User's Guide

Wireless LAN USB Dongle

11 Mbps

Version 1.0

Table of Contents

INFORMATION TO USER

FCC INFORMATION

FCC Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.

This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

The 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 instruction, may cause harmful interference to radio communication. However, there is no grantee that interference will not occur in a particular installation. If this equipment dose 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/TX technician for help.

Notice: The Part 15 radio device operates on a non-interference basis with other devices operating at this frequency. Any changes or modification not expressly approved by the party responsible could void the user's authority to operate the device.

REGULATORY INFORMATION

The Wireless LAN USB Dongle must be installed and used in strict accordance with the manufacturer's instructions. This device complies with the following radio frequency and safety standards.

USA - Federal Communications Commission (FCC)

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

1. This device may not cause harmful interference.

2. This device must accept any interference that may cause undesired operation.

Europe - R&TTE Directive

This device complies with the specifications listed below

• ETS 300-826 General EMC requirements for Radio equipment.
• ETS 300-328 Technical requirements for Radio equipment.
• EN60950 Safety Requirements for Radio equipment

1. Introduction

Thank you for purchasing your Wireless Local Area Net (WLAN) USB Dnogle. You are about to install a networking system that is not only fast and powerful, but also easy to set up and simple to maintain. In a short time you and those in your network will be able to share a local printer and files, access the Internet, and roam about the office wire -free.

Using radio frequency (RF) technology, WLANs transmit and receive data over the air, minimizing the need for wired connections. Thus, WL ANs combine data connectivity with user mobility, and, through simplified configuration, enable movable LANs.

This wireless networking solution has been designed for both large and small businesses, and it is scalable so that you can easily add more users and new network features as your business grows.

This manual will assist you in the installing WLAN USB Dongle.

2. Wireless LAN basics

Wireless LAN network defined by IEEE 802.11b standard committee could be configured as:

- **Ad Hoc wireless LAN** or
- **Infrastructure wireless LAN**

Ad Hoc network is a group of notebooks with WLAN PC cards or USB dongles called a BSS (Basic Service Set). These notebooks use their WLAN PC cards or USB dongles to communicate with each other, and notebooks can not connect to the **Internet**.
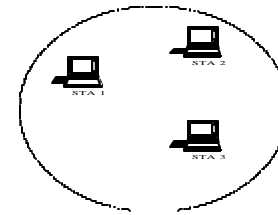

Figure 2-1 Ad Hoc wireless network

The most obvious differentiation between **Infrastructure** wireless network and **Ad Hoc** wireless network is that the notebooks in **Infrastructure** wireless network can make use of the resource in the Internet through **Access Point**.
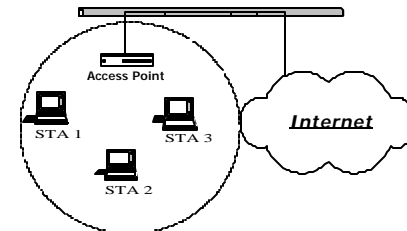

Figure 2-2 Infrastructure wireless network

To set up your notebook's network as the type of "**Ad Hoc**" or "**Infrastructure**" wireless network depends completely on your requirement. Generally, if your network environment has an **Access Point**, we recommend that you set it as "**Infrastructure**" to connect to the **Internet**.

3. Windows Installation

The following section will assist you to install Wireless LAN USB successfully. You will first install software (driver) and then connect the Wireless LAN USB, and finally set the network properties to accommodate resource sharing and select the type of wireless network that you wish to install. The Wireless LAN can easily be installed and used, without bothering to connect cables for keeping your computer to use network resources, as in case of wired LAN.

Before You Start

Here are some steps you will perform in establishing your wireless network connection:

- Install the Access Point at first. AP is needed in case of infrastructure network mode.
- Install the software using the Installation CD Rom
- Install the Wireless LAN USB Dongle
- Install the network protocol(s) required to communicate on your network. Most likely you will need the TCP/IP protocol.

3.1 Installation and Configuration Procedures
Under Windows 98 SE

Please follow the following steps one by one in order to install the WLAN USB Dongle successfully.

Step 1. Power on your computer and allow **Windows 98 SE** to load fully. Be sure that there is no **USB dongle** is connected to computer yet. Insert the given **Installation CD** and then double click the **MY Computer** icon on your desktop. In my computer window, double click the **CD Drive** icon. In CD Drive, double click **Software**, in the software folder, double click to execute **Setup.exe**, then Click **Next** to continue.
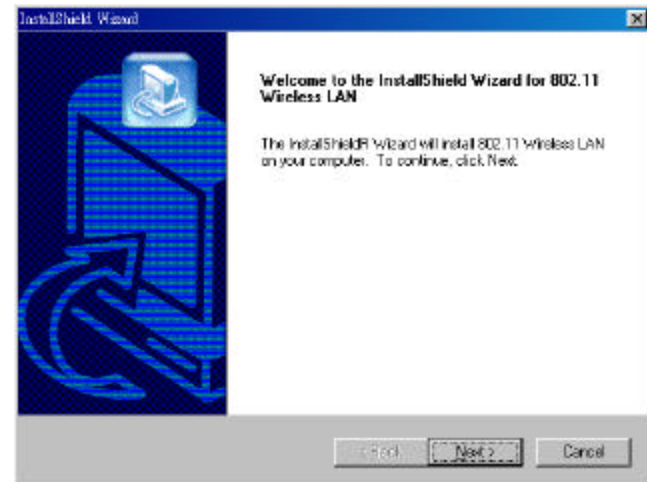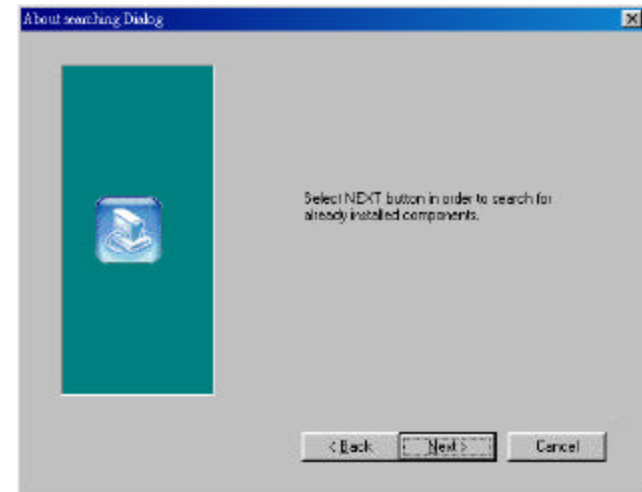
Step 2. Software License Agreement, click **Yes** to accept.
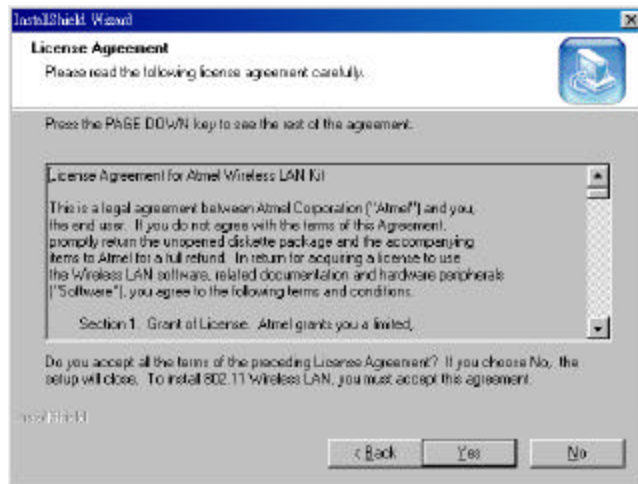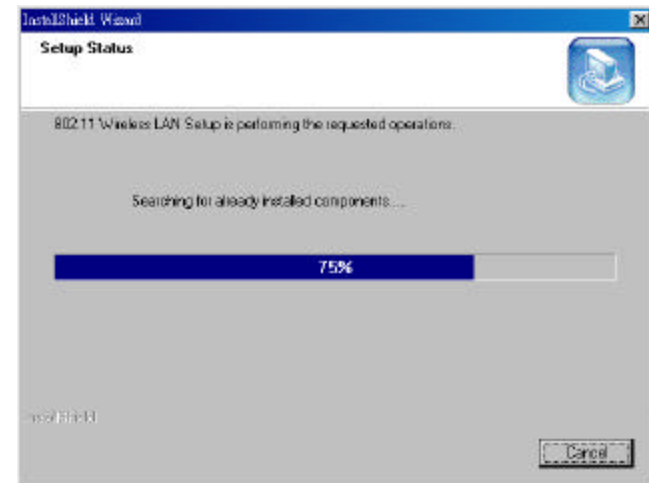

Step 3. Select Adapter Type. Please select **Application & USB Drivers** then click
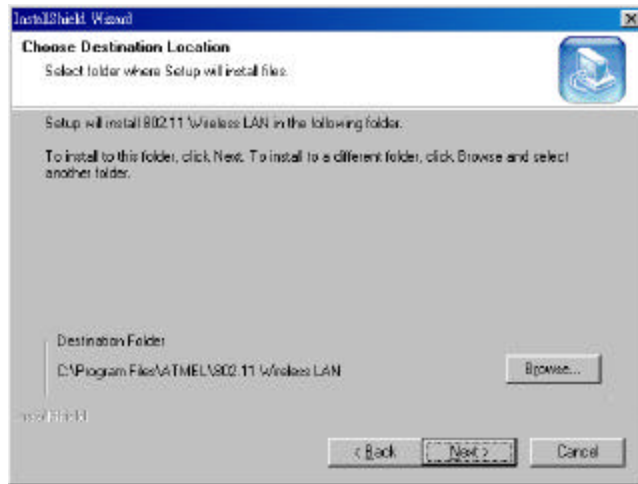**Next**
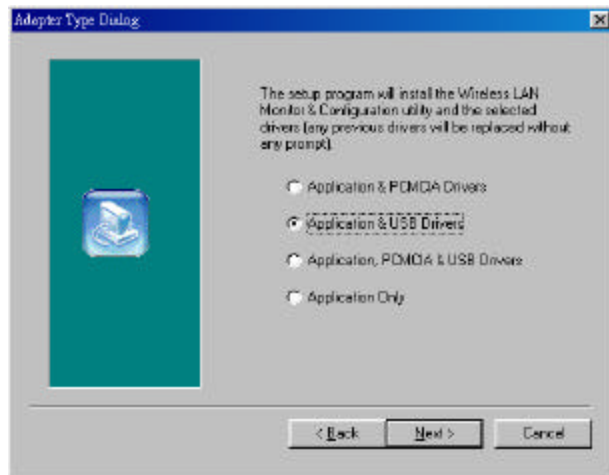
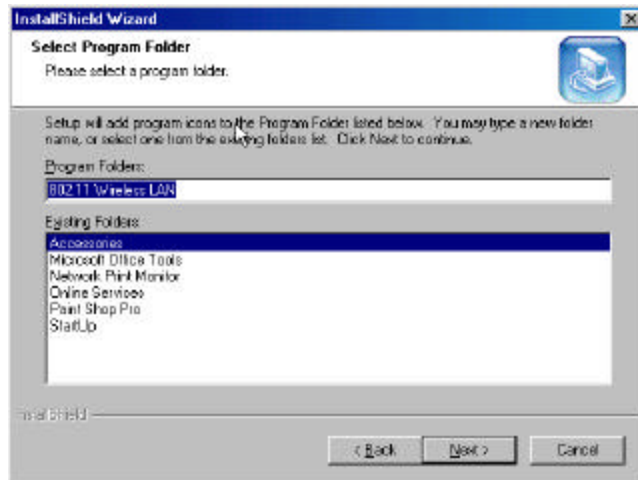Step 4. Click **Next** to search for already installed components.

Step 5. Search for already installed components

Step 6. Choose Destination Location. Click **Next**

Step 7. Setup will add program icons to the Program Folder listed below. You may type a new folder name, or select one from the existing folders list. Click **Next** to continue.


Step 8. Select operating mode. Ad hoc mode provides communication between wireless clients. Infrastructure mode provides communication between wired and wireless clients (Requires an access point). Select **Infrastructure** then click **Next**.
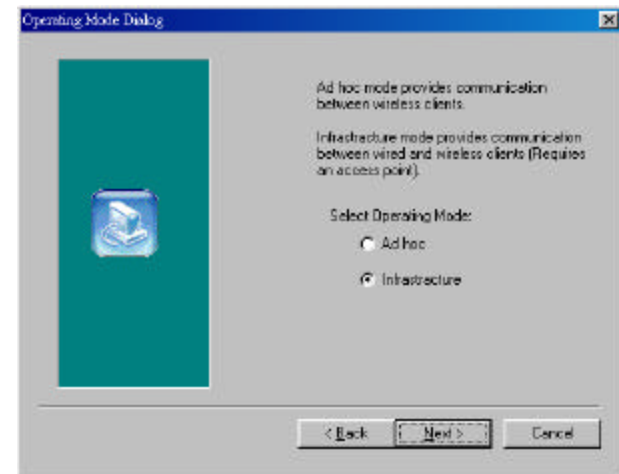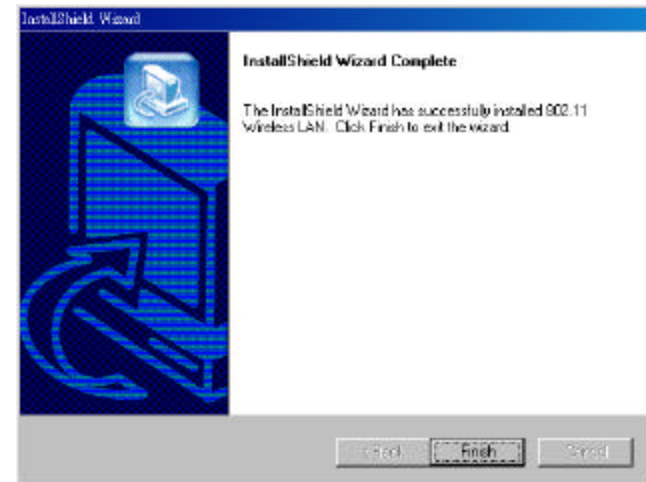

Step 9. ESSID is the name of a logical network group that your computer is about to join. (It can be changed again at run time by the configuration utility).
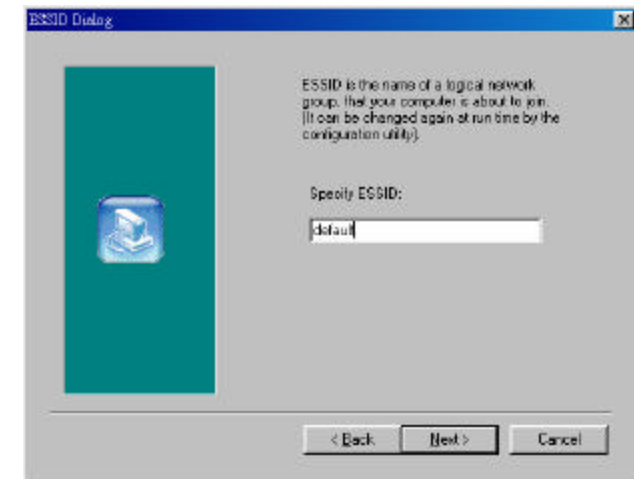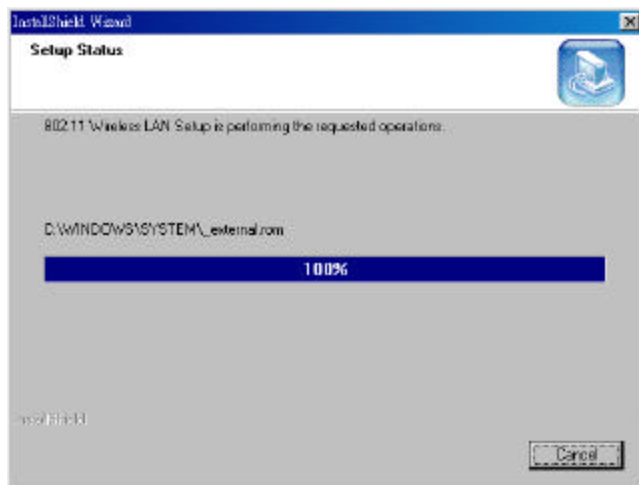
Step 10. Click **Next** to start copying files.
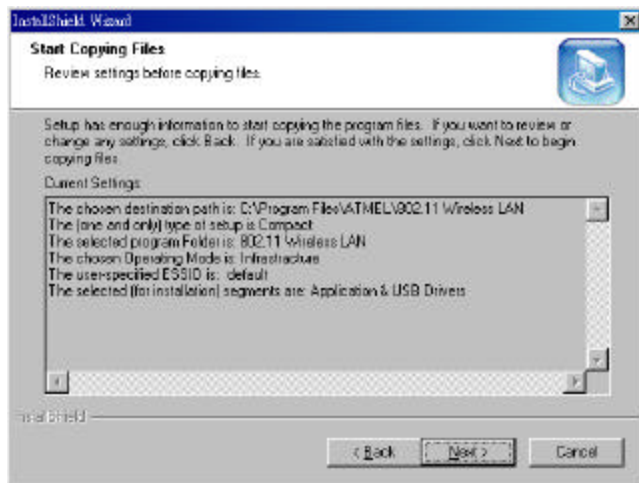
Step 11. Step Status

Step 12. Click **Finish** to exit the wizard.

3.2 Configuration Utility

WLAN USB dongle uses its own management software. All functions controlled by user are provided by this application. When you plug WLAN USB dongle into the USB port, a new icon - [icon] 10:52 PM should appear in your icon tray automatically wait a while. If the icon is in red, it means that WLAN USB Dongle configuration is invalid or incomplete.

Double click on that icon the screen is shown below.
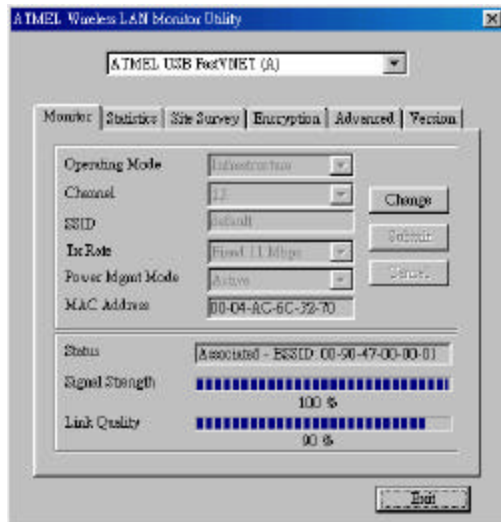
User can navigate through "cards", by clicking or tapping them with a stylus. In the following we explain the use and meanings of the various card.

Monitor

The field shows the association to available Access Point with Operating Mode, Channel, Tx Rate Power Management mode and MAC Address of WLAN USB Dongle. When the state is "Associated" means normal flow of operation in infrastructure mode. The PC is connected to Access Point. BSSID is chose in the form of hex digits.

Network Mode

This field allows you to select from a list of supported Network "Modes". The modes displayed will have two values: "Infrastructure" and "802.11 Ad Hoc"

Infrastructure -This mode of operation requires the presence of an 802.11b Access Point. All communication is done via the Access Point, which relays packets to other wireless Clients in the BSS as well as to modes on a wired network such as Ethernet.

802.11 Ad Hoc - This is the 802.11b peer-to-peer mode of operation. All communication is done from Client to Client without the use of an Access Point. 802.11 Ad Hoc networking uses the same SSID for establishing the wireless connection.

SSID

SSID is the group name that will be shared by every member of your wireless network. You will be able to connect with an Access Point, which has the same SSID.

Tx Rate

The transmission rate at which the data packets are transmitted by client of AP. You can set this to 1Mbps, 2Mbps, 5.5Mbps, 11Mbps or Fully Automatic.

"Change" button

This button becomes active only when one of the fields has been modified. Pressing this button applies the changed values to the driver and saves them to the registry for the next time the PC boots up

Signal Strength / Link Quality

The Link Quality bar graph is only active when the node is in Infrastructure Mode. The bar graph displays the quality of the link between the node and its Access Point. A label summarizes th e quality of the Link over the bar graph.
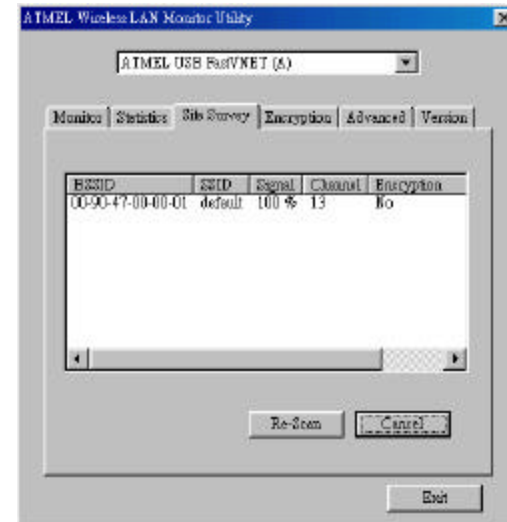
Statistics

To check the packets status, uses can press the "Statistics" tab and get related statistical figures of data and management packets.
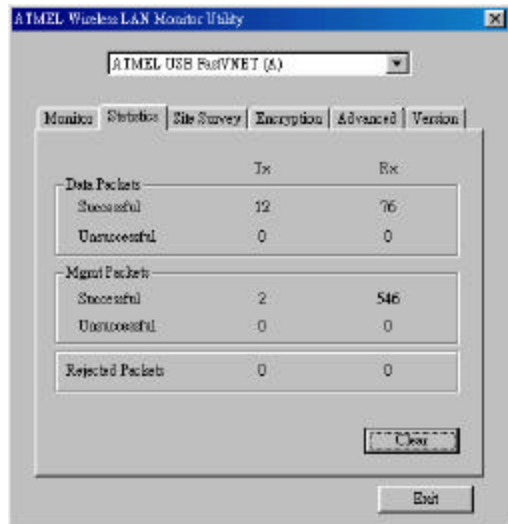

Site Survey

Click on the site survey tab, all access point within detectable range will be found and their related information will be displayed.

Encryption

An encryption function can avoid unintended users who are not at the same wireless LAN user group to access or get information. WEP is a mechanism to enable the encryption function. After enabling the WEP users need to select the authentication type, open system key or shared key.
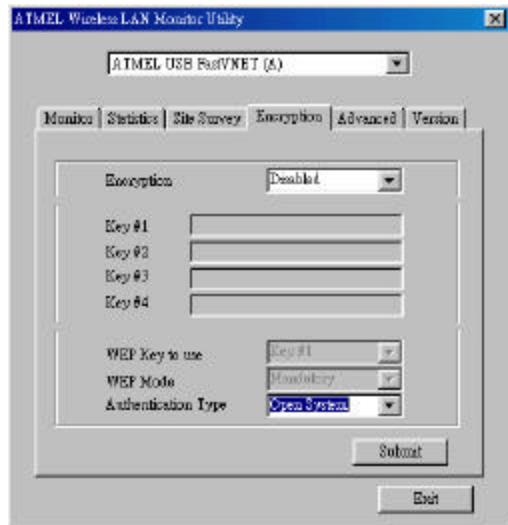

Advanced

In advanced tab, you can change configuration setting such as Preamble Type, Fragmentation Threshold, and RTS/CTS Threshold. Before selecting Short Preamble, make sure that the other stations and AP's are also supporting this feature.
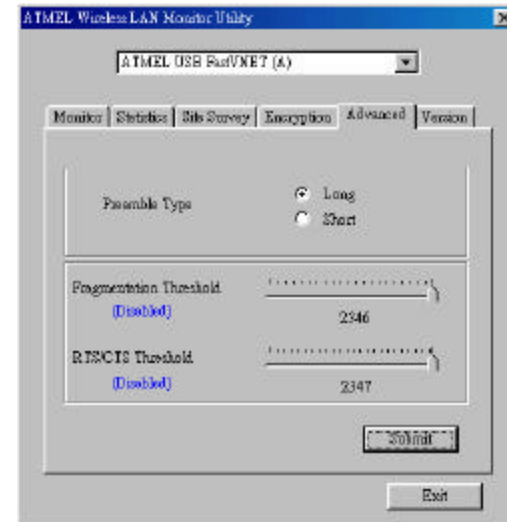
Version

Version tab shows the product version including the detail of driver, firmware and application version. Users must use this version number when reporting their problems for technical support.
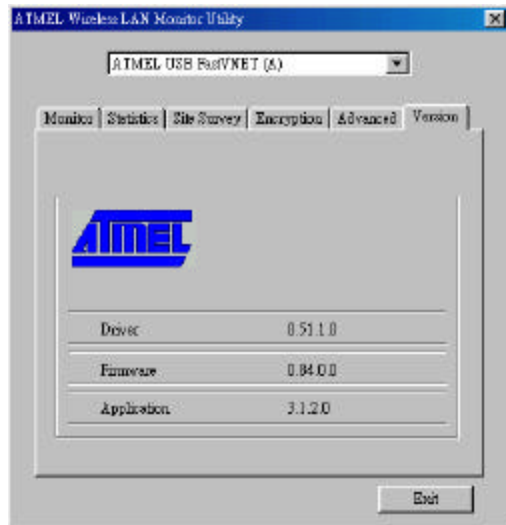
4. Technical Specifications of WLAN USB Dongle

Driver Supported

Microsoft Windows 98 / Windows 98 SE / Windows ME / Windows 2000

Standards Supported

IEEE 802.11b standard for Wireless LAN

Radio Specifications

Frequency Range: 2.4-2.4835 GHz, Direct Sequence Spread Spectrum
Antenna system: Two integrated antenna
Mobility: Seamless roaming across cell boundaries with handover

Power Specifications

Operating Voltage: 5 VDC
Continuous Transmitting: 330 mA
Continuous Receiving: 280 mA

Specific Features

Supported bit rates: 11Mbps, 5.5Mbps, 2Mbps and 1Mbps

Number of Channels

Europe: 1-13
US: 1-11
France: 10-13
Japan: 1-14