Wireless LAN PC Card

User's Manual

Version 1.7

2002-08-20

Statement of Conditions

• The content described in this manual may be improved or changed at any time and it is subject to be changed without notice.

• Manufacturer assumes no responsibility for errors contained herein or for direct, indirect, special, incidental or consequential damages with the furnishing, performance, or use of this manual or equipment supplied with it, even if manufacturer of its suppliers have been advised of the possibility of such damages.

Electronic Emission Notices

• This device complies with Part 15 of the FCC Rules and Canada RSS-210. Operation is subject to the following two conditions:

  1.   This device may not cause harmful interference.
  2.   This device will accept any interference received, including interference that may cause undesired operation.

FCC Radio Frequency 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 when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user need to correct the interference at his area. If the equipment causes interference to radio or television reception, try to correct the interference by using one or more of the following measures:

  • Plug the equipment into an outlet that is on a different circuit from the television or radio.
  • Change the direction of the television or radio antenna until the interference disappears.
  • Move the equipment to one side or the other of the television or radio.
  • Move the equipment farther away from the television or radio.

• To assure continued compliance, any changes or modifications not expressly approved by manufacturer could void the user's authority to operate the equipment.

FCC Radiation Exposure Statement

• This device and its antennas must operate with a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter. End users must be provided with specific operating instructions for satisfying RF exposure compliance.

•   FC CE 0470 ①   ⊕   Canada

• This product has been certified in Canada, France, Germany, Italy, Spain, Sweden, Taiwan, UK, and US.

2. This warranty shall not apply to any product which has been subjected to misuse, abuse, abnormal use, negligence, alteration or accident, or has had its serial number altered or removed.

3. This warranty does not apply to any defects or damage directly or indirectly caused by or resulting from the use of unauthorized replacement parts and/or service performed by unauthorized personnel.

4. This warranty does not apply to the software driver that accompanies this product.

- This warranty is made expressly in lieu of all other warranties, expressed or implied, including but not limited to any implied warranty of merchantability of fitness for a particular purpose, and all other obligations on the part of Manufacturer provided, however, that if the disclaimer of implied warranties is ineffective under applicable law, the duration of any implied warranties arising by operation of law shall be limited to one (1) year from the date of purchase or such longer period as may be required by applicable law.

- Manufacturer hereby disclaims any and all liabilities for consequential and incidental damages arising out of or in connection with any breach of this warranty or any other claim with respect to this product, including but not limited to claims of negligence, strict liability in tort or breach of contract.

Table of Contents

1   Introduction

Wireless LAN is local area networking without wires, which uses radio frequencies to transmit and receive data between PC's or other network devices. Wireless LAN is able to configure independent networks and infrastructure networks. The former is suitable for small or temporary peer-to-peer configurations, and the later is offering fully distributed data connectivity via micro cells and roaming.

The Wireless LAN card is designed to meet the mobility, performance, security, interoperability, management, and reliability requirements of IEEE 802.11b high data rate standard. It is easy to install the Wireless LAN card on various devices with PCMCIA type II card slot. It is able to communicate with other IEEE 802.11b compatible products to create a wireless LAN in your office or home.

1.1   Features

- Compliant with 11 Mbps 802.11b high-speed specification.
- Data rate 11/5.5/2/1 Mbps automatic fallback under noisy environment.
- Advanced Power Management for battery saving.
- Supports Windows 95/98/ME/NT/2000/XP
- Interoperable with IEEE 802.11b compliant equipment.
- Supports full mobility and seamless roaming from cell to cell.
- Plug-and-play installation and easy client management with utility software.
- Supports point-to-point and point-to-multipoint access.
- Direct Sequence Spread Spectrum (DSSS) technology provides robust, interference-resistant and secure wireless connection.
- Wireless connection without the hassles and cost of cabling.
- Greater flexibility to locate or move networked PC's.

1.2   Applications

- Home networking for device sharing - Remote access to corporate network information email, file transfer and terminal emulation.
- Frequently changing environments - Retailers, manufacturers and banks that frequently rearrange the workplace and change location.
- SOHO (Small Office and Home Office) users - SOHO users need easy and quick installation of a small computer network.
- Inter-building connection - The wireless building-to-building network installs quickly, requires no monthly lease fees, and provides the flexibility to reconfigure easily.
- Typical applications include hard-to-wire buildings, campuses, hospitals/medical offices, warehouse, security huts, exhibition centers, etc.
- Temporary LANs for special projects or peak time - Auditors require workgroups at customer sites. Trade shows, exhibitions, retailers, airline, and shipping companies need additional workstations for a peak period.

1.3   Wireless LAN System

1.3.1   Peer-to-Peer Configuration

A Peer-to-Peer wireless LAN is a group of computers, each equipped with one Wireless LAN card, connected as an independent wireless LAN. Computers in a specific 802.11 Ad-Hoc wireless LAN must be configured at the same radio channel. 802.11 Ad-Hoc wireless LAN is applicable to a departmental scale for a branch or SOHO operation.
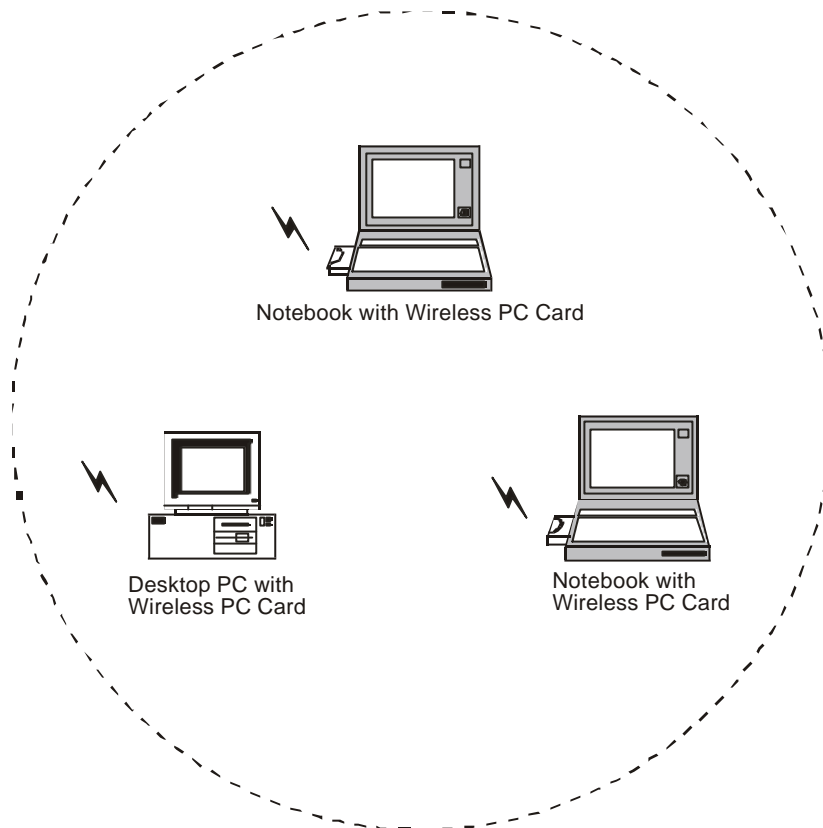
Figure 1. Peer-to-Peer Configuration

1.3.2 Access Point Configuration

An integrated wireless and wired LAN is called an Access Point configuration. A group of Wireless LAN cards and an Access Point (AP) is called a Basic Service Set (BSS). Each WLAN card in this BSS can be linked to any computer in the wired LAN infrastructure via the AP.

Access Point configuration not only extends the accessibility of a WLAN Card to the wired LAN, but also doubles the effective wireless transmission range between two WLAN Cards.

BSS ID is, in essential, the ID of each independent WLAN Card. All WLAN Cards configured without roaming options in this independent BSS must be configured with BSS ID of that AP. You may need to check BSS ID of your AP by using its vendor supplied program.

Access Point configuration is applicable to enterprise scale for wireless access to central database, or wireless application for mobile workers.

Two APs can be used as a point-to-point link between two LANs. LAN interconnection is applicable to a wireless backbone between buildings.

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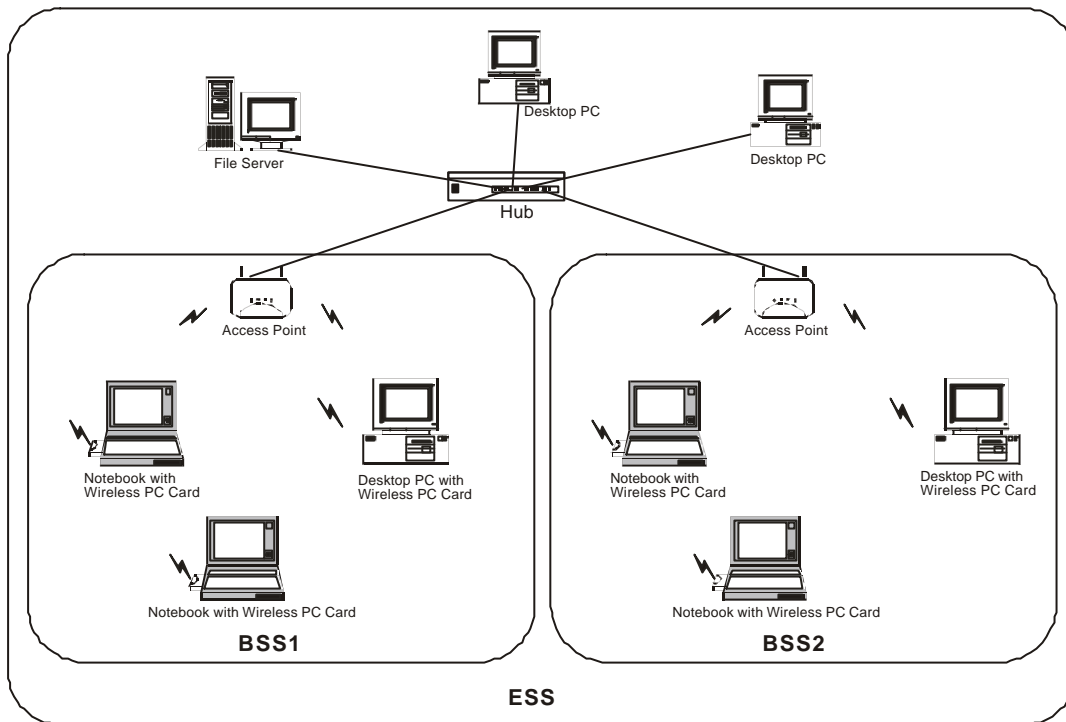
Figure 2. Access Point Configuration

The Access Point configuration supports roaming capability for mobile workers. More than one BSS can be jointly configured as an Extended Service Set (ESS). On account of a continuous connection to the network, users within this ESS can roam freely. All WLAN Cards and APs within one ESS must be configured with the same ESS ID.

Before setting up an ESS for roaming, it would be helpful to achieve good performance by choosing a feasible radio channel and right places for APs.

ADSL/Cable modem

File Server

Switch

Switch

Notebook with
Wireless PC Card

Access Point

Desktop PC with
Wireless PC Card

Access Point

Notebook with
Wireless PC Card

<BSS1>

<BSS2>

ESS

Figure 3. Seamless Roaming

2 Installation

The Wireless LAN Configuration Utility is installed simultaneously with the driver by executing the Setup.exe file. The following illustration shows this program's initial screen:
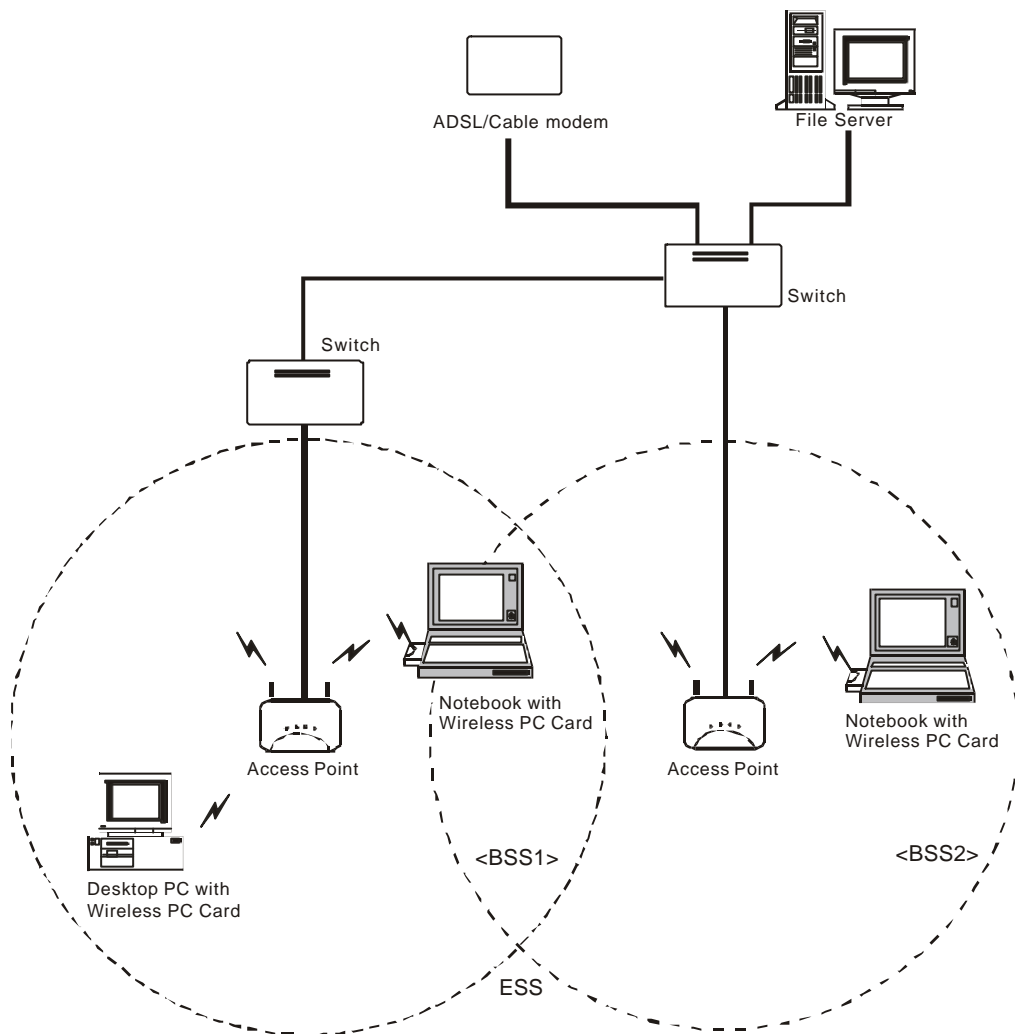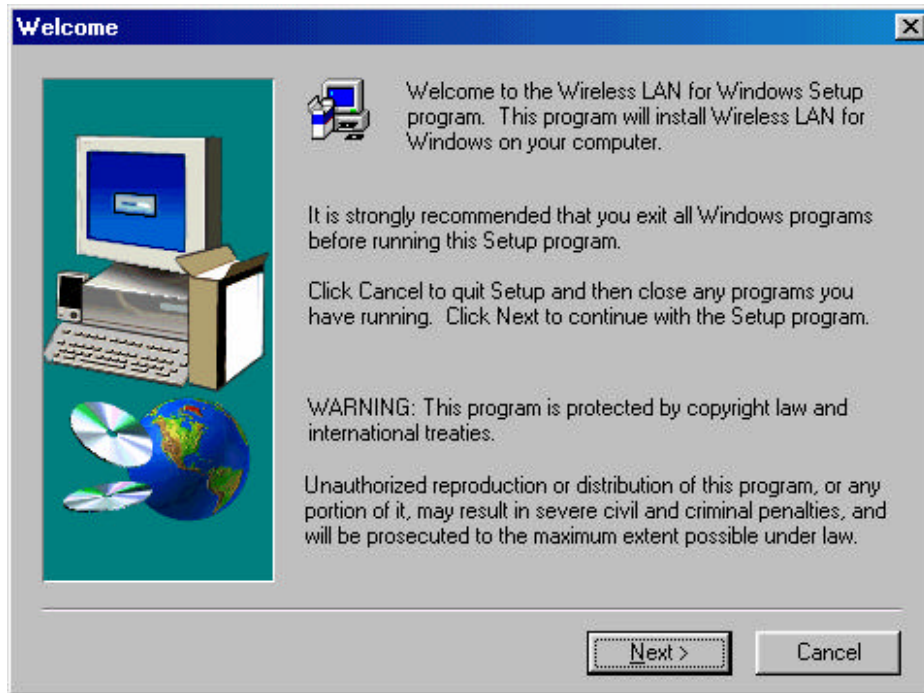

Installation procedures differ depending on whether this is an initial installation or an upgrade. The following sections discuss these scenarios.

NOTE: Some versions of Microsoft Windows operating systems require administrator privileges to install software. If this is the case for your operating system, be sure that you have such privileges before executing the Setup.exe file.

2.1 Initial installation

For initial installation, the Setup.exe file should be run before the WLAN card is physically installed in your computer. Only after you have run this command to install the utility and driver should you install the Wireless LAN card in your computer.

The InstallShield window appears warning you to close any open programs on your computer. Click on the Next button to continue. A screen then appears with the software license agreement displayed. Click on the Yes button to accept the agreement and continue with the installation. Once the installation is complete, click on the Finish button to return to your Windows desktop.

For PCMCIA or USB cards, simply insert or connect the card after running the Setup.exe file. For PCI cards, you must shut down the computer, install the card in an available PCI slot, and restart the computer.

When it detects the card, the operating system starts the New Hardware Found wizard. Respond to the prompts displayed by the wizard, but do not check the Specify Location check box; since the operating system will find the driver on its own. The operating system then uses the newly-installed driver to operate the card.

2.2 Upgrade Installation

It is not necessary to physically remove your Wireless LAN card from your computer to upgrade the driver. To upgrade an existing driver, you must

- uninstall your Wireless LAN card from your operating system configuration
- uninstall the driver from your operating system configuration
- install the latest version of the driver
- restart the operating system

For all Microsoft operating systems, you must complete these tasks to upgrade the driver. The following sections give procedures for completing these tasks in Windows 98. For other versions of Windows (Windows NT or Windows 2000, for example) the details may differ slightly; consult your operating system documentation or your system administrator.

Uninstall the Wireless LAN Card: On the Windows desktop, right-click on the My Computer icon, move the mouse pointer to Properties, and click the left mouse button to display the System Properties window. Next click on the Device Manager tab (and the View devices by type radio button if it is not already selected).
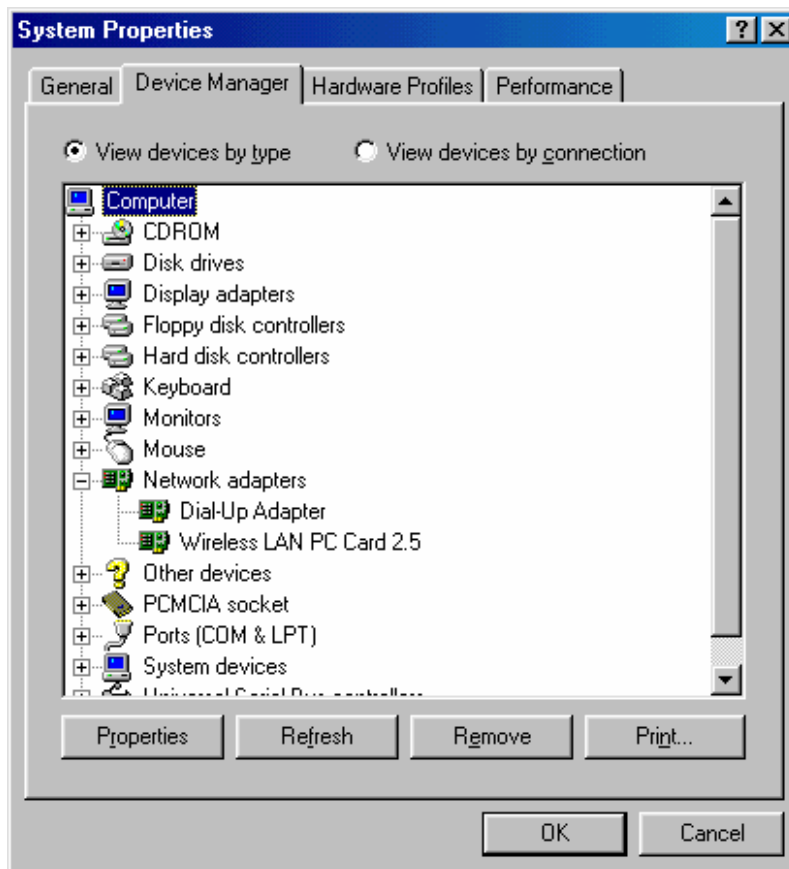
Expand the list of network adapters by clicking on the plus sign to the left of this entry; your display will appear similar to the following:

Click on the entry for the Wireless LAN PC Card (the above illustration shows an entry for a PCMCIA card) and click on the Remove button beneath the list. The operating system displays a confirmation window warning that you are about to remove this device from your system; click the OK button to continue.

Once the operating system removes the device, a dialog box appears asking if you want to restart your computer. Click on the No button, close the System Properties window, and proceed to the next section to remove the driver for your card. Do not physically remove the Wireless LAN card from your computer.

Uninstall the Driver: Next you must remove the old driver for your card. Start by displaying the Windows control panel and opening the Add/Remove Programs window. Then, in the Install/Uninstall tab, click on the entry for Wireless LAN for Windows.

When you click on the Add/Remove... button, Windows asks you to confirm that you want to completely remove the driver and all its components. Click on the Yes button to continue, and after the operation completes, close the confirmation window, the Add/Remove Programs window, and the Control Panel window. Proceed to the next section to install the new driver.
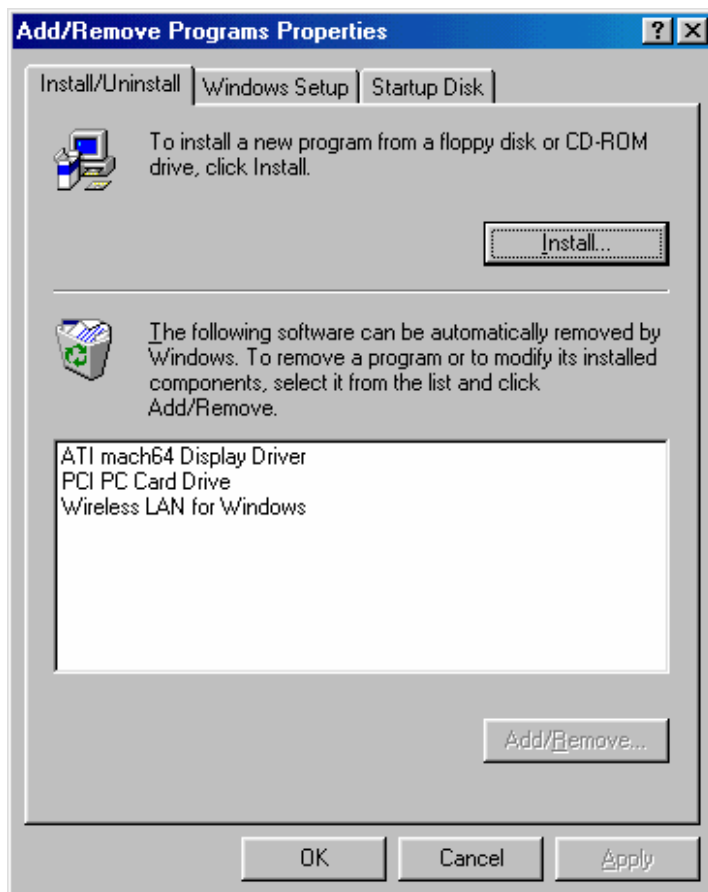
Install the New Driver: After uninstalling the card and the old driver, run the new Setup.exe file. An InstallShield window appears warning you to close any open programs on your computer.

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Click on the Next button to continue. A screen then appears with the software license agreement displayed. Click on the Yes button to accept the agreement and continue with the installation. Once the installation is complete, click on the Finish button to return to your Windows desktop.

Restart the Operating System: After installing the new driver, you must restart the operating system. Click the Start button in the taskbar, choose the Shut Down... command in the command menu, click the Restart radio button in the dialog box, and then click the OK button.

Once Windows starts, it displays the New Hardware Found wizard, followed immediately by the Configuration menu of the Wireless Settings utility. Examine this information and make any necessary changes (for example, you may need to specify an SSID or encryption keys to reconnect to your network). After you enter the correct information, click the OK button.

Windows then displays a warning box, telling you that your system settings have changed and that you must restart your computer to implement these changes. Click the Yes button to restart the operating system. Windows then restarts, and your Wireless LAN card will operate normally with the new driver.

3 Operation

The utility is installed simultaneously with the driver by executing the Setup.exe file. When you click the Finish button in the installation screen, both the driver and the Configuration Utility are installed on your computer.

3.1 System Tray Icon

After the installation of the Wireless LAN Configuration Utility, its icon appears in the System Tray in the bottom right corner of your desktop.

The color behind the logo indicates the link status.

 Red indicates no or very poor link quality.

 Yellow indicates a usable but weak link.

 Green indicates a good or excellent link.

You can also view the status of the link by placing the cursor over the Configuration Utility icon, as shown in the following illustration. This illustration indicates that the Wireless LAN Card is able to communicate, but that the signal to the radio is weak.

3.2 Icon Menu

Clicking the left mouse button on the System Tool Tray Icon displays a menu similar to the following illustration:
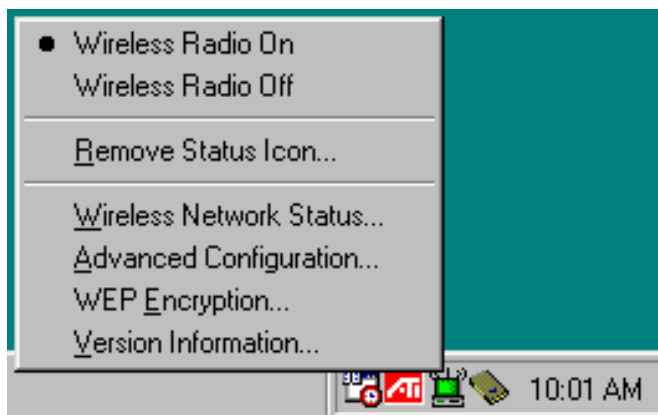
The first two items in this menu let you turn the wireless radio on or off. When the wireless radio is turned off, the following icon appears in the system tray.

Advanced Configuration…launches the Configuration Utility with the Configuration menu displayed, as discussed in the following section. This lets you set configuration parameters which change the operation of the Wireless LAN card.

Remove Status Icon…removes the System Tray Icon. The driver continues to operate the card in the last commanded configuration. The next time you power up your computer, the configuration utility will return. You can also restart the Configuration Utility from the Start Menu by selecting Programs and Wireless LAN Configuration.

Version Information…launches the Configuration Utility with the About menu selected, giving the revision level of the driver, configuration utility and firmware.

Wireless Network Status…launches the Configuration Utility with the Link menu selected. This shows the link status, including Signal Strength and Link Quality, when the card is operating in Infrastructure mode.

If you click the right mouse button on the System Tool Tray Icon, a Profile menu appears. This menu lets you quickly load an existing profile or create a new profile, as explained in the following section.

4 Starting the Configuration Utility

You can launch the Configuration Utility by clicking the left mouse button on the Configuration Utility icon and selecting Advanced Configuration…If the Configuration Utility icon is not displayed in the System Tray, you can restart the Configuration Utility from the Start Menu by selecting Programs and Wireless LAN Configuration.

The Configuration Utility consists of window with four tabs: Status, Configuration, Encryption, and About. The following sections describe the options displayed by these tabs in detail.

4.1 Status Tab

The Link menu provides information on the status of your communications with the wireless LAN.
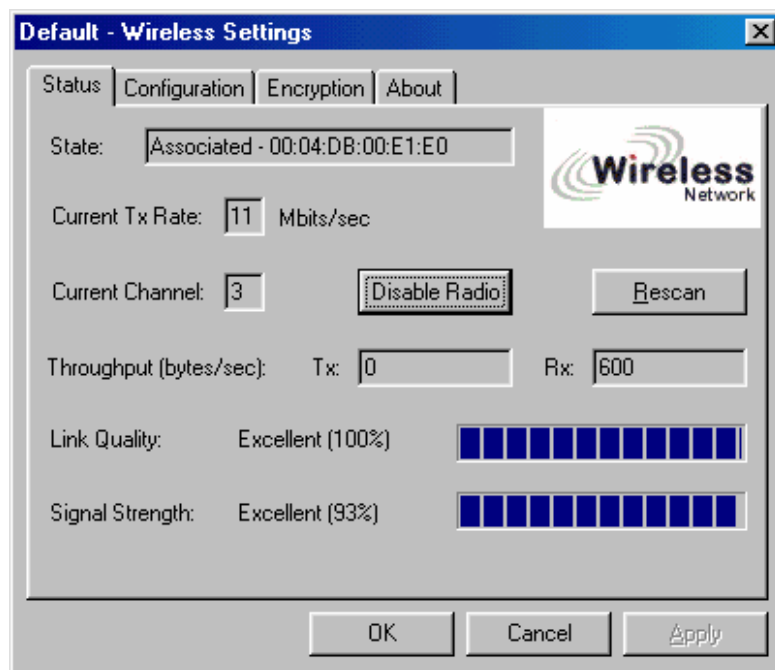
The fields in this menu provide the following information:

- State: shows the association state of your computer with the wireless LAN. When operating in Infrastructure mode, this field shows the MAC address of the Access Point with which you are communicating. When operating in AdHoc mode, this field shows the virtual MAC address used by computers participating in the AdHoc network.

- Current Channel: shows the channel on which the connection is made. In Infrastructure mode, this number changes as the radio scans the available channels.

- Current Tx Rate: shows the highest transmit rate of the current association.

- Throughput: shows the short term transmit and receive throughput in bytes/second, and is continuously updated.

- Link Quality: is based on the quality of the received signal of the Access Point beacon.

- Signal Strength: is based on the received signal strength measurement of the baseband processor of the Beacon signal.

You can click the Radio Off button to turn off the wireless radio. When you click this button, the State field indicates that the radio has been turned off and the remaining fields in this window display either a zero or Not Applicable. Click this button again to turn the radio back on.

the Rescan button to force the radio to rescan all available channels. If your link quality or signal strength is poor, rescanning can be used to push the radio off a weak Access Point and search for a better link with another Access Point.

4.2   Configuration Tab

The Configuration menu lets you specify the operating parameters for your Wireless LAN Interface card. When you first start the Configuration Utility, this menu is displayed. If another menu is displayed, you can display the Configuration options by clicking on its tab in the Configuration Utility panel.
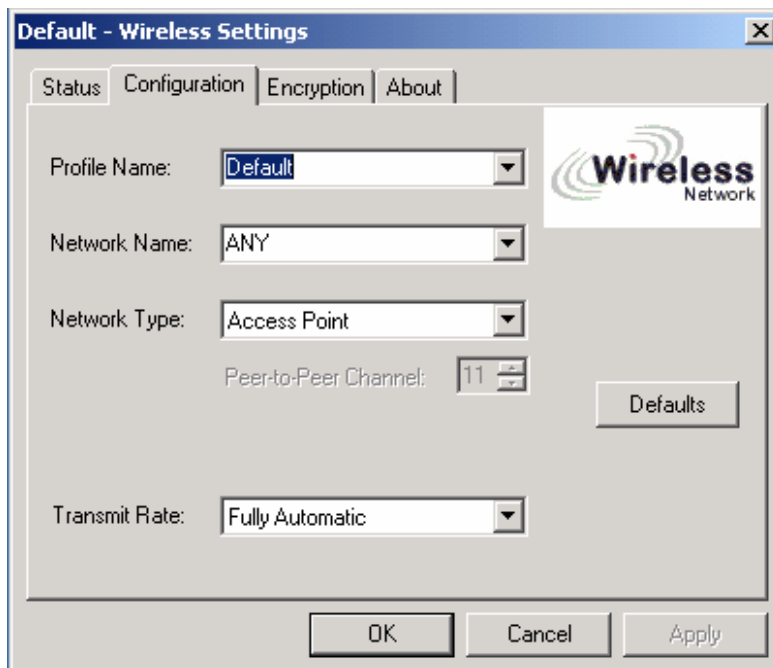
4.2.1   Setting the Profile

A profile is a named set of operating parameters for your Wireless LAN Interface card. The Profile field lets you set values for all parameters by selecting a previously defined profile. Click the down arrow at the right of the Profile field to display the available profiles for your Wireless LAN Interface card.

You will always have at least one profile, named Default. Initially, this profile contains the parameters configured at installation. You can modify this profile at any time after the installation.

After changing parameters, you can save them in the profile named in this field by clicking the Apply button in the Configuration Utility panel.

You can also create additional profiles by typing a name in the Profile field. When you change the name in the Profile field and then click the Apply button, the Configuration Utility uses the current parameters for your card to create a separate profile. You can then switch between profiles by clicking the down arrow at the right of the Profile field, selecting a profile from the drop-down list, and clicking the Apply button.

The following example describes a situation in which you would want to create multiple profiles. Suppose that you use the wireless LAN at your work, but you also have a network in your home (with a wireless Access Point) for sharing an internet connection and a printer between several computers. Suppose also that you have another office within your business which also has WLAN capability, but which is configured differently than your main office.

In this situation, you can create a different profile for each of these three environments. Each profile specifies the parameters used on a single network. Moving from one location to another, you only need to apply the appropriate profile to be able to participate in the local network.

4.2.2   Setting the Network Type

The Wireless LAN Interface card can operate in one of two types, which are specified in the Network Type field of the Configuration menu. Clicking the down arrow at the right of the Mode field displays the available modes.
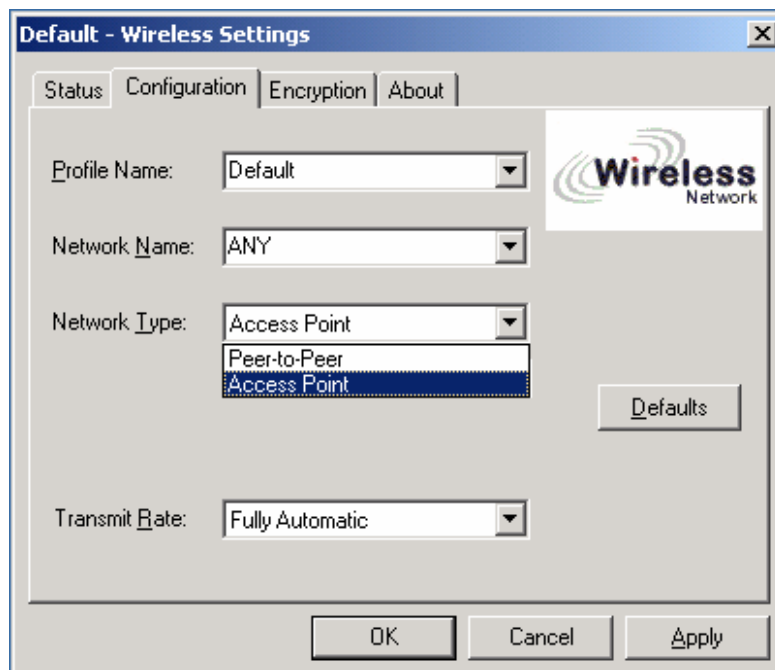
4.2.2.1   Peer-to-Peer Type

IEEE 802.11, the standard on which the WLAN protocol is based, defines two types to handle two separate needs. The first, called Peer-to-Peer (or AdHoc, IBSS) type, is used when two or

more wirelessly-enabled PCs wish to exchange data directly, without an Access Point. In this case the PCs can establish an Peer-to-Peer network in which they are the only members and over which they can exchange data. To exchange data, each computer participating in the Peer-to-Peer network must also specify the same Network Name (SSID) and Peer-to-Peer Channel in this menu.

4.2.2.2   Access Point Type

The second type defined by the IEEE 802.11 standard is called Access Point type, and is the primary application for WLAN operation. In this mode all data on the wireless network is directed to an Access Point, which then routes the data to the appropriate wireless station. The Access Point may also be configured to allow data to be bridged from the wireless network to wired networks.

To participate in a wireless LAN in infrastructure mode, every station and Access Point must specify the same Network Name. In infrastructure mode, all available channels are scanned for traffic, so there is no need to specify a channel.

### 4.2.3   Setting the Network Name

The Network Name is the Service Set Identifier (SSID) used by Access Points and stations to identify a wireless LAN. Your Wireless LAN Interface card scans the available channels looking for an Access Point (in Access Point type) or another station (in Peer-to-Peer type), which has specified this same SSID. It then attempts to associate with these Access Points or stations to form a wireless LAN.

To change the Network Name, simply highlight it, type the new Network Name, and click the Apply button.

In typical infrastructure applications a company will use a single Network Name for all Access Points. If the radio is scanning and cannot find a channel when an Access Point is known to be in range, verify that the Network Name is set correctly.

4.2.4   Setting the Transmit Rate

The Transmit Rate field specifies the rate at which the radio in your Wireless LAN Interface card transmits and receives data. You can view the available rates by clicking the down arrow at the right of the Transmit Rate field.
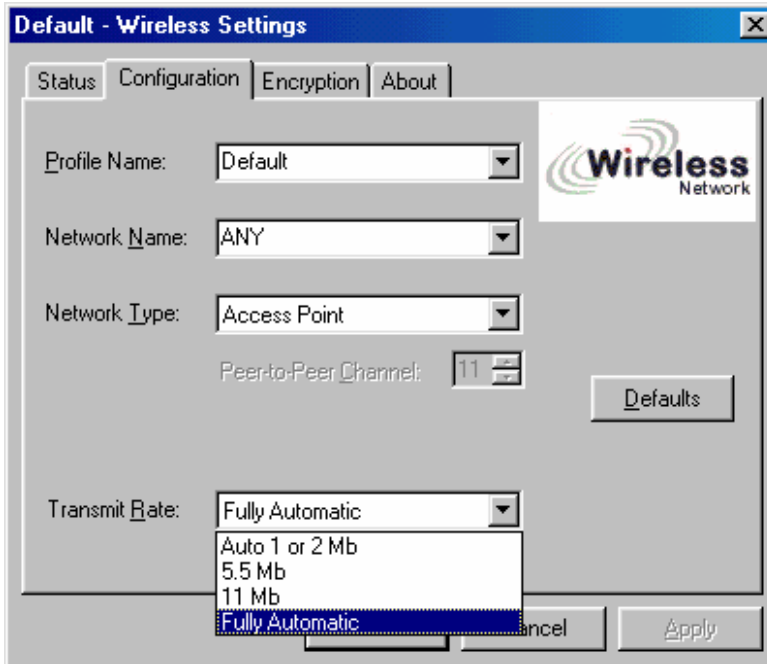
The transmit rate can be set to:

- Fully Automatic – your card chooses the highest available rate providing reliable communications based on the capabilities of the Access Point or station with which it communicates and on the received signal quality

- Auto 1 or 2 Mb – allows only 1 and 2 Mb/s operation

- 5.5 Mb – allows only 5.5 Mb/s operation

- 11 Mb – allows only 11Mb/s operation

To change the Transmit Rate, click the down arrow at the right of the field, highlight the rate you want to set, and click the Apply button.

Under most conditions, you should choose Fully Automatic as the transmit rate. In general, fixed rates are used only in test environments.

4.2.5 Selecting the Peer-to-Peer Channel

When communicating in Peer-to-Peer type, you must specify a channel on which communications will take place. To specify a channel, click the up or down arrow at the right of the Peer-to-Peer Channel field until the channel you want to set appears, and then click the Apply button.
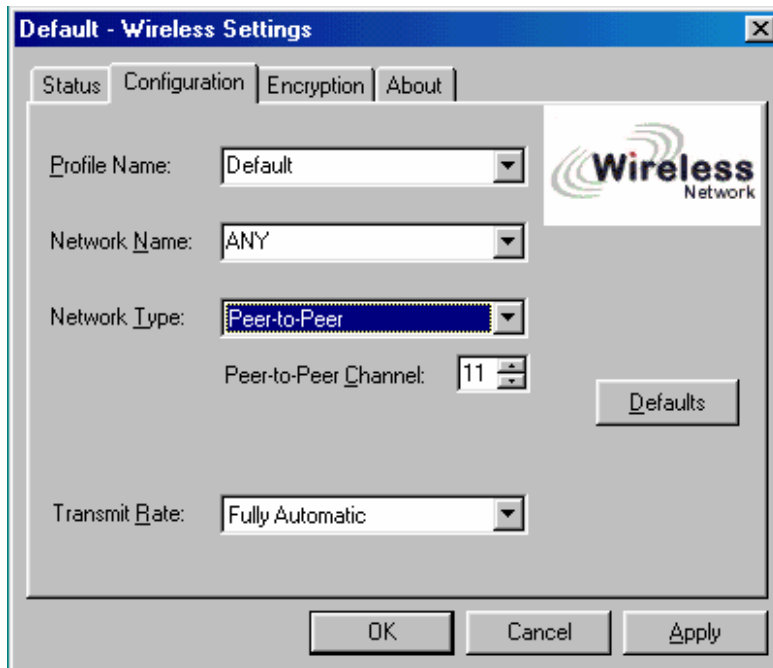
This field is grayed in Access Point type because the channel is automatically selected follow the Access Point.

4.3 Encryption Tab

The Encryption menu lets you enable encryption and set the encryption keys. To see the available encryption methods, click the down arrow at the right of the Encryption {WEP} field.

There are two encryption methods available. The IEEE 802.11 specification defines Wired Equivalent Privacy (WEP) using a 64-bit key. This capability was extended by the industry to allow a 128-bit key.

If you specify an encryption method, you will only be able to communicate with Access Points and stations that use the same encryption method and keys.

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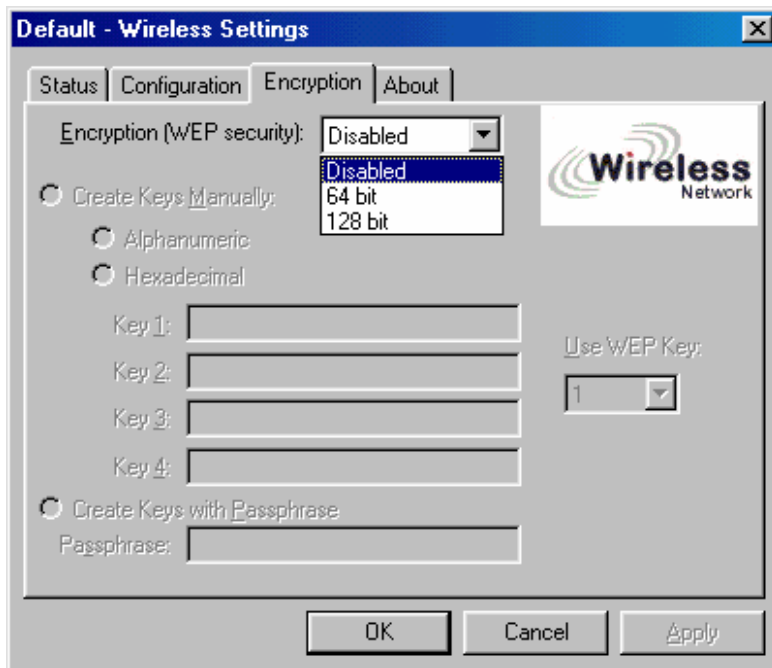
4.3.1 Disabling Encryption

To disable encryption, click the down arrow at the right of the Encryption field, select Disabled, and click the Apply button.

4.3.2 Enabling Encryption

To enable encryption, click the down arrow at the right of the Encryption field, select either 64 bit or 128 bit, and click the Apply button. After enabling an encryption method, you must then specify encryption keys, as described in the following sections.

### 4.3.3 Creating Encryption Keys Using a Passphrase

To create encryption keys using a passphrase, click the radio button next to Create Key with Passphrase and type a character string in the Passphrase field. As you type, the Configuration Utility uses an algorithm to generate four keys used for encryption. After typing the character string, click the Apply button.
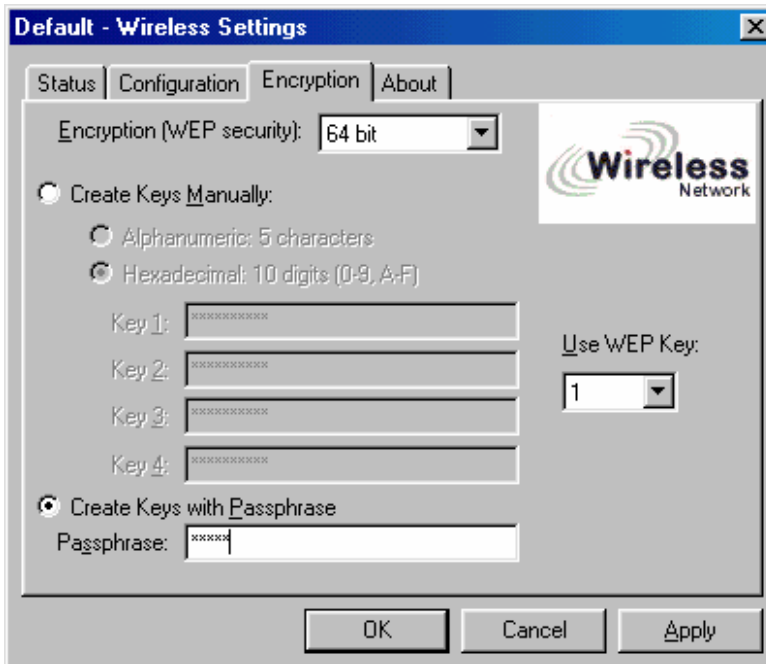
Using a passphrase to generate the four keys makes it easy to set the same keys for all members of your wireless LAN.

4.3.4 Creating Encryption Keys Manually

If you want, you can create encryption keys manually by clicking the radio button next to Create Key Manually, as shown in the following illustration.
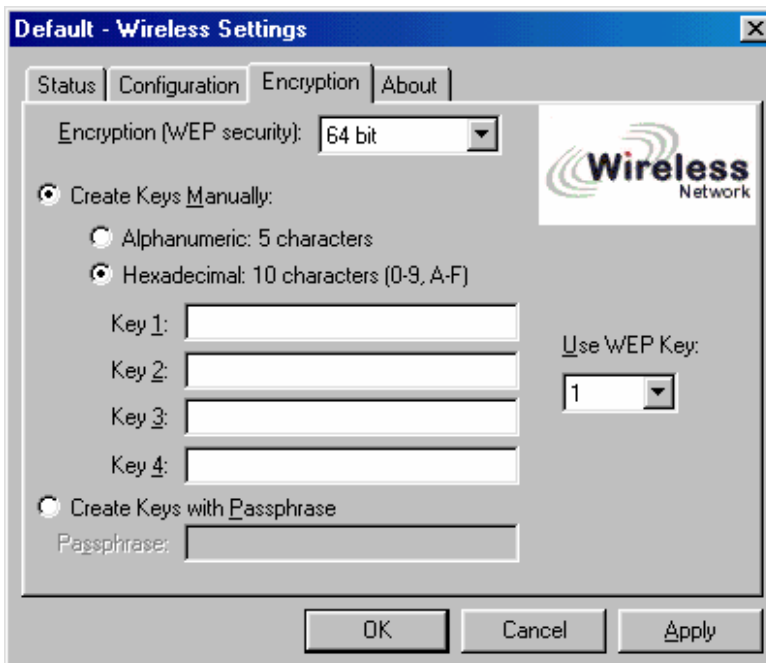

When you click this button, the cursor appears in the field for Key 1. For 64-bit encryption, you must type *exactly* 10 hexadecimal digits in each of the four key fields; for 128-bit encryption, you

must type *exactly* 26 hexadecimal digits. You then click the Apply button to create your encryption keys. After you click the Apply button, the Configuration Utility uses asterisks to mask your keys.

The Default Key field lets you specify which of the four encryption keys you use to transmit data on your wireless LAN. You can change the default key by clicking on the down arrow at the right of this field, selecting the number of the key you want to use, and then clicking the Apply button. As long as the Access Point or station with which you are communicating has the same key in the same position, you can use any of the keys as the default.

4.4   About Tab

The About menu provides information on the version of the Network Driver, the Configuration Utility, and the firmware in the Wireless LAN Interface card. In addition, this menu also provides the MAC address of the card, as shown in the following illustration.
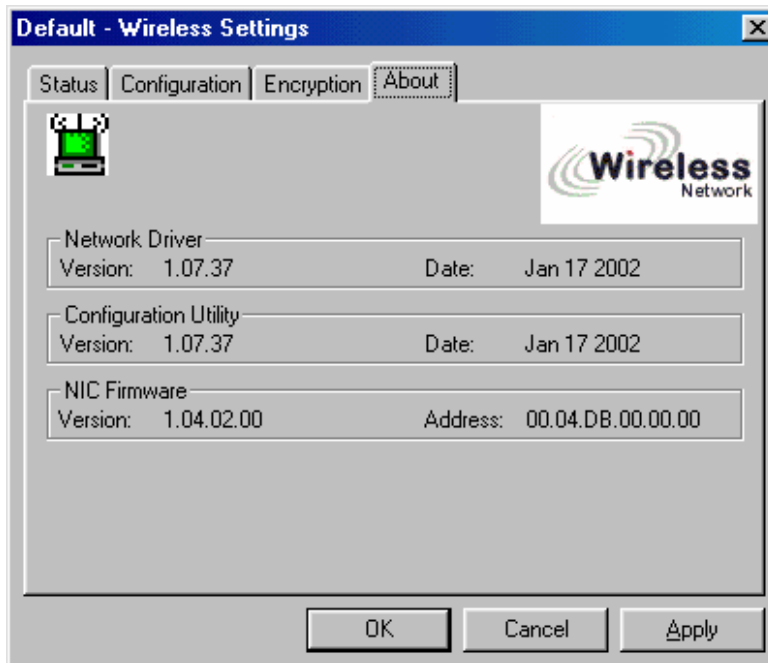
5   Troubleshooting

5.1   Poor Linking

Solution:

The antenna is attached to the end of the Wireless LAN Card. For best use of the antenna, please follow the instruction below:

1) Keep the area around the antenna clear to avoid any interference from materials that could block radio transmission, such as metal objects, electronic devices, and cordless telephones.
2) Adjust the direction of the PC slightly to improve the linking quality.

5.2   Windows does not detect the installed Wireless LAN PC Card

Solution:

1) Make sure the driver of the PCMCIA controller is installed.
2) Make sure whether the PC has a Plug and Play BIOS.
3) Make sure if there is any conflict between PCMCIA devices. If there is conflict, please click "Start", "Settings", "Control Panel", "System", "Device Manager", "Other devices" to find "INTERSIL-PRISM_2_5_PCMCIA_ADAPTER" and delete it. Now, please install Wireless LAN PC Card.

5.3   PC cannot connect to the Network

Solution:

Make sure the Wireless LAN's network Type, Name, Channel and Data Rate is set as same as Network.

6 SPECIFICATIONS

General	
Standards compliance	IEEE 802.11b standard for wireless LAN
Security	WEP 64, 128 bit, encryption MD5
Hardware	
RF	Frequency range: 2.4 ~ 2.4835 GHz
Data rate	Supported bit rates: 11 Mbps / 5.5 Mbps / 2 Mbps / 1 Mbps
Modulation	DSSS (Direct Sequence Spread Spectrum)
	DBPSK/DQPSK/CCK
Coding	1, 2 Mbps: 11 chip/bit Barker Coding
	5.5, 11 Mbps: Complementary Code Keying
Number of channels	Europe: 13 (3 non-overlapping)
	US: 11 (3 non-overlapping)
	France: 4 (1 non-overlapping)
	Japan: 14 (3 non-overlapping)
Host interface	PC Card 95
	PCMCIA type II 16 bit
Transmit power (Typ.)	+14 dBm
Receive sensitivity (Typ.)	-83 dBm for 11Mbps; -86 dBm for 5.5/2/1 Mbps; (@BER 10E-5)
Input Voltage	3.3/5 Vdc
Power consumption (Max. @ 3.3Vdc)	Tx mode: 300 mA; Rx mode: 210 mA; Stand by mode: 60 mA
Software	
Driver support	Windows 95/98/ME/NT/2000/XP/CE and Linux
Utility	User setup & diagnostics tool
Mechanical	
Antenna connector	Two MMCX connectors
Indicator	Green LED for activity
Environmental	Operating temperature: 0 ~ 55°C
	Relative humidity: 95% (non-condensing)
Package	PCMCIA type II extended
Dimensions	85.6 x 54.0 x 5.0 mm
Weight	40 grams
Certificate	
EMC	U.S., Canada: FCC Part 15, sections 15.247, 15.205, 15.209; RSS-210
	Europe: ETS 300 328, ETS 300 826, CE Marked
	Japan: ARIB STD T-66, D-33

7 GLOSSARY

Access Point (AP) – Any entity that has station functionality and provides access to the distribution services, via the wireless medium (WM) for associated stations.

Ad-Hoc – A network composed solely of stations within mutual communication range of each other via the wireless medium (WM). An ad hoc network is typically created in a spontaneous manner. The principal distinguishing characteristic of an ad hoc network is its limited temporal and spatial extent. These limitations allow the act of creating and dissolving the ad hoc network to be sufficiently straightforward and convenient so as to be achievable by non-technical users of the network facilities; i.e., no specialized technical skills are required and little or no investment of time or additional resources is required beyond the stations that are to participate in the ad hoc network. The term ad hoc is often used as slang to refer to an independent basic service set (IBSS).

BSS (Basic Service Set) – An AP associated with several wireless stations.

ESS (Extended Service Set) – More than one BSS can be configured as an Extended Service Set. An ESS is basically a roaming domain.

Ethernet – A popular local area data communications network, originally developed by Xerox Corp., which accepts transmission from computers and terminals. Ethernet operates on 10 Mbps baseband transmission over shielded coaxial cable or over shielded twisted pair telephone wire.

LAN – Local Area Network.

Infrastructure – The infrastructure includes the distribution system medium (DSM), AP, and portal entities. It is also the logical location of distribution and integration service functions of an extended service set (ESS). An infrastructure contains one or more APs and zero or more portals in addition to the distribution system (DS).

IEEE – Institute of Electrical and Electronic Engineering.

PCMCIA (Personal Computer Memory Card International Association) – It develops standards for PC cards, formerly known as PCMCIA 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.

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.

RTS (Request To Send) Threshold – Transmitters contending for the medium may not hear each other. RTS/CTS mechanism can solve this " Hidden Node Problem".

SOHO – Small Office Home Office

SSID – Service Set Identifier

Wired Equivalent Privacy (WEP) – The optional cryptographic confidentiality algorithm specified by IEEE 802.11 used to provide data confidentiality that is subjectively equivalent to the confidentiality of a wired local area network (LAN) medium that does not employ cryptographic techniques to enhance privacy.