LINKSYS®

A Division of Cisco Systems, Inc.

2.4GHz 802.11b

Wireless-B

USB Network Adapter User Guide

WIRELESS

Model No. **WUSB11**

CISCO SYSTEMS

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This User Guide

The User Guide to the Wireless-B USB Network Adapter has been designed to make understanding networking easier than ever. Look for the following items when reading this guide:

This checkmark means there is a Note of interest and is something you should pay special attention to while using the USB Network Adapter.

This exclamation point means there is a Caution or warning and is something that could damage your property or the USB Network Adapter.

This question mark provides you with a reminder about something you might need to do while using the USB

In addition to these symbols, there are definitions for technical terms that are presented like this:

word: *definition.*

Also, each figure (diagram, screenshot, or other image) is provided with a figure number and description, like this:

Figure 0-1: Sample Figure Description

Figure numbers and descriptions can also be found in the "List of Figures" section in the “Table of Contents”.

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Chapter 1: Introduction

Welcome

Thank you for choosing the Wireless-B USB Network Adapter. With this Adapter, your wireless networking experience will be faster and easier than ever.

How does the Adapter do this? Like all wireless products, the Adapter allows for greater range and mobility within your wireless network. Connecting to your PC via the USB port means that this Adapter leaves the PC's slots open for other purposes. This adapter communicates over the 802.11b wireless standard, one of the most popular wireless standards, to communicate with your network.

But what does all of this mean?

Networks are useful tools for sharing computer resources. You can access one printer from different computers and access data located on another computer's hard drive. Networks are even used for playing multiplayer video games. So, networks are not only useful in homes and offices, they can also be fun.

PCs equipped with wireless cards and adapters can communicate without cumbersome cables. By sharing the same wireless settings, within their transmission radius, they form a wireless network.

Use the instructions in this Guide to help you connect the Access Point, set it up, and configure it to bridge your different networks. These instructions should be all you need to get the most out of the Access Point.

network: *a series of computers or devices connected for the purpose of data sharing, storage, and/or transmission between users.*

adapter: *a device that adds network functionality to your PC.*

802.11b: *an IEEE wireless networking standard that specifies a maximum data transfer rate of 11Mbps and an operating frequency of 2.4GHz.*

What's in this Guide?

This user guide covers the steps for setting up and using the Wireless-B USB Network Adapter.

- Chapter 1: Introduction
  This chapter describes the Adapter's applications and this User Guide.

- Chapter 2: Planning Your Wireless Network
  This chapter discusses a few of the basics about wireless networking.

- Chapter 3: Getting to Know the Wireless-B USB Network Adapter
  This chapter describes the physical features of the Adapter.

- Chapter 4: Software Installation and Configuration for Windows 98SE, Me, and 2000
  This chapter instructs you on how to install the Adapter's Setup Wizard and Configure the Adapter for Windows 98SE, Me, and 2000.

- Chapter 5: Hardware Installation
  This chapter shows you how to connect the Adapter to your PC.

- Chapter 6: Driver Installation and Configuration for Windows XP
  This chapter explains how to install the Adapter's driver and use Windows Zero Configuration.

- Chapter 7: Using the WLAN Monitor for Windows 98SE, Me, and 2000
  This chapter show you how to use the Adapter's WLAN Monitor.

- Appendix A: Troubleshooting
  This appendix describes some problems and solutions, as well as frequently asked questions, regarding installation and use of the Adapter.

- Appendix B: Wireless Security
  This appendix discusses security issues regarding wireless networking and measures you can take to help protect your wireless network.

- Appendix C: Windows Help
  This appendix describes how you can use Windows Help for instructions about networking, such as installing the TCP/IP protocol.

- Appendix D: Glossary
  This appendix gives a brief glossary of terms frequently used in networking.

- Appendix E: Specifications
  This appendix provides the Adapter's technical specifications.
- Appendix F: Warranty Information
  This appendix supplies the Adapter's warranty information.
- Appendix G: Regulatory Information
  This appendix supplies the Adapter's regulatory information.
- Appendix H: Contact Information
  This appendix provides contact information for a variety of Linksys resources, including Technical Support.

Chapter 2: Planning your Wireless Network

Network Topology

***topology**: the physical layout of a network.*

A wireless network is a group of computers, each equipped with one wireless adapter. Computers in a wireless network must be configured to share the same radio channel. Several PCs equipped with wireless cards or adapters can communicate with one another to form an ad-hoc network.

***ad-hoc**: a group of wireless devices communicating directly with each other (peer-to-peer) without the use of an access point.*

Linksys wireless adapters also provide users access to a wired network when using an access point or wireless router. An integrated wireless and wired network is called an infrastructure network. Each wireless PC in an infrastructure network can talk to any computer in a wired network infrastructure via the access point or wireless router.

***infrastructure**: a wireless network that is bridged to a wired network via an access point.*

An infrastructure configuration extends the accessibility of a wireless PC to a wired network, and can double the effective wireless transmission range for two wireless adapter PCs. Since an access point is able to forward data within a network, the effective transmission range in an infrastructure network can be doubled.

Roaming

***roaming**: the ability to take a wireless device from one access point's range to another without losing the connection.*

Infrastructure mode also supports roaming capabilities for mobile users. Roaming means that you can move your wireless PC within your network and the access points will pick up the wireless PC's signal, providing that they both share the same channel and SSID.

***ssid**: your wireless network's name.*

Before enabling you consider roaming, choose a feasible radio channel and optimum access point position. Proper access point positioning combined with a clear radio signal will greatly enhance performance.

Network Layout

Linksys wireless access points and wireless routers have been designed for use with 802.11a, 802.11b, and 802.11g products. With 802.11g products communicating with the 802.11b standard and some products incorporating both “a” and “g”, products using these standards can communicate with each other.

Access points and wireless routers are compatible with 802.11a, 802.11b and 802.11g adapters, such at the PC Cards for your laptop computers, PCI Card for your desktop PC, and USB Adapters for when you want to enjoy USB connectivity. Wireless products will also communicate with the wireless PrintServer.

When you wish to connect your wired network with your wireless network, network ports on access points and wireless routers can be connected to any of Linksys's switches or routers.

With these, and many other, Linksys products, your networking options are limitless. Go to the Linksys website at www.linksys.com for more information about wireless products.

Chapter 3: Getting to Know the USB Network Adapter

The USB Port

The Adapter's USB port is located on the side of the Adapter. You will attach the included USB cable to this port. The other end of the cable will connect to your PC's USB port.

Figure 3-1: Back Panel

The LED Indicators

The Network Adapter's LEDs display information about network activity.

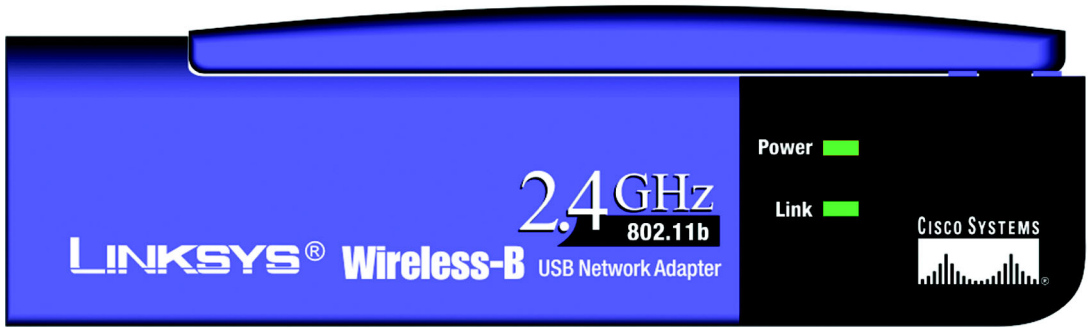

Figure 3-2: Front Panel

Power *Green*. The Power LED lights up when the Adapter is powered on.

Link *Green*. The Link LED lights up when the Adapter has an active connection.

Chapter 4: Software Installation and Configuration for Windows 98SE, Me, and 2000

The Wireless Wireless-B USB Network Adapter Setup Wizard will guide you through the installation procedure for Windows 98SE, Me, and 2000. The Setup Wizard will install the WLAN Monitor and driver, as well as configure the Adapter.

wlan: *a group of computers and associated devices that communicate with each other wirelessly.*

NOTE: Windows XP Users. Do **NOT** run the Wireless-B USB Network Adapter Setup Wizard. Proceed directly to "Chapter 5: Hardware Installation."

NOTE: Windows 98SE, Me, and 2000 users. You must run the Setup Wizard to install the software before installing the hardware.

Insert the **Setup Wizard CD-ROM** into your CD-ROM drive. The Setup Wizard should run automatically, and the *Welcome* screen should appear. If it does not, click the **Start** button and choose **Run**. In the field that appears, enter **D:\setup.exe** (if "D" is the letter of your CD-ROM drive).

On the Welcome screen, you have the following choices:

Install - Click the **Install** button to begin the software installation process.

User Guide - Click the **User Guide** button to open the PDF file of this User Guide.

Exit - Click the **Exit** button to exit the Setup Wizard.

Figure 4-1: The Setup Wizard's Welcome screen

software: *instructions for the computer*

The Installation Procedure

1. To install the Adapter, click the **Install** button on the Welcome screen.

2. After reading the License Agreement, click the **Next** button if you agree, or click the **Cancel** button to end the installation.

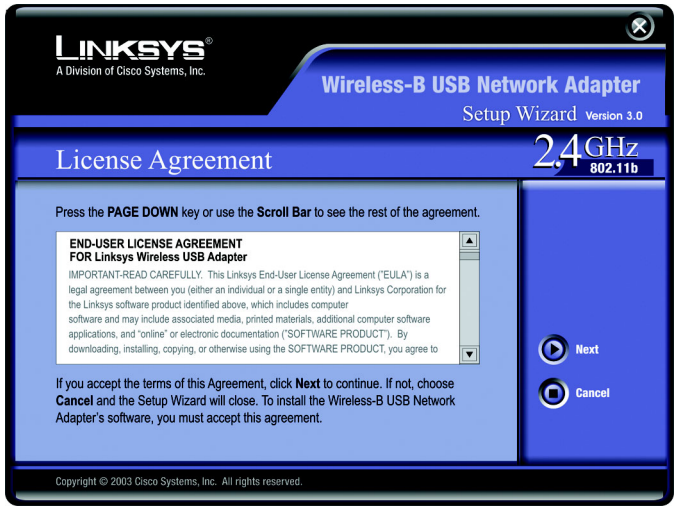

Figure 4-2: The Setup Wizard's License Agreement

3. The Setup Wizard will ask you to choose a network mode. Click the **Infrastructure Mode** radio button if you want your wireless computers to network with computers on your wired network using a wireless access point. Click the **Ad-Hoc Mode** radio button if you want multiple wireless computers to network directly with each other.

   In the SSID field, enter the **SSID** of your wireless network. The SSID must be identical for all devices in the network. The default setting is **linksys** (all lowercase). Click the **Next** button.

NOTE: Network SSIDs should be unique to your network and identical for all devices within the network.

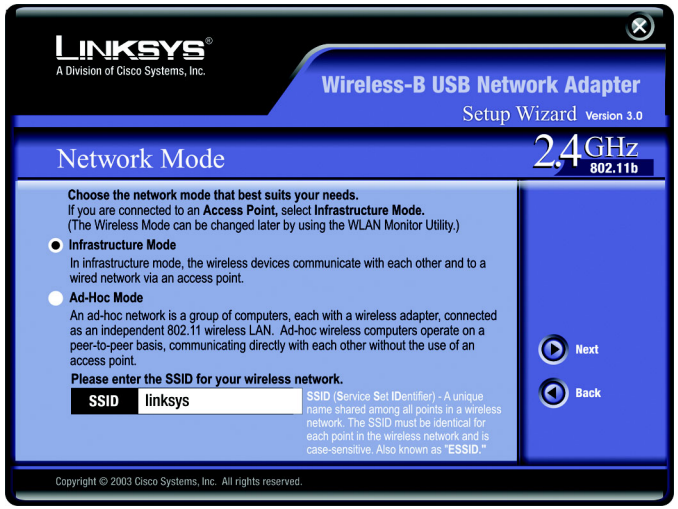

Figure 4-3: The Setup Wizard's Network Mode screen

4. If you chose **Infrastructure Mode**, go to Step 5 now. If you chose **Ad-Hoc Mode**, select the correct operating channel for your network. The channel you choose should match the channel set on the other devices in your wireless network. Then click the **Next** button.

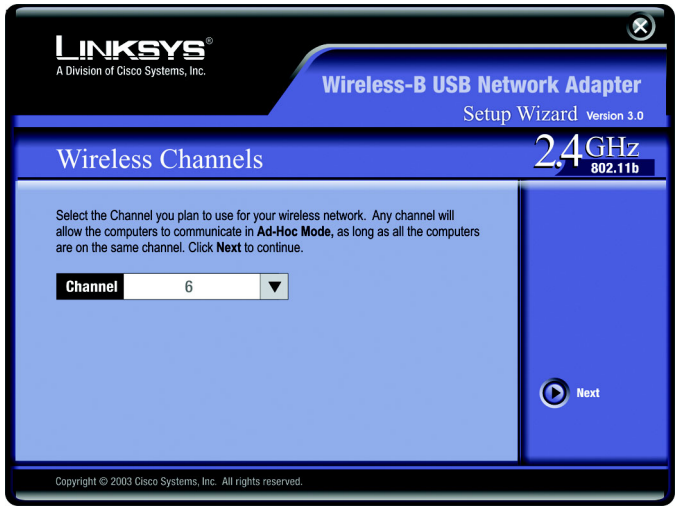

Figure 4-4: The Setup Wizard's Wireless Channels screen

5. The Setup Wizard will ask you to review your settings before it starts to copy files. Click the **Next** button to save these settings, or click the **Back** button to change any settings.

   If you're using Windows 2000, you may see a Windows Digital Signature warning. As this product has been tested to work with Windows, you may continue.

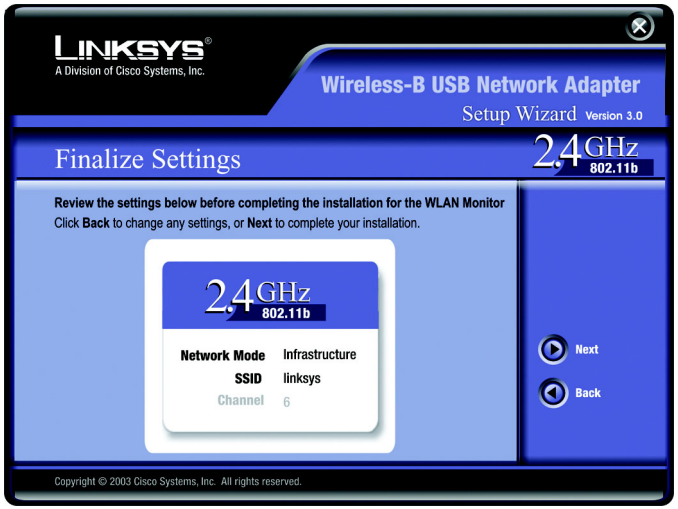

Figure 4-5: The Setup Wizard's Finalize Settings screen

6. After the software has been successfully installed, the Congratulations screen will appear. Click the **Exit** button.

Proceed to "Chapter 5: Hardware Installation."

Figure 4-6: The Setup Wizard's Congratulations Screen

Chapter 5: Hardware Installation

NOTE: Windows 98SE, Me, and 2000 users. You must run the Setup Wizard to install the software before installing the hardware.

NOTE: Windows XP Users. You must install the Adapter's hardware before installing the software.

Connecting the Adapter

1. The Adapter comes with the USB cable you will use to connect the Adapter to your PC.

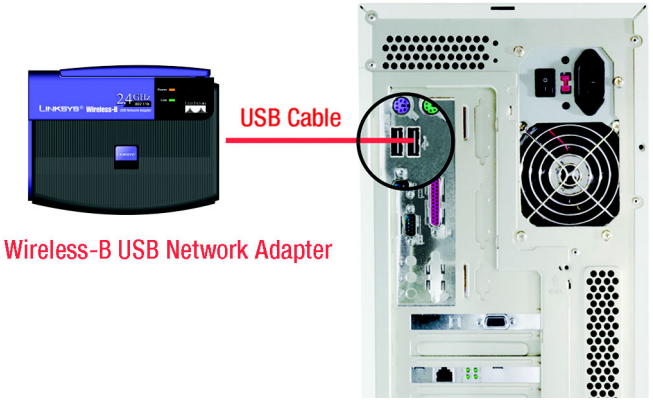

Figure 5-1: How the Adapter connects to your PC

Connect one end of the USB cable to the USB port of the Adapter.

Figure 5-2: The Adapter's USB Port

Connect the other end of the USB cable to one of the USB ports on your computer.

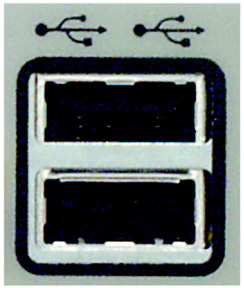

Figure 5-3: A PC's USB port

2. The Power LED should light up when the Adapter is plugged in. (Make sure your PC is powered on.)

Figure 5-4: The Adapter's LEDs

Raise the antenna. Make sure the antenna is positioned straight up into the air, at a 90º angle from the Adapter. This will ensure optimum wireless operating range and performance.

NOTE: If you want to attach the Adapter onto your wall, go to the next section, "Using the Adapter's Wall Mount," before proceeding to the appropriate chapter for your PC's operating system.

Figure 5-5: Positioning the LEDs antenna

If your PC is running Windows XP, proceed to "Chapter 6: Driver Installation and Configuration for Windows XP."

If your PC is running Windows 98SE, Me, or 2000, the installation of the Wireless-B USB Network Adapter is complete. If you want to check the link information, search for available wireless networks, or make additional configuration changes, proceed to "Chapter 7: Using the WLAN Monitor for Windows 98SE, Me, and 2000."

Using the Adapter's Wall Mount

The Adapter's Wall Mount allows you to easily attach the Adapter onto your wall for better reception and more convenient placement.

1. Attach the separate adhesive strip of velcro to the wall where you will be mounting the Adapter.

Figure 5-6: The Adapter's Wall Mount

2. To attach the Wall Mount to the Adapter, slide the Wall Mount into the grooves on the back panel of the Adapter, as shown in Steps A, B, and C.

Figure 5-7: Using the Wall Mount - Step A

Figure 5-8: Using the Wall Mount - Step B

3. Using the velcro strip on the Adapter's Wall Mount, attach the Adapter to the velcro strip on your wall.

Figure 5-9: Using the Wall Mount - Step C

If your PC is running Windows XP, proceed to "Chapter 6: Driver Installation and Configuration for Windows XP."

If your PC is running Windows 98SE, Me, or 2000, the installation of the Wireless-B USB Network Adapter is complete. If you want to check the link information, search for available wireless networks, or make additional configuration changes, proceed to "Chapter 7: Using the WLAN Monitor for Windows 98SE, Me, and 2000."