User's Manual

Version 1.1

(**For REALTEK chipset**)

802.11b/g/n 150Mbps

Wifi USB Adapter

Index

1. Introduction....1
2. Package Contents....1
3. Warranty....2
4. Install the Driver and Utility....2
5. Connect to Wireless Access Point (AP)....3
5.1. Use Windows Zero Configuration (For Windows XP)....3
5.2. Connect to AP under Windows 7....4
5.3. Use the Wireless Configuration Utility....6
5.3.1. Utility Overview....6
5.3.1.1. General tab....7
5.3.1.2. Available Network tab....8
5.3.1.3. Profile tab....10
5.3.1.4. Status tab....10
5.3.1.5 Statistics tab....11
5.3.1.6 WiFi Protect Setup (WPS) tab....11
5.3.2. Software AP....12
5.3.2.1 General tab....12
5.3.2.2 Soft_AP Advanced tab....13
5.3.2.3 Soft_AP Statistics tab....14
5.3.2.4 Soft_AP ICS tab....14
6. Tips for Wi-Fi users....15
7. Warning....15
8. Security....16
9. Key terms....16
10. Specifications (Typical)....16
11 Disclaimer....17

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.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

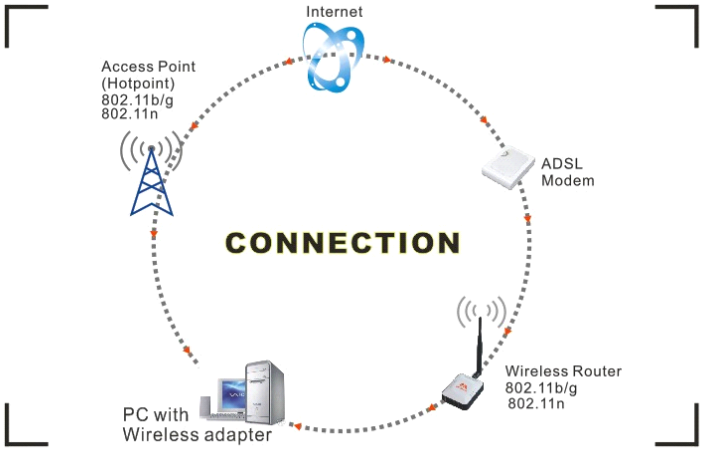
NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates and can radiate 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 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 technician for help.

1. Introduction

Thank you for purchasing the IEEE 802.11b/g/n Wireless USB Adapter. This wireless Adapter is easy to use and easy to setup. If you have been tired of dealing with all those messy wires to connect a laptop or PC to office or home network, this Wireless adapter is an ideal access solution for wireless Internet connection.

A typical Internet access application for the USB wireless adapter is shown as the following figure:



There are two different ways to access Internet:

1. With a wireless adapter, receiving and transferring signal via a wireless router, then passed to an ADSL modem, then to local ISP (Internet service supplier) through a telephone line.
2. With a wireless adapter, receiving and transferring signal via local AP (Access Point) or so called Hotpoint directly.

Tips: *An 802.11 LAN is based on a cellular architecture where the system is subdivided into cells, where each cell (called Basic Service Set or BSS) is controlled by a Base Station (called Access Point, or in short AP).*

The WLAN (Wireless Local Area Network) normally means the WiFi local network.

2. Package Contents

- One 150Mbps 1T1R 802.11n USB Wireless Adapter.
- Adapter Installation disc.
- User's Manual.
- Antenna (optional for some models)

3. Warranty

The warrants for the end user ("Customer") that this hardware product will be free from defects in workmanship and materials, under normal use and service, for twelve (12) months from the date of purchase from its authorized reseller. Information in this document is subject to change without prior notice.

4. Install the Driver and Utility

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

Note1: The following installation was operated under Windows XP (Procedures are similar for Windows Vista/ 7).

Note2: If you have installed the WLAN Adapter driver & utility before, please uninstall the old version first.

A. Insert the Installation CD to your CD-ROM Drive. Execute the "Setup.exe" program.

It is shown as follows.

B.. Click "Next" to go to the next step.

C. Click "Finish" to complete the software installation.

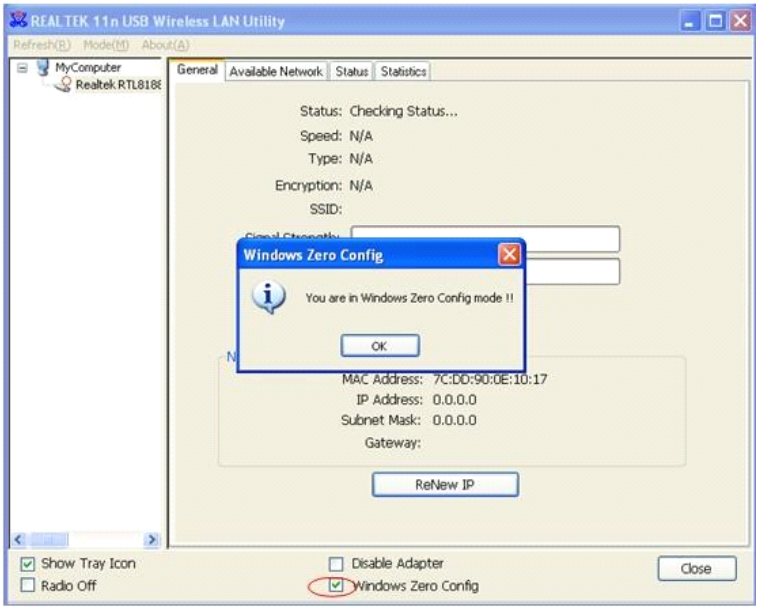
5. Connect to Wireless Access Point (AP)

After installation is completed, a **wireless configuration utility** will also be shown on the desktop automatically.

Insert the WLAN adapter into an USB port, an icon should be shown in the lower right corner of your computer screen. The following procedures show how to do some settings to connect a preferred network (to AP by its SSID).

5.1. Use Windows Zero Configuration (For Windows XP)

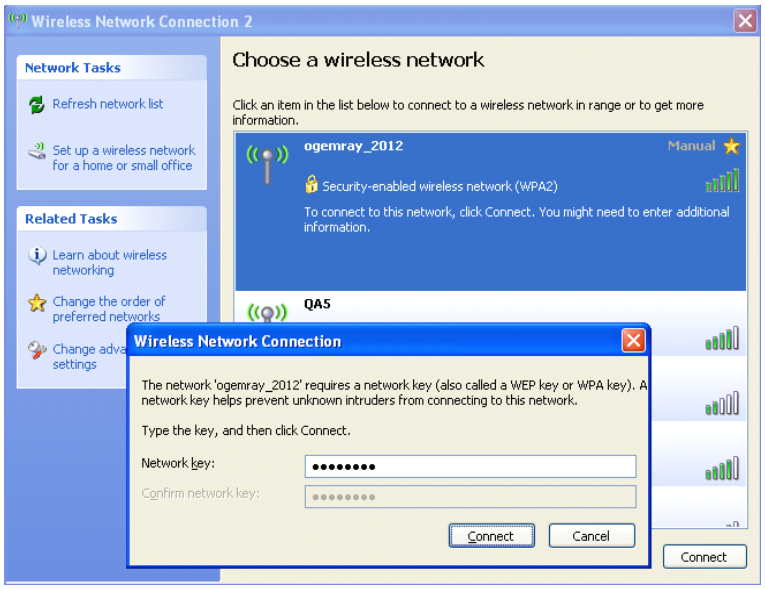
A. Left click the icon in the bottom-right corner so that the configuration utility can be launched .Select "Windows Zero Config", and then pops up a prompt dialog box.



B. Right click the icon (Wireless Network Connection) at the bottom-right corner on

your screen and then select "View Available Wireless Networks". A window pops up, and it lists all available network nearby your location. If you can't find a wanted network (by the SSID of the AP), please click the "Refresh network list" in the upper-left corner to see if it can be listed.

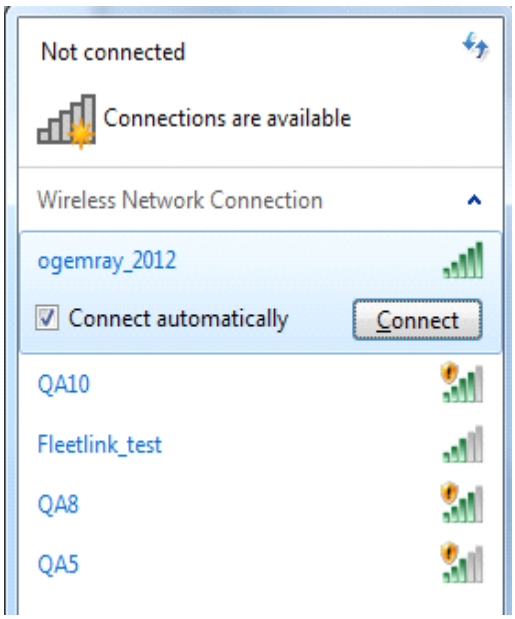
C. Double-click the wanted network (by it SSID), input the right Network key to the network and then click "Connect". After a while, you should be notified that your PC is wirelessly connected to the network.



5.2. Connect to AP under Windows 7

A. After the driver is installed, the icon of system tray appears, and left-click the icon , it should survey and list all the available networks nearby, the list looks like:

B. Click the preferred network by its SSID, then click "Connect".



C. If the network is encryption protected, you have to input its Security key here, and then click "OK" to connect to the network.

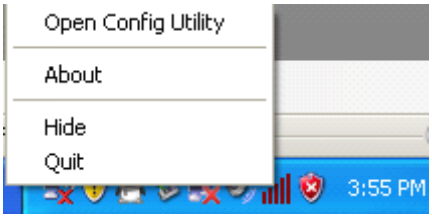
D. After a while, the system should show the connection information. The "Connected" means the network is accessible now.

5.3. Use the Wireless Configuration Utility

5.3.1. Utility Overview

The Configuration Utility is a powerful application that helps you to configure the WLAN Adapter, monitor the link status and the data statistics.

Right click the icon in the system tray, there are some items for you to operate the configuration utility.



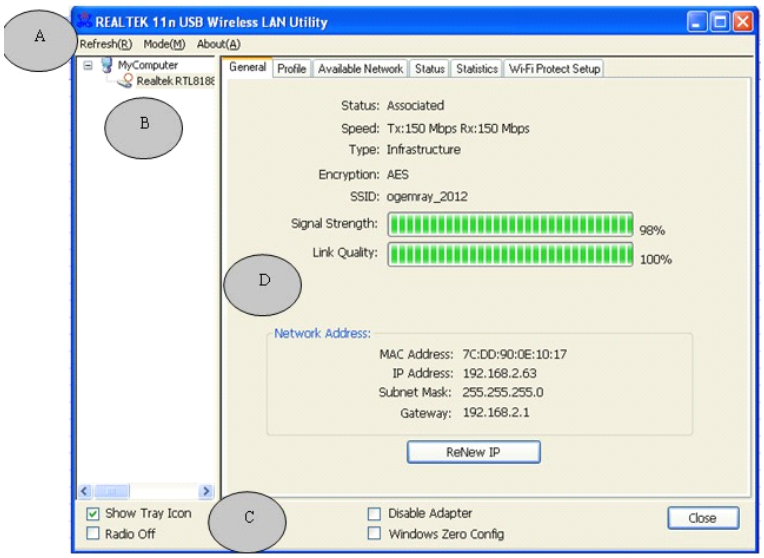
Open Config Utility : Open the configuration utility.

About : show the utility information.

Hide: Hide the utility in the system tray.

Quit: Quit the utility in the system tray.

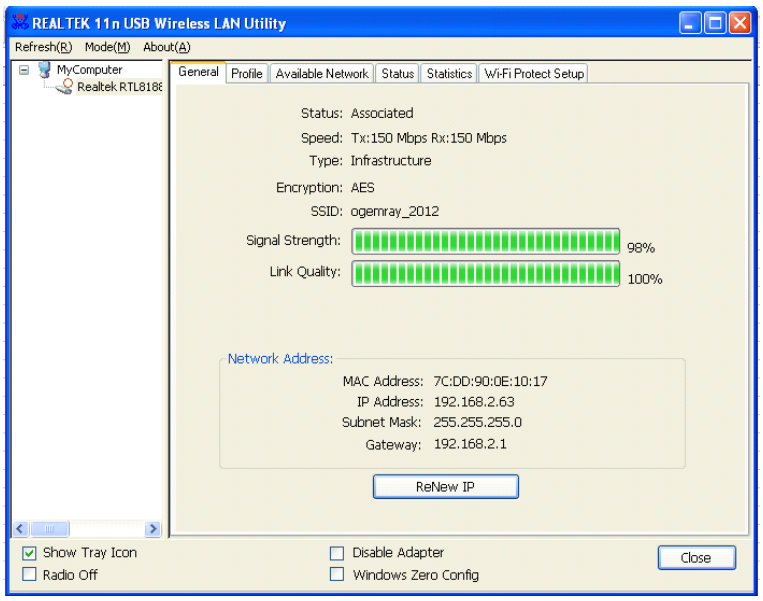
There are several parts in the utility window. Please refer to the following description table for more information.



Section	Description
A	**Refresh** – Refresh adapter list in the "B" block. **Mode** – There are two modes: Station and Access Point. If "Station" is selected, the adapter works as a wireless adapter. If "Access Point" is selected, the adapter will works as a wireless AP. **About** – To check the version of the utility, select this item.
B	This is a list for you to configure several adapters in your PC from the utility.
C	**Show Tray Icon** – To show the icon in the system tray, select the item. **Disable Adapter** –This function is for you to disable or enable the adapter. **Windows Zero Config** – To configure the adapter from Windows Zero Configuration, check the item. *Notes: For Windows 7, it shows "Virtual WiFi allowed" rather than "Windows Zero Config".* **Radio Off** – This function is for you to turn off or turn on the radio of the adapter. If the radio is turned off, the adapter will not work.
D	There are several tabs for you to setup the function of the adapter. Please refer to the description in the following sections.

5.3.1.1. General tab

Select "General" tab to check the connection status of the adapter. This screen shows the information of Link Speed, Network Type, Encryption Method, SSID, Signal Strength, Link Quality and Network Address of the adapter.

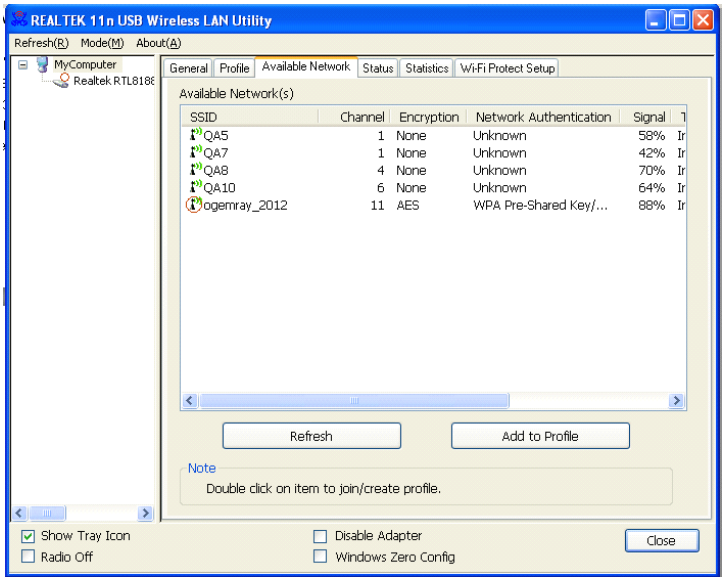


Parameter	Description
Status	It will show the connection status of the adapter.
Speed	It shows the current connected data rate.
Type	**Infrastructure** – This operation mode requires the presence of an 802.11 Access Point. All communication is done via the Access Point or Router. **IBSS** – Select this mode if you want to connect to other wireless stations in the Wireless LAN network without through an Access Point or Router.
Encryption	It displays the encryption setting of the current connection including None, WEP, TKIP or AES.
SSID	The SSID (up to 32 printable ASCII characters) is the unique name to identify an AP.
Signal Strength	It indicates the wireless signal strength.
Link Quality	It indicates the wireless link quality.
Network Address	It shows the MAC, IP address and other information of the adapter.

5.3.1.2. Available Network tab

Click on the "Available Network" tab. The configuration Utility should scan and list the surround WLAN networks (by SSID of AP). Then it will connect to any unencrypted network automatically.

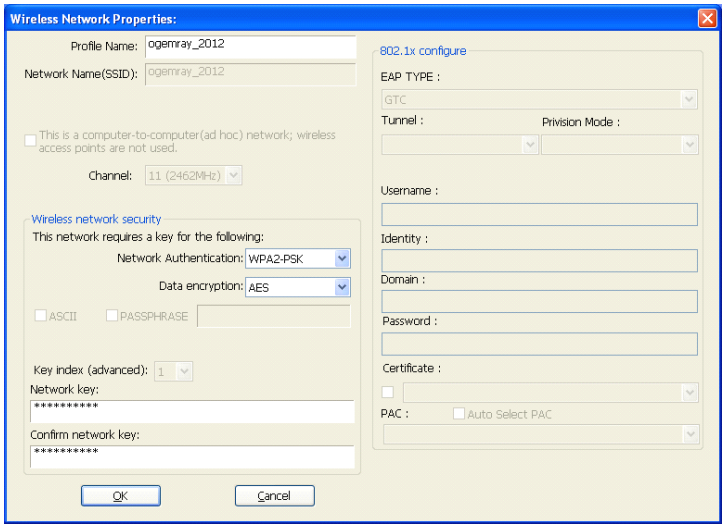
If you wish to connect to a specific AP, select the SSID of the AP and double-click it. If the AP you wish to connect is not displayed in the "Available Network" window, then please click 'Refresh'. You can also change the connection to another network.



Parameter	Description
Available Network(s)	This list shows all information of the available wireless networks within the range of your adapter. The information includes SSID, Channel, Encryption, Network Authentication, Signal and etc. If you want to connect to any network on the list, double-click the preferred network.
Refresh	Click "Refresh" to update the available networks list. It is recommended that you refresh the list for the latest information.
Add to Profile	A profile stores the settings of a network, so that you can connect to the network quickly. To add the selected network to a profile, click this button.

Tips: If the preferred AP is too far away from you PC or there are too many obstacles between the AP and your PC, or too much signal interference around your local area, the SSID of AP might not be listed because of its weak or poor signal received.

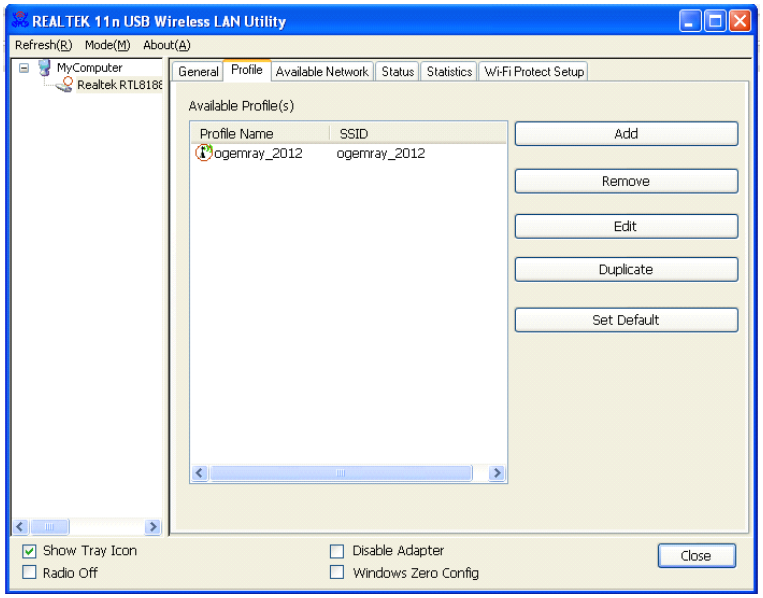
The system scans all the channels to find all the access points/stations within the accessible range of your adapter and automatically connect to the wireless network with the highest signal strength.



Double-click the wanted SSID,input the related security setting of the AP and click "OK" to start network connection.

5.3.1.3. Profile tab

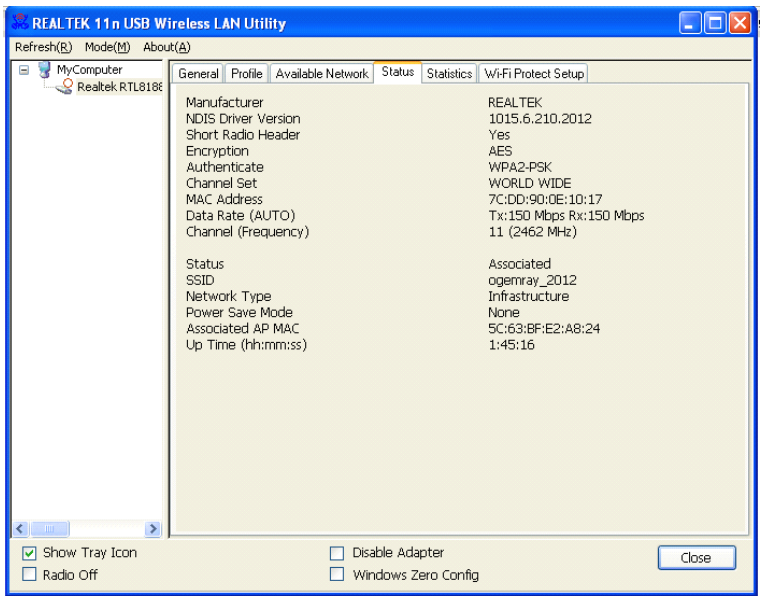
The "Profiles List" is for you to manage the networks you connect to frequently. You are able to Add/Remove/Edit/Duplicate/Set Default to manage a profile.



Parameter	Description
Available Profile(s)	This list shows the preferred networks for the wireless connection. You can add, remove, edit, duplicate the preferred networks or set one of the networks as the default connection.
Add/ Remove/ Edit Button	Click these buttons to add/ delete/ edit the selected profiles.
Duplicate	If you like to build up the new profile with the same settings as the current profile, then you can select this feature.
Set Default	To designate a profile as the default network for the connection from the available profiles list, click the button.

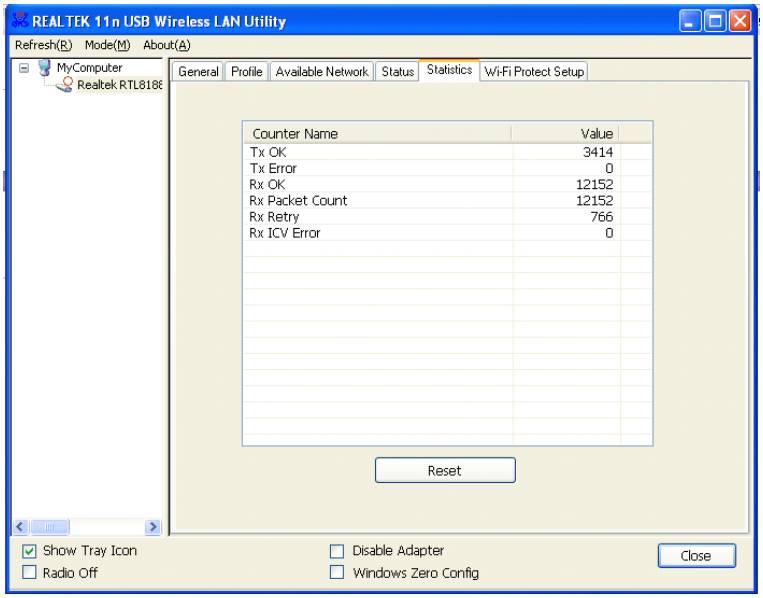
5.3.1.4. Status tab

This screen shows the information of manufacturer, driver version, settings of the wireless network the adapter is connecting to, linking time and link status. If you don't ensure the status of the adapter and the network you are connecting, please go to the screen for more details.



5.3.1.5 Statistics tab

You can get the real time information about the packet transmission and receiving status during wireless communication from the screen. If you want to recount the statistics value, please click "Reset".

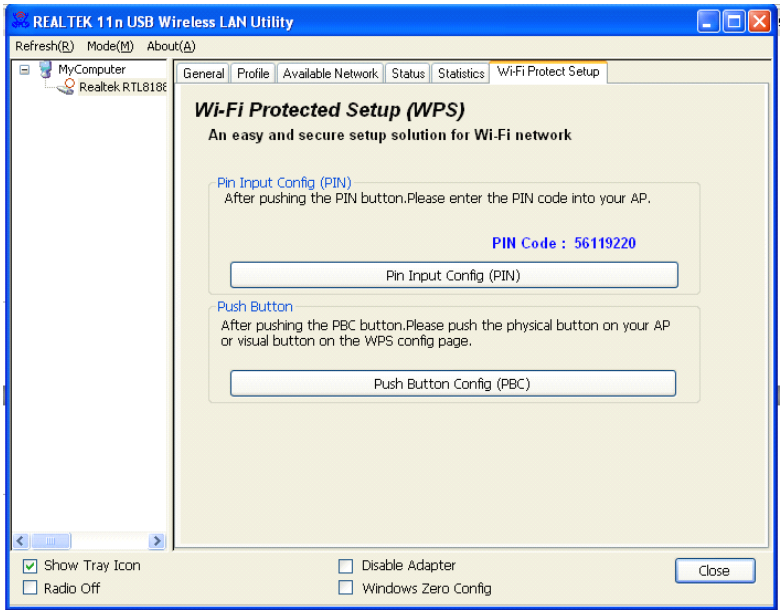


5.3.1.6 WiFi Protect Setup (WPS) tab

The adapter doesn't have a hardware WPS button to support WPS setup, but it supports software WPS setup.

Wi-Fi Protected Setup (WPS) is the latest wireless network technology which makes wireless network setup become very simple. If you have WPS-enabled router/AP, and you want to establish a secure connection to it, you don't need to complexly configure the encryption mode of the router/AP. The WPS setup page will let you easily and securely connect the adapter to a router/AP.

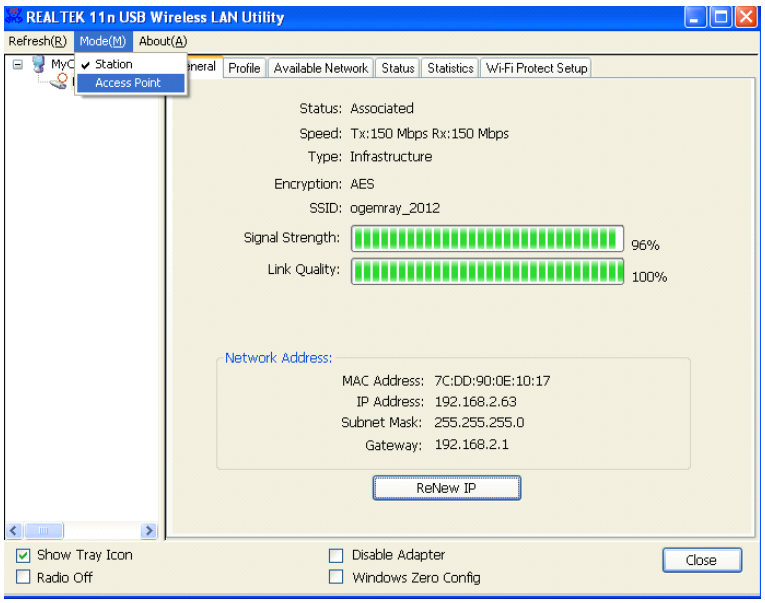
Click the PIN button, and then press a WPS button or enter a set of 8-digit code on the router/AP you wish to establish a secure connection.



Tips: For some router/AP, the WPS button might be named as QSS.

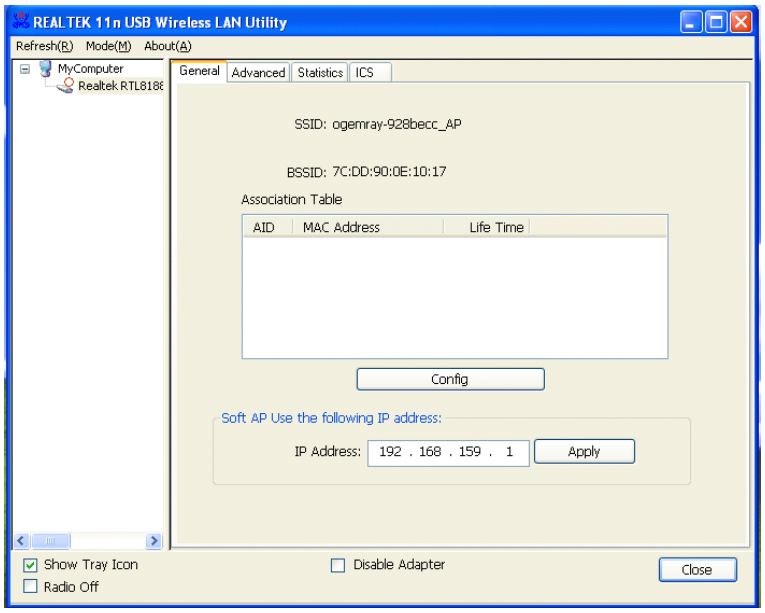
5.3.2. Software AP

The USB wireless adapter can run as a wireless AP. Open the USB Wireless LAN Utility, click on "Mode(M)" and select the option "Access Point". It needs to wait a while to switch the adapter from station mode to Software AP mode. There are several tabs for you to setup.



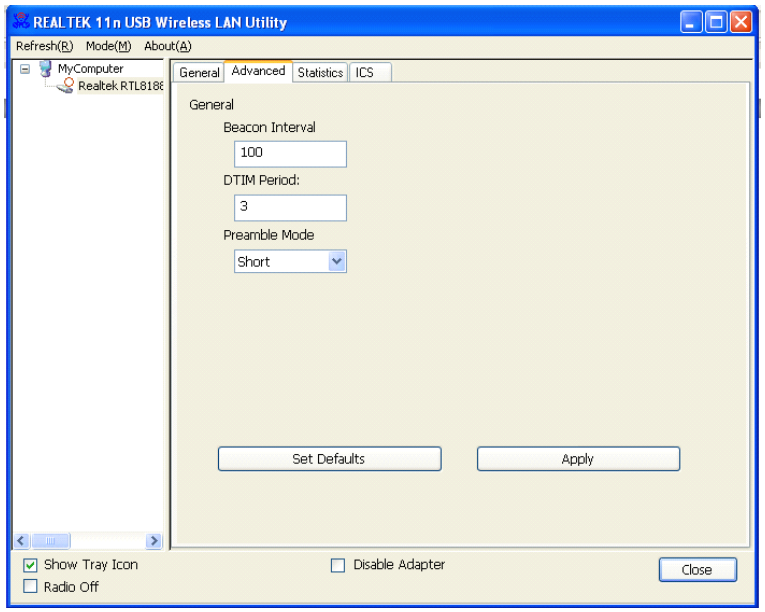
5.3.2.1 General tab

The "General" tab of the Soft_AP including SSID, config and so on are described as follows.



Parameter	Description
SSID	The SSID (up to 32 printable ASCII characters) is the unique name to identify an AP. The default SSID of the AP is full computer name plus "AP". Wireless adapters connect to the AP should set up the same SSID as the AP.
BSSID	Display the MAC address of the adapter.
Association Table	All the wireless adapters connected to the software AP will be displayed in the list.
Config	Click "Config" for setting more configuration of the AP.

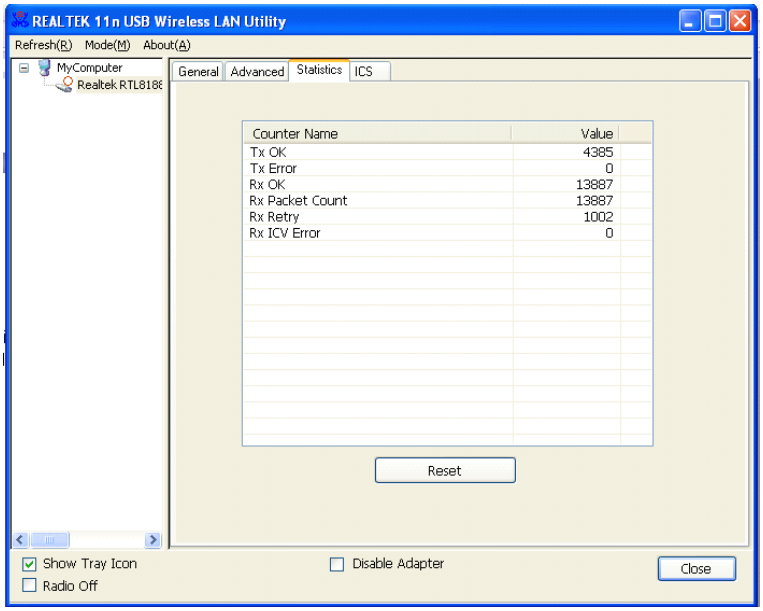
5.3.2.2 Soft_AP Advanced tab



Parameter	Description
Beacon Interval	Beacon Interval specifies the duration between beacon packets (milliseconds). The range for the beacon period is between 20-1000 milliseconds with a typical value of 100.
DTIM Period	Determines the interval that the Access Point will send its broadcast traffic. Default value is 3 beacons.
Preamble Mode	The preamble defines the length of the CRC block for communication among the wireless stations. There are two mode including Long and Short. High network traffic areas should use the shorter preamble type
Set Defaults	Set the setting values to defaults.
Apply	Confirm the settings in the "Advanced".

5.3.2.3 Soft_AP Statistics tab

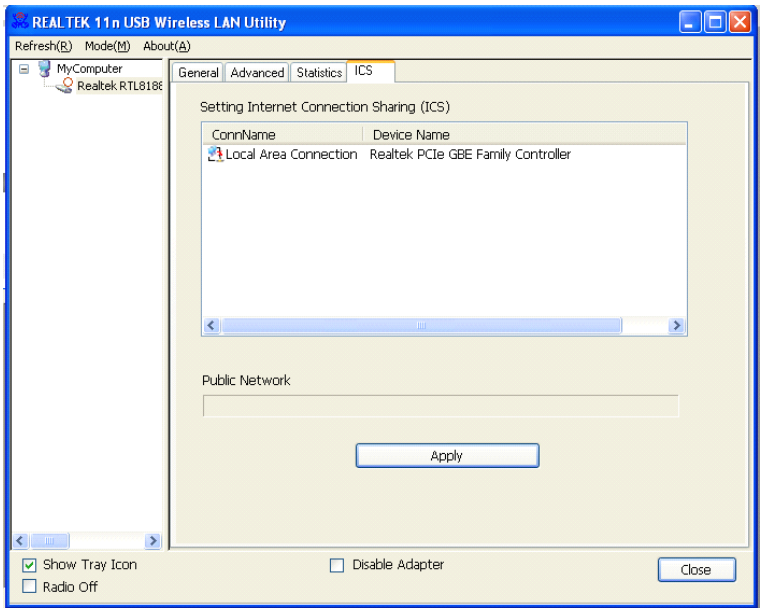
You can get the real time information about the packet transmission and receiving status during wireless communication from the screen. If you want to recount the statistics value, please click "Reset".



5.3.2.4 Soft_AP ICS tab

Internet Connection Sharing (ICS) is the use of the 3G cellular service, broadband with Internet access broadband via Ethernet, or other Internet gateway as an access point for other devices. It was implemented by Microsoft as a feature of its Windows operating system, for sharing a single Internet connection on one computer between other computers on the same local area network.

If you want to connect to the internet through this Soft_AP, you will need to make a bridge between our Soft_AP and your internet connection. Select the internet connection and press the "Apply" button.



Then your internet connection is internally shared with the Soft_AP. Other devices can be connected to the access point (by its SSID assigned) and then access to internet.

6. Tips for Wi-Fi users

With a Wi-Fi connection, you can roam about 150m around the access point (depends on different environment), so find a spot where you can work without any interruption. Then see how much work you can do, such as:

Easily and quickly receive and transmit files within your local network — no problem for big files.

Access your email and surf the web with the same speed as that connected with network cables.

Synchronize data between devices.

Take advantage of wireless printing — send files directly from your laptop PC to a wireless printer over Wi-Fi connection.

7. Warning

Wi-Fi offers greater speed and range than Bluetooth, but it drains your portable device batteries a lot faster than Bluetooth does. In fact, if you use a Wi-Fi connection regularly on your laptop PC, you'll undoubtedly notice that you need to recharge more often. If you need to conserve battery life — on a long trip for example — turn off your Wi-Fi connection when you don't actually need it.

8. Security

Because wireless networks rely on radio signals to transmit data, they are not as secure as wire network. Wireless networks are susceptible to viruses and breaches like eavesdropping and need to be protected in order to be secure.

There are many security measures to safeguard wireless networks, protect the data, and keep unauthorized users out. Hotspots, on the other hand, are often free of standard security practices in an effort to make it easy for anyone to connect. It may be found that some pay hotspots administered by service providers offer have some level of security, however, when using a hotspot, it's always a good idea to be proactive and to employ security measures of your own.

9. Key terms

Wi-Fi: short for "wireless fidelity", a generic label that refers to wireless networks or networking.

Hotspot: a specific geographic location in which an access point provides public wireless broadband network services to mobile visitors through a WLAN.

Throughput: the amount of data transmitted in a set amount of time.

Bandwidth: the amount of data that can be carried from one point to another in a given time period (usually a second).

Chipset: a group of microchips that execute various functions (like memory) to support the CPU.

10. Specifications (Typical)

Protocol and Standards	IEEE 802.11b/g or 802.11n
Interface	USB1.1, USB2.0
Frequency Band	2.412~2.4835GHz (Depends on different countries' regulation)
Data Rate	802.11b: 1,2,5.5,11Mbps 802.11g: 6,9,12,18,24,36,48,54Mbps
	802.11n (20MHz)MCS0-7,up to 72.2Mbps (40MHz)MCS0-7,up to 150Mbps

Receive Sensitivity (Onboard Value)	802.11b: -86+/-1dBm
	802.11g: -74+/-1dBm
	802.11n (HT20), -70+/-1dBm
	802.11n (HT40), -67+/-1dBm
Data Security	WEP 64/128 , WPA, WPA2, WAPI, QoS(802.11e and WMM)
Power Consumption	140+/-5mA @802.11g,54Mbps 185+/-5mA @802.11b,11Mbps
Transmission Distance	Indoor up to 100m, outdoor up to 300m (Standard transmission distance, it is affected depending on different environment)
Environment	Operating Temperature: -10~60°C Storage Temperature: -20~80°C Operating Humidity: 95% non-condensing Storage Humidity: 95% non-condensing
Operating System	It supports: Windows XP/Vista/7; Mac OS X; Linux

11 Disclaimer

THESE MATERIALS AND INFORMATION ARE PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED , INCLUDING BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT.

We use reasonable efforts to include accurate and up-to-date information on this document; it does not, however, make any representations as to its accuracy or completeness of the information, text, graphics, links or other items contained within these materials. Your use of this Document is at your own risk.Its suppliers, and other parties involved in creating and delivering this Document's contents shall not be liable for any special, indirect, incidental, or consequential damages, including without limitation, lost revenues or lost profits.

FCC Warning

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.

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