

U.S. Robotics®

Wireless Access 11 Mbps PC Card, PCI Adapter, and Access Point

User Guide

Federal Communications Commission Statement

This device complies with FCC Rules Part 15. Operation is subject to the following two conditions:

This device may not cause harmful interference.

This device must accept any interference received, including interference that may cause undesired operation.

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. If this equipment is not installed and used in accordance with the manufacturer's instructions, it 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 or more of the following measures:

Reorient or relocate the receiving antenna.

Increase the separation between the equipment and receiver.

Connect the equipment to 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.

The use of shielded cables for connection of the monitor to the graphics card is required to assure compliance with FCC regulations. Modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

Manufacturer's Disclaimer Statement

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1

About the 11 Mbps Wireless PC Card, PCI Adapter, and Access Point

The 11 Mbps PC Card and PCI Adapter are compatible with a Type II or Type III PCMCIA slot or PCI slot of any standard laptop or desktop computer. As a Plug and Play device, Windows 98, 2000, NT, and ME will automatically recognise the Wireless PC Card or PCI Adapter and initiate the installation process. Upon successful installation, the Wireless PC Card and PCI Adapter will be able to communicate with other U.S Robotics home and office networking products.

The 11 Mbps Access Point can connect a wired Local Area Network and one or more computers that are equipped with a Wireless PC Card or PCI Adapter. The Access Point is connected to the Ethernet backbone through an RJ-45 connector. The single Access Point wirelessly provides multiple data access multiple desktop or laptop PCs within the effective range.

1-1 FEATURES

PC Card and PCI Adapter

- Supports up to 11 Mbps data rate
- Working range of up to 800 ft. in an open environment enhances mobility
- Supports point-to-point and point-to-multipoint access which provides increased flexibility
- Seamless connectivity to wired Ethernet and PC network LANs allowing quick, trouble-free integration with existing networks
- Direct Sequence Spread Spectrum (DSSS) technology provides secure, interference-resistant wireless connection
- Eliminate the hassle and cost of cabling
- Supports a wide range of LAN (Local Area Network) Network Operating Systems (NOS)
- Easy Plug and Play installation
- Omni-directional antenna included
- Greater flexibility to locate or move networked PCs

Access Point

- U.S. Robotics Wireless Access 802.11b DSSS compatible, with high data 11 / 5.5/ 2 / 1 Mbps
- 64 bit or 128 bit (Optional) key WEP (Wired Equivalent Privacy) wireless data encryption for security
- Full Support for 802.11b Open and Shared key Authentication
- AP Management through standard web browsers
- Roaming capability

- Seamless connectivity to wired Ethernet 802.3 10BaseT and PC network LANs augments existing networks quickly and easily
- Dynamic IP Address assignment via DHCP or Static IP address assignment by the custom utility
- AP firmware upgrades available through FTP transfers

2 Network Configuration and Planning

The Wireless PC Card and PCI Adapter support legacy Ethernet LAN network configuration options as defined by the IEEE 802 standards committee.

The Wireless PC Card and PCI Adapter can be configured as one of the following:

- Ad-Hoc for departmental or Small Office and Home Office (SOHO) LANs
- Infrastructure for enterprise LANs
- LAN-Interconnection for point-to-point link as a campus backbone

2-1 NETWORK TOPOLOGY

An Ad-Hoc wireless LAN is a group of computers, each equipped with one Wireless PC Card or PCI Adapter, that is connected as an independent wireless LAN. Computers in a specific Ad-Hoc wireless LAN must be configured to share the same radio channel.

Ad-Hoc wireless LAN configurations are appropriate for branch level departments or SOHO operations.

The Wireless PC Card or PCI Adapter provides access to a wired LAN for wireless workstations. An integrated wireless and wired LAN is called an Infrastructure configuration. A group of Wireless PC Card or PCI Adapter users and an Access Point compose a Basic Service Set (BSS). Each Wireless PC Card or PCI Adapter in a BSS can talk to any computer in the wired LAN infrastructure through the Access Point.

An Infrastructure configuration extends the accessibility of a PC to a wired LAN and doubles the effective wireless transmission range for two Wireless PC Cards or PCI Adapters. Since the Access Point is able to forward data within its BSS, the effective transmission range in an infrastructure LAN is doubled.

The use of a unique ID in a BSS is essential. Any PCs equipped with Wireless PC Cards or PCI Adapters and configured without roaming options in an independent BSS must be configured with a BSS ID that corresponds to the Wireless PC Card or PCI Adapter used in the BSS. Check your Wireless PC Card or PCI Adapter for its BSS ID or use the Access Point Browser Utility program to determine the BSS ID.

The Infrastructure Wireless LAN configuration is appropriate for enterprise-scale wireless access to a central database or as a wireless application for mobile users.

A point-to-point LAN configuration is possible when two Access Points are linked with an optional directional antenna (the directional antenna is an optional accessory; please contact your dealer for information). The optional directional antenna makes LAN Interconnection to a wireless backbone between buildings possible.

2-2 ROAMING

Infrastructure configuration also supports roaming capabilities for mobile users. More than one BSS can be configured as an Extended Service Set (ESS). The continuous network

allows users to roam freely within an ESS. All Wireless PC Cards, PCI Adapters, and Access Points within one ESS must be configured with the same ESS ID and use the same radio channel.

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

3

Adapter Installation and Configuration for Windows 95*/98FE*/98SE/2000/NT/ME

3-1 SYSTEM REQUIREMENTS

In order to install and use the Wireless PC Card or PCI Adapter, your PC system must meet the following requirements:

- An available PCI slot or Type II or Type III PCMCIA slot
- PCMCIA revision 2.10 compliant card and socket services
- 500 Kb free disk space for utility and driver installation

3-2 INSTALLATION PROCEDURE FOR THE PC CARD AND PCI ADAPTER

NOTE: Before you begin, make sure you have your Windows CD available. You may be prompted to insert it during the installation procedure.

NOTE: If you are not sure if you are using Windows 98 First Edition, right click **My Computer** and **Properties**. If your version is **Windows 98, version 4.10.1998**, you are using Windows 98 First Edition.

NOTE: It is very important that you have your serial number written down for future reference. If you ever need to call our Technical Support department, you will need this number to receive assistance.

1. Prepare for Installation

Make sure that your computer is shut down. Turn off your computer and all peripheral devices. Unplug your computer.

2. Connect the network card to the computer

Laptop Users: If your laptop has a cover on the PCMCIA slot on the side of your machine, remove the cover. Insert the PC card into one of the PCMCIA slots while the laptop is on. See Fig. 1.

NOTE: If you attempt to remove the PC Card or PCI Adapter without turning off the computer after it has been installed, your computer will lock up.

Desktop Users: Locate an available PCI slot on your desktop computer. Insert the PCI adapter completely into the PCI slot. See Fig. 2.



Fig. 1

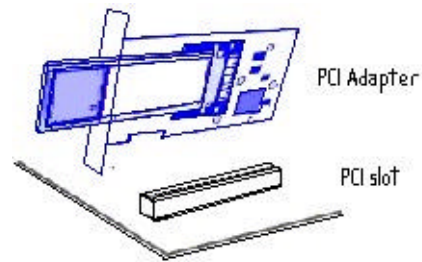


Fig. 2

NOTE: Windows 98 requires that the Network card and socket services must be compliant with the PCMCIA revision 2.10 specification. Check the documentation of the PCMCIA driver before installing the Wireless PC Card.

NOTE: If you attempt to remove the PC Card or PCI Adapter without turning off the computer after it has been installed, your computer will lock up.

3. Detection of the Network Card

Plug the computer into an electrical outlet and turn the computer on. Your computer will automatically detect the new network card. If your computer does not automatically detect the network card, refer to the Troubleshooting section of this guide.

4. Installation of the drivers.

Windows 95 and 98 users: Follow the on-screen instructions in the Update Wizard.

Windows 2000 users: Right-click **My Computer** and click **Properties**. Click the **Device Manager** button and double-click **Network Adapters**. Choose the new network card and click **Properties**. Click the **Driver** tab and then click **Update Driver**. Follow the on-screen instructions to search for updated drivers and then check Floppy disk drives. Windows will automatically find the correct drivers and notify you when the files are found. After Windows finds the new drivers, click **Next** and Windows will proceed with the installation of the new drivers. When Windows has finished installing the new drivers, you may be prompted to restart your system.

A "Digital Signature Not Found" screen may appear.[†] Click **Yes**.

Windows NT users: Right-click **Network Neighbourhood** and click **Properties**. If you do not receive a message prompting you to install NT Networking, skip to the next paragraph and continue with the installation of the drivers. If you do receive a message prompting you to install NT Networking, click **Yes**. Select **Wired to the Network** and then click **Next**.

Click the **Adapters** tab and click **Add**. Click **Have Disk**, type **D:\driver** and click **OK**. If your CD-ROM drive uses a different letter, type that letter in place of "D." When you are prompted to choose your adapter, select **U.S. Robotics Wireless Access 802.11b PCI Adapter**, click **OK**, and then click **Next**. Select the TCP/IP network protocol and click **Next**. Follow the on-screen instructions until you are prompted for the NT files. Type **D:\i386** and click **Continue**. You will

be prompted again for the NT files. This time, type **D:\driver**, and click **Continue**. After the necessary files have been copied, click **Continue**. When the protocol screen appears, click **OK**. Check the box **Obtain the IP address from server** and click **OK**. Continue to follow the on-screen instructions. When prompted, you may fill in the customer information and then continue. On the next screen, click **Finish**. You will need to restart your system.

Windows ME users: After you install the network card, your computer will begin the driver installation process. Select the **Automatically search for drivers** option and select the CD-ROM drive. If no drivers are found, specify the search location as **D:\driver** and click **OK**. Next click the **Advanced** tab, click **OK**, and click **Finish**. When Windows finishes installing the new drivers, you may be prompted to restart your system.

5. Installation of the utility tool.

All users: After the drivers are installed, you can install the utility tool. Insert the Installation CD if it was removed earlier. Click Windows **Start** and then click **Run**. In the **Run** dialog box, type **D:\utility\setup.exe**. Follow the on-screen instructions to finish the installation process. An icon for the configuration utility tool will appear in the taskbar on the right by the clock.

6. Enabling file and print sharing.

Windows 95/98FE/98SE/ME Users: Click Windows **Start**, **Settings**, and then **Control Panel**. Double-click **Network** and then click the **File and Print Sharing** button. Select both boxes in the **File and Print Sharing** window and then click **OK**. File and print sharing is now enabled.

Note: If your computer is connected directly to the Internet, there is a security risk if you are not using a firewall program or some form of hardware firewall.

Windows 2000/NT Users:

Note: After the wireless network card is installed in Windows NT, you should run the Service Pack that came with Windows NT. You will need to restart your computer.

File and print sharing are automatically enabled in Windows 2000 and NT.

7. Enabling Internet sharing.

***Windows 95 and 98FE Users:** Go to the following website to download the necessary drivers for Internet sharing: <http://www.usr.com/wireless>

Windows 98 SE Users: Click Windows **Start**, **Settings**, and then **Control Panel**. Double-click **Add/Remove Programs** and then click the **Windows Setup** tab. Select **Internet Tools** and then click **Details**. Select **Internet Connection Sharing** and click **OK**. Click **Apply**, and the Internet Connection Sharing Wizard will launch. Click **Next**, select the network adapter to connect to the Internet and click **Next**. Click **Next** to create a Client Configuration Disk, insert a blank disk into the 3.5 inch disk drive, and click **OK**. This disk will be used to configure Internet sharing in Window 95, 98FE, and 98SE. Click **Finish** to complete the configuration of Internet Sharing. You will need to restart your computer.

Windows 2000 Users: There must be two NIC cards installed in order to use Internet sharing. Click Windows **Start**, **Settings**, and then **Network and Dial-up Connections**. Right-click the LAN connection and click **Properties**. Click the **Sharing** tab. Click the box in this window to enable Internet sharing and click **Apply**. Right-click the LAN connection in the list and click **Properties**. Select **Internet Protocol** and click **Properties**. Click the **DNS** tab, write down the DNS address that is listed, and return to the **Networking and Dial-up Connections** window. Right-click the wireless adapter in the list and click **Properties**. Select **Internet Protocol** and click **Properties**. Click the **DNS** tab and enter the same DNS address as the one listed under the LAN connection.

Windows ME Users: Click Windows **Start**, **Settings**, and then **Control Panel**. Double-click **Add/Remove Programs** and then click the **Windows Setup** tab. Select **Communications** and then click **Details**. Select **Internet Connection Sharing** and click **OK**. Click **Apply** and the Home Networking Wizard will launch. Click **Next** then select **Yes this computer uses the following**. Select the direct connection to the Internet from the drop-down menu and click **Next**. When prompted, create a Home Networking Setup disk to be used for the configuration of Internet sharing in Windows 95, 98FE, 98SE, and ME. After you have created the disk, click **Next**. Click **Finish** to complete the configuration of Home Networking. You will need to restart your computer.

3-3 INSTALLATION PROCEDURE FOR THE ACCESS POINT

1. Connect the Access Point to the computer

Use the Ethernet port and the RJ-45 cable to connect the Access Point using one of the following possible methods:

- To a bridge
- To a router
- To a hub
- To a cable modem
- To an ADSL router

Attach the dipole antenna to the SMA connector of the Access Point.

2. Installation of the Utility Tool

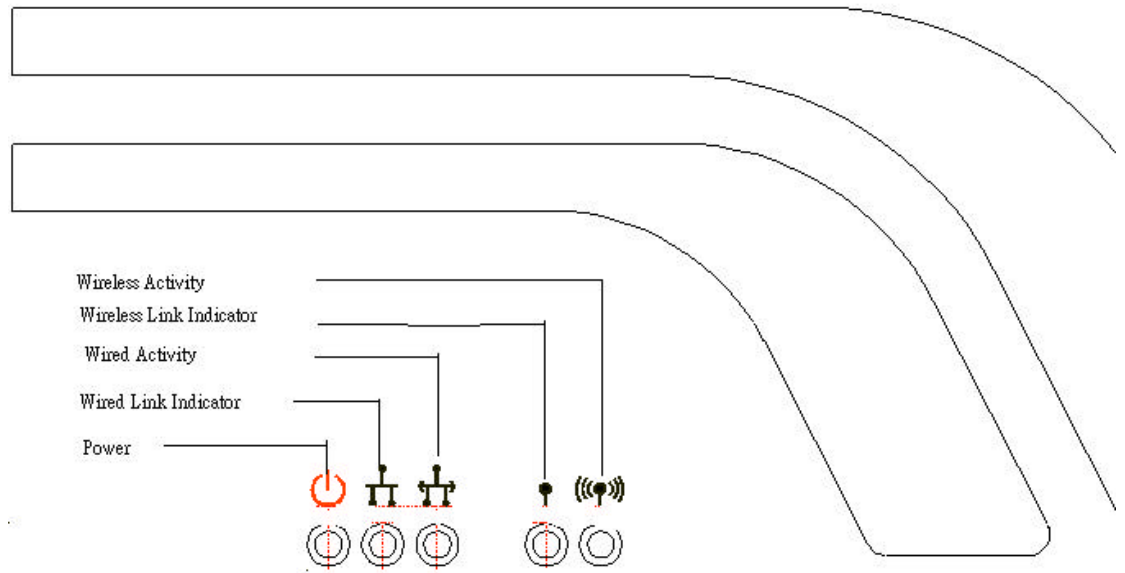
Insert the Installation CD that came with your Access Point. Click Windows **Start** and then click **Run**. In the **Run** dialog box, type **D:\utility\setup.exe**. Follow the on-screen instructions to finish the installation of the utility tool.

3. Verify the detection of the Access Point

Your Utility Tool should automatically detect the new Access Point. If your Utility Tool does not automatically detect the Access Point, refer to the Troubleshooting section of this guide.

The LAN Utility program icon in the system tray will change from red to green when an Access Point is detected.

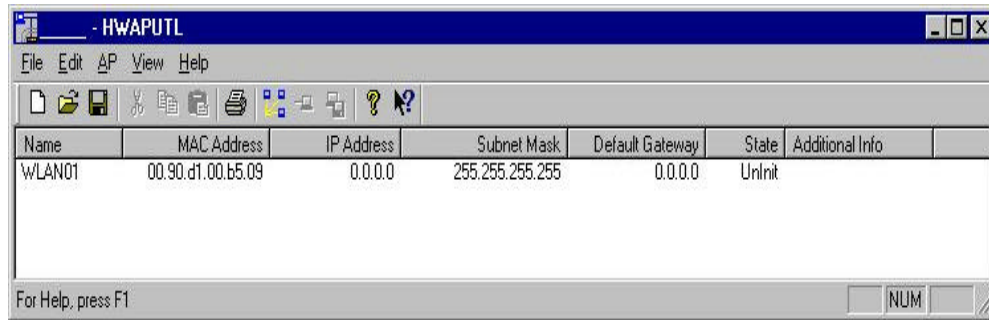
The Access Point has five LED status indicators. The function of each indicator is described in the following graphic and table:



LED	Status	Description
Power	ON/Red	Indicates that power is being supplied
Wired Link Indicator	ON/Green	Indicates that the Access Point Ethernet Cable is linked
Wired Activity	Blinking/Yellow	Indicates that the Access Point is transmitting or receiving data on the 10 Mbps Ethernet LAN
Wireless Link Indicator	Blinking/Green	Indicates that the wireless station is linked. It is OFF if no wireless station is connected to this Access Point.
Wireless Activity	Blinking/Yellow	Indicates that the Access Point is transmitting data to or receiving data from a station.

4. Configuration of the Access Point

After the Access Point is installed, click Windows **Start**, **Programs**, and **WLAN Configuration Tool** to configure the Access Point. Click **AP** in the toolbar and then click **Scan**. This will search for the Access Point in the network. If an Access Point is detected, the utility program will display the Access Point information, as shown in the following graphic:



If you are using multiple Access Points, you must know the MAC address of the Access Point you are currently configuring. The MAC address is located on the bottom of the Access Point and in the Utility tool in the State field. Locate the correct Access Point in the list that appears. If the correct Access Point does not show the correct MAC address, you are too far away. Move closer to the correct Access Point and perform the Scan function again. Repeat this procedure until the correct MAC address appears for the Access Point. Double-click the correct **Access Point**.

A dialog box will appear that will allow the user to assign a temporary IP address to the Access Point. This must be done since there is no IP by default. The IP address that you assign to the Access Point must match the IP address of the previously configured PC Card or PCI Adapter. You must enter an IP address and Subnet mask that are valid for the current network.

After you have entered an IP address, enter a value in the **Subnet Mask** and **Default Gateway** fields and click **OK**. Click **OK** in the next box that appears in order for the temporary settings to take effect. Double-click the name of the correct Access Point in the window that appears. The utility will automatically link to the Login Page of the Access Point web server using the Windows default browser. Type the User name **Default** and the Password **WLAN_AP** and then click **Login**. The password must be entered as all capitals. Click **AP Control MIB**. Once any changes are made in this option, you will not be able to communicate with the Access Point until you have made the same changes to the PC Cards or PCI Adapters in the network.

You can now change the passphrase. It is recommended that you write down the passphrase and the AP address for future reference. If you forget your passphrase, you will be locked out of the Access Point web server. At this time, you can also change the WEP. Set the WEP to the desired setting and click **Apply Changes**. Start the Utility program for the PC Card and PCI Adapter, if it is not already launched. If any changes are made in the Utility program, you must click the **Apply** button in order for the changes to take effect. Click the **Configuration** tab and enter the new WEP setting. Click the **Encryption** tab. Enter the new passphrase, click **Generate**, and click **Write**.

If a new Access Point is ever added to the network, the settings on the PC Card or PCI Adapter in the computer that is being used to configure the new Access Point must be reset to the default values. In the Utility tool, click **Restore Defaults**. After the new Access Point is installed, the settings can be changed.

4

Installing & Navigating the Network Configuration Utility Tool

4-1 INSTALLATION OF THE NETWORK CONFIGURATION UTILITY TOOL

1. Insert the Installation CD into the CD-ROM drive. Click Windows **Start** and then click **Run**. In the **Run** dialog box, type **D:\utility\setup.exe**. If your CD-ROM drive uses a different letter, type that letter in place of “D.”
2. Follow the on-screen instructions to finish the installation process. After the installation is complete, an icon for the configuration utility will appear in the taskbar on the right side by the clock.



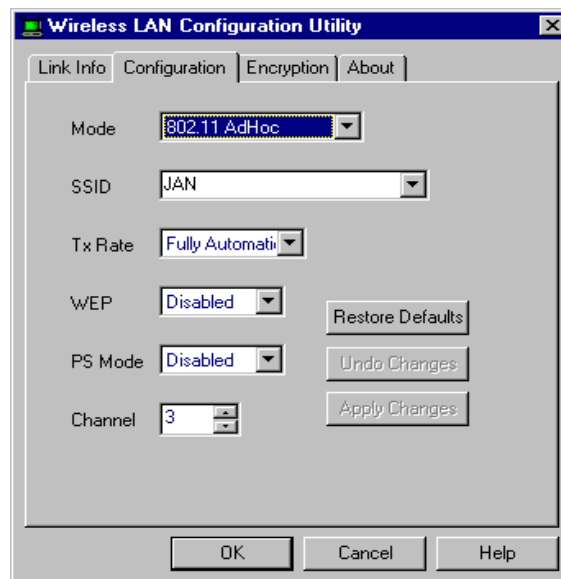
4-2 NAVIGATION OF THE NETWORK CONFIGURATION UTILITY TOOL

The following section describes the various functions of the Network Configuration Utility. This utility provides quick access to all adapter settings. The configuration settings will be set by default to the correct values. Only advanced users should change any of the following settings.

After installation is complete, a Utility Tool icon will appear in the taskbar on the right side near the clock. Double-clicking the icon in the Quick Launch bar will open the Utility Tool main menu, providing quick access to all adapter settings.

Link Info: The **Link Info** menu provides information about the current link between the adapter and the base station.

Configuration: Selecting this tab opens the **Configuration** menu. This is where you will find options for configuring your adapter.



Description of Settings

The following are explanations of each adapter setting in the **Configuration** menu.

Mode: The Mode setting determines the architecture of your wireless LAN. Choose Ad-Hoc or Infrastructure Mode, depending on your network type. A brief explanation of each mode follows.

- **Ad-Hoc:** This mode is used for a simple peer-to-peer network. This type of network only allows the sharing of local resources between wireless clients without a wireless Access Point.
- **Infrastructure:** This mode allows a wireless LAN to be integrated into an existing wired network through an Access Point. Infrastructure type networks also permit roaming between Access Points while maintaining the connection to all network resources. Infrastructure mode provides additional features, such as WEP security, power saving, and extended range.

SSID (Service Set Identifier): SSID is the unique name that is shared among all clients and Access Points in a wireless network. The SSID must be identical for all clients or Access Points participating in the same network. The SSID is case sensitive and must not exceed 30 characters.

Tx Rate (transmit rate): Tx Rate selects the allowable transfer rates of the wireless client. To optimise performance and range, the Tx Rate should be set to Fully Automatic. This will automatically adjust the transfer speed for the best performance and longest range.

Note: *The AP must support the Tx rate setting. If the AP does not support the Tx rate, undesired results may occur.*

WEP (Wired Equivalent Privacy): WEP is an encryption scheme that is used to protect your wireless data communications. WEP uses a combination of 64-bit keys or 128-bit keys to provide access control to your network and encryption security for every data transmission. To decode a data transmission, each wireless client on the network must use an identical 64-bit or 128-bit key.

NOTE: This feature is only available in Infrastructure Mode and must also be enabled on the Access Point. Select the WEP tab to enable or disable this feature.

PS Mode: Power Saving Mode enables or disables the power saving features of your wireless adapter. When enabled on a laptop, the power saving mode can reduce power consumption by the wireless PC card and extend the battery life of your laptop. This setting is only implemented in a network that is operating in Infrastructure mode.

- **Changing the PS mode:** The PS Mode on your adapter is set by default to **Disabled**. To change the setting, select **Enabled** from the drop-down list, click **OK**, and wait a few seconds. The screen will then be updated and show the current Connection Status, Link Quality, and Signal Strength.

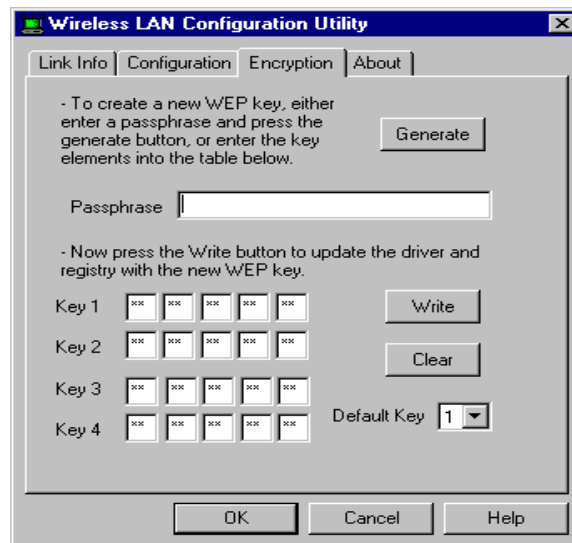
Channel: This setting specifies the default 802.11b channel used by the Wireless LAN to communicate. In an Infrastructure type network without an Access Point active on the default channel, clients will scan through all available channels searching for a network with a matching SSID.

- **Changing the Channel:** Changing the channel is only effective in Ad-Hoc networks. Networks that are operating in Infrastructure mode automatically scan for a channel. The following table contains the operational channel frequency for several countries.

Regulatory Channel Frequency

Channel	Frequency (Mhz)	FCC	Canada	ETSI	France	Spain	Japan
1	2412	X	X				
2	2417	X	X				
3	2422	X	X	X			
4	2427	X	X	X			
5	2432	X	X	X			
6	2437	X	X	X			
7	2442	X	X	X			
8	2447	X	X	X			
9	2452	X	X	X			
10	2457	X	X	X	x	X	
11	2462	x	X	X	X	X	
12	2467			X		X	
13	2472			x		X	
14	2484						X

Encryption : The Encryption tab allows you to create new WEP keys.



The 64-bit or 128-bit WEP keys can be generated from a user-defined passphrase. The passphrase is any text string with a maximum of 32 characters. To generate encryption keys for each client that is communicating in the wireless network, perform the following steps:

1. Enter the same case-sensitive text in the Passphrase entry field for each client.
2. Click **Generate** to create the encryption keys. The passphrase generates four unique keys.
3. Select the same default key in the drop-down box for each client. This is the key the clients will use to encrypt data.
4. Click **Write** to store the information in the registry.
5. Select the **Configuration** tab and choose **Mandatory** in the WEP option.
6. Click **Apply Changes** and then click **OK**.

Appendix A Troubleshooting

My computer does not recognise the Wireless PC Card or PCI Adapter.

Possible Solution:

- The PC Card may not be fully inserted into the PCMCIA.
- The PCI Adapter may not be fully inserted into the PCI slot.
- The PC Card may not be fully inserted into the PCI Adapter.

The PC Card or PCI Adapter does not work properly.

Possible Solution:

Check the PCMCIA services and be certain the PC Card is not in use before removing it. The laptop will lock up if the PC Card is in use and is removed. Reinstall the PC Card or PCI Adapter. You will hear a beep if the card is properly inserted into the PCMCIA slot.

The power LED indicator will be solidly lighted or flashing if the cable is properly connected. For Windows 2000, NT, and ME, ensure that a PCMCIA card service driver is installed in your computer. Perform the following steps to check for the service driver:

- 1) Click **Control Panel** and then **PC-card**. Check to see if it has the PC Card in one of the sockets. If you find U.S. Robotics Wireless Access 802.11b PC-Card in one of the sockets, then the card is detected properly. If you see a yellow question mark, there are conflicting resources or the driver is not correctly installed.
- 2) Right-click **My Computer** and then click **Properties**. Select the **Device Manager** tab and click **Network Adapter**. If it is installed correctly, you will see U.S. Robotics Wireless Access 802.11b PC-Card Adapter. If you see a yellow question mark, there are conflicting resources. Click **PCMCIA Card** and then **PCMCIA Card Service**. This will show status of the PCMCIA card. If there is a yellow question mark on the adapter or on the PCMCIA card, verify the following:

- Your notebook supports a 5V card.
- Your computer has a free IRQ.

If the Wireless PC card or PCI Adapter does not function after attempting the above steps, remove the PC card or PCI Adapter and perform the following steps:

- Click Windows **Start**, **Settings**, and **Control Panel**. Double-click **System** and uninstall the U.S. Robotics Wireless Access IEEE 802.11b PC-card Adapter.
- Reinstall the PC card or PCI Adapter and reinstall the correct drivers.

The Wireless PC Card or PCI Adapter cannot communicate with other computers linked via Ethernet in the Infrastructure configuration.

Possible Solution:

- Ensure that the PC Card or PCI Adapter with which the station is associated is powered on.
- Ensure that the station is configured with the same operating radio channel as the PC Card or PCI Adapter. If the IDs are different, change the PC Card or PCI Adapter and all the stations within the BSS to another radio channel.
- Ensure that the station is configured with the same security options as the PC Card or PCI Adapter and can be turned off and on with the same security key.
- Ensure that the BSS ID for a roaming disabled station is the same as the PC Card or PCI Adapter. Alternately confirm that the ESS ID roaming enabled station is the same as the PC Card or PCI Adapter.
- Ensure TCP/IP is installed. Ensure you are part of the same domain or workgroup. Ensure you are automatically obtaining the IP address or that you have a correct IP address and subnet mask. Reset the Access Point and restart the computer that has a connectivity issue. Ensure that you have some files available to be shared.

My computer does not recognise the Access Point after I changed the settings.

Possible Solution:

Ensure that the LAN Configuration utility is installed. Ensure that you are contacting the correct Access Point and using the correct MAC address. Ensure that the correct passphrase and encryption option are being used. If you changed the settings in the configuration of the Access Point, you must also change the settings of every PC Card or PCI Adapter attached to this network. The settings of the PC Cards or PCI Adapters must match the new settings of the Access Point.

My Computer is not finding the correct driver files for the PC Card or PCI Adapter in Windows NT.

Possible Solution:

When you are prompted for the NT files for the PC Card or PCI Adapter, type **D:\i386** and click **Continue**. You will be prompted again for the NT files. This time, type **D:\driver** and click **Continue**.

I am unable to enter the Access Point HTML Configuration Utility.

Possible Solution:

Ensure that you are entering the correct user name and passphrase. These fields are case sensitive.

My Access Point is not appearing in the list when I scan for it.

Possible Solution:

You may be on a computer that is too far away from the Access Point. Try moving closer to the Access Point and repeating the scan procedure.

My computer is not acknowledging my Access Point.

Possible Solution:

Make sure that the Access Point is plugged into a power source and is properly installed. It may be necessary to remove the associated programs, uninstall the Access Point, and repeat the installation procedure. Unplug the Access Point to clear the information and then plug the Access Point back in.

Are You Still Having Problems?

1. Call U.S. Robotics' Technical Support Department

Technical questions about U.S. Robotics's products can be answered by technical support specialists.

In the United Kingdom:

0870 8444 546

9:00 A.M. - 5:30 P.M. Monday – Friday

In the United States:

(847) 262-5151

8:00 A.M. - 6:00 P.M. CST Monday - Friday

11:00 A.M. - 7:00 P.M. CST Saturday and Sunday

Automated service is available 24 hours a day, 7 days a week.

For current support contact information, go to the following web site:

<http://www.usr-emea.com>

2. Call the Dealer Who Sold You this U.S. Robotics Product

The dealer may be able to troubleshoot the problem over the phone or may request that you bring the product back to the store for service.

[†] U.S. Robotics has thoroughly tested this driver with the supported hardware and has verified compatibility with Windows 2000. Because U.S. Robotics wants its customers to take full advantage of the product's functionality, we made the driver available.

Appendix B Glossary

Access Point - An internetworking device that seamlessly connects wired and wireless networks together.

Ad-Hoc - An Ad-Hoc wireless LAN is a group of computers each with wireless adapters, connected as an independent wireless LAN.

Backbone – This is the core infrastructure of a network; the portion of the network that transports information from one central location to another central location. The information is then off-loaded onto a local system.

Base Station - In mobile telecommunication, a base station is the central radio transmitter/receiver that maintains communication with the mobile radio telephone sets within range. In cellular and personal communications applications, each cell or microcell has its own base station; each base station in turn is interconnected with other cells' bases.

Bridge - An internetworking function that incorporates the lowest two layers of the OSI network protocol model.

BSS - An acronym for Basic Service Set, this is an Access Point that is associated with several wireless stations.

ESS - An acronym for Extended Service Set, this is a roaming domain. More than one BSS can be configured as an Extended Service Set.

Ethernet - A popular local area data communications network that accepts transmission from computers and terminals. An Ethernet operates on a 10-Mbps baseband transmission over shielded coaxial cable or over shielded, twisted-pair telephone wire.

Infrastructure - This is an integrated wireless and wired LAN configuration.

PCMCIA (Personal Computer Memory Card International Association) –

This association develops standards for PC cards, formerly known as PCMCIA cards. PC cards are available in three “types”, which are about the same length and width as credit cards, but range in thickness from 3.3 mm (Type I) to 5.0 mm (Type II) to 10.5 mm (Type III). These cards can be used for many functions, including memory storage, as landline modems, and as wireless LAN devices.

Roaming - A function that allows one to travel with a mobile end system (wireless LAN mobile station, for example) through the territory of a domain (an ESS, for example) while continuously connecting to the infrastructure.

Product Specifications for Wireless PC Card and PCI Adapter:

Radio:	Complies with IEEE 802.11b
Frequency Band:	2400 ~ 2483.5MHz (for US, Canada, and ETSI) 2400 ~ 2497MHz (for Japan)
Modulation Type:	CCK, BPSK, QPSK
Operating Channels:	IEEE 802.11b compliant 11 channels (US, Canada) 13 channels (ETSI) 14 channels (Japan)
Radio Technology:	Direct Sequence Spread Spectrum
Data Rate:	1 / 2 / 5.5 / 11-Mbps
Output Power:	> +13dBm
Receive sensitivity:	Min. -76dBm for 11Mbps; Min. -80dBm for 5.5/2/1 Mbps: (@BER 10E-5)
Antenna Type:	De-attached PCB patch diversity antenna or MMCX connector for external antenna
Current	
Consumption:	3.3 V/5 V , Tx mode 350 m A (Max.) ; Rx mode 230 m A (Max.);
Package:	PCMCIA Type II
Certification:	FCC Part 15 ETSI 300.328 ARIB STD33 & T66
Driver:	Windows 98/2000/NT/ME

Product Specifications for Access Point:

Radio:	Complies with IEEE 802.11b standard and WECA.
Frequency Band:	2400 ~ 2483.5MHz (for US, Canada, and ETSI) 2400 ~ 2497MHz (for Japan)
Modulation TYPE:	CCK, BPSK, and QPSK
Operating Channel:	IEEE 802.11b compliant 11 channels (US, Canada) 13 channels (ETSI) 14 channels (Japan)
Radio Technology:	Direct Sequence Spread Spectrum
Data Rate:	1 / 2 / 5.5 / 11-Mbps
Output Power:	> 13dBm
Receive sensitivity:	Min. -76dBm for 11Mbps; Min. -80dBm for 5.5/2/1 Mbps; (@BER 10E-5)
Antenna Type:	Build-in PCB patch diversity antenna or external antenna
Ethernet:	
Wired Interface:	Ethernet IEEE 802.3 10BaseT
Connector:	RJ-45
LED:	Power, Ethernet Link, Ethernet Activity, Radio Link, Ethernet Activity
Power Supply:	
	AC adapter (AC 100 ~ 240V 50/60Hz, DC Output 9V/1.11A)
Certification:	
	FCC Part 15 ETSI 300.328 ARIB STD33 & T66

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Twelve (12) months

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Walnut, CA 91789

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