

Long-Range 500mW

IEEE 802.11g Wireless USB Adapter

User's Guide

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Overview

Thank you for purchasing this product. Read this chapter to know about your IEEE 802.11g High-Power Wireless USB Adapter.

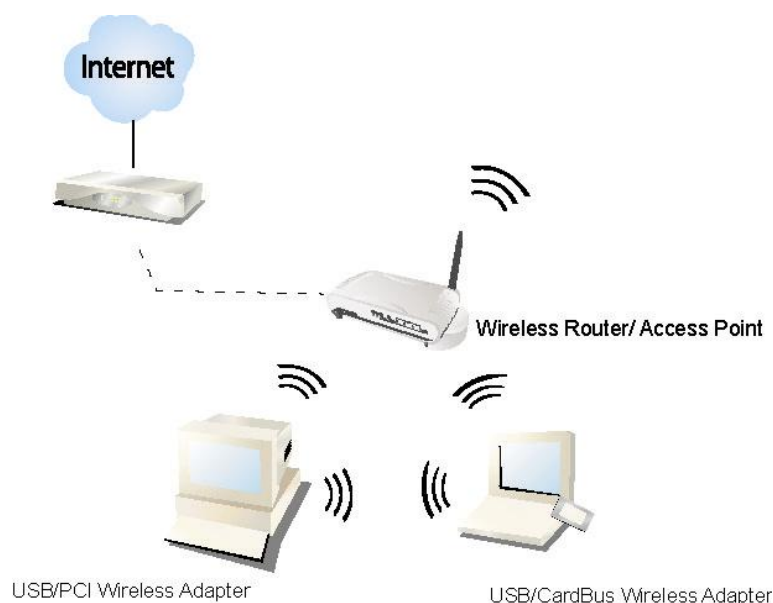
Unpacking information

Before getting started, please verify that your package includes the following items:

1. IEEE 802.11g High-Power Wireless USB Adapter
2. One USB Y Cable
3. One Utility/ Manual CD
4. One 2dBi antenna

Introduction to the IEEE 802.11g High-Power USB Adapter

The IEEE 802.11g High-Power USB adapter provides users to launch IEEE 802.11g wireless network at 54 Mbps in the 2.4GHz frequency, which is also compatible with IEEE 802.11b wireless devices at 11Mbps. You can configure this adapter with ad-hoc mode to connect to other 2.4GHz wireless computers or with Infrastructure mode to connect to a wireless AP or router for accessing to Internet. This adapter includes a convenient Utility for scanning available networks and saving preferred networks that users usually connected with. Security encryption can also be configured by this utility.



Key Features

-
- | | |
|--|--|
| • Complies with IEEE 802.11b/g wireless standard | • Support driver for Windows 98se, Me, 2000 and XP. |
| • Complies with Universal Serial Bus Rev. 1.0, 1.1 and 2.0 specifications. | • Supports auto-installation and diagnostic utilities. |
| • High Speed transfer data rate up to 54 Mbps | • Support wireless data encryption with 64/128-bit WEP, WPA (TKIP with IEEE 802.1x) and AES functions. |
| • Support turbo mode for 72 Mbps data rate | |
| • | |
-

Installation Guide

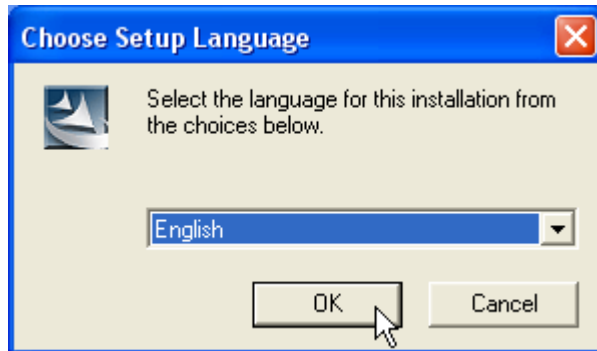
Software Installation

Note: The following driver installation guide uses Windows XP as the presumed operation system. The procedures and screens in Windows 98se, 2000 are familiar with Windows XP.

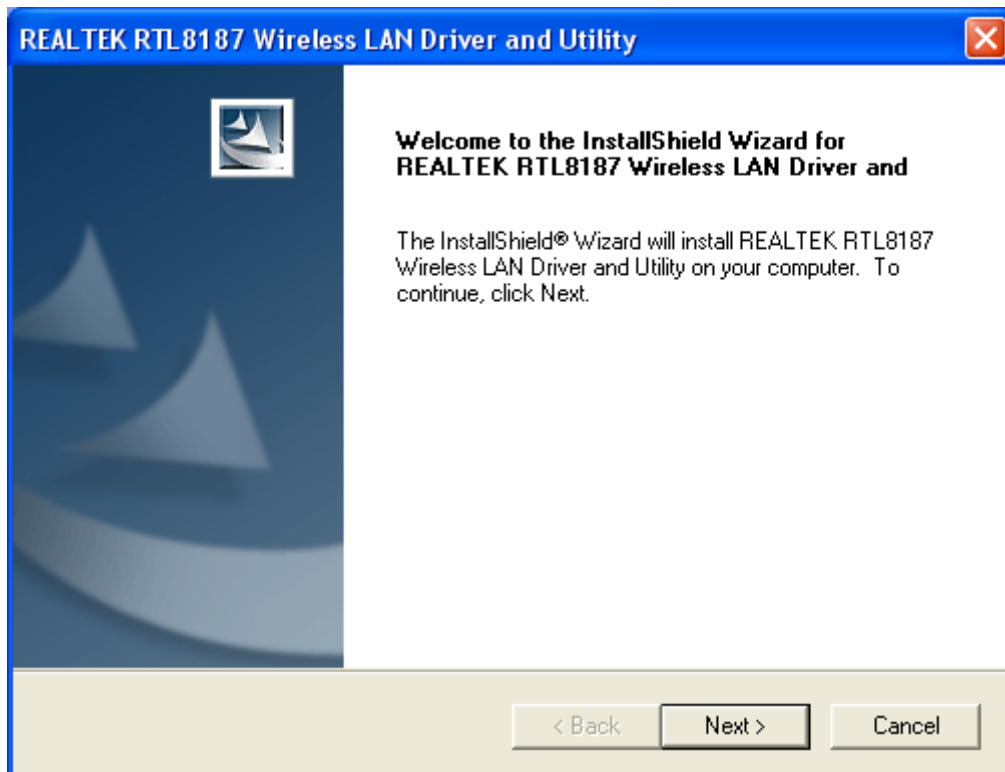
Insert the CD-Rom that came with this product to your CD-Rom drive. The menu window pops up automatically. Please click the **"Driver"** button of this product.

Note: If the CD-Rom fails to auto-run, please click on **"My Computer"**→ **your CD-Rom Drive** then double-click the **"Setup"** icon to start the this menu.

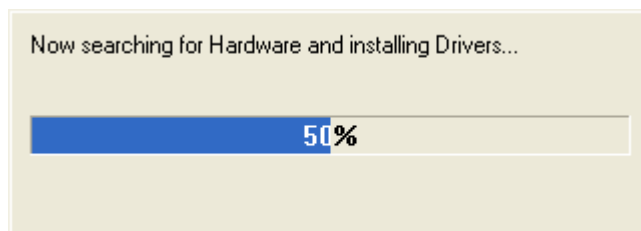
1. The language-selecting window pops up. Please select the language you use and click **OK**.



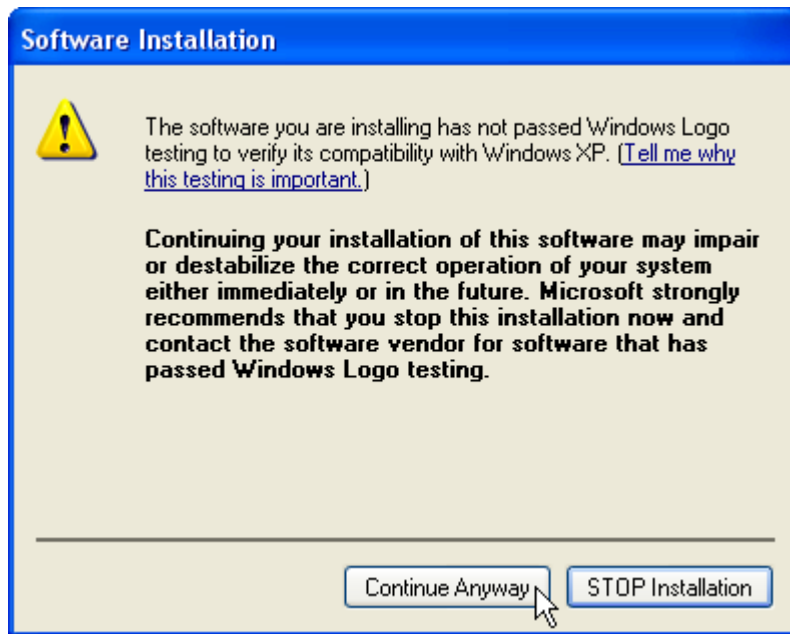
2. The welcome window pops up. Click the **"Next"** button to proceed.



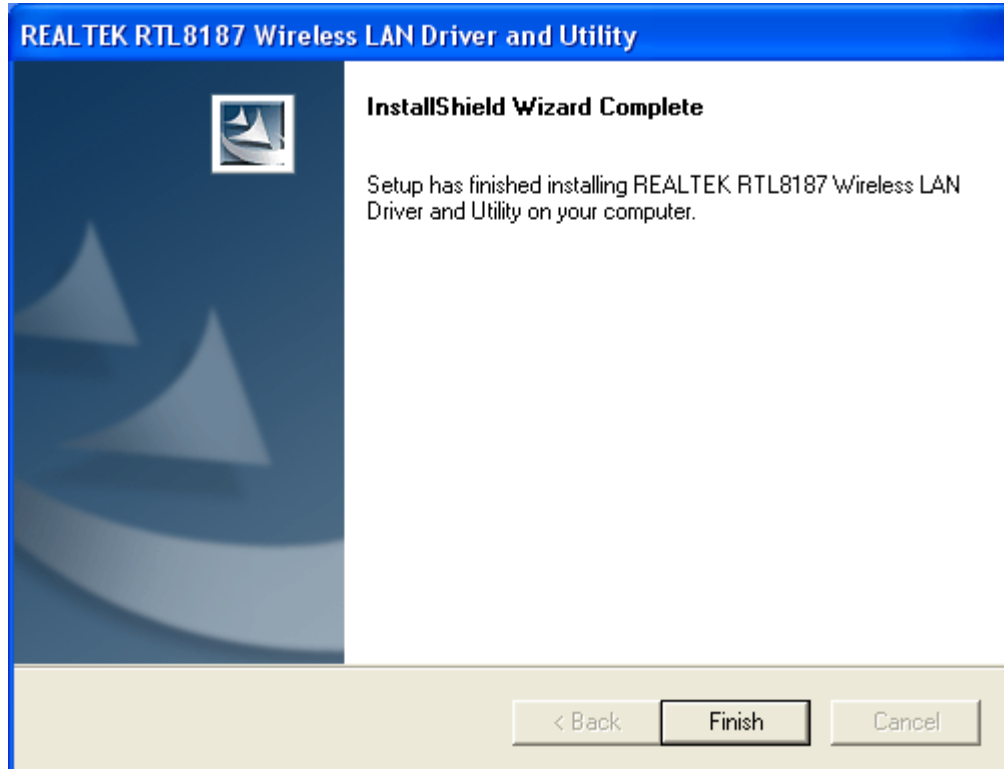
3. Please wait while installation.



4. This Windows Logo testing warning window may pop up upon installation. Please click the **"Continue Anyway"** to continue.



5. If you are using Windows 98se or ME, the system may ask for the driver CD. Please click the Browse button. Select your CD-ROM Drive then select **USB → Driver → Win98 (or WINME)** to browse the driver. If not, please skip this step.
6. Click the **"Finish"** button to complete driver and utility installation.



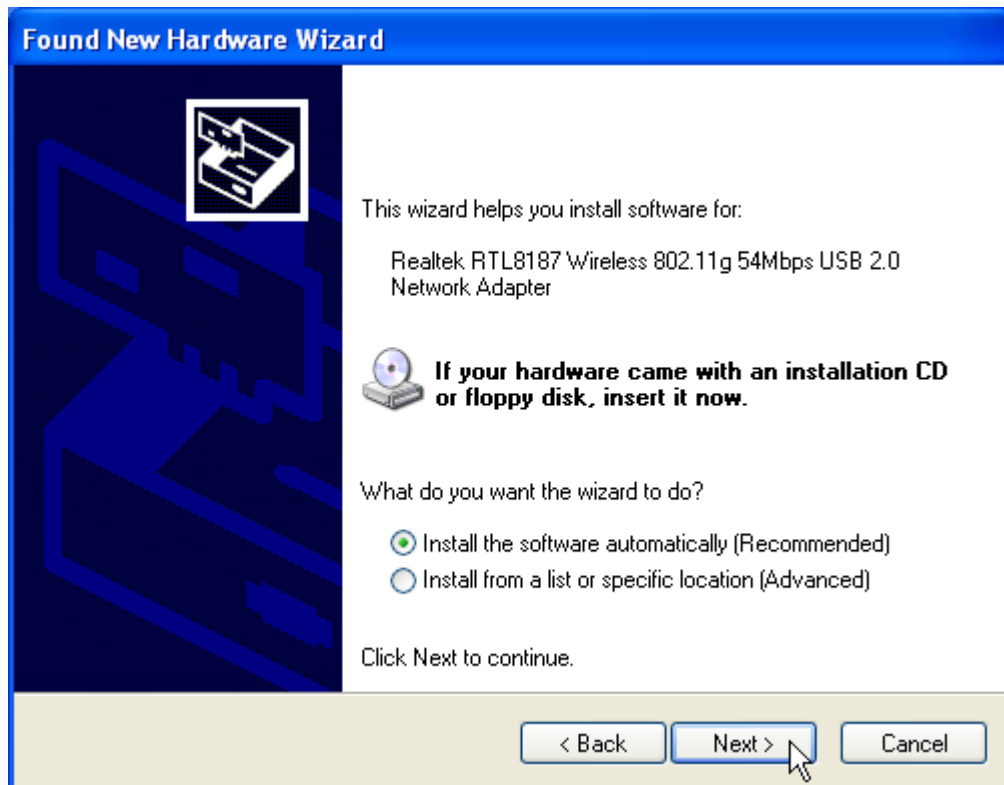
7. For Windows XP and 2000 users, please insert this USB wireless adapter to your

computer. If you are using Windows 98se or ME, please restart the system first before connect this wireless adapter to your computer.

8. The **"Found New Hardware Wizard"** pops up. (**Note:** This wizard won't pop up in Windows 98 and ME. The system finds the new hardware and installs the hardware automatically. Please skip the following steps)
9. Select **"No, not this time"** and click the **"Next"** button.



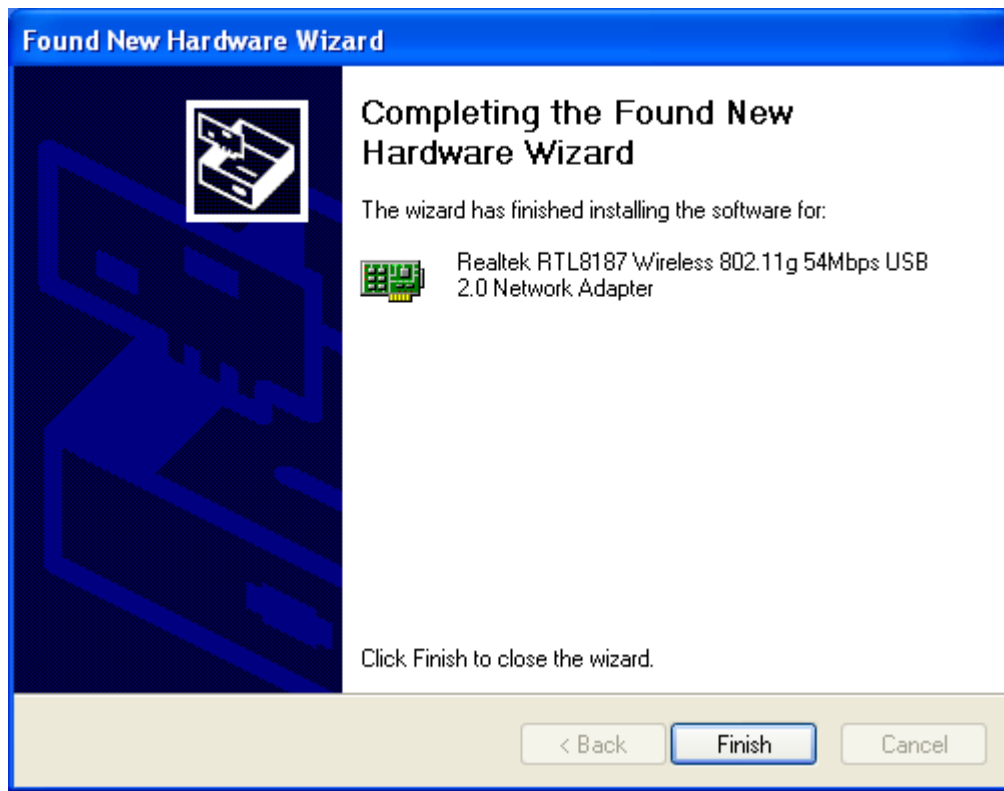
10. Select **"Install the software automatically"** and then click the **"Next"** button.



11. Please wait while installing the driver. The Windows logo testing warning window may pop up again. Please click the **"Continue Anyway"** button to continue.



12. Click the **"Finish"** button to complete installation.



Management Guide

Read this chapter to understand the management interface of the device and how to manage the device.

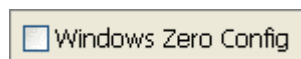
Making a Basic Network Connection

Before You Start

In the following instruction for making a network connection, we use the utility we provided to configure your wireless network settings.

Note: For Windows XP users that want to configure your wireless network using this Utility, please perform the following procedures to disable your native Windows XP wireless support (Wireless Zero Configuration Service)

1. Double click the  icon on your desktop to start the utility.
2. Make sure that the **"Windows Zero Config"** checkbox is unchecked.



Ad-Hoc Mode

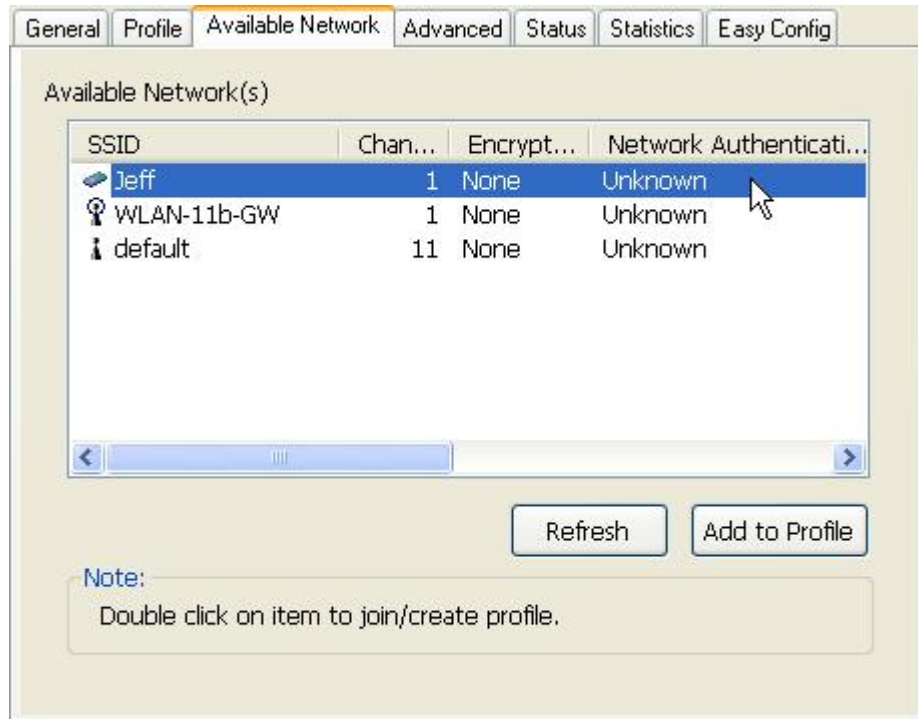
An Ad-Hoc mode wireless network connects two computers directly without the use of a router or AP. It is also known as a peer-to-peer network. For example, we can install this wireless adapter to two computers respectively. The communication between the two computers is an Ad-Hoc mode network.



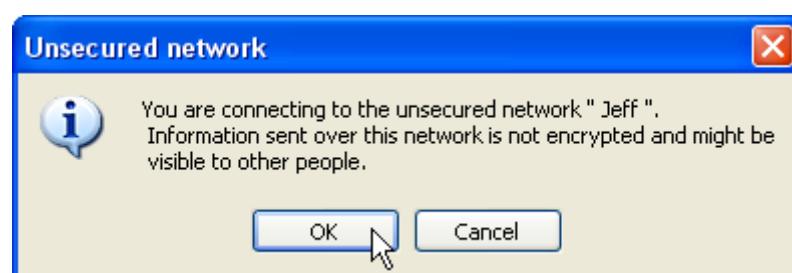
Ad-Hoc Mode

To use this adapter in Ad-Hoc Mode

1. Double click the  icon on your desktop.
2. Click the **"Available Network"** button to scan available wireless network adapters. Double click on the network adapter that you are going to connect to.



3. Click the OK button to confirm that you are connecting to an open wireless network.



4. Click OK to add this network into the profile list.

Note: This example is an open wireless network. If you are going to connect to a Wireless adapter with security protection, you will have to configure the encryption settings in this profile to be corresponding to the other wireless adapter. Please click on the **"Network Authentication"** drop list to select an authentication method, and then select a **"Data encryption"** type. Fill in each required blanks and click **"OK"**.

Wireless network properties

Profile Name:

Network Name(SSID):

☒ This is a computer-to-computer(ad hoc) network; wireless access points are not used. Channel:

Wireless network security

This network requires a key for the following:

Network Authentication:

Data encryption:

☐ ASCII ☐ Passphrase

Key Length:

Network key:

Confirm network key:

Key index (advanced):

802.1x configure

EAP TYPE:

Tunnel:

Username:

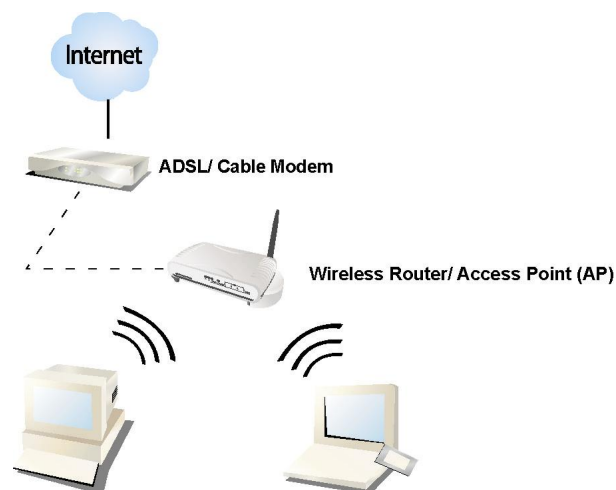
Identity:

Password:

Certificate: ☐

Infrastructure mode

An Infrastructure Mode network contains at least one wireless client and one wireless AP or router. This client connects to Internet or intranet by communicating with this wireless AP.

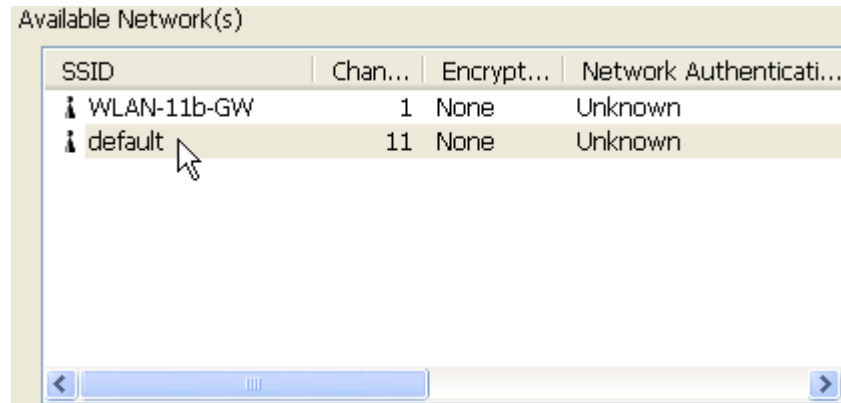


Infrastructure Mode

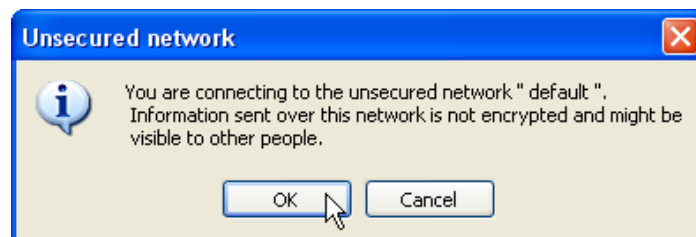
To use this adapter in Infrastructure Mode:



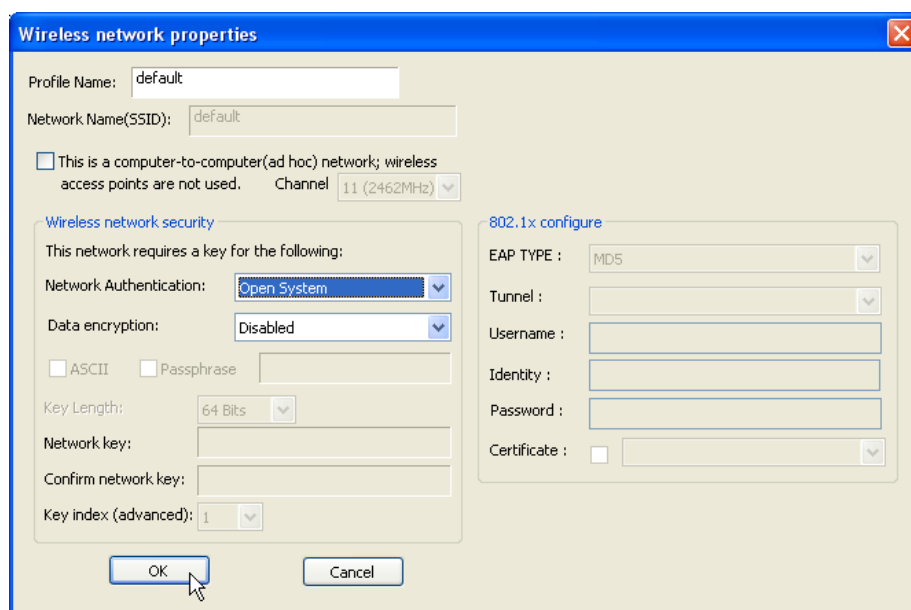
1. Double click the  icon on your desktop.
2. Click the **"Available Network"** button to scan available access points. Double click on the AP that you are going to connect to.



3. Click the OK button to confirm that you are connecting to an open wireless network.



4. Click **OK** to add this network into the profile list.



Note:

This example is an open wireless network. If you are going to connect to an AP with security protection, you will have to configure the encryption settings in this profile to be corresponding to your AP. Please click on the **"Network Authentication"** drop list to select an authentication method, and then select a **"Data encryption"** type. Fill in each required blanks and click **"OK"**.

Tip: Windows XP and Windows 2000 users is also allowed to connect to your wireless network with the "RT-Set" setup wizard. Please refer to **"Appendix"** for more information.

Introduction to the Wireless LAN Utility

Note: This management instruction uses Windows XP as the presumed operation system. Some functions are not supported in Windows 98se or Windows ME.

Starting the Wireless LAN Utility

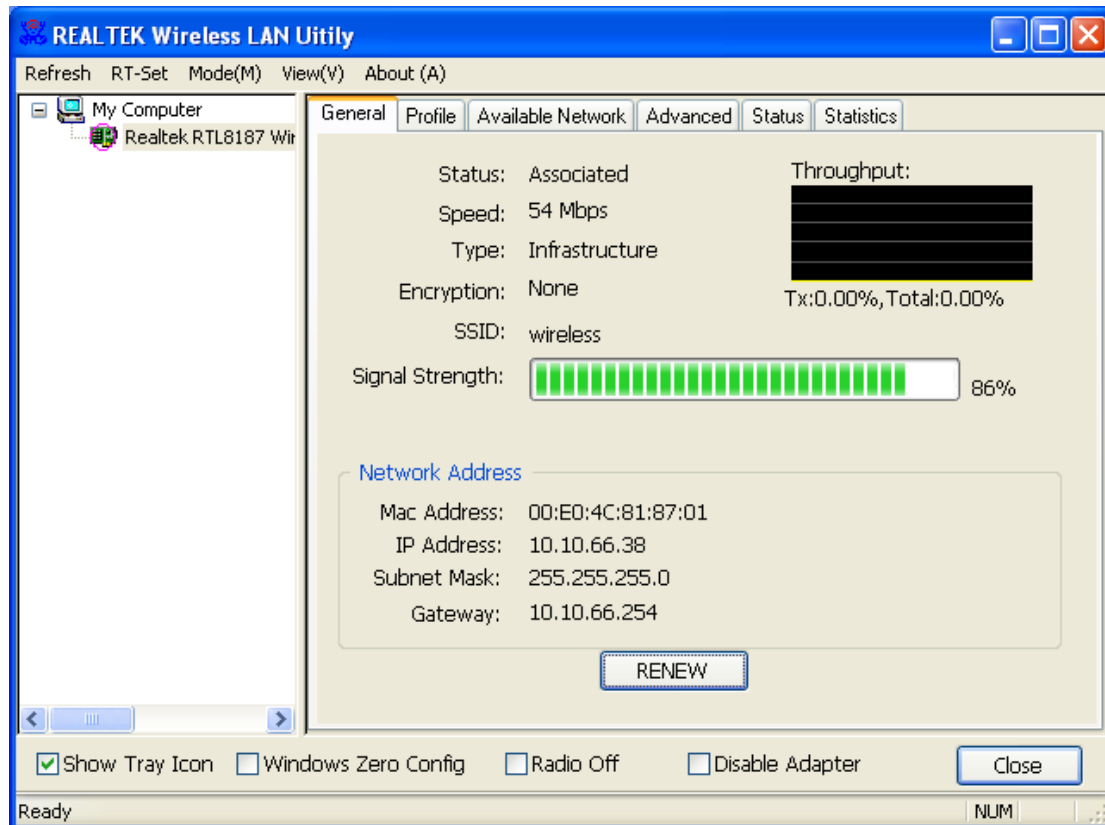


Double click the  shortcut on your desktop. The Wireless LAN Utility pops up. You may click on the tabs above to configure this adapter. The checkboxes below provide the following functions:

Show Tray Icon	Check this checkbox to show the utility icon on your system tray, which is in the notification area at the lower-right corner of the windows desktop. You may also uncheck it to remove the utility icon from system tray.
Windows Zero Config	Uncheck this checkbox to use native Windows XP wireless support (Wireless Zero Configuration Service) instead of using this utility to configure your wireless network.
Radio Off	Check this checkbox to prevent this adapter form transmitting or receiving signals. Uncheck it to communicate.
Disable Adapter	Check this checkbox to disable this wireless adapter. Uncheck it to enable this adapter again.

General

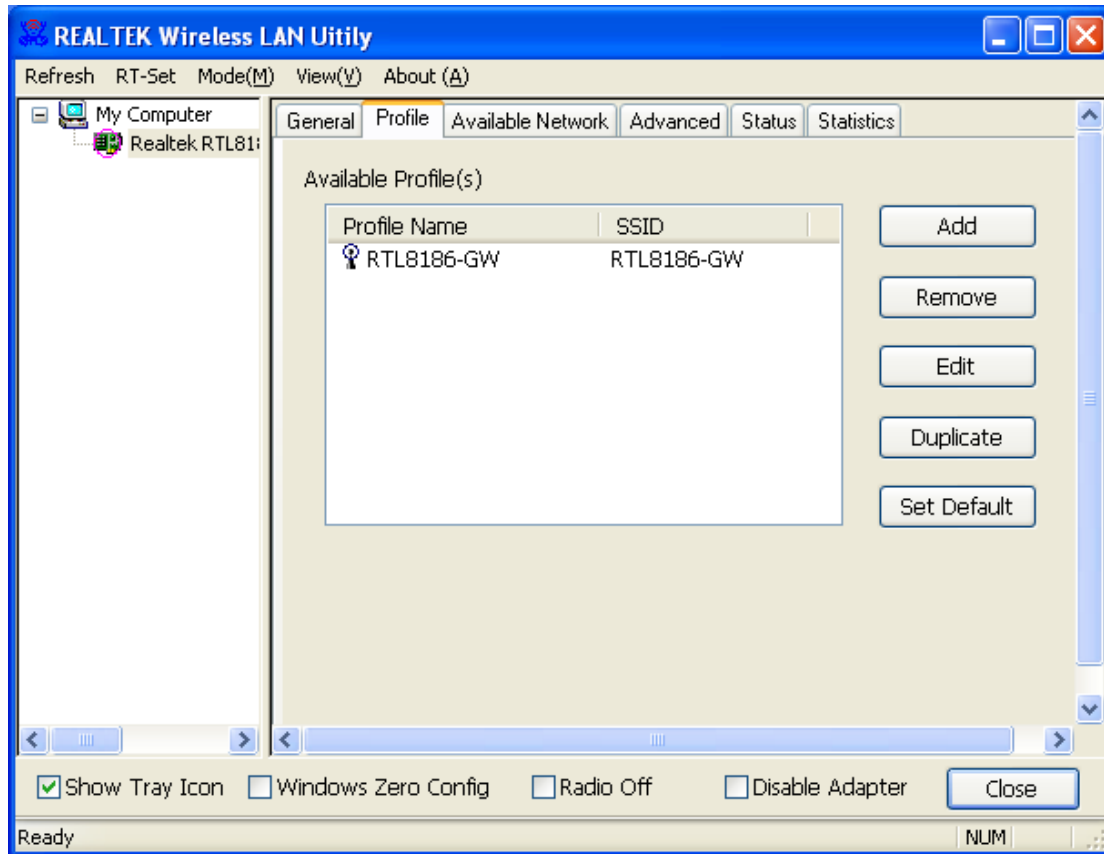
After starting the utility, the general page pops up. This **General** tab provides the information of your current wireless network connection. You may click the **Renew** button to refresh those listed information.



Status:	Check if the device associated to target network.
Speed:	The current connection speed
Type:	Infrastructure mode or Ad-Hoc mode.
Encryption:	The performing encryption mode for connecting to current network profile.
SSID:	The SSID (network name) of the connected wireless network.
Signal Strength:	Indicates the signal strength detected by this adapter.
Network Address:	Shows the current IP addresses settings for this adapter.

Profile

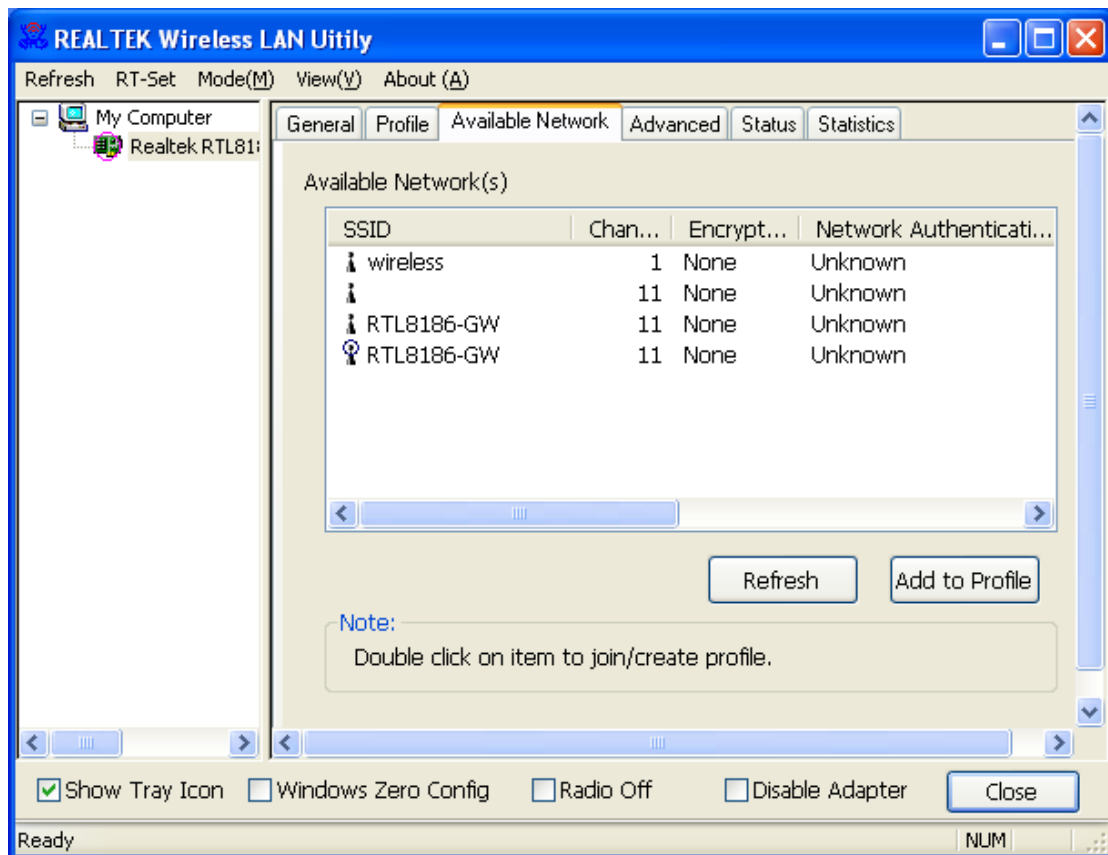
The **Profile** tab lists the preferred connections. You can click the buttons beside to do configure each connection.



- Add** Click this button to add a connection profile for this adapter.
- Remove** To remove a connection profile, click this profile on the profile list and click this button to delete it.
- Edit** To modify the configurations for a profile, click this profile on the profile list and click this button to edit.
- Duplicate** To make a copy of a profile, click the profile that going to be copied, and click this button to copy it.
- Set Default** To select a profile as your default wireless connection, click this profile on the list and click this button. You may also double click on each profile to select it as your default wireless connection.

Available Network

This available tab lists the reachable wireless network of this adapter.



Refresh

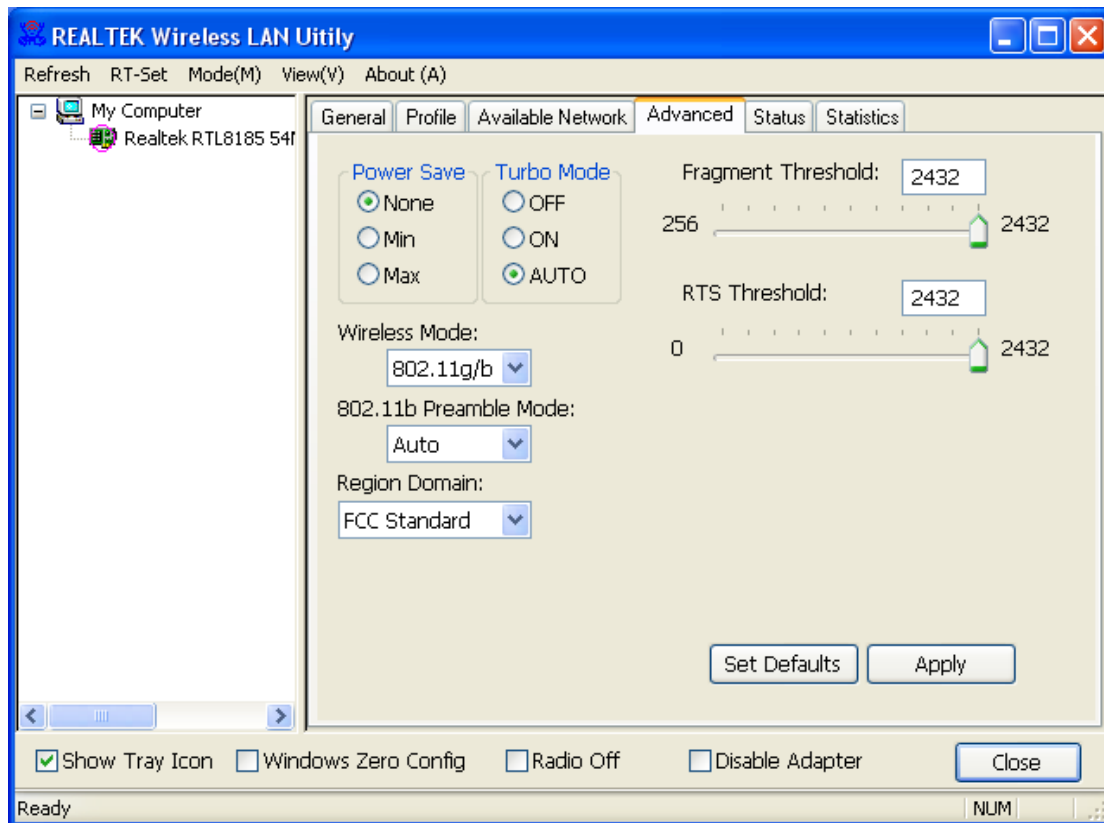
Click this button to rescan available networks around the adapter.

Add to Profile

To add an available Network to your profile list, select an available network and click this button to add.

Advanced

This Advanced tab provides advanced configurations to this adapter. Every modification in this tab will be performed after clicking the **Apply** button. To restore the default settings of the advanced tab, click the **Set defaults** button to perform restoring.



Power Save	
None	Disable Power saving function.
Min	Minimum power consumption
Max	Maximum power consumption
Turbo Mode	
OFF	Disable turbo mode
ON	Enable turbo mode
AUTO	Enable or disable turbo automatically according to the detected environment
Fragment Threshold	
The maximum size of a packet that is going to be segmented and transmitted. Select the size from 256 to 2432(default) bytes.	
RTS Threshold	
Select the RTS Threshold form 0 to 2432(default)	
Wireless Mode	
802.11g/b	Connect to a 802.11g/b network (2.4GHz/54Mbps)
802.11b	Connect to a 802.11b network (2.4GHz/11Mbps)

802.11b Preamble Mode

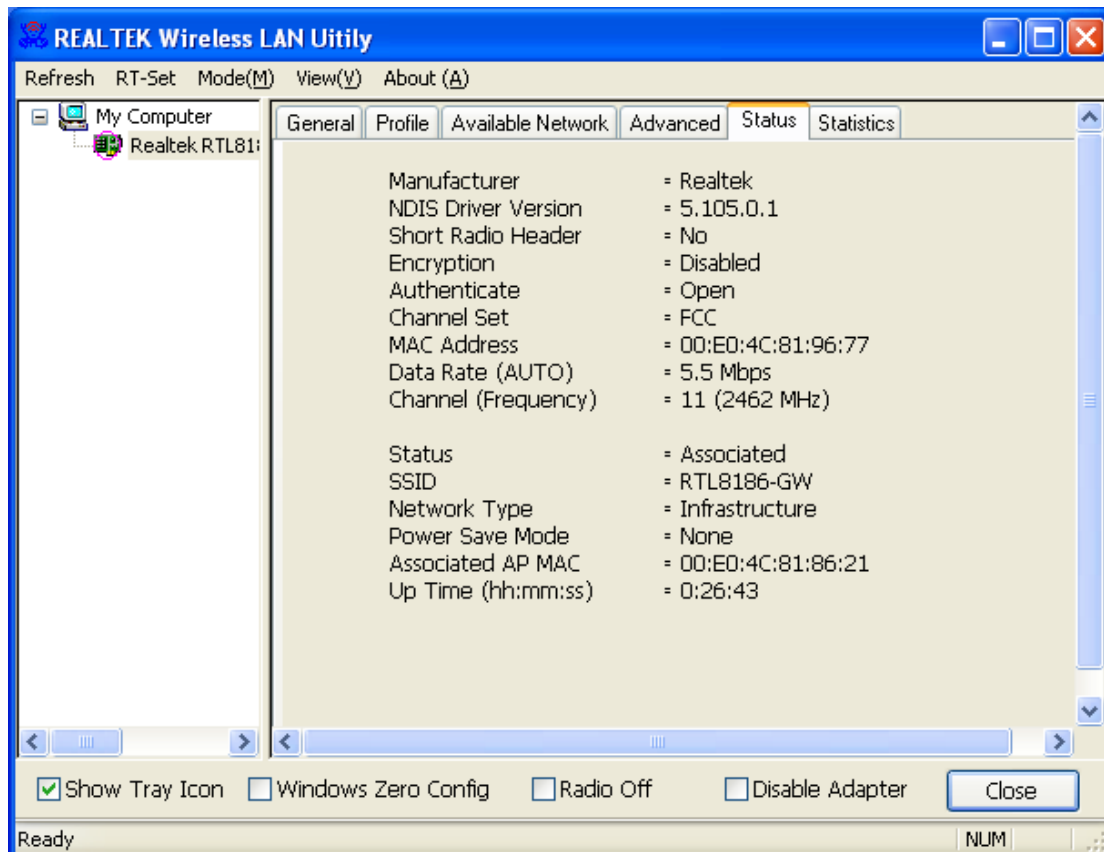
Select the preamble mode to be long, short or auto detection mode.

Region Domain

Select your region from the drop list. Please note that it is necessary for you to select a correct region. Selecting an incorrect region may again the applicable law.

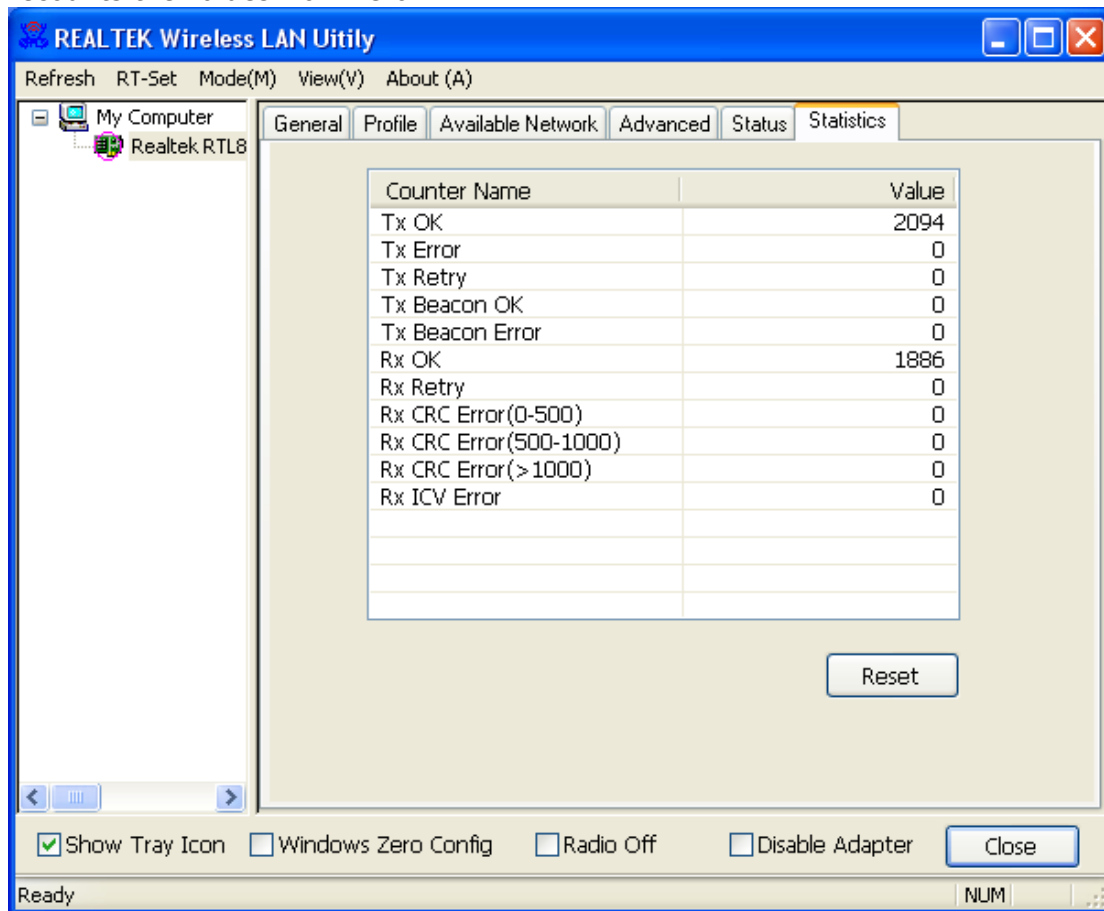
Status

This tab shows the current connection status of this adapter.



Statistics

See this tab to show the transmission activity record. Clicking the **"Reset"** button recounts the values from zero.



Appendix

RT-Set Setup Wizard

For Windows 2000 and XP users to connect to a wireless network easily, we also provide the RT-Set setup wizard to help users set their preferred wireless network step by step. You can configure your wireless network via this RT-Set setup wizard in the following three modes:

Station mode (infrastructure): Select this mode to connect to the AP (access point) in your LAN.

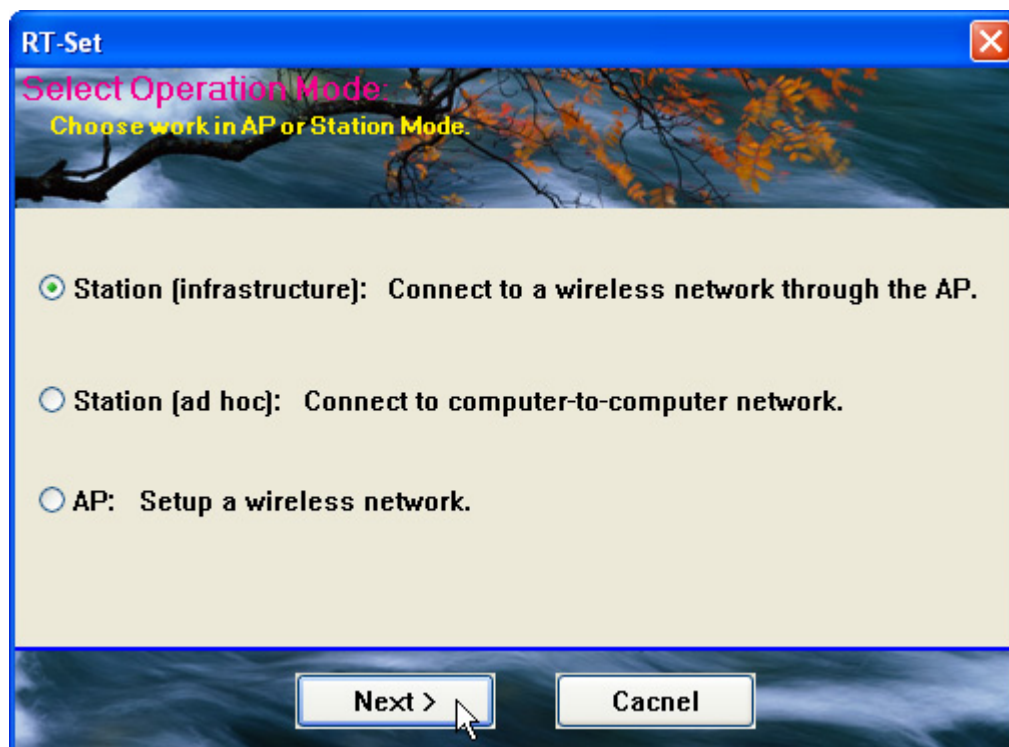
Station mode (ad hoc): Select this mode to connect to another wireless network adapter in your LAN.

AP mode: Select this mode to perform this adapter as an AP (access point).

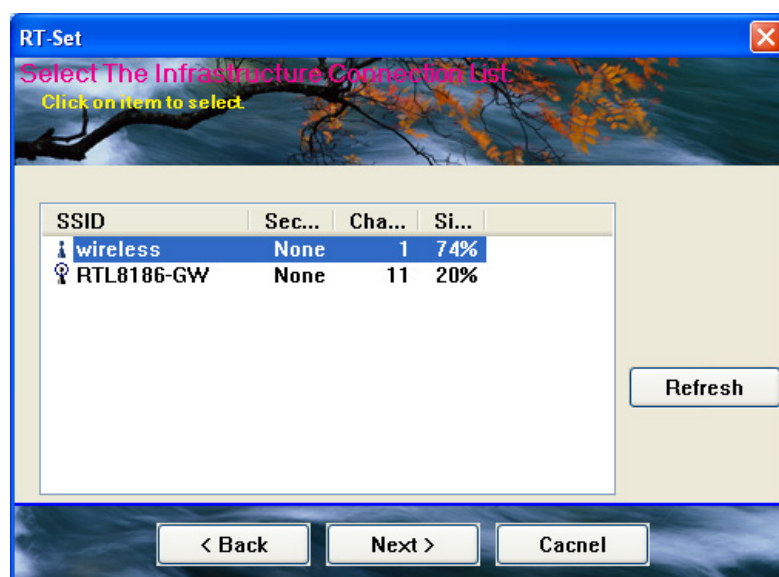
To start the RT-Set Wizard, please click the **"RT-Set"** tab on the up-left corner of the window

Connect to a wireless network in infrastructure mode

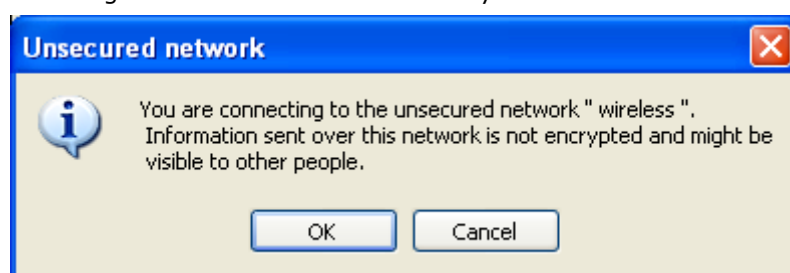
1. To connect this adapter to an AP, select the **"Station (infrastructure)"** mode and click the "Next" button to proceed.



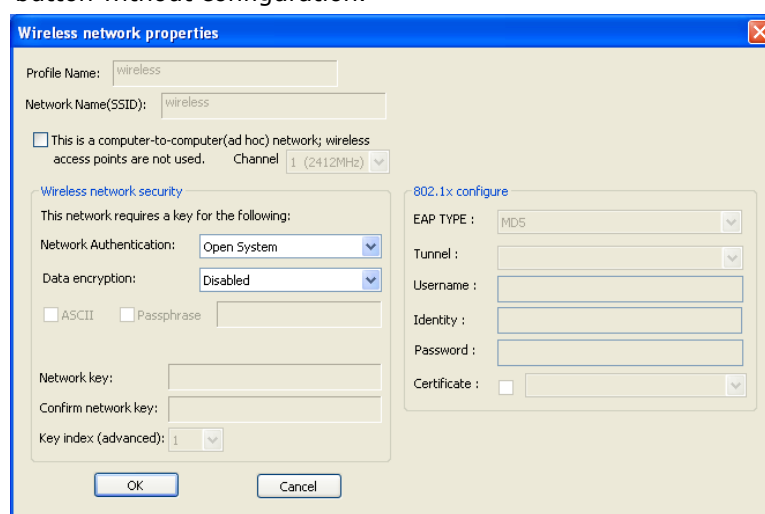
- The RT-Set scans the available AP within your LAN. Those AP are listed with their SSID. Click the wireless AP that you are going to connect with and then click the **"Next"** button. You may also click the "Refresh" button to scan wireless AP again.



- The "unsecured network" window may pop up if the AP you select doesn't use security encryption settings. Click the "OK" button after your confirmation.



- Click "OK" after configuring the profile content to be corresponding to the AP that you are going to connect with. If you are connecting to an AP without security encryption, please click "OK" button without configuration.



5. Configure the IP address for connecting to the network. You may choose "Use the following IP address" to fill in IP addresses manually or choose "Obtain an IP address automatically (recommend)".

RT-Set

Setup TCP/IP
Chooses automatic or manual obtains IP

TCP/IP

☒ Obtain an IP address automatically

☐ Use the following IP address:

IP: . . .

MASK: 255 . 255 . 255 . 0

GATEWAY: . . .

DNS

☒ Obtain DNS server address automatically

☐ Use the following DNS server addresses:

Primary: . . .

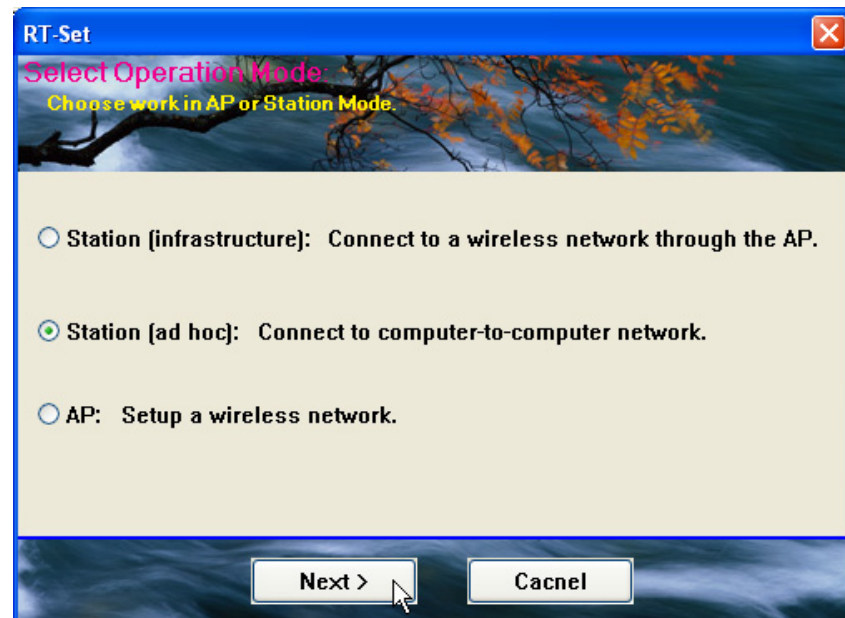
Sec: . . .

< Back Finish

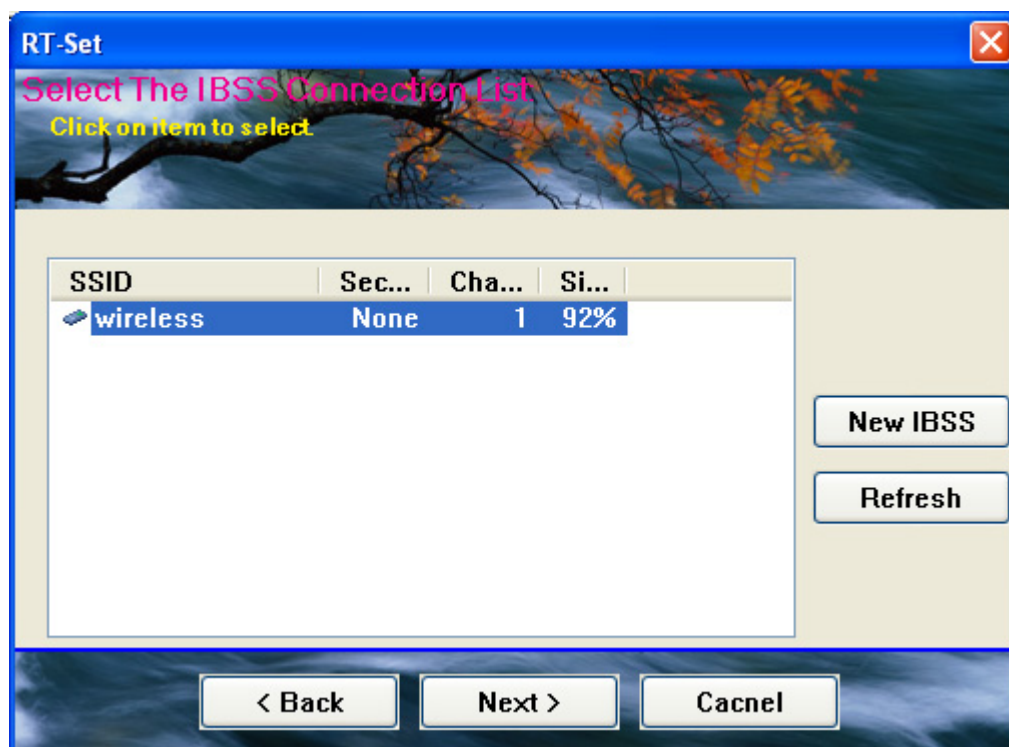
6. After configuring IP addresses, click the "Finish" button to complete.

Connect to a wireless network in ad hoc mode

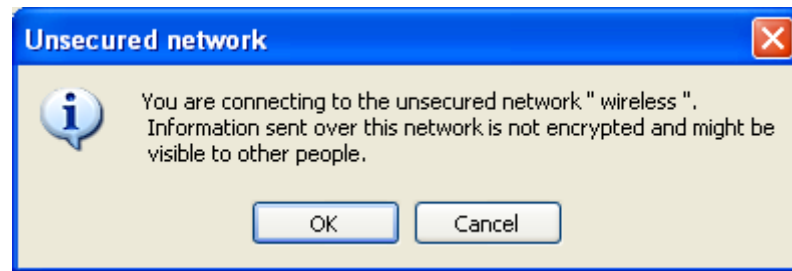
1. To connect this adapter to another computer, select the "Station (ad hoc)" mode and click the "Next" button to proceed.



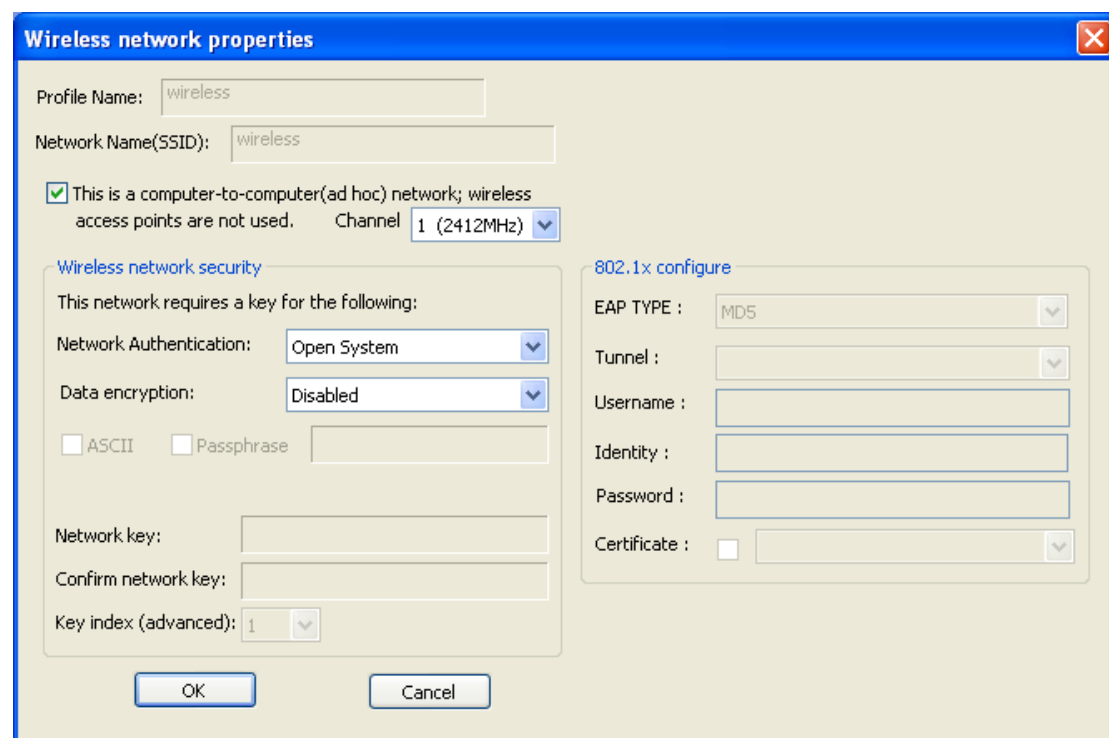
2. The RT-Set scans the available wireless adapters within your LAN. Those adapters are listed with their SSID. Click the one that you are going to connect with and then click the "Next" button. You may also click the "Refresh" button to scan wireless adapters again.



3. The "unsecured network" window may pop up if the adapter you select doesn't use security encryption settings. Click the "OK" button after your confirmation.



4. Click "OK" after configuring the profile content to be corresponding to the wireless adapter that you are going to connect with. If you are connecting to a wireless adapter without security encryption, please click "OK" button without configuration.



5. Configure the IP address for connecting to the wireless adapter. You may choose "Use the following IP address" to fill in IP addresses manually or choose "Obtain an IP address automatically".

RT-Set

Setup TCP/IP:
Chooses automatic or manual obtains IP.

TCP/IP

☒ Obtain an IP address automatically

☐ Use the following IP address:

IP: . . .

MASK: 255 . 255 . 255 . 0

GATEWAY: . . .

DNS

☒ Obtain DNS server address automatically

☐ Use the following DNS server addresses:

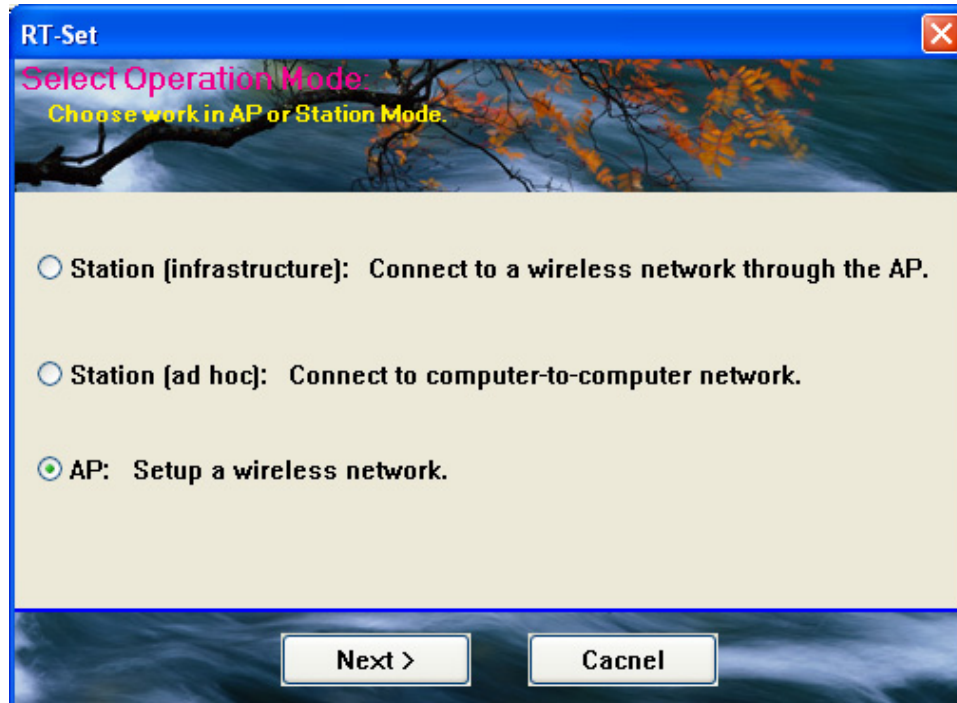
Primary: . . .

Sec: . . .

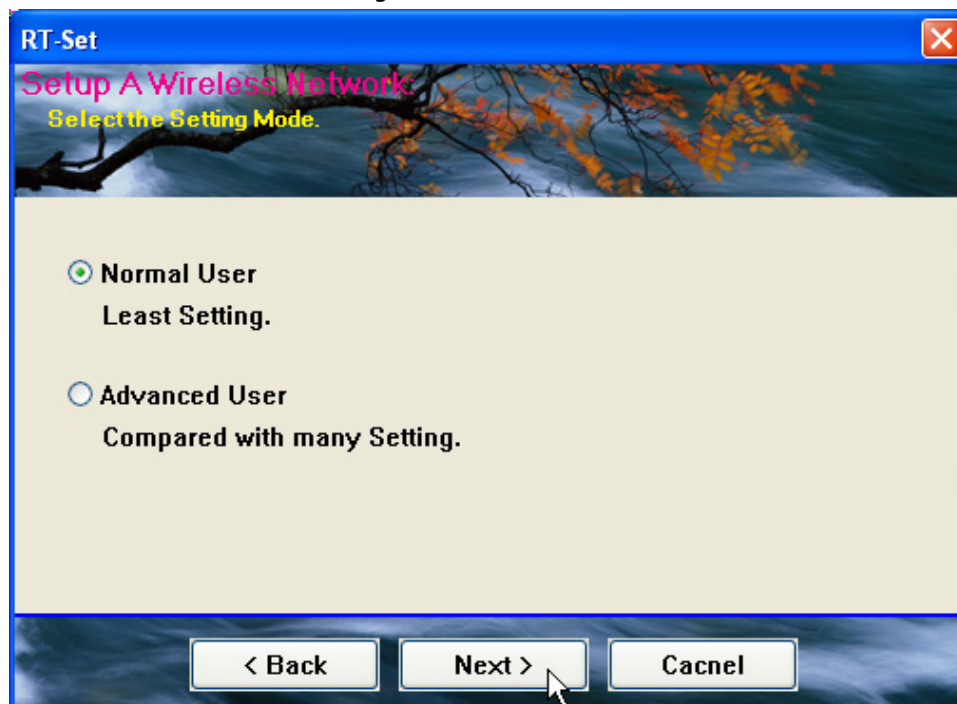
< Back Finish

Use this adapter as an AP

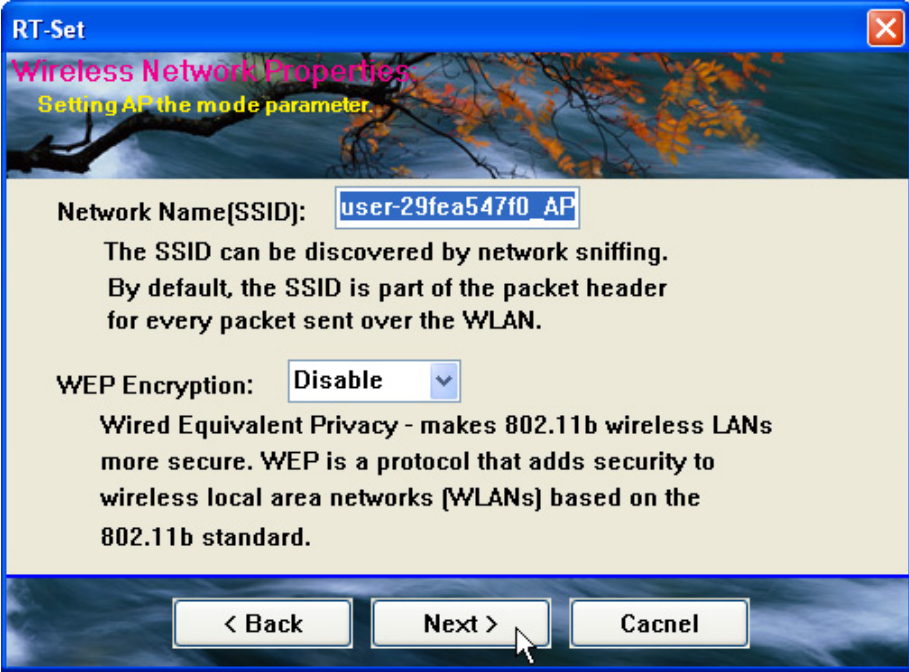
1. To use this adapter as an AP (access point), select the "AP" mode and click the "Next" button to proceed.



2. Select "Normal User" (recommend) to make an step-by-step configuration. You may also select "Advanced Users" to configure this AP with more detail.



3. Assign an SSID for this AP, which is the name that is going to be identified while other wireless devices scan for available network. Choose to use WEP encryption or not from the drop list and click "Next" to proceed.



The image shows a Windows-style dialog box titled "RT-Set" with a blue header bar and a close button (X) in the top right corner. The background of the dialog features a scenic image of autumn trees reflected in water. The main content area has a light beige background. At the top, the text "Wireless Network Properties" is displayed in pink, followed by "Setting AP mode parameter." in yellow. Below this, the "Network Name(SSID):" is set to "user-29fea547f0_AP" in a text box. A paragraph explains that the SSID can be discovered by network sniffing and is part of the packet header. The "WEP Encryption:" is set to "Disable" in a dropdown menu. A paragraph explains that WEP makes 802.11b wireless LANs more secure. At the bottom, there are three buttons: "< Back", "Next >", and "Cacnel" (misspelled Cancel). A mouse cursor is pointing at the "Next >" button.

RT-Set

Wireless Network Properties
Setting AP mode parameter.

Network Name(SSID):

The SSID can be discovered by network sniffing.
By default, the SSID is part of the packet header
for every packet sent over the WLAN.

WEP Encryption:

Wired Equivalent Privacy - makes 802.11b wireless LANs
more secure. WEP is a protocol that adds security to
wireless local area networks (WLANs) based on the
802.11b standard.

< Back Next > Cacnel

4. Click the "Next" button after confirming those settings above.



The image shows a second Windows-style dialog box titled "RT-Set" with a blue header bar and a close button (X) in the top right corner. The background features the same autumn scene as the first dialog. The main content area has a light beige background. At the top, the text "Show Setting Information:" is displayed in pink, followed by "Confirms the parameter." in yellow. Below this, a text box displays "Network Name(SSID) : user-29fea547f0_AP" and "Network Key :". At the bottom, there are three buttons: "< Back", "Next >", and "Cacnel" (misspelled Cancel). A mouse cursor is pointing at the "Next >" button.

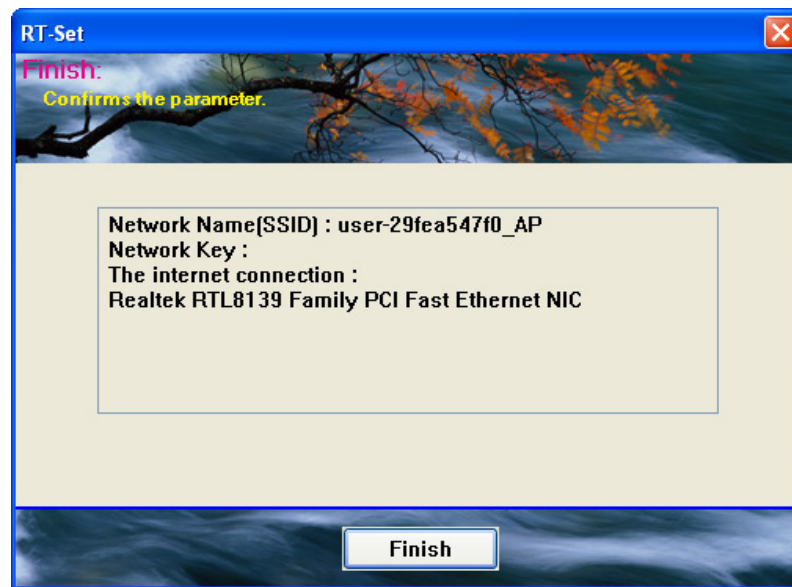
RT-Set

Show Setting Information:
Confirms the parameter.

Network Name(SSID) : user-29fea547f0_AP
Network Key :

< Back Next > Cacnel

5. Click "Finish" to complete setup.

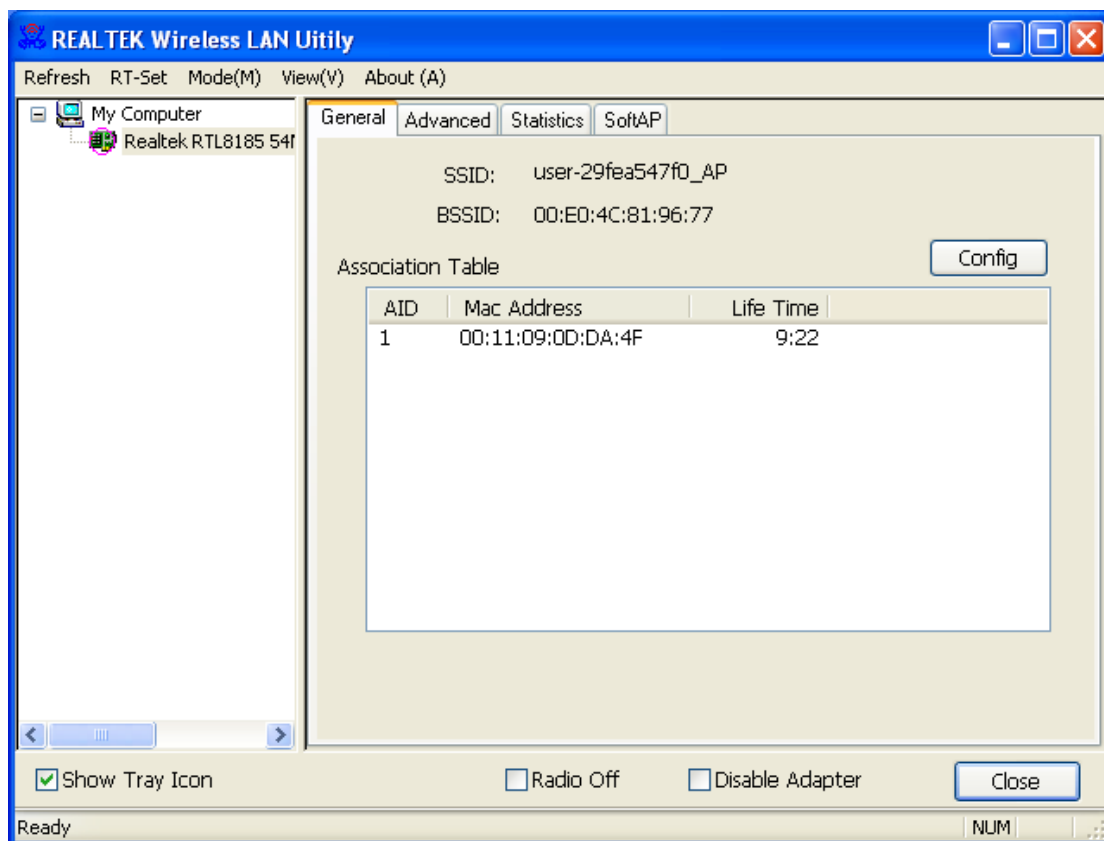


AP mode management guide

General

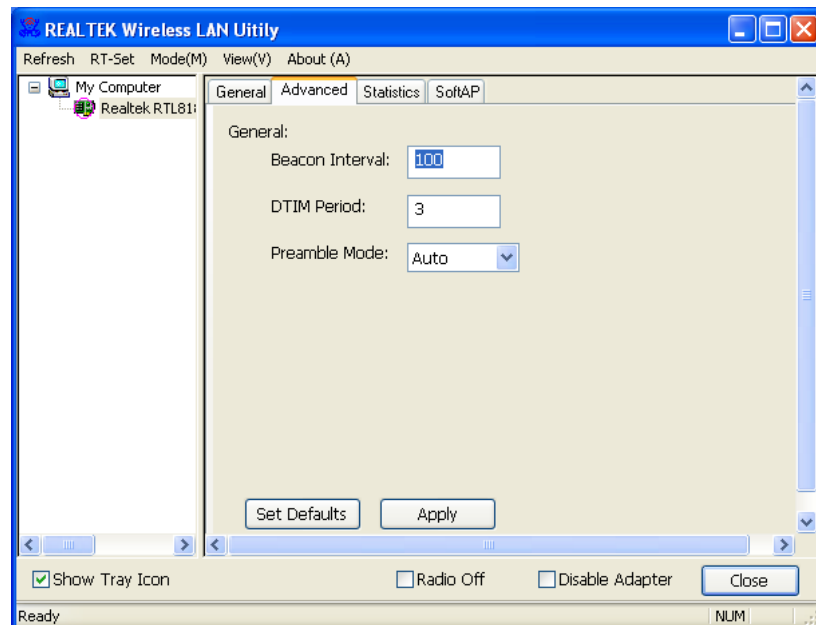
After configuring the adapter in AP mode, this “**General**” page shows up, which shows the general information of this AP.

- SSID:** The SSID (network name) of the wireless network constructed by this AP.
- BSSID:** The MAC address of this AP
- Config:** Click this button to change configurations to this AP
- Association Table:** Shows the information of those devices that associated with this AP including their MAC addresses and the time that they connected with this device.



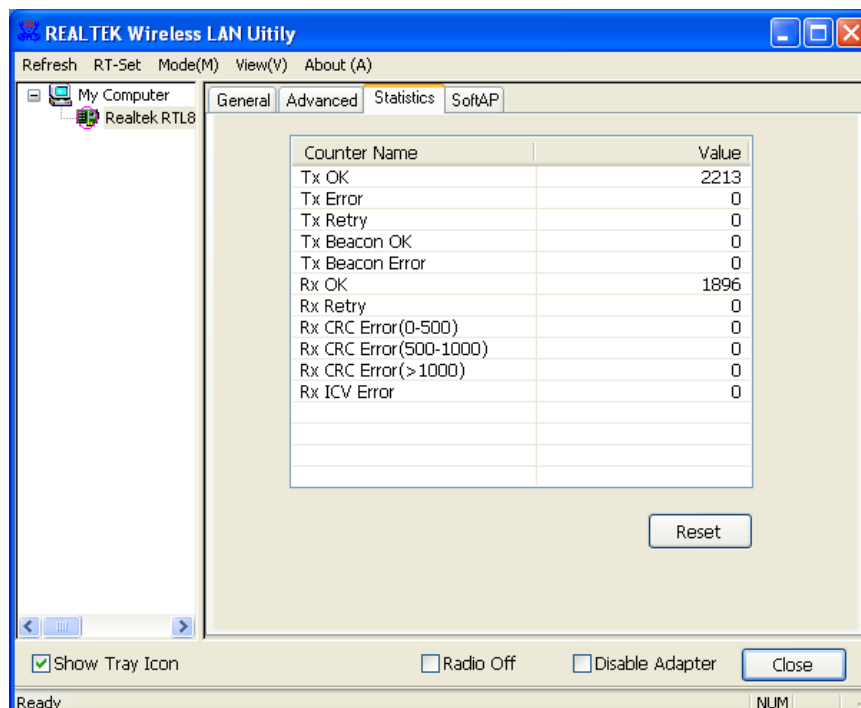
Advanced

- Beacon Interval:** Define the interval between beacons from 20~1000
DTIM Period: Set the DTIM period between 1~255
Preamble Mode: Click the drop list to select the preamble to be long, short or auto
Set Defaults: Click this button to restore the settings above to default
Apply: Click this button to execute changes.



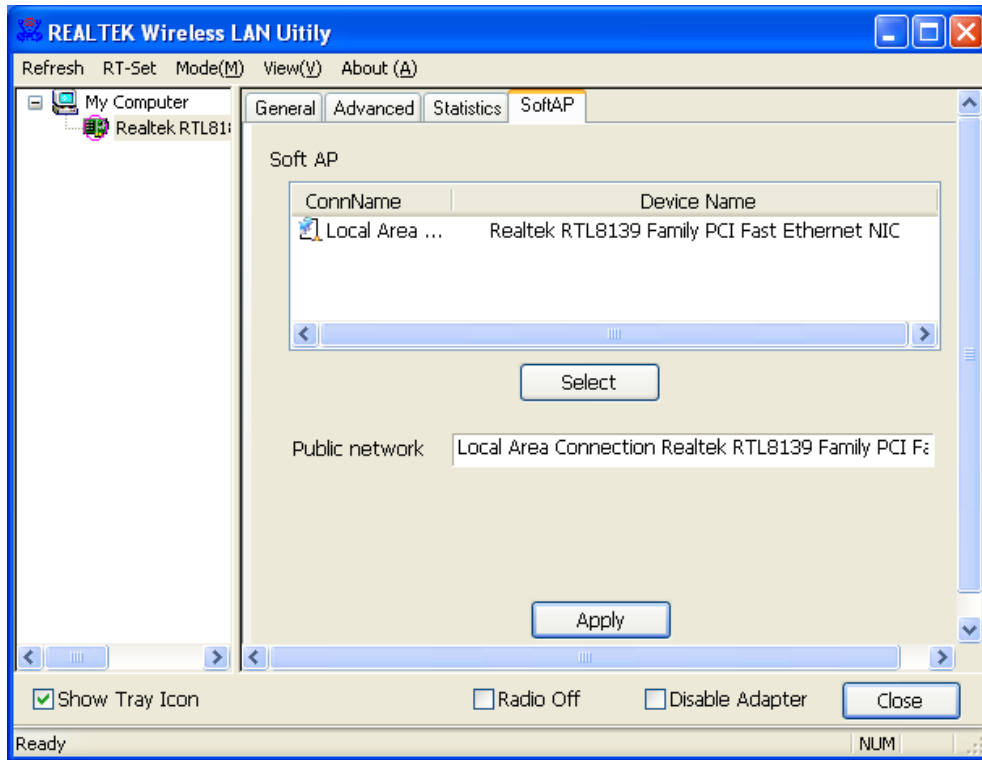
Statistics

See this tab to show the transmission activity record. Clicking the **"Reset"** button recounts the values from zero.



SoftAP

This page allows users to select the adapter for connect to public network.
Please click on the device that are used for connecting to public network and click the "Select" button, and then click the "Apply" button to execute.



Product Specification

Standard

IEEE 802.11b, IEEE 802.11g

Interface

USB rev1.0/1.1/2.0

Security

64/128-bit WEP, WPA (TKIP with IEEE 802.1x), AES

Receiver Sensitivity

54Mbps OFDM, 10%PER, -68dBm

11Mbps CCK, 8%PER, -86dBm

1Mbps BPSK, 8%PER, -92dBm

Channel

USA 11, Europe 13

Data Rate

802.11b: 1, 2, 5.5 and 11Mbps

802.11g: 6, 9, 12, 18, 24, 36, 48, and 54Mbps

Transmit Power

27 dBm +/- 1dBm

Range Coverage

Indoor 100~200 meters

Outdoor 300~500meters

LED indicator

Link/ACT(Green)

Operating Temperature

0- 40 °C (32 – 104 °C)

Operating Humidity

10% ~ 90% (non-condensing)

Emission

FCC Class B, CE