

1

# **802.11g USB Adapter**

## **Manual**

**Contents**

Contents.....	2
Package Contents.....	3
Introduction .....	4
Product Features.....	5
LEDs .....	6
Wireless Basics.....	7
Getting Started .....	10
First Time Setup.....	18
Before You Begin .....	18
Software Installation .....	19
Installing the WLAN Adapter Utility.....	23
Uninstalling.....	26
Connecting to a Network .....	31
Using the Configuration Utility for Windows XP.....	38
Troubleshooting.....	43
Technical Specifications.....	49

## **Package Contents**

### **Contents of Package:**

802.11g USB Adapter USB Wireless

USB Extension Cable

Manual and Drivers on CD

Hardware Installation Guide (printed)

*If any of the above items is missing, please contact your reseller.*

### **System Requirements:**

A computer with an available USB slot

Windows XP, Windows 2000, Windows ME, or Windows 98 SE

At least 32 MB of memory and a 300 MHz processor or higher

An 802.11g Access Point for **Infrastructure Mode** or another 802.11g wireless adapter for **Ad-Hoc mode**.

## Introduction

The Wireless USB Stick Adapter is an advanced IEEE 802.11g compatible, high-performance wireless adapter that supports data transfer speeds of up to 54 Mbps. Amazingly compact, the 802.11g USB Adapter is literally small enough to fit in your pocket.

USB technology makes installation and configuration quick and easy. The 802.11g USB Adapter is an ideal way to connect your laptop computer to a Wireless Local Area Network (WLAN.)

After completing the steps outlined in the Quick Installation Guide (included in your package) you will have the ability to share information and resources, such as files and printers, and take full advantage of a “connected” environment for work or play. Please take a look at our **Getting Started** section in this manual. You will see several options for setting up a network using the 802.11g USB Adapter.

The 802.11g USB Adapter comes with software drivers for the most popular Microsoft Windows operating systems and can be integrated into a larger network, running Windows XP, Windows 2000, Windows ME, Windows 98SE, in either Ad Hoc mode (without an Access Point) or Infrastructure mode (with an Access Point.)

This manual provides a quick introduction to wireless technology and its application as it relates to networking. Take a moment to read through this manual and see how wireless technology can help you do things better and more easily.

## **Product Features**

Adheres to 802.11g standard in providing high data wireless transfer rates of up to 54 Mbps.

Operation in the 2.4GHz Unlicensed National Information Infrastructure (U-NII) frequency band

Orthogonal Frequency Division Multiplexing (OFDM) – a new technique for transmitting high speed data over a radio wave.

Dynamic data rate scaling at 6, 9, 12, 18, 24, 36, 48, 54Mbps for IEEE 802.11g

Maximum reliability, throughput and connectivity with automatic data rate switching.

Supports Wired Equivalent Privacy (WEP) data encryption at 64/128/152-bit encryption with dynamic key exchange for security.

Supports infrastructure networks via Access Point and ad-hoc networks via peer-to-peer communication.

Requires an available USB slot.

User-friendly configuration and diagnostic utilities.

6

## **LEDs**

**LED** stands for **light-emitting diode**.

The 802.11g USB Adapter has two **LEDs: Activity and Link**

**Network Mode LED Activity**

LEDA on the left side

of PCB---LINK

Off: All other states

Blink - Radio On and

Scanning

LEDB on the right side

of PCB---ACTIVITY

Off: Radio Transmit

Disabled All other states

On(Flash): TX/RX Data

## Wireless Basics

The 802.11g USB Adapter is based on industry standards to provide easy-to-use and compatible high-speed wireless connectivity within your home or business. Strictly adhering to IEEE 802.11g, the 802.11g USB Adapter will allow you to access the data you want, when and where you want it. No longer will you be limited to one location or forced to run new wiring through your home or office. You will be able to enjoy the freedom that wireless networking delivers.

A wireless LAN (WLAN) is a cellular computer network that transmits and receives data with radio signals instead of wires. Wireless LANs are used increasingly in both home and office environments. Innovative ways to utilize WLAN technology are helping people to work and communicate more efficiently. Increased mobility and the absence of cabling and other fixed infrastructure has proven to be beneficial for many users.

Wireless users can use the same network applications they use on an Ethernet LAN. Wireless adapters used on laptop and desktop systems, support the same protocols as Ethernet adapter cards. For most users, there is no noticeable functional difference between a wired Ethernet desktop computer and a computer equipped with a wireless adapter - other than the added benefit of the ability to roam within the wireless cell. Under many circumstances, it may be desirable for mobile network devices to link to a conventional Ethernet LAN in order to use servers, printers or an Internet connection supplied through the wired LAN. A Wireless Access Point (AP) is a device used to provide this link.

People use wireless LAN technology for many different purposes.

**Mobility** - Productivity increases when people have access to data in any location within the operating range of the WLAN. Ad-hoc management decisions based on real-time information can significantly improve worker efficiency.

**Low Implementation Costs** - WLANs are easy to set up, manage, change and relocate. Networks that frequently change, both physically and logically, can benefit from WLANs' ease of implementation. WLANs can operate in locations where installation of wiring may be impractical. Furthermore, IEEE

standardization mandates interoperability of all WLAN devices that conform to the 802.11g set of standards.

**Installation Speed and Simplicity** - Installing a wireless LAN system can be fast and easy and can eliminate the need to pull cable through walls and ceilings.

**Installation Flexibility** - Wireless technology allows the network to go where wires cannot go.

**Reduced Cost-of-Ownership** - While the initial investment required for wireless LAN hardware might be higher than the cost of wired LAN hardware, overall installation expenses and life-cycle costs will be significantly lower. Long-term cost benefits are greatest in dynamic environments requiring frequent moves, adds, and changes.

**Scalability** - Wireless LAN systems can be configured in a variety of topologies to meet the needs of specific applications and installations. Configurations are easily changed and range from peer-to-peer networks suitable for a small number of users to full infrastructure networks of thousands of users that allow roaming over a broad area.

#### **Standards - Based Technology**

The IEEE 802.11g standard designates that devices operate at an optimal data rate of 54 Megabits per second. This means you will be able to transfer large files quickly or even watch a movie in MPEG format over your network without noticeable delays. This technology works by transmitting high-speed digital data over a radio wave utilizing **OFDM (Orthogonal Frequency Division Multiplexing)** technology. OFDM works by splitting the radio signal into multiple smaller sub-signals that are then transmitted simultaneously at different frequencies to the receiver. OFDM reduces the amount of crosstalk (interference) in signal transmissions. The 802.11g USB Adapter will automatically sense the best possible connection speed to ensure the greatest speed and range possible with the technology.

#### **Installation Considerations**

Designed to go up to 900 feet (~300 meters), 802.11g USB Adapter lets you access your network with your laptop computer from virtually anywhere you

want. Keep in mind, however, that the number and thickness of walls, ceilings or other objects that the wireless signals must pass through may limit range. Typical ranges vary depending on the types of materials and background RF (radio frequency) noise in your home or business. The key to maximizing range is to follow these basic principles:

1. Keep the number of walls and ceilings between the Access Point and your receiving device to a minimum - each wall or ceiling can reduce your 802.11g USB Adapter's range from 3-90 feet (1-30 meters.) For some businesses or for a large residential home deployment, it may be beneficial to have more than one access point with overlapping coverage.
  2. Be aware of the direct line between Access Points and computers with wireless adapters - a wall that is 1.5 feet thick (.5 meters), at a 45-degree angle appears to be almost 3 feet (1 meter) thick. At a 2-degree angle it looks over 42 feet (14 meters) thick! Try to make sure that the Access Points and adapters are positioned so that the signal will travel straight through a wall or ceiling for better reception.
  3. Building materials make a difference - a solid metal door or aluminum studs may have a negative effect on range. Try to position Access Points, and computers with wireless adapters so that the signal passes through drywall or open doorways and not other materials.
  5. Keep the 802.11g USB Adapter away (at least 3-6 feet or 1-2 meters) from electrical devices or appliances that generate extreme RF noise.
- For the average residence, range should not be a problem. If you experience low or no signal strength in areas of your home that you wish to access, consider positioning the Access Point in a location directly between the computers with wireless adapters that will be connected. Additional Access Points can be connected to provide better coverage in rooms where the signal does not register as strongly as desired.

## **Getting Started**

To begin, select the type of wireless network you will be building.

We will discuss the following types of networks in this section:

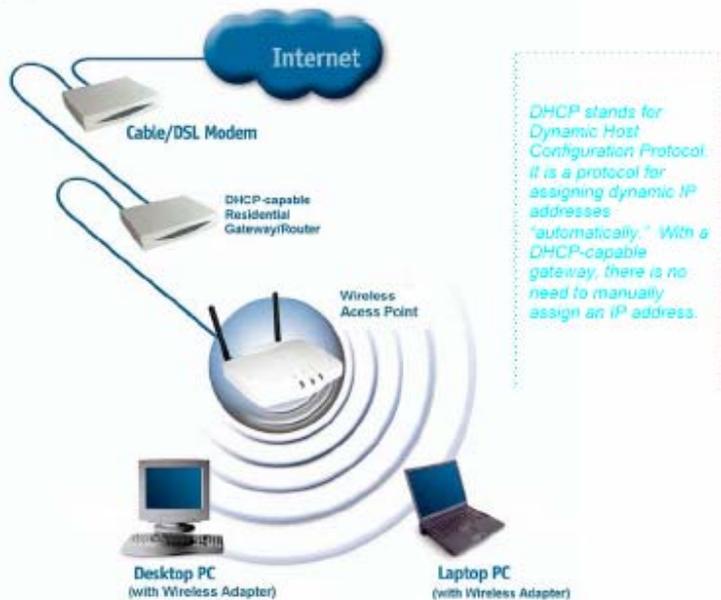
1. *A Home Internet Network with A Residential Gateway/Router*
2. *A Home Internet Network with Multiple IP Addresses*
3. *An Ad Hoc Network*
4. *An Ad Hoc Network with Internet Sharing*

Please select, from the four types of networks described above, the type of network that is appropriate for your needs. Please follow the instructions in the corresponding section that follows.

### 1. A Home Internet Network with A Residential Gateway/Router

(Network administrators with Dynamic IPs can also follow these instructions.)

If you have two or more computers (laptops or desktops) and want to share files, printers, and Internet access using a DHCP-capable Residential Gateway/Router – or - if you want to connect to an Ethernet network that uses Dynamic (DHCP) IP addresses, then follow the instructions on the next page.



**Requirements:** A Residential Gateway/Router connected with an Ethernet (CAT5) cable to an 802.11g Access Point.

This type of installation requires that you provide a dynamic IP address for each computer on your network. You will need a DHCP-capable Residential Gateway/Router for your network.

**To complete the installation, please follow these steps:**

1. Connect the **Router/Gateway** to a Broadband connection (e.g., a **Cable** modem or a **DSL** modem.)
2. Connect the 802.11g Access Point to the router.
3. Install the 802.11g USB Adapter into a laptop or desktop computer on your wireless network
4. Check the **Device Manager** to confirm that the wireless adapter is installed correctly. Please refer to the **Networking Basics** section in this manual entitled: Checking the Installation of the Drivers for the Wireless Adapter.
5. *By default, the wireless adapter is set to obtain a Dynamic IP Address.* If you are having difficulty connecting, check to make sure that the IP Address of the wireless adapter is within the IP address range of your network. Please refer to the **Networking Basics** section in this manual entitled: Checking the IP Address.

## 2. A Home Internet Network with Multiple IP Addresses

*(Network administrators with Static IPs can also follow these instructions.)*

If you have two or more computers (laptops or desktops) and want to share files, printers, and Internet access using multiple IP addresses that you have purchased from your Internet Service Provider **-or-** you want to connect to an Ethernet network that uses Static IP Addresses, then follow the instructions on the next page. When you have completed your network, it should look similar to this:



Please note that this type of installation requires that your ISP (Internet Service Provider) provides you a static IP address for each computer and the Access Point on your network. Please refer to the manual that came with your Access Point to determine its configuration. Please follow these steps to complete the installation:

1. Connect the Wireless Access Point to a Broadband connection (i.e., a Cable modem or a DSL modem.)
2. Install the **802.11g USB Adapter** in the computer(s) on your wireless network
3. Check the **Device Manager** to confirm that the wireless adapter is installed correctly. Please refer to the **Networking Basics** section in this manual entitled: Checking the Installation of the Drivers for the Wireless Adapter.
4. Set the Static IP Address of the wireless adapters if Multiple Dynamic IP are not used.

*Note: The IP Address for all computers must be in the same IP Address range, and the Subnet Mask must be the same for all the computers on the network. For example: If the first computer is assigned an IP Address of 192.168.0.2 with a Subnet Mask of 255.255.255.0, then the second computer can be assigned an IP Address of 192.168.0.3 with a Subnet Mask of 255.255.255.0, etc.*

*If you are using a PPPoE client (Point to Point Protocol over Ethernet), please contact your ISP (Internet Service Provider) for further instructions regarding connecting to the Internet.*

### 3. An Ad Hoc Network

If you have two or more computers (desktops or laptops) and want to share files and printers, but no Internet connection, please complete the following instructions. When your Ad Hoc network is complete it may look similar to this:



(Requirements: Wireless network adapters for all computers in the ad-hoc network.)

**To complete this installation, please follow these steps:**

1. Install the 802.11g USB Adapter into your computers.
2. Set the Static IP Address of the wireless adapters.

*Note: The IP Address for all computers must be in the same IP Address range, and the Subnet Mask must be the same for all computers on your network. For example: If the first computer is assigned an IP Address of 192.168.0.2 with a Subnet Mask of 255.255.255.0, then the second computer can be assigned an IP Address of 192.168.0.3 with a Subnet Mask of 255.255.255.0, etc.*

3. Check the Device Manager to confirm that the wireless adapter is installed correctly. Please refer to the **Networking Basics** section in this manual entitled: Checking the Installation of the Drivers for the Wireless Adapter.
4. Check the Wireless Configuration for each wireless adapter. Please refer to the **Networking Basics** section in this manual entitled: Checking the Wireless Configuration.
5. Learn to share printers and files. Please refer to the **Networking Basics** section in this manual entitled: Adding and Sharing Printers in Windows XP.

#### 4. An Ad Hoc Network with Internet Sharing

If you have two or more computers (desktops or laptops) and want to share files, printers, and Internet access using **one computer or laptop as an Internet Server**, then follow the instructions below. When you have completed your network, it should look similar to this:



To share an Internet connection with Internet Sharing software you will need to purchase Internet Sharing software or use the Internet Connection Sharing (ICS) utility provided with Windows XP, Windows 2000, Windows ME or Windows 98SE.

Please follow your software documentation to properly configure the Internet sharing software after you install your wireless networking adapters. To install your wireless network adapter follow the instructions on the next page. If the Internet Sharing Software will be installed on the same computer into which you are installing the 802.11g USB Adapter, then follow these steps:

17

1. Install the 802.11g USB Adapter Wireless Stick Adapter.
2. Check the Device Manager to confirm that your adapter is installed correctly.
3. Install your Internet Sharing Software.
4. If required by the software, set the static IP Address for the wireless adapter.

*Note: The IP Address for all the computers on the network must be in the same IP Address range, and the Subnet Mask must be the same for all the computers on the network. For example: If the first computer is assigned an IP Address of 192.168.0.2 with a Subnet Mask of 255.255.255.0, then the second computer can be assigned an IP address of 192.168.0.3 with a Subnet Mask of 255.255.255.0, etc.* If the Internet Sharing Software will be installed on a computer other than the one in which you are installing the 802.11g USB Adapter, then follow these steps:

1. Install the 802.11g USB Adapter into the computer.
2. Check the IP Address for the wireless adapter. Please make certain that all the computers on your network are in the same IP Address range. .

*Note: By default, the wireless adapter is set to obtain a Dynamic IP Address, automatically.*

***First Time Setup***  
**Before You Begin**

1. You will need a computer with an available USB port for connection to your 802.11g USB Adapter.
2. Your 802.11g USB Adapter supports the Wireless Encryption Protocol (WEP). If the network you are going to connect to uses WEP, you will need the WEP keys that are in use for your network.
3. Turn on your computer, insert one end of the USB extension cable into your 802.11g USB Adapter, and insert the other end into your computer.

## Software Installation

Installing the software involves two steps. The first is to install the Driver. The second is to install the Configuration Utility.

When the 802.11g USB Adapter has been inserted into a USB port, the Found New Hardware Wizard screen appears.



The **Install Hardware Device Drivers** window will appear. Click **Next**.



Select *Search for a suitable driver. . . .*

Insert the Driver CD into the CD-ROM drive. The **Install Hardware Device Drivers** window will appear. Click **Next**.

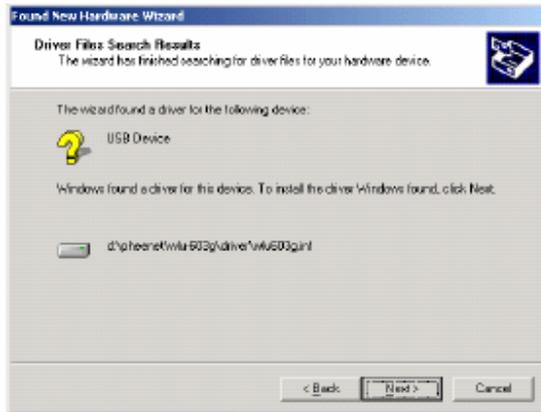


Next, the Wizard will ask where to search. Insert the CD-ROM that came with your 802.11g USB Adapter and check *CD-ROM drives*.



21

The New Hardware Wizard will then search your computer for a suitable driver for your 802.11g USB Adapter, as shown in the following screen. Please Click "Next".



The below screen might appear and then click **Yes**.



22

The Wizard then announces the results of the search and prompts you to install the driver.

Then Wizard announces the completion of the driver installation. Finally please Click "Finish".



You must restart your computer to make the driver active.

Once the driver has been installed, proceed to the next step:

## Installing the WLAN Adapter Utility

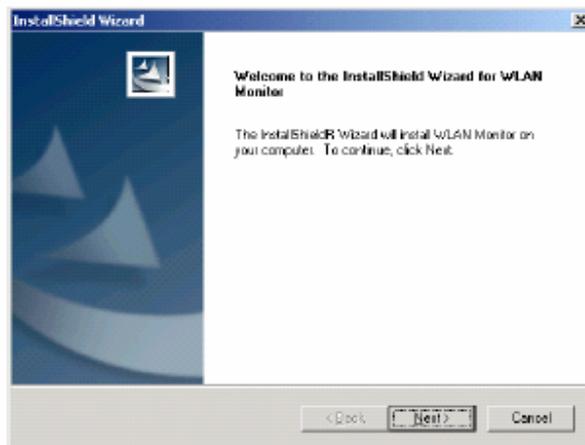
The procedure for installing the Wireless LAN Adapter Utility is the same for Windows 98, Windows 98SE, Windows Me, and Windows 2000.

(Windows XP has built-in WLAN Adapter support and does not require the Wireless Utility.)

Open the WLAN folder on the 802.11g USB Adapter Installation CD. Locate the file named Setup.exe and double-click on this file.

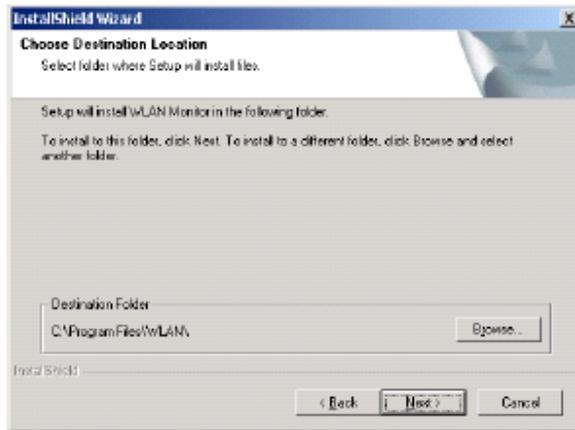


This will initiate the Wireless Adapter Utility Install Shield.

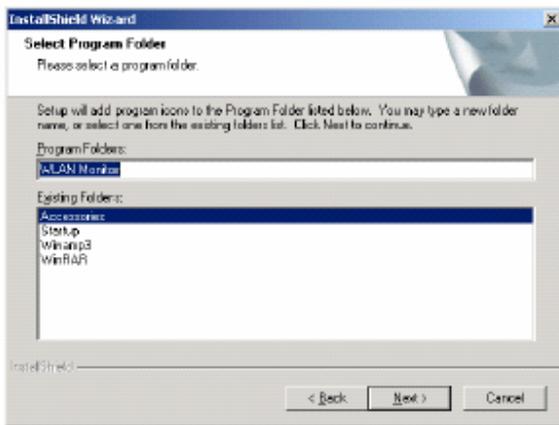


Next, the Wizard will ask you to choose a destination folder for WLAN Monitor. Browse to select a folder, or accept the default destination and simply click **Next**.

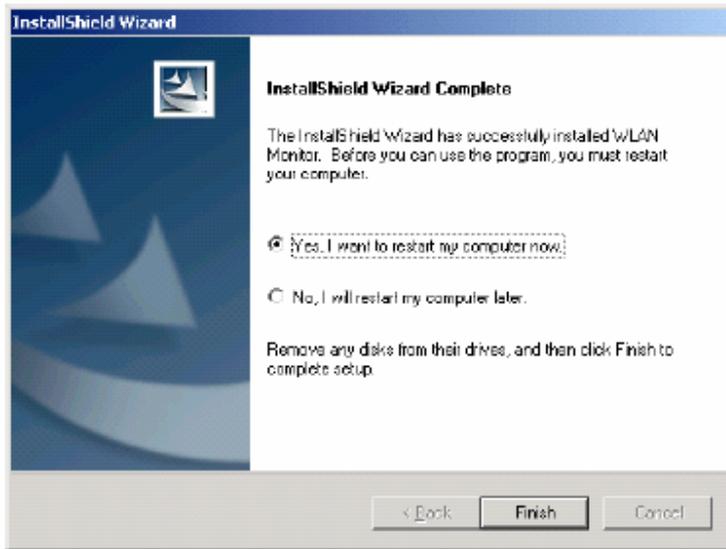
Setup.exe



You will then be asked to select a program folder so that the Wizard can add program icons. Again, you may choose another folder or accept the default folder(s) shown on the screen. Click **Next**.



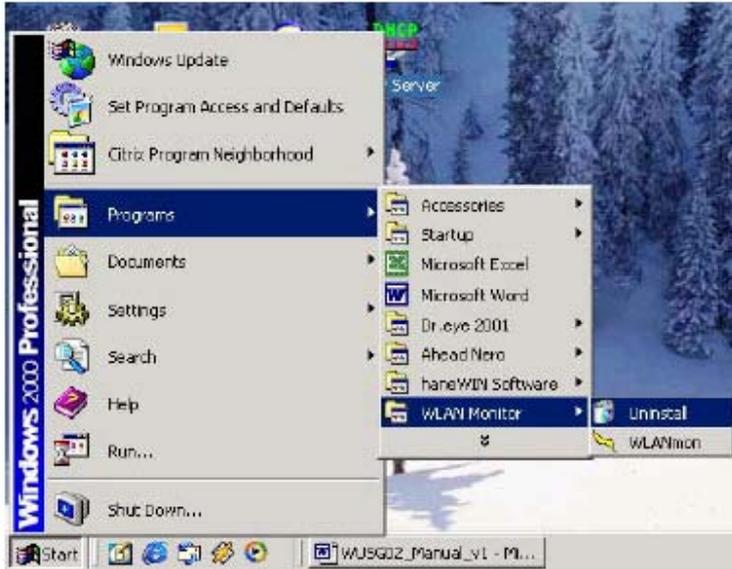
That's it – you've finished installing the WLAN Monitor. Choose to restart your computer now or wait until later. Click **Finish**.



## Uninstalling

Uninstalling the software involves two steps. The first is to uninstall the Configuration Utility. The second is to uninstall the drivers.

To uninstall the WLAN adapter utility simply click **Uninstall** under **Programs/WLAN Monitor/Uninstall**.



27

To uninstall the driver, right-click on **My Computer**.

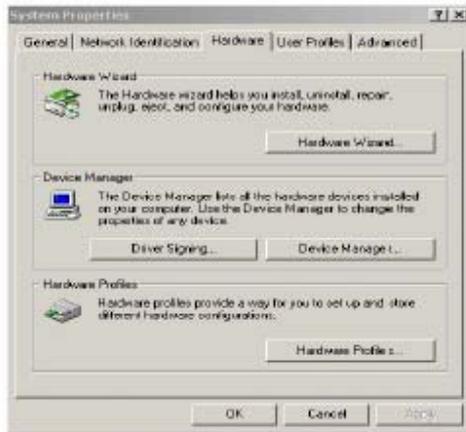


Left-click on **Properties** to bring up the **System Properties** screen.

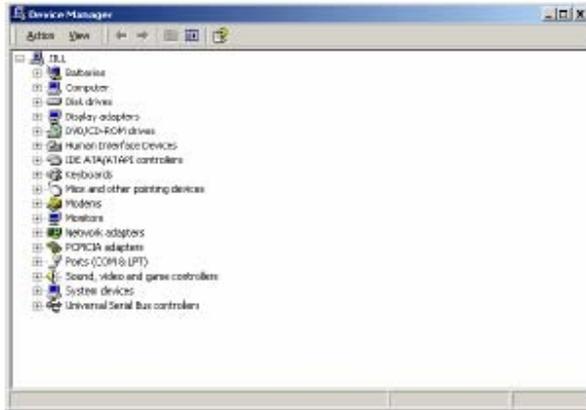


28

Click on the **Hardware** tab. Then, click on **Device Manager**



Click on **Network adapters**.



30

You will then see a **Confirm Device Removal** screen. Click **OK** to complete uninstallation.



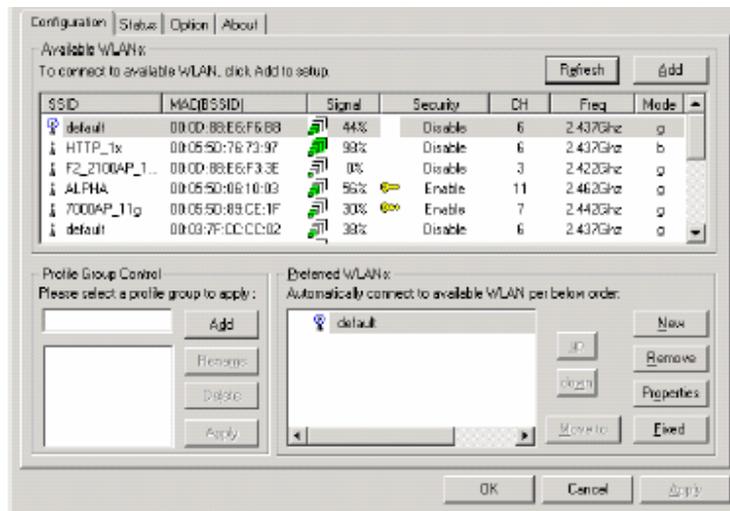
## **Connecting to a Network**

If you are using Windows 2000, 98, ME, or NT, the Configuration Utility program for the 802.11g USB Adapter is called **WLAN Monitor**. Once you have installed WLAN Monitor (the configuration utility), you can read this section of the manual to find out how to connect to a wireless network using WLAN Monitor. Screenshots for this section have been taken in Windows 2000.

To access WLAN Monitor once it has been installed, just right-click on the WLAN Monitor icon in the taskbar:

The pop-up window below will appear. Click on **Wireless Network**.

The Wireless Network Properties window will appear. There are four tabs: **Configuration**, **Status**, **Options**, and **About**.

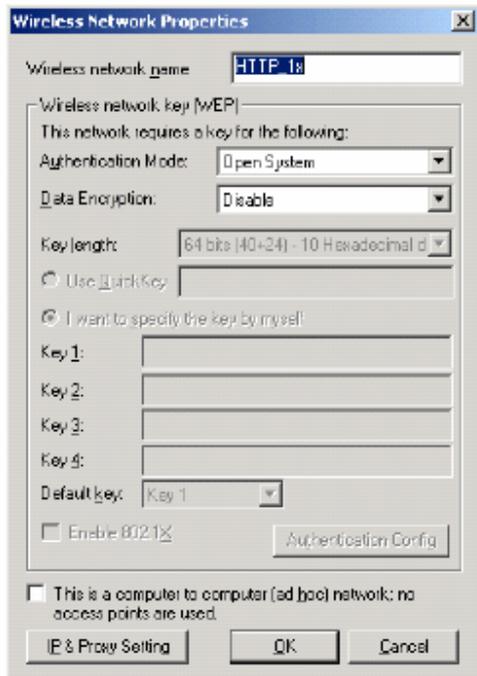


## Configuration

The Configuration tab is the most important and useful of the four; it allows you to choose, add, and delete networks. You may also modify properties of your 802.11g USB Adapter to allow connection to encryption-protected networks.

On the left-hand side of the screen is a list of available WLANs. To connect to a WLAN, select it by clicking on it, then click **Add**.

The Wireless Network Properties screen will appear.



In the **Wireless Network Properties** screen you may change the name of the WLAN. You may also enter wireless network encryption keys by checking **Network Authentication (Shared mode)** or **Data encryption (WEP enabled)**. You may enter up to four keys of length 10 or 25 hexadecimal digits. You may also set one of the four keys as a default key. Click on **IP Config** to set the IP address, Subnet mask, and Default gateway manually instead of obtaining the IP address automatically through the Dynamic Configuration Host Protocol (DHCP) server. You may also set the DNS server address settings and WINS address settings.

If the network you are using is a computer-to-computer network or ad hoc network, no access points are used. You may check the box “This is a computer to computer (ad hoc) network; no access points are used” to enable this option.

On the **Configuration Tab**, click on **Refresh** to call up all the available WLANs. On the right side of the screen is a list of **Preferred WLANs**. These are WLANs that have already been added to the wireless network. Click **New** to rename the WLAN and reset its properties. You will see the **Wireless Network Properties** screen as displayed previously when you click **New**. This is also the same screen that will appear when you click **Properties** on the right side of the **Configuration Tab** screen. Click **Remove** to remove the connection.

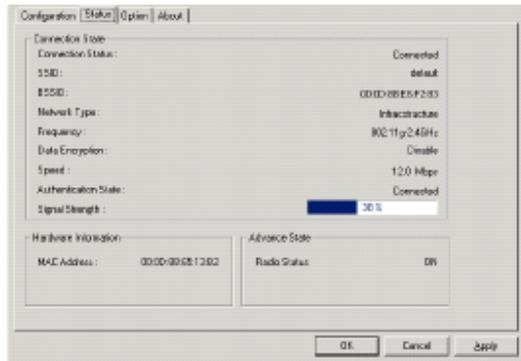
On the right side of the screen you may click **Move Up** to move the selected WLAN up in the order it is displayed on the **Preferred WLANs** screen. You may click **Move Down** to move the selected WLAN down in the order in which it is displayed.

When you are done entering the settings and options for the wireless network click on **OK**, **Cancel**, or **Apply**. **OK** places the settings into effect and closes the graphical user interface (GUI). **Cancel** makes invalid all settings entered. **Apply** implements the setting entered, but does not close the GUI.

Under the **Status Tab** you will find information on the connection state, hardware information, and advanced state.

### Status

Click on the Status tab to check on the performance of the network you have selected to connect with.



Settings under **Connected State** are the **Connection status** (connected or disconnected), **SSID**, **Network type** (infrastructure or Ad Hoc), **WEP Status** (enabled or disabled), **Speed** (of the wireless connection), and **Signal Strength** (a colored bar shows the intensity of the radio signals in the network).

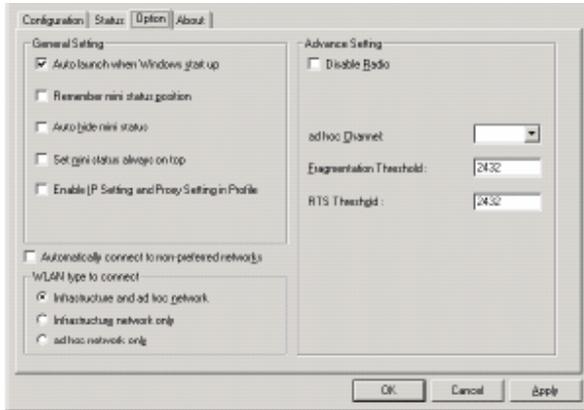
Under **Hardware Information** the Media Access Control (MAC) address of the hardware (WLAN cardbus card) is given. The MAC address is a factory given address that cannot be changed.

**Advanced State** shows the **Radio Status** (ON or OFF).

Click **OK** to accept the connection status and exit the GUI. Click **Cancel** to not accept the status settings and exit the GUI.

Under the **Option Tab** general settings and advanced settings are shown.

## Options



Under **General Setting**, check “**Auto launch when Windows starts up**” so that WLAN automatically launches when Windows starts up. Check “**Enable IP Setting in Profile**” to enable the IP settings made under **IP Config** in the **Wireless Network Properties** screen of **Configuration Tab**. If checked, the current IP settings will be saved. If unchecked (and previously checked), previous IP settings will be restored. Check “**Disable Radio**” to disconnect the network connection without removing the C54U Wireless USB Stick Adapter.

Under **Advance Setting**, there are settings for **Radio Frequency**, **Start adhoc Channel**, **Power Save Mode**, **Transmit Power** and **Super G**.

Please set **Super G** “**Enable**” to drive transmit rate upto 108Mbps.

The **WLAN card to connect** allows the user to set the WLAN type to connect: infrastructure and ad-hoc network, infrastructure network only, or ad-hoc network only. You may also automatically connect to non-preferred networks by checking the option.

37

## About

Click the About tab to determine the Utility and Driver version for your 802.11g USB Adapter.

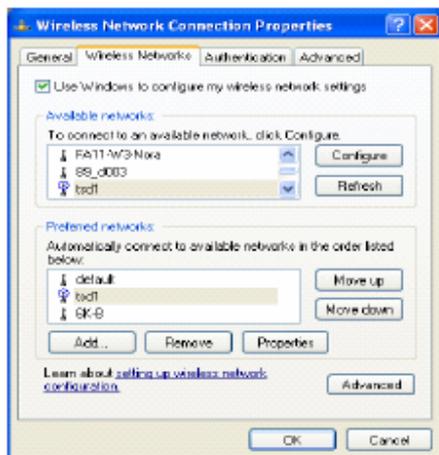


## Using the Configuration Utility for Windows XP

The WLAN Monitor Configuration Utility supports Windows XP; however, Windows XP has its own utility for wireless devices. In order to use the WLAN Monitor Configuration Utility as described in the last section you must disable the utility built into Windows XP.



Right click on the wireless icon in the taskbar, select Wireless Network, then uncheck the indicated box.



If you leave the “Use Windows to configure my wireless network settings” box checked you will use the Windows XP utility for wireless devices. The following demonstrates how to manage wireless network connections with the Windows XP built-in utility.

## Creating a connection

Right click on “**My Network Places**” to obtain a drop-down menu with **Properties** listed.



Left-click on **Properties** to obtain the **Network Connections** screen.  
Right-click on the “Wireless Network Connection” icon to produce another drop-down menu with item **Properties**.

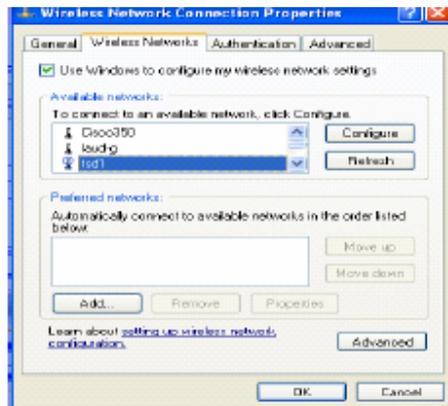


Left-click on **Properties** to bring up the screen below.



Select the **Wireless Networks** tab.

Under **Available Networks**, click on the Access Point with which you wish to establish a connection. In the example above, a network called **TSD1**.

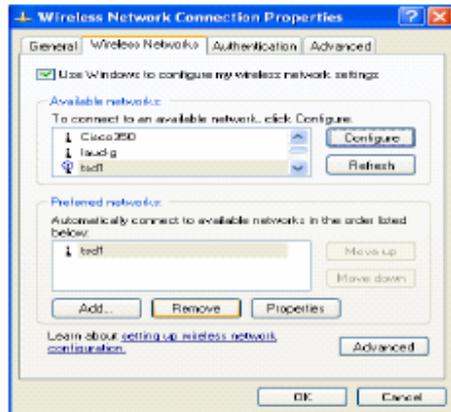


Click **Configure** to bring up the following screen.



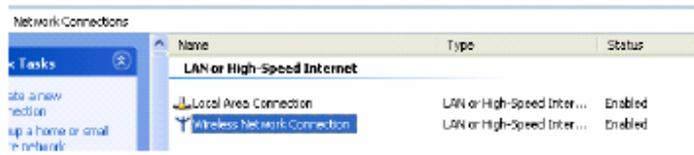
click **OK** to return to the Wireless Connection screen.

Enter the appropriate settings and



The access point "tsd1" has been added to the network under **Preferred Networks**.

The **Network Connections** window now shows the wireless network connection as **"Enabled"**.



## Troubleshooting

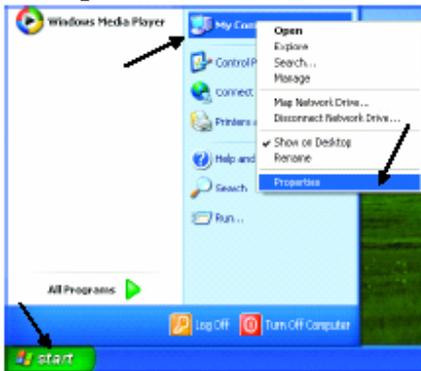
This chapter provides solutions to problems that can occur during the installation and operation of 802.11g USB Adapter. Read the following descriptions if you are having problems.

### 1. Checking the Installation of the Drivers for the Wireless Adapter

Go to **Start**.

Right-click on **My Computer**.

Click **Properties**.



44

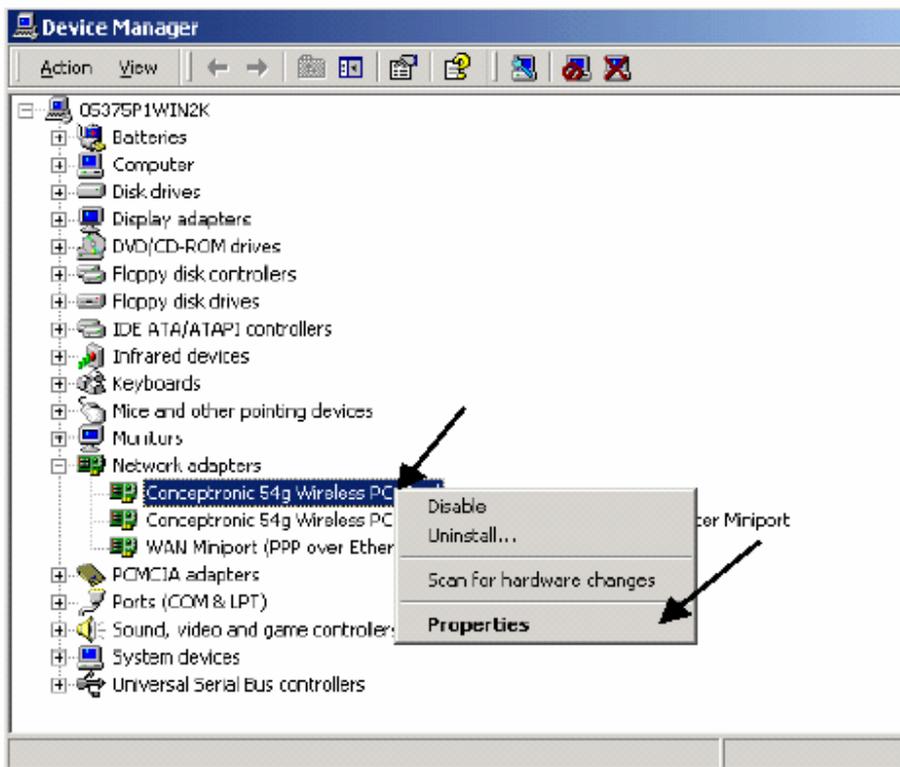
Select the **Hardware Tab**. Click **Device Manager**.



Click on **Network adapters**.

Right-click on **Conceptronic 54g Wireless PC**.

Select **Properties** to check that the drivers are installed properly.



45

Look under **Device Status** to check that the device is working properly.  
Click **OK**.



## 2. The computer does not recognize the 802.11g USB Adapter.

Make sure that 802.11g USB Adapter is properly seated in the computer's PCI slot.

If Windows does not detect the hardware upon insertion of the Adapter make sure to completely remove drivers that were previously installed. To remove the drivers, do the following:

**A.** Under **Tools**> select **Folder Options...**> select **View** > under **Hidden files and folders** > select **Show hidden files and folders**.

**B.** Uncheck **Hide extension for known file types** > click on **Apply**.

**C.** Search for the files **N3AB.sys** and **netN3AB.inf**. Remove these files from the **INF** and **SYSTEM32** (DRIVERS) folders in the Windows directory. Note: in Windows XP and Windows 2000 will rename netN3AB.inf that have not received certification into **oem.inf** files (e.g., **oem1.inf**)

Therefore, please also remove all **oem\*.inf** and **oem\*.PNF** files in inf folder of WINNT.

## 3. 802.11g USB Adapter does not work properly after the driver is installed.

**Restart** the computer. (In some cases, it will be necessary to restart the computer after installing the drivers.)

In Windows XP, go to **Start>Control Panel>System>Hardware Tab**> click on the **Device Manager Tab**> click on **Network Cards**> double click on **802.11g USB Adapter** > make sure that "**This device is working properly**" is displayed under **Device Status** under the **General Tab**.

If the device is not working properly and a yellow exclamation mark is displayed, then there is probably a resource conflict. In this case, make sure the computer system has a free IRQ and if necessary, uninstall the drivers, restart the system, and repeat the driver installation procedure.

#### 4. The wireless client cannot access the Internet in the Infrastructure mode.

Make sure the wireless client is associated and joined with the correct Access Point. To check this connection: Right-click on the **Networking Icon** in the taskbar> select **View Available Wireless Networks**. The **Connect to Wireless Network** screen will appear. Please make sure you have selected the correct available network, as shown in the illustrations below.

Check that the **IP Address** assigned to the wireless card is within the same **IP Address range** as the access point and gateway. (For example: if one computer has an IP Address of 192.168.0.2, the



48

*other computers should have IP Addresses that are sequential, like 192.168.0.3 and 192.168.0.4. The subnet mask must be the same for all the computers on the network.)* To check the **IP Address**

assigned to the wireless card, double-click on the **Network Connection Icon** in the taskbar > select the **Support tab** and the **IP Address** will be displayed.

If you are entering a **DNS Server Address**, you must also enter the **Default Gateway Address**. *(Remember that if you have a DHCP-capable router, you will not need to assign a Static IP Address.*

## ***Technical Specifications***

### **Standards**

IEEE 802.11b (up to 11 Mbps)

IEEE 802.11g (up to 54 Mbps)

### **Supported OS**

Windows XP

Windows 2000

Windows ME

Windows 98SE

### **Frequency Range**

2400-2483.5 MHz ISM band (IEEE 802.11b)

2400-2472MHz Ism band (IEEE 802.11g)

### **Data Rates**

1, 2, 5.5, 11 Mbps (IEEE 802.11b)

6, 9, 12, 18, 24, 36, 48, 54Mbps (IEEE 802.11g)

### **Modulation Techniques**

#### **IEEE 802.11g**

BPSK

QPSK

16 QAM

64 QAM

OFDM

#### **IEEE 802.11b**

DQPSK

DBPSK

DSSS

CCK

### **Data Security**

64, 128, 152-bit WEP (Wired Equivalent Privacy) Encryption

50

**Media Access Control**

CSMA/CA with ACK

**Current Consumption**

Transmit mode - 2250mW

Receive mode – 2300mW

**Operating Voltage**

5V ± -10%

**Network Architecture**

Infrastructure Mode (Communications to wired networks via Access Points with Roaming)

**MTBF (Mean Time Between Failure)**

30,000 hours

**Physical Dimensions**

L ~ 8.5 cm

W ~2.8 cm

H ~ 1.2 cm

**Temperature:**

Operating: 0°C to 55°C (32°F to 140°F)

Storing: -20°C to 75°C (-4°F to 167°F)

**Humidity:**

10%-90%, non-condensing (operating)

5%-95%, non-condensing (non-operating)

### **Federal Communication Commission Interference Statement**

This equipment has been tested and found to comply with the limits 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 in accordance with 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 can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

### **IMPORTANT NOTE:**

#### **FCC Radiation Exposure Statement:**

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. End users must follow the specific operating instructions for satisfying RF exposure compliance.

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