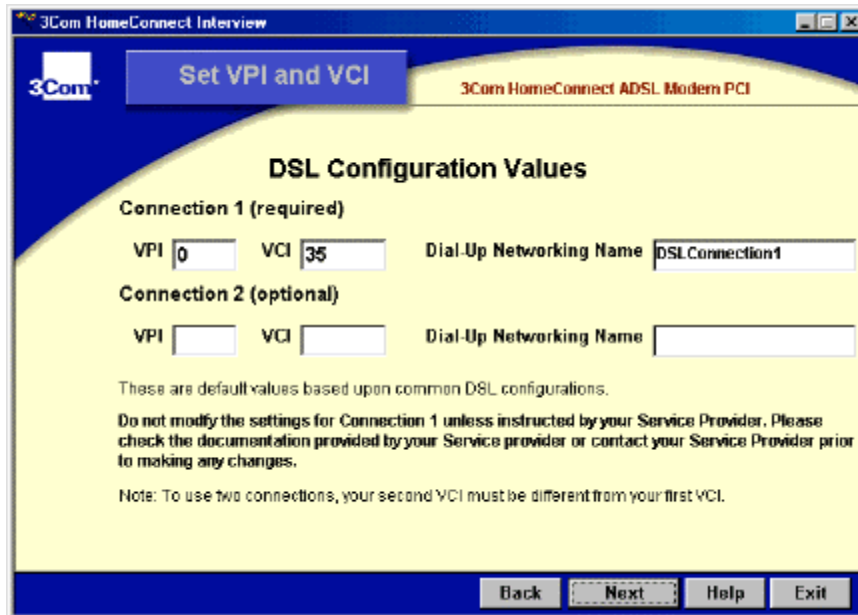
**Figure 2-20.** Set VPI and VCI Screen

2. Type the **DSL Configuration Values** given to you by your service provider.
  - Click **Back** if you wish to change your selection
  - Click **Next** to display the **Install** screen.

## PPP over ATM Configuration

(Continued from **Step 2**, as one of the two options. Refer to the **Select Protocol** screen.)

1. Click **PPP over ATM** to display the **SET VPI and VCI** screen.



**Figure 2-21.** Set VPI and VCI Screen

2. Type the **DSL Configuration Values** given to you by your service provider.
3. To type a **Dial-Up Networking Name**, type over the name that appears.

The name you have chosen will appear underneath the connection icon in your **Dial-Up Networking** folder. The installation software will also create a shortcut on your computer's desktop. The shortcut will be saved with the name you have assigned to it.

Click **Back** if you wish to change your selection

Click **Next** to display the **Install** screen.

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**Note** If the Installation software fails to create the **Dial-Up Networking Name** and shortcut, you will need to create them manually. See **Troubleshooting**.

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## Installing the Application

In the **Install** screen, you will install the **ADSL Modem Control Center** software.

1. Click **ADSL Control Center/Install** to display the **Network** screen..

The **Next** button appears activated

Choosing **Instant Update** is recommended. If you choose not to install it, you may do so later.

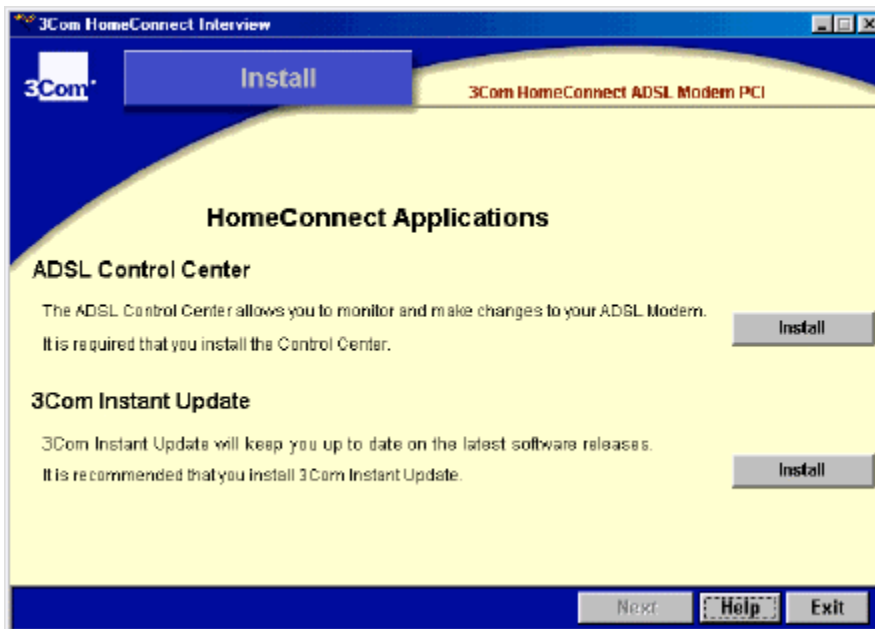


Figure 2-22. Install Screen

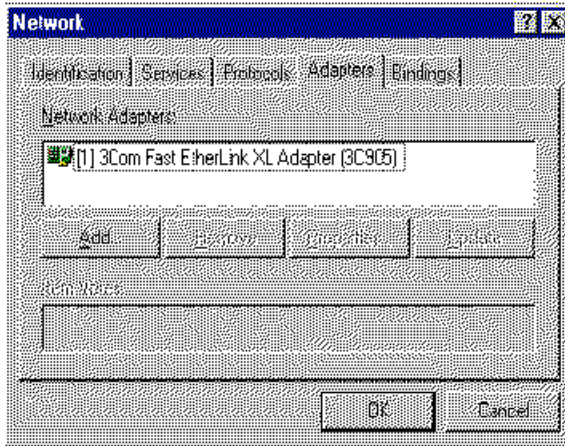
2. Click **Next** to display the **Network** screen.



**Caution** – If you **Exit** at this point, you will need to start over.

3. Click the **Adapters** tab>**Add**.

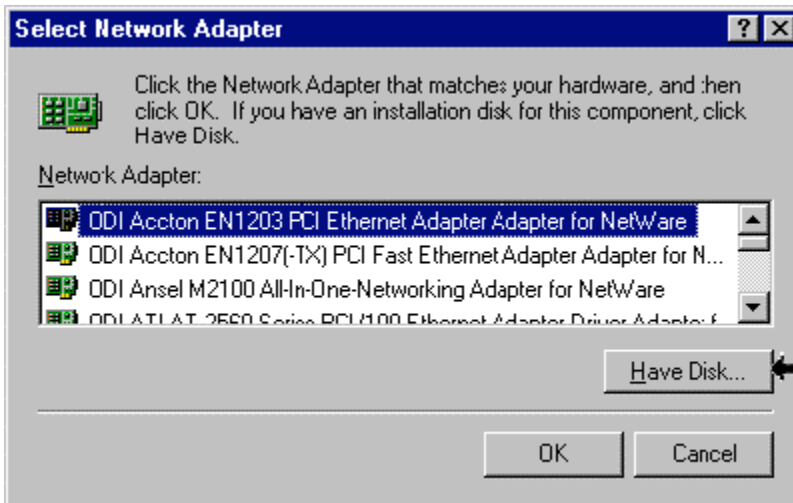
The system displays the network adapter card.



**Figure 2-23.** Network Screen

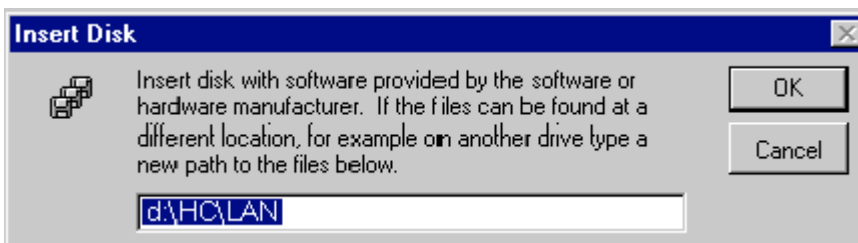
Click **OK** to display the **Select Network Adapter** screen..

4. Scroll until the card displayed in the **Network Adapters** window of the **Network Screen** appears.
5. Select the network adapter card.
6. Click **Have Disk**.



**Figure 2-24.** Select Network Adapter Screen

The **Insert Disk** screen appears and prompts you for the location of the **ADSL Modem** drivers.



**Figure 2-25.** Insert Disk Screen

7. Insert the **ADSL Modem CD-ROM** into your CD-ROM drive.

Wait about five seconds for it to warm up.

- a) Type the following path: <x>:\HC\LAN\i386 or <x>:\HC\WAN\i386\ENG where <x> is the letter designated as your CD-ROM drive (usually the <d> drive).

LAN represents **Ethernet and/or PPP over Ethernet** and WAN represents **PPP over ATM**.

- b) Click **OK** to display the **Select OEM Option** screen..

The **Select OEM Option** window appears displaying the correct drivers to install: **ADSL Modem LAN/RFC1483** or **ADSL PPP over ATM** drivers.

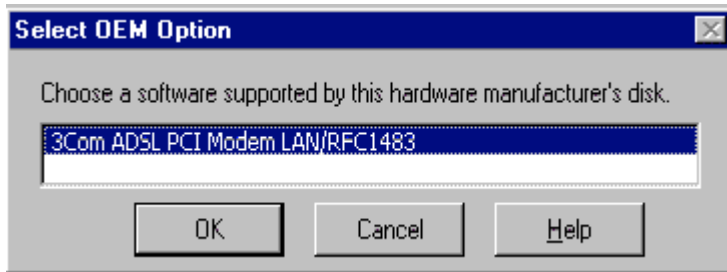


Figure 2-26. Select OEM Option Screen

8. Click **OK** to display the **Network** screen.

## PPP over ATM

1. Click the **Services** tab and select **Remote Access Service**.



**Warning** - When adding devices in the **Remote Access Setup** screen, ensure that the devices are set for **dial-out**. This is not the default setting on the Windows NT Server.

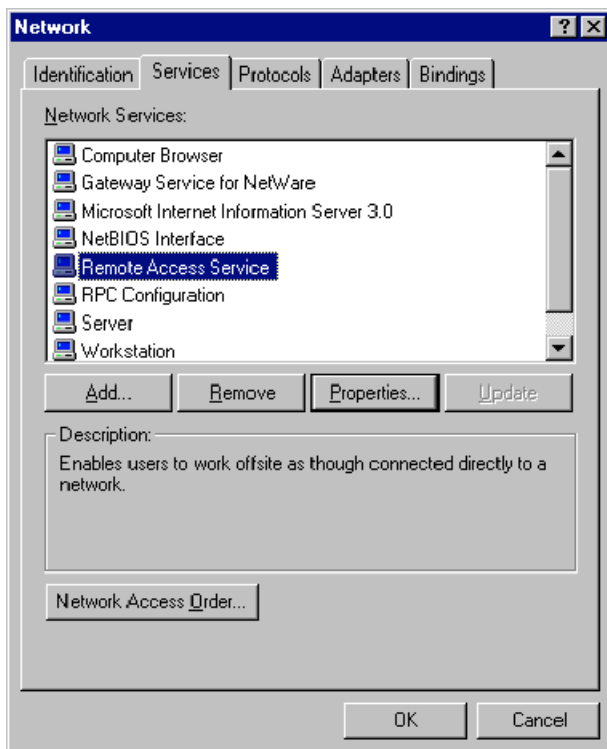


Figure 2-27. Network Screen

2. Click **Add**.
3. Click **OK** to display the **Remote Access Setup** screen.

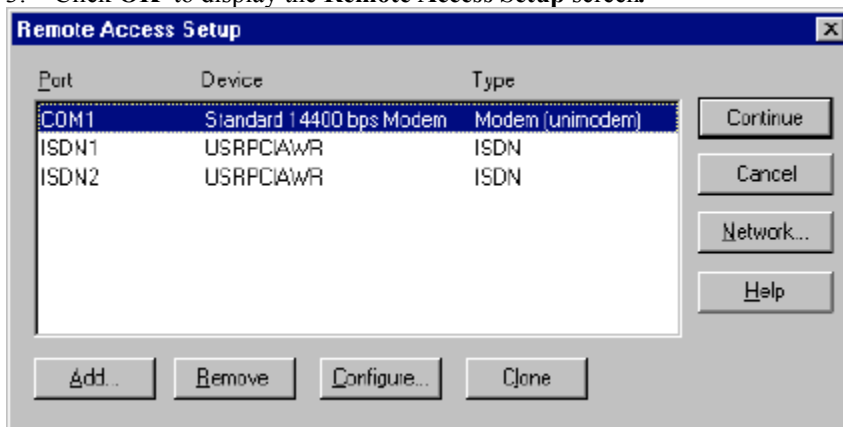


Figure 2-28. Remote Access Setup Screen

4. Click **ISDN1 USRPCIAWR** and **ISDN2 USRPCIAWR**.  
You may see more, but add only these two.
5. To ensure the two **ISDN** devices are set for *dial-out*, do the following:
  - a) Click **Configure**.  
The **Configure Port Usage** screen appears.
  - b) Ensure that **Receive Calls Only** is not selected.
6. Click **Close** and restart your computer when prompted.

## Checking Your ADSL Connection

The application starts automatically when you open Windows. The icon display will show you at a glance whether you have a good physical connection with the ADSL line.

### UP Connection

If you have a good physical connection with your service provider, a **Green LED** light indicating **UP** appears on the icon pictured below. This light means that you have properly installed the **ADSL Modem** and that you are done setting up your modem.



Figure 2-29. Operational ADSL Connection

### DOWN Connection

If you do not have a good physical connection with your service provider, a **Red LED** light indicating **DOWN** appears. This light means that you have not properly installed the **ADSL Modem** and that you need to do some diagnostics.



Figure 2-30. Non-operational Connection

When you start-up your computer, your **ADSL Modem** will begin to connect to your service provider. While the modem is connecting, the **Red LED** light will show the line status as down. This is okay. It may take about 60 seconds to make the connection.

If your link is down, choose **Start > Programs > ADSL Modem PCI > Online Help**.

The **troubleshooting** section will appear. You need at least a version 4.0 browser to view the Help.