

Wireless USB Adapter

USER'S MANUAL

Chapter 1: Introduction

1.1	Features	3
1.2	Contents of Package	4
1.3	Product specification	4

Chapter2: Installation

2.1	How to install the driver	5
-----	---------------------------------	---

Chapter3: Configuration

3.1	Insert	12
3.2	Configuration Interface	13
3.2.1	Launch Config Utilities	13
3.2.2	Use Zero Configuration as Configuration Utilit	19
3.2.3	Switch to AP Mode	19
3.2.4	Exit	26

Chapter4: Glossary

.....	26
-------	----

Chapter 1: Introduction

The Wireless USB Adapter gives you the flexibility to install the PC or notebook PC in the most convenient location available, without the cost of running network cables. Its auto-sensing capability allows high packet transfer up to 150Mbps for maximum throughput, or dynamic range shifting to lower speeds due to distance or operating limitations in an environment with a lot of electromagnetic interference. It can also be compatible with all the 11/54Mbps wireless (802.11b/g) products.

1.1 Features

- ◆ supports 64/128-bit WEP, complies with 128 bit WPA standard (TKIP/AES)

- ◆ supports 135/121.5/108/81/54/40.5/27/13.5/65/58.5/52/39/26/19.5/13/6.5/54/48/36/24/18/12/9/6/11/5.5/2/1Mbps wireless LAN data transfer rates

- ◆ Provides Soft AP, supports PSP connection

- ◆ Supports Ad-Hoc and Infrastructure modes

- ◆ Supports roaming between access points when configured in Infrastructure mode

- ◆ Eases to configure and provides monitoring information

- ◆ Supports Windows 2000/XP/VISTA/Win7/Linux/Macintosh

- ◆ Internal Antenna

1.2 Contents of Package

Before you begin the installation, please check the items of your package.

The package should include the following items:

- ◆ One USB Adapter
- ◆ One CD (Driver)

If any of the above items is missing, contact your supplier as soon as possible.

1.3 Product specification

Software Specification	
Standards	IEEE 802.11n, IEEE 802.11g, IEEE 802.11b
Wireless Signal Rates With Automatic Fallback	11n: Up to 150Mbps (Dynamic) 11g: Up to 54Mbps (Dynamic) 11b: Up to 11Mbps (Dynamic)
Frequency Range	2.4-2.4835GHz
Wireless Transmit Power	18dBm(MAX)
Modulation Type	DBPSK,DQPSK,CCK, OFDM
Receiver Sensitivity	135M: -68dBm@10% PER 54M: -68dBm@10% PER 11M: -85dBm@8% PER
Work Mode	Ad-Hoc Infrastructure
Wireless Security	64/128 bit WEP WPA/WPA2, WPA-PSK/WPA2-PSK (TKIP/AES)
Support Operating System	Windows 2000/XP/VISTA//Win7/Linux/Macintosh
Hardware Specification	
Interface	USB2.0 Hi-Speed connector
Antenna Type	Internal Omni-directional Antenna
Operating Temperature	0°C~40°C (32°F~104°F)
Storage Temperature	-40°C~70°C (-40°F~158°F)
Relative Humidity	10% ~ 90%, non condensation
Storage Humidity	5%~95% non-condensing
Weight	15.2g
Dimensions	86mm × 26mm × 12mm

Chapter 2: Installation

Before you proceed with the installation, please notice following descriptions.

Note1: The following installation was operated under Windows VISTA. (Procedures are similar for Windows 2000/XP.)

Note2: If you have installed the Wireless LAN USB Adaptor driver & utility before, please uninstall the old version first.

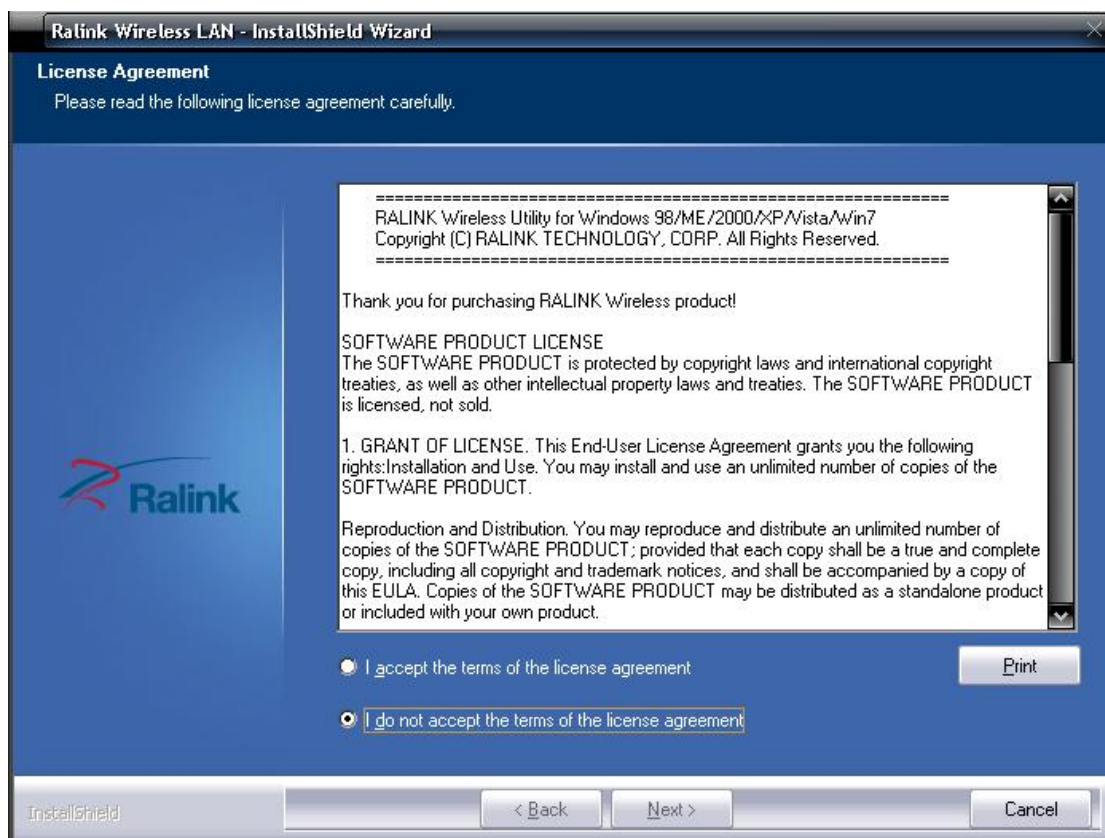
2.1 How to install the driver

Please follow the instructions below to install the driver and utility of Wireless Adapter..

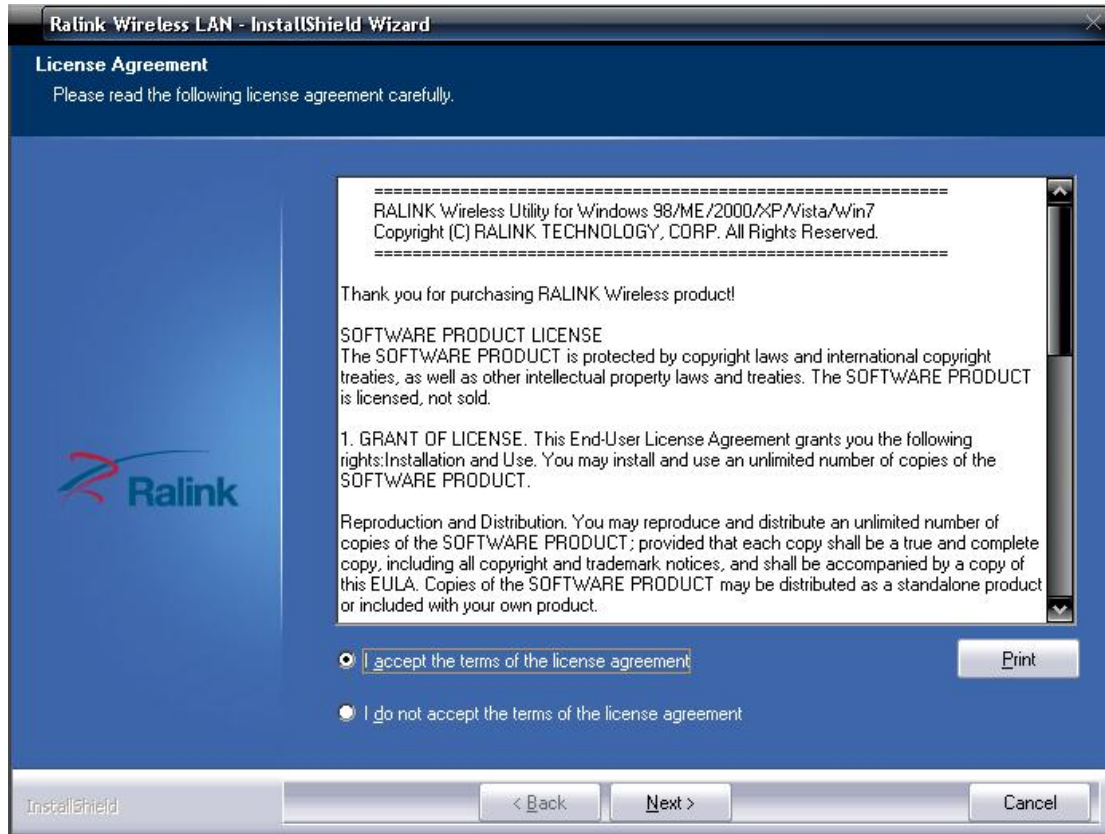
2.1.1 Insert Wireless Adapter into the USB port on your PC. After that, the computer will automatically detect and open the Found New Hardware Wizard, please click “Cancel” and then use the driver and utility of Wireless Adapter.



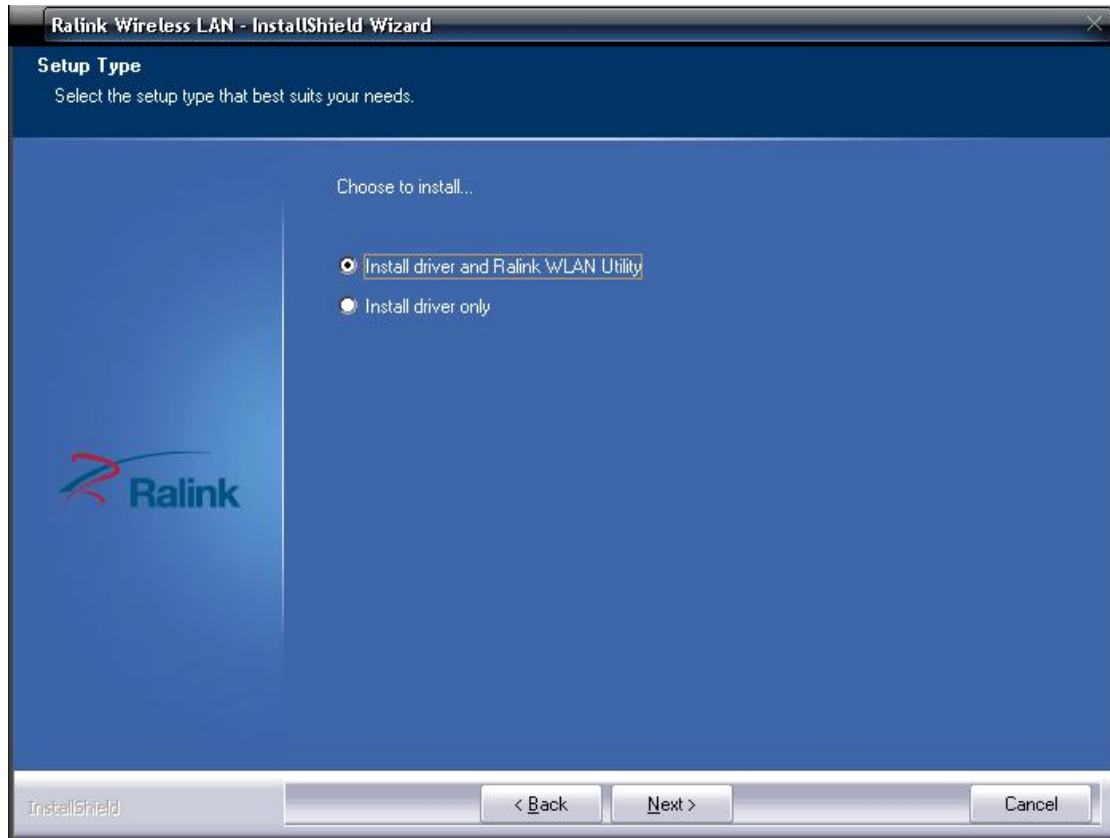
2.1.2 Put the installation CD-ROM into the CD-ROM player and then go to WU3070's directory to start the "Setup.exe" program. After that, the setup wizard will automatically start the "InstallShield Wizard" to continue setting up. First, you have to make sure that if you want to use the Wireless Adapter as the default adapter.



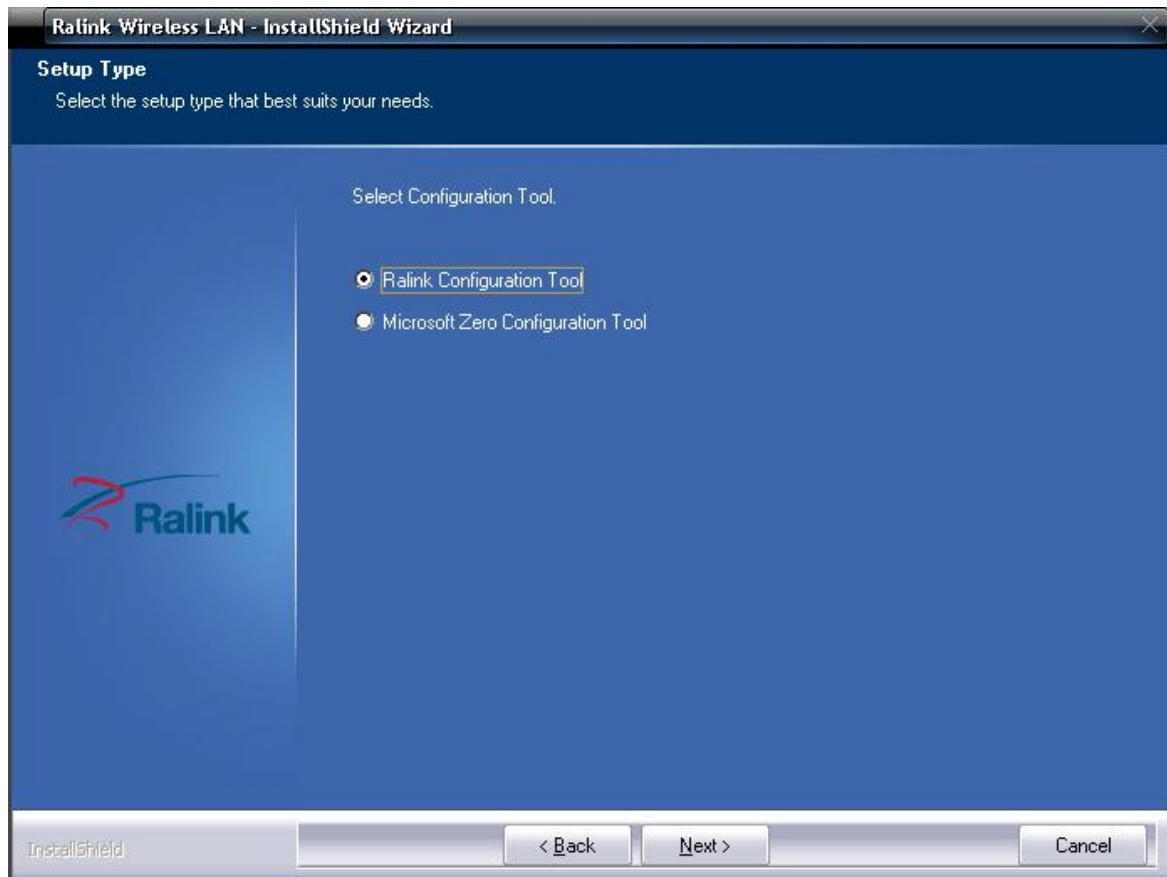
2.1.3 Please read the end user license agreement and click "I accept the terms of the license agreement", then click Next.



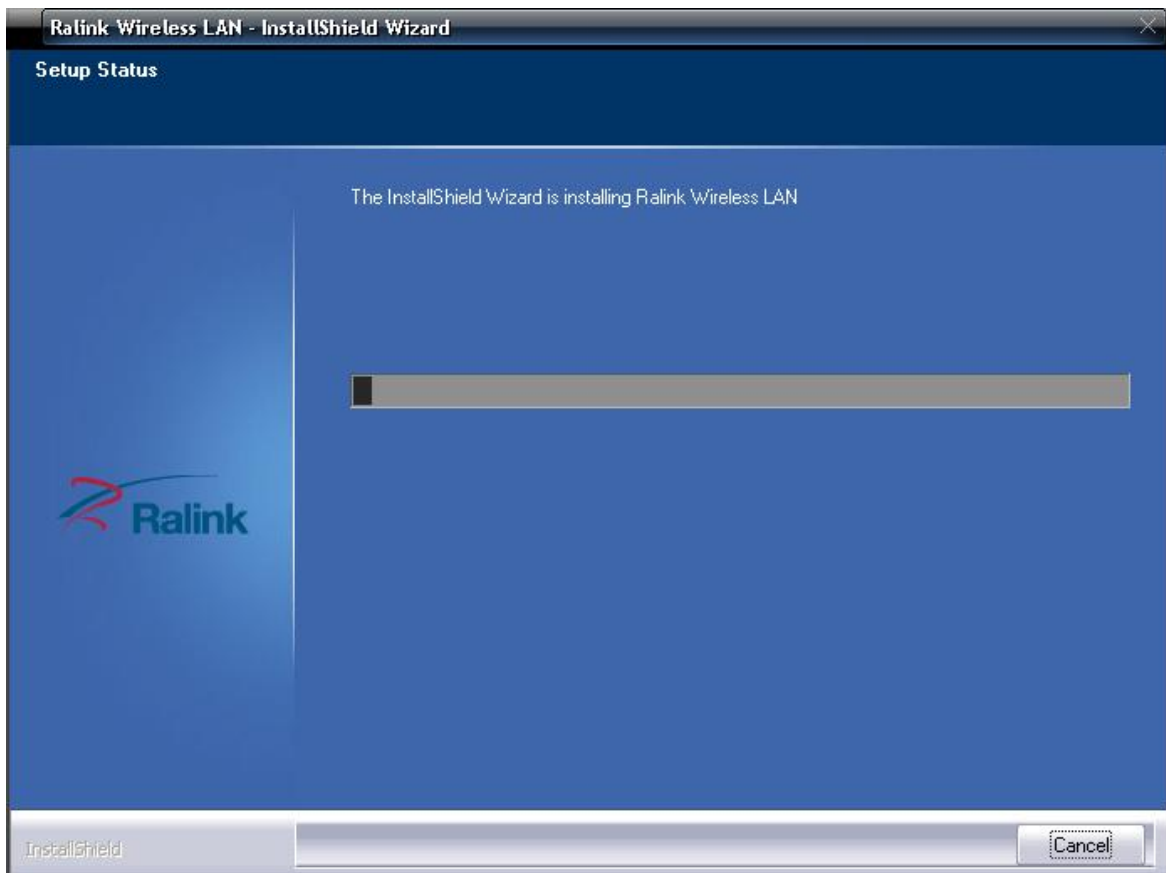
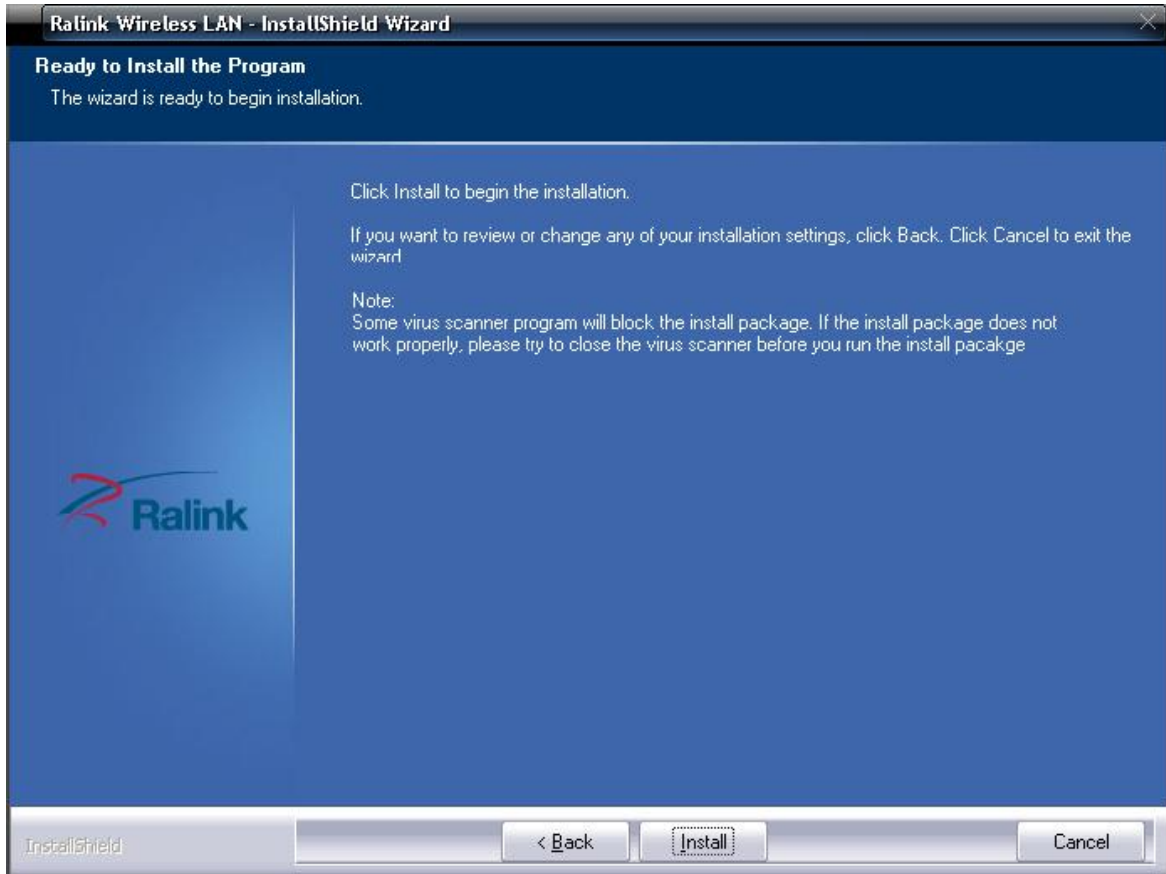
2.1.4 please choose “**Install driver and Ralink WLAN Utility**” or “**Install driver only**”.



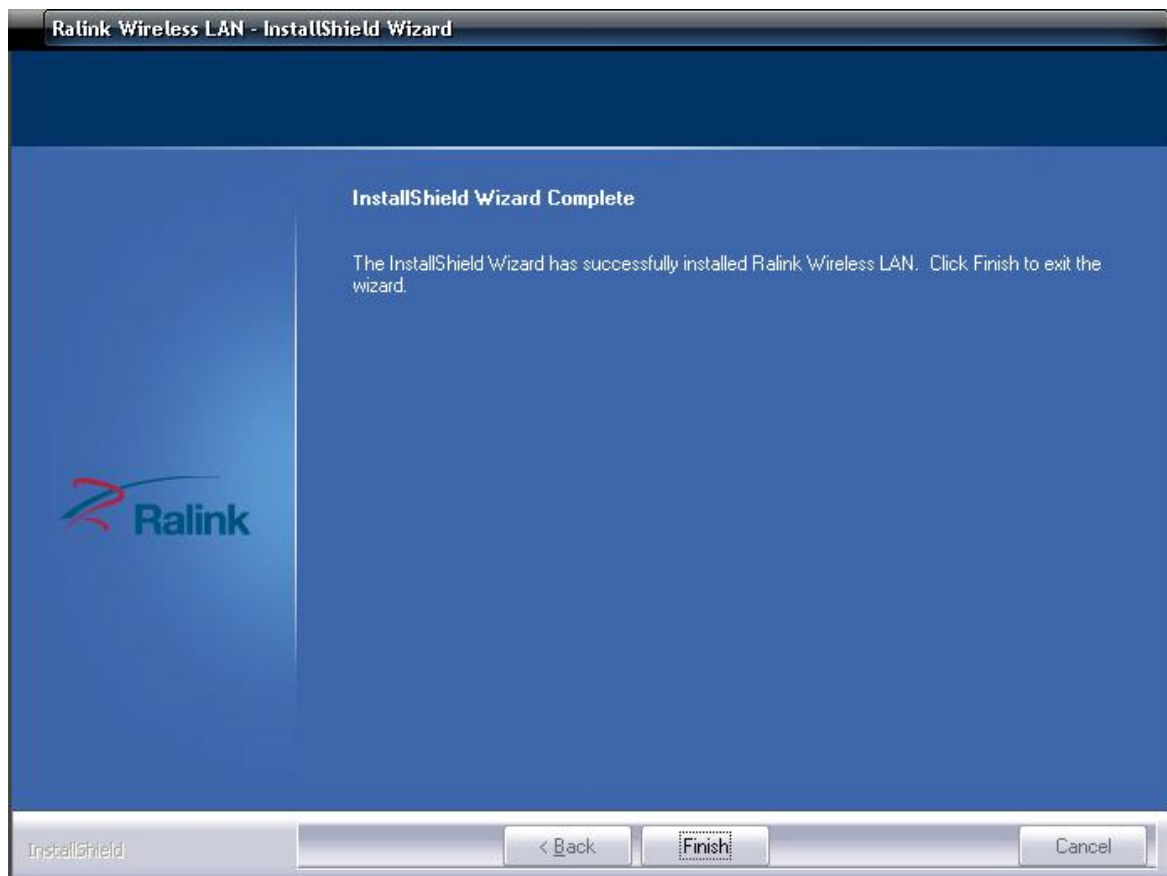
2.1.5 please choose “**Ralink Configuration Tool**” or “**Microsoft Zero Configuration Tool**”.



2.1.6 After click “Next” on the previous page, the installation wizard starts to install the software for WU3070. Then click “Install” to start installing the utility.



2.1.7 you can click “Finish” on the page to complete the installation.

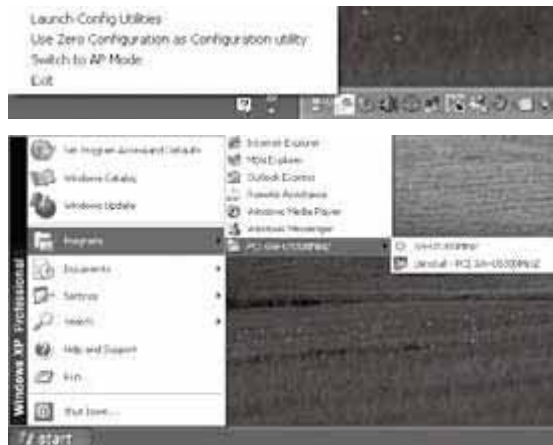


Chapter3: Configuration

3.1 Run configuration utility

When you finish installing the driver and utility on the computer, you can start to use the utility of WU3070 to check the connection status of wireless connection. Right lick the icon of the utility “Ra” on the task bar, and choose “Launch Config Utilities” to start to use the utility; or you may double click on the icon to directly enter the utility. If you closed the utility of WU3070 and want to use it again, please click “**Start → All Programs → Ralink Wireless → Ralink Wireless Utility**” on the start

menu. After that, it will open the utility and the icon of the utility “Ra” will show on the task bar.



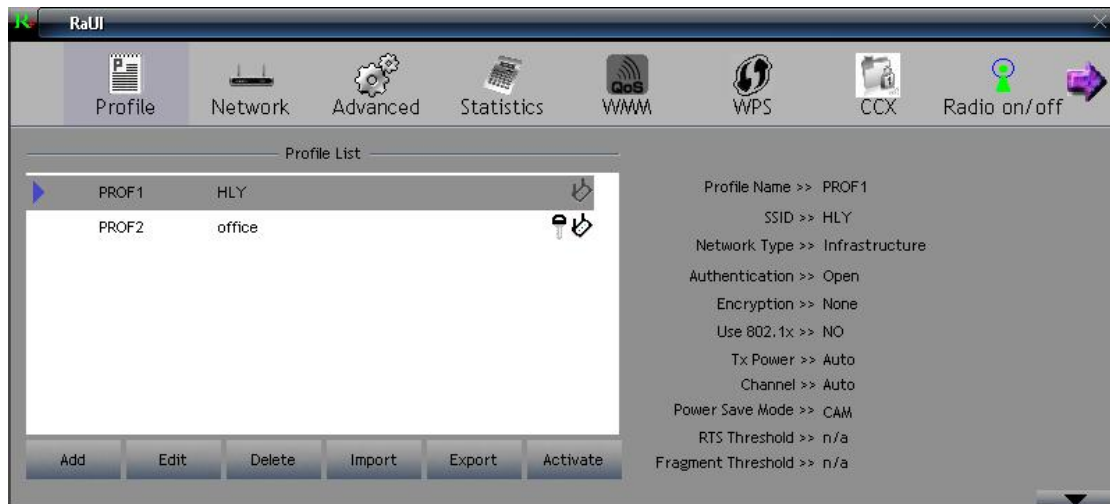
3.2 Configuration Interface

To enter the utility program, please follow the instructions below.

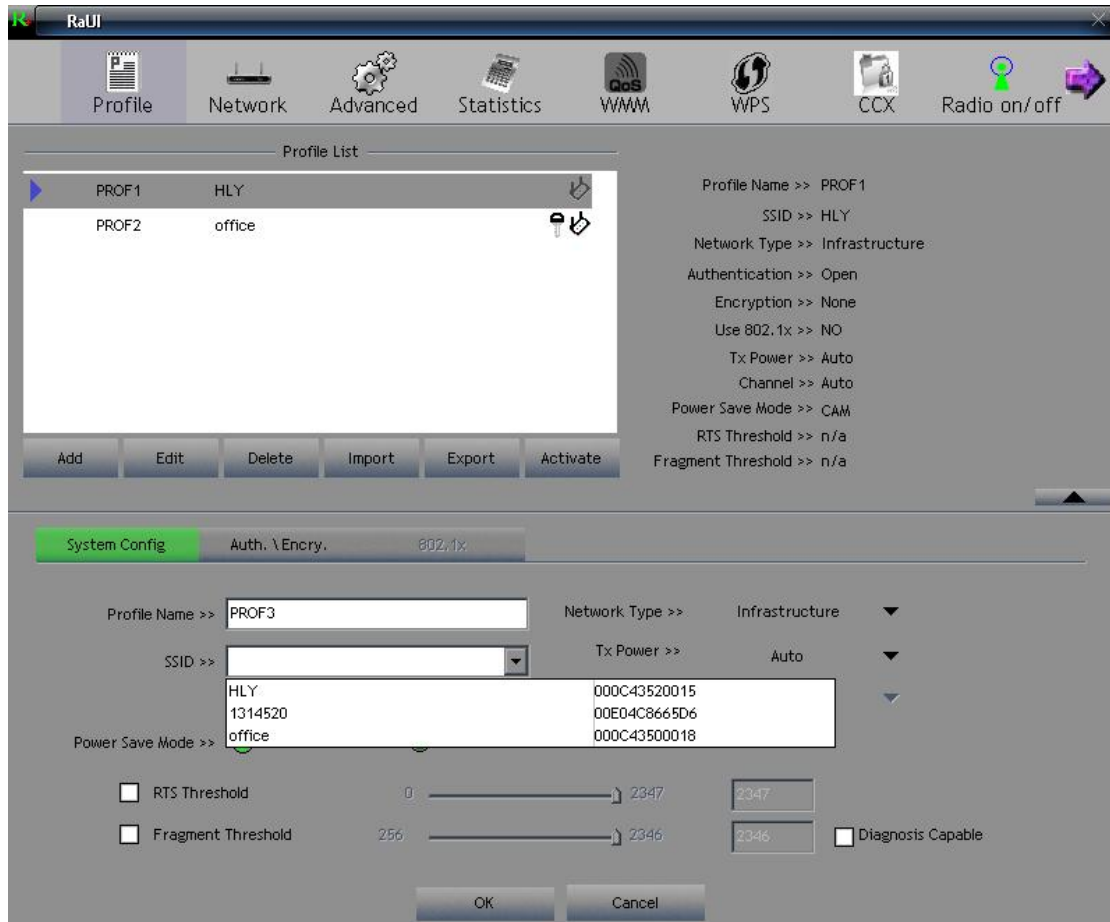
Right click the mouse on the utility icon on the taskbar, and you can click on the “Launch Config Utilities” to enter WU3070 utility; or you can just double click on the utility icon and enter the utility directly.

3.2.1 Launch Config Utilities (Click it to enter the utility program of WU3070)

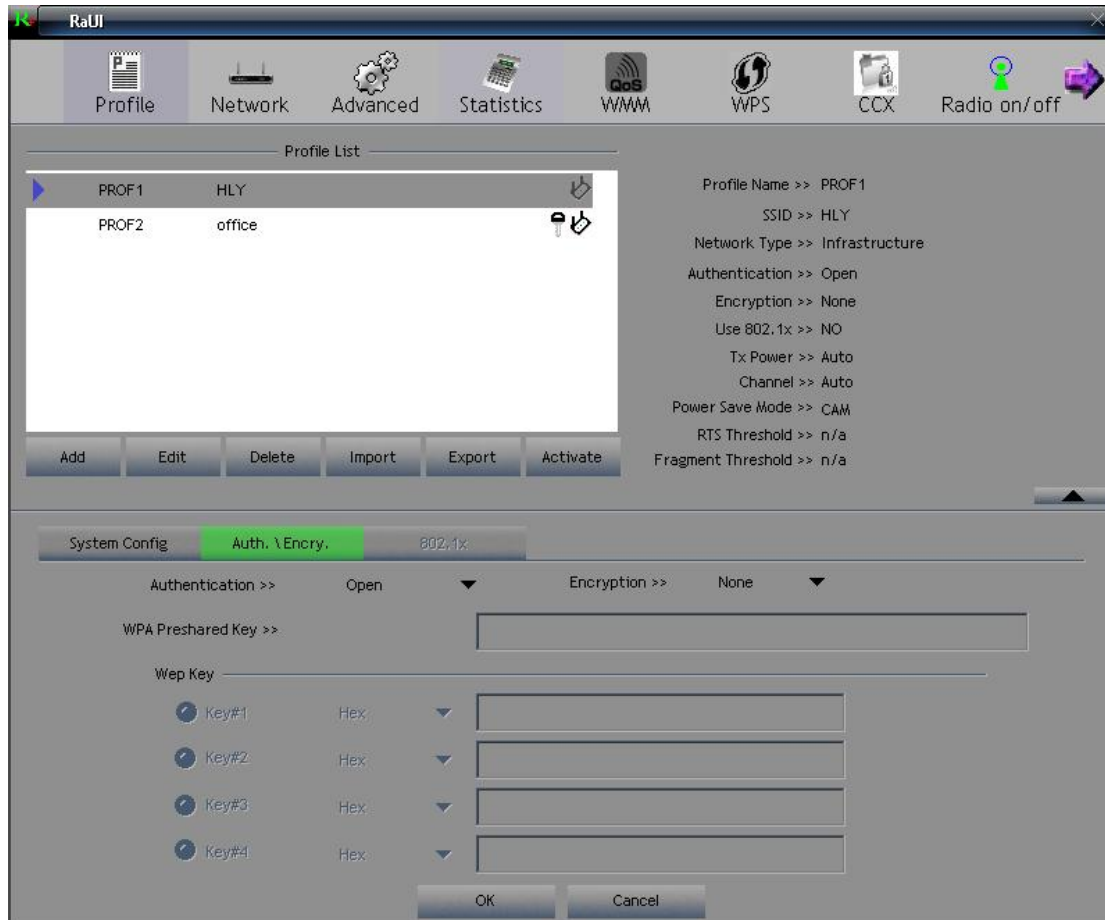
3.2.1.1 Click the “Profile” button can “Add, Edit, Delete, Import, Export, Activate” new configuration. Click “Profile List” can see wireless network mode.



3.2.1.1.1 Click “Add” button, Increase character list in the SSID, The SSID (up to 32 printable ASCII characters) is a unique name identified in a WLAN. The SSID can prevent the unintentional merging of two co-located WLANs. You may assign an SSID for WU3070, and only the device with the same SSID can interconnect to it.



Click “Auth. \Encry.” Button, The choice encrypts mode. This section shows whether the APs are using encryption or not. There are four kinds of encryption: “WEP”, “AES”, “TKIP” and “None”. If the AP which you want to connect needs the encryption (the encryption section shows WEP, TKIP or AES, etc), double click on the name of the AP or click “Connect” button and then the configuration page of encryption will show.

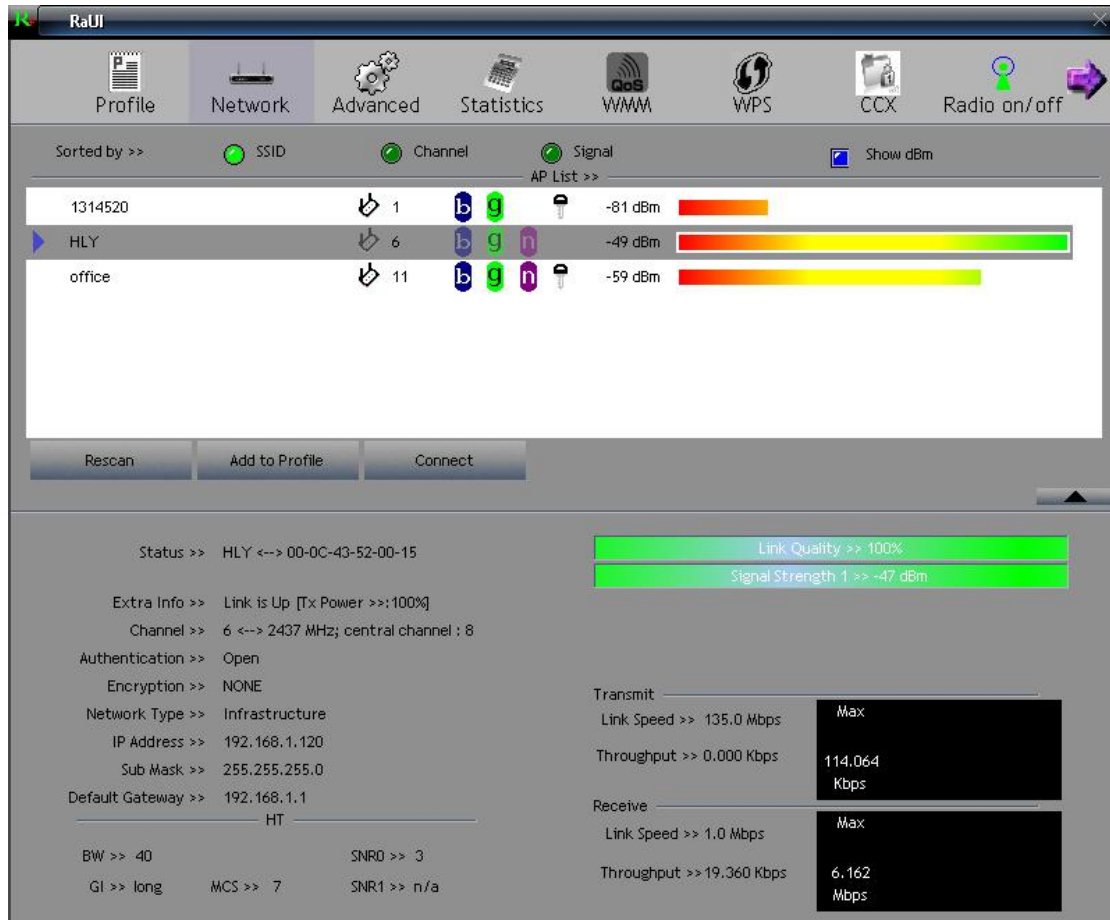


3.2.1.1.2 The constitution of clicking "Edit" corresponds parameter.

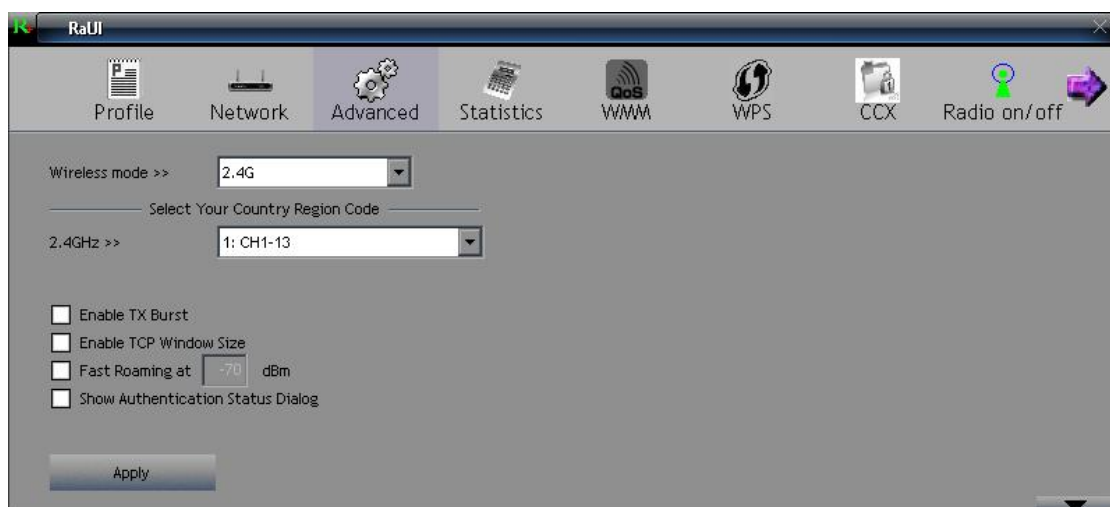
3.2.1.1.3 Single click "Profile List" contents, the choose a “delete” button deletion.

3.2.1.1.4 Single click "Profile List" contents, the choose a “Activate” button activates.

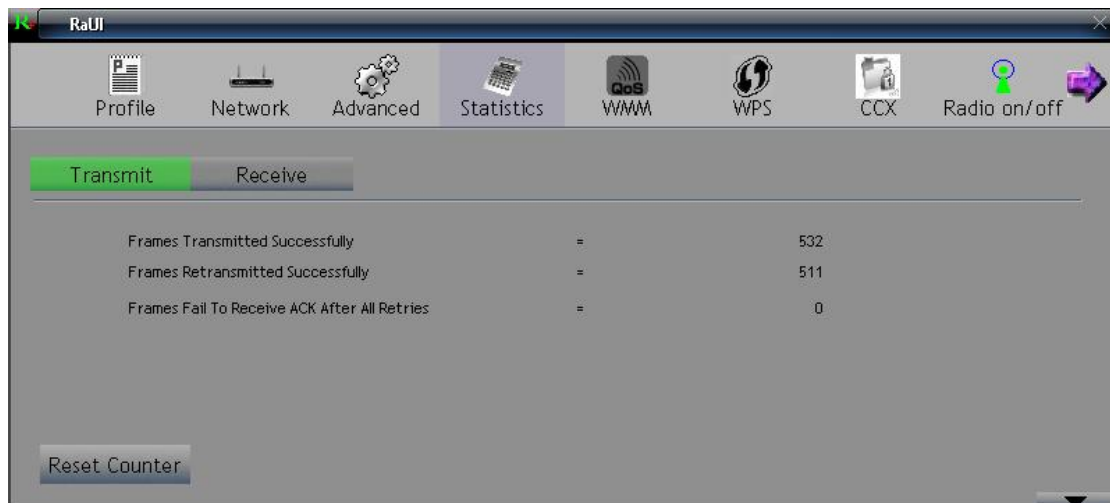
3.2.1.2 Click “Network” button, Look into network parameter.



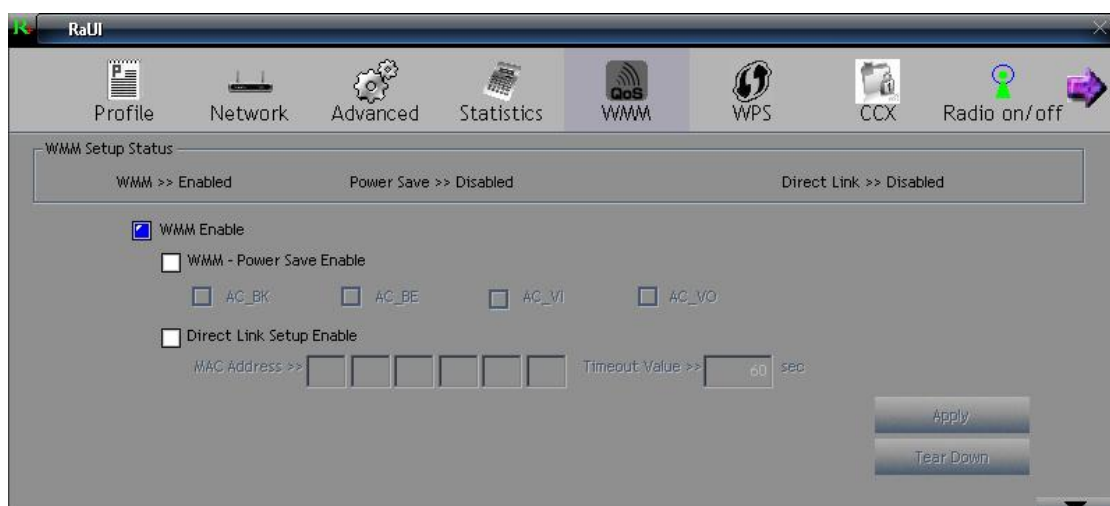
3.2.1.3 Click “Advanced” button ,Choose "WIRELESS MODE" and “Country Region Code”, an among those item, press Apply button to keep.



3.2.1.4 Click a "Statistics" button, show "Transmit and Receive" success rate.

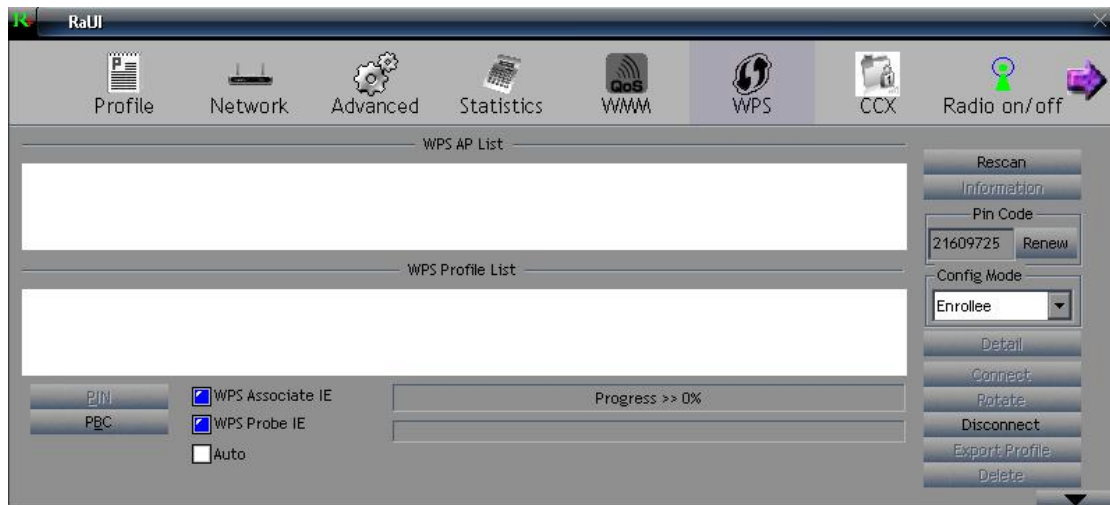


3.2.1.5 Clicking "WMM" presses button, choosing "WMM Setup Status" to carry on a constitution.

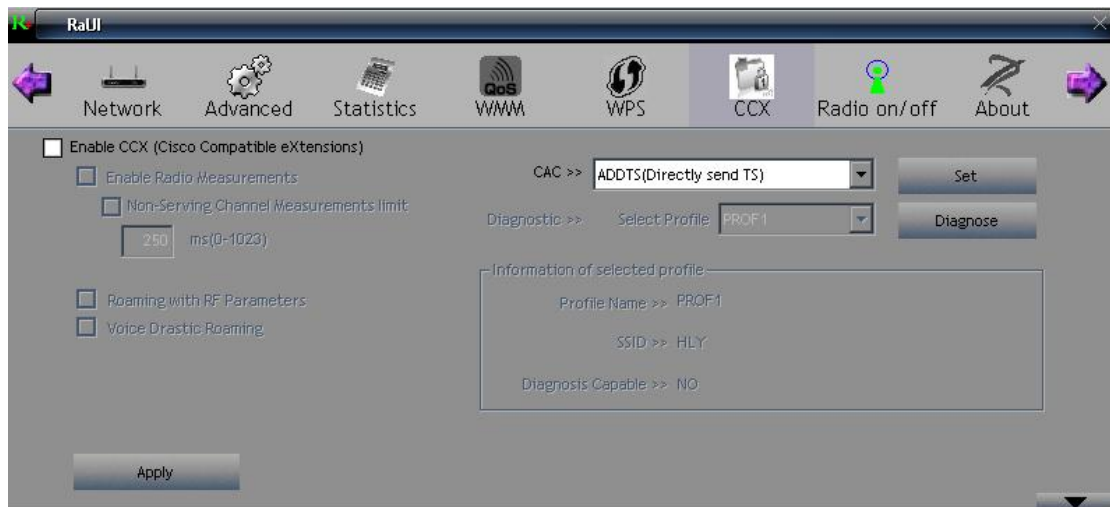


3.2.1.6 Clicking "WPS" presses button, can look into WPS conjunction

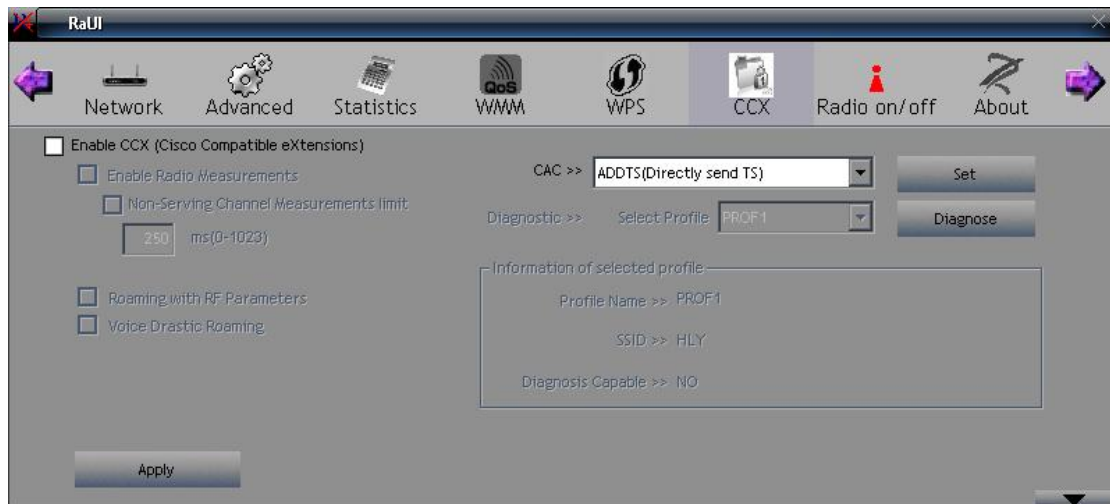
appearance.



3.2.1.7 Clicking "CCX" presses button to enable the CCX.



3.2.1.8 Clicking "the Radio On/Off" presses button, opening or closing a wireless network.



3.2.1.9 Click a "About" button, look into edition number.



3.2.1.10 Click a "→" diagram mark, press "Help" to carry on a technique help.

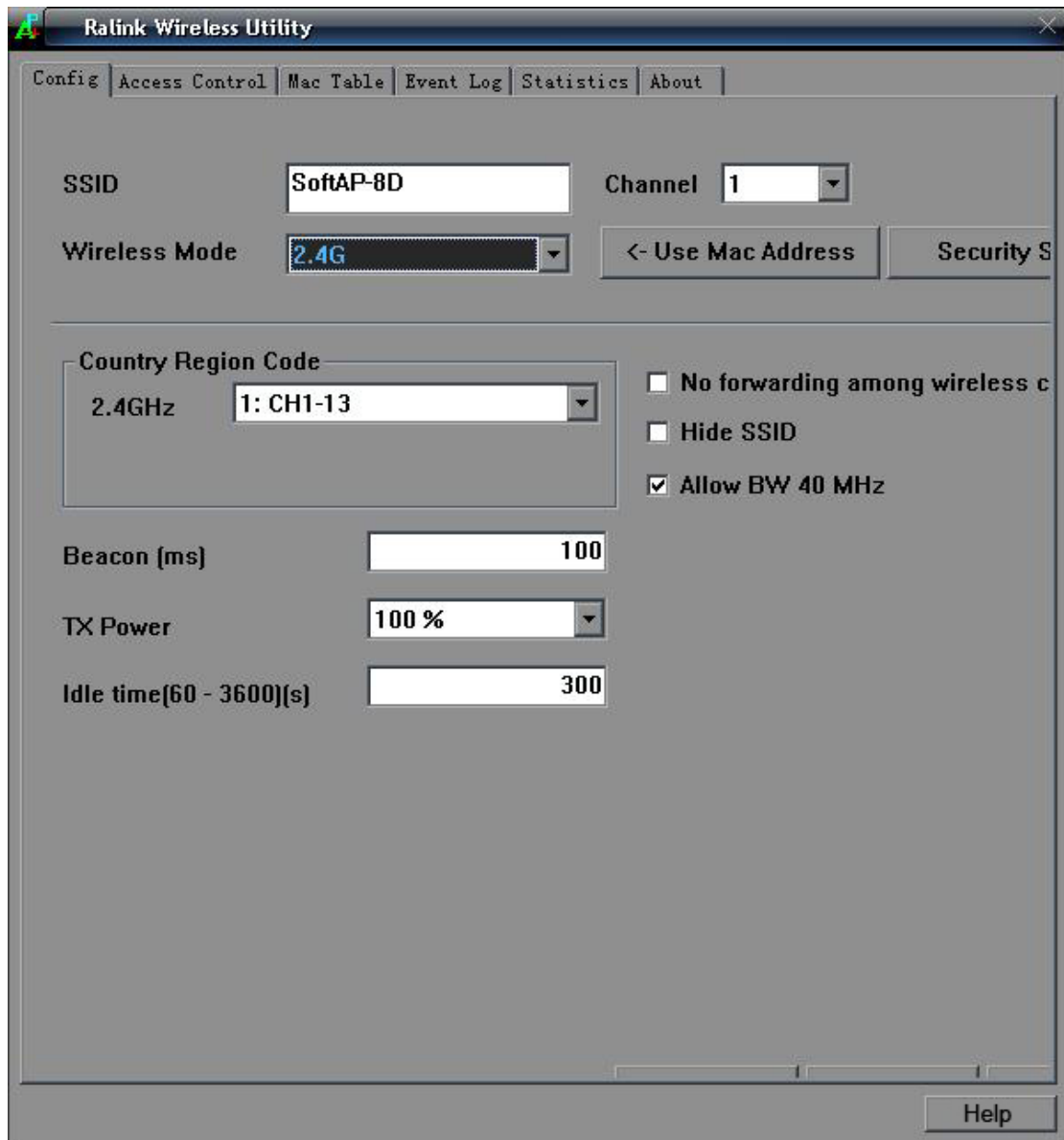


3.2.2 Use Zero Configuration as Configuration Utility

The right key single shot on the "Ra" diagram mark, and choose "Use Zero Configuration as Configuration Utility", Click a conjunction button, the equipments links AP/ROUTER successfully.

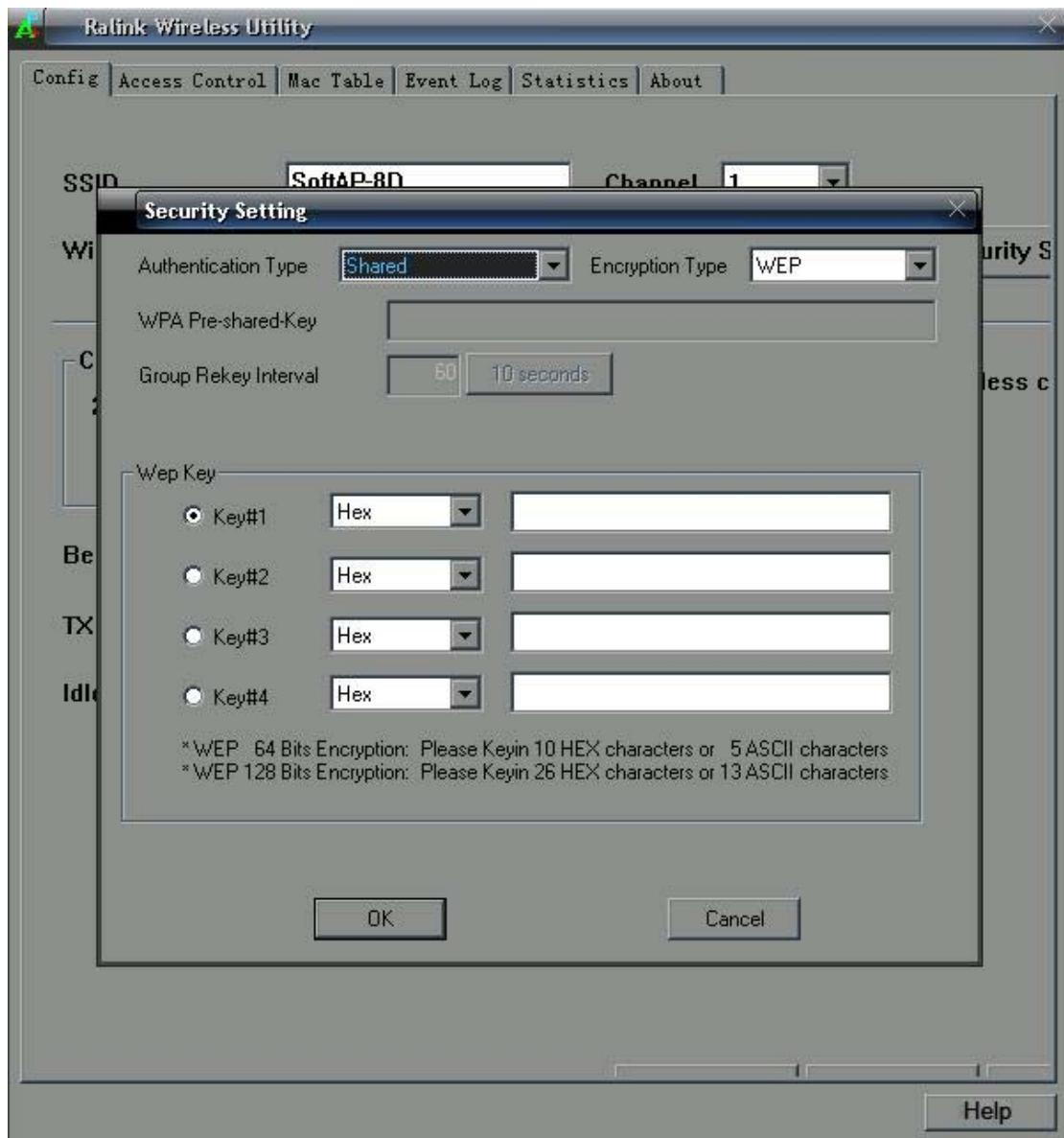
3.2.3 Switch to AP Mode

3.2.3.1 The right key single shot on the "Ra" diagram mark, the choose " Switch to AP Mode ", such as diagram:

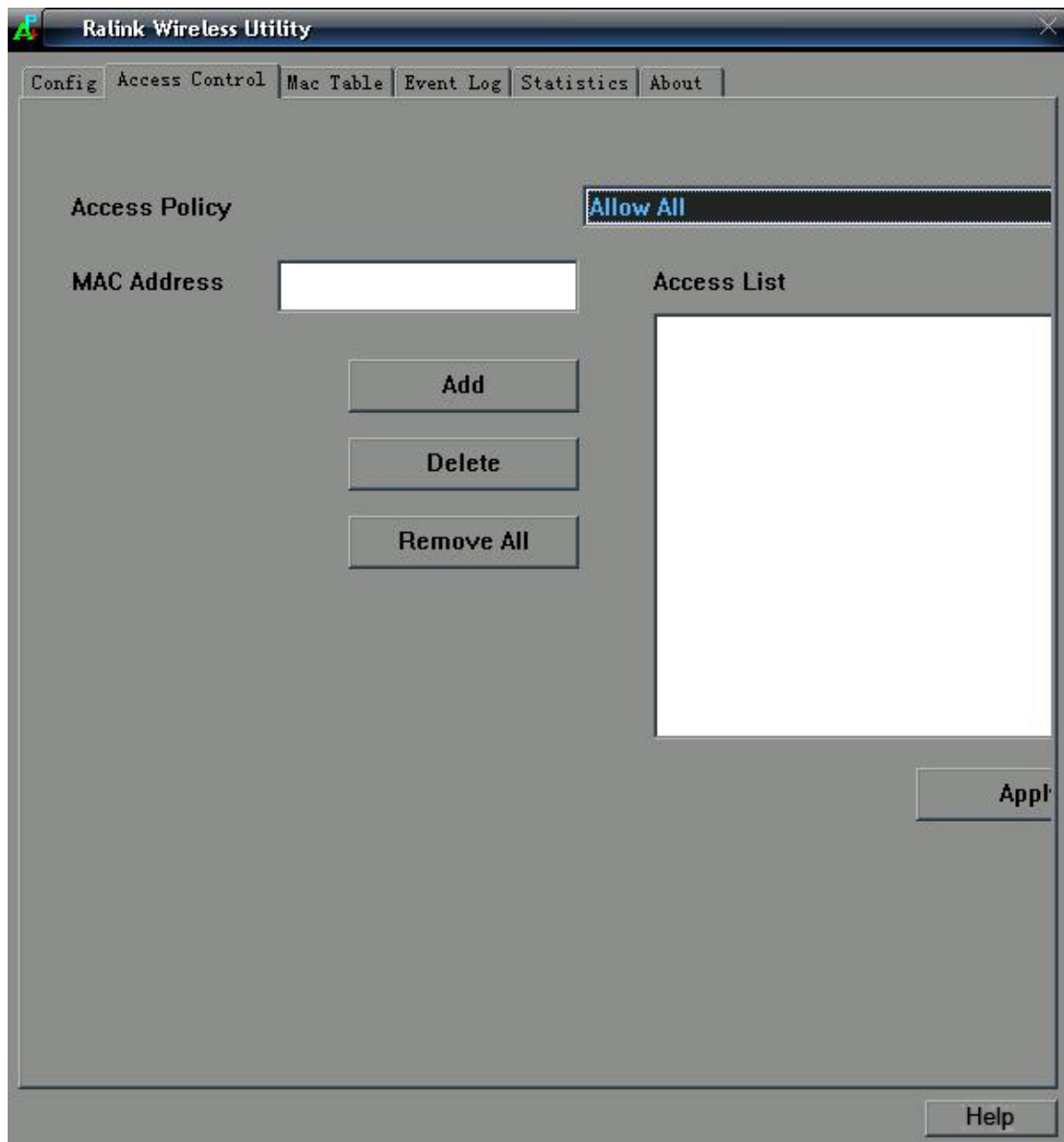


Can look into an equipments to install parameter in "Config".

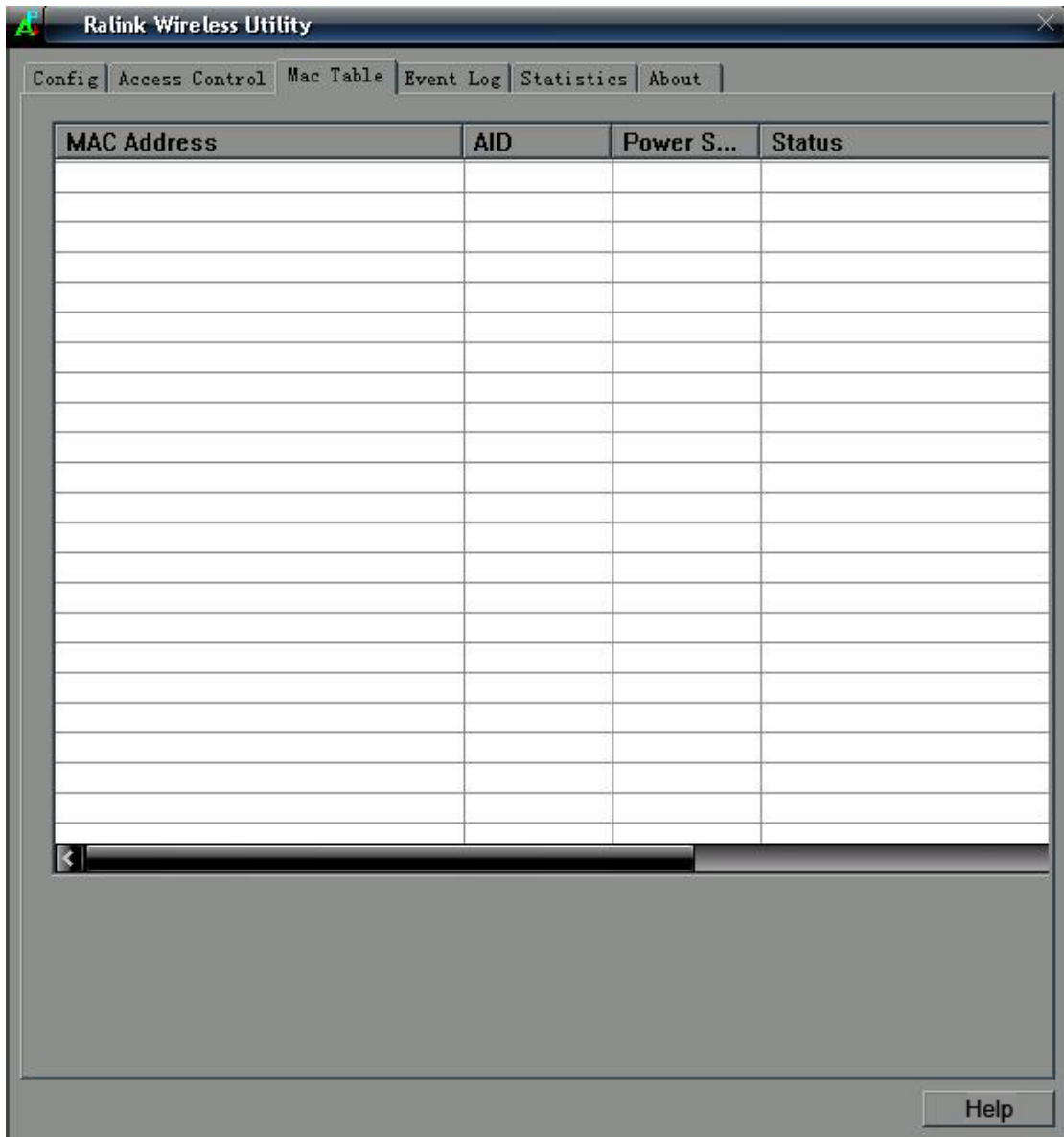
3.2.3.1.1 Click "Security Setting" button to choose encrypts way.



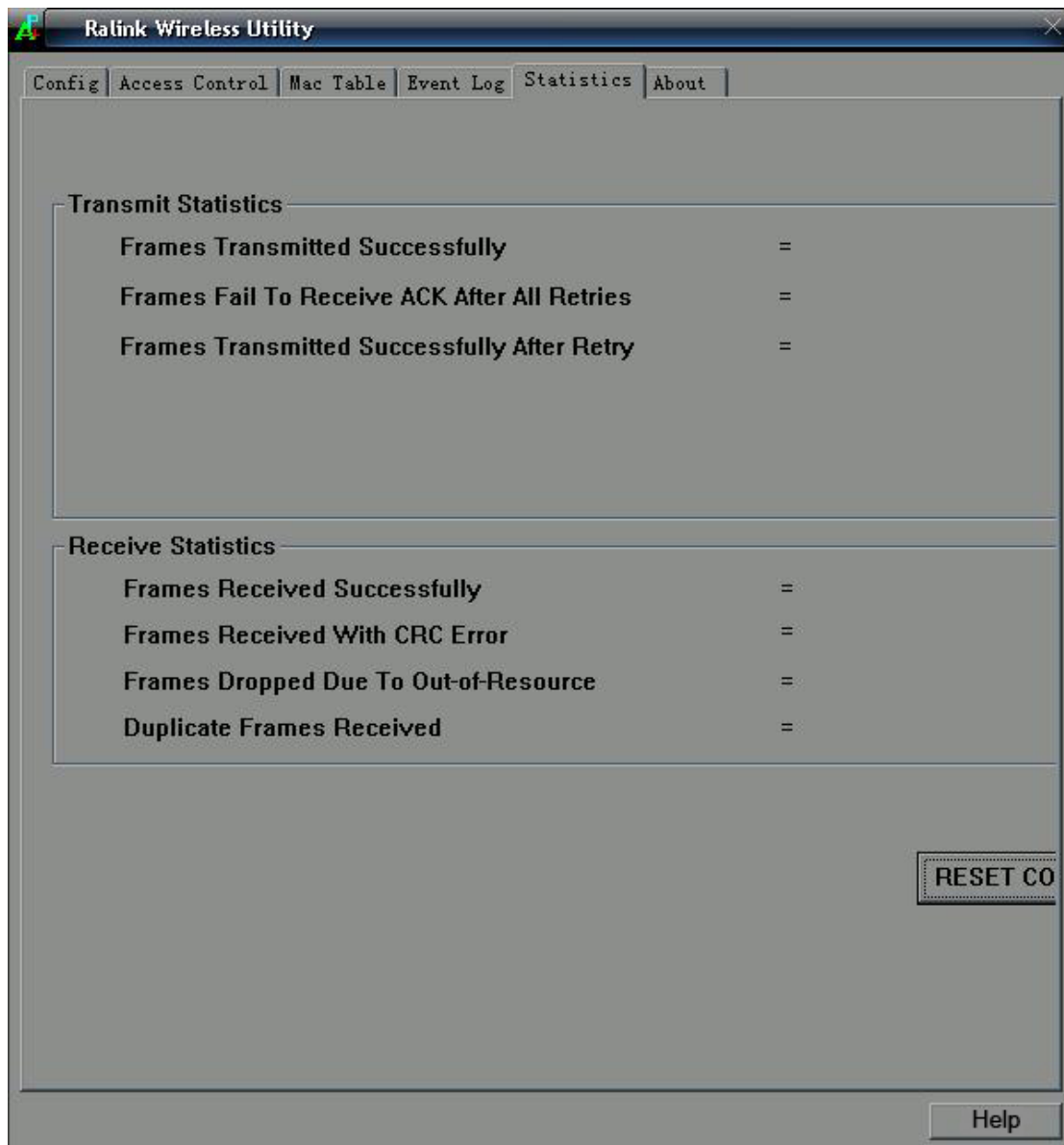
3.2.3.2 Click a "Access Control" button, increase or delete MAC Address.



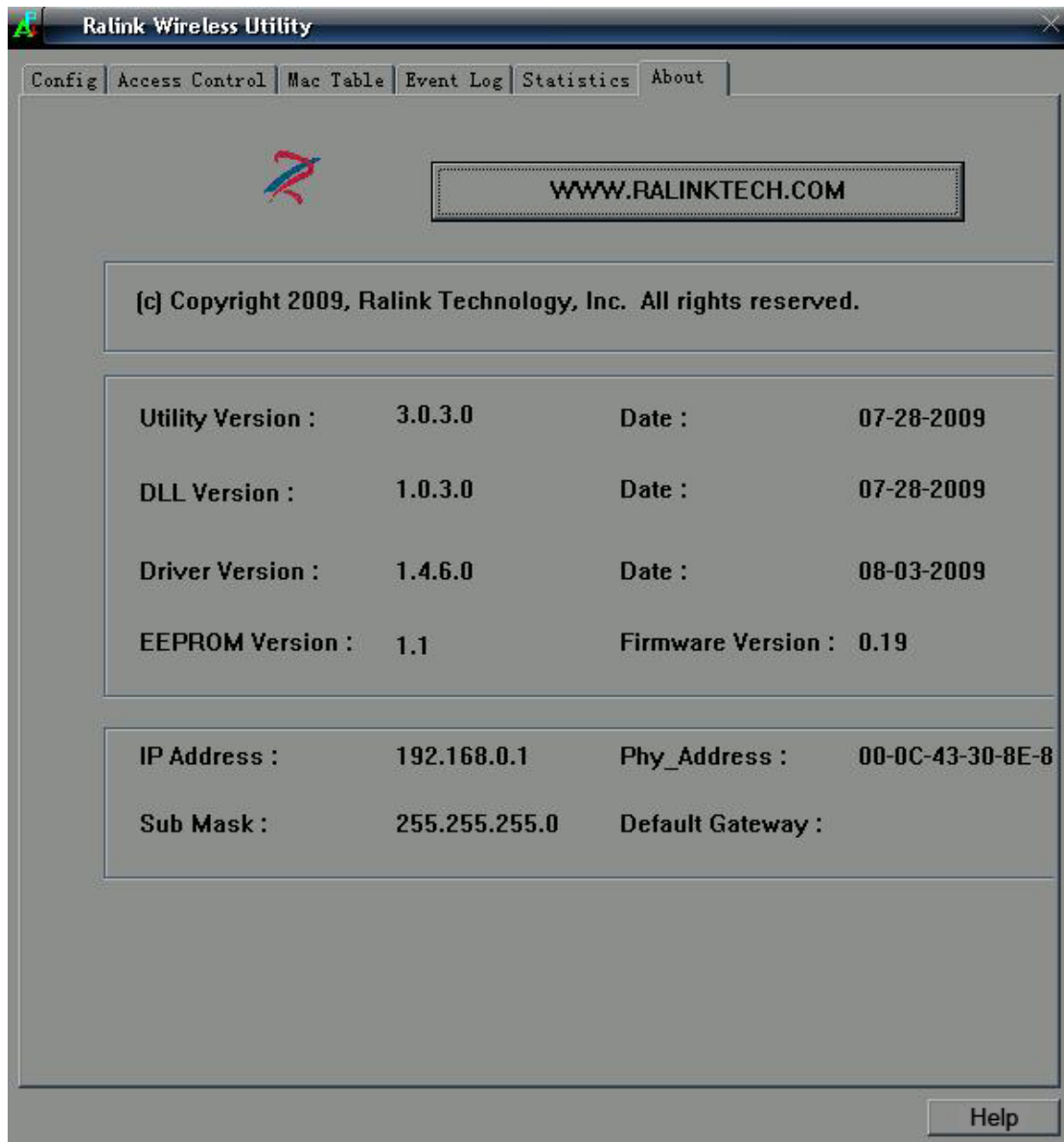
3.2.3.3 Click "Mac Table" button, look into MAC Address information.



3.2.3.4 Click "Event Log" press button, looking in to Restart Access Point information and date.



3.2.3.6 Click a "About" button, look into parameter edition number.



3.2.4 Exit

Click a "Exit" button, withdraw parameter configuration utility.

Chapter4:Glossary

802.11b: The 802.11b standard specifies a wireless networking at 11 Mbps using direct-sequence spread-spectrum (DSSS) technology and

operating in the unlicensed radio spectrum at 2.4GHz, and WEP encryption for security. 802.11b networks are also referred to as Wi-Fi networks.

802.11g: specification for wireless networking at 54 Mbps using direct-sequence spread-spectrum (DSSS) technology, using OFDM modulation and operating in the unlicensed radio spectrum at 2.4GHz, and backward compatibility with IEEE 802.11b devices, and WEP encryption for security.

Ad-hoc Network: An ad-hoc network is a group of computers, each with a wireless adapter, connected as an independent 802.11 wireless LAN. Ad-hoc wireless computers operate on a peer-to-peer basis, communicating directly with each other without the use of an access point. Ad-hoc mode is also referred to as an Independent Basic Service Set (IBSS) or as peer-to-peer mode, and is useful at a departmental scale or SOHO operation.

Infrastructure Network: An integrated wireless and wireless and wired LAN is called an Infrastructure configuration. Infrastructure is applicable to enterprise scale for wireless access to central database, or wireless application for mobile workers.

DSSS (Direct-Sequence Spread Spectrum): DSSS generates a redundant bit pattern for all data transmitted. This bit pattern is called a chip (or chipping code). Even if one or more bits in the chip are damaged

during transmission, statistical techniques embedded in the receiver can recover the original data without the need for retransmission. To an unintended receiver, DSSS appears as low power wideband noise and is rejected (ignored) by most narrowband receivers. However, to an intended receiver (i.e. another wireless LAN endpoint), the DSSS signal is recognized as the only valid signal, and interference is inherently rejected (ignored).

FHSS (Frequency Hopping Spread Spectrum): FHSS continuously changes (hops) the carrier frequency of a conventional carrier several times per second according to a pseudo-random set of channels. Because a fixed frequency is not used, and only the transmitter and receiver know the hop patterns, interception of FHSS is extremely difficult.

Spread Spectrum: Spread Spectrum technology is a wideband radio frequency technique developed by the military for use in reliable, secure, mission-critical communications systems. It is designed to trade off bandwidth efficiency for reliability, integrity, and security. In other words, more bandwidth is consumed than in the case of narrowband transmission, but the trade off produces a signal that is, in effect, louder and thus easier to detect, provided that the receiver knows the parameters of the spread-spectrum signal being broadcast. If a receiver is not tuned to the right frequency, a spread-spectrum signal looks like background noise. There are two main alternatives, Direct Sequence Spread Spectrum

(DSSS) and Frequency Hopping Spread Spectrum (FHSS).

SSID: A Service Set Identification is a thirty-two character (maximum) alphanumeric key identifying a wireless local area network. For the wireless devices in a network to communicate with each other, all devices must be configured with the same SSID. This is typically the configuration parameter for a wireless PC card. It corresponds to the ESSID in the wireless Access Point and to the wireless network name.

WEP (Wired Equivalent Privacy): A data privacy mechanism based on a 64-bit or 128-bit or 152-bit shared key algorithm, as described in the IEEE 802.11 standard.

Wi-Fi: A trade name for the 802.11b wireless networking standard, given by the Wireless Ethernet Compatibility Alliance (WECA, see <http://www.wi-fi.net>), an industry standards group promoting interoperability among 802.11b devices.

WLAN (Wireless Local Area Network): A group of computers and associated devices communicate with each other wirelessly, which network serving users are limited in a local area.

WPA (Wi-Fi Protected Access): A wireless security protocol use TKIP (Temporal Key Integrity Protocol) encryption, which can be used in conjunction with a RADIUS server.

Federal Communication Commission 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 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 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.

This device 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.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

The device has been evaluated to meet general RF exposure requirement.
The device can be used in portable exposure condition without RF striction.

The WU106A is a sub assembly: the end product to integrate this module has to be clearly identified on the label that this end product contains an FCC approved RF module. The format of such statement could be:

“Contains FCC ID: YXA-WU106AM ”

WARNING!

FCC and IC RF Radiation Exposure Statement:

This module complies with FCC and Industry Canada RF radiation exposure limits set forth for general population/uncontrolled environment. To maintain compliance, this module must not be co-located or operating in conjunction with any other antenna or transmitter.

The OEM integrator has to be aware not to provide information to the end user regarding how to install or remove this RF module in the user manual of the end product.

The user manual for the end product must include the following information in a prominent location;

“To comply with FCC and Industry Canada RF radiation exposure requirements, the antenna(s) used for this transmitter module must not be co-located or operating in conjunction with any other antenna or transmitter.”

This transmitter module is authorized to be used in Aldebaran Robotics devices only, further transmitter testing will not be required. However, Aldebaran Robotics is still responsible for testing their end-product for any additional compliance requirements required with this module installed.

Control of the end product integration:

The WU106A can only be installed by Aldebaran Robotics in its end-devices. Marketing of this module to OEM or other 3rd party is prohibited.

To ensure the compliance of the integrated module in Aldebaran robotics end-devices to the FCC part 15, a verification of the 2.4 GHz harmonics of Aldebaran robotics end-devices has to meet the limit of FCC 15.209.