11b WLAN USB Dongle

User's Manual

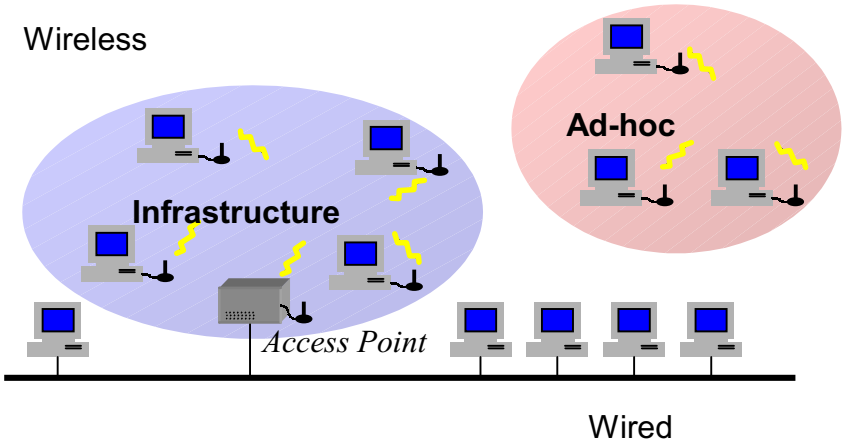
XI-735

Wireless LAN USB Card

Quick Start Guide

Network Configuration

Wireless LAN USB Card is an IEEE802.11/802.11b-compliant DSSS wireless LAN USB card. It fully supports wireless networking under Windows 98SE/ME/2000/XP.
Wireless LAN USB Card can be operated in Ad-Hoc or Infrastructure network configurations.
Ad-Hoc mode allows Wireless LAN USB Card users to join a Basic Service Set (i.e., peer-to-peer mode, without access point). *Infrastructure mode* allows Wireless LAN USB Card users to join an Extended Basic Service Set (i.e., connect to an Access Point)



Package Content

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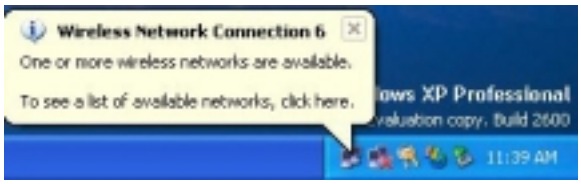
Installation of the Wireless LAN USB Card under Windows XP

1. Insert the Wireless LAN USB Card into the USB slot on your computer and start Windows. Windows will auto-detect the Wireless LAN USB Card and a **"Found New Hardware Wizard"** window will show up.
2. Select **"Install from a list of specific location (Advanced)"** and insert the Product CD-ROM into the appropriate drive. Click on **Next** to install the driver.
3. Select **"Search removable media (floppy, CD-ROM…)"**, click on **Next** to install the driver.
4. The Windows XP compatibility screen will show up. Please click **Continue Anyway** button to continue.
5. Click **Finish** to complete the installation.

After installing the Wireless LAN USB Card, the Windows XP will display a "Wireless Network Connection # " message.



Click on the message and the "*Automatic Wireless Network Configuration"* will then appear automatically. You may click on **Connect** button to allow users to connect to an available wireless infrastructure network (Access Point), shown as follows:

You may click the **Advanced** button to perform advanced configuration for the Wireless LAN USB Card, shown as below.

Warning: You must choose one way to configure Wireless LAN USB Card either of using our WLAN Utility by un-checking this check box or using Windows XP *Automatic Wireless Network Configuration* first by checking this check box.

For more information on using the Automatic Wireless Network Configuration please refer to Windows XP **Help** file.

However, the Wireless LAN Utility, which came with the Wireless LAN USB Card, provides you more tools to configure the Wireless LAN USB Card and to monitor the wireless connection. For more information on installing and using the Wireless LAN Utility, please refer to the following sections *"Installation of the Wireless LAN Utility"* and "*Usage of the Wireless LAN Utility*".

Note: To use the Wireless LAN Utility under Windows XP, you need to disable the ***Automatic Wireless Network Configuration*** first. Steps are described as follows:

- Right click the **Network Connections** icon. Select **Properties**.
- Go to the **Wireless Networks** tab.
- Uncheck the "**Use Windows to configure my wireless network settings**" check box and click the **OK** button (see the above picture).

Installation of the Wireless LAN USB Card under Windows 2000

1. Insert the Wireless LAN USB Card into the USB slot on your computer and start Windows. Windows will auto-detect the Wireless LAN USB Card and a **"Found New Hard Wizard"** window will show up. Click **Continue** to continue.
2. Select "**Search for a suitable driver for my device (recommended)**". Insert the Product CD-ROM into the appropriate drive. Click on **Next** to install the driver.
3. The windows will find **"WLAN Wireless LAN USB Card"**. Click on **Next** to continue.
4. Click **Finish** to complete the installation

Installation of the Wireless LAN USB Card under Windows 98SE/ME

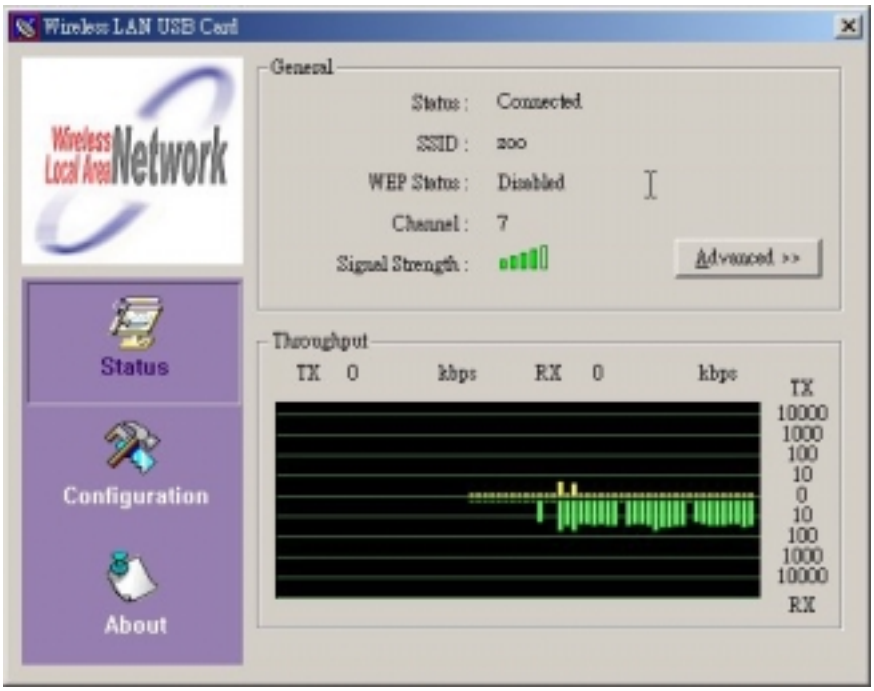
1. Insert the Wireless LAN USB Card into the USB slot on your computer and start Windows. Windows will auto-detect new hardware and will display an "**Add New Hardware Wizard**" window.
2. Select "**Search for the best driver for your device (recommended)**". Insert the Product CD-ROM into the CD-ROM drive. Specify the location where the driver is placed. Click on **Next** to install the driver.
3. The Windows will find "**WLAN Wireless LAN USB Card**". Click on **Next** to continue.
4. Once the [Please insert the disk labeled "Windows 98SE/ME CD-ROM", and then click OK] window appears, enter the path corresponding to the appropriate drives and click **OK**. Usually these files can be found at C:Windows or C:Windows\system.
5. Click **Finish** to complete the installation. Restart Windows.

Installation of the Wireless LAN Utility

1. Insert the Product CD-ROM into the appropriate drive. Go to the utility folder and click **setup.exe**. The following screen will show up. Click **Continue** to continue.
2. Follow the on-screen instructions to install the Wireless LAN Utility. The next screen will indicate that Windows start and continue the installation. Click **Next**.
3. Upon completion, go to **Program Files** and run the Wireless LAN Utility. The utility interface will then appear and at the same time its icon appears in the **System Tray** in the bottom right corner of your task bar.

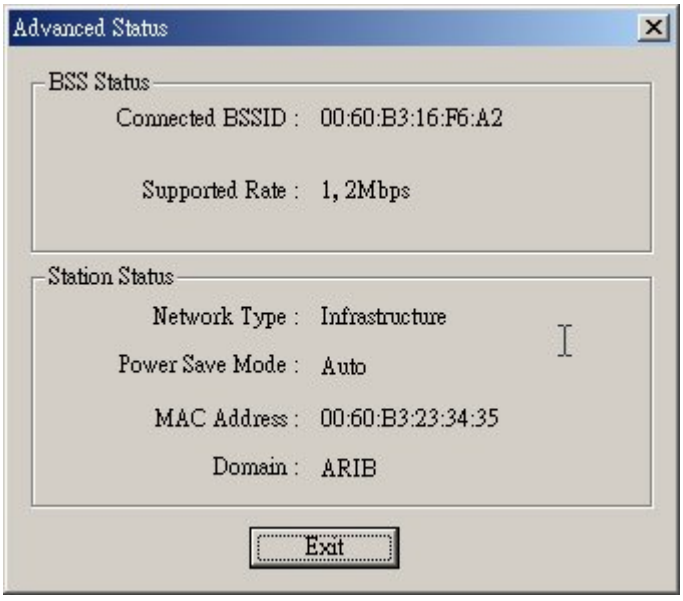
Usage of the Wireless LAN Utility

The Wireless LAN Utility consists of window with 3 items for you to monitor and configure the Wireless LAN Card: **Status**, **Configuration**, and **About**.



Status:

The **Status** item allows you to monitor the general information for the Wireless LAN USB Card such as ***Status***, ***SSID***, ***WEP Status***, ***Channel***, ***Signal Strength*** and ***Throughput***. When operating in Infrastructure mode, the Connected BSSID field shows the MAC address of the Access Point with which the Wireless LAN USB Card is communicating. When operating in Ad-Hoc mode, it shows the virtual MAC address used by computers participating in the Ad-Hoc network. Furthermore, you may monitor the current status between the current workstation on the network in *BSS Status* and the Wireless LAN USB Card in *Station Status* by clicking **Advanced** button.

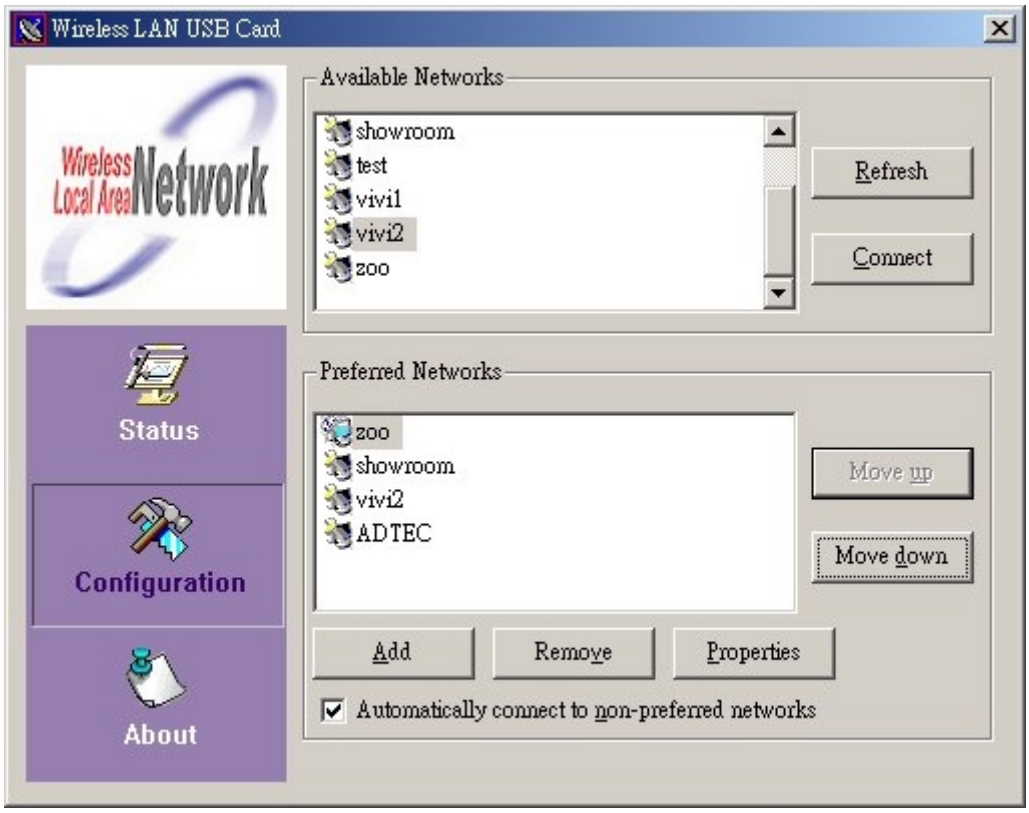


Configuration:

The **Configuration** item allows you to modify the configuration parameters for the Wireless LAN USB Card such as *Available Networks* and *Preferred Networks*.

In *Available Networks*, the **Refresh** button helps you to reload and display the available wireless infrastructure network on the network. You may click on Connect button to allow you to connect to an available wireless infrastructure network.

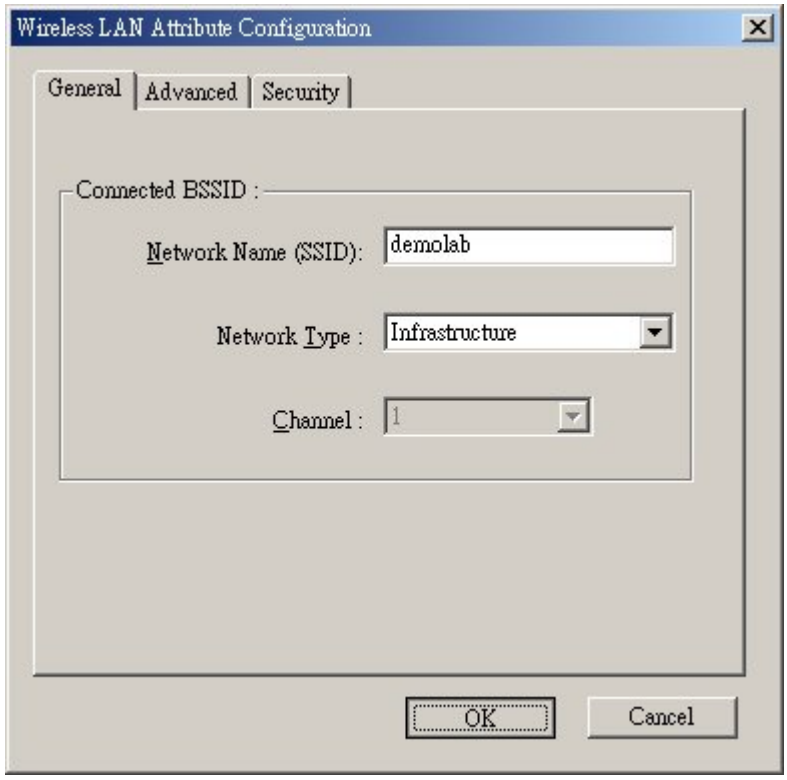
After you connect to an available network, it will show in *Preferred Networks*. If you have many available networks in *Preferred Networks,* the Wireless LAN USB Card will connect to the first one available network in *Preferred Networks*. Otherwise, you could use **Move up** button and **Move down** button to select which available network you want to connect.



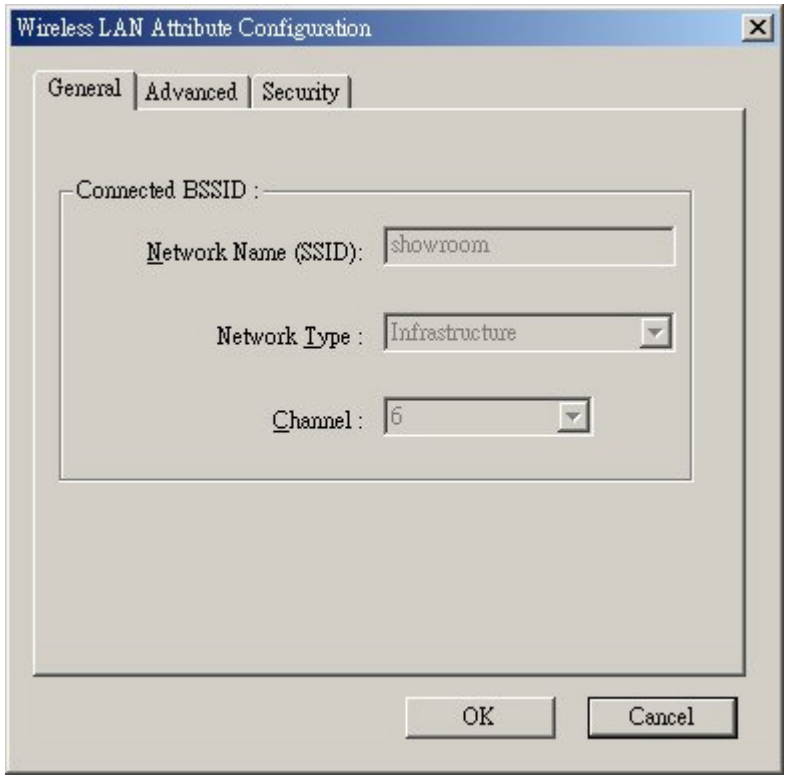
By checking **Automatically connect to non-preferred networks** check box, the Wireless LAN USB Card will automatically connect to available network even if you don't assign available network to connect or you don't have any available network in Preferred Networks at first.

You also could add the available network that does not show in *Available Networks* by clicking **Add** button. For **Remove** button, you may remove the available network from the *Preferred Networks*.

You may configure the Wireless LAN USB Card by clicking on **Add** button. Click **Add** button, you can assign specifically available network that you want to connect. You also may select the **Network Type**, and **Channel**.

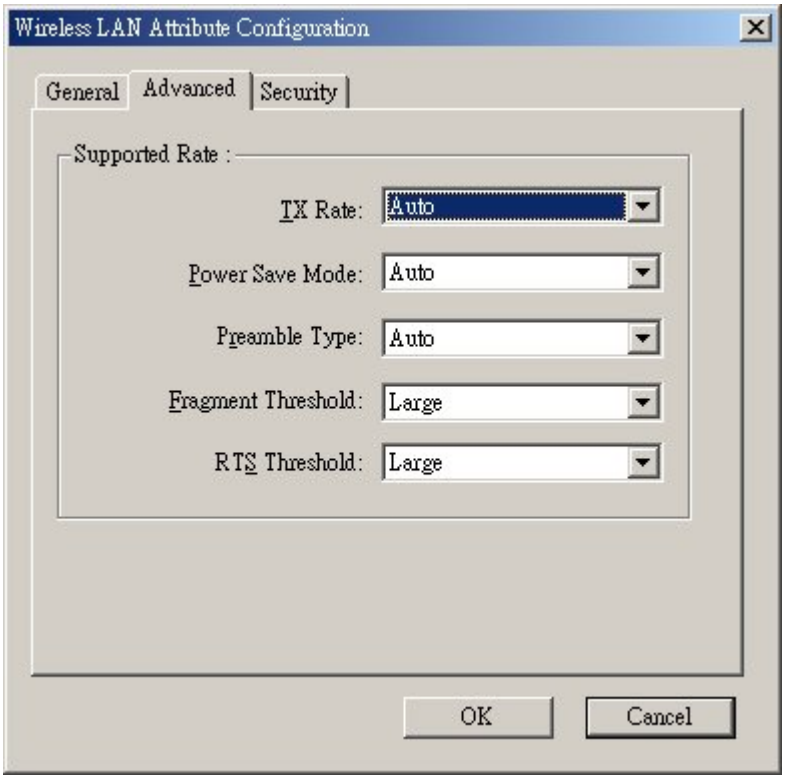


You may monitor and configure the Wireless LAN USB Card by clicking **Properties** button.



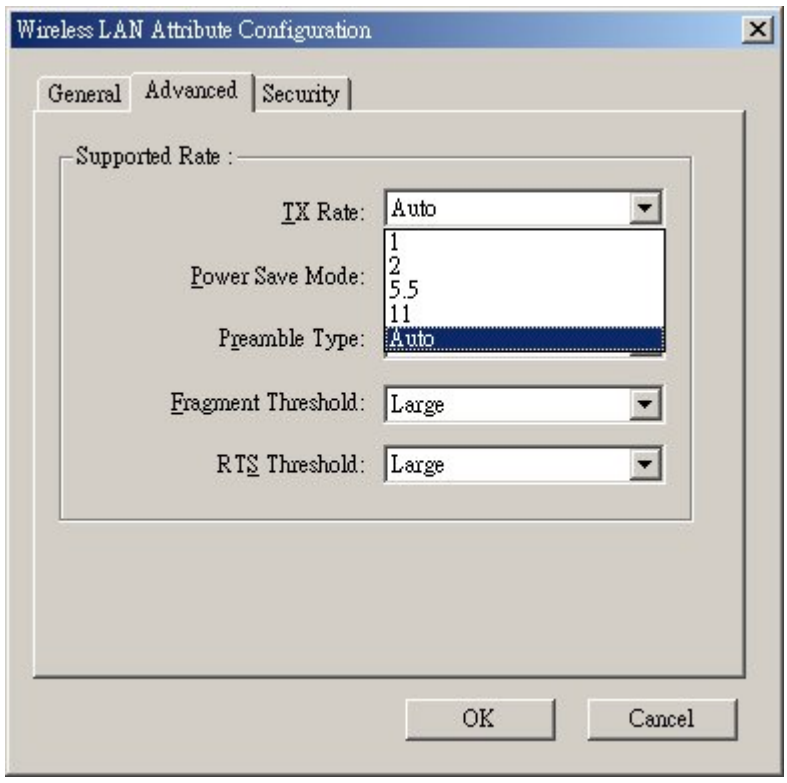
The Wireless LAN Attribute Configuration item allows you to modify the *General* information of the available network and configuration parameters for the Wireless LAN USB Card such as *Advanced* and *Security*.

The *Advanced* tab allows you to modify the configuration parameters for the Wireless LAN USB Card such as **TX Rate, Power Save Mode, Preamble Type, Fragment Threshold, and RTS Threshold.**



TX Rate

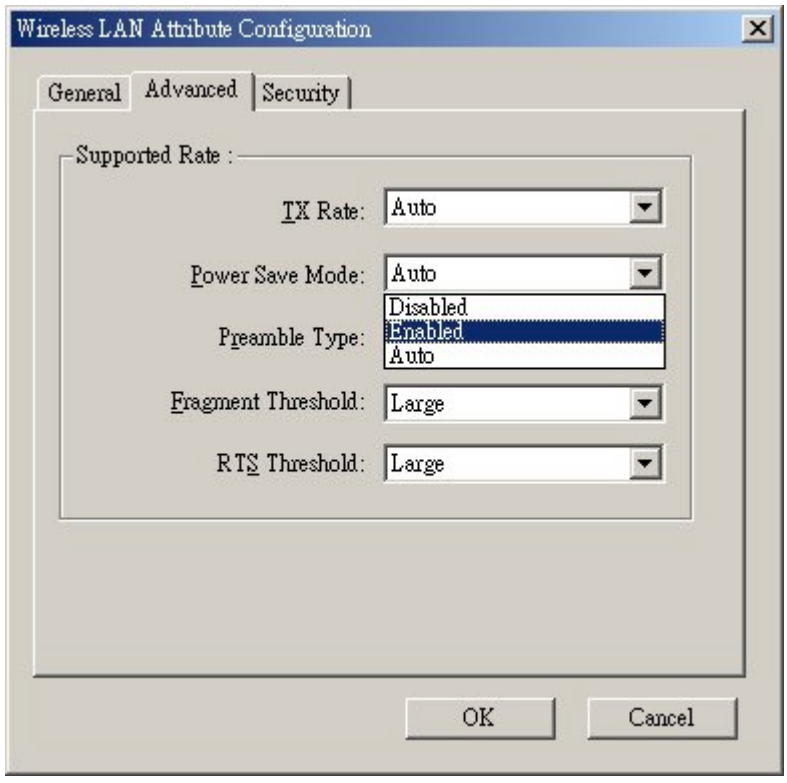
The Wireless LAN USB Card provides various data rate options for you to select. Data rate options include **1**, **2, 5.5**, **11** and **Auto**. In most networking scenarios, you will see that the factory-set default "**Auto**" will prove the most efficient. This setting will allow the Wireless LAN USB Card to operate at the maximum data rate. When the communications quality drops below a certain level, the USB Card will automatically switch to a lower data rate. Transmission at lower data speeds are usually more reliable. However, when the communications quality improves again, the Wireless LAN USB Card will gradually increase the data rate again, until it has reached the highest available transmit rate.



Power Management

The Power Save option is designed to conserve battery life of you computer. When Power Save is enabled, the Wireless LAN USB Card will go into sleep mode to minimize power consumption.

Warning: When power saving mode is enabled, the Access Points you use need to support power saving as well so that the communication can be established.

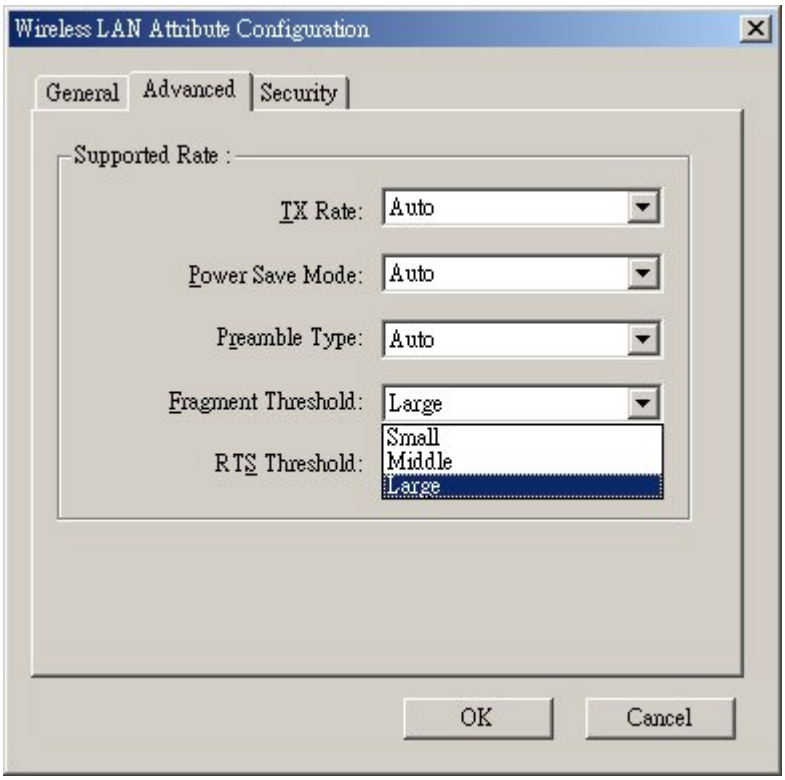


Preamble Type

The preamble defines the length of the CRC block for communication between the Access Point and a roaming Network Card. A long transmit preamble allows the receiver to lock into the received bit patterns more easily. A short transmit preamble provides better performance. The default value is Long Tx Preamble.

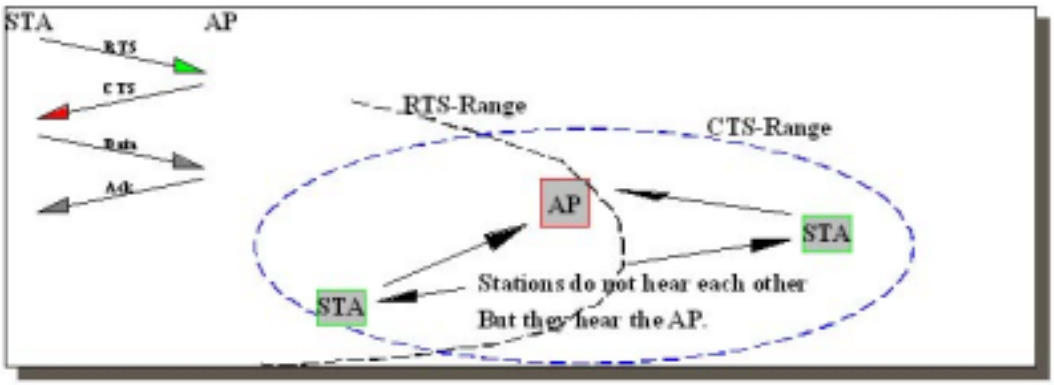
Fragment Threshold

Fragmentation mechanism is used for improving the efficiency when high traffic flows along in the wireless network. If the Wireless LAN USB Card often transmits large files in wireless network, you can select the properly Fragmentation Threshold by choosing **Small**, **Middle**, and **Large** and the mechanism will split the packet.



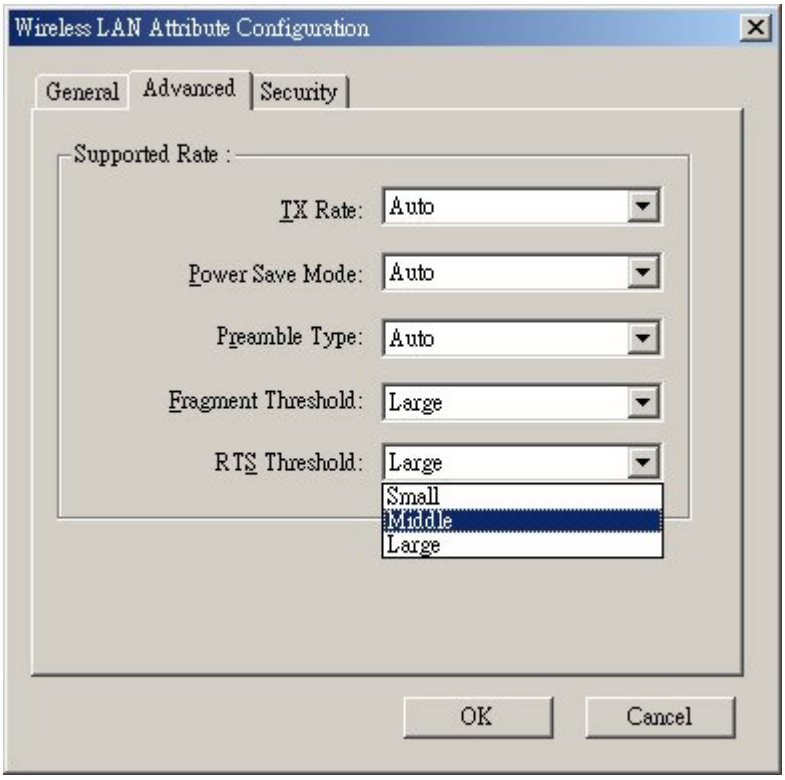
RTS Threshold

RTS Threshold is a mechanism implemented to prevent the “Hidden Node” problem. “Hidden Node” is a situation in which two stations are within range of the same Access Point, but are not within range of each other. The following figure illustrates an example of the “Hidden Node” problem. Both stations (STA) are within range of the Access Point, however, they cannot hear each other. Therefore, they are hidden nodes for each other. When a station starts data transmission with the Access Point, it might not notice that the other station is already using the wireless medium. When these two stations send data at the same time, they might collide when arriving simultaneously at the Access Point. The collision will most certainly result in a loss of messages for both stations.

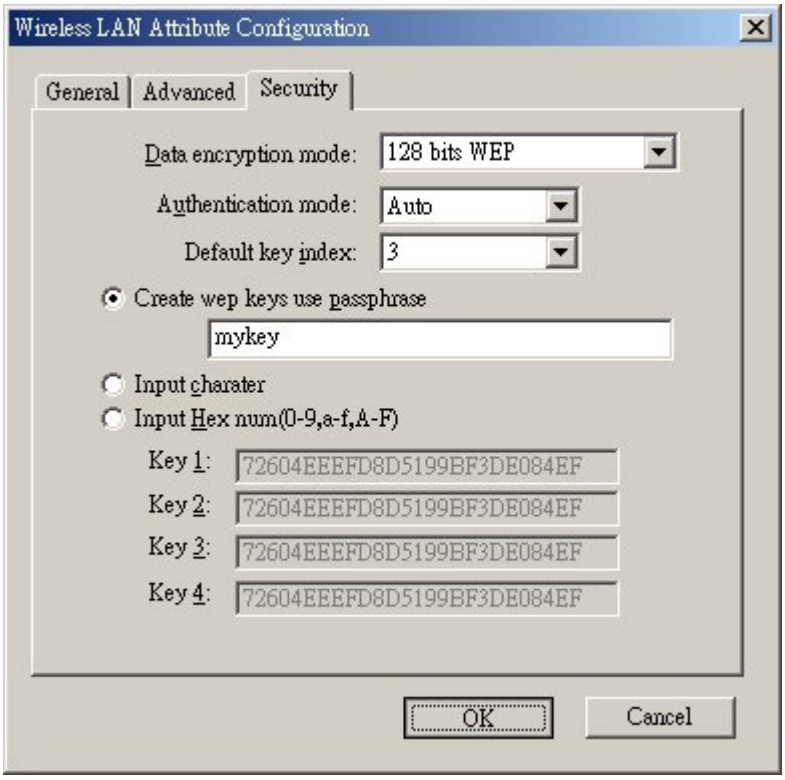


Thus, the RTS Threshold mechanism provides a solution to prevent data collisions. When you enable RTS Threshold on a suspect "hidden station", this station and its Access Point will use a Request to Send (RTS). The station will send an RTS to the Access Point, informing that it is going to transmit the data. Upon receipt, the Access Point will respond with a CTS message to all station within its range to notify all other stations to defer transmission. It will also confirm the requestor station that the Access Point has reserved it for the time-frame of the requested transmission.

If the "Hidden Node" problem is an issue, please specify the packet size. *The RTS mechanism will be activated if the data size exceeds the value you set.* You can select the properly Fragmentation Threshold by choosing **Small**, **Middle**, and **Large.**



The *Security* tab allows you to modify the security parameters for the Wireless LAN USB Card such as *Data encryption mode, Authentication mode, Default key index, Create wep keys use passphrase, Input character* and *Input Hex num*.



Set the Encryption:

To prevent unauthorized wireless stations from accessing data transmitted over the network, the Wireless LAN Card offers highly secure data encryption, known as WEP (Wired Equivalent Privacy). The Encryption tab allows you enable encryption and set the encryption keys, making your data transmission over the air more secure. To activate the WEP Encryption, go to the **Security** tab and select the **Data Encryption mode**.

Select the Open System or Shared Key Authentication Type to set authentication for 802.11b band. All other devices using this band must share this setting. Shared Key operation offers a step up in security over Open System operation.

Auto: The Authentication Type default is set to **Auto**. It is recommended that you use the default setting.

Open System: The Authentication Type sets to **Open System**.

Shared Key: Shared Key is when both the sender and the recipient share a secret key. All points on your network must use the same authentication type

From the WEP encryption item, you can select Create wep keys use passphrase, Input character or Input Hex num three methods to set the WEP keys, as described below:

Create Encryption Keys by Using a Passphrase

To create encryption keys by using a passphrase, click the **Create Key with Passphrase** radio button and type a character string in the **Passphrase** field. As you type, the utility uses an algorithm to generate 4 keys automatically. Select either the **40/64bit** or **128bit** encryption first and type a string in the **Create Key with Passphrase** field. Select one key from the 4 WEP keys and click **OK**.

Warning: *When* ***Create Key with Passphrase*** *is enabled, the Access Points you use must need to support Passphrase as well so that the communication can be established.*

Create Encryption Keys Manually

You can also create up to 4 encryption keys manually by clicking the **Create Keys Manually** check box.

For 40/64bit encryption you may choose:

- **Character*: 5 characters*** (case sensitive) ranging from "a-z", "A-Z" and "0-9" (e.g. MyKey)
- **Hexadecimal**: ***10 hexadecimal digits*** in the range of "A-F", "a-f" and "0-9" (e.g. 11AA22BB33)

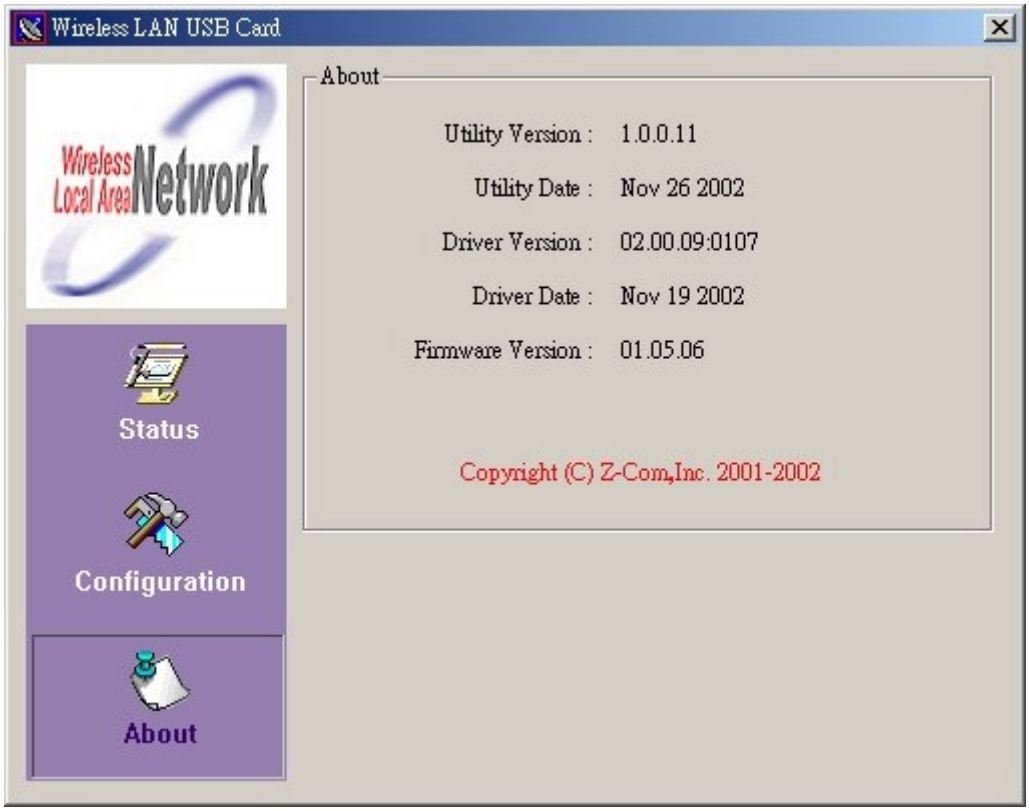
For 128bit encryption you may choose:

- **Character*: 13 characters*** (case sensitive) ranging from "a-z", "A-Z" and "0-9" (e.g. MyKey12345678)
- **Hexadecimal**: 26 ***hexadecimal digits*** in the range of "A-F", "a-f" and "0-9" (e.g. 00112233445566778899AABBCC)**.**

After entering the WEP keys in the key field, select one key as active key, click the **OK** button.

About:

The **About** item shows the versions of the Utility Version, Utility Date, Driver Version, Driver Date, and Firmware Version of the Wireless LAN USB Card.



Technical Support

You can find the most recent software and updated user documentation will be updated periodically on the supplier Web site. If you have difficulty resolving the problem while installing or using the Wireless LAN USB Card, please contact the supplier for support.

FCC Information

This device, 11b WLAN USB Dongle (model no.: XI-735), 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.

Federal Communications Commission (FCC) 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 or more 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.

Warning: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user authority to operate the equipment.

Tested to comply with FCC standard. FOR HOME OR OFFICE USE.

FCC RF Radiation Exposure Statement:

1. The equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment, under 47 CFR 2.1093 paragraph (d)(2).
2. This Transmitter must not be co-located or operating in conjunction with any other antenna or transmitter

The **11b WLAN USB Dongle** has been tested to the FCC exposure requirements (Specific Absorbtion Rate).

Service Centre:
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