GIGABYTE
T E C H N O L O G Y

GN-WLBM101

IEEE 802.11b Wireless USB Network Adapter

User's Manual

http://www.gigabyte.com.tw

Rev. 1.0 First Edition

Contents

Chapter 1. Product Overview

## 1-1. Introduction to The Wireless LAN Adapter

This wireless LAN (Local Area Network) adapter is composed of the IEEE 802.11b MAC, Baseband, and radio components, USB interface, and two built-in antennas. This product adopts the direct sequence spread spectrum (DSSS) technology and the DBPSK, DQPSK, and CCK modulation mode to provide a very stable wireless communication quality and an excellent signal receiver capability.
Our product features the compact size, low power consumption, and power management functions, and provides a high-speed wireless data communication. Therefore, our product is ideally suitable for being integrated into the personal mobile and desktop platform.

1-2. Features

- ■ Conforms to IEEE 802.11b specification.
- ■ Transmits data rate up to the maximum speed of 11Mbps.
- ■ Dynamically scales the data rate to 11, 5.5, 2, and 1Mbps.
- ■ Automatic power management to reduce battery consumption.
- ■ Built-in diversity antenna.
- ■ Supports 64-bit /128-bit WEP encryption.
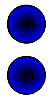- ■ Driver supports Windows 98/98SE/Me and Windows2000/XP.

1-3. Physical Dimensions/Packaging
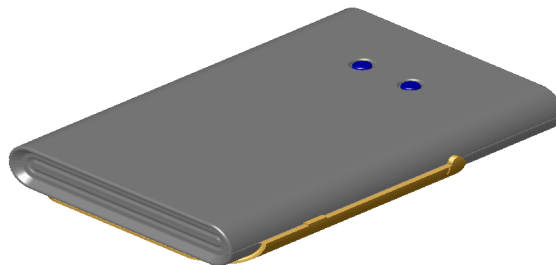
Dimensions: 89.2mm * 62mm * 14.5mm

This wireless LAN adapter conforms to the USB1.1 Mechanical standard. There are two LED-indicating lights to indicate power/Link status.

1-4. LED Indicating Light

Power: The Power LED lights up when the USB wireless LAN adapter is powered on.

Link: The Link LED lights up when the adapter has an active connection. If the LED isn't on, the adapter isn't interfacing with the network.

1-5. System Requirements

1-5-1. Supported Platform

IBM PC/AT compatible computer

1-5-2. Supported Operation System

Windows 98/98SE/Me
Windows 2000/XP
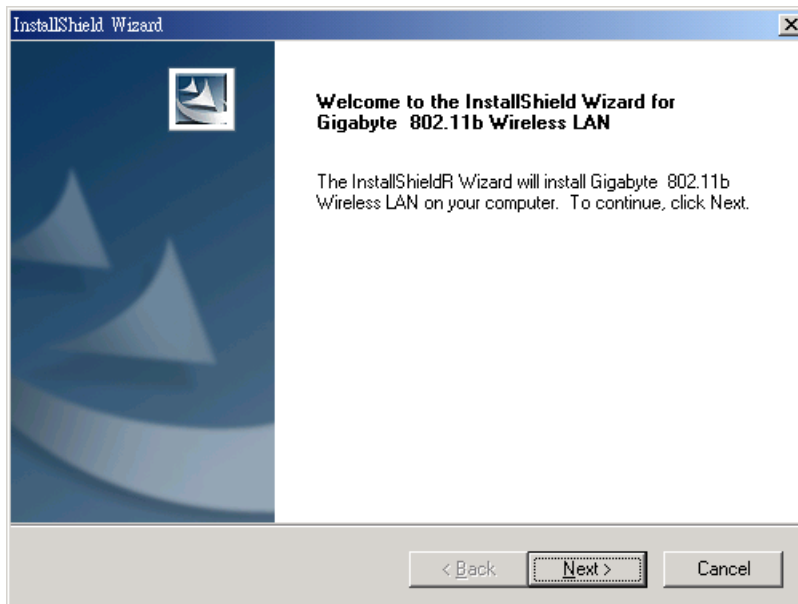
Chapter 2. Installing the Wireless LAN Adapter

2-1. Installing The Driver & Utility (Applicable to any supported OS)

Step 1: Please make sure that you don't plug your USB adapter yet.
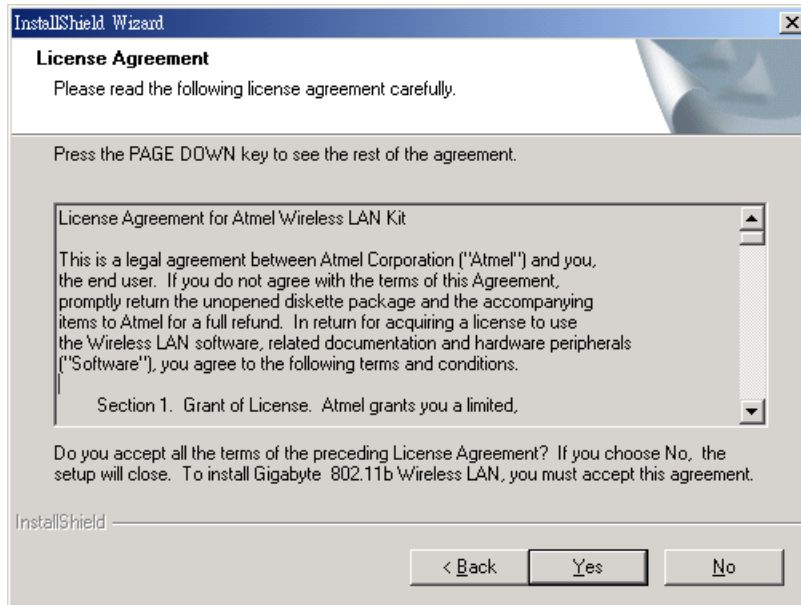**Step 2**: Insert our setup CD into your CDROM drive, the following window will pop up.

Step 3: Click "**Install Wireless LAN Driver**".

Step 4: Click "**Next**".

Step 5: Click "**Yes**". The wizard will ask you to click the type of setup.
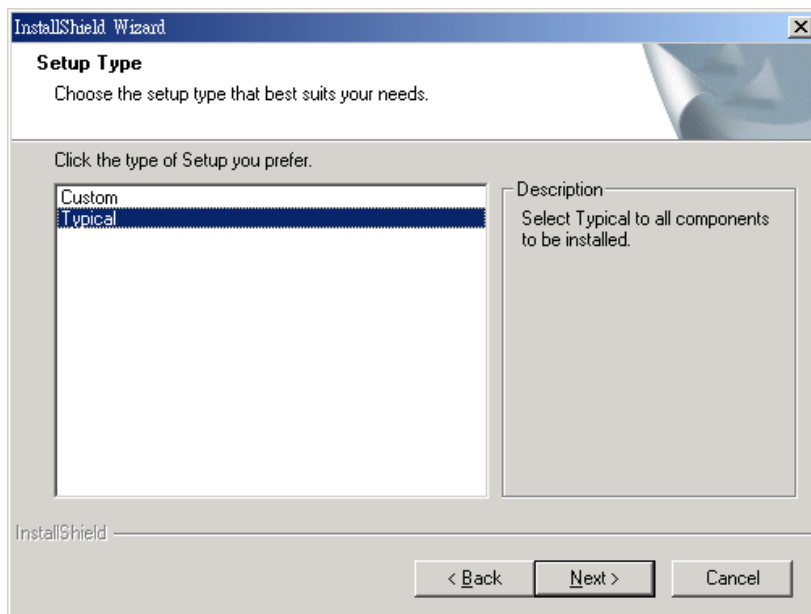
Step 6: Select "**Typical**" and then click "**Next**". The wizard will ask you to provide the destination path of where the application will be installed.
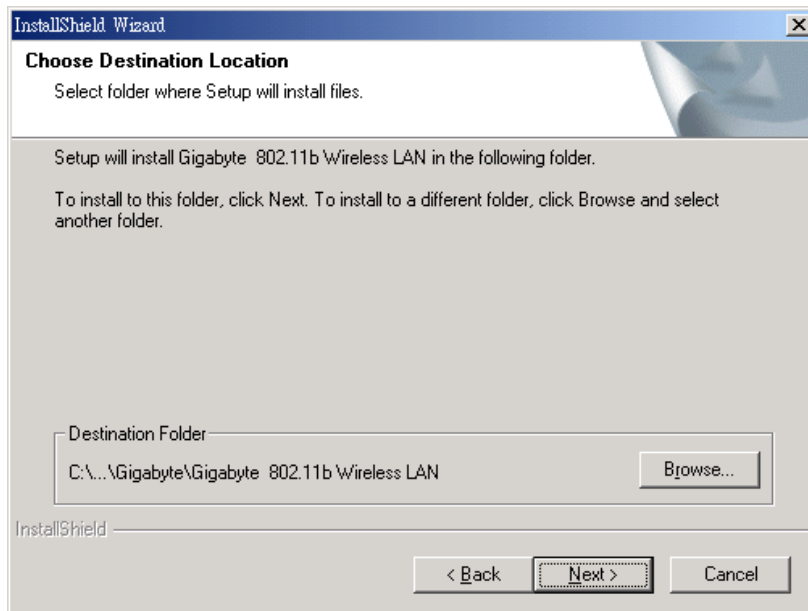
Step 7: You can click "**Browse**" to set the path or simply only click "**Next**" to go on.

Step 8: Click "**Finish**", and then your installation is ok.

Chapter 3. Using The Utility

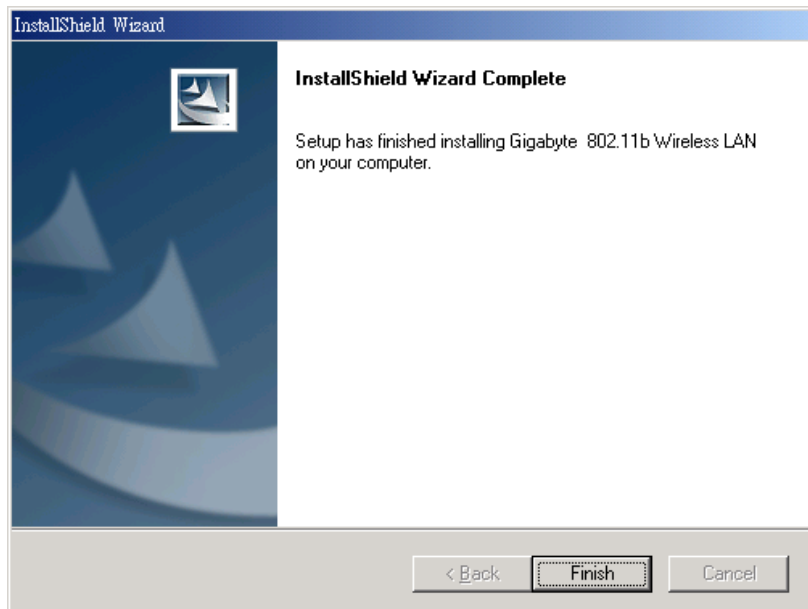The Configuration & Monitor Utility is a powerful application that helps you to configure the adapter and monitor the statistics of the communication. Unlike the standard method of configuring the adapter via the operating system utilities (e.g. Control Panel), this application permits the dynamic modification of the configuration parameters while the adapter is operating. It also offers some more configuration options. Gigabyte offers the Configuration & Monitor Utility for Windows 98/98SE/Me, and Windows 2000/XP. It appears as an icon on the system tray of Windows every time the adapter is running (*see Figure 3-1*). You can open it by double-clicking on this icon.

Figure 3-1. The icon of the Configuration & Monitor Utility


Note: Please keep in mind that the Configuration & Monitor Utility can be used to change the above configuration parameters when the adapter is active. When the adapter is not in use, please use the Control Panel method.

3-1. Info

The Info tab shows you the current link status of the wireless LAN adapter and the reachable assess points and the wireless LAN adapter. In the middle of the screen there is information about the status of the communication (the BSSID of the access point to which the adapter is associated, signal strength, and link quality).

Figure 3-2. Current link status of the wireless LAN adapter
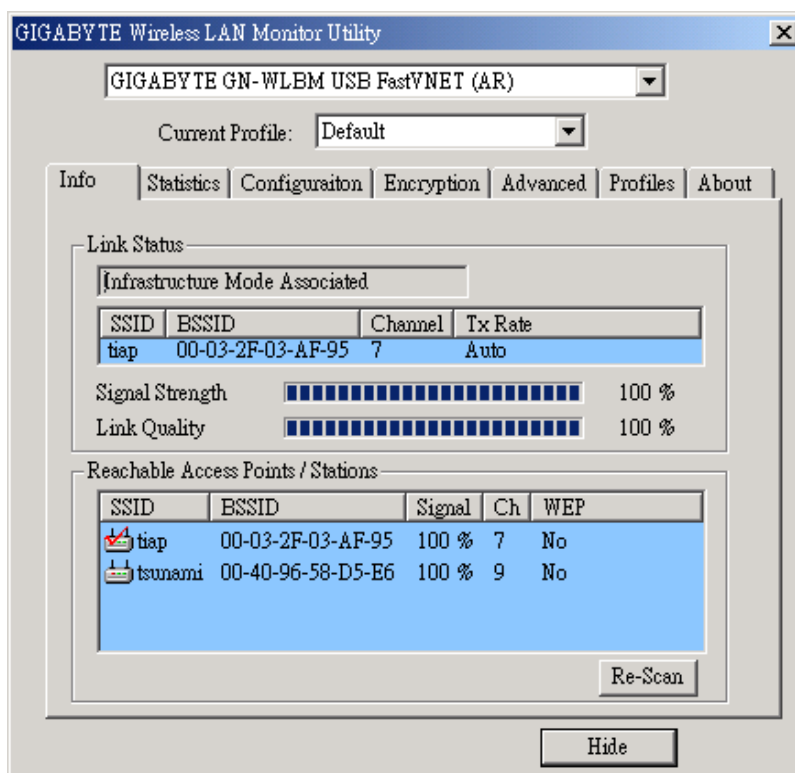
Other items in the table are the detailed information about the link status, which are available only when the wireless LAN adapter is connected to an access point or other wireless LAN adapter.

SSID: Network name.

BSSID: MAC address of the base station.

Channel: The current channel used by the wireless LAN adapter.

TxRate: The current transmission rate used by the wireless LAN adapter.

Reachable Access Points / Stations:
This item will show you all of the 802.11 access points or wireless LAN adapters in your wireless environment. The icon in the front of every item represents an access point or a wireless LAN adapter. You can add a network easily by clicking on the desired SSID.

Signal: It shows the signal intensity of the currently connected base station.

Ch: The current channel used by the wireless LAN adapter.

3-2. Statistics

This option shows you to view the available statistic information (Data Packets, Management Packets and Rejected Packets). In order to renew or update this list of statistics, click the "**Clear**" button. In order to exit, click the "**Hide**" button at the bottom of the screen.

Figure 3-3. Statistic information available
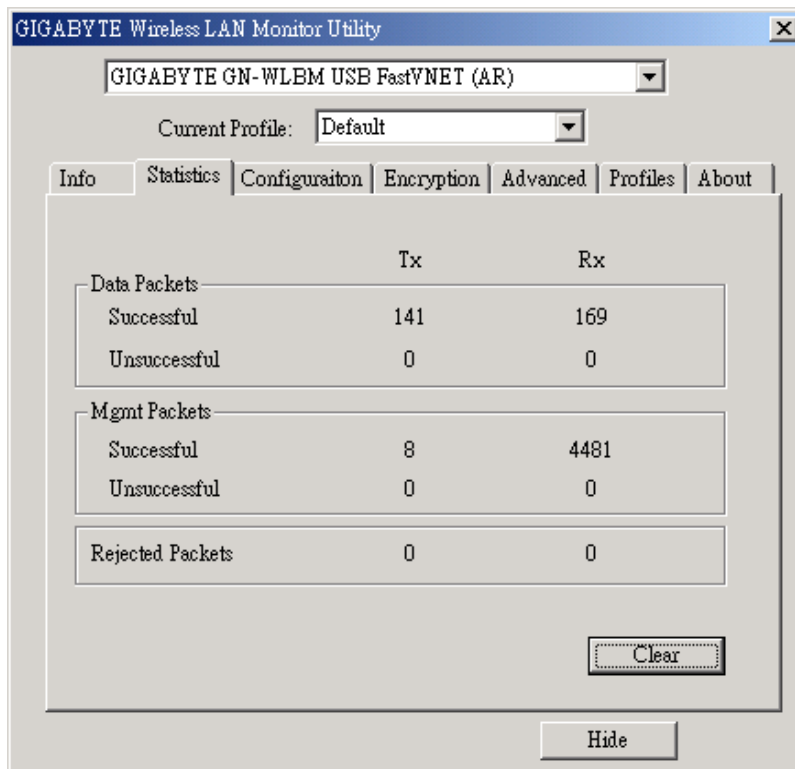
3-3. Configuration

A typical screen of the application in Infrastructure mode is shown in Figure 3-4. The configuration parameters are shown at the top of the screen (Operating Mode, Channel, SSID, TxRate, Int. Roaming and Radio of the USB card). In order to change the configuration parameters, click the "**Change**" button, make your changes and then click "**Submit**" in order to save your changes.

*Figure 3-4.*   A typical screen of the application in Infrastructure mode
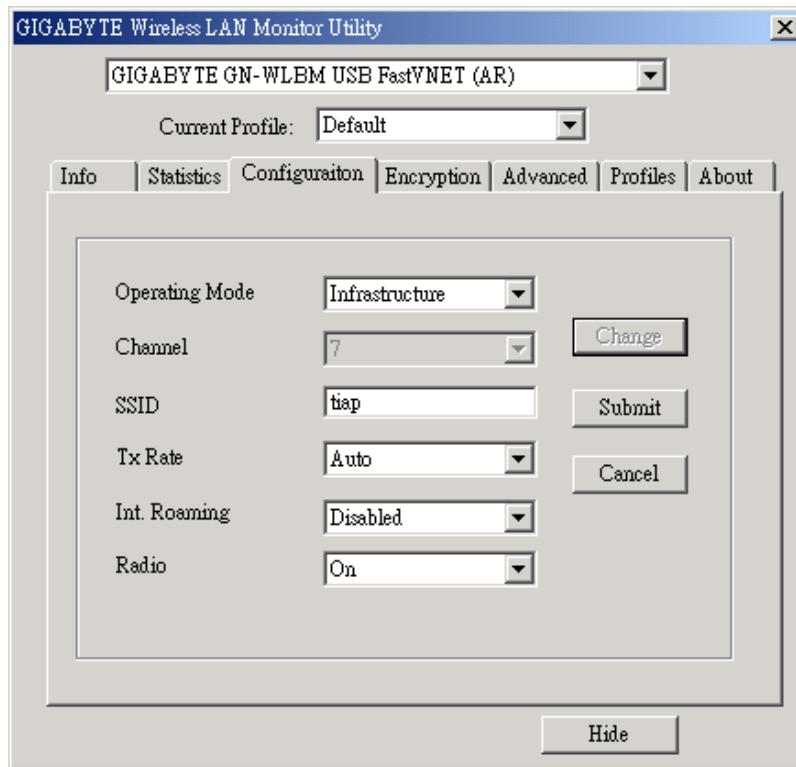
3-4. Encryption

By choosing this option in any of the two modes, you can set four different WEP keys and specify which one of them to use. First, either enable or disable encryption from the appropriate "**Encryption**" field (see *Figure 3-5* below). If you decide to use encryption, you can choose any of the available WEP keys (1 to 4). You also have the option to select the WEP mode (Mandatory/Optional). If you select "**Mandatory**", then not only WEP will be used, but also any other station needs to use WEP encryption in order to establish a communication with your station. This requirement is in line with the IEEE 802.11b standard. If, on the other hand, you choose "**Optional**", then your station can communicate with every other station regardless if they use WEP or not. Please keep in mind that the WEP keys must be in HEX format. Finally, you have the option to select whether *Open System*, *Shared Key, or Auto* authentication will be used. In order to take effect the changes you wish to make, click the "**Submit**" button at the bottom of the screen.

Figure 3-5. Encryption
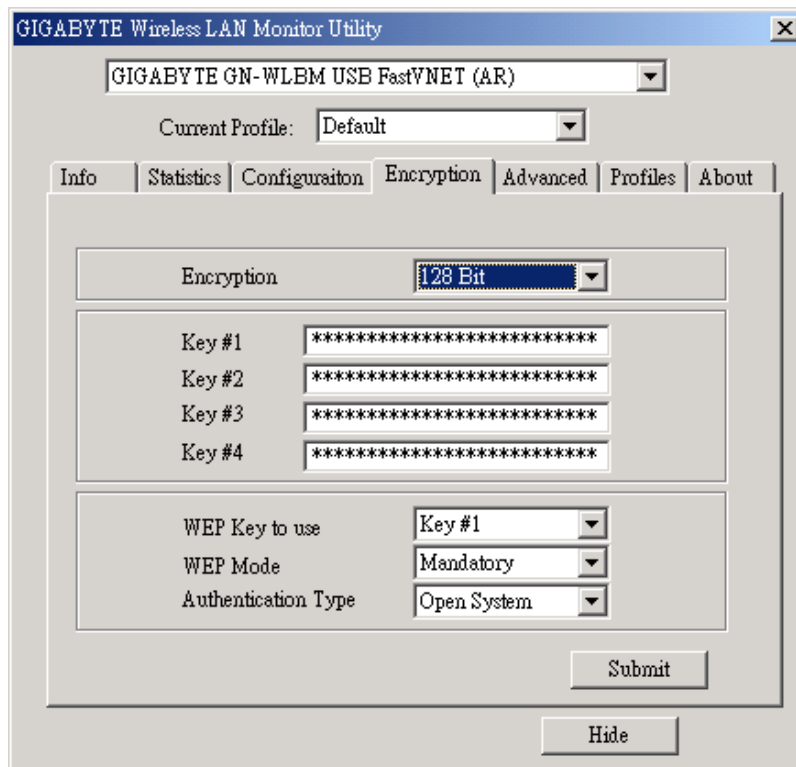
3-5.　Advanced

By Choosing the *Advanced* option in any of the two modes, you can change advanced configuration settings, such as the Preamble Type, Fragmentation Threshold, and RTS/CTS Threshold (*Figure 3-6*). *Figure 3-6* shows the default configuration for the advanced settings. The USB adapter has an auto-detection feature therefore when selecting "**Auto**" for the preamble type it automatically selects the Preamble Type depending on the Access Point Preamble type
Note: In order to enable the Fragmentation and the RTS/CTS Threshold parameters move the slide bar with your mouse and then use the right and left arrow keys of your keyboard in order to select an exact number.
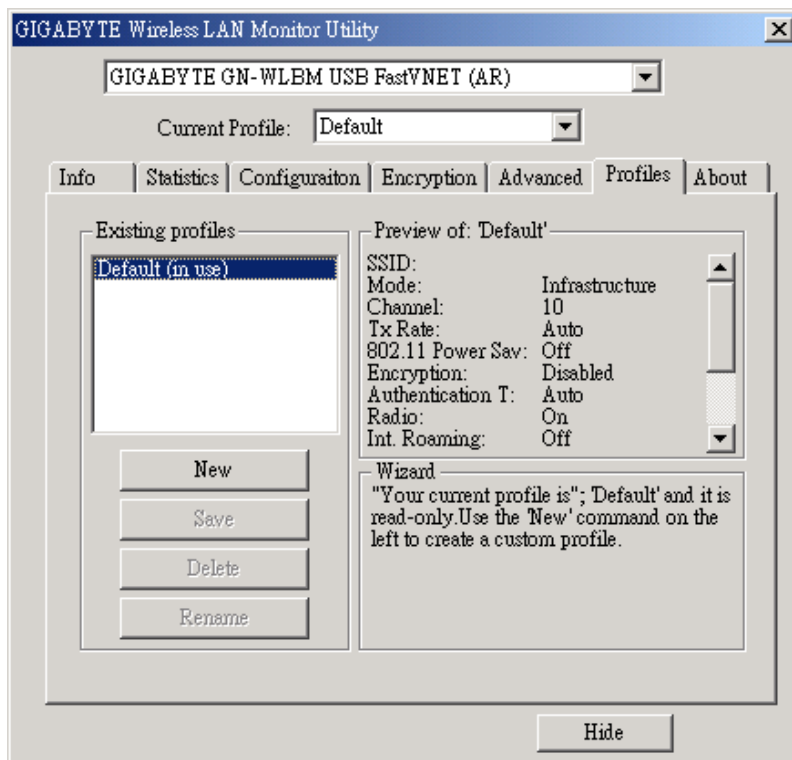
Figure 3-6. Advanced Settings
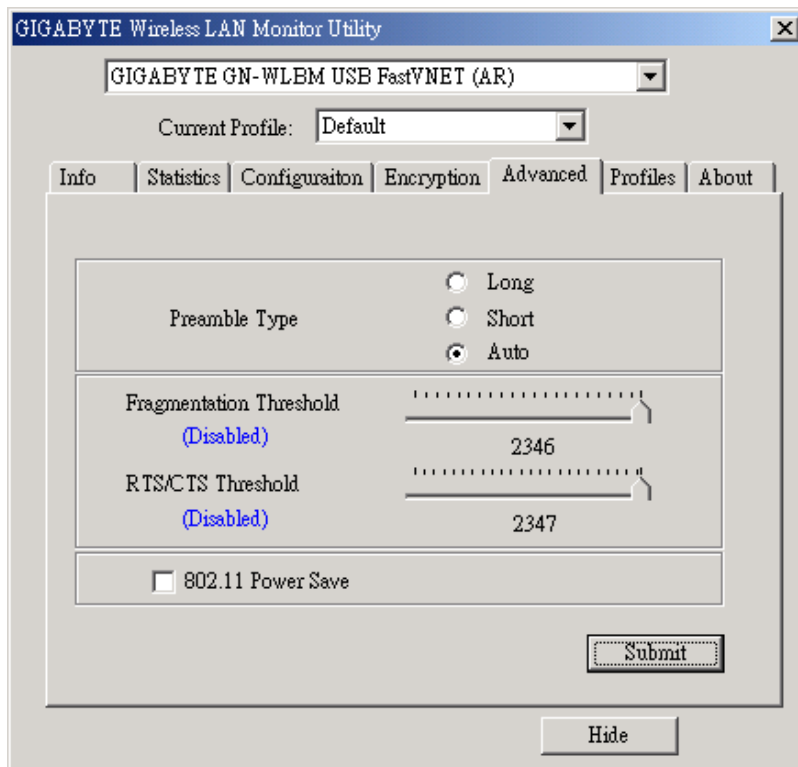
3-6. Profiles

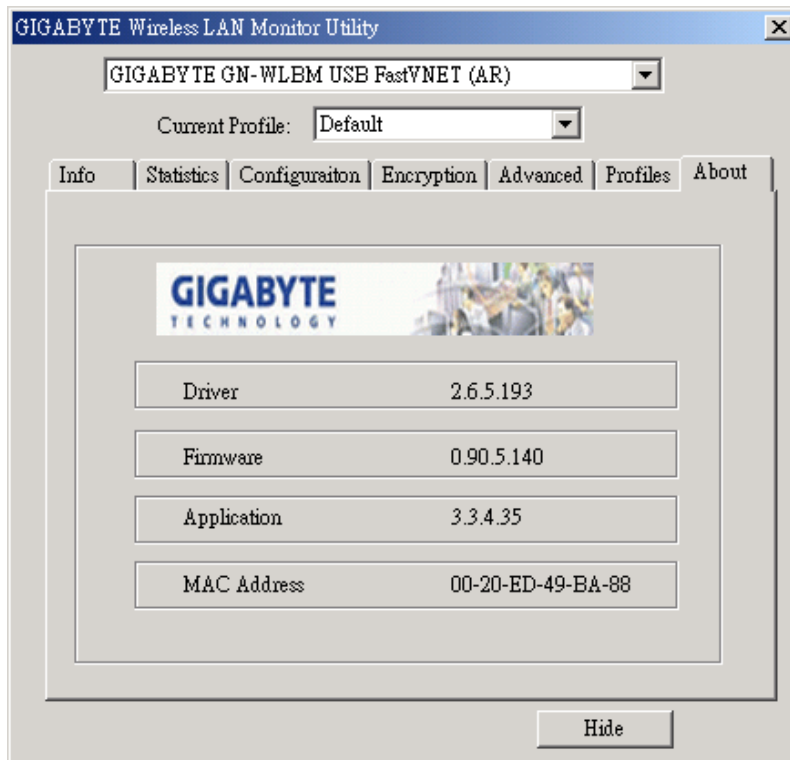This option shows you to view your current profile. You can click "**New**" to create a custom profile.

Figure 3-7. Your current profile

3-7. About

By choosing this option, you can view basic information about the utility like the Driver, Firmware and Application Version and this adapter's MAC address.

Figure 3-7. Version information and MAC address

Chapter 4. Specification

4-1. System	
Standards	IEEE 802.11b compliant, Wi-Fi compatible
Host Interface	USB 1.1
Modulation	1Mbps: DBPSK; 2Mbps: DQPSK; 5.5 and 11 Mbps: CCK
Transmission Rate	1, 2, 5.5, 11 Mbps
Operating Voltage	5V
Operating Range	Open space: 100 - 300m; Indoor: 30 - 100m
4-2. RF Performance	
Frequency Band	2.400 ~ 2.4835 GHz (subject to local regulation)
Radio Technology	DSSS (Direct Sequence Spread Spectrum)
Number of Channel	11 Channels (US, Canada) — 4 channels (France)
	14 Channels (Japan) — 13 Channels (Most European countries, ETSI)
Output Power	15dBm @ Nominal Temp Range
Receive Sensitivity	- 80dBm @ 11 Mbps date rate, 8% PER
Antenna	Two built-in diversity antennas
4-3.Safety Regulation and Operating Environment	
EMC certification	FCC Part 15 (USA)
	CE (Europe)
Temperature Range	Operating: 0 ~ 50 deg C, Storing: -20 ~ 65 deg C
Humidity	Max. 90% Non-condensing
4-4. Software Support	
Driver	Windows 98/98SE/Me; Windows 2000/XP
Roaming	Supports roaming.
Network Protocol	TCP/IP, IPX, NetBEUI
Security	64 bit WEP (128 bit WEP optional)
Management Utility	Monitors the network situation.
4-5. Mechanical	
Dimensions	89.2 x 62 x 14.5 mm
Weight	45.4 g
Packaging	Packaging specially used by Gigabyte.
Host Interface	USB Type B connector
USB cable	80cm
LED indicator	Power and Link