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Chapter 1 Product Introduction

Thank you for choosing our wireless adapter!

The wireless adapter supports IEEE wireless standards, and is able to quickly process file transfer, video, multi-media and other applications that require higher bandwidth.

This wireless adapter also integrates wireless configuration program, which makes it easy and quick to set up the wireless client. Besides, Soft AP is supported for fast wireless network establishment, and WPS encryption supported for you to quickly encrypt and secure your wireless network.

All in all, the wireless adapter is easy-to-use, and of robust signal, long transmitting distance.

1.1 Package Contents

- One Wireless network adapter
- One Software CD (includes user guide and driver)

The above list is for your reference only; the actual contents may differ according to the product you purchase.

1.2 Product Features

- Supports soft AP feature
- Detects wireless network and adjusts transmitting rate automatically
- Provides two working modes: Infrastructure and Ad-Hoc
- Supports WEP data encryption and WPA-PSK/WPA2-PSK encryption methods
- Supports WPS (Wi-Fi Protected Setup) encryption to secure your wireless network
- Complies with Windows 7/Windows 8/XP/ 2000/Vista, Linux, MAC OS, etc.

1.3 Product Usage

This Wireless Adapter offers a fast, reliable and extendable solution for wireless access.

It is mostly used in the following circumstances:

1. Enables staff members who require higher mobility, to have access to the wireless network anywhere inside their company.
2. Enables wireless communication for companies or places which are not suitable for wired LAN installation because of budget or building environment restrictions, such as historical buildings, rentals, or places for short-term usage.
3. Suitable for Enterprises or individuals requiring to regularly alter the networking topology
4. Helps enterprises or individuals who would like to use wireless to establish wireless network quickly and frees them from the trouble of cable distribution.

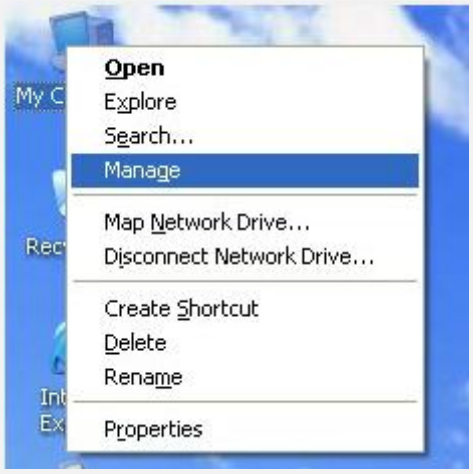
1.4 Before Installation

1. Please read through the whole user guide before you install and use this product.

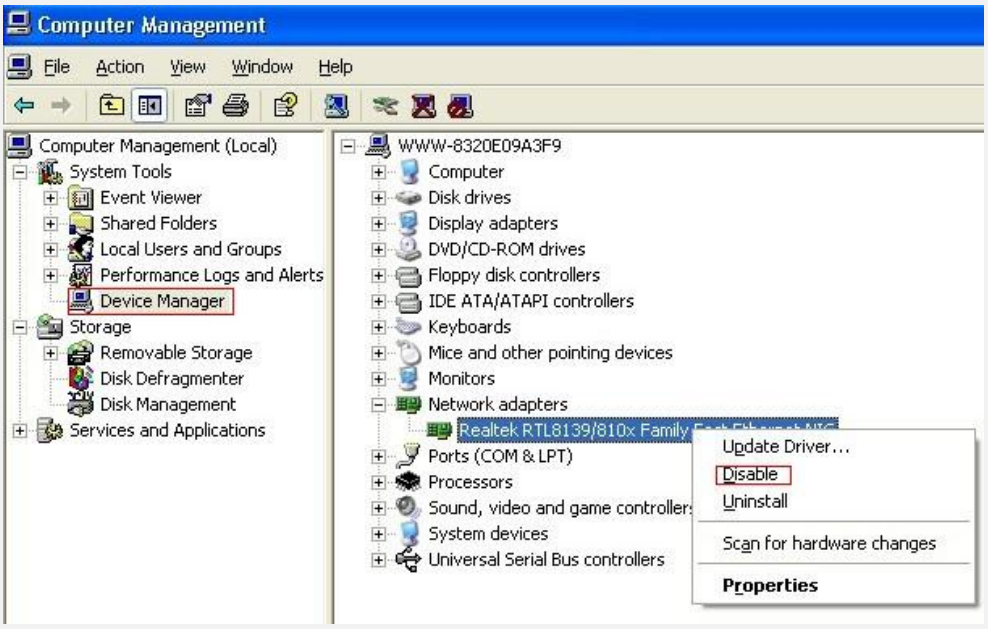
2. Please close or uninstall the configuration programs of other manufacturers' before you install the configuration programs of the network adapters to avoid possible UI (user interface) conflict.
3. To avoid possible network conflicts between this the network adapter and those of other manufactures', we recommend that you first disable the network adapters of other manufacturers before installing the driver.

1.5 Disable other manufacturers' wireless network adapters

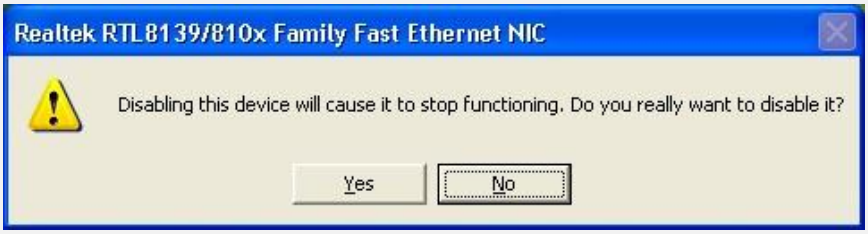
1. Right click "My Computer" and select "Manage"



2. On the Computer Management screen ,select "Device Manager" — "Network adapters", and right click the network adapter you want to disable and click "Disable"



3. Click the "Yes" button on the dialogue box to disable the network adapter.



1.6 Product Maintenance

1. Please keep the product away from water and humid environment to guarantee its normal performance
2. Protect it against hazardous substances (such as acids, alkalis etc).
3. Please don't directly expose the adapter to the sunlight or excessive heat.
4. Please contact our tech support if any problems occur.

Chapter 2 Installation Guide

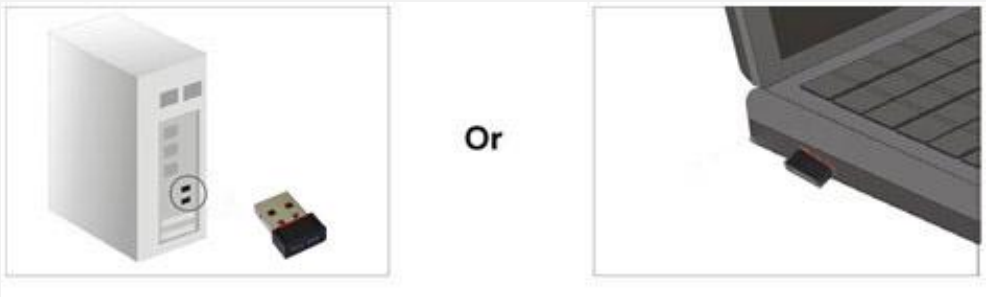
This chapter will guide you through the process of installing the network adapter software package, with the included software CD. The package integrates driver and configuration software. Thus, when you are installing the driver, the configuration software will be installed automatically as well.

The software installation steps and operating guide in this user guide are explained under Windows XP, Installation steps for other operating systems are similar.

Before you proceed with the installation, please notice the following descriptions.
Note 1: *The following installation was operated under Windows XP.*
(Procedures are similar for Windows 98SE/Me/2000.)
Note 2: *If you have installed the WLAN USB driver & utility before, please uninstall the old version first.*

2.1 Install the USB network adapter

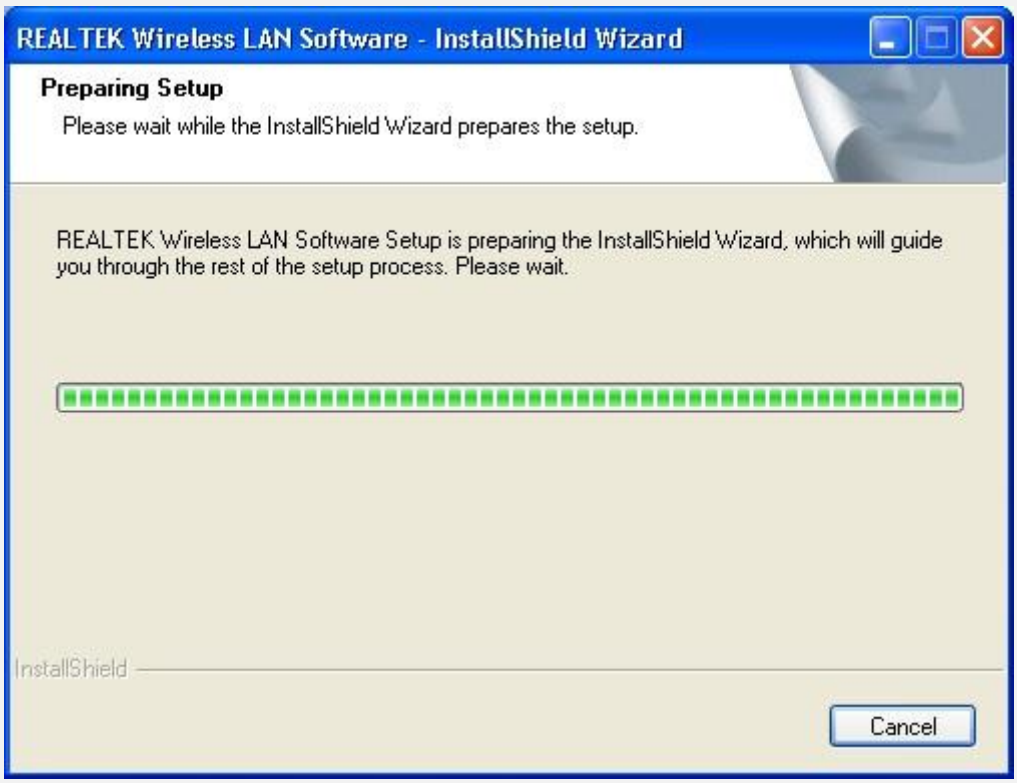
2.1.1 Please insert the Wireless USB Adapter into the USB port of your computer.



2.1.2 Ignore the following dialog. Please click "Cancel".

2.1.3 Put the software program CD, then auto installation window pops up on following. Just click **Windows**, the driver should run automatically. (Double click "**Setup.exe**" in the software CD and manually install when it doesn't auto-run).

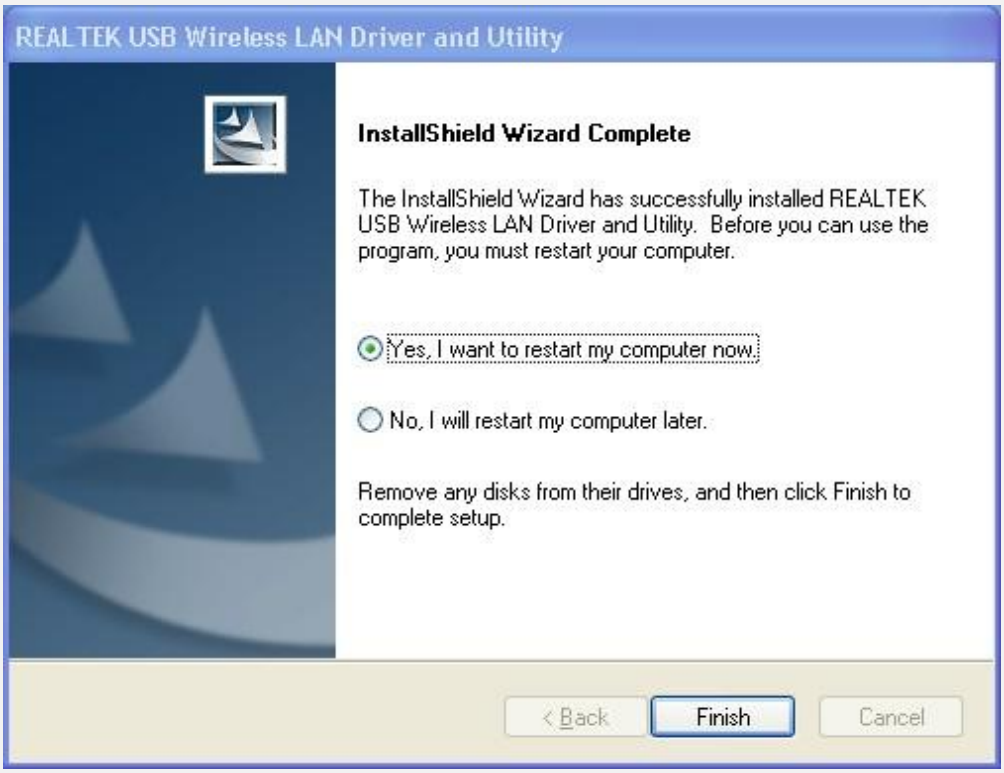
2.1.4 The following window will show up.



2.1.5 Click “Next” to process the installation.

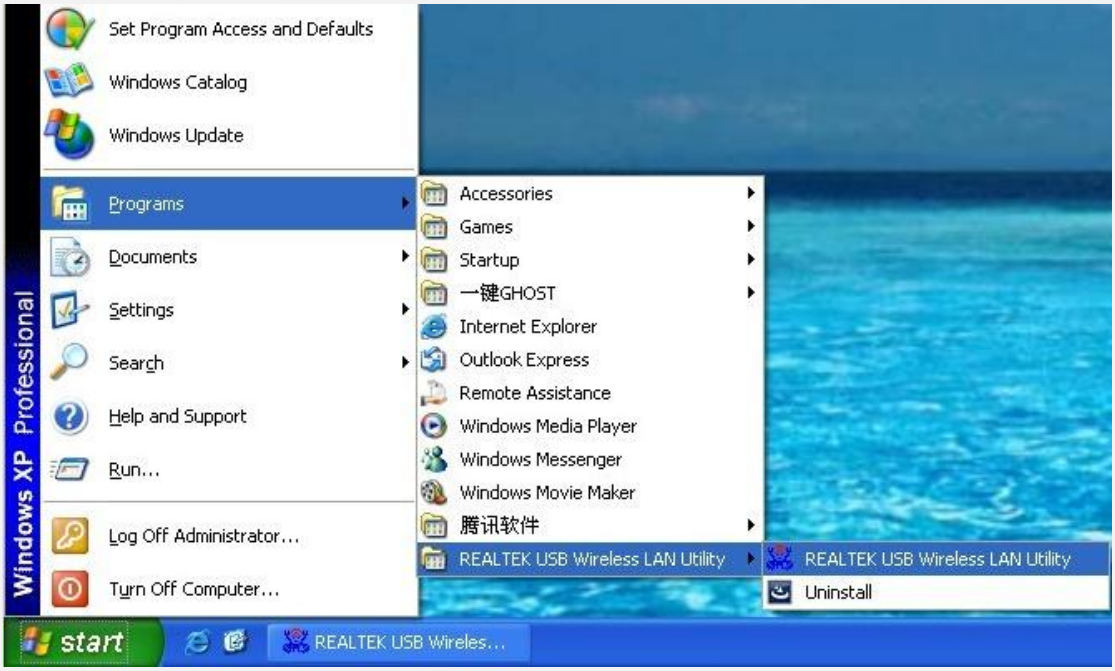
2.1.6 It shows that it is installing.

2.1.7 Click “finish” to complete the installation.



Chapter 3 Wireless LAN Utility

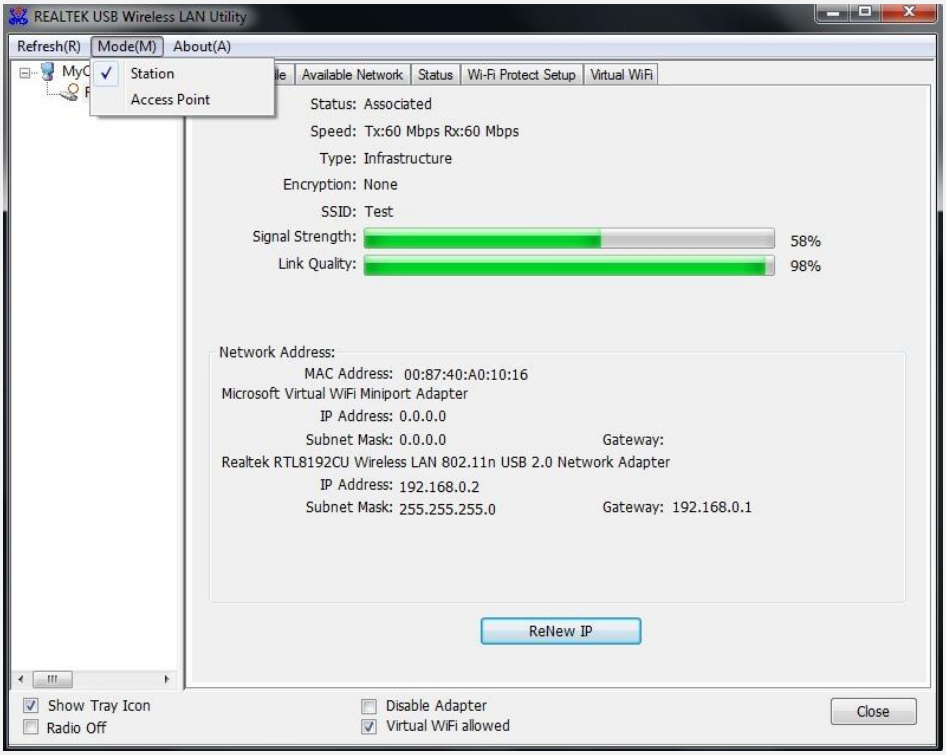
Select "**Start**"—"**Programs**" —"**REALTEK USB Wireless LAN Utility**"— "**REALTEK USB Wireless LAN Utility**",



or click the "**REALTEK USB Wireless LAN Utility**" shortcut on your PC's desktop to start the UI.

3.1 Station Mode

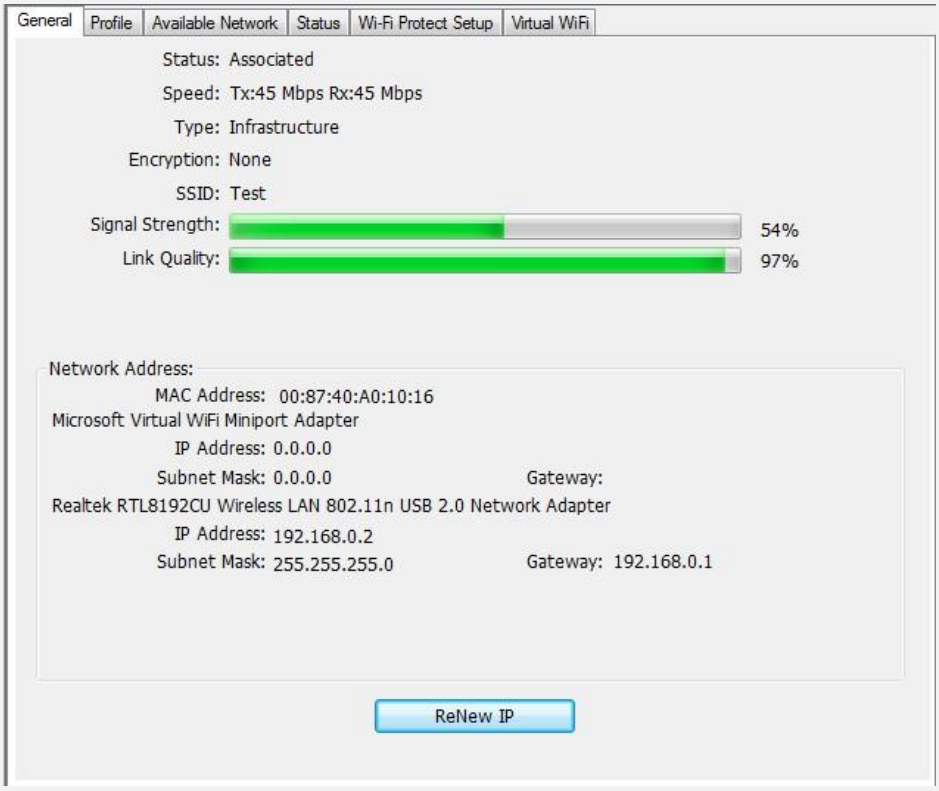
The following explanations focus on the properties area.



Infrastructure and Ad-Hoc

With both Infrastructure and Ad-Hoc types, the properties should look like the picture above. Six property pages present different information of current wireless network status. Please read the following explanations before you reviewing these pages, it could help you to well understand the wireless environment around the system. It is easy to use to switch property pages just by clicking left button of mouse on the title of each page. The following six sections describe detailed information of each page.

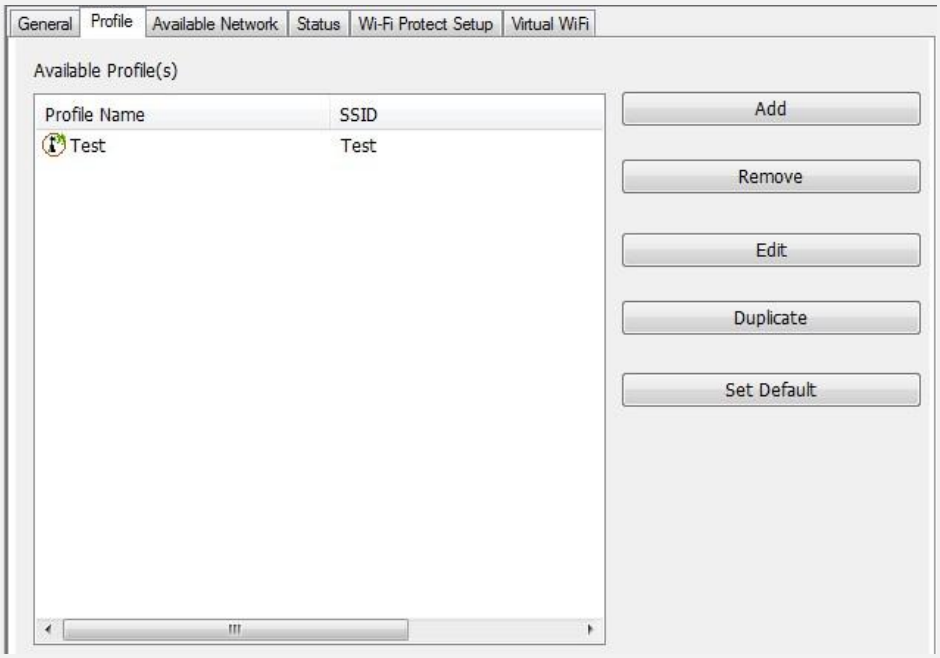
A: General Page



1. Status
The status of station connection to AP.
2. Speed
Current transition speed in Mbps (Mega-Bits-Per-Second).
3. Type
Current wireless LAN configuration type.
4. Encryption
Current encryption mode used.
5. SSID
Name of wireless network.
6. Signal Strength
The average signal quality of packets received from wireless network.
We recommend connecting AP with over 70% signal strength.
7. Throughput Diagram
Current throughput, including transmission (Tx) and total traffic (Total).
8. Network Address
Mac Address: six two-digital number of this Wireless LAN USB adapter
IP Address: assigned network address by DHCP server or self-definition in four three-digital number format.
■ Subnet Mask: the only valid value is 2555.255.0.0
■ Gateway: It comes from connected AP. Your system can not connect internet with this field empty.

B. Profile Page

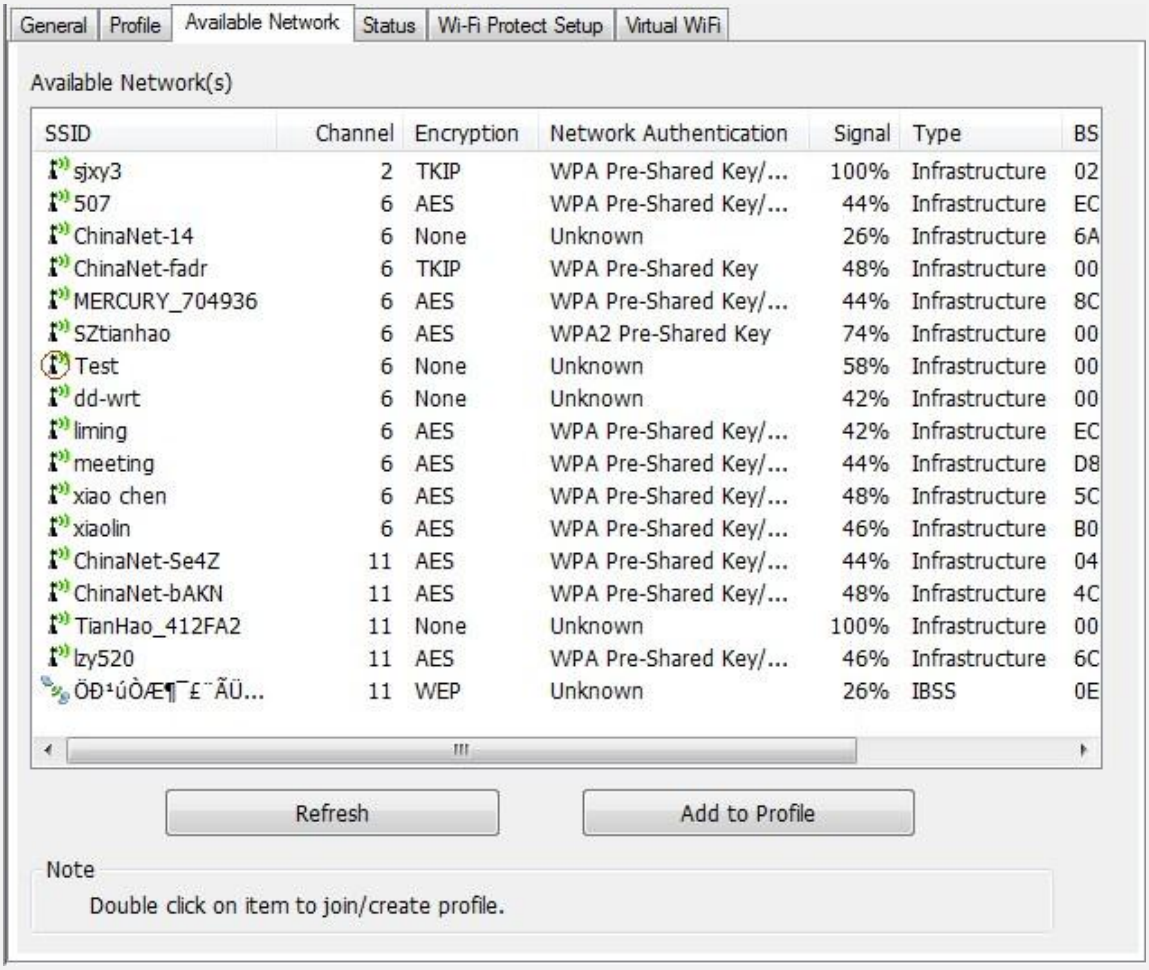
This page provides profiles management such as add, remove, edit and duplicate just by pressing the respected button.
Available Profile(s)
The list box shows all the created profiles.



1. Add
Add a new profile for AP or IBSS (Ad-Hoc mode).
2. Remove
Remove the selected profile.
3. Edit
Edit contents of selected profile.
4. Duplicate
Make copy of selected profile.
5. Set Default
Set the selected profile as default selection.
6. Available Network Page
This page presents all BSS, including AP and IBSS, around this system. You can pick any one of these network connections.

C. Available Network(s)

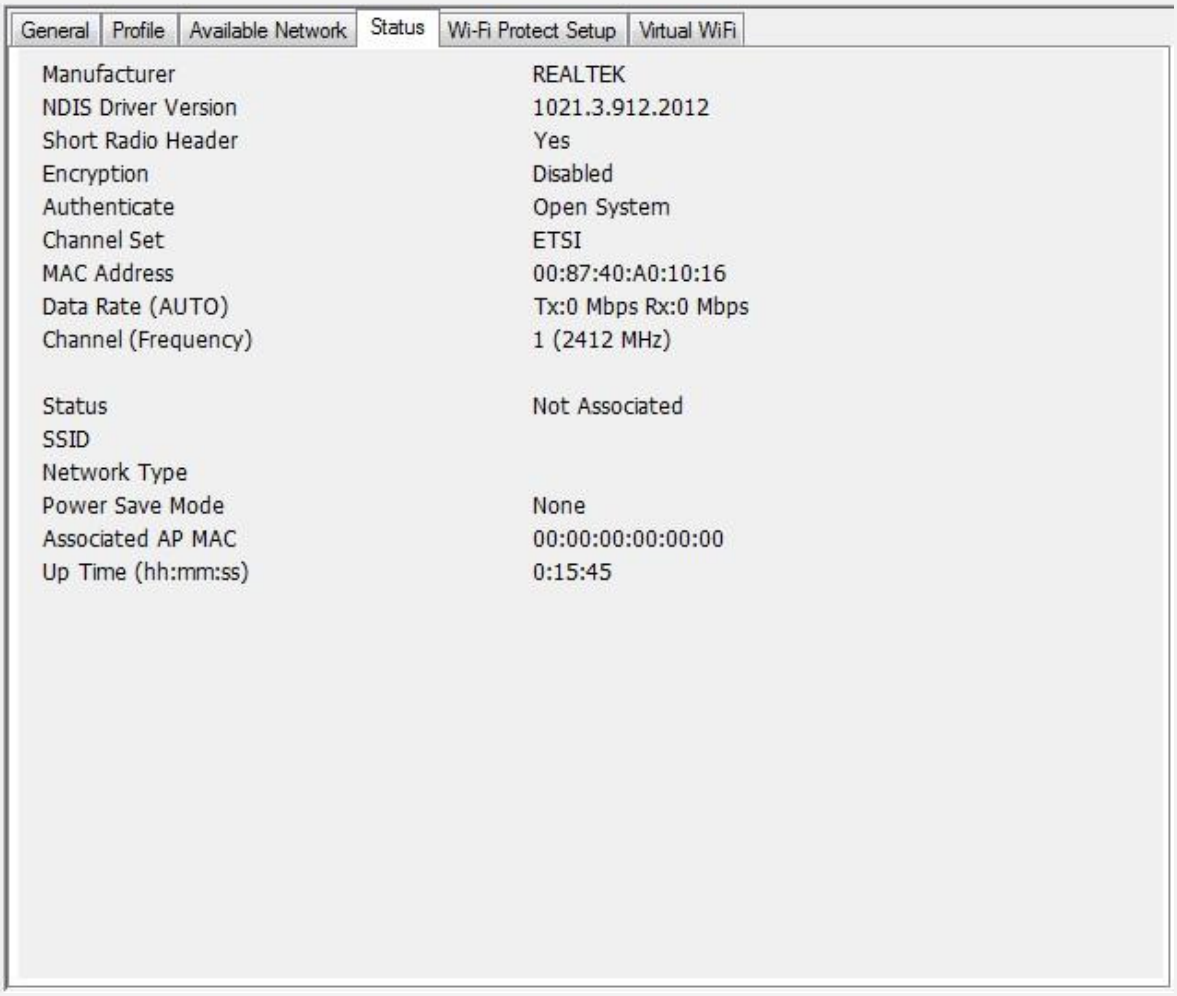
Show network connection around this system



SSID	Channel	Encryption	Network Authentication	Signal	Type	BS
sjxy3	2	TKIP	WPA Pre-Shared Key/...	100%	Infrastructure	02
507	6	AES	WPA Pre-Shared Key/...	44%	Infrastructure	EC
ChinaNet-14	6	None	Unknown	26%	Infrastructure	6A
ChinaNet-fadr	6	TKIP	WPA Pre-Shared Key	48%	Infrastructure	00
MERCURY_704936	6	AES	WPA Pre-Shared Key/...	44%	Infrastructure	8C
SZtianhao	6	AES	WPA2 Pre-Shared Key	74%	Infrastructure	00
Test	6	None	Unknown	58%	Infrastructure	00
dd-wrt	6	None	Unknown	42%	Infrastructure	00
liming	6	AES	WPA Pre-Shared Key/...	42%	Infrastructure	EC
meeting	6	AES	WPA Pre-Shared Key/...	44%	Infrastructure	D8
xiao chen	6	AES	WPA Pre-Shared Key/...	48%	Infrastructure	5C
xiaolin	6	AES	WPA Pre-Shared Key/...	46%	Infrastructure	B0
ChinaNet-Se4Z	11	AES	WPA Pre-Shared Key/...	44%	Infrastructure	04
ChinaNet-bAKN	11	AES	WPA Pre-Shared Key/...	48%	Infrastructure	4C
TianHao_412FA2	11	None	Unknown	100%	Infrastructure	00
lzy520	11	AES	WPA Pre-Shared Key/...	46%	Infrastructure	6C
ÖÐ¹úÒÆ¶¯£¨ÃÜ...	11	WEP	Unknown	26%	IBSS	0E

1. Refresh
Rescan network connection around this system.
2. Add to Profile
Create profile for selected network connection and add it to profile list.

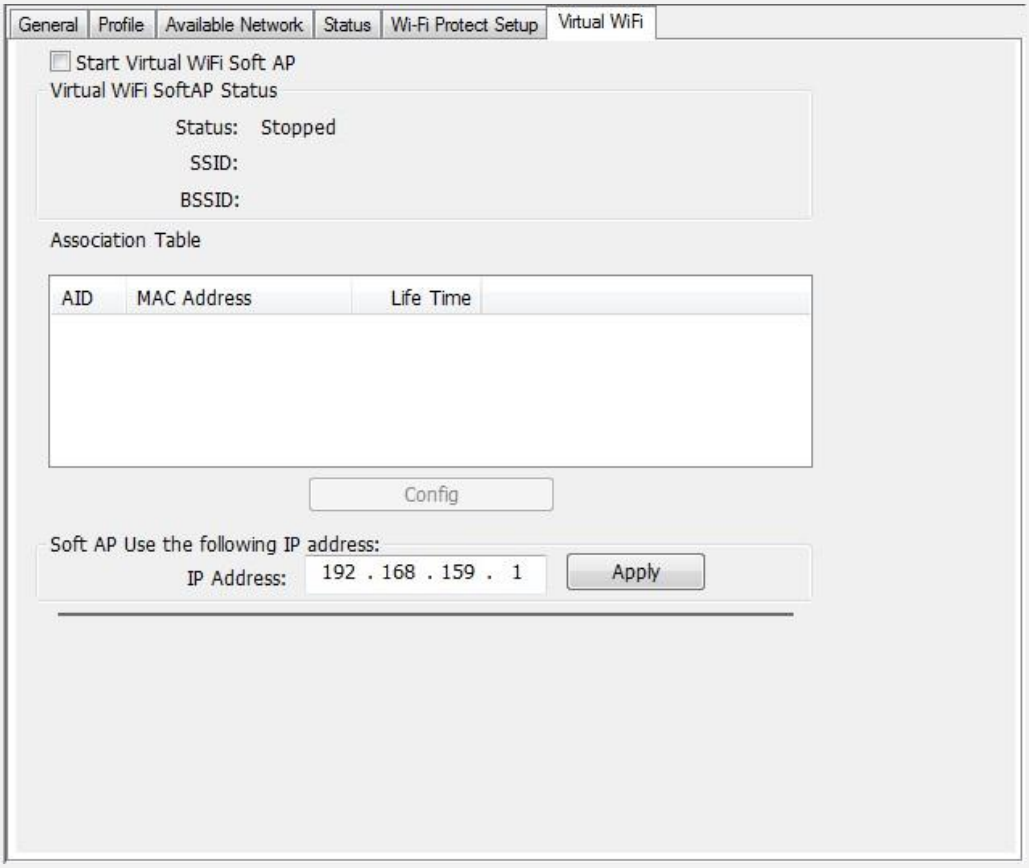
D. Status Page



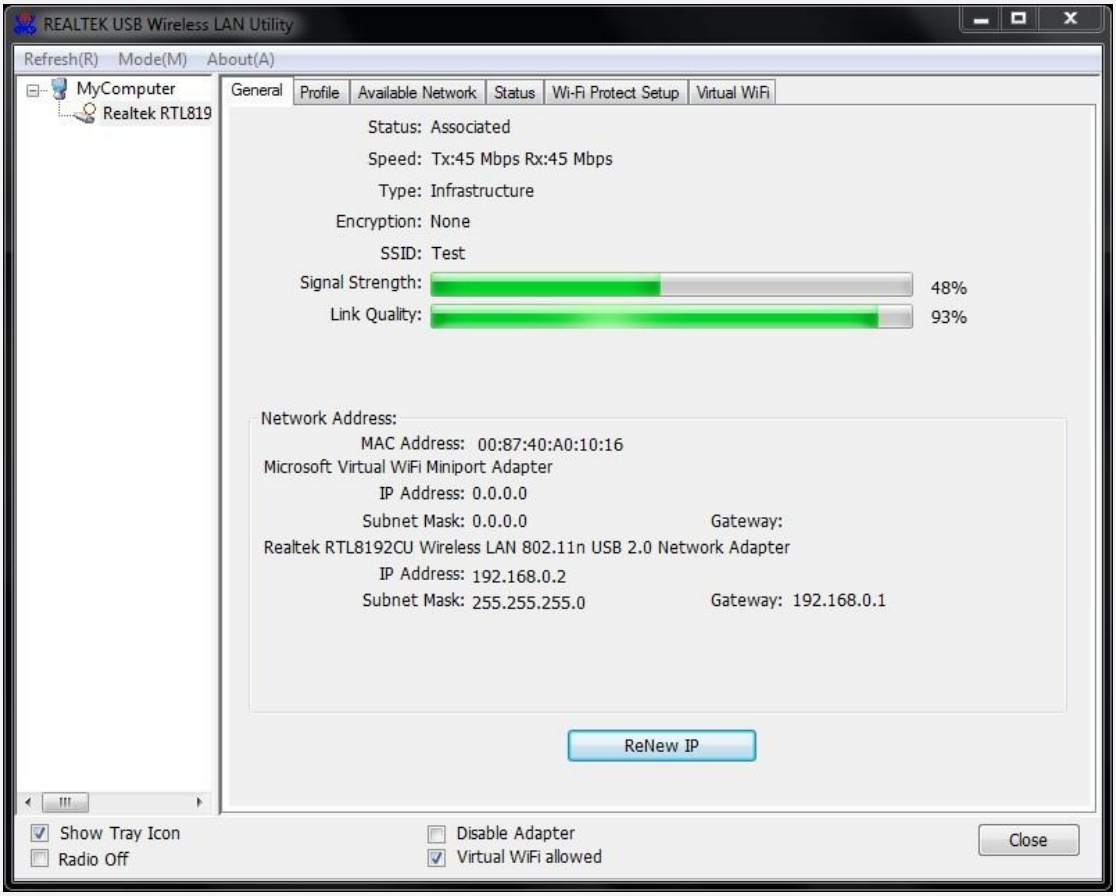
NDIS Driver Version: Driver version
Short Radio Header: No
Encryption: Current encryption mode.
Authenticate: Authentication state
Channel Set: Selected channel plan currently.
MAC Address: MAC address of this adapter.
Data Rate: Wireless LAN transition speed
Channel (Frequency): Current channel number
Status: Wireless network status
SSID: name of connecting AP
Network Type: Indicate current network configuration type
Power Save Mode: Current setting power save mode
Associated AP MAC: MAC address of connecting AP
Associated AP IP: IP address of connecting AP
Up Time: Total connection time

E. Wi-Fi Protect Setup Page

F. Virtual WiFi Page



3.2 Introduction of Main Window



A. Main Menu

The main menu includes five submenus.

1. Refresh(R)

When clicking the refresh menu, you can update and re-enumerate the contents of adapter list area.

2. Mode(M)

Wireless configuration is quickly switched to be either [Station] or [Access Point].

3. About(A)

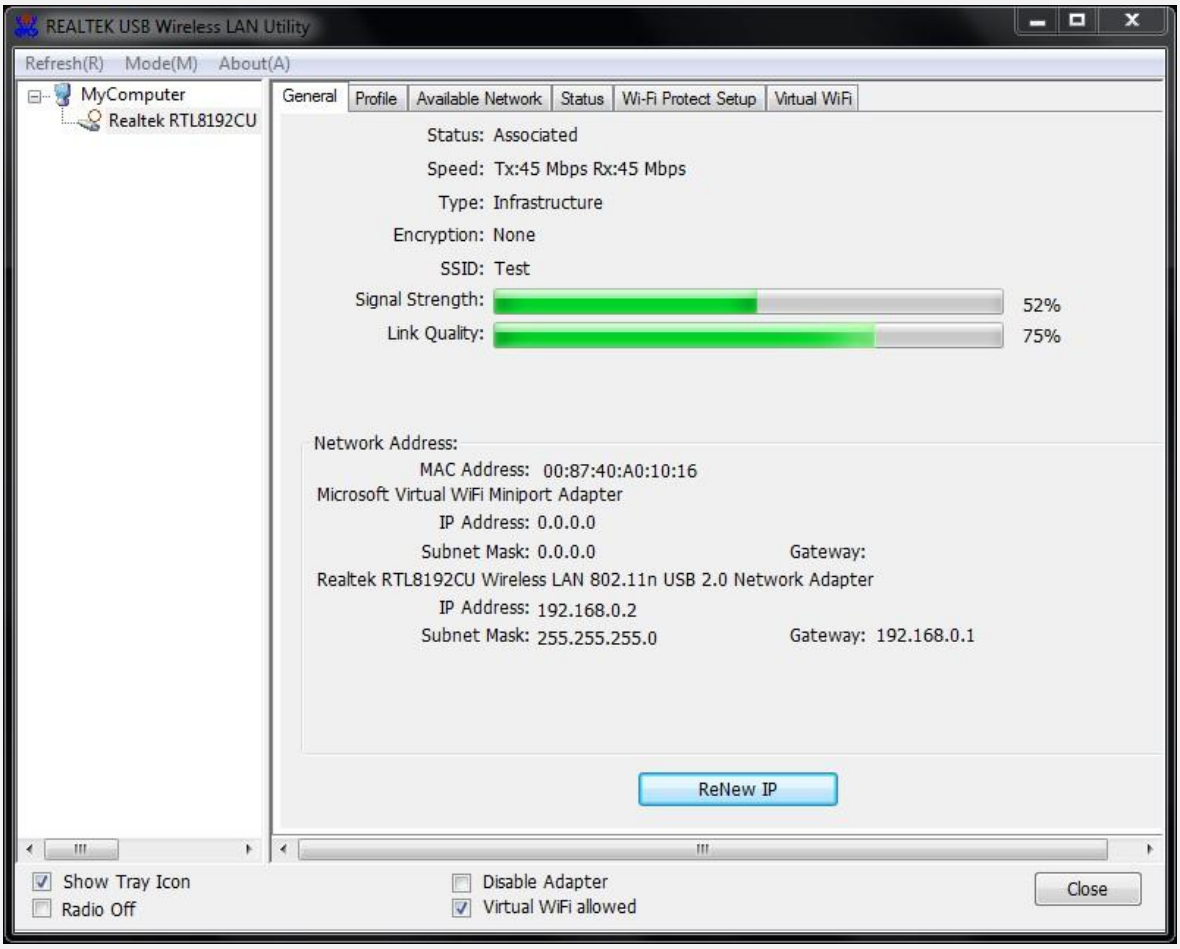
Click the “About” to show the about dialog. The application version and license information are shown in the about dialog.

B. Adapter List Area

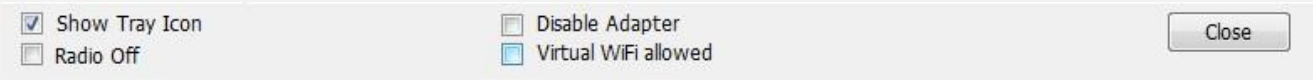
All connected adapters on this system with multiple adapter installations are displayed in this area. It is easy for users to change the selected adapter by one click. The contents of properties area are dependent on wireless configuration that the selected adapter is set up. If only single adapter is installed on the system, only one adapter is always selected.

C. Properties Area

The contents of this area are dependent on current wireless configuration. The current configuration is determined on previous explanation of submenu “Mode”. The more detailed contents are described in the following wireless configuration sections for both Station and AP mode.



D. Global Control Bar



Each control item on this bar affects the adapter or management GUI directly.

Show Tray Icon

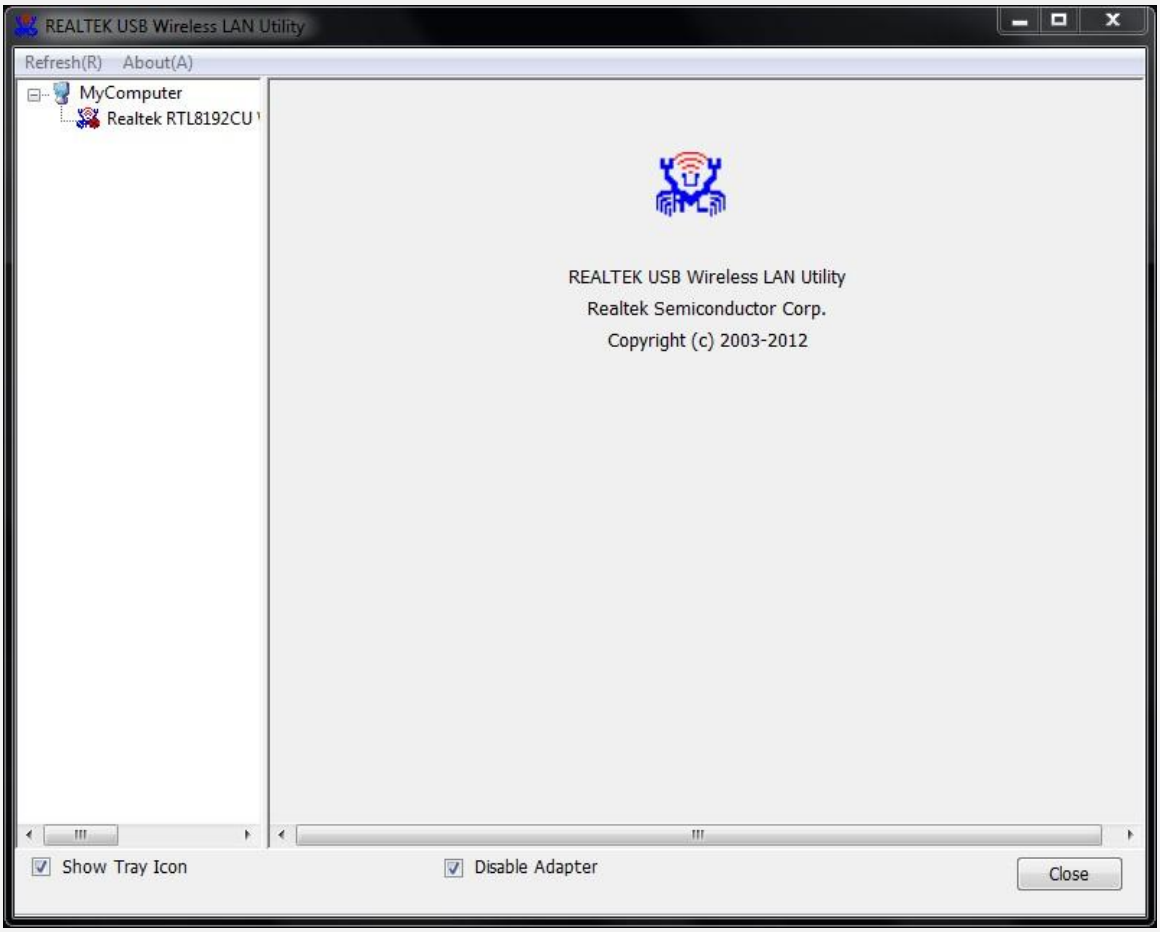
Checking "Show Tray Icon" and clicking “Close” button, the management GUI will be minimized and stay on the tray icon located at the right bottom corner of Windows. If not, management GUI will shut down while clicking "Close" button with unchecked condition.

Radio Off

Turn off the radio to save power. While the radio is off, the links with other wireless network nodes are disconnected. User should be aware that while the wireless configuration is in AP mode. The radio off will cause the sub network belonging to the AP to be disconnected with internet/intranet.

Disable Adapter

Stop wireless USB device.



Virtual WiFi allowed

Switch utility to virtual WiFi setting tool.

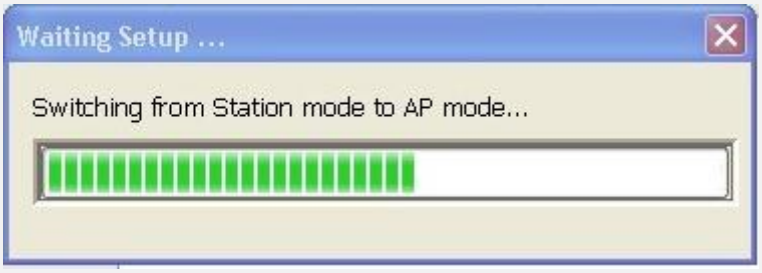
Close

Whether to check or uncheck "Show Tray Icon" is to shut down or hide the management GUI.

3.3. AP Mode

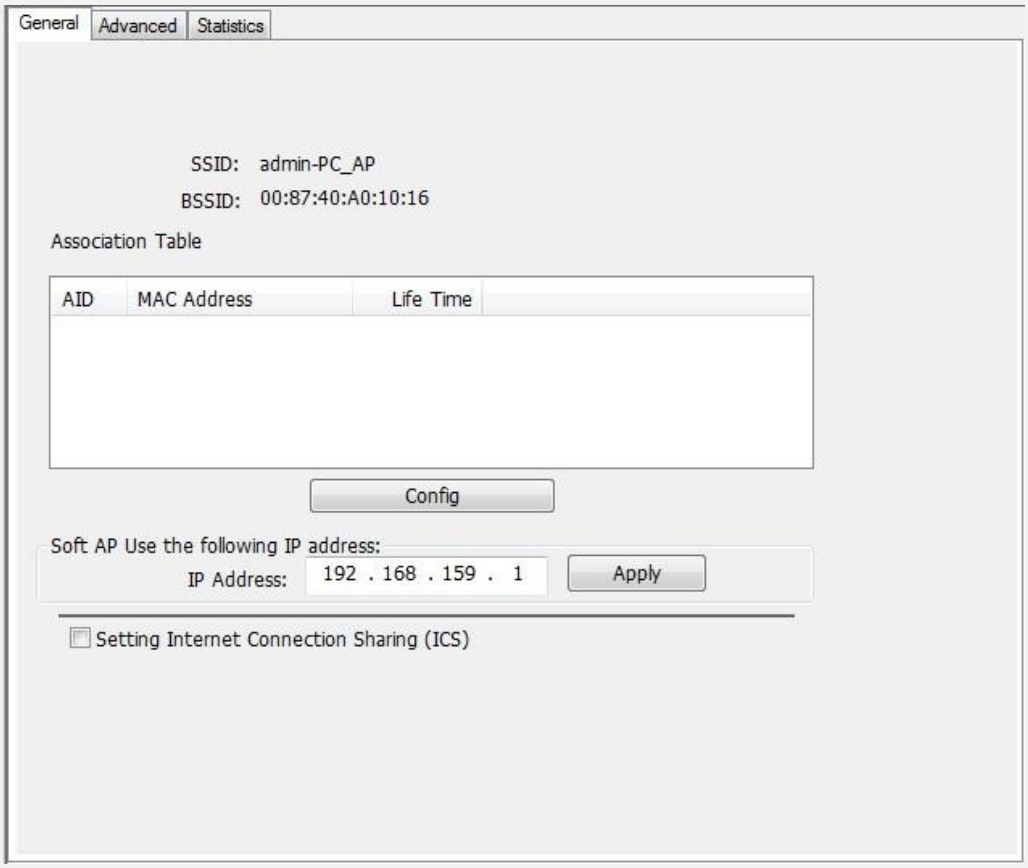
Click main menu **Mode(M)** and choose **"Access Point"** to switch AP mode.

You will see the following window.

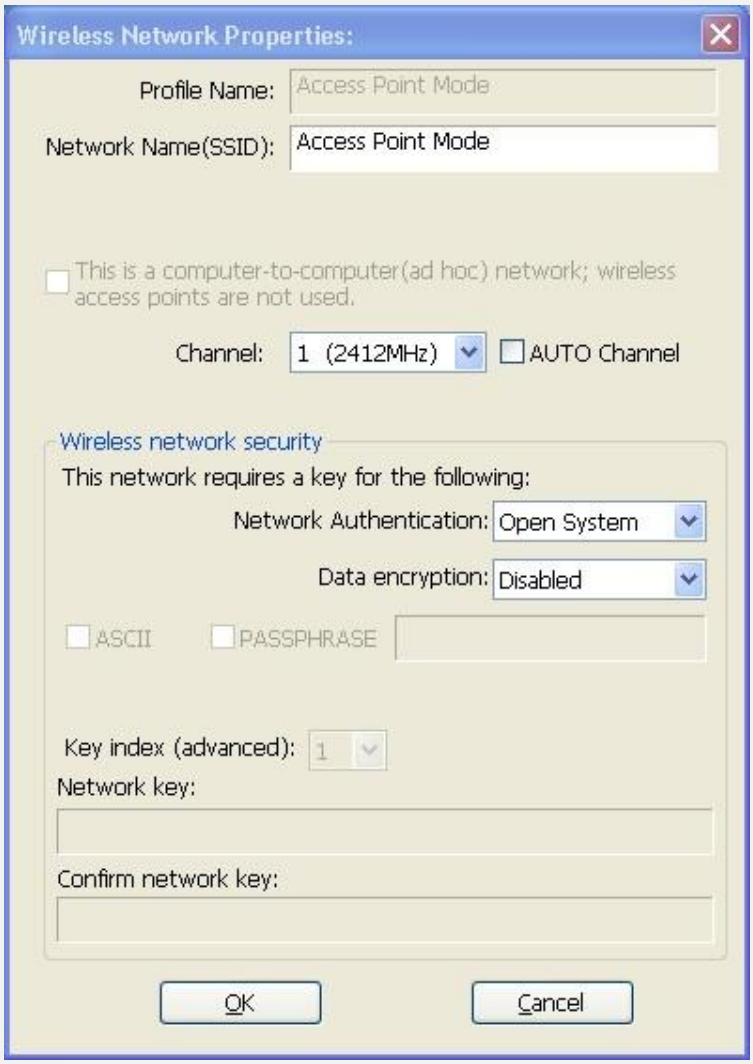


A. General Page

This page provides general information of this AP, including name, MAC address and list of joined stations.



1. SSID
The name of this AP.
2. BSSID
Six two-digital numbers of the MAC address of this AP.
3. Association Table
It is the list of joined stations to this AP.
4. AID (Association ID)
The AID field is a value assigned by an AP during association that represents 16-bit ID of a station. It is a unique value assigned by AP.
5. MAC Address
It is the six two-digit numbers that assemble the MAC address of respected joined station.
6. Life Time
It is the timer that counts down from 10 minutes whenever the AP connects the station successfully. If an STA associated to SW AP does not have any interaction with the AP in 10 minutes, it will be disassociated from the Infra-structure BSS.
7. Config
A dialog of this AP is shown for configuration modification



7.1. Network Name (SSID)

Name of the AP is searchable by other wireless Modes. The length of SSID should be shorter than 32 characters.

7.2. Channel

Select the wireless channel within current channel plan.

7.3. Network Authentication & Data Encryption

There are three types of authentication:

■ **Open System**

It is combined with data encryption type to be WEP or to be disabled.

Encryption ~ disabled: you decide to open this AP to every one without network authentication.

Encryption ~ WEP: you decide to setup the basic data encryption with a defined network key.

■ **Shared Key + WEP**

You decide to apply both authentication and data encryption to prevent unauthorized login.

■ **WPA-PSK + TKIP & WPA2-PSK + TKIP**

The most advanced authentication and data encryption that provide the best security protection.

7.4. ASCII/ PASSPHRASE

The most advanced authentication and data encryption that provide the best security protection.

■ ASCII: You should provide either 5 or 13 ASCII characters on Network key edit box.

■ PASSPHRASE: You could input words on Network Key edit box.

64 bits: The generated pass key is 64-bit to be complied with data packets.

128 bits: The generated pass key is 128-bit to be complied with data packets.

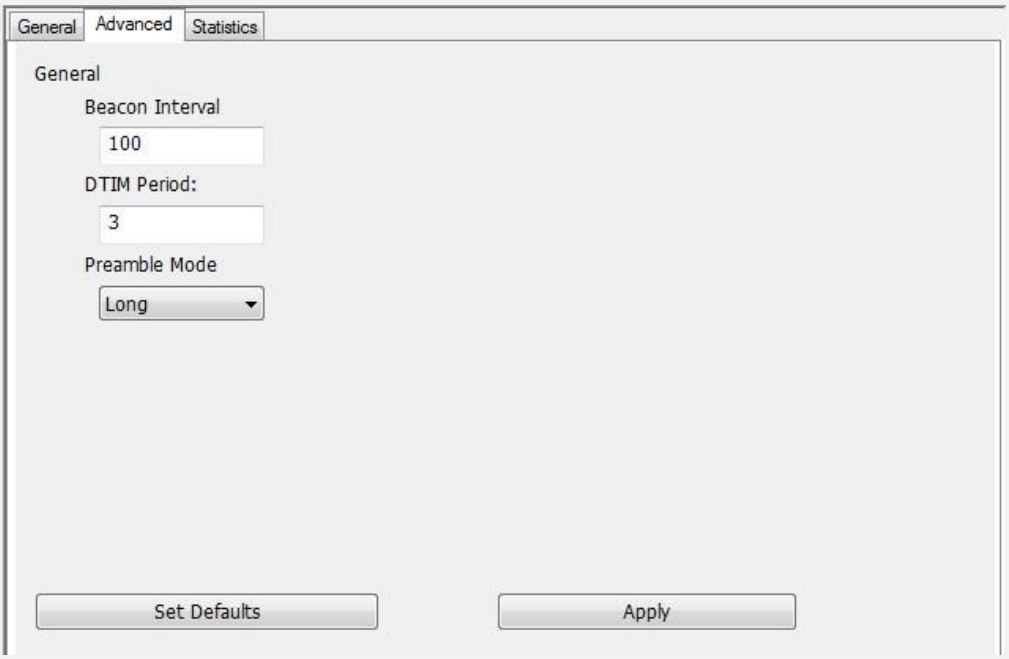
■ Hexadecimal: While both ASCII and PASSPHRASE are not checked, you should input hexadecimal number in the network key box. For example, 10 digits hex number for 64-bit WEP or 26 digits hex number for 128-bit WEP.

7.5. Key index (1 ~4)

At most four key index to represent the opposite network key.

B. Advanced Page

Users could setup the advanced characteristics of network packet for transmission on this page.



1. Beacon Interval

This filed indicates the interval between each beacon that this AP sends out in unit of TU (1024 micro-seconds).

2. DTIM Period

The DTIM Period field is the number of Beacon intervals between successive DTIMs.

3. Preamble Mode

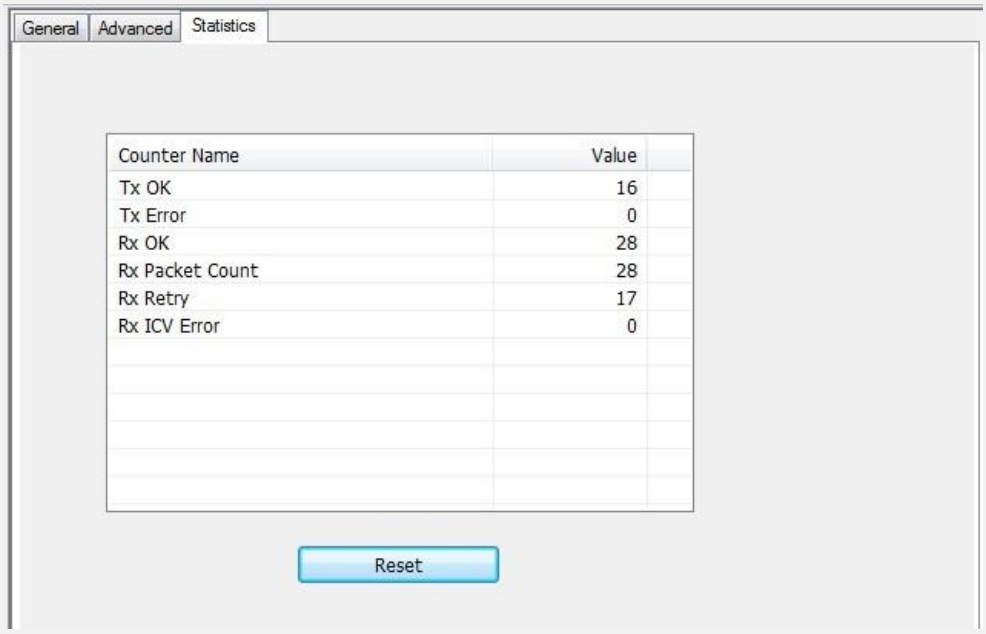
■ Long: higher quality but with lower performance than preamble short mode.

■ Short: Normal quality but with higher performance then preamble long mode.

■ Auto: select the proper preamble mode by current signal frame information.

C. Statistics Page

The Tx/Rx status of current wireless connection is shown. A statistics analysis of packet transition is listed.



FCC Statement

WIFI Receiver 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.

Caution: Any changes or modifications to this device not explicitly approved by manufacturer could void your authority to operate this equipment.

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

This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Specific Absorption Rate (SAR) information:

WIFI Receiver meets the government's requirements for exposure to radio waves. The guidelines are based on standards that were developed by independent scientific organizations through periodic and thorough evaluation of scientific studies. The standards include a substantial safety margin designed to assure the safety of all persons regardless of age or health. FCC RF Exposure Information and Statement the SAR limit of USA (FCC) is 1.6 W/kg averaged over one gram of tissue. Device types: WIFI Receiver has also been tested against this SAR limit.

This device was tested for typical body-worn operations with the back of the WIFI Receiver kept 0mm from the body. To maintain compliance with FCC RF exposure requirements, use accessories that maintain an 0mm separation distance between the user's body and the back of the WIFI Receiver. The use of belt clips, holsters and similar accessories should not contain metallic components in its assembly. The use of accessories that do not satisfy these requirements may not comply with FCC RF exposure requirements, and should be avoided.