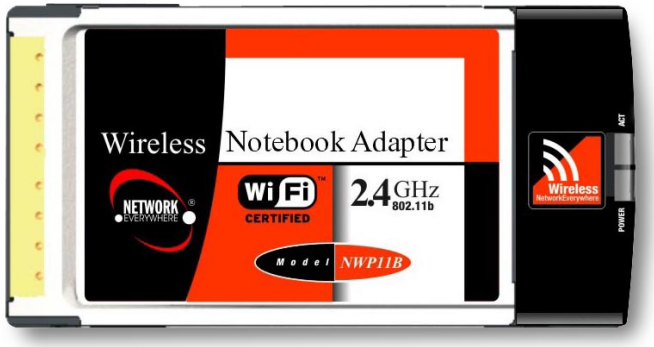
Instant Wireless™ Series

Wireless Notebook Adapter



Use this Guide to install:

NWP11B

User Guide

LINKSYS®

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LIMITED WARRANTY

Linksys guarantees that every Instant Wireless™ Network PC Card ver. 3.0 is free from physical defects in material and workmanship for one year from the date of purchase. when us Any changes or modifications not expressly approved by the party responsible for these pr compliance could void the user's authority to operate this equipment

Support

PROOF OF PURCHASE AND A BARCODE FROM THE PRODUCT'S PACKAGING ON HAND WHEN CALLING. RETURN REQUESTS CANNOT BE PROCESSED WITHOUT PROOF OF PURCHASE. When returning a product, mark the Return Authorization Number clearly on the outside of the package and include your original proof of purchase. All customers located outside of the United States of America and Canada shall be held responsible for shipping and handling charges.

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FCC STATEMENT

This product has been tested and complies with the specifications for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used according to 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 is found 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 or devices
- Connect the equipment to an outlet other than the receiver's
- Consult a dealer or an experienced radio/TV technician for assistance

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter

Table of Contents

Chapter 1: Introduction 1
- The Instant Wireless™ 1
- Features 1
- Package Contents 2
- System Requirements 2

Chapter 2: Planning Your Wireless Network 3
- Network Topology 3
- Roaming 3

Chapter 3: Installing the Drivers and Configuration Utility for Windows 95, 98, ME and 2000 4
- Before You Start 4
- Running the Auto Driver Installation 4
- Ad-Hoc Versus Infrastructure Mode 8
- Infrastructure Mode 9
- Ad-Hoc Mode 11

Chapter 4: Installing the Drivers and Configuration Utility for Windows XP 14

Chapter 5: Installing the Network PC Card 16

Chapter 6: Installing the Drivers and Configuration Utility for Windows NT 17
- Overview 17
- Installing the Network PC Card in Your Notebook PC 17
- Installing the Drivers for Windows NT 18
- Installing the Configuration Utility for Windows NT 30

Chapter 7: Configuration Utility 30
- Using the Configuration Utility 30

Chapter 8: Installing Network Protocols 39

Chapter 9: Advanced Properties 41
- Advanced Properties for Windows 95, 98, ME, and 2000 41
- Advanced Properties for Windows NT 49

Chapter 10: Troubleshooting 56
- Common Problems and Solutions 56
- Frequently Asked Questions 57

Chapter 11: Glossary 61

Chapter 12: Specifications 68
- Environmental 68

Chapter 13: Warranty Information 69

Chapter 14: Contact Information 70

Chapter 1: Introduction

The Instant Wireless™ Network PC Card ver. 3.0

Put the "mobile" back into mobile computing! Whether you're at your desk or in the boardroom, the Instant Wireless™ Network PC Card allows you to share printers, files, and other resources anywhere within your LAN infrastructure, increasing your productivity and keeping you "in touch."

The Instant Wireless™ Network PC Card now has a new, higher-powered antenna that provides a greater range than ever. The increased sensitivity helps filter out interference and "noise" to keep your signal clear. Improved error correction in the chipset keeps you operating at higher transmission rates for longer distances. And, since you only need one Type II or III PCMCIA slot, you're free to use your other slots for additional accessories.

Ready to run in Type II or III PCMCIA-equipped notebook PCs running Windows 95, 98, Millennium, NT, 2000, and XP, the Instant Wireless™ Network PC Card ver. 3.0 is truly a "must-have" for all notebook PC users.

Features

- 11 Mbps High-Speed Data Transfer Rate
- Compatible with Virtually All Major Network Operating Systems
- Plug-and-Play Operation Provides Easy Setup
- Integrated Equalizer Recovers Weak Signals and Enhances Sensitivity
- Sturdy Metal Design with Integrated Antenna
- Works with All Standard Internet Applications
- Interoperable with IEEE 802.11b (DSSS) 2.4GHz-Compliant Equipment
- Clear Channel Assessment Increases Network Throughput
- Hardware Buffer Chaining Provides High Performance While Reading and Writing Buffers
- Capable of up to 128-Bit WEP
- Free Technical Support—24 Hours a Day, 7 Days a Week for North America Only
- 1-Year Limited Warranty

Figure 1-1

Package Contents

- One Instant Wireless™ Network PC Card ver. 3.0
- One Setup Utility CD-ROM (User Guide on CD)
- Quick Installation insert and Registration Card (not shown)

System Requirements

- A 16-bit PCMCIA Type II or Type III slot
- PCMCIA revisions 2.10 compliant card and socket services
- Windows 95, 98, Millennium, NT, 2000, or XP
- 600 Kbytes of free disk space for utility and driver installation

Chapter 2: Planning Your Wireless Network

Network Topology

A wireless LAN is exactly like a regular LAN, except that each computer in the LAN uses an Instant Wireless™ Network PC Card ver. 3.0 to connect to the network through a wireless connection. Computers in a wireless LAN must be configured to share the same radio channel.

The Instant Wireless™ Network PC Card ver. 3.0 provides LAN access for wireless workstations. An integrated wireless and wired LAN is called an Infrastructure configuration. A group of Instant Wireless™ Network PC Card ver. 3.0 users and an Access Point compose a Basic Service Set (BSS). Each PC equipped with an Instant Wireless™ Network PC Card ver. 3.0 in a BSS can talk to any computer in a wired LAN infrastructure via the Access Point.

An infrastructure configuration extends the accessibility of an Instant Wireless™ Network PC Card ver. 3.0 PC to a wired LAN, and doubles the effective wireless transmission range for two PCs equipped with an Instant Wireless™ Network PC Card ver. 3.0. Since the Access Point is able to forward data within its BSS, the effective transmission range in an infrastructure LAN is doubled.

Roaming

Infrastructure mode also supports roaming capabilities for mobile users. More than one BSS can be configured as an Extended Service Set (ESS). This continuous network allows users to roam freely within an ESS. All PCs, equipped with an Instant Wireless™ Network PC Card ver. 3.0, within one ESS must be configured with the same ESS ID.

Before enabling an ESS with roaming capability, selecting a feasible radio channel and optimum Access Point position is recommended. Proper Access Point positioning combined with a clear radio signal will greatly enhance performance.

Chapter 3: Installing the Drivers and Configuration Utility for Windows 95, 98, ME, and 2000

Before You Start

Your new Linksys Instant Wireless™ Network PC Card ver. 3.0 comes with an automated software installation procedure for Windows 95, 98, Millennium, and 2000. ***Windows NT or XP users should refer to the next section.*** This new procedure automatically installs the drivers and Configuration Utility ***before*** you insert the Card into your PC, so there's no searching for the location of drivers. *Again, this step is taken before inserting the Card into your PC.*

Running the Auto Driver Installation

1. Before installing your card, insert the Setup Utility CD into your CD-ROM drive. Unless you have deactivated the auto-run feature of Windows, the screen shown in Figure 2-1 should appear automatically.

Figure 2-1

If this screen does not appear automatically, you can access the installation by clicking the **Start** button and choosing **Run**. In the drop-down box provided, type **D:\setup.exe** (where D: is the letter of your CD-ROM drive). Alternately, double-click **My Computer** and double-click the CD-ROM drive where the Setup Utility CD is located. Double-click the **Setup.exe** icon in the folder that appears.

2. The first tab across the top of the screen, labeled **Install**, should now be highlighted. Click the **Install** button. A screen similar to that shown in Figure 2-2 should appear, indicating that Windows is preparing the installation.

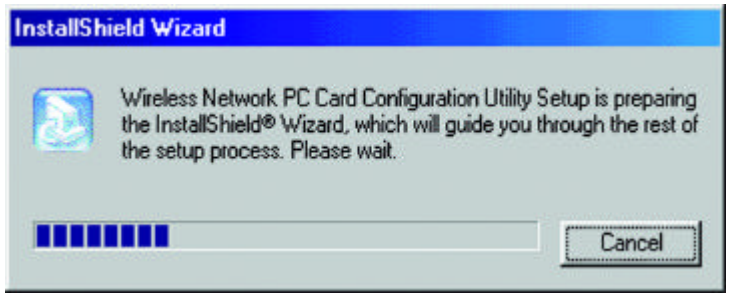

Figure 2-2

If, for whatever reason, you need to abort or terminate the installation, press the **Cancel** button at any time during the installation. Otherwise the installation will continue automatically.

Note: If you stop the installation before it has finished, you will have to run the installation completely again before installing your hardware.

3. The screen in Figure 2-3 will appear next, indicating that Windows is ready to continue the installation. Click the **Next** button.

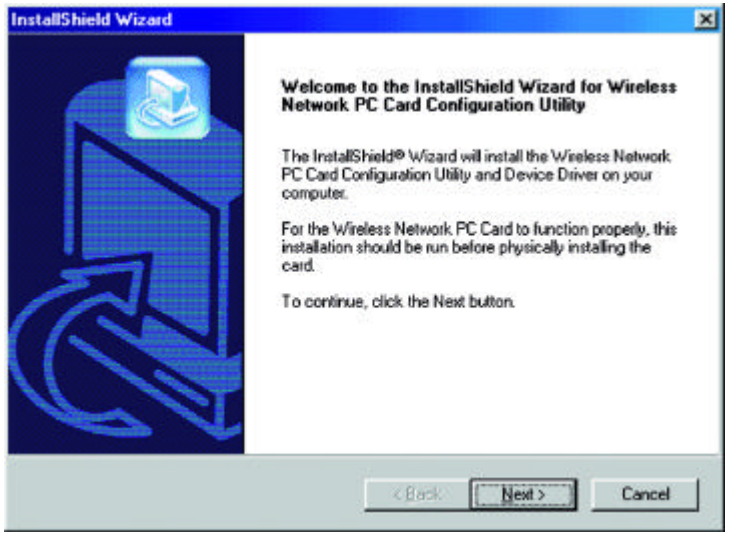

Figure 2-3

4. Figure 2-4 shows the **Warranty Policy** screen. Read the entire policy by pressing the **Page Down** button on your keyboard or by using the on-screen scroll bar. Click on the **Yes** button if you agree, or **No** if you disagree. Clicking **No** will terminate the installation. If you click **Yes**, the installation will continue.

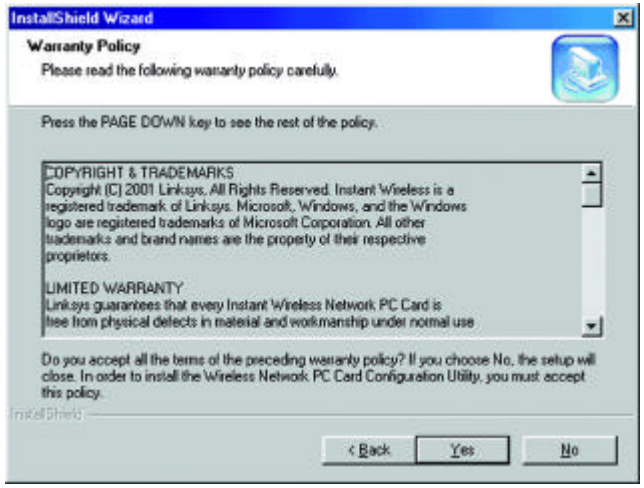

Figure 2-4

5. The screen in Figure 2-5 will appear next, requesting the folder into which the Configuration Utility will be installed. To install the Configuration Utility in the default directory (recommended), click the **Next** button. If you prefer to install the Utility in another directory, click the **Browse** button, and locate the preferred directory. Then, click the **Next** button.

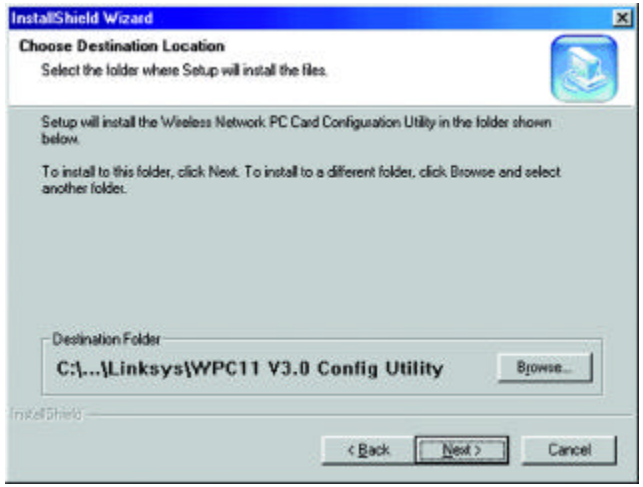

Figure 2-5

6. When the screen shown in Figure 2-6 appears, choose either **Infrastructure** mode or **Ad-Hoc** mode. If you are unsure whether to choose Infrastructure or Ad-Hoc, refer to the next section for more information. Once you have made your choice, click the **Next** button.

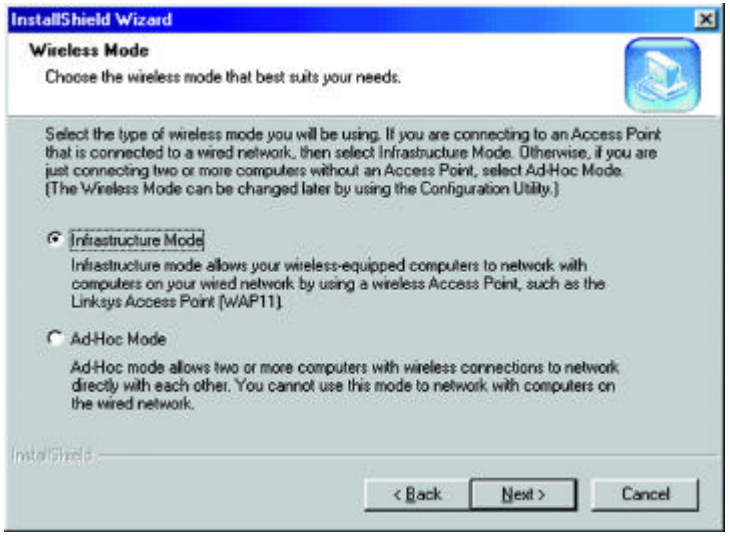

Figure 2-6

Ad-Hoc versus Infrastructure Mode

Unlike wired networks, wireless networks have two different modes in which they may be set up: **Infrastructure** and **Ad-Hoc**. Choosing between these two modes depends on whether or not the wireless network needs to share data or peripherals with a wired network or not.

If the computers on the wireless network need to be accessible by a wired network or need to share a peripheral, such as a printer, with the wired network computers, the wireless network should be set up in the **Infrastructure** mode. The basis of Infrastructure mode centers around an **access point**, which serves as the main point of communications in a wireless network (see Figure 2-7). Access points transmit data to PCs equipped with wireless network cards, which can **roam** within a certain radial range of the access point. Multiple access points can be arranged to work in succession to extend the roaming range, and can be set up to communicate with your Ethernet hardware as well.

Figure 2-7

If the wireless network is relatively small and needs to share resources only with the other computers on the wireless network, then the **Ad-Hoc** mode can be used (shown in Figure 2-8). Ad-Hoc mode allows computers equipped with wireless Network PC Cards to communicate directly with each other, eliminating the need for an access point. The drawback of this mode is in the fact that, in Ad-Hoc mode, wireless-equipped computers are not able to communicate with computers on a wired network. And, of course, communication between the wireless-equipped computers is limited by the distance and interference directly between them.

Figure 2-8

Infrastructure Mode

1. If you have chosen **Infrastructure** mode, the following screen (Figure 2-9) will appear. If you have chosen **Ad-Hoc** mode, skip to the next section, titled "Ad-Hoc Mode".

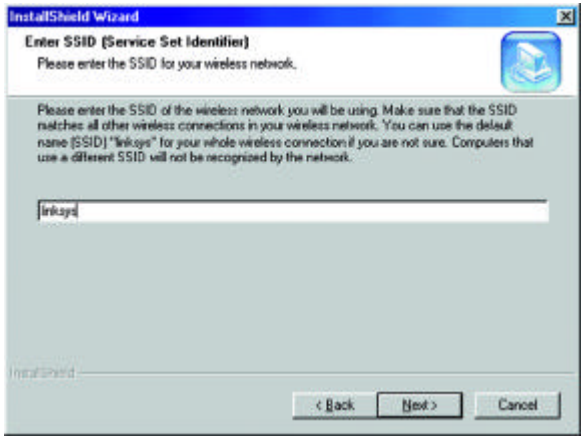

Figure 2-9

You will be prompted to enter an **SSID** value in the box provided. The SSID may be up to 32 characters in length. This may include any character on the keyboard, keeping in mind that the SSID is case sensitive. All SSID values on your wireless network must match. If you are unsure, use the default value of "linksys." Then, click the **Next** button.

2. The Review Settings screen (Figure 2-10) will appear next. Verify that all the settings are correct and click the **Next** button to continue.

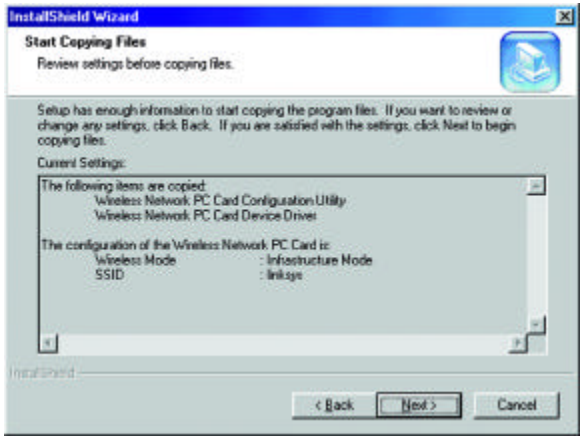

Figure 2-10

3. The screen shown in Figure 2-11 will appear, indicating that all of the appropriate files are being copied onto your drive. Click the **Cancel** button if you need to stop the installation for any reason.

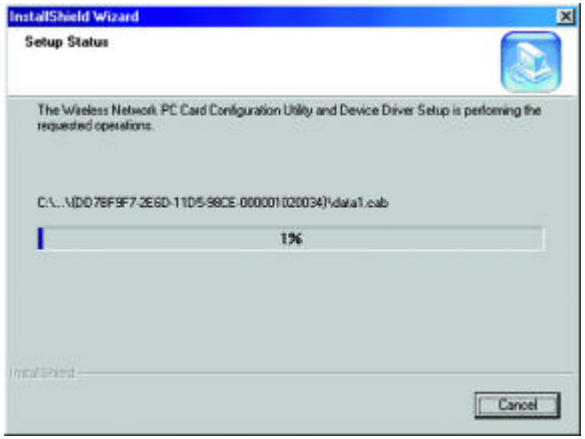

Figure 2-11

4. Once Windows has finished copying the necessary files, the screen shown in Figure 2-12 will appear. In order for the drivers to be installed properly, you must restart your computer. If you choose to do it now, select **Yes, I want to restart my computer now**. If you do not want to do it now, choose **No, I will restart my computer later**. Once you have made your choice, click the **Finish** button to continue.

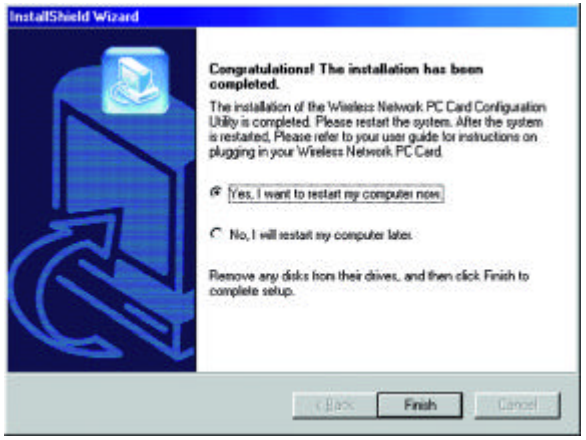

Figure 2-12

Note: Restart the computer and go to **Chapter 3: Installing the Network PC Card** for further instructions.

Ad-Hoc Mode

1. If you have chosen **Ad-Hoc** mode, the following screen will appear. (See Figure 2-13.) If you have chosen **Infrastructure** mode, refer to the previous section, titled "Infrastructure Mode".

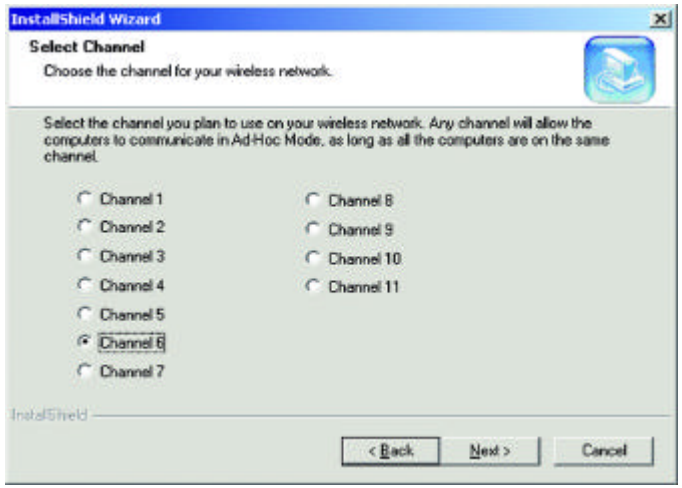

Figure 2-13

You will be prompted to choose a **Channel** from the list provided. All computers on your wireless network must be using the same channel in order to communicate with each other. If you are unsure about which channel to use, select the default channel (Channel 6). Once you have chosen your channel, click the **Next** button.

2. The screen shown in Figure 2-14 should appear. You will be prompted to enter an **SSID** value in the field provided. All SSID values on your wireless network must match. If you are unsure, use the default value of "linksys." Then, click the **Next** button.

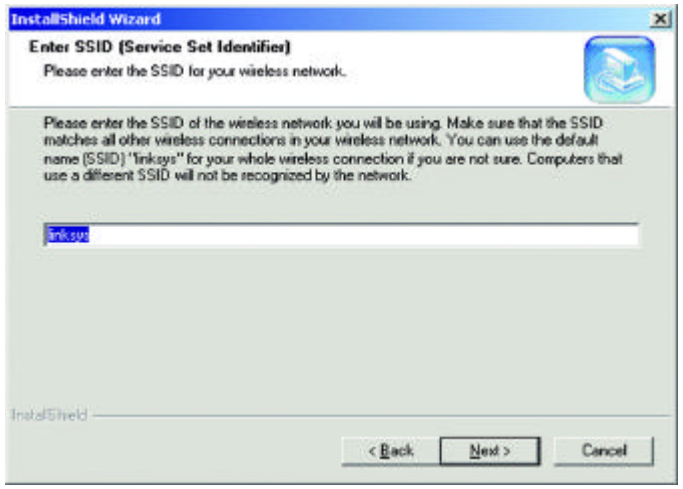

Figure 2-14

3. The next screen to appear (Figure 2-15) will be the Review Settings screen. Verify that all the settings are correct and click the **Next** button to continue.

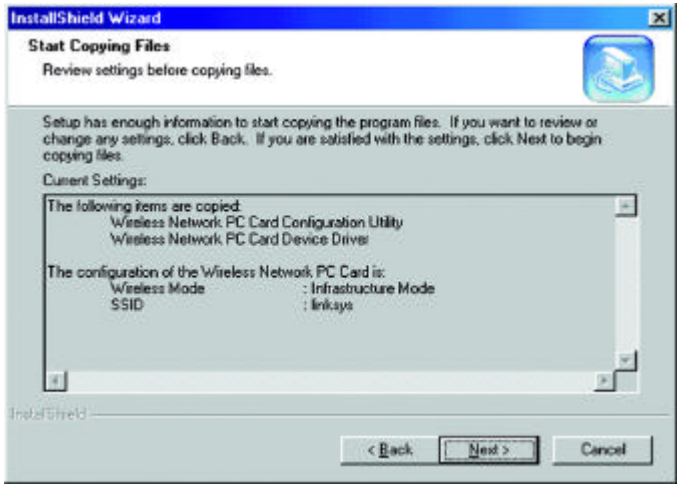

Figure 2-15

4. The next screen will indicate that all of the appropriate files are being copied onto your drive. (See Figure 2-16.) Click the **Cancel** button if you need to stop the installation for any reason.

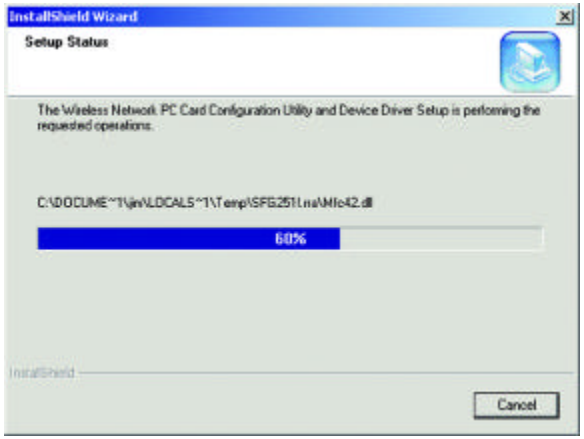

Figure 2-16

5. Once Windows has finished copying the necessary files, a screen similar to that shown in Figure 2-17 will appear. In order for the drivers to be installed properly, you must restart your computer. If you choose to do it now, select **Yes, I want to restart my computer now**. If you do not want to do it now, choose **No, I will restart my computer later**. Once you have made your choice, click the **Finish** button to continue.

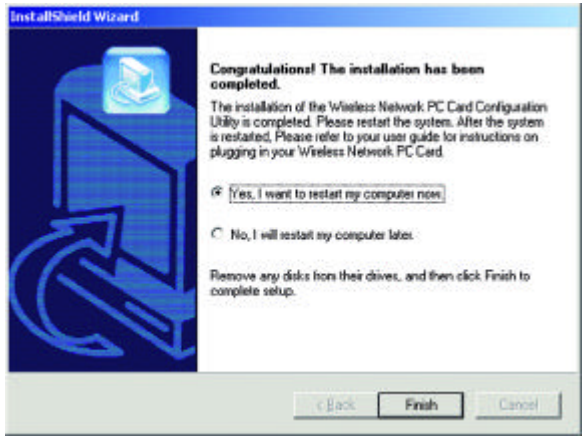

Figure 2-17

Note: Restart the computer and go to **Chapter 5: Installing the Network PC Card** for further instructions.

Chapter 4: Installing the Drivers and Configuration Utility for Windows XP

Windows XP will automatically walk you through the driver installation process as well as automatically configure the Network PC Card for your wireless network. If you have any questions regarding wireless networking on your Windows XP PC, please refer to your Windows XP documentation.

To install the Network PC Card's drivers, insert the Setup Utility CD-ROM into your CD-Rom drive and then insert the card into your PC's PCMCIA slot. Windows XP will automatically detect the card and search for the appropriate drivers. The screen in Figure 4-1 will then appear.

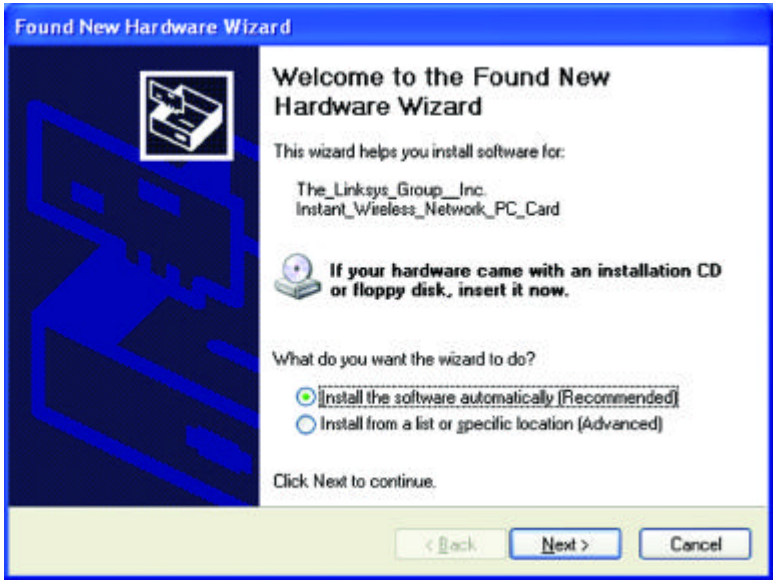

Figure 4-1

Verify that the radio button beside **Install the software automatically (Recommended)** is highlighted. If not, click it. Then, click the **Next** button to continue.